TOWN OF BRISTOL, RHODE ISLAND

PLANNING BOARD MEETING

***Amended Meeting Agenda**
Thursday, July 10, 2025 at 7:00 PM
Bristol Town Hall, 10 Court Street, Bristol, RI 02809

A. Pledge of Allegiance

B. Approval of Minutes - June 12, 2025

C. Agenda Items

C1. Preliminary Plan Phase review and Action by the Planning Board for Major Land Development proposal: (continued from June 12, 2025) to construct a new Mt. Hope High School, including new tennis courts and athletic fields, at **199 Chestnut Street** and to demolish the existing high school building. Owner: Town of Bristol / Applicant: Bristol Warren Regional School District/Lisa Pecora, Perkins Eastman, applicant representative. Zoned: Public Institutional. Assessor's Plat 117 Lots 3-7. Applicant has agreed that the public hearing on the Preliminary Plan shall remain open until receipt of the necessary permits from the RIDEM.

C2. Pre-application / Concept Review for a Minor Land Development/Unified Development Proposal for David Ramos to operate and construct a building for a Contract Construction Use in a General Business (GB) zoning district which also requires a Special Use Permit. Property located at **670-688 Metacom Avenue,** Assessor's Plat 128, Lot 15 & 16, Zone: General Business and Metacom Overlay District. Owners/Applicants: David Ramos and Lionel Ramos.

C3. *Comfort Inn & Suites Public Hearing and Action on Request for Checklist Waivers:

***This waiver request has been withdrawn and the application will be scheduled for a public hearing on an upcoming agenda.**

THIS PUBLIC HEARING WILL BE RESTRICTED TO THE REQUEST FOR WAIVERS. If the requested waivers are approved by

the Planning Board, a public hearing on the Master Plan application will be held at a later date after further notice in accordance with the Regulations.

The Applicant has requested waivers of certain requisites that are required for submission at the Master Plan stage as follows:

Checklist Item E2 – Renderings to illustrate the visual impact of the proposed commercial development;

Checklist Item E3g – General viewshed analysis;

Checklist Item E11 – Detailed design service letter from the BWPC Department

Checklist Item E26 – A photometric plan

Checklist Item E27 – Renderings to illustrate the visual impact on abutting properties;

Checklist Item E28 – Signage Plan including the location, size, design and illumination

Property is zoned General Business - Plat: 111, Lot 1

Located opposite the intersection of **Broadcommon Road and Gooding Avenue** and extending approximately 346 feet to the east of this intersection

Owners/Applicants: D and M Boca Development LLC

C4. Fairwind Village Comprehensive Permit Public Hearing and Action on Request for Checklist Waivers:

***This waiver request has been withdrawn and the application will be scheduled for a public hearing on an upcoming agenda.**

C5. Correspondence from the Director of Community Development on the Public Engagement for the Comprehensive Plan Update

D. Adjournment

Date Posted: July 1, 2025

Amended Date: July 8, 2025

Posted By: mbw

Town of Bristol, Rhode Island

Department of Community Development

10 Court Street
Bristol, RI 02809
bristolri.gov
401-253-7000

June 30, 2025

TO: Planning Board

FROM: Diane M. Williamson, Administrative Officer

RE: Mt. Hope High School Preliminary Plan Phase

The above application is before you for action on the preliminary plan. The applicant has received the RIDEM Permit which was the last item needed.

A copy of the RIDEM approved plans and a document explaining the edits per the RIDEM are provided.

A draft motion is also provided for your consideration.

Engineers Scientists Planners
parecorp.com

PARE CORPORATION

June 25, 2025

Town of Bristol
Attn: Community Development Department
235 High Street - 1st Floor
Bristol, RI 02809

Re: **Supplemental Information for Preliminary Plan**
New High School
Mt. Hope High School
199 Chestnut Street
Bristol, RI
(Pare Project No. 23099.01)

Dear Planning Board Members:

On behalf of the Bristol Warren Regional School District (BWRSD), Pare Corporation is pleased to submit revised plan sheets for the Preliminary Plan (Application) seeking Planning Board approval for the demolition of the existing Mt. Hope High School (Mt. Hope) building and the construction of a new high school. Following the Preliminary Plan hearing on February 13, 2025, Pare coordinated the proposed site work with state and local authorities. Revisions to the plans in response to comments received from the following authorities were incorporated between February 2025 and June 2025:

- Rhode Island Department of Environmental Management (RIDEM) Office of Water Resources
- BETA, Town of Bristol Peer Reviewer: Comments provided by BETA on January 24, 2025
- Bristol County Water Authority (BCWA): Comments provided on March 31, 2025, April 29, 2025 and May 20, 2025.
- Bristol Water Pollution Control (BWPC): Comments provided on February 11, 2025.
- Rhode Island Energy

The site was granted a FWW, RIPDES and UIC Permit (File Number 25-0078, RIPDES No. RIR102786, UIC No. 002290) dated June 13, 2025. A copy of the permit was provided to the Planning Department on June 19, 2025.

Enclosed are the following:

- Revised Plans dated June 10, 2025;
  - Revised sheets no. 1-125
  - Revised sheets no. 145-148

Below is a summary of revisions to the civil plans since the February 13, 2025 Preliminary Plan hearing:

- Revisions to the Limit of Disturbance (LOD) to 29.90 acres and the addition of the "Limit of Work" line type "LOW" provided for the lawn maintenance work associated with the practice field to the northwest. Please refer to plan sheet C1.1-C1.3.
- Revisions to demolition work within the Town's Right-of-Way per BCWA and BWPC coordination. Please refer to plan sheets C3.1-C3.3.
- Revisions to pad locations, sidewalks, plazas and the addition of the asphalt walkway to the

northwest resulted in minor changes to the proposed impervious area. Please refer to plan sheets C4.1-C4.9.

- Revisions to grading include the expansion of Sand Filter-1, ADA compliance, detailed athletic field grading and plaza and courtyard updates. Sand Filter-1 was expanded to provide additional storage volume per RIDEM comment letter issued on May 23, 2025. Please refer to plan sheets C5.1-C5.9.
- Revisions to drainage design include the Sand Filter-1, toe drains, subdrains and auxiliary drain revisions per RIDEM comment letter issued on May 23, 2025, rim revisions based on grading updates, additional catch basins, area drains and drain manholes. Rim adjustments and new drainage structures were included within Sand Filter-1, Sand Filter-2 and Sand Filter-3 to remove excess stormwater runoff from the proposed BMPs to provide drawdown within 48 hours after the 24-hour storm event per RIDEM comment letter issued on May 23, 2025. Please refer to plan sheets C6.1-C6.9.
- Revisions to utility design resulted from coordination with BCWA. Pare revised the domestic water service, fire water service and heated enclosure. Revisions to the utility design based on coordination with BWPC include connection of the sewer force main to the public sewer system, invert elevations, and bolted covers for existing sewer manholes on site. Revisions to utility design based on coordination with RIE include utility pole locations, primary electrical service routing, additional EV charging stations and minor revisions to light pole locations to minimize conflicts with proposed site features. Please refer to plan sheets C7.1-C7.9.
- Revisions to Construction Document details based on coordination with Local and State Authorities. Please refer to plan sheets C8.1-C8.14.

Revisions to the landscape plan sheets to note since the February 13, 2025 Preliminary Plan hearing include the following:

- Plant palettes and species have been amended in the buffer zones to ensure only native species are present. Please refer to plan sheet no. 77-125 for revisions.
- There have been no substantial revisions to the irrigation plans issued to the Town of Bristol since January 10, 2025.

There have been no substantial revisions to the Architectural plans issued to the Town of Bristol on January 10, 2025. Revisions to the Electrical plan sheets to note since the February 13, 2025 Preliminary Plan hearing include the following:

- Electrical Site Lighting
  - Adjust light pole locations on E-101A
  - Added light pole near ADA parking spots on E-101C

Stormwater Management Design

The table below summarizes the details of the latest stormwater management design. The stormwater management design meets the Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8), State of Rhode Island Storm Water Design and Installation Standards Manual and the Town of Bristol regulations. Please refer to the RIDEM Response to comments packages dated April 17, 2025 and June 3, 2025 for additional information provided to the Town of Bristol via email on June 19, 2025.

Stormwater Management Design Summary	
Total Site Area	44.41 acres
Waterbody Name	Silver Creek – RI0007026R-01
Total Jurisdictional Wetlands	18.63 acres
Existing Impervious within Jurisdictional Wetlands	2.96 acres
Existing Impervious Area	10.54 acres
Redevelopment Regulations Applicability	No (site is 37%, required is 40%)
Proposed Impervious Area	12.55 acres
Net Increase in Impervious from Existing	2.01 acres
Required Stormwater Treatment Area Per New Developments Regulations	12.50 acres
Provided Stormwater Treatment Area	11.99 acres
Reduction in Peak Flows (CFS) for DP1.4 Silver Creek East and DP2.1 Silver Creek West	Yes
Reduction in 1-year storm Volumes (CF) for DP1.4 Silver Creek East and DP2.1 Silver Creek West	Yes
Reduction in 10-year storm Volumes (CF) for DP1.4 Silver Creek East and DP2.1 Silver Creek West	Yes

BWRSD, Pare, and CMTA have been coordinating proposed water and sewer connections with the BCWA and BWPC. Letters were provided by BCWA and BWPC supporting the project and confirming availability of utilities during the Master Plan phase. We anticipate a letter from BCWA supporting the details of the water connections depicted on the Preliminary Plans is forthcoming. The Plumbing Engineer, CMTA, is coordinating the lift station design with BWPC. Once a letter is received, we will send to the Planning Department.

We look forward to discussing the revisions above with the Planning Department at an upcoming Technical Review Committee meeting and presenting the project at the July 10, 2025 Planning Board meeting. Should you have any questions or require additional information to process the application, please feel free to contact our office at (401) 334-4100.

Sincerely,

David L. Potter, P.E.
Vice President

DLP/ACB/dp

Z:\JOBS\23 Jobs\23099.01 BWRSD Mt Hope HS-RIDE Stage III-IV-RI\CORRESP\Letters\Cover Letter_MHHS Preliminary Plan Resubmission.docx

Town of Bristol, Rhode Island

Planning Board

10 Court Street
Bristol, RI 02809
www.Bristolri.us
401-253-7000
253-7010

PLANNING BOARD DECISION

DRAFT

OWNER/APPLICANT:	**Bristol Warren Regional School District**
ADDRESS:	**199 Chestnut Street**
PLAT AND LOT:	**Plat 117, Lots 3,4,5,6,7**
APPLICATION:	**Major Land Development Preliminary Plan – Mt. Hope High School**

The Planning Board finds that:

1. The subject property consists of the existing Mt. Hope High School campus including and athletic fields and parking areas.

2. The proposal is the construction of a new High School building. The project includes a new building, athletic fields, parking areas, loading areas, site features, utilities and stormwater management systems. Upon completion of the new building, the existing High School will be demolished.

3. The proposed development is consistent with the general purposes stated in Article 1 of the Planning Board's subdivision and development review regulations.

4. The proposed development is consistent with the Comprehensive Plan.

5. The proposed development is in compliance with the standards and provisions of the zoning ordinance.

6. The proposed development has adequate and permanent physical access to Chestnut Street.

7. The Board has considered any testimony at the Public Hearing.

8. There will be no significant negative environmental impacts from the proposed development, with any conditions of approval.

9. A wetlands permit from the RI Department of Environmental Management has been received.

Preliminary Plan approval for the Major Land Development for the new Mt. Hope High School campus as shown on the plan set entitled "Mt. Hope High School" dated as revised June 10, 2025– Sheets 1-32 of 32 prepared by Pare Engineering, Perkins Eastman, MCA, Traverse Landscape Architects and LEC Environmental Consultants, Inc. along with revised sheets from Pare, Sheets C3.0-C3.5 dated as revised June 10, 2025.

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
235 Promenade Street
Providence, Rhode Island 02908

June 13, 2025

Bristol Warren Regional School District
Ana Riley, Superintendent
235 High Street
Bristol, RI 02809

Freshwater Wetlands Permit

RE: Application No. **25-0078** (*Individual Application No. IA-6628*) and RIPDES No. RIR102786 (*Individual Application No. IA-7089*) and UIC No. 002290 (*Individual Application No. IA-7160*) in reference to the property and proposed project located:

On the grounds of Mount Hope High School (199 Chestnut Street), approximately 1,000 feet northeast of the intersection of Chestnut Street and Naomi Street, Assessor's Plat 117, Lots 2, 3, 4 ,5 ,6 and 7, Bristol, RI.

Dear Ms. Riley:

Kindly be advised that the Department of Environmental Management's ("DEM") Freshwater Wetlands Program ("Program") has completed its review of your **Application for a Freshwater Wetlands Permit** as described in Rule 3.11 of the Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act, 250-RICR-150-15-3 (“Rules”). This review included a site inspection of the above referenced property ("subject property") and an evaluation of the proposed demolition of the existing Mt. Hope High School building and the proposed construction of a new high school building and associated internal driveways, parking lots, athletic fields, stormwater mitigation systems, and utility connections as illustrated and detailed on site plans submitted with your application. These site plans were received by the DEM on June 4, 2025.

Our observations of the subject property, review of the site plans and evaluation of the proposed project reveals that alterations of jurisdictional areas are proposed. However, pursuant to Rule 3.7.3B of the Rules, this project meets the Variance Criteria for Public and Governmental Bodies, and a **Freshwater Wetlands Permit** may be issued under the following terms and conditions:

Terms and Conditions for **Wetlands Application No. 25-0078; RIPDES No. RIR102786; Groundwater Discharge/UIC No. 002290:**

1. This letter is the DEM's permit for this project under the R.I. Fresh Water Wetlands Act, R.I. Gen. Laws § 2-1-18 et seq. This application review has also included review of any stormwater infiltration system subject to the DEM Groundwater Discharge Rules (Rules for the Discharge of Non-Sanitary Wastewater and Other Fluid to or Below the Ground Surface), 250-RICR-150-05-4.

2. This determination also includes your final authorization to discharge storm water associated with construction activity under the **2020 RIDPES General Permit for Stormwater Discharge During Construction Activity (“CGP”)**. For future references and inquiry, your permit

authorization number is RIPDES No. **RIR102786.** This **RIPDES CGP** permit is not transferable to any person except after written notice to the Director, in the form of a Permit Transfer Form available on the RIDEM Stormwater Construction Permitting website.

3. This permit is specifically limited to the project, site alterations and limits of disturbance as detailed on the site plans submitted with your application and received by the DEM on June 4, 2025. A copy of the site plans stamped approved by the DEM can be found on the Permit Search page on the OWR Application Portal by searching for any of the permit numbers listed above. Changes or revisions to the project that would alter freshwater wetlands are not authorized without a permit from the DEM.

4. Where the terms and conditions of the permit conflict with the approved site plans, these terms and conditions shall be deemed to supersede the site plans.

5. You must notify this Program of the anticipated start date, and of your contractor's contact information, by submitting a Notice of Start of Construction on the OWR Application Portal from the Requests Tab referencing this Freshwater Wetlands permit number prior to commencement of any permitted site alterations or construction activity. You must also notify this Program upon completion of the project by submitting a Notice of Termination from the Requests Tab on the OWR Application Portal.

6. A copy of the stamped approved site plans and a copy of this permit must be kept at the site at all times during site preparation, construction, and final stabilization. Copies of this permit and the stamped approved plans must be made available for review by any DEM or town representative upon request.

7. Within ten (10) days of the receipt of this permit, you must record this permit in the land evidence records of the Town of Bristol and supply this Program with a scanned copy of the recorded permit obtained from the Town which can be sent to DEM.FWW@dem.ri.gov.

8. The effective date of this permit is the date this letter was issued. This permit expires five (5) years from the date of this letter unless renewed pursuant to the Rules.

9. Any material utilized in this project must be clean and free of matter that could pollute any jurisdictional area.

10. Prior to commencement of site alterations, you shall erect or post a sign resistant to the weather and at least twelve (12) inches wide and eighteen (18) inches long, which boldly identifies the initials "DEM" and the application number of this permit. This sign must be maintained at the site in a conspicuous location until such time that the project is complete.

11. Both the owner and the contractor retained to undertake the construction activity are required to comply with all terms and conditions of the CGP. This includes maintaining the Soil Erosion and Sediment Control (SESC) Plan, performing the required inspections and maintenance of the selected Best Management Practices (BMPs), and retaining inspection records. Further information on the requirements of the CGP is available at:

    http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/pdfs/cgp092620.pdf.

12. Temporary erosion and sediment controls detailed or described on the approved site plans shall be properly installed at the site prior to or commensurate with site alterations. Such controls shall be properly maintained, replaced, supplemented, or modified as necessary throughout the life of this

project to minimize soil erosion and to prevent sediment from being deposited in any freshwater wetland, buffer, floodplain, or other jurisdictional areas not subject to disturbance under this permit.

13. Upon permanent stabilization of all disturbed soils, temporary erosion and/or sediment controls must be removed.

14. You are responsible for the proper installation, operation, maintenance and stability of any mitigative features, stormwater treatment facilities, and systems of treatment and control that are installed or used in compliance with this permit to prevent harm to adjacent freshwater wetland, buffer or floodplain, area subject to storm flowage, or area subject to flooding or other jurisdictional areas until documentation is provided that this responsibility has been assigned to another entity. The long-term operation and maintenance plan shall be strictly followed. The long-term operation and maintenance plan shall be that entitled: "Stormwater Operation and Maintenance Plan, Long Term Pollution Prevention Plan, Pare Project No. 23099.01, Mt. Hope High School, 199 Chestnut Street, Bristol, Rhode Island 02809; Prepared for: Bristol Warren Regional School District, 235 High Street, Bristol, RI 02809", bearing latest revision date of June 2025, dated received 6/04/2025, indicated as Prepared by: Pare Corporation, 8 Blackstone Valley Place, Lincoln, RI 02865.

15. You are obligated to install, utilize and follow all best management practices detailed or described on the approved site plans in the construction of the project to minimize or prevent adverse impacts to any adjacent freshwater wetland, buffer, floodplain, or jurisdictional areas and the functions and values provided by such freshwater wetlands, buffer or floodplain.

16. All plantings of shrubs, trees or other forms of vegetation as shown or detailed on the approved plans, or detailed in this permit, must be installed as soon as possible after completion of final grading; weather and season permitting.

17. Mitigation or screen plantings of trees and/or shrubs proposed between the project and any adjacent freshwater wetland areas and buffers except for necessary replacement, must be allowed to develop naturally without being subjected to mowing or manicuring.

18. Per Rule 3.7.1(B)4, the creation of a new buffer is required. Plantings required in the buffer are as depicted on approved plan sheet No. 90 of 93. Except for necessary replacement, the created buffer must be allowed to develop naturally without being subjected to mowing or manicuring.

19. Any plantings which fail to survive one full growing season shall be replaced. Replacement plantings shall be similarly guaranteed for one full growing season.

20. You must provide written certification from a registered land surveyor or registered professional engineer that the stormwater drainage system including any and all basins, piping systems, catch basins, culverts, swales and any other stormwater management control features have been constructed/installed in accordance with the site plans approved by this permit. This written certification must be submitted to this Program within twenty (20) days of its request or upon completion of the project.

21. This Program has made specific revisions to the approved site plans. These revisions are clearly marked in red on the approved plans. Specifically, the limit of disturbance (LOD) on Sheet 85 of 93 has been revised so that it encloses the proposed restoration area to be loamed and seeded.

Please be aware that the RIDEM and the RIDOH (RI Dept. of Health) have documented synthetic turf fields as a potential source of PFAS (per- and polyfluorinated alkyl substances) contamination of groundwater. The

Rhode Island Groundwater Rules (Section 3.14(D)) identify the remedial measures that may be required of facility owners that results in a violation of groundwater quality standards. These measures include, but are not limited to, sampling of private wells, installing and monitoring additional wells, providing drinking water to properties that have had their wells impacted, and/or implementing remedial actions to restore groundwater quality. Also, Rhode Island recently passed the Consumer PFAS Ban Act of 2024 (the "Act"), which bans certain uses of PFAS in covered products by January 1, 2029. This Act bans the manufacture, sale, or distribution of artificial turf containing intentionally added PFAS on January 1, 2029. Because artificial turf fields require periodic maintenance (e.g., replacement of the turf) any materials necessary for future maintenance will be subject to this Act. This permit review was conducted in accordance with the RIDEM Stormwater Rules cited above and makes no specific evaluation of the materials used in the specific synthetic turf field being proposed and makes no site-specific finding on whether or not the proposed synthetic turf field will result in any level of contamination to groundwater resources.

Pursuant to the provisions in 250-RICR-150-15-3.8.13 and 250-RICR-150-15-3.14.4(A), as applicable, any properly recorded and valid Freshwater Wetlands Permit is automatically transferred to the new owner upon sale of the property.

Please be aware that the RIDEM's Rules and Regulations Governing the Establishment of Various Fees (250-RICR-30-00-1) require that RIPDES CGP permit holders to pay an Annual Fee of $100.00. An invoice will be sent to the owner on record in May/June of each year if the construction was still active as of December 31st of the previous year. The owner will be responsible for the Annual Fee until the construction activity has been completed, the site has been properly stabilized, and a completed Notice of Termination (NOT) has been received by the RIPDES Program.

You are required to comply with the terms and conditions of this permit and to carry out this project in compliance with the Rules at all times. Failure to do so may result in an enforcement action by this Department.

In permitting the proposed alterations, the DEM assumes no responsibility for damages resulting from faulty design or construction.

Kindly be advised that this permit is not equivalent to a verification of the type or extent of freshwater wetlands on site. Should you wish to have the types and extent of freshwater wetlands verified, you may submit the appropriate application in accordance with 250-RICR-150-15-1.8(C).

This permit does not remove your obligation to obtain any local, state, or federal approvals or permits required by ordinance or law and does not relieve you from any duties owed to adjacent landowners with specific reference to any changes in drainage.

Please contact Jessica Lord of this office (telephone: 401-537-4249) should you have any questions regarding this letter.

Sincerely,

Andrew Charpentier Digitally signed by Andrew Charpentier
Date: 2025.06.13 12:02:42 -04'00'

Andrew Charpentier, Environmental Scientist III
Office of Water Resources
Freshwater Wetlands Program
AC/JAL/jal

Enclosure: Approved site plans

ec: Neal Personeus, DEM Stormwater Program
DEM UIC Program
Nick Pisani, DEM Stormwater Program
Claire Hoogeboom, Wetland Scientist, LEC Environmental Consultants, Inc.
David Potter, PE, Pare Corporation
Stephen Greenleaf, Town of Bristol Building Official

PARE CORPORATION

Mt. Hope High School
Bristol, RI
FWA No. 25-0078
Pare Project No. 23099.01

June 3, 2025

RESPONSES TO RIDEM ENGINEERING REVIEW COMMENTS DATED May 23, 2025

ENGINEERING REVIEW COMMENTS

1. **COMMENT**: The submitted sand filter detail found on Sheet C8.14 (sheet 72 of 93) states "6" PVC subdrain, see plans for location and inverts." However, review of the submitted drainage plans does not show either that location of any of the proposed subdrain systems, nor their respective inverts. Please provide complete details of a subdrain array providing complete coverage of the area beneath each of the proposed sand filters and beneath each of the proposed bioretention practices. Please provide inverts for each subdrain system and provide details of the connection to a discharge pipe with an invert no lower than that of each subdrain outlet.

   RESPONSE: **Please refer to Detail Sheets C8.13 and C8.14. Bioretention Area and Sand Filter details clearly depict which BMPs are equipped with subdrains beneath the filter media. Details also clearly note BMPs with auxiliary drain pipes. Please refer to auxiliary drain detail on Sheet 8.6. Please refer to Drainage Plan C6.1, C6.2, C6.3, and C6.4 for updated subdrain array for lined BMPs. Subdrains over the bottom of the BMPs and invert elevations are depicted. Lined BMPs with subdrains include Bio-2, Bio-3, and Sand Filter-04.**

2. **COMMENT**: Please note that subdrains to be installed beneath the proposed sand filter bed and bioretention filter beds need to consist of an array of perforated subdrain pipes distributed evenly in a peastone bed to promote vertical downward flow through the filter media. Therefore, please depict on the site plan (or on a detailed plan view of each proposed sand filter and bioretention practice) the location of all pipes within each proposed subdrain array that will be installed beneath each of the proposed sand filters and bioretention practices.

   RESPONSE: **Please refer to Detail Sheets C8.13 and C8.14. Bioretention Area and Sand Filter details clearly depict which BMPs are equipped with subdrains beneath the filter media. Details also clearly note BMPs with auxiliary drain pipes. Please refer to auxiliary drain detail on Sheet 8.6. Please refer to Drainage sheet Plan C6.1, C6.2, C6.3, and C6.4 for updated subdrain array for lined BMPs. Subdrains over the bottom of the BMPs and invert elevations are depicted. Lined BMPs with subdrains include Bio-2, Bio-3, and Sand Filter-04. The subdrains are placed within a ¾" crushed stone bed. The ¾" crushed stone was selected to minimize the potential for stone to enter the PVC perforations.**

3. **COMMENT**: Please include in the HydroCAD-TM analysis the expected outflow through each of the proposed subdrains to be located beneath each of the proposed sand filters and each of the proposed bioretention practices. Provide this for each of the required storm events, the 1, 10, and 100-year 24-hour Type III events and the 1.2" water quality storm event using the "calculate separate pervious/ impervious runoff setting". Please use this analysis, along with any revisions that might be necessary to demonstrate that each of the proposed stormwater practices will fully empty at the within 48 hours after the 24-hour storm event (which is 72 hours after the start of the storm event). Please note that this is particularly needed for proposed Pond 13P: Sand Filter 1 and Pond 19P: Sand Filter 3, because the results of the HydroCAD-TM model as submitted does not come sufficiently close to draining out filly within 48 hours after the storm event. Please note that the subdrains provided for the other basins may not be necessary but should be modeled if they are part of the design.

RESPONSE: **Please refer to Appendix B for the revised proposed Hydrologic Calculations. Outflow from proposed subdrains is reflected in the Hydrologic Calculations. Subdrains are proposed within Bio-2, Bio-03, and Sand Filter-04 only. The subdrains are labeled as the 6" subdrain outlet devices in the Hydrologic Calculations. Please refer to page 13 of the stormwater report narrative for more information regarding BMPs that exfiltrate and BMPs that have subdrains.**

Please refer to Appendix B for the 1-yr, 10-yr, 100-yr and 1.2" storm for storage within each BMP 72 hours following the start of the storm. The 1.2" water quality storm event was modeled using the "calculate separate pervious/ impervious runoff setting". Peak flow rates and volume reductions tables have been revised within the stormwater report narrative and the Appendix A checklist. Peak flow rates and volume revisions are due to the adjustments to the outlet devices from the filtering system BMPs.

Despite the challenges of the site's existing conditions, the Town of Bristol requires reduction of runoff volume in the 1-year and 10-year design storm events to improve conditions within the Silver Creek Watershed. In order to meet these requirements and improve conditions within the Silver Creek Watershed, infiltration is promoted within BMP's where the separation to groundwater requirement per Stormwater Rule 250-RICR-150-10.8.23.A is provided. Draining of the water above the filter media within the 72 hours is provided to minimize the potential for ponded water at the surface to result in breeding of mosquitos per Stormwater Rule 250-RICR-150-10.8.23.F.1.b. Draining of the water from within the filter media extends beyond this 72 hours to promote the volume of infiltration. Stormwater Rule 250-RICR-150-10.8.23 Filtering Systems does not establish a minimum timeframe for draining the Filtering System BMP's within 72 hours following start of storm event.

Subdrains are not provided on Sand Filters 1 and 3 in order to promote infiltration for the reasons outlined above. Please refer to C8.14 for the revised sand filter detail clarifying which sand filters have subdrains.

Pare revised the outlet structures for Sand Filter 1 and Sand Filter 3 to improve draindown within the 72 hours following the start of each storm event. The tables below depict the volume remaining and water surface elevation in each BMP 72 hours following the start of the 1-yr, 10-yr, 100-yr storm and WQV storm at 1.2".

Per the tables below and revised Hydrologic Calculations, the water surface elevation is below the top of filter media 72 hours following start of the storm. The stormwater design conforms to Stormwater Rule 250-RICR-150-10.8.23.F.1.b.

Based on the test pit logs provided in Appendix A, the existing soils information was reviewed in detail to confirm infiltration rates per the Rawl's rates. Infiltration Basin-01's Rawl's rate was revised to 1.02 in/hr in the proposed Hydrologic Calculations per the sandy loam material within Test pit 20-5.

Draw down within 72 hours was then reviewed and summarized below in response 4.

4. **COMMENT**: Please note that the design does not appear to provide for the total drain-out of proposed Pond 13P: Sand Filter 1 and for proposed Pond 19P: Sand Filter 3 storm events up through the 100-year 24-hour Type III storm event. For these two sand filter practices please revise the design and/or the design to model the outflow through the proposed subdrain located beneath the sand filter bed. As stated above, please ensure that the subdrain include a pipe array providing coverage beneath the entire sand filter bed.

RESPONSE: **Despite the challenges of the site's existing conditions, the Town of Bristol requires reduction of runoff volume in the 1-year and 10-year design storm events to improve conditions within the Silver Creek Watershed. In order to meet these requirements and improve conditions within the Silver Creek Watershed, infiltration is promoted within BMP's where the separation to groundwater requirement per Stormwater Rule 250-RICR-150-10.8.23.A is provided. Draining of the water above the filter media within the 72 hours is provided to minimize the potential for ponded water at the surface to result in breeding of mosquitos per Stormwater Rule 250-RICR-150-10.8.23.F.1.b. Draining of the water from within the filter media extends beyond this 72 hours to promote the volume of infiltration. Stormwater Rule 250-RICR-150-**

10.8.23 Filtering Systems does not establish a minimum timeframe for draining the Filtering System BMP's within 72 hours following start of storm event. Stormwater within the filter media of Sand Filters 1 and 3 will fully drain into the subgrade following the storm event as depicted on the Hydrologic Calculations.

Subdrains are not provided on Sand Filters 1 and 3 in order to promote infiltration for the reasons outlined above. Please refer to C8.14 for the revised sand filter detail clarifying which sand filters have subdrains.

Pare revised the outlet structures for Sand Filter 1 and Sand Filter 3 to improve draindown within the 72 hours following the start of each storm event. The tables below depict the volume remaining and water surface elevation in each BMP 72 hours following the start of the 1-yr, 10-yr, 100-yr storm and WQV storm at 1.2".

Per the tables below and revised Hydrologic Calculations, the water surface elevation is below the top of filter media 72 hours following start of the storm. The stormwater design conforms to Stormwater Rule 250-RICR-150-10.8.23.F.1.b.

Table 1: Surface elevations for proposed BMPs

BMP	Top of Filter Elev.	1-yr Elev. after 72 hours	10-yr Elev. after 72 hours	100-yr Elev. after 72 hours	1.2" storm Elev. after 72 hours
Bio-01	44.00	43.92	43.93	43.93	43.91
Bio-02	*56.00*	*	*	*	*
Bio-03	*59.00*	*	*	*	*
Bio-04	*59.80*	58.07	58.08	58.08	*
SF-01	*46.00*	45.99	46.00	46.02	45.20
SF-02	*54.85*	54.43	54.43	54.44	52.75
SF-03	*60.00*	57.51	59.72	59.73	*
SF-04	*61.00*	*	*	*	*
SF-05	*49.00*	48.03	48.04	48.04	46.8
IB-01	*55.00*	*	*	*	*

***Filter system BMP's storage volume is 0 CF at 72 hours.**

Table 2: Stormwater Volume within Filter Media of Proposed BMPs 72 Hours Following Start of Storm Event (All Volume is below Top of Filter Media)

BMP	1-yr Volume after 72 hours (CF)	10-yr Volume after 72 hours (CF)	100-yr Volume after 72 hours (CF)	1.2" storm Volume after 72 hours (CF)
Bio-01	462	463	464	459
Bio-02	0	0	0	0
Bio-03	0	0	0	0
Bio-04	306	307	308	0
SF-01	5,353	5,461	5,537	4,134
SF-02	1,854	1,859	1,862	648
SF-03	342	1,804	1,808	0
SF-04	0	0	0	0
SF-05	475	476	477	189
IB-01	0	0	0	0

During a discussion with RIDEM on 5/28/25, RIDEM requested Pare provide available volume below the lowest outlet within each BMP 72 hours following the start of a 10-year design storm event. RIDEM asked whether the volume remaining in the filter media would impact a subsequent storm event. Please refer to Table 3 below for available volume below the lowest outlet within each BMP 72 hours following the start of a 10-year design storm event.

As noted above, the Rules do not establish a minimum timeframe for draining stormwater from the filter media for Filtering System BMP's. Table 3 indicates that there is available capacity within each BMP to provide storage below the lowest outlet if a second storm event were to commence 72 hours following the start of the initial storm event.

Hydrologic modeling of back-to-back storm events is not specified by the Rules and a standard timeframe, rainfall depth, frequency, or recurrence interval has not been established for this analysis. As requested, Pare reviewed www.precip.net and NOAA references for established data on back-to-back storm events, but could not find a standard method for modeling back-to-back storms. Pare anticipates there are an unlimited combination of subsequent weather events that could be considered and could be experienced in the Northeast Region due to the unpredictable patterns of weather.

RIDEM asked whether water quality would be provided if back-to-back storm events occurred. This would depend on the nature of the back-to back-storm events which do not follow the patterns outlined in standard Hydrologic Analysis. Our understanding is that because the size and details

of real back-to-back storm events is unpredictable, the Rules direct designers to provide 1.2" of WQv storage in BMP's to provide greater than the required average annual total suspended solids removal. The requirement is met by providing this volume below the lowest outlet.

Per Stormwater Rule 250-RICR-150-10.8.6, the industry standard for stormwater management design is the 24-hour (Type III) rainfall event using the Northeast Regional Climate Center (NRCC) regional rainfall data. Per the Rhode Island Stormwater Design and Installation Standards Manual (RISDISM) the water quality volume of 1.2" ***"is the amount of stormwater runoff from any given storm that must be captured and treated in order to remove a significant fraction of stormwater pollutants on an average annual basis. The required WQv, which results in the capture and treatment of the entire runoff volume for 90 percent of the average annual storm events, is equivalent to the runoff associated with the first 1.2 inches of rainfall over the impervious surface"*** **(RISDISM, page 3-13).**

Based on the stormwater management standards outlined within Stormwater Rule 250-RICR-150-10.8.9 the proposed BMPs meet the stormwater management standard by providing water quality treatment that achieves "*the capture and treatment of the entire runoff volume for 90 percent of the average annual storm events.***" Based on the calculations provided in Appendix B and Appendix C of the revised stormwater report, the proposed stormwater management systems provide water quality treatment for the average annual storm events projected to occur per the NRCC regional rainfall data.**

Table 3: Available Volumes (All Volume is below Top of Filter Media)

BMP	Top of Filter Elev.	Total volume provided within the BMP (CF)	10-yr volume after 72 hours (CF)	Available volume within the BMP following a 10-yr storm (CF)
Bio-01	44.00	1683	463	1220
Bio-02	*56.00*	2101	0	2101
Bio-03	*59.00*	1108	0	1108
Bio-04	*59.80*	1144	307	837
SF-01	*46.00*	10117	5461	4656
SF-02	*54.85*	4178	1859	2319
SF-03	*60.00*	3952	1804	2148
SF-04	*61.00*	2245	0	2245
SF-05	*49.00*	1368	476	892
IB-01	*55.00*	5204	0	5204

PARE CORPORATION

5. **COMMENT**: Please include the required pertinent design data for proposed Sand Filter 5 in Tables 5.2 and 5.3 in the Appendix A Checklist. The submitted Appendix A checklist does not include any supporting data for the proposed Sand Filter 5.

   RESPONSE: **Please see the revised Appendix A checklist for Sand Filter-05 design data within Appendix C.**

6. **COMMENT**: With respect to the proposed Underground Infiltration practice (UGIS-1) the submitted detail plan depicts a subdrain pipe situated within the stone bed, located above the proposed 18" sand filter layer. Please clarify whether this drain is for maintenance purposes only, to be fitted with a valve to be normally set in the closed position. Otherwise, if this drain is needed or intended to act as a subdrain system, it needs to take the form of a perforated pipe array to be set within a peastone bed situated beneath the sand filter. Its location above the sand filter bed does not allow for the intended water quality treatment to occur. (Please note that based on a review of the submitted HydroCAD-TM model for this underground infiltration / detention practice, a subdrain may not be needed, given the fact that the outlet system as modeled appears to demonstrate that the practice will completely empty by hour 72 after the start of the storm (i.e., within 48 hours after the 24-hour Type III storm event).

   RESPONSE: **The proposed auxiliary drain pipe for UGIS-01 is for maintenance purposes only, and to be fitted with a valve to be normally set in the closed position. The valve will be placed in DMH-106. Please see the revised UGIS-01 detail on plan sheet C8.10 and revised drainage plan sheet C6.1 for auxiliary drain pipe depicted in plan review.**

7. **COMMENT**: Please revise the labeling of any drain to be included above the sand filter bed or bioretention filter bed as an auxiliary drain, to include a valve to remain in the closed position except where necessary to perform an immediate drain-down operation for maintenance purposes. This needs to be clearly noted both on the plans and in a revised long-term Operation and Maintenance Plan.

   RESPONSE: **Please refer to updated auxiliary drain pipe detail on plan sheet C8.6, drainage sheet C6.1-C6.9 for label revisions. The plans have been revised to specify that the auxiliary drain pipe is to remain within the closed position. Please refer to the revised Note sheet C1.1 for updated auxiliary drain pipe notes. Please refer to the updated Operations and Maintenance Plan Report for the revised auxiliary drain pipe notes for the Owner's records.**

ACB/dp

June 4, 2025

Online Portal

Rhode Island Department of Environmental Management
Office of Water Resources & Freshwater Wetland Program
235 Promenade Street
Providence, RI 02908

Re: Response to RIDEM Comments #2 [LEC File #: PEB\23-168.01]
RIDEM No. 25-0078
IA-0000006628
Mt. Hope High School
199 Chestnut Street
Bristol, Rhode Island

Dear Members of the Commission:

On behalf of the Applicant/Property Owner, Bristol Warren Regional School District, c/o Superintendent Anna C. Riley, LEC Environmental Consultants, Inc., (LEC) is submitting this *Response to RIDEM Comments #2* summarizing responses to comments provided in the *RIDEM Technical Review Comments of Documents Received by RIDEM on April 17, 2025 Letter,* dated May 23, 2025.

For ease of review, LEC has restated the biological and concluding comments in italics followed by our responses in **bold**. Responses related to engineering review comments are provided under separate cover in the *Responses to RIDEM Engineering Review Comments Letter*, prepared by Pare Corporation, dated June 3, 2025. In addition, Pare Corporation has prepared a revised *Stormwater Management Report*, dated January 2025 (revised June 2, 2025), and a revised *Long-Term Operation and Maintenance Plan*, dated January 2025 (revised June 2, 2025), provided under separate cover. Revisions made in response to RIDEM comments are depicted on the revised *Preliminary Plan Submission* (*revised Plan*), dated January 10, 2025 (revised June 2, 2025), prepared by Pare Corporation.

Biological Review Comments

Comment 1. Please note that the Limit of Disturbance (LOD) on Sheet 85 of 93 is different than the LOD depicted on other sheets. Please revise the sheets so that they all have the same LOD and enclose all work proposed, including the proposed restoration plantings.

Response: The LOD on Sheet 85 of the *revised Plan* has been modified to be consistent with remaining plan sheets.

Concluding Comments

Comment 1. Please submit revised site plans and other revised documents to the new Online Application Portal.

Response: LEC will submit revised documents to the Online Application Portal through Claire Hoogeboom's account. Additional submitted documents prepared by Pare Corporation include the revised *Preliminary Plan Submission,* dated January 10, 2025 (revised June 2, 2025), the revised *Stormwater Management Report*, dated January 2025 (revised June 2, 2025), and the revised *Long-Term Operations and Maintenance Plan*, dated January 2025 (revised June 2, 2025).

Comment 2. In order to facilitate the review of future revisions to your project, please address each of the above items in writing.

Response: This comment is noted and addressed.

Comment 3. Please note that any changes to the proposed design which are separate from and in addition to any changes which were needed to address the above review comments need to be specifically described in an additional narrative describing all such plan revisions.

Response: The proposed project plan set has been modified since the plan set dated April 17, 2025 due to Construction Document coordination. Relevant plan revisions depicted on the *revised Plan* are summarized below for RIDEM reviewers:

1. **Revisions to plan sheets C3.1 – C3.3 related to demolition work within the Town's Right-of-Way.**
2. **Revisions to plan sheets C4.1 – C4. 9 related to minor utility pad revisions, sidewalk/plaza revisions, and courtyard updates.**
3. **Revisions to plan sheets C5.1 – C5.9 related to ADA compliance, detailed athletic field grading, and plaza and courtyard updates.**
4. **Revisions to plan sheets C6.1 – C6.9 related to site feature adjustments and grading revisions. Additional catch basins, area drains, and drain manholes were designed to capture stormwater runoff based on the revisions above. Toe drains, subdrains, and auxiliary drain pipe callout revisions for clarity.**
5. **Revisions to plan sheets C7.1 – C7.3 related to utility construction document coordination updates based on review comments with local authorities, and the Town of Bristol. This included Construction Document updates per coordination with the Design Team's MEP consultant.**
6. **Revisions to plan sheets C8.7 – C8.14 related to Construction Document coordination.**

Comment 4. Please ensure that if the revised submittal includes any changes to the types of and/or location of proposed stormwater management practices a revised long-term operation and maintenance plan will need to be submitted with the response materials.

Response: The types and locations of the proposed BMPs did not change since the plan set dated April 17, 2025. However, a revised *Long-Term Operations and Maintenance Plan*, dated January 2025 (revised June 2, 2025) is provided to include specific details regarding the auxiliary drain pipe for maintenance purposes.

Comment 5. Please ensure that all response materials have a title page addressing whether they represent supplemental information or a total revision and are properly dated and have signed and dated PE stamp.

Response: This comment is noted and addressed.

Comment 6. If you have any questions regarding this letter or the processing of your application, or with respect to any of the above-noted biological review comments, please contact Jessica Lord at (401) 537-4249.

Comment 7. If you have any questions regarding above-noted engineering review comments, please contact Nicholas Pisani at (401) 537-4151.

Response: The project team appreciates RIDEM's review and comments, and the continued coordination to facilitate your review.

Summary

Thank you for considering this response to RIDEM technical review comments. If you have any questions, please do not hesitate to contact me in our East Providence office at 401-685-3109 or at choogeboom@lecenvironmental.com.

Sincerely,

LEC Environmental Consultants, Inc.



Claire A. Hoogeboom
Wetland Scientist

Attachments

cc: Perkins Eastman; Pare Corporation; Traverse Landscape Architects

MT. HOPE HIGH SCHOOL

199 Chestnut Street

Assessor's Plat 117, Lots 3, 4, 5, 6, & 7
Bristol, Rhode Island

OWNER/ APPLICANT:

BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809

CIVIL ENGINEER:

PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

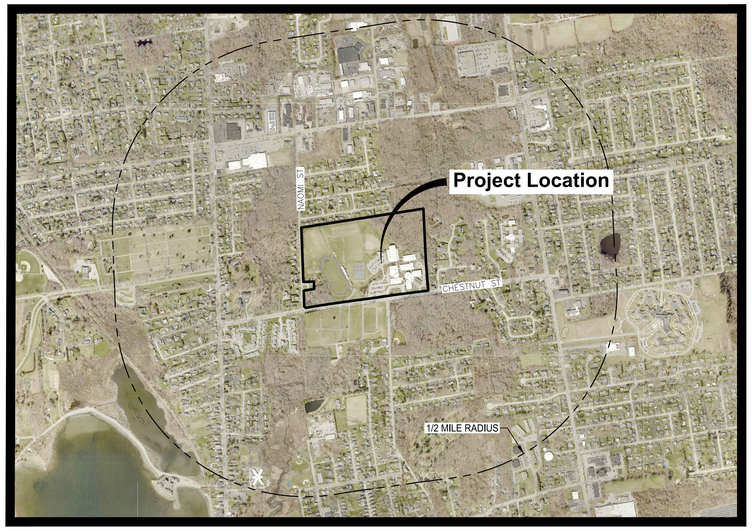
LANDSCAPE ARCHITECT:

TRAVERSE
landscape architects
150 Chestnut Street, 4th Floor
Providence, RI 02903

WETLAND CONSULTANT:

LEC

LEC ENVIRONMENTAL CONSULTANTS, INC
680 WARREN AVE, UNIT 3
EAST PROVIDENCE, RI 02914
401-685-3109



Scale : N.T.S.

INDEX OF DRAWINGS

SHEET No.	DRAWING No.	DESCRIPTION
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93	LP-301	PLANTING DETAILS

RIDEM SUBMISSION
FEBRUARY 7, 2025
REVISION 1 APRIL 17, 2025
REVISION 2 JUNE 2, 2025

REFERENCE

1. PROJECT LOCATION: MT. HOPE HIGH SCHOOL, 199 CHESTNUT ST, BRISTOL, RI 02809.
   ASSESSOR'S MAP 117, LOTS 3, 4, 5, 6, AND 7.
2. EXISTING CONDITIONS MAPPING TAKEN FROM PLAN ENTITLED "MT. HOPE HIGH SCHOOL" PREPARED BY MARTINEZ, COUCH AND ASSOCIATES LLC, DATED 12/23/2024.
3. WETLAND FLAGS IDENTIFYING WETLAND RESOURCE AREAS WERE PLACED BY LEC ENVIRONMENTAL CONSULTANTS ON FEBRUARY 12 AND 28, 2024 AND LOCATED BY MARTINEZ, COUCH AND ASSOCIATES LLC.

GENERAL NOTES

1. PER AVAILABLE RIDEM MAPPING, THE PROJECT SITE IS LOCATED WITHIN A NATURAL HERITAGE AREA. THE PROJECT IS ALSO LOCATED WITHIN THE SILVER CREEK WATERSHED AREA.
2. THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED FEBRUARY 2025 WITH ALL REVISIONS AND ADDENDA. AND THE RHODE ISLAND STANDARD DETAILS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO, ALL WORK SHALL MEET OR EXCEED THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WITH LATEST REVISIONS. THE LATEST REVISION OF THE STANDARD SPECIFICATIONS MAY BE OBTAINED AT THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION.
3. THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE ENGINEER AND OWNER'S REPRESENTATIVE AS REQUIRED.
4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AND/OR BARRIERS AROUND ALL OPEN EXCAVATED AREAS IN ACCORDANCE WITH OSHA FEDERAL, STATE, AND LOCAL REQUIREMENTS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED. NO FIELD ADJUSTMENTS IN THE LOCATION OF SITE ELEMENTS SHALL BE MADE WITHOUT THE ENGINEER'S APPROVAL.
6. IF ANY DEVIATION OR ALTERATION OF THE WORK PROPOSED ON THESE DRAWINGS IS REQUIRED, THE CONTRACTOR SHALL IMMEDIATELY CONTACT AND COORDINATE ANY DEVIATIONS WITH THE ENGINEER AND OWNER.
7. ANY AREA OUTSIDE OF THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
8. ALL SITE WORK SHALL MEET OR EXCEED THE SITE WORK SPECIFICATIONS PREPARED FOR THIS PROJECT.
9. ALL SIGNS SHALL BE REFLECTORIZED TYPE III SHEETING AND CONFORM WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST REVISION.
10. ALL UTILITIES (LOCATION AND ELEVATION) DEPICTED SHALL BE CONSIDERED APPROXIMATE ONLY. BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIG SAFE" AT 1-888-DIG-SAFE (1-888-344-7233) TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES AND THE COST TO REPAIR THE DAMAGES TO INITIAL CONDITIONS, AS DEPICTED ON THE PLANS, SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
11. NO EXCAVATION SHALL BE DONE UNTIL UTILITY COMPANIES ARE PROPERLY NOTIFIED IN ADVANCE. NOTE THAT NOT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL RESPECTIVE UTILITY COMPANIES TO VERIFY AND LOCATE EXISTING UTILITIES.

LAYOUT NOTES

1. ALL LINES ARE PERPENDICULAR OR PARALLEL TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
2. ACCESSIBLE RAMPS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY STANDARDS.
3. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL PERFORM BENCHMARK FIELD LEVEL VERIFICATION AND COORDINATE LAYOUT CHECK. THE CONTRACTOR SHALL CONTACT PARE CORPORATION IF ANY DISCREPANCIES ARE FOUND.
4. DIMENSIONS OF PARKING SPACES AND DRIVEWAYS ARE FROM FACE OF CURB TO FACE OF CURB. DIMENSIONS FROM BUILDING ARE FROM FACE OF BUILDING TO FACE OF CURB.
5. ALIGN WALKWAYS ON DOORWAYS THEY SERVE TO PROVIDE MINIMUM REQUIRED MANEUVERING CLEARANCE IN ACCORDANCE WITH THE AMERICAN WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES.

DEMOLITION NOTES

1. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION OF STRUCTURES, PAVEMENT AND CONCRETE MATERIALS, AND UTILITIES WITH APPROPRIATE PROPOSED SITE GENERAL, GRADING, UTILITY, AND LANDSCAPING DRAWINGS.
2. ALL NOTED UTILITIES TO BE REMOVED AND DISPOSED OF, RELOCATED OR CAPPED REPRESENT ALL KNOWN SITE CONDITIONS TO BE DEMOLISHED. THE CONTRACTOR SHALL COORDINATE ALL UNFORESEEN CONDITIONS WITH THE PROJECT ENGINEER, OWNER AND/OR RESPECTIVE UTILITY COMPANIES PRIOR TO PROCEEDING WITH WORK.
3. WATER, SEWER, DRAINAGE, GAS, AND OTHER SITE UTILITIES SERVICING THE EXISTING FACILITIES ARE TO REMAIN ACTIVE THROUGHOUT CONSTRUCTION. THERE SHALL BE NO INTERRUPTION OF UTILITY SERVICES DURING THE CONSTRUCTION OPERATION WITHOUT APPROVAL FROM THE OWNER.

GRADING AND UTILITY NOTES

1. UNDERGROUND UTILITIES DEPICTED WERE COMPILED FROM AVAILABLE RECORD PLANS AND SHALL BE CONSIDERED APPROXIMATE ONLY. BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIG SAFE" AT 1-888-DIG-SAFE (1-888-344-7233) TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES DEPICTED OR NOT DEPICTED ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS TO REPAIR SUCH DAMAGES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. NO EXCAVATION SHALL BE DONE UNTIL UTILITY COMPANIES ARE PROPERLY NOTIFIED.
2. ALL WORK PERFORMED AND ALL MATERIALS FURNISHED SHALL CONFORM WITH THE LINES AND GRADES ON THE PLANS AND SITE WORK SPECIFICATIONS.
3. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUT NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT AND CURBS SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
4. ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE SURROUNDING SURFACE OR PAVEMENT FINISH GRADE. RIM ELEVATIONS OF STRUCTURES AND MANHOLES ARE APPROXIMATE, FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS.
5. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION OF PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED.
6. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION SHALL BE PROVIDED ON A SKETCH TO SCALE OF THE EXISTING UTILITY WITH TIES TO KNOWN POINTS, PHOTOS AND FURNISHED TO THE ENGINEER FOR RESOLUTION.
7. THE CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION, ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS SHALL BE RESTORED TO ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
8. GAS, ELECTRIC, AND COMMUNICATIONS ROUTING ARE SUBJECT TO REVIEW AND APPROVAL BY APPROPRIATE UTILITY COMPANIES.
9. DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES BY PROVIDING TEMPORARY SUPPORTS OR SHEETING AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
10. ALL GRAVITY SANITARY PIPING SHALL BE SDR-35 PVC. ALL SEWER CONSTRUCTION SHALL CONFORM TO THE TOWN OF BRISTOL SEWER AND SEWAGE DISPOSAL ORDINANCE .
11. ALL WATER LINE BENDS AND TEES SHALL BE REINFORCED WITH THRUST BLOCKS. ALL WATER DISTRIBUTION PIPING AND FITTINGS MUST ADHERE TO THE BRISTOL COUNTY WATER AUTHORITY SPECIFICATIONS AND SHALL BE INSPECTED BEFORE, DURING, AND AFTER CONSTRUCTION PRIOR TO TAPPING THE SERVICE MAIN. THE CONTRACTOR SHALL COORDINATE AND CONFIRM ALL WATER DISTRIBUTION MATERIAL PRODUCTS WITH THE BRISTOL COUNTY WATER AUTHORITY PRIOR TO ORDERING OR PURCHASING PRODUCTS.
12. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
13. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MIN. OF 1/8" PER FOOT UNLESS SPECIFIED OTHERWISE.
14. THE PROPOSED WALKWAYS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM RUNNING SLOPE OF 5% AS SHOWN ON CONSTRUCTION DETAILS AND GRADING PLAN.

STORMWATER MANAGEMENT SYSTEM INSPECTION AND MAINTENANCE NOTES

DURING CONSTRUCTION (CONTRACTOR'S RESPONSIBILITY)

1. THE CONTRACTOR SHALL REMOVE SEDIMENT AND DEBRIS FROM ALL CATCH BASINS, MANHOLES, AND THE DRAINAGE SYSTEM ON A ROUTINE BASIS, IMMEDIATELY FOLLOWING SITE STABILIZATION, AND PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
2. THE CLOSED DRAINAGE SYSTEM AND ASSOCIATED STRUCTURES SHALL BE CLEANED AND FLUSHED BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM UNTIL ACCEPTANCE OF THE SYSTEM BY THE ENGINEER AND THE TOWN OF BRISTOL. FOLLOWING ACCEPTANCE OF THE PROPOSED DRAINAGE SYSTEM, THE OWNER OF THE SITE SHALL BE RESPONSIBLE FOR THE LONG-TERM INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM.
3. ANY ACCUMULATION OF PONDING WATER IN AREAS WITHIN THE LIMITS OF DISTURBANCE, OTHER THAN DESIGNATED AREAS, SHALL BE REMOVED ACCORDINGLY AND PREVENTED IN THE FUTURE.

POST CONSTRUCTION (OWNER'S RESPONSIBILITY)

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

1. THE PARKING LOT AND ENTRY DRIVES SHALL BE SWEPT BY THE OWNER ONCE IN THE SPRING AND ONCE DURING THE FALL TO REMOVE SEDIMENTS.
2. TRASH, LITTER, SEDIMENT AND OTHER DEBRIS SHALL BE REMOVED FROM ANY STORMWATER FACILITY (INCLUDING CATCH BASINS, MANHOLES, INLETS, DIVERSION AND OUTLET STRUCTURES) AT LEAST TWICE A YEAR, ONCE IN THE MONTH OF APRIL AND ONCE IN THE MONTH OF OCTOBER, AT THE COST OF THE OWNER.
3. ALL SEDIMENTS REMOVED SHALL BE DISPOSED OF AT AN APPROVED AND PERMITTED LOCATION.
4. SNOW STORAGE IS PROHIBITED IN THE STORMWATER BMP'S.
5. ALL CLEANING AND MAINTENANCE OF DRAINAGE SYSTEM BMP'S SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. SEE ADDITIONAL INSPECTION, MAINTENANCE, AND REPAIR NOTES FOR THE STORMWATER SYSTEM. THE OWNER SHALL COMPLY WITH THE TOWN OF BRISTOL OPERATION AND MAINTENANCE REQUIREMENTS PER SECTION 29-62 OF THE CODE OF ORDINANCES.

EROSION AND SEDIMENTATION CONTROL NOTES - RHODE ISLAND

1. THE CONTRACTOR AND RELEVANT SUBCONTRACTORS SHALL READ AND UNDERSTAND THE RIPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (GENERAL PERMIT) AND THE SITE SPECIFIC SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC) PREPARED FOR THE PROJECT. ALL EROSION CONTROLS SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST REVISION.
2. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE CONDITIONS ISSUED FOR THE PROJECT BY RIDEM AND THE TOWN OF BRISTOL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH ALL PERMIT REQUIREMENTS AND CONSTRUCTION DOCUMENTS. PER THE TOWN OF BRISTOL'S CODE OF ORDINANCES CHAPTER 29, THE CONTRACTOR SHALL PROVIDE NOTIFICATION OF PROJECT COMPLETION. THE TOWN OF BRISTOL'S BUILDING OFFICIAL SHALL BE NOTIFIED TO MAKE A FINAL INSPECTION OF THE SITE AND SHALL PREPARE A FINAL SUMMARY INSPECTION REPORT OF FINDINGS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING OR INSTALLING ALL TEMPORARY SEDIMENT AND EROSION CONTROLS AS SHOWN ON THESE PLANS AND SHALL MAINTAIN ALL EROSION CONTROL MEASURES AS NECESSARY DURING THE ENTIRE CONSTRUCTION PERIOD.
4. ANTI-TRACKING PADS (R.I. STD. DETAIL 9.9.0) SHALL BE PROVIDED AT ALL POINTS OF VEHICULAR INGRESS AND EGRESS ON THE CONSTRUCTION SITE AND SHALL BE MAINTAINED TO LIMIT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADS. PER THE PROJECT SPECIFICATIONS, THE CONTRACTOR SHALL BE BACKCHARGED IF ALL POINTS OF INGRESS AND EGRESS ARE NOT MAINTAINED.
5. EROSION CONTROL BARRIERS SHALL BE INSTALLED AS SHOWN ON THE EROSION CONTROL PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATIONS.
6. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A WEEKLY BASIS AND AFTER EACH STORM EVENT OF 0.25 INCH OR GREATER DURING CONSTRUCTION TO ENSURE THAT CHANNELS, DITCHES AND PIPES ARE CLEAR OF DEBRIS AND THAT THE EROSION CONTROL BARRIERS ARE INTACT. IDENTIFIED DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.
7. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
8. THE CONTRACTOR SHALL CLEAN AND MAINTAIN EROSION CONTROL BARRIER WHEN SEDIMENT ACCUMULATES TO ONE HALF THE HEIGHT OF THE BARRIER. MATERIAL COLLECTED FROM THE SEDIMENTATION BARRIERS SHALL BE REMOVED AS NECESSARY AND DISPOSED IN AN UPLAND AREA.
9. THE CONTRACTOR SHALL SCHEDULE HIS WORK TO ALLOW THE FINISHED SUBGRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PONDING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO APPLICATION OF SURFACE PAVING. PROVIDE TEMPORARY POSITIVE DRAINAGE, AS REQUIRED, TO STABILIZED DISCHARGE POINTS.
10. INSTALLATION OF THE EROSION CONTROL BARRIERS AS ILLUSTRATED IS INTENDED TO REPRESENT THE MINIMUM SEDIMENTATION CONTROL FACILITIES NECESSARY TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
11. REQUIRED SEDIMENTATION CONTROL FACILITIES MUST BE PROPERLY ESTABLISHED, CLEARLY VISIBLE AND IN OPERATION PRIOR TO INITIATING ANY LAND CLEARING ACTIVITY AND/OR OTHER CONSTRUCTION RELATED WORK. SUCH FACILITIES SHALL REPRESENT THE LIMIT OF WORK. WORKERS SHALL BE INFORMED THAT NO CONSTRUCTION ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK AT ANY TIME THROUGHOUT THE CONSTRUCTION PERIOD.
12. THE CONTRACTOR SHALL MAINTAIN A SUFFICIENT RESERVE OF VARIOUS EROSION CONTROL MATERIALS ONSITE AT ALL TIMES FOR EMERGENCY PURPOSES OR ROUTINE MAINTENANCE.
13. EXISTING AND NEWLY INSTALLED CATCH BASINS AND STORM DRAIN INLETS SHALL BE PROTECTED WITH APPROPRIATE TEMPORARY INLET PROTECTION IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.
14. DEWATERING WASTE WATERS PUMPED FROM EXCAVATIONS SHALL BE CONVEYED BY HOSE TO AN UPLAND AREA AND DISCHARGED INTO STRAW BALE CORRALS OR SEDIMENTATION BAGS. ALL DEWATERING OPERATIONS SHALL BE IN ACCORDANCE WITH STATE REGULATIONS.
15. THE CONTRACTOR SHALL NOT REMOVE ANY TEMPORARY SEDIMENT CONTROL BARRIERS UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.
16. CONSTRUCTION SITE WASTE MATERIALS SHALL BE PROPERLY CONTAINED ONSITE AND DISPOSED OFF SITE AT A LOCATION IN ACCORDANCE WITH THE LOCAL AND STATE REGULATIONS.
17. RIP-RAP OR OTHER ENERGY DISSIPATERS SHALL BE USED WHERE NECESSARY TO PREVENT SCOUR.
18. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS UPON COMPLETION OF WORK IN THAT AREA.
19. ALL DRAINAGE STRUCTURES SHALL BE CLEARED OF ACCUMULATED SEDIMENT PRIOR TO ACCEPTANCE OF FINAL PROJECT.
20. NEWLY VEGETATED AREAS SHALL BE MAINTAINED REGULARLY TO ENSURE STABLE VEGETATED SURFACES.
21. EROSION AND SEDIMENTATION CONTROLS SHALL BE UTILIZED AS SHOWN ON THE PLANS. POTENTIAL EROSION AND SEDIMENTATION PROBLEMS ASSOCIATED WITH THE CONSTRUCTION OF THE PROJECT SHALL BE AVOIDED THROUGH THE PROJECT SCHEDULING AND THE USE OF APPROPRIATE STANDARD CONTROLS (RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK) AS ILLUSTRATED ON THE PROJECT PLANS.
22. WHERE EROSION CONTROLS ARE NEEDED ON IMPERVIOUS SURFACES, THE CONTRACTOR SHALL PROVIDE SAND BAG EROSION CONTROL BARRIER.
23. TEMPORARY DIVERSION (TD) MAY CONSIST OF A DITCH OR SWALE, OR MAY BE ACHIEVED USING WOOD CHIPS, COIR LOGS, OR SIMILAR MATERIALS.
24. TEMPORARY SEDIMENT TRAPS (TST) AND TEMPORARY SWALES (TSW) SHALL BE SIZED BY THE CONTRACTOR USING THE PARAMETERS CONTAINED IN THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.

SEDIMENT FOREBAY INSPECTION, MAINTENANCE, AND REPAIR NOTES

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

1. SEDIMENT FOREBAY SHALL BE INSPECTED A MINIMUM OF TWO TIMES PER YEAR AND AFTER EVERY STORM OF 2.8" INCH OR GREATER FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY THE OWNER.
2. SEDIMENT FOREBAYS SHALL BE CLEANED IF SEDIMENT REACHES HALF THE DESIGN DEPTH.
3. SEDIMENT FOREBAY CHECK DAMS SHALL BE REPLACED IF DRAWDOWN TIMES WITHIN THE SEDIMENT FOREBAY EXCEED 48 HOURS FOLLOWING THE STORM EVENT.
4. ALL SEDIMENTS REMOVED SHALL BE DISPOSED OF AT AN APPROVED AND PERMITTED LOCATION.
5. VEGETATION SHALL NOT EXCEED 18" IN HEIGHT IN THE SEDIMENT FOREBAYS.

SAND FILTER NOTES INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT SAND FILTER AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT SAND FILTER FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY OWNER.
3. BI-ANNUALLY
   - INSPECT SAND FILTER A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY IN APRIL AND OCTOBER. SEDIMENT SHALL BE REMOVED FROM SAND FILTER IF THE SEDIMENT EXCEEDS 1".
   - MOW SIDESLOPES AND BOTTOM OF SAND FILTER A MINIMUM OF TWO TIMES PER YEAR.
4. QUARTERLY
   - INSPECT SAND FILTER OUTLET CONTROL STRUCTURE AND ALL OVERFLOW CHANNELS. THE OWNER SHALL STABILIZE ERODED BANKS AND REPAIR ERODED AREAS AT INFLOW AND OUTFLOW STRUCTURES AS NECESSARY.
5. IF SEDIMENT BUILD-UP HAS LIMITED THE FILTERING CAPABILITIES TO BELOW THE DESIGN RATE OR PONDING HAS EXCEEDED 72 HOURS THE FOLLOWING SHALL BE COMPLETED:
   - THE TOP 6" OF SOIL SHALL BE REMOVED AND DISPOSED AT A PERMITTED LOCATION.
   - THE EXPOSED SURFACE SHALL BE SCARIFIED.
   - THE TOP 6" SHALL BE RESTORED TO THE ORIGINAL DESIGN SPECIFICATIONS WITH ASTM C-33 SAND.
6. TRASH AND DEBRIS SHALL BE REMOVED FROM SAND FILTER AS NECESSARY.
7. AUXILIARY DRAIN PIPES WITHIN SF-01, SF-02, SF-03 AND SF-05 SHALL BE INSPECTED ANNUALLY. THE OWNER SHALL KEEP THE PVC BALL VALVE IN THE CLOSED POSITION AT ALL TIMES EXCEPT WHERE NECESSARY TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES.

BIORETENTION AREA INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT BIORETENTION AREA AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT BIORETENTION AREA FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY OWNER.
3. BI-ANNUALLY
   - INSPECT BIORETENTION AREA A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY IN APRIL AND OCTOBER. SEDIMENT SHALL BE REMOVED FROM BIORETENTION AREA IF THE SEDIMENT EXCEEDS 1".
   - MOW SIDE SLOPES AND BOTTOM OF BIORETENTION AREA A MINIMUM OF TWO TIMES PER YEAR.
4. QUARTERLY
   - INSPECT BIORETENTION AREA OUTLET CONTROL STRUCTURE AND ALL OVERFLOW CHANNELS. THE OWNER SHALL STABILIZE ERODED BANKS AND REPAIR ERODED AREAS AT INFLOW AND OUTFLOW STRUCTURES AS NECESSARY.
5. IF SEDIMENT BUILD-UP HAS LIMITED THE FILTERING CAPABILITIES TO BELOW THE DESIGN RATE OR PONDING HAS EXCEEDED 48 HOURS THE FOLLOWING SHALL BE COMPLETED:
   - THE TOP 6" OF SOIL SHALL BE REMOVED AND DISPOSED AT A PERMITTED LOCATION.
   - THE EXPOSED SURFACE SHALL BE SCARIFIED.
   - THE TOP 6" SHALL BE RESTORED TO THE ORIGINAL DESIGN SPECIFICATIONS WITH A LOAMY SAND TOPSOIL.
6. TRASH AND DEBRIS SHALL BE REMOVED FROM BIORETENTION AREA AS NECESSARY.
7. AUXILIARY DRAIN PIPES WITHIN BIO-01 AND BIO-04 SHALL BE INSPECTED ANNUALLY. THE OWNER SHALL KEEP THE PVC BALL VALVE IN THE CLOSED POSITION AT ALL TIMES EXCEPT WHERE NECESSARY TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES.

DETENTION BASIN INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. SEDIMENT SHALL BE REMOVED FROM THE DETENTION BASIN WHEN THE SEDIMENT VOLUME EXCEEDS 10 PERCENT OF THE TOTAL BASIN VOLUME. THE REMOVED SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED AND PERMITTED LOCATION.
2. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT INFILTRATION PRACTICES AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
3. BI-ANNUALLY
   - INSPECT DETENTION BASIN A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY ONCE IN APRIL AND ONCE IN OCTOBER.
   - MOW SIDE SLOPES AND BOTTOM OF DETENTION BASIN A MINIMUM OF TWO TIMES PER YEAR. THE VEGETATION SHALL NOT EXCEED 18" IN HEIGHT.
4. QUARTERLY
   - THE DETENTION BASIN OUTLET STRUCTURES AND ALL OUTFLOW CHANNELS SHOULD BE INSPECTED QUARTERLY BY THE OWNER.

QUALIFYING PERVIOUS AREA INSPECTION, MAINTENANCE, AND REPAIR NOTES

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

1. THE QUALIFYING PERVIOUS AREAS (QPA'S) MUST BE INSPECTED A MINIMUM OF TWO TIMES PER YEAR FOR SEDIMENT, PONDING, EROSION, AND VEGETATION.
2. REMOVE ACCUMULATED SEDIMENT FROM THE QPA'S IF SEDIMENT EXCEEDS 1".
3. OWNER SHALL REPAIR ANY SLOPES THAT HAVE BEEN DAMAGED DUE TO EROSION OR OTHER MEANS. OWNER SHALL REPLACE ANY VEGETATION THAT HAS DIED OR BEEN DAMAGED.
4. OWNER SHALL MOW GRASS WITHIN THE QPA A MINIMUM OF TWO TIMES ANNUALLY TO MAINTAIN A MINIMUM GRASS HEIGHT OF 6".
5. TRASH AND DEBRIS SHALL BE REMOVED FROM THE QPA'S AS NECESSARY.

WET SWALE INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. DURING THE SIX MONTHS IMMEDIATELY AFTER CONSTRUCTION, FILTER PRACTICES SHALL BE INSPECTED FOLLOWING AT LEAST THE FIRST TWO PRECIPITATION EVENTS OF AT LEAST 1.0 INCH TO ENSURE THAT THE SYSTEM IS FUNCTIONING PROPERLY. THEREAFTER, INSPECTIONS SHALL BE CONDUCTED ON AN ANNUAL BASIS AND AFTER STORM EVENTS OF GREATER THAN OR EQUAL 2.8" FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE.
2. TRASH AND DEBRIS SHALL BE REMOVED FROM THE FOREBAY AND SWALE SYSTEM AS NECESSARY.
3. MINIMUM VEGETATIVE COVERAGE OF 50% IS NOT ACHIEVED IN THE PLANTED AREAS AFTER THE SECOND GROWING SEASON, A REINFORCEMENT PLANTING IS REQUIRED. VEGETATION SHALL BE PRUNED WHERE DEAD OR DYING BRANCHES ARE OBSERVED.

UNDERGROUND INFILTRATION SYSTEM INSPECTION, MAINTENANCE, AND REPAIR NOTES

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

1. THE SYSTEM SHALL BE MAINTAINED AS RECOMMENDED BY THE MANUFACTURER.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT INFILTRATION/DETENTION SYSTEM FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY THE OWNER.
3. BI-ANNUALLY
   - INSPECTIONS SHALL BE PERFORMED A MINIMUM OF TWO TIMES PER YEAR ON THE INSPECTION PORTS AND DRAINAGE STRUCTURES OF THE UNDERGROUND INFILTRATION SYSTEM TO ENSURE PROPER OPERATION OF THE SYSTEM.
4. AUXILIARY DRAIN PIPES WITHIN UGIS-01 SHALL BE INSPECTED ANNUALLY. THE OWNER SHALL KEEP THE PVC BALL VALVE IN THE CLOSED POSITION AT ALL TIMES EXCEPT WHERE NECESSARY TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES.

INFILTRATION BASIN INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT INFILTRATION PRACTICES AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT INFILTRATION BASIN FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY OWNER.
3. BI-ANNUALLY
   - INSPECT INFILTRATION BASIN A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY IN APRIL AND OCTOBER. SEDIMENT SHALL BE REMOVED FROM INFILTRATION BASIN IF THE SEDIMENT EXCEEDS 1".
   - MOW SIDESLOPES AND BOTTOM OF INFILTRATION BASIN A MINIMUM OF TWO TIMES PER YEAR.
4. QUARTERLY
   - INSPECT INFILTRATION BASIN OUTLET CONTROL STRUCTURE AND ALL OVERFLOW CHANNELS. THE OWNER SHALL STABILIZE ERODED BANKS AND REPAIR ERODED AREAS AT INFLOW AND OUTFLOW STRUCTURES AS NECESSARY
5. IF SEDIMENT BUILD-UP HAS LIMITED THE INFILTRATION CAPABILITIES TO BELOW THE DESIGN RATE OR PONDING HAS EXCEEDED 48 HOURS THE FOLLOWING SHALL BE COMPLETED:
   - THE

ABBREVIATIONS

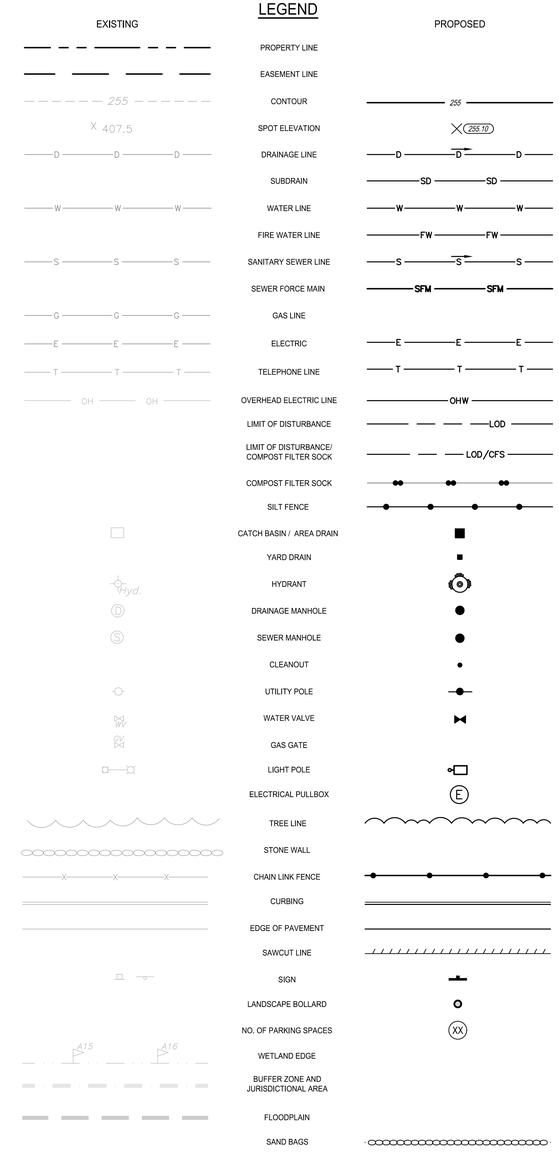
GENERAL	
AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUST
APPROX	APPROXIMATE
AC	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
ASSF	AREA SUBJECT TO STORM FLOWAGE
ATD	ASPHALT TURNDOWN
ATG	ADJUST TO GRADE
BB	BITUMINOUS BERM
BC	BOTTOM OF CURB (FINISHED GRADE ON LOW SIDE OF CURB)
BD	BOUND
BIT	BITUMINOUS
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BMP	BEST MANAGEMENT PRACTICE
BO	BY OTHERS
BOL	BOLLARD
BOS	BOTTOM OF SLOPE
BOT	BOTTOM
BPM	BLACKOUT PAVEMENT MARKING
BR	BRIDGE
BS	BOTTOM OF STAIR (FINISHED GRADE AT BOTTOM STAIR)
BW	BOTTOM OF WALL (FINISHED GRADE ON LOW SIDE OF WALL)
BWL	BROKEN WHITE LINE
BYL	BROKEN YELLOW LINE
C=	CURVE LENGTH
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CCW	CEMENT CONCRETE WALK
CD	CHECK DAM
CE	CONSTRUCTION ENTRANCE
CEM	CEMENT
CFS	COMPOST FILTER SOCK
CG	CLEAR AND GRUB VEGETATION
CH	CHORD LENGTH
CI	CURB INLET
CIP	CAST IRON PIPE
CL	CENTERLINE
CLDI	CEMENT-LINED DUCTILE IRON
CLF	CHAIN LINK FENCE
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CLR	CLEAR
CLS	CLASS
CM	SAWCUT AND MATCH
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CP	CONCRETE PAD
CR GR	CROWN GRADE
CSP	CORRUGATED STEEL PIPE
CSTR	CONCRETE STAIRS
CTE	CONNECT TO EXISTING
CW	CROSSWALK
DEMO	DEMOLITION
DET	DETECTABLE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DIV	DIVERSION
DMH	DRAIN MANHOLE
DTP	DRIPLINE TREE PROTECTION
DWL	DOTTED WHITE LINE
DWLEx	DOTTED WHITE LINE EXTENSION
DBWL	DOUBLE WHITE LINE
DWP	DETECTABLE WARNING PANEL
DYL	DOTTED YELLOW LINE
DYLEx	DOTTED YELLOW LINE EXTENSION
DBYL	DOUBLE YELLOW LINE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (or EL)	ELEVATION
EMB	EMBANKMENT
EMH	ELECTRIC MANHOLE
EOP	EDGE OF PAVEMENT
ETR	EXISTING TO REMAIN. PROTECT DURING CONSTRUCTION.
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FES	FLARED END SECTION
FFE	FINISH FLOOR ELEVATION
FLDSTN	FIELDSTONE
FND	FOUND
FT	FOOT
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
GTD	GRADE TO DRAIN
GV	GATE VALVE
HCPS	HANDICAP ACCESSIBLE PARKING SIGN
HDBC	HEAVY DUTY BITUMINOUS CONCRETE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HDPS	HANDICAP ACCESSIBLE PARKING SIGN
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HMAW	HOT MIXED ASPHALT WALKWAY
HOR	HORIZONTAL
HPR	HEADWALL PROTECTION RACK
HYD	HYDRANT
ID	INSIDE DIAMETER
INV	INVERT
JCT	JUNCTION
L=	LENGTH OF CURVE
LB	LEACH BASIN
LOD	LIMIT OF DISTURBANCE
LP	LOW POINT
LPR	LICENSE PLATE READER
LS	LOAM AND SEED
LSOD	LOAM AND SOD
LT	LEFT
LTP	LIGHT POLE
MAX	MAXIMUM
MB	MAILBOX
MCW	MONOLITHIC CONCRETE WALK
MH	MANHOLE
MIN	MINIMUM
MON	MONITORING
MUTCD	MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OCS	OUTLET CONTROL STRUCTURE
OD	OUTSIDE DIAMETER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OWS	OIL WATER SEPARATOR
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCFES	PRECAST CONCRETE FLARED END SECTION
PCTC	PRECAST CONCRETE TRANSITION CURB
PCR	PEDESTRIAN CURB RAMP
PE	POLYETHYLENE
PERF	PERFORATED
PGL	PROFILE GRADE LINE
PHMA	POROUS HOT MIXED ASPHALT PAVEMENT
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
POC	POINT ON CURVE
POT	POINT ON TANGENT
PM	PAVEMENT MARKING
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVCH	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATER WAY
QPA	QUALIFYING PERVIOUS AREA
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
R=	RADIUS
RA	RAILING
RCP	REINFORCED CONCRETE PIPE
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
RRLS	RIPRAP LEVEL SPREADER
ROW	RIGHT OF WAY
RR	RAILROAD
RRS	RIPRAP SLOPE
RS	RIPRAP SPILLWAY
RT	RIGHT
RTAD	REFER TO ARCHITECTURAL DRAWINGS
RTED	REFER TO ELECTRICAL DRAWINGS
RTFPD	REFER TO FIRE PROTECTION DRAWINGS
RTID	REFER TO IRRIGATION DRAWINGS
RTLD	REFER TO LANDSCAPE DRAWINGS
RTMD	REFER TO MECHANICAL DRAWINGS
RTPD	REFER TO PLUMBING DRAWINGS
RTSD	REFER TO STRUCTURAL DRAWINGS
S=	SLOPE
SB	SAND BAG EROSION CONTROL BARRIER
SDR	STANDARD DIMENSIONAL RATIO
SED	SEDIMENT
SESC	SOIL EROSION AND SEDIMENT CONTROL
SFL	STATE FREEWAY LINE
SFCD	SEDIMENT FOREBAY CHECK DAM
SG	SWING GATE
SHL	STATE HIGHWAY LINE
SHLD	SHOULDER
SHLO	STATE HIGHWAY LAYOUT
SHP	HANDICAP PARKING PAVEMENT MARKING
SM	SEDIMENT MARKER
SMH	SEWER MANHOLE
SSD	STOPPING SIGHT DISTANCE
ST	STREET
STA	STATION
SW	SIDEWALK
SWL	SINGLE SOLID WHITE LINE
SWR	SEWER
SYL	SINGLE SOLID YELLOW LINE
T=	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TD	TEMPORARY DIVERSION
TEMP	TEMPORARY
TC	TOP OF CURB
TDS	TEMPORARY DIVERSION SWALE
TGP	TREE GROUP PROTECTION
TIP	TEMPORARY INLET PROTECTION
TMH	TELEPHONE MANHOLE
TOS	TOP OF SLOPE
TP	TEST PIT
TRAN	TRANSITION
TRM	TURF REINFORCEMENT MAT
TS	TOP OF STAIR (FINISHED GRADE OF TOP STAIR)
TST	TEMPORARY SEDIMENT TRAP
TSW	TEMPORARY SWALE
TW	TOP OF WALL
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
VCC	VERTICAL CONCRETE CURB
VCP	VEHICULAR CONCRETE PAVEMENT
VFC	VITRIFIED CLAY
VEG	VEGETATION
VEH	VEHICULAR
VFS	VEGETATED FILTER STRIP
VGC	VERTICAL GRANITE CURB
VGTC	VERTICAL GRANITE TRANSITION CURB
VLF	VINYL FENCE
w/	WITH
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
WMH	WATER MANHOLE
WPM	WATER PAINT MARK
X-SECT	CROSS SECTION
YD	YARD DRAIN
4DY	4" DOUBLE YELLOW EPOXY RESIN PAVEMENT MARKING
4W	4" SOLID WHITE EPOXY RESIN PAVEMENT MARKING
12W	12" SOLID WHITE EPOXY RESIN PAVEMENT MARKING

RHODE ISLAND STANDARD DETAILS

1.1.0	=	UNDERDRAIN
2.1.0	=	CONCRETE HEADWALLS FOR PIPE CULVERTS PRECAST CONCRETE FLARED END SECTION - R.I. STD. 2.3.0
2.2.0A	=	STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS (SHEET 1 OF 2) - R.I. STD. 2.2.0A
2.2.0B	=	STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS (SHEET 2 OF 2) - R.I. STD. 2.2.0B
2.3.0	=	PRECAST CONCRETE FLARED END SECTION - R.I. STD. 2.3.0
4.2.0	=	PRECAST 4'-0" ROUND MANHOLE - R.I. STD. 4.2.0
4.2.1	=	PRECAST 5'-0" ROUND MANHOLE - R.I. STD. 4.2.1
4.2.2	=	PRECAST 6'-0" ROUND MANHOLE - R.I. STD. 4.2.2
4.4.0	=	PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN - R.I. STD. 4.4.0
4.7.2	=	ALTERNATE TOP COVER FOR ROUND PRECAST MANHOLES AND CATCH BASINS - R.I. STD. 4.7.2
5.3.0	=	CATCH BASIN AND MANHOLE STEP - R.I. STD. 5.3.0
7.1.0	=	PRECAST CONCRETE CURB - R.I. STD. 7.1.0
7.1.1	=	3'-0" PRECAST CONCRETE TRANSITION CURB - R.I. STD. 7.1.1
7.1.2	=	6'-0" PRECAST CONCRETE TRANSITION CURB - R.I. STD. 7.1.2
7.1.4	=	PRECAST CONCRETE 2'-0" RADIUS CURB - R.I. STD. 7.1.4
7.1.5	=	PRECAST CONCRETE INLET STONE (FOR SQUARE CATCH BASIN) - R.I. STD. 7.1.5
7.2.0	=	PRECAST CONCRETE SLOPED FACED CURB - R.I. STD. 7.2.0
7.2.2	=	PRECAST CONCRETE TRANSITION CURB - R.I. STD. 7.2.2
7.2.4	=	PRECAST CONCRETE CAR STOPS - R.I. STD. 7.2.4
9.2.0	=	SILT FENCE DETAIL - R.I. STD. 9.2.0
9.7.0	=	DEWATERING BASIN - R.I. STD. 9.7.0
9.9.0	=	CONSTRUCTION ACCESS - R.I. STD. 9.9.0
10.3.0	=	CONCRETE RETAINING WALL DETAIL - R.I. STD. 10.3.0
20.1.0	=	PAVEMENT MARKINGS - ARROWS AND ONLY - R.I. STD. 20.1.0
24.6.0	=	PARKING SIGN MOUNTING DETAIL - R.I. STD. 24.6.0
34.4.0	=	STEEL BACKED TIMBER GUARDRAIL - R.I. STD. 34.4.0
43.1.0M	=	CEMENT CONCRETE SIDEWALK (MODIFIED) - R.I. STD. 43.1.0M
43.2.0	=	BITUMINOUS CONCRETE SIDEWALK - R.I. STD. 43.2.0
43.3.0	=	WHEELCHAIR RAMP - R.I. STD. 43.3.0
43.3.1	=	WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS - R.I. STD. 43.3.1
43.3.2	=	RAMP-LANDING FOR NARROW SIDEWALK - R.I. STD. 43.3.2
47.1.1	=	TRANSVERSE PAVEMENT CUT AND MATCH - R.I. STD. 47.1.1
48.1.0M	=	DETECTABLE WARNING SYSTEM (MODIFIED) - R.I. STD. 48.1.0M

RHODE ISLAND ABBREVIATIONS

GENERAL	
RIDEM	RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
RIDOT	RHODE ISLAND DEPARTMENT OF TRANSPORTATION
RIHP	RHODE ISLAND HIGHWAY PLAT
RIPDES	RHODE ISLAND POLLUTION DISCHARGE ELIMINATION SYSTEM
R.I. STD.	RHODE ISLAND STANDARD



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
LEGEND

DRAWING NO.:
C1.2

SHEET NO. 2 OF 93

Plotted: Jun 10, 2025 - 8:37am By: Anne Klofft File: J:\23099.01 Mt Hope HS\CAD\Sheets\C1.2 LEGEND.dwg

C2.7, C3.7, C4.7, C5.7, C6.7, & C7.7

C2.8, C3.8, C4.8, C5.8, C6.8, & C7.8

C2.9, C3.9, C4.9, C5.9, C6.9, & C7.9

ZONING TABLE			
ZONE: (PI) PUBLIC INSTITUTIONAL EXISTING USE: SCHOOLS, K-12 PROPOSED USE: SCHOOLS, K-12			
	REQUIRED (PI)+	EXISTING	PROVIDED
MIN. LOT AREA	-	1,935,591 SF	1,935,591 SF
MIN. LOT WIDTH	-	1,106 FT	1,106 FT
MIN. LOT FRONTAGE	-	1,728 FT	1,728 FT
MAX. LOT COVERAGE BY STRUCTURES	-	7.5%	5.2%
MIN. FRONT YARD SETBACK	-	61 FT	347 FT
MIN. SIDE YARD SETBACK	-	1,057 FT	605 FT
MIN. REAR YARD SETBACK	-	70 FT	349 FT
MAX. HEIGHT OF PRINCIPAL STRUCTURES	-	>35 FT	35 FT

\+ PI ZONING DISTRICT DOES NOT HAVE DIMENSIONAL REGULATIONS PER ARTICLE IV.

C2.6, C3.6, C4.6, C5.6, C6.6, & C7.6

C2.5, C3.5, C4.5, C5.5, C6.5, & C7.5

C2.4, C3.4, C4.4, C5.4, C6.4, & C7.4

PARKING SUMMARY			
	REQUIRED**	EXISTING	PROVIDED
STANDARD SPACES (10'x18')	219	275	178
ACCESSIBLE SPACES*	7	6	14
COMPACT SPACES (9'x16')***	-	-	56
TOTAL SPACES	226	281	248

* ADA REQUIREMENTS FOR PARKING LOT: 201 TO 300 TOTAL SPACES = 7 ADA SPACES

** PARKING SPACES REQUIRED BY ZONING ORDINANCE:
"HIGH SCHOOL": ONE PER EIGHT STUDENTS AND ONE PER EMPLOYEE
THE REQUIRED PARKING PER THE CODE OF ORDINANCES:
SCHOOL (832 STUDENTS) 104 SPACES
SCHOOL (122 STAFF) 122 SPACES
TOTAL REQUIRED SPACES = 226 SPACES
MAXIMUM NUMBER OF PARKING SPACES ALLOWED:
226 PARKING SPACES + (226 PARKING SPACES x 10%) = 248 PARKING SPACES

*** PER SECTION 28-251.2.C OF THE CODE OF ORDINANCES, UP TO 25% OF THE TOTAL PARKING SPACES WILL BE SIZED FOR SMALL CAR PARKING SPACES WITH PROPER SIGNAGE.
248 PARKING SPACES X 25% = 62 PARKING SPACES MAX.

NOTE: THERE ARE AN ESTIMATED 88 ONSTREET PARKING SPACES ALONG THE PROPERTY FRONTAGE ON CHESTNUT STREET

C2.1, C3.1, C4.1, C5.1, C6.1, & C7.1

C2.2, C3.2, C4.2, C5.2, C6.2, & C7.2

C2.3, C3.3, C4.3, C5.3, C6.3, & C7.3

Scale: 1"=60'
0 30' 60' 120'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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06.02.25
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REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=60'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
OVERALL PLAN

DRAWING NO.:
C1.3

SHEET NO. 3 OF 93

C:\USERS\JFLYNN\23099.01 (BRISTOL MT HOPE HS)\DESIGN\CIVIL\PLANS\C1.3 OVERALL PLAN.dwg

EGAN, LINDA K.
9 DARTMOUTH STREET
PLAT 113 LOT 67

CAPPUCCI, RONALD & PATRICIA J. TRUSTEES
9 DARTMOUTH STREET
PLAT 113 LOT 77

CONTE, JAMES VINCENT
15 DARTMOUTH ST
PLAT 113 LOT 86

JOSEPH PALMERI
19 DARTMOUTH STREET
PLAT 113 LOT 95

JOSEPH PALMERI
9 MUNRO LANE
PLAT 113 LOT 97

JOSEPH PALMERI &
CAROLE LE
25 DARTMOUTH STREET
PLAT 113 LOT 104

GETTINGER, ANDREW TRUSTEE
33 DARTMOUTH STREET
PLAT 113 LOT 110

MELLO, THOMAS J. &
VELASCO-MELLO, JESSICA A. TRUSTEES
35 DARTMOUTH STREET
PLAT 113 LOT 115

CIRILLO, ARTHUR L.
37 DARTMOUTH STREET
PLAT 113 LOT 119

TOWN OF BRISTOL
10 COURT ST
MAP 118 LOT 7

RICHARD A. & AUDREY N. COELHO
25 NAOMI STREET
VOL.845 PG.213
MAP 118 LOT 102

MARK K. DIETERICH &
KAREN M. GRIFFITH–DIETERICH TRUST
23 NAOMI STREET
VOL.2239 PG.115
MAP 118 LOT 101

CASSIE M. & BRANDON M. ANDRADE
21 NAOMI STREET
VOL.2055 PG.275
MAP 118 LOT 100

PETER J. SQUATRITO
19 NAOMI STREET
VOL.754 PG.93
MAP 118 LOT 99

DAVID M. MARSHALL
17 NAOMI STREET
VOL. 695 PG.91
MAP 118 LOT 98

DAVID B. SEGALA
15 NAOMI STREET
VOL.2044 PG.198
MAP 118 LOT 97

PAULA M. DESANO
11 NAOMI STREET
VOL.1661 PG.24
MAP 118 LOT 96

ROBERT C. & SHEILA A. AMARAL
9 NAOMI STREET
VOL.720 PG.132
MAP 118 LOT 95

STEPHEN DEVECCHI &
THERESA PADRAO
7 NAOMI STREET
VOL.2206 PG.1
MAP 118 LOT 90

DAVID J. NUNES &
ANGELA M. NUNES
81 CHESTNUT ST
MAP 118 LOT 13

JOSEPH L. & LISA SCOLARO
5 NAOMI STREET
VOL.____ PG.____
MAP 118 LOT 91

MATTHEW I. & JENNIFER A. WARD
3 NAOMI STREET
VOL.____ PG.____
MAP 118 LOT 92

BRADLEY J. FRENIERE
101 CHESTNUT ST
MAP 118 LOT 94

CAROMILE CONSTRUCTION INC.
103 CHESTNUT ST
VOL.720 PG.132
MAP 118 LOT 93

TIAGO M. & VANESSA P. SOARES
4 DARTMOUTH STREET
VOL. 1998 PG.278
PLAT 113 LOT 63

SUSAN PASQUAL
8 DARTMOUTH STREET
MAP 113 LOT 59

LINDA A. & ROBERT CARVALHO
14 DARTMOUTH STREET
MAP 113 LOT 48

PAUL A. & LIGIA C. CIRILLO
20 DARTMOUTH STREET
VOL.1472 PG.333
PLAT 113 LOT 38

ROBERT E. & MARILYN E. MCFADDEN
28 DARTMOUTH STREET
VOL.1269 PG.296
PLAT 113 LOT 31

ROBERT & DORIS L. DAPONTE
DAPONTE FAMILY TRUST
36 DARTMOUTH STREET
VOL.2154 PG.258
PLAT 113 LOT 13

DOUGLAS PAUL CAVALIERI
38 DARTMOUTH STREET
VOL.2090 PG.309
PLAT 113 LOT 10

BRISTOL LAND CONSERVANCY TRUST
DARTMOUTH STREET

CAROLINE CAUFMAN, BERRETTO, K REM–DITUTI, & M HEFFERNAN
18 LEILA JEAN DRIVE
VOL.1884 PG.93
PLAT 108 LOT 49

JONNIE C. & SANDRA GREER
16 LEILA JEAN DRIVE
MAP 108 LOT 50

LUIS FRANCISCO JR. &
STACY AMARAL MEDEIROS
14 LEILA JEAN DRIVE
VOL.1731 PG.55
PLAT 108 LOT 51

LENA PLACIDO
12 LEILA JEAN DRIVE
MAP 108 LOT 52

FREEDOM ROAD BAPTIST CHURCH
10 LEILA JEAN DRIVE
MAP 108 LOT 53

CÉLESTE BERNARDINO &
MATTHEW BENSON
8 LEILA JEAN DRIVE
VOL.1995 PG.56
MAP 118 LOT 54

WETTERLAND, KRIS JR &
RENEE B TE
3 LEILA JEAN DRIVE
MAP 108 LOT 55

BERNADETTE M. ALMEDIA
229 CHESTNUT STREET
VOL.1064 PG.217
MAP 118 LOT 22

BOTELHO, GERALDINO A
235 CHESTNUT ST
MAP 108 LOT 21

BRISTOL HIGH SCHOOL
NAOMI STREET
PLAT 117 LOT 4

BRISTOL HIGH SCHOOL
199 CHESTNUT STREET
MAP 117 LOT 5

BRISTOL HIGH SCHOOL
199 CHESTNUT STREET
MAP 117 LOT 6

BRISTOL HIGH SCHOOL
199 CHESTNUT STREET
MAP 117 LOT 3

TOWN OF BRISTOL
NAOMI STREET
MAP 117 LOT 7

ERIC CABRAL
10 NAOMI STREET
VOL.2133 PG.19
PLAT 117 LOT 10

TOWN OF BRISTOL HOUSING AUTHORITY
1014 HOPE STREET
MAP 2 LOT 2

ST. MARYS CHURCH
330 WOOD STREET
VOL.99 PG.231
MAP 2 LOT 3

ST. MARYS CHURCH
330 WOOD STREET
VOL.92 PG.562
MAP 2 LOT 4

ST. MARYS CHURCH
330 WOOD STREET
VOL.85 PG.447
MAP 1 LOT 3

ST. MARYS CHURCH
330 WOOD STREET
VOL.126 PG.462
MAP 1 LOT 2

ST. MARYS CHURCH
330 WOOD STREET
VOL.173 PG.212
MAP 1 LOT 1

TOWN OF BRISTOL
CHESTNUT STREET
MAP 51 LOT 1

TOWN OF BRISTOL
CHESTNUT STREET
MAP 51 LOT 2

R-15 ZONE
OS ZONE
PI ZONE

DARTMOUTH STREET
CHESTNUT STREET
SHERRY AVENUE

LEGEND
- Subject Property
- 200' Radius Limit
- Zoning Boundary
- RIGIS Parcel Data

Scale: 1"=80'
0 40' 80' 160'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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199 Chestnut Street
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

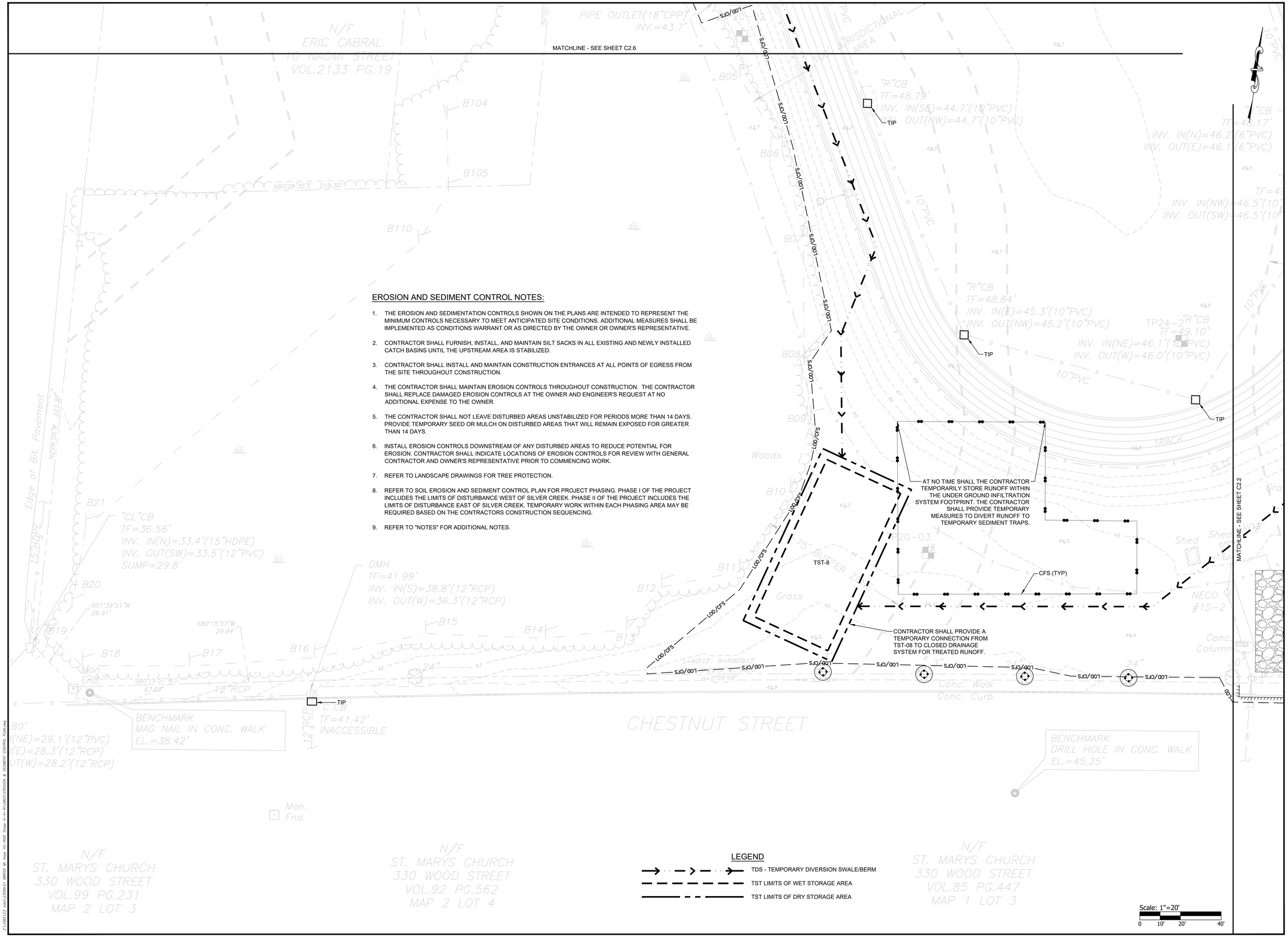
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=80'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
VICINITY AND RADIUS MAP

DRAWING NO.:
C1.4

SHEET NO. 4 OF 93

J:\JOBS\23_Jobs\23099.01 BWRSD Mt Hope HS--RIDE Stage 2\--01\DWGS\SITE CONTEXT MAP.dwg



EROSION AND SEDIMENT CONTROL NOTES:

1. THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE PLANS ARE INTENDED TO REPRESENT THE MINIMUM CONTROLS NECESSARY TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
2. CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN SILT SACKS IN ALL EXISTING AND NEWLY INSTALLED CATCH BASINS UNTIL THE UPSTREAM AREA IS STABILIZED.
3. CONTRACTOR SHALL INSTALL AND MAINTAIN CONSTRUCTION ENTRANCES AT ALL POINTS OF EGRESS FROM THE SITE THROUGHOUT CONSTRUCTION.
4. THE CONTRACTOR SHALL MAINTAIN EROSION CONTROLS THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL REPLACE DAMAGED EROSION CONTROLS AT THE OWNER AND ENGINEER'S REQUEST AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. THE CONTRACTOR SHALL NOT LEAVE DISTURBED AREAS UNSTABILIZED FOR PERIODS MORE THAN 14 DAYS. PROVIDE TEMPORARY SEED OR MULCH ON DISTURBED AREAS THAT WILL REMAIN EXPOSED FOR GREATER THAN 14 DAYS.
6. INSTALL EROSION CONTROLS DOWNSTREAM OF ANY DISTURBED AREAS TO REDUCE POTENTIAL FOR EROSION. CONTRACTOR SHALL INDICATE LOCATIONS OF EROSION CONTROLS FOR REVIEW WITH GENERAL CONTRACTOR AND OWNER'S REPRESENTATIVE PRIOR TO COMMENCING WORK.
7. REFER TO LANDSCAPE DRAWINGS FOR TREE PROTECTION.
8. REFER TO SOIL EROSION AND SEDIMENT CONTROL PLAN FOR PROJECT PHASING. PHASE I OF THE PROJECT INCLUDES THE LIMITS OF DISTURBANCE WEST OF SILVER CREEK. PHASE II OF THE PROJECT INCLUDES THE LIMITS OF DISTURBANCE EAST OF SILVER CREEK. TEMPORARY WORK WITHIN EACH PHASING AREA MAY BE REQUIRED BASED ON THE CONTRACTORS CONSTRUCTION SEQUENCING.
9. REFER TO "NOTES" FOR ADDITIONAL NOTES.

LEGEND

- TDS - TEMPORARY DIVERSION SWALE/BERM
- TST LIMITS OF WET STORAGE AREA
- TST LIMITS OF DRY STORAGE AREA

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 1

DRAWING NO.:
C2.1

SHEET NO. 5 OF 93

MATCHLINE - SEE SHEET C2.5

TST-3

TST-4

CONTRACTOR SHALL PROVIDE A TEMPORARY OVERFLOW FROM TST-03 FOR TREATED RUNOFF.

CONTRACTOR SHALL PROVIDE A TEMPORARY OVERFLOW FROM TST-04 FOR TREATED RUNOFF.

PORTIONS OF THE SITE ARE LOCATED WITHIN THE ZONE AE PER AVAILABLE FEMA MAPPING. OTHER PORTIONS OF THE SITE MAY FLOOD DURING HEAVY STORM EVENTS. THROUGHOUT CONSTRUCTION, CONTRACTOR SHALL MAINTAIN EXISTING GRADES WITHIN THE BUFFER ZONES ADJACENT TO SILVER CREEK AND WITHIN 50 FEET OF THE EXISTING BUILDINGS TO ALLOW FLOOD WATER TO PASS SAFELY DURING LARGE STORM EVENTS.

CONTRACTOR SHALL PROVIDE TEMPORARY MEASURES AS REQUIRED TO PROTECT CONSTRUCTED IMPROVEMENTS FROM DAMAGE BY FLOOD WATERS DURING STORM EVENTS.

THE CONTRACTOR SHALL PROVIDE TEMPORARY MEASURES TO DIVERT RUNOFF TO TEMPORARY SEDIMENT TRAPS. QPAS SHALL BE EXCAVATED TO SUBGRADE MATERIAL 12" BELOW SUBGRADE SHALL BE SCOOPED AND FLIPPED PRIOR TO PLACING IMPORTED SOILS. THROUGHOUT EXCAVATION AND INSTALLATION OF ALL REQUIRED MATERIALS, CFS SHALL BE INSTALLED UPGRADIENT OF THE QPA UNTIL CONTRIBUTING AREA IS STABILIZED. (TYP)

CONTRACTOR SHALL PROVIDE A TEMPORARY OVERFLOW FROM TST-09 FOR TREATED RUNOFF.

CONTRACTOR SHALL PROVIDE A TEMPORARY OVERFLOW FROM TST-05 FOR TREATED RUNOFF.

PHASE 1 VEHICLE FUELING AREA

PHASE 2 STOCKPILE AREA

LOCATE STOCKPILE AREAS OUTSIDE OF FLOODPLAIN AND OTHER AREAS THAT MAY POTENTIALLY FLOOD DURING LARGE STORM EVENTS

PHASE 2 CONCRETE WASHOUT

9.2.0

9.9.0

TST-9

TST-5

LOD/CFS

SB

TIP

MATCHLINE - SEE SHEET C2.1

MATCHLINE - SEE SHEET C2.3

100' BUFFER ZONE

200' JURISDICTIONAL LINE

EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.

Scale: 1"=20'

0 10' 20' 40'

N/F ST. MARYS CHURCH 330 WOOD STREET VOL.126 PG.462 MAP 1 LOT 2

N/F ST. MARYS CHURCH 330 WOOD STREET VOL.173 PG.212 MAP 1 LOT 1

Z:\JOBS\23.1 Jobs\23099.01 BMROD Mt Hope HS\~RDE Stop Work\BIDDING\EROSION & SEDIMENT CONTROL PLAN.dwg

PARE

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235 HIGH STREET
BRISTOL, RI 02809
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06.02.25
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REVISIONS:		
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1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

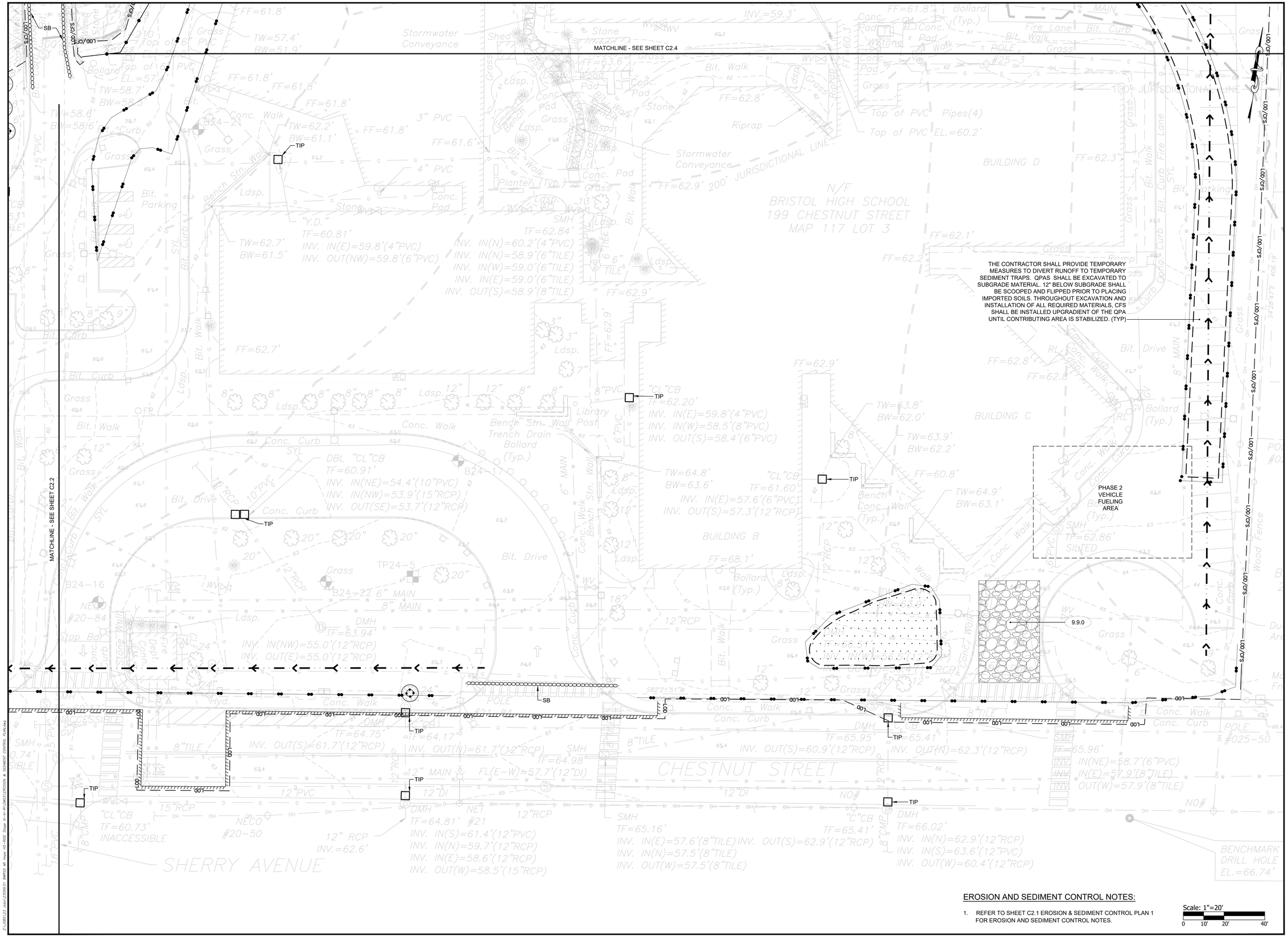
EROSION & SEDIMENT CONTROL PLAN 2

DRAWING NO.:

C2.2

SHEET NO. 6 OF 93

Item C1.



EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

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2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 3

DRAWING NO.:
C2.3

SHEET NO. 7 OF 93

MATCHLINE - SEE SHEET C2.9

MATCHLINE - SEE SHEET C2.5

MATCHLINE - SEE SHEET C2.3

PORTIONS OF THE SITE ARE LOCATED WITHIN THE ZONE AE PER AVAILABLE FEMA MAPPING. OTHER PORTIONS OF THE SITE MAY FLOOD DURING HEAVY STORM EVENTS. THROUGHOUT CONSTRUCTION, CONTRACTOR SHALL MAINTAIN EXISTING GRADES WITHIN THE BUFFER ZONES ADJACENT TO SILVER CREEK AND WITHIN 50 FEET OF THE EXISTING BUILDINGS TO ALLOW FLOOD WATER TO PASS SAFELY DURING LARGE STORM EVENTS.

CONTRACTOR SHALL PROVIDE TEMPORARY MEASURES AS REQUIRED TO PROTECT CONSTRUCTED IMPROVEMENTS FROM DAMAGE BY FLOOD WATERS DURING STORM EVENTS.

PROTECT CULVERTS DURING DEMOLITION OF SITE FEATURES AND INSTALLATION OF UTILITIES. MAINTAIN FLOW OF WATER THROUGH CULVERT AND SILVER CREEK AT ALL TIMES.

PROVIDE TEMPORARY MEASURES SUCH AS RIPRAP TO MAINTAIN A STABILIZED SURFACE WITHIN FLOODPLAIN IMMEDIATELY FOLLOWING DISTURBANCE.

PROTECT CULVERTS DURING DEMOLITION OF BUILDING. MAINTAIN FLOW OF WATER THROUGH CULVERTS AND SILVER CREEK AT ALL TIMES.

PROVIDE TEMPORARY MEASURES SUCH AS RIPRAP TO MAINTAIN A STABILIZED SURFACE ABOVE CULVERTS AND WITHIN FLOODPLAIN IMMEDIATELY FOLLOWING DISTURBANCE.

THE CONTRACTOR SHALL PROVIDE TEMPORARY MEASURES TO DIVERT RUNOFF TO TEMPORARY SEDIMENT TRAPS. QPAS SHALL BE EXCAVATED TO SUBGRADE MATERIAL. 12" BELOW SUBGRADE SHALL BE SCOOPED AND FLIPPED PRIOR TO PLACING IMPORTED SOILS. THROUGHOUT EXCAVATION AND INSTALLATION OF ALL REQUIRED MATERIALS, CFS SHALL BE INSTALLED UPGRADIENT OF THE QPA UNTIL CONTRIBUTING AREA IS STABILIZED. (TYP)

CONTRACTOR SHALL PROTECT TST FROM DAMAGE BY FLOOD WATERS DURING STORM EVENTS.

CONTRACTOR SHALL PROVIDE A TEMPORARY OVERFLOW FROM TST-06 FOR TREATED RUNOFF.

TST-6

TIP

Scale: 1"=20'

0 10' 20' 40'

EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
06.02.25

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 4

DRAWING NO.:
C2.4

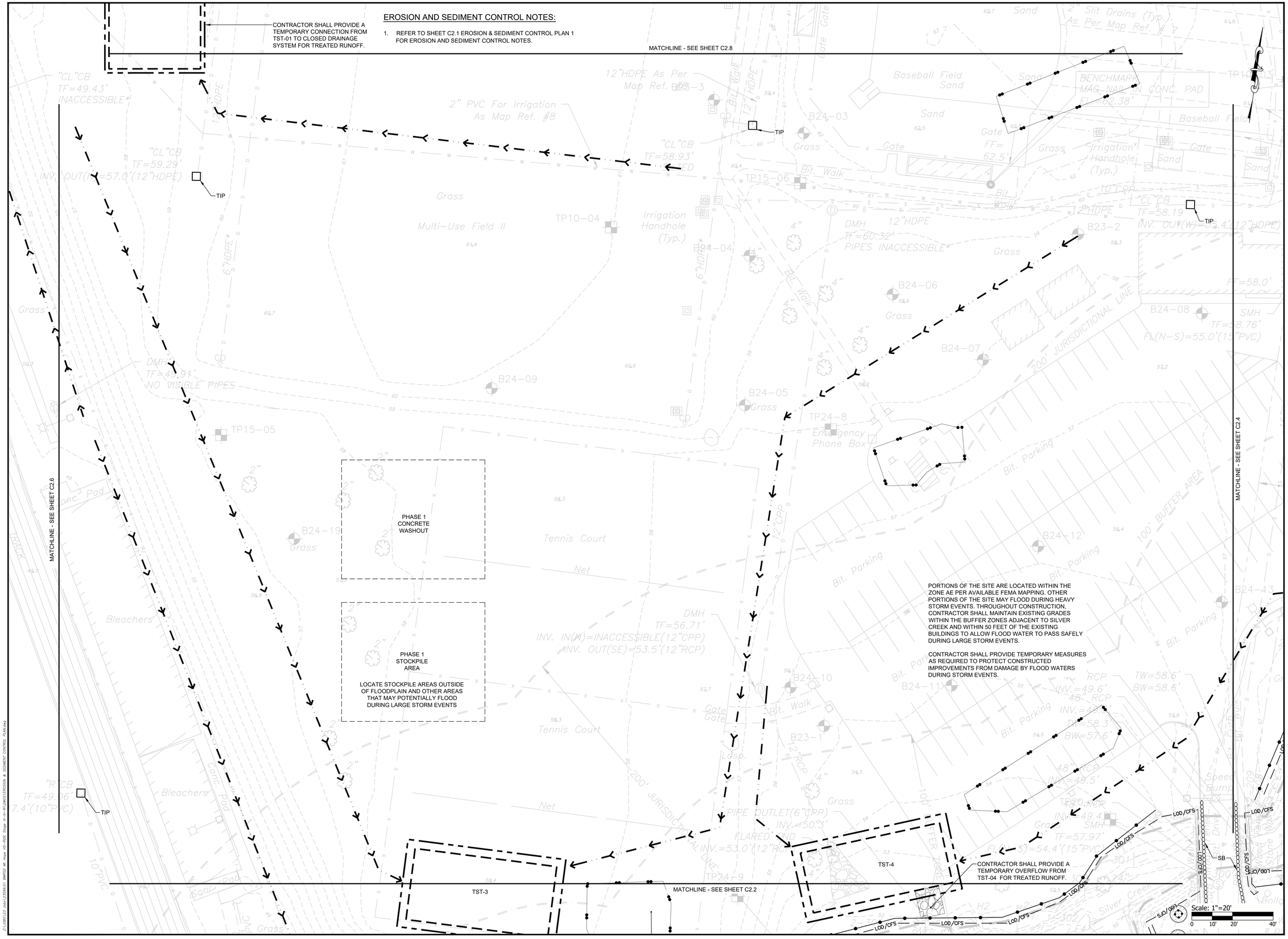
SHEET NO. 8 OF 93

Z:\JOBS\23_proj\23099.01 BWRSD Mt Hope HS-RIDE Steps 8\Arch-Eng\DWG\EROSION & SEDIMENT CONTROL PLAN.dwg

Item C1.

EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

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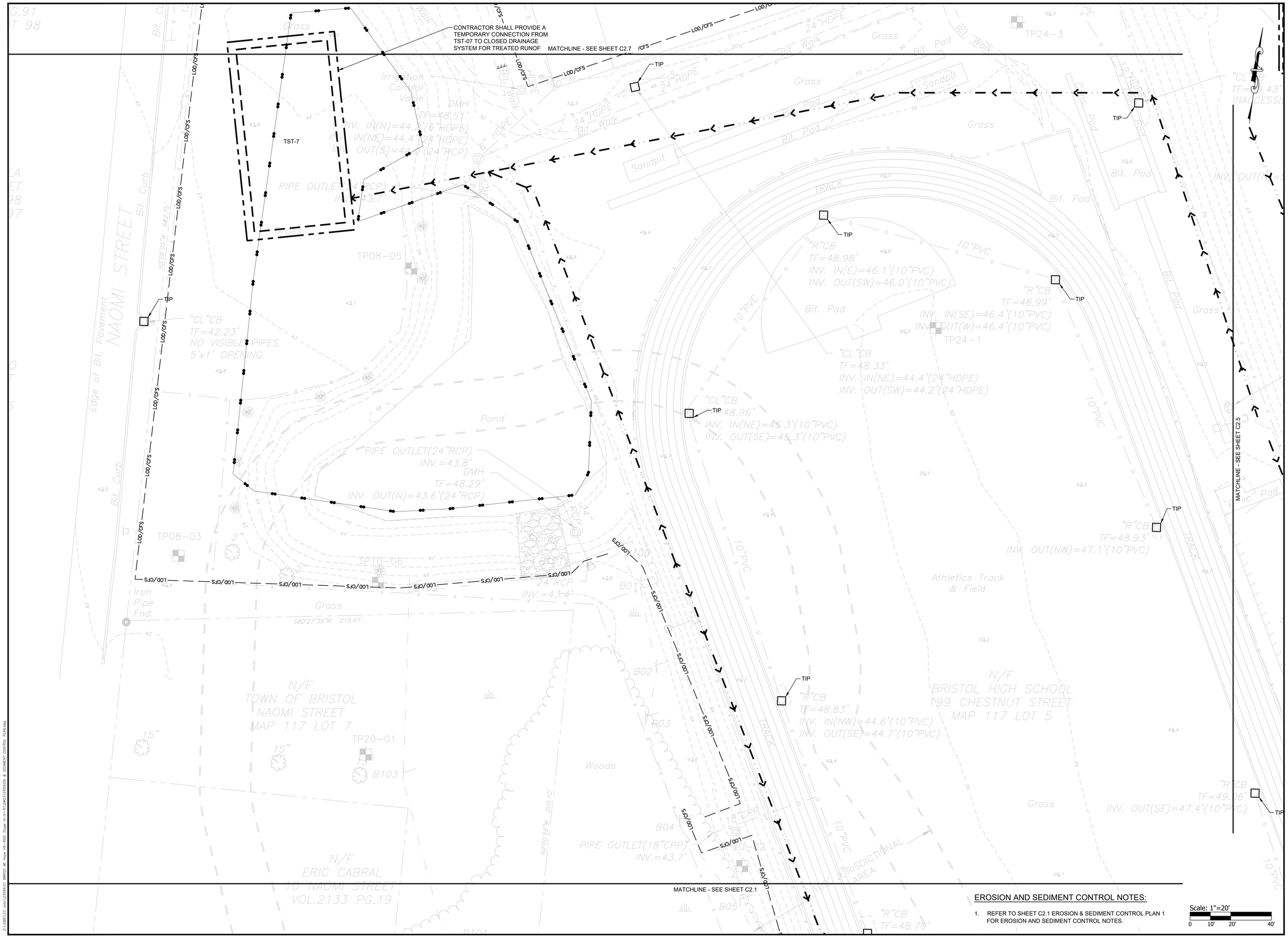
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 5

DRAWING NO.:
C2.5

SHEET NO. 9 OF 93



EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
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1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

EROSION & SEDIMENT CONTROL PLAN 6

DRAWING NO.:
C2.6

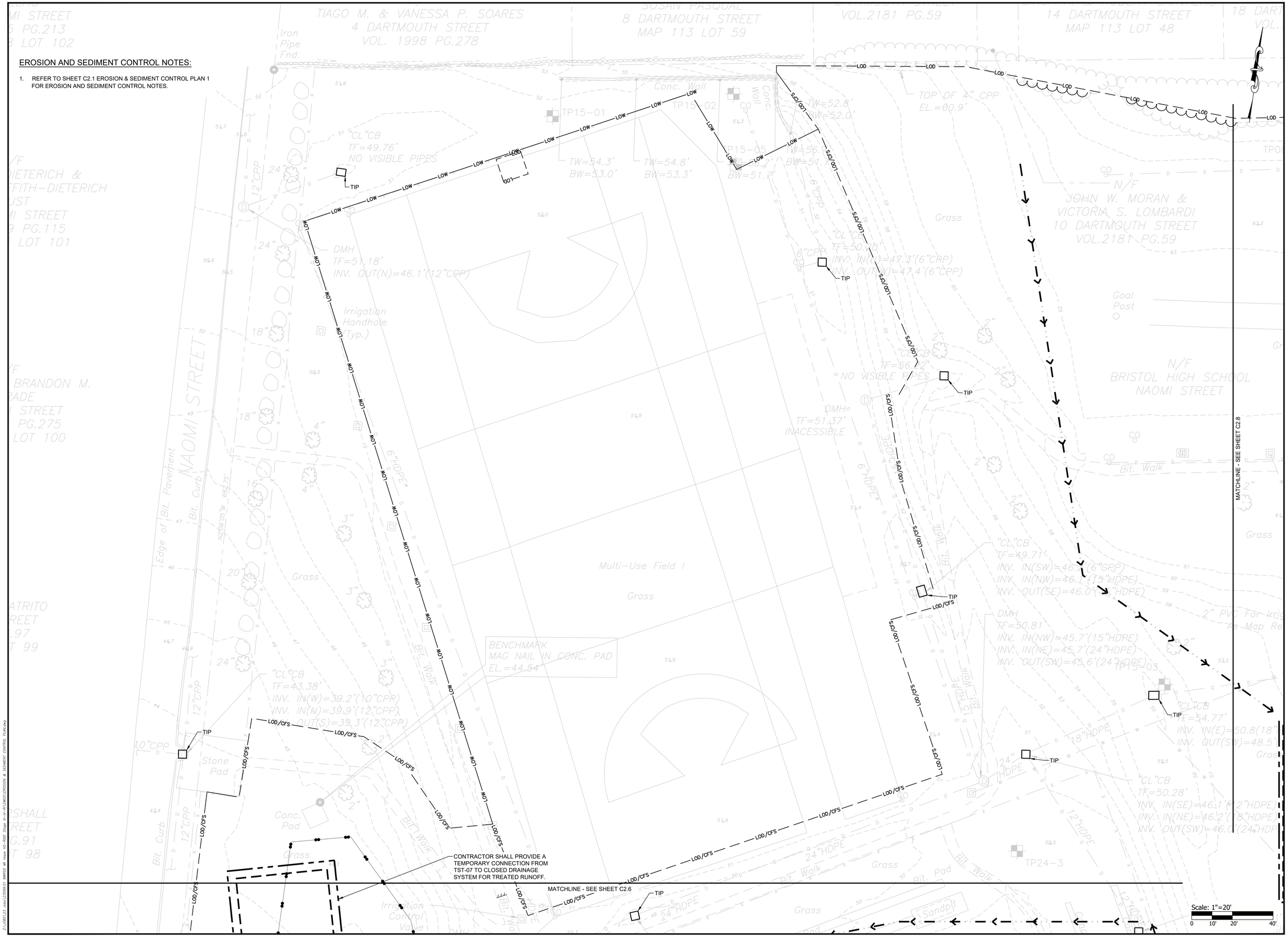
SHEET NO. 10 OF 93

Z:\JOBS\23_JOBS\23099.01 BWRSD Mt Hope HS-RIDE Stage II-IV-RI\DWGS\EROSION & SEDIMENT CONTROL PLAN.dwg

Item C1.

EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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No. 8665
06.02.25
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REVISIONS:

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PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

EROSION & SEDIMENT CONTROL PLAN 7

DRAWING NO.:
C2.7

SHEET NO. 11 OF 93

EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.

MATCHLINE - SEE SHEET C2.7

MATCHLINE - SEE SHEET C2.9

MATCHLINE - SEE SHEET C2.5

CONTRACTOR SHALL PROVIDE A TEMPORARY CONNECTION FROM TST-01 TO CLOSED DRAINAGE SYSTEM FOR TREATED RUNOFF.

Scale: 1"=20'

0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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No. 8665
06.02.25
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REVISIONS:

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2	06-02-2025	RIDEM RTC

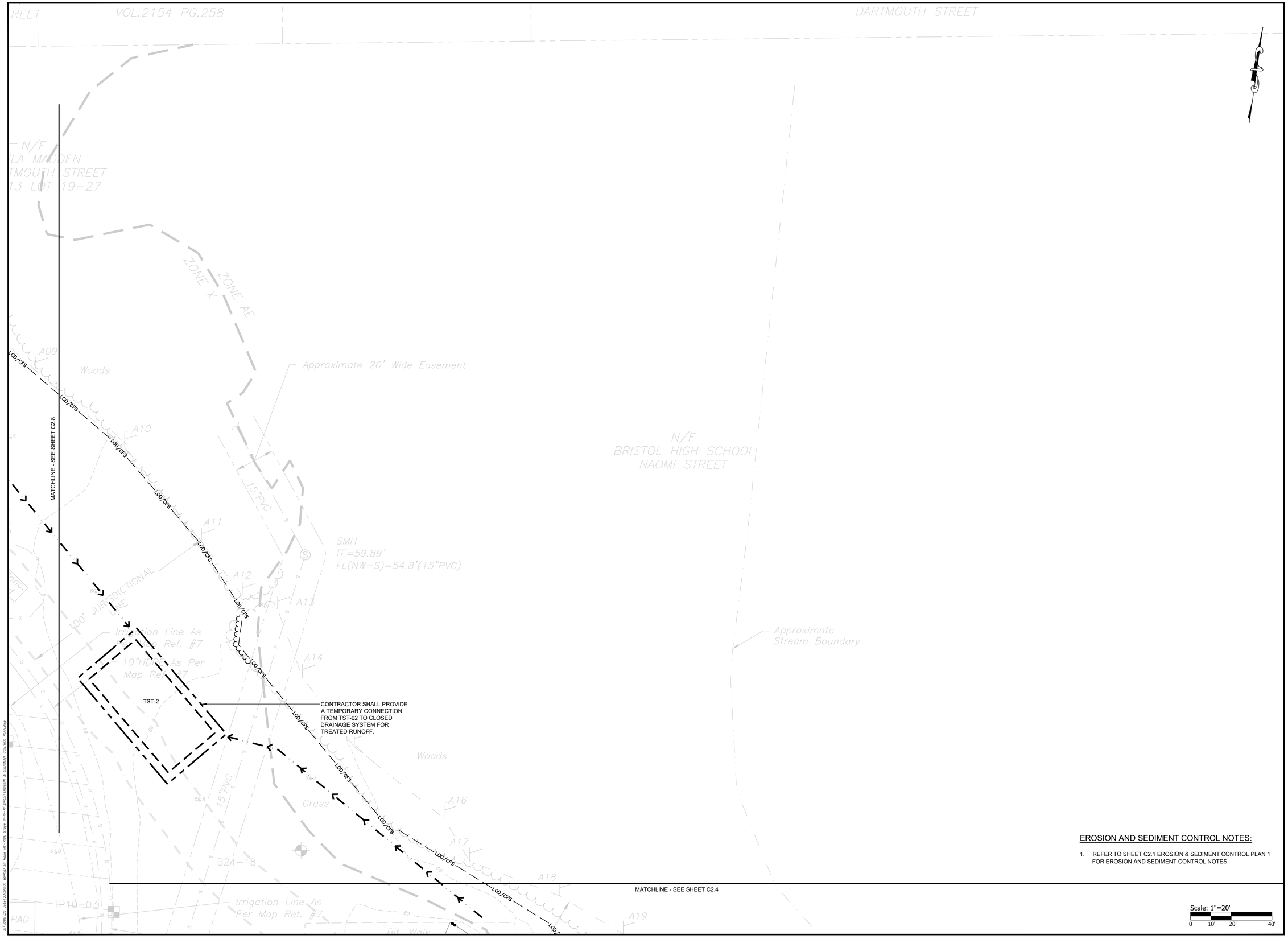
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 8

DRAWING NO.:
C2.8

SHEET NO. 12 OF 93

Z:\JOBS\23099.01 Mt Hope HS-RIDE Phase III-IV-RI\DWGS\EROSION & SEDIMENT CONTROL PLAN.dwg



EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.

PARE

OWNER/APPLICANT:
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235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

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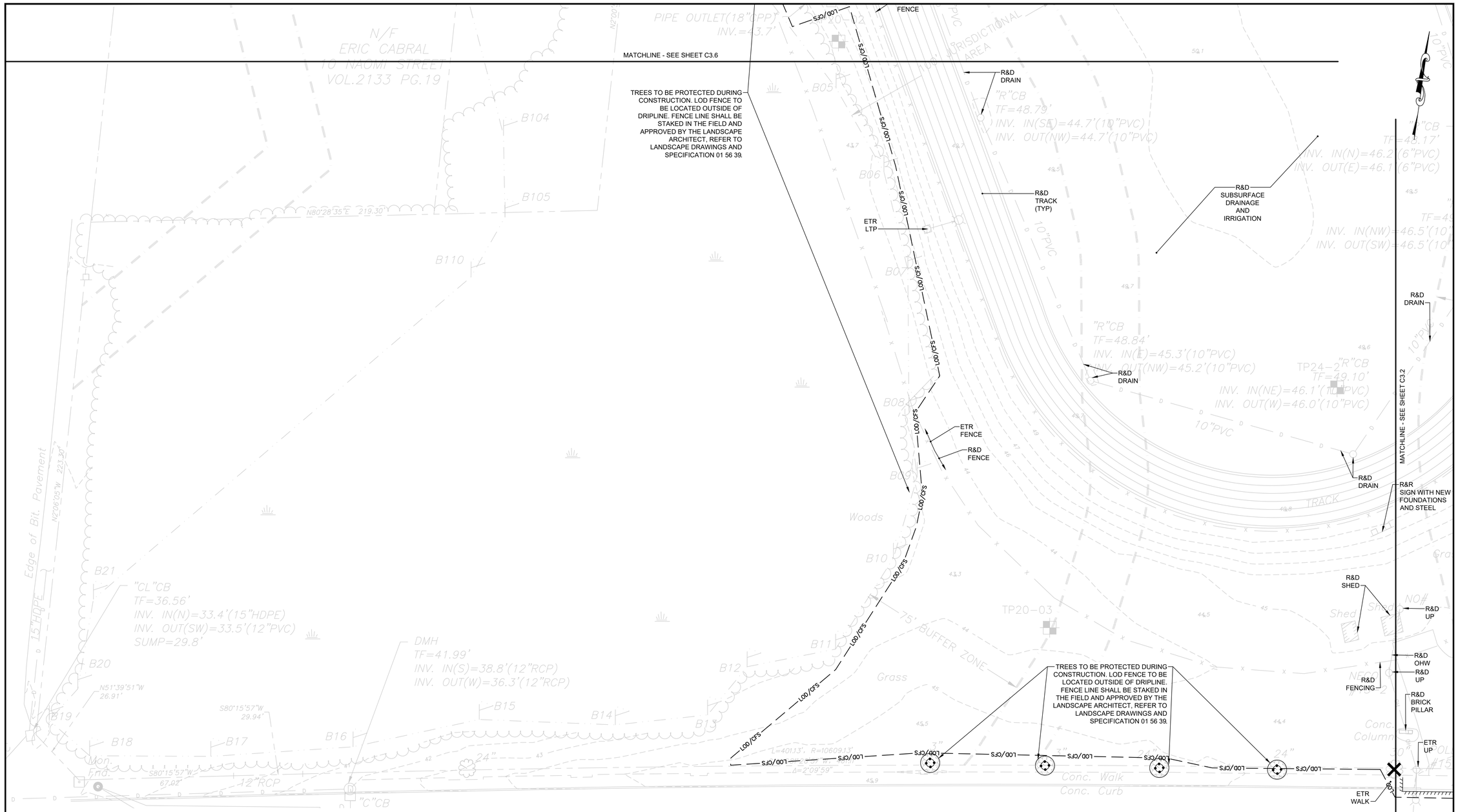
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 9

DRAWING NO.:
C2.9

SHEET NO. 13 OF 93



DEMOLITION NOTES:

1. UTILITY SERVICE TO THE FACILITY SHALL NOT BE INTERRUPTED DUE TO UTILITY WORK SHOWN HEREON. ALL UTILITIES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
2. REMOVE AND DISPOSE BUILDINGS, PAVEMENT, WALKS, CURBING, STEPS, POSTS, FENCES, BOLLARDS, SHRUBS, TREES VEGETATION, UTILITIES AND DRAINAGE WITHIN THE LIMITS OF DISTURBANCE UNLESS OTHERWISE NOTED.
3. PRIOR TO COMMENCING SITE WORK IN ANY AREA, THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES WITH THE PROJECT AREA USING GROUND-PENETRATING RADAR OR OTHER NONDESTRUCTIVE SURVEY METHODS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXISTING UTILITIES OR STRUCTURES WITHIN THE PROJECT AREA DEPICTED AND NOT DEPICTED ON THE PLANS. ANY DAMAGE TO EXISTING WORKING UTILITIES OR STRUCTURES NOT INTENDED TO BE REMOVED SHALL BE RESTORED TO ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
4. PRIOR TO ANY UTILITY AND/OR DRAINAGE SYSTEM DEMOLITION, PROVISIONS FOR MAINTAINING THE UTILITY SHALL BE APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE BEFORE ANY RELATED WORK MAY COMMENCE.
5. ALL TEMPORARILY CUT UTILITIES SHALL BE PROTECTED FROM SEDIMENTATION UNTIL IT IS CONNECTED IN ITS POST-CONSTRUCTION POSITION.
6. REFER TO ELECTRICAL SITE PLAN FOR ALL ELECTRICAL AND TELECOMMUNICATIONS WORK, INCLUDING DEMOLITION.
7. AN IRRIGATION SYSTEM IS LOCATED WITHIN THE PROJECT AREA. CONTRACTOR SHALL REMOVE AND DISPOSE IRRIGATION FACILITIES AS REQUIRED TO INSTALL PROPOSED IMPROVEMENTS. PROTECT IN-PLACE IRRIGATION FACILITIES THAT DO NOT CONFLICT WITH WORK.
8. THE CONTRACTOR SHALL MAINTAIN EXISTING WATER AND FIRE PROTECTION SERVICES UNTIL FINAL INSPECTION AND APPROVAL IS GIVEN FOR THE PROPOSED BUILDING'S FIRE PROTECTION SYSTEM AND SERVICES.
9. CONTRACTOR SHALL CLEAR AND GRUB ALL TREES AND VEGETATION WITHIN LIMIT OF DISTURBANCE UNLESS NOTED OTHERWISE.
10. CONTRACTOR SHALL WALK THE SITE WITH THE OWNER OR OWNER REPRESENTATIVE TO REVIEW EXISTING SITE FEATURES TO BE REMOVED AND STOCKPILED OR REMOVED AND RESET INCLUDING BUT NOT LIMITED TO, BENCHES, MONUMENTS, SIGNS, ETC. CONTRACTOR SHALL COORDINATE STOCKPILE LOCATIONS WITH OWNER.
11. CONTRACTOR IS SOLELY RESPONSIBLE FOR DEVELOPING A HEALTH AND SAFETY PLAN (HASP) SUITABLE FOR WORKERS ON SITE AND THE CONTRACTOR'S USE.
12. THE PROJECT SITE INCLUDES TREES AND VEGETATION NOT DOCUMENTED ON THE EXISTING CONDITION SURVEY. THE CONTRACTOR IS RESPONSIBLE FOR THE EVALUATION, REMOVAL AND DISPOSAL OF ALL EXISTING VEGETATION UNLESS NOTED OTHERWISE . THE CONTRACTOR SHALL REMOVE ALL TREES AND OTHER VEGETATION AS NECESSARY TO COMPLETE THE WORK INDICATED WITHIN THE DOCUMENT.
13. REFER TO "NOTES" FOR ADDITIONAL NOTES.

LEGEND:

- REMOVE & DISPOSE TREE. DISPOSE OF TREE AND STUMP OFF-SITE.
- PROTECT EXISTING TREE TO REMAIN. REFER TO LANDSCAPE DRAWINGS.
- TP — PRIOR TO COMMENCING WORK, CONTRACTOR SHALL EXCAVATE TEST PIT TO CONFIRM LOCATION, ELEVATION, AND SIZE OF UTILITY. PROVIDE INFORMATION TO ENGINEER.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 1

DRAWING NO.:
C3.1

SHEET NO. 14 OF 93

Z:\JOBS\23_Jobs\23099.01 BWRSD MT Hope HS\5-BIDS Stage III-Ltr-RI\DWGS\DEMO\TION PLAN.dwg

MATCHLINE - SEE SHEET C3.5

MATCHLINE - SEE SHEET C3.1

MATCHLINE - SEE SHEET C3.3

R&D BLDG
R&D CP
R&D PVMT
R&D FENCE (TYP)
R&D TENNIS COURT
R&D FENCE
R&D RIPRAP
R&D FES
R&D ROCK (TYP)
R&D DRAIN
R&D CCW
R&D PVMT
R&D SHED
R&D FENCE (TYP)
R&D DRAIN
R&D
R&D BIT WALK
R&D ROCK (TYP)
R&D SHED
R&D FENCE
R&D FENCE
R&D SIGN
R&D DRAIN
R&R SIGN WITH NEW FOUNDATIONS AND STEEL
R&D HMA
R&D SIGN
R&D SHED
R&D UP
R&D OHW
R&D UP
R&D FENCING
R&D BRICK PILLAR
R&D BRICK PILLAR
R&D FENCE
ETR UP
ETR WALK
RTLD R&R MEMORIAL SIGN COORDINATE LOCATION TO BE RESET WITH OWNER
RTLD R&R BENCH COORDINATE LOCATION WITH OWNER
RECONSTRUCT CATCH BASIN, R&D FRAME, GRATE, INLET CURB, AND TOP PORTION OF CATCH BASIN BARREL
TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.
ETR DAM
ETR RIPRAP
ETR CURB INLET
ETR MON WELL
ETR CONC WALK
ETR WALL
BPM
ETR CONC CURB
R&D RIPRAP
R&D CCW
R&D SIGN
R&D BIT CURB
ETR DRAIN
CM (TYP)
R&D LIGHT POLE
BPM
R&D WATER (SEE NOTE 8)
R&D HMA
R&D BIT CURB
R&D LIGHT POLE
R&D HMA
R&D BIT CURB
ETR MON WELL
R&D LIGHT POLE
ETR CCW
ETR LIGHT POLE
ETR CONC CURB
ETR DRAIN
ETR SIGN
BPM
TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.
RTLD R&D WOODEN RAILING POSTS
ETR CONCRETE
R&D SMH FRAME & COVER
ETR CULVERTS
ETR SEWER
ETR HEADWALL
R&D FES
R&D DRAIN
R&D SPEED BUMP
R&D HMA
R&D BIT CURB
R&D LIGHT POLE
R&D SIGN
R&D SIGN (TYP)
R&D BIT WALK
R&D LIGHT POLE
R&D SIGN
R&D SIGN
R&D BIT CURB
R&D WATER (SEE NOTE 8)
THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE 15" SEWER SERVICE PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL PROTECT THE EXISTING SEWER DURING TREE REMOVAL, AND LIGHT POLE REMOVAL.
R&D BIT WALK
R&D BIT CURB
R&D BIT WALK
R&D WATER (SEE NOTE 8)
R&D LIGHT POLE
R&D LIGHT POLE
ETR SEWER
R&D BUSHES
R&D LIGHT POLE
R&D BIT WALK
R&D HYDRANT (SEE NOTE 8)
R&D SIGN
R&D SMH FRAME & COVER
ETR SEWER
WA (SEE NOT

N/F ST. MARYS CHURCH 330 WOOD STREET VOL.126 PG.462 MAP 1 LOT 2

N/F ST. MARYS CHURCH 330 WOOD STREET VOL.173 PG.212 MAP 1 LOT 1

DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

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DAVID L POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 2

DRAWING NO.:
C3.2
SHEET NO. 15 OF 93

Z:\JOBS\23_xlrv\23099.01 BWRSD Mt Hope HS-BIDS_Dwgs_lib-xlv-BIDS\DGN\D-DEMO-ITION PLAN.dwg

FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT. REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.

MATCHLINE - SEE SHEET C3.4

MATCHLINE - SEE SHEET C3.2

N/F
BRISTOL HIGH SCHOOL
199 CHESTNUT STREET
MAP 117 LOT 3

BUILDING B

BUILDING C

BUILDING D

CHESTNUT STREET

JURISDICTIONAL LINE

TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.

DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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DAVID L. POTTER
No. 8665
06.02.25
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PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 3

DRAWING NO.:
C3.3

SHEET NO. 16 OF 93

Z:\JOBS\23_jobs\23099.01 BWRSD Mt Hope HS-RIDE Design_In-Ac-W\DWGS\DGN\DGN_PLAN.dwg

MATCHLINE - SEE SHEET C3.9

MATCHLINE - SEE SHEET C3.5

MATCHLINE - SEE SHEET C3.3

DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

R&D EQUIPMENT
R&D BIT WALK
THE CONTRACTOR SHALL PROTECT THE EXISTING SEWER DURING SHED DEMOLITION
R&D SHED
R&D DRAIN
RTAD R&D BUILDING
ETR SEWER
R&D WATER
R&D BOL
R&D BIT WALK
ETR SEWER
R&D BIT CURB
RTAD R&D BUILDING
R&D WELL COORDINATE WITH ENVIRONMENTAL ENGINEER PRIOR TO COMMENCING WORK
REFER TO SECTION 024100 FOR DEMOLITION OF EXISTING BUILDING. CONTRACTOR SHALL DISCONNECT MEMBERS OF CORRIDOR FROM BUILDING TO AVOID DAMAGING CULVERTS DURING DEMOLITION. CONTRACTOR SHALL SELECTIVELY DEMOLISH THE BUILDING TO AVOID DAMAGING CULVERTS. PROVIDE TEMPORARY MEASURES AS REQUIRED TO PROTECT CULVERTS.
R&D BIT WALK
ETR STONEWALL
ETR CULVERTS AND STONE HEADWALLS
ETR CULVERT
R&D STONEWALL TO HEADWALL
ETR STONEWALL
R&D CONC WALK
R&D WATER (SEE NOTE 8)
R&D HYD (SEE NOTE 8)
CUT STONEWALL
R&D LIGHT POLE
R&D CCW
R&D BIT CURB
ETR STONEWALL
R&D BOLLARD (TYP)
R&D HYDRANT (SEE NOTE 8)
R&D BUILDING
R&D BOL
R&D HMA
ETR HEADWALLS
ETR CULVERTS
ETR HEADWALL
ETR SEWER
R&D BOLLARD
ETR HEADWALL
R&D SIGN
R&D BOL
R&D WATER
R&D BOL
TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.
R&D RIPRAP
ETR RIPRAP OUTSIDE LOD
R&D SHED
R&D STONE
R&D SHED
R&D WATER GV
R&D GAS
R&D RIPRAP
R&D CP
R&D CP
R&D WATER
R&D BIT WALK
TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.
R&D CLF
R&D BOLLARD
R&D CONC PAD
R&D WATER
CUT AND CAP WATER
ABAN WATER IN PLACE
R&S SHED
R&D DRAIN
R&D BIT WALK
R&D HYDRANT
R&D SIGN
CUT AND CAP WATER
R&D SEWER
R&D BIT CURB
R&D BOL
R&D WELL COORDINATE WITH ENVIRONMENTAL ENGINEER PRIOR TO COMMENCING WORK
R&D WATER
R&D PROPANE GAS TANK AND CONCRETE PAD
R&D HMA
R&D GENERATOR
R&D BOL
R&D MONITORING WELL
R&D BIT WALK
R&D BIT CURB
R&D GAS
R&D WATER
R&D OHW
R&D UTILITY POLE
R&D ELECTRIC
R&D GAS
R&D UTILITY POLE
100' JURISDICTIONAL LINE
LOD/CFS
Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
DAVID L POTTER

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DEMOLITION PLAN 4

DRAWING NO.:
C3.4
SHEET NO. 17 OF 93

Z:\2023\23_obs\23099.01_BWRSD_Mt Hope HS-RIDE Stage III-Civil\CAD\LDD\DP\DP4_PLAN.dwg

DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

MATCHLINE - SEE SHEET C3.7

RTLD R&R DUGOUT
R&D BACKSTOP
R&D EQUIPMENT
RTID R&D IRRIGATION HANDHOLE (TYP)
R&D DRAIN
R&D BIT PVMT
R&D CP
R&D FENCE
RTLD R&R DUGOUT
R&D ELEC SERVICE
R&D DRAIN
R&D SUBDRAIN
R&D HANDHOLE (TYP)
R&D DRAIN
R&D ROCKS (TYP)
R&D CLEANOUT
R&D FENCE
R&D BIT WALK
R&S EMERGENCY BOX
R&D SIGNS
R&D HMA
R&D DRAIN
R&D SHED
RTAD R&D BUILDING
R&D EQUIPMENT
R&D DRAIN
R&D SUBDRAIN
R&D CLEANOUT
R&S STADIUM LIGHT
R&D CP
R&D TENNIS COURT
R&D BLEACHERS AND CONC PAD
R&D FENCE
R&D DRAIN
R&D LTP
R&D BIT WALK
R&D HMA
R&D BIT BERM
R&D LIGHT POLE
R&D CCW
R&D BIT CURB
R&S STADIUM LIGHT
R&D DRAIN
R&D BLDG
R&D CP
R&D PVMT
R&D FENCE (TYP)
R&D TENNIS COURT
R&D FENCE
R&D FES
R&D RIPRAP
R&D LIGHT POLE
RTLD R&D WOODEN RAILING POSTS
ETR CONCRETE
R&D SMH FRAME & COVER
ETR HEADWALLS
ETR CULVERTS
ETR SEWER
ETR HEADWALL
ETR SEWER
THE CONTRACTOR S PROTECT THE EXIS SEWER DURING DEMOL

MATCHLINE - SEE SHEET C3.6
MATCHLINE - SEE SHEET C3.4
MATCHLINE - SEE SHEET C3.2

TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT. REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 5

DRAWING NO.:
C3.5

SHEET NO. 18 OF 93

Z:\JOBS\23_JOBS\23099.01 BWSD Mt Hope HS-BSC Stage III-IV-RI\DWGS\DRAWG\DEM_PLAN.dwg

ETR FIELD DRAINAGE AND CLEANOUT. SET RIM 12" BELOW FINISH GRADE

MATCHLINE - SEE SHEET C3.7

ETR DRAIN. R&D FRAME AND GRATE.

ETR DRAIN

R&D WALK

R&D FENCE

R&D DRAIN

R&D PVMT

R&D SANDPIT

R&D DRAIN

R&D CONC PAD

CONTRACTOR SHALL VERIFY EXISTING INVERT INFORMATION AND PROVIDE TO THE OWNERS REPRESENTATIVE FOR REVIEW PRIOR TO COMMENCING WORK

R&D BIT WALK

R&D SANDPIT

R&D DRAIN

ETR DRAIN

R&D FENCING

R&D DRAIN

R&D BIT PAD

R&D FENCE

R&D FENCE

R&D FENCING

R&D SITE VEGETATION (TYP)

R&D DRAIN

R&D TRACK

ETR FENCE

R&D FENCE

R&D DRAIN

R&D DRAIN

R&S STADIUM LIGHT

C&G DETENTION BASIN

R&D HEADWALL

R&D SUBSURFACE DRAINAGE AND IRRIGATION

R&D RIPRAP

R&D DRAIN

R&D DRAIN

MATCHLINE - SEE SHEET C3.5

R&D CP

R&D FENCE

ETR RIPRAP

ETR DRAIN

ETR FENCE

R&D FENCE

ETR LIGHT

R&D DRAIN

ETR FENCE

R&D FENCE

R&D DRAIN

MATCHLINE - SEE SHEET C3.1

TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE

R&D DRAIN

DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

Scale: 1"=20'

0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
(civil)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DEMOLITION PLAN 6

DRAWING NO.:
C3.6

SHEET NO. 19 OF 93

Z:\JOBS\23_obs\23099.01 BMRSD Mt Hope HS-RIDE Stage III-IV-RI\DWG\LDP\DWG\05b PLAN.dwg

DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

ETR FIELD DRAINAGE AND CLEANOUT

ETR RETAINING WALL

ETR FENCE AND NETTING

ETR FIELD DRAINAGE AND CLEANOUT

ALL EXISTING TREES IN THIS AREA ARE OUTSIDE OF THE LOD AND THEREFORE ARE EXPECTED TO NOT BE IMPACTED BY CONSTRUCTION

RTID IRRIGATION TO REMAIN

RTLD MULTI-USE FIELD

R&D CLEANOUT

ETR

RTLD R&R

ETR DRAIN

R&D SUBDRAIN

R&D BIT WALK

MATCHLINE - SEE SHEET C3.8

ETR FENCE

CONTRACTOR SHALL NOT ACCESS SITE FROM NAOMI STREET

R&D FENCE

R&D CONC PAD

ETR FENCE

ETR FIELD DRAINAGE AND CLEANOUT. SET RIM 12" BELOW FINISH GRADE

ETR DRAIN. R&D FRAME AND GRATE.

ETR DRAIN

R&D PVMT

R&D SANDPIT

MATCHLINE - SEE SHEET C3.6

ETR DRAIN

CONTRACTOR SHALL VERIFY EXISTING INVERT INFORMATION AND PROVIDE TO THE OWNERS REPRESENTATIVE FOR REVIEW PRIOR TO COMMENCING WORK

CUT AND CAP

R&D DRAIN

RTID R&D IRRIGATION

RTID R&D IRRIGATION HANDHOLE (TYP)

R&D WALK

R&D FENCE

Scale: 1"=20'

0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

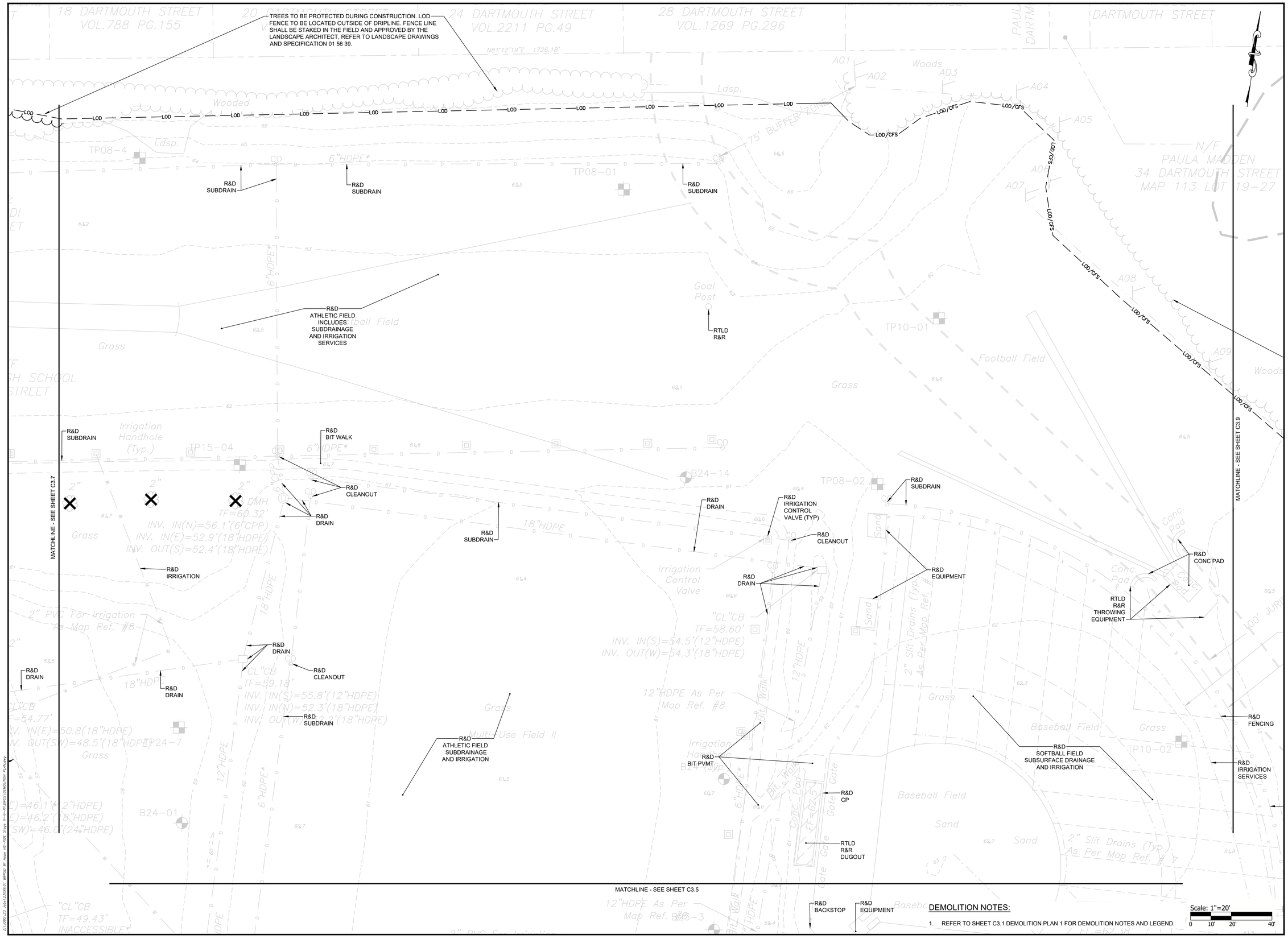
DRAWING TITLE:

DEMOLITION PLAN 7

DRAWING NO.:
C3.7

SHEET NO. 20 OF 93

Z:\JOBS\23_proj\23099.01 BWRSD MT Hope HS-RIDE Steps III-IV-RI\DWG\CAD\DWG\TDW - PLAN.dwg



DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

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199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 8

DRAWING NO.:
C3.8

SHEET NO. 21 OF 93

REET VOL.2154 PG.258

DARTMOUTH STREET

N/F
LA MADDEN
TMOUTH STREET
13 LOT 19-27

ZONE AE
ZONE X

Approximate 20' Wide Easement

N/F
BRISTOL HIGH SCHOOL
NAOMI STREET

A09
Woods
A10
A11
A12
A13
A14
A15
Woods
A16
Grass
A17
A18
A19

LOD/CFS

MATCHLINE - SEE SHEET C3.8

R&D
CONC PAD

TRIM BRUSH
AS REQUIRED

100' JURISDICTIONAL
LINE

Irrigation Line As
Per Map Ref. #7

10"HDPE As Per
Map Ref. #7

R&D
FENCING

R&D
IRRIGATION
SERVICES

R&D
SUBDRAIN

ETR
SEWER

15"PVC

SMH
TF=59.89'
FL(NW-S)=54.8'(15"PVC)

TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.

proximate
ream Boundary

B24-18

TP10-03

Irrigation Line As
Per Map Ref. #7

PAD

BIK Walk

MATCHLINE - SEE SHEET C3.4

DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

Scale: 1"=20'
0 10' 20' 40'

Z:\JOBS\23099.01 mhs\23099.01 @MESD @MESD Shop Dr-As-Bl\DWGS\DRAWING Pl-As-Pkg

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON
ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED
PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DEMOLITION PLAN 9

DRAWING NO.:
C3.9

SHEET NO. 22 OF 93



NOTES:

1. CONTRACTOR SHALL PROVIDE LOAM AND SEED ON ALL DISTURBED AREAS UNLESS NOTED OTHERWISE. REFER TO LANDSCAPE DRAWINGS FOR SURFACE COVER IN LANDSCAPED AREAS.
2. ALL ACCESSIBLE RAMPS SHALL BE CONSTRUCTED WITH DETECTABLE WARNING PANELS, RTLD.
3. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL EMPLOY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF RHODE ISLAND TO ESTABLISH CONTROL ON THE SITE AND TO PERFORM FIELD MEASUREMENTS AS REQUIRED TO LAYOUT THE PROPOSED BUILDING AND SITE IMPROVEMENTS. THE CONTRACTOR'S SURVEYOR SHALL COORDINATE THE BUILDING LAYOUT WITH THE PROJECT LAND SURVEYOR TO ACCURATELY LOCATE THE BUILDING ON THE SITE.
4. REFER TO STRUCTURAL DRAWINGS TYPICAL SECTIONS OF ENTRY WAYS. FOR ALL CONCRETE ENTRANCE PAD.
5. ALL PARKING SPACES AND ISLANDS ARE TO BE MARKED WITH 4" THICK WHITE EPOXY PAVEMENT MARKING UNLESS NOTED OTHERWISE. WATERBORNE PAVEMENT MARKINGS ARE NOT ACCEPTABLE. REFER TO PARKING STALL DETAIL.
6. COORDINATE FINAL QUANTITY AND PLACEMENT OF BOLLARDS SURROUNDING TRANSFORMER WITH RHODE ISLAND ENERGY.
7. COORDINATE ALL SIGN PLACEMENT AND SIZE WITH OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
8. REFER TO LANDSCAPE DRAWINGS FOR LAYOUT, DIMENSIONS, AND MATERIAL OF THE WALKS.
9. REFER TO "NOTES" FOR ADDITIONAL NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

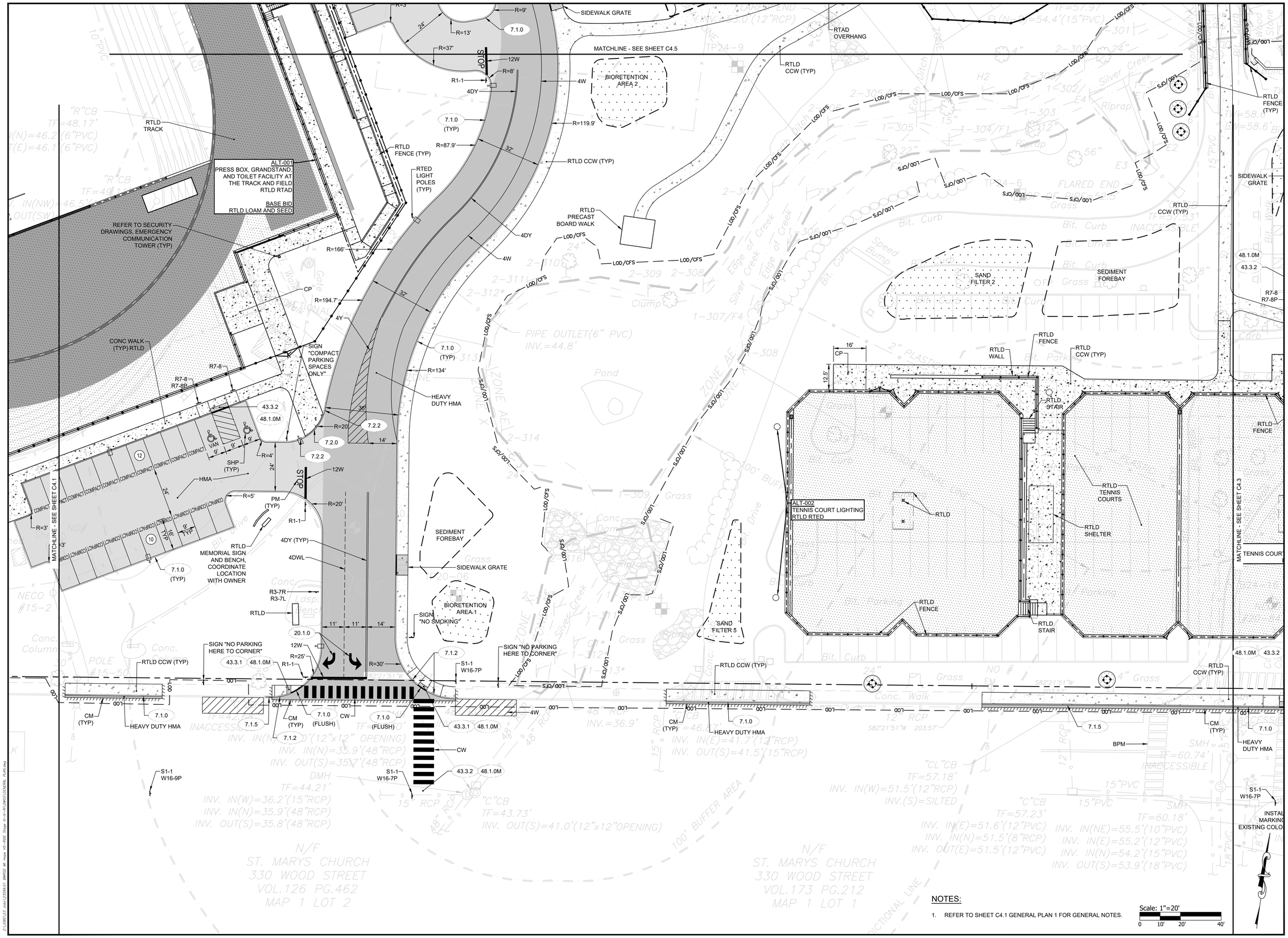
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 1

DRAWING NO.:
C4.1

SHEET NO. 23 OF 93

Item C1.



NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

Scale: 1"=20'

0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

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2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

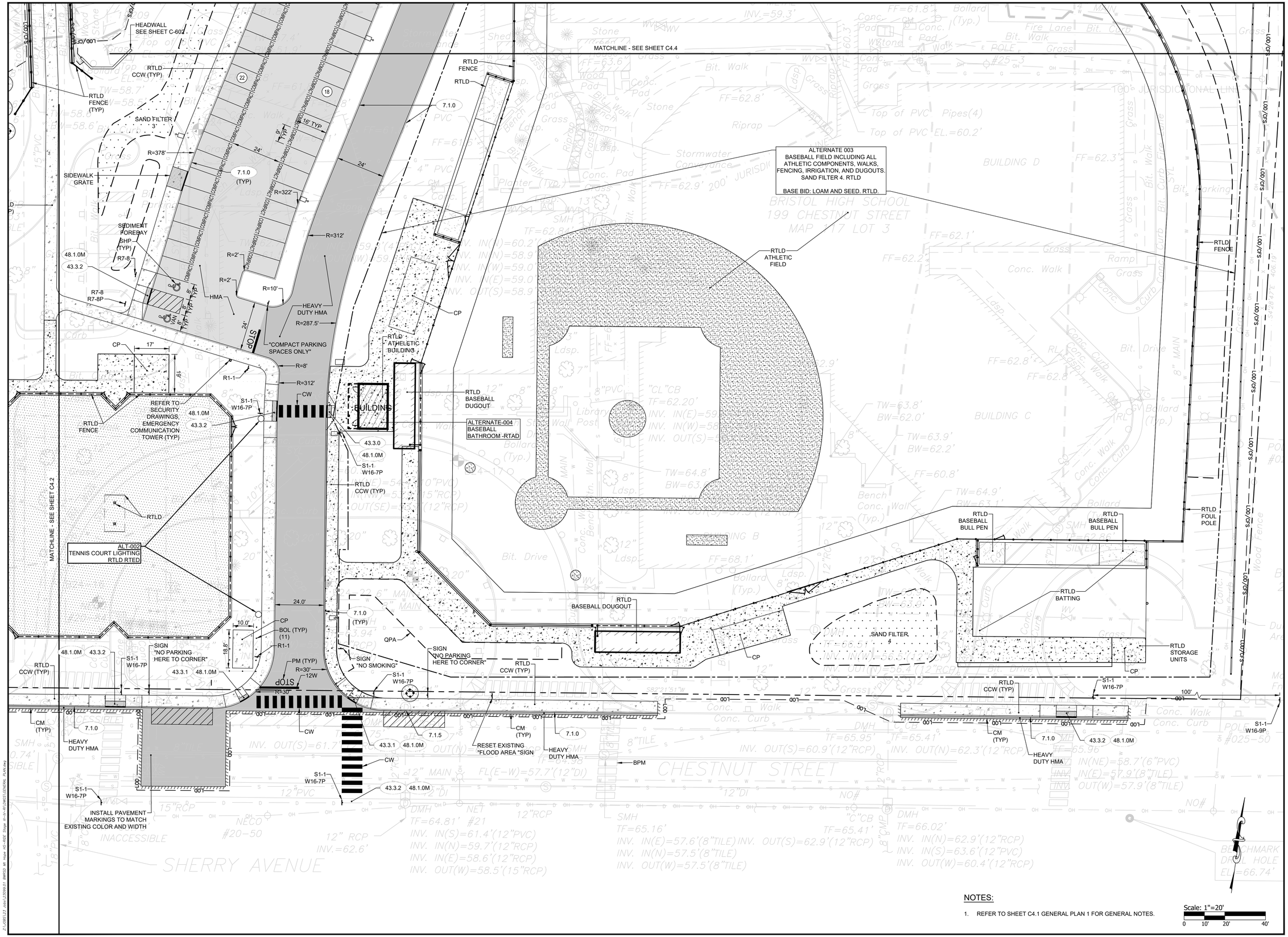
GENERAL PLAN 2

DRAWING NO.:

C4.2

SHEET NO. 24 OF 93

Item C1.



NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 3

DRAWING NO.:
C4.3

SHEET NO. 25 OF 93

NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

MATCHLINE - SEE SHEET C4.9

MATCHLINE - SEE SHEET C4.5

MATCHLINE - SEE SHEET C4.3

HEAVY DUTY HMA

SHP (TYP)

VAN

SIGN "NO IDLING"

CONC WALK (TYP) RTLD

RTLD FENCE

DETENTION BASIN 2

SEDIMENT FOREBAY

WET SWALE 1

HMA

HEAVY DUTY HMA WITH 10" REINFORCED CONCRETE SLAB FOR CULVERT CROSSING

QPA

RTLD GATE

"COMPACT PARKING SPACES ONLY"

RTLD CCW (TYP)

HEADWALL SEE SHEET C-602

RTLD FLAG POLE

RTLD FOUL POLE

RTLD

HEAVY DUTY HMA

PM 12W

Scale: 1"=20'

0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

GENERAL PLAN 4

DRAWING NO.:

C4.4

SHEET NO. 26 OF 93

Z:\JOBS\23099.01 Bristol\23099.01 BWSD\01 WP Work #01-RIDE Style\ 01-01-01 DWGS\GENERAL PLAN.dwg

PROPOSED HIGH SCHOOL BUILDING

MATCHLINE - SEE SHEET C4.8

MATCHLINE - SEE SHEET C4.6

MATCHLINE - SEE SHEET C4.2

MATCHLINE - SEE SHEET C4.4

DO NOT ENTER

STOP

R1-1 SIGN "NO IDLING"

SIGN "NO IDLING"

CONC WALK (TYP) RTLD

HEAVY DUTY HMA

HMA

RTSD & RTLD RETAINING WALLS

RTLD SPORT FIELD LIGHTING (TYP)

RTLD BLEACHERS

SPEED TABLE (SEE DETAIL)

SHP (TYP)

BOL (TYP) (4)

"EVCS"

RTSD CABINET

RTED ELEC VEHICLE CHARGING STATION (TYP)

REFER TO "TYPICAL PARKING STALL" DETAIL FOR DOUBLE LINE PAVEMENT MARKING LAYOUT

RRS BENEATH BLEACHERS

RTED LP

RTAD DOORWAY ENTRANCE (TYP)

RTSD CONC PAD AT DOOR (TYP)

W17-1

RTLD LANDSCAPE BOLLARD

RTLD LANDSCAPE CURB

RTAD BLDG OVERHANG

RTAD BLDG OVERHANG (TYP)

RTAD BLDG COLUMN (TYP)

RTAD OVERHANG

RTAD OVERHANG (TYP)

RTLD CCW (TYP)

SEDIMENT FOREBAY

SIDEWALK GRATE

BIORETENTION AREA 2

BIORETENTION AREA 3

BIORETENTION AREA 4

INFILTRATION BASIN 1

RTLD PREFABRICATED CONCRETE PEDESTRIAN DECK OVER BIORETENTION AREA

RTLD AMPHITHEATRE WALLS (TYP)

RTLD BOULDERS (TYP)

RTLD CONC WALK

RTLD BOULDERS (TYP)

RTLD WALL

RTLD RAIN CHAIN

RTLD FENCE

RTLD GATE

RTLD LOADING DOCK

RTLD STONE WALL

RTLD TURF

RTLD CONC WALK (TYP)

RTSD WALL

BOL

RTAD STAIR AND HANDRAIL

QPA

LOD/CFS

NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

Scale: 1"=20'

0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 5

DRAWING NO.:
C4.5

SHEET NO. 27 OF 93

Z:\J2023\23-xxx\23099.01 - BWRSD - MT. Hope HS-RIDE Stage III-Civil-RI\CMC\GENERAL PLAN.dwg

MATCHLINE - SEE SHEET C4.7

MATCHLINE - SEE SHEET C4.5

MATCHLINE - SEE SHEET C4.1

BUILDING

RTLD FENCE (TYP)

CONC WALK (TYP) RTLD

RTLD SIGNS AND BENCH

RTLD SEAT WALL (TYP)

RTLD NETTING

RTLD RESET GOAL POST

43.2.0

RTLD GATE (TYP)

RTLD FENCE)

RTLD FENCE

ALT-001
PRESS BOX, GRANDSTAND, AND TOILET FACILITY AT THE TRACK AND FIELD
RTLD RTAD

BASE BID
RTLD LOAM AND SEED

RTLD STORAGE UNITS

CP

RTLD FLAG POLE

RTLD SCOREBOARD

RTLD ATHLETIC FIELD AND TRACK

SEDIMENT FOREBAY

DETENTION BASIN 1

SAND FILTER 1

RTED FENCE

Edge of Bit. Pavement

NAOMI STREET

Bit. Curb

Irrigation Control Valve

Iron Pipe Fnd.

N/F
TOWN OF BRISTOL
NAOMI STREET
MAP 117 LOT 7

N/F
ERIC CABRAL
10 NAOMI STREET
VOL.2133 PG.19

N/F
BRISTOL HIGH SCHOOL
199 CHESTNUT STREET
MAP 117 LOT 5

Athletics Track & Field

Grass

Woods

Bit. Walk

Bit. Pad

Ballpit

TRACK

"CL"CB
TF=42.23'
NO VISIBLE PIPES
5'x1' OPENING

PIPE OUTLET(24"RCP)
INV.=43.7'

"CL"CB
TF=48.33'
INV. IN(NE)=44.4'(24"HDPE)
INV. OUT(SW)=44.2'(24"HDPE)

"R"CB
TF=48.99'
INV. IN(SE)=46.4'(10"PVC)
INV. OUT(W)=46.4'(10"PVC)

"R"CB
TF=48.96'
INV. IN(NE)=45.3'(10"PVC)
INV. OUT(SE)=45.3'(10"PVC)

"R"CB
TF=48.93'
INV. OUT(NW)=47.1'(10"PVC)

"R"CB
TF=48.83'
INV. IN(NW)=44.6'(10"PVC)
INV. OUT(SE)=44.7'(10"PVC)

"R"CB
TF=49.16'
INV. OUT(SE)=47.4'(10"PVC)

"R"CB
TF=48.79'

PIPE OUTLET(24"RCP)
INV.=43.8'

"CB
TF=48.29'
INV. OUT(N)=43.6'(24"RCP)

PIPE OUTLET(18"CPP)
INV.=43.7'

"CB
TF=48.51'
INV. IN(N)=44.4'(6"HDPE)
INV. IN(NE)=44.4'(24"HDPE)
INV. OUT(S)=44.0'(24"RCP)

TP24-3
TP24-1
TP24-2
TP20-01
TP20-02
TP10-01
TP08-01
TP08-03

B01
B02
B03
B04
B05
B100
B101
B102
B103
B104

24" RCP
INV.=43.4'

18"CPP

10"PVC

LOD/CFS

S80°27'39"W 219.61'

N12°06'05"W 682.75'

N 20°20'56"W 650.16'

Scale: 1"=20'
0 10' 20' 40'

NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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199 Chestnut Street
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 6

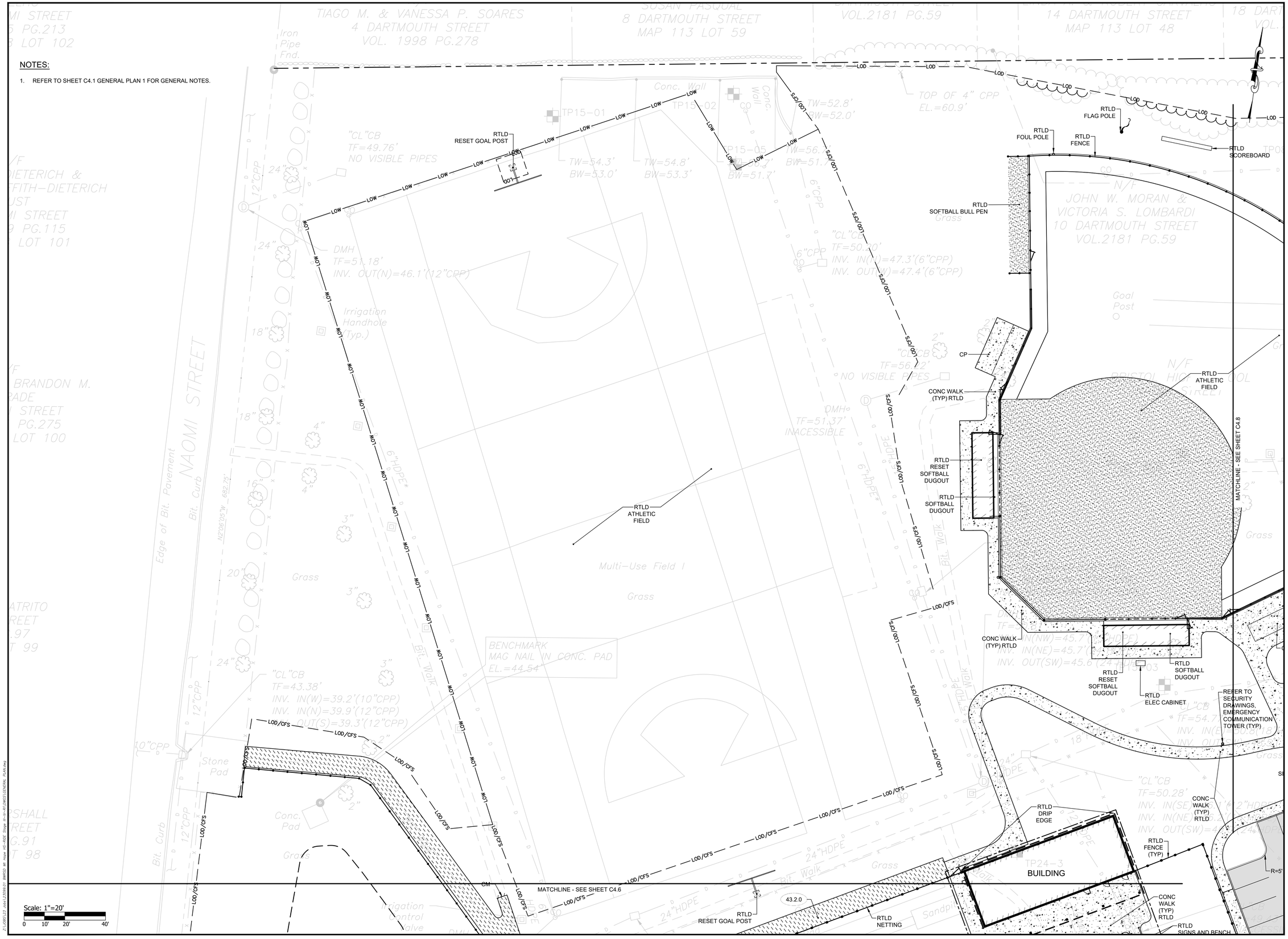
DRAWING NO.:
C4.6

SHEET NO. 28 OF 93

Z:\J23099.01 John\1.3 23099.01_BWRSD_MH Hope HS-RIDE Stage III-IV-RI DWG\1.0 GENERAL PLAN.dwg

NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.



PARE

OWNER/APPLICANT:
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SCHOOL DISTRICT
235 HIGH STREET
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401-253-4000

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No. 8665
06.02.25
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REVISIONS:

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PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 7

DRAWING NO.:
C4.7

SHEET NO. 29 OF 93

Z:\JOBS\23\T_Jobs\23099.01 BMHSD Mt Hope HS-4DE Stone Bl-dv-R1\DWGS\CIVIL\C4.7 PLAN.dwg

NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

PROPOSED HIGH SCHOOL BUILDING

MATCHLINE - SEE SHEET C4.7

MATCHLINE - SEE SHEET C4.5

MATCHLINE - SEE SHEET C4.9

Scale: 1"=20'

0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

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PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

GENERAL PLAN 8

DRAWING NO.:
C4.8

SHEET NO. 30 OF 93

REET

VOL.2154 PG.258

DARTMOUTH STREET

N/F
LA MADDEN
TMOUTH STREET
13 LOT 19-27

ZONE X

ZONE AE

A09

Woods

Approximate 20' Wide Easement

A10

N/F
BRISTOL HIGH SCHOOL
NAOMI STREET

15"PVC

A11

SMH
TF=59.89'
FL(NW-S)=54.8'(15"PVC)

A12

A13

A14

A15

Woods

A16

Grass

A17

A18

A19

Approximate
Stream Boundary

MATCHLINE - SEE SHEET C4.8

L00/CFS

100' JURISDICTIONAL LINE

RTLD
SHOT PUT PAD
AND HAMMER CAGE

Irrigation Line As
Per Map Ref. #7

10"HDPE As Per
Map Ref. #7

RTED
SITE LIGHTING
(TYP)

SIGN
"AUTHORIZED
VEHICLES ONLY"

R=30'

20'

R=96'

R=100'

23'

R=2'

7.2.4

R7-8

7.1.0M

7.1.0
(TYP)

5

18'

10'

R=3'

HEAVY
DUTY HMA

STOP

R=2'

24'

R=3'

R1-1

8'

VAN

8'

8'

5'

SHP
(TYP)

R=3'

R=27'

7

7.1.2

7.1.0
(FLUSH)

R=3'

SEDIMENT
FOREBAY

MATCHLINE - SEE SHEET C4.4

NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

Scale: 1"=20'
0 10' 20' 40'

Z:\JOBS\23_jobs\23099.01 BWRSD Mt Hope HS-RIDE Show Ins-Rv-RI\DWGS\GENERAL PLAN.dwg

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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199 Chestnut Street
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED
PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:

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1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

GENERAL PLAN 9

DRAWING NO.:
C4.9

SHEET NO. 31 OF 93

MATCHLINE - SEE SHEET C5.6

MATCHLINE - SEE SHEET C5.2

UNDERGROUND INFILTRATION SYSTEM 01

BENCHMARK
MAG NAIL IN CONC. WALK

BENCHMARK
DRILL HOLE IN CONC. WALK
EL.=45.25'

CHESTNUT STREET

N/F
ERIC CABRAL
TO NAOMI STREET
VOL.2133 PG.19

N/F
ST. MARYS CHURCH
330 WOOD STREET
VOL.92 PG.562
MAP 2 LOT 4

N/F
ST. MARYS CHURCH
330 WOOD STREET
VOL.85 PG.447
MAP 1 LOT 3

"CL"CB
TF=36.56'
INV. IN(N)=33.4'(15"HDPE)
INV. OUT(SW)=33.5'(12"PVC)
SUMP=29.8'

"R"CB
TF=48.79'
INV. IN(SE)=44.7'(10"PVC)
INV. OUT(NW)=44.7'(10"PVC)

"CB
TF=45.17'
INV. IN(N)=46.2'(6"PVC)
INV. OUT(E)=46.1'(6"PVC)

DMH
TF=41.99'
INV. IN(S)=38.8'(12"RCP)
INV. OUT(W)=36.3'(12"RCP)

"C"CB
TF=41.42'
INACCESSIBLE

PIPE OUTLET(18"CPP)
INV.=43.7'

Edge of Bit. Pavement

Woods

Conc. Walk

Conc. Curb

Glass

Columns

Shed

Mon.

Fnd.

12"RCP

15"HDPE

24"

N20°06'05"W 223.30'

N80°28'35"E 219.30'

N51°39'51"W 26.91'

S80°15'57"W 29.94'

S80°15'57"W 67.02'

Δ=2°09'59"

TC: 51.70
BC: 51.20

TC: 51.65
BC: 51.15

TC: 51.50
BC: 51.00

TC: 51.40
BC: 50.90

TC: 51.30
BC: 50.80

TC: 44.05 (MATCH EX)
BC: 43.55 (MATCH EX)

MATCH EX
44.15±

NOTES:

1. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUT NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT AND CURBS SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
2. ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE SURROUNDING SURFACE OR PAVEMENT FINISH GRADE. RIM ELEVATIONS OF STRUCTURES AND MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS.
3. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MIN. OF 1/8" PER FOOT UNLESS SPECIFIED.
4. THE PROPOSED WALKWAYS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM RUNNING SLOPE OF 5% AS SHOWN ON CONSTRUCTION DETAILS.
5. ALL GRADING AT ACCESSIBLE ROUTES SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA) OF 2010, LATEST EDITION.
6. BASIN BERM SHALL BE CONSTRUCTED WITH COMMON BORROW PLACED IN 12" LEFTS AND COMPACTED TO 95% TO FINISH GRADE. REMOVE ALL EXISTING TOPSOIL AND ORGANIC MATERIAL PRIOR TO CONSTRUCTING BASIN BERM.
7. TURF REINFORCEMENT MAT (TRM) SHALL BE INSTALLED ON ALL SLOPES 3:1 OR GREATER.
8. REFER TO "NOTES" FOR ADDITIONAL NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

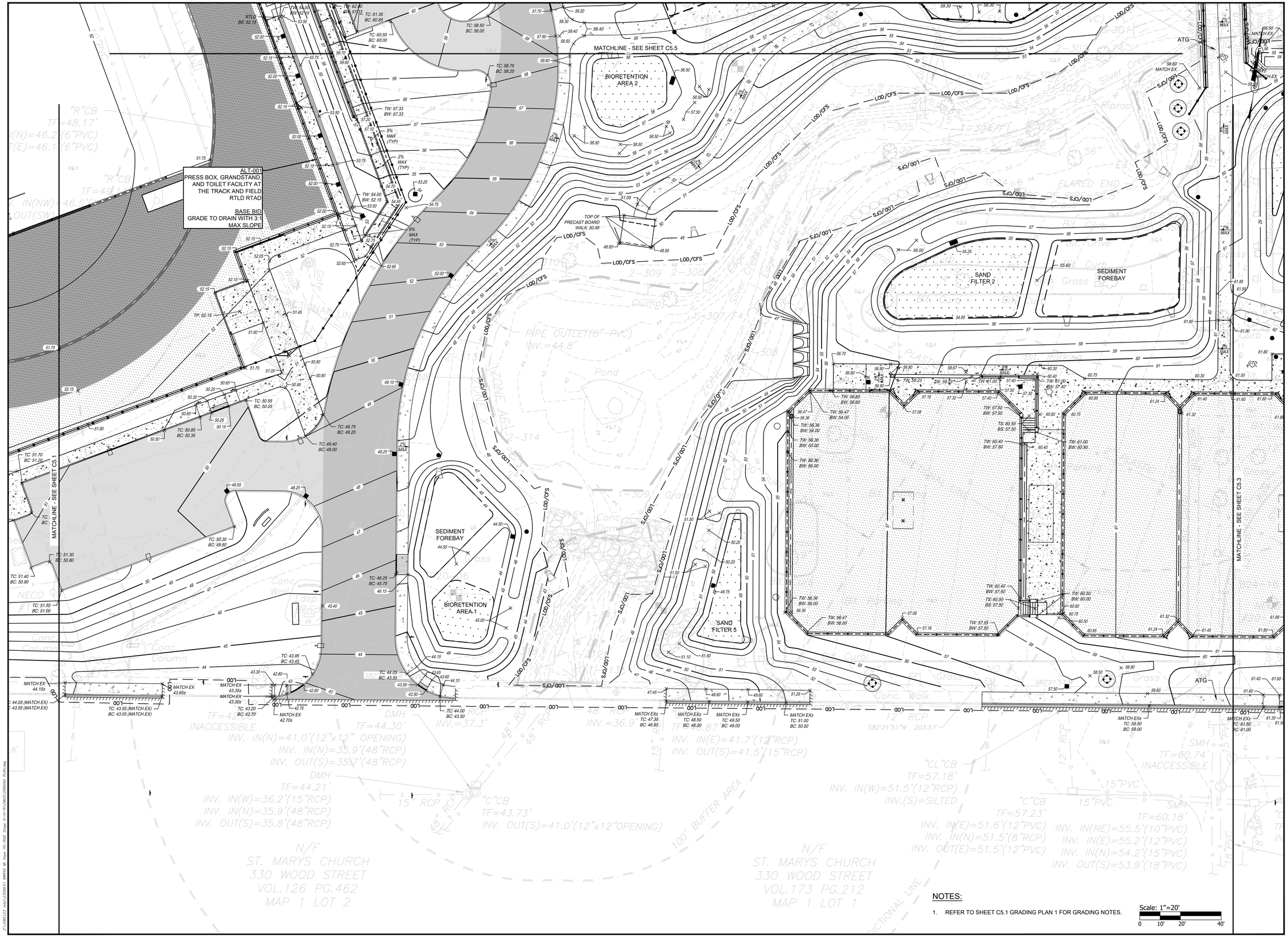
DRAWING TITLE:
GRADING PLAN 1

DRAWING NO.:
C5.1

SHEET NO. 32 OF 93

Z:_JOBS\23.1 John\23099.01 BWRSD MI Hope HS-RIDE Slope III-Vo-RI\DWGS\GRADING PLAN.dwg

Item C1.



NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.

Scale: 1"=20'

0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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0" 1"
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No. 8665
06.02.25
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REVISIONS:

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DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

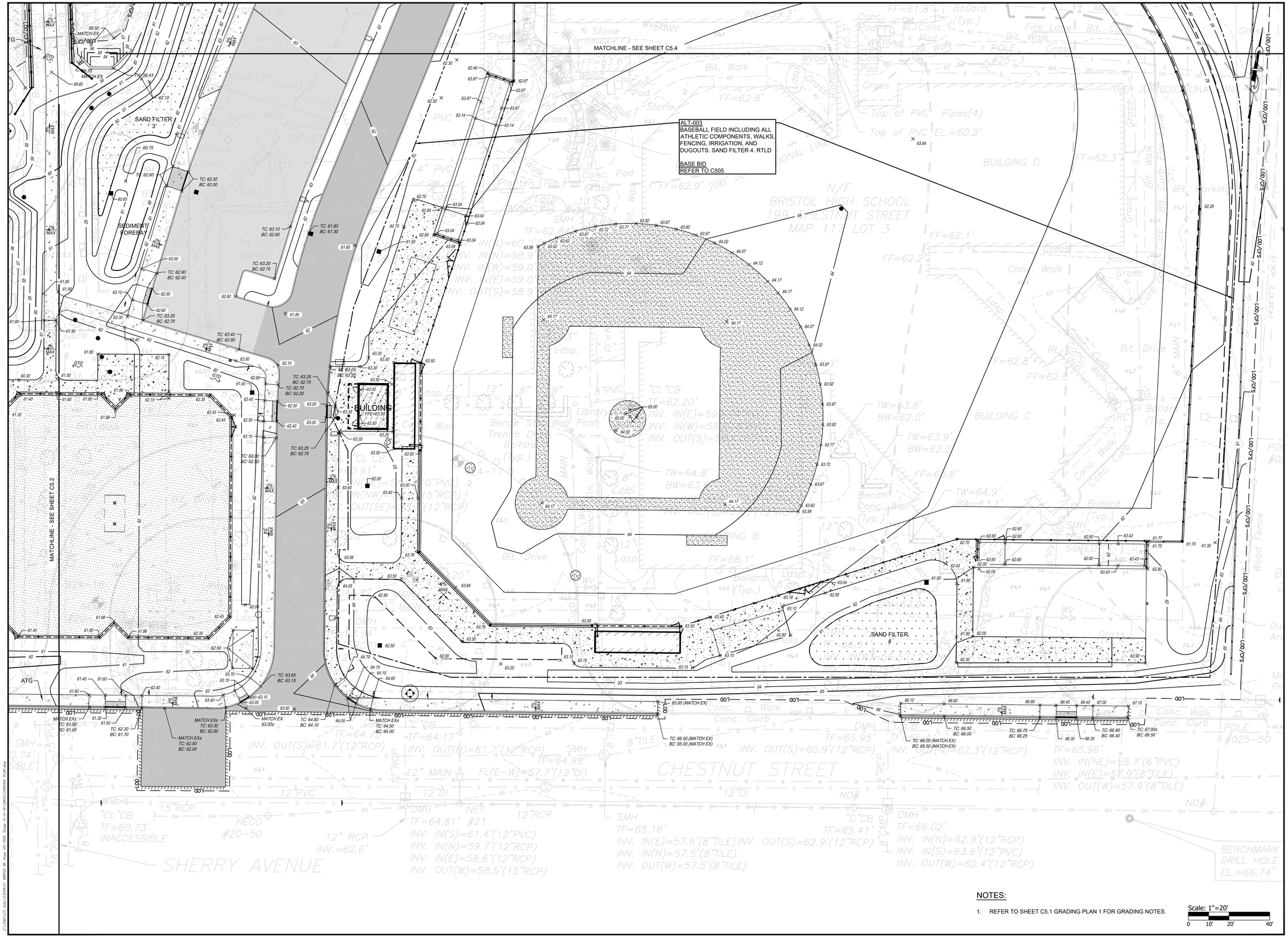
GRADING PLAN 2

DRAWING NO.:

C5.2

SHEET NO. 33 OF 93

Item C1.



NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.

Scale: 1"=20'

0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

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2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

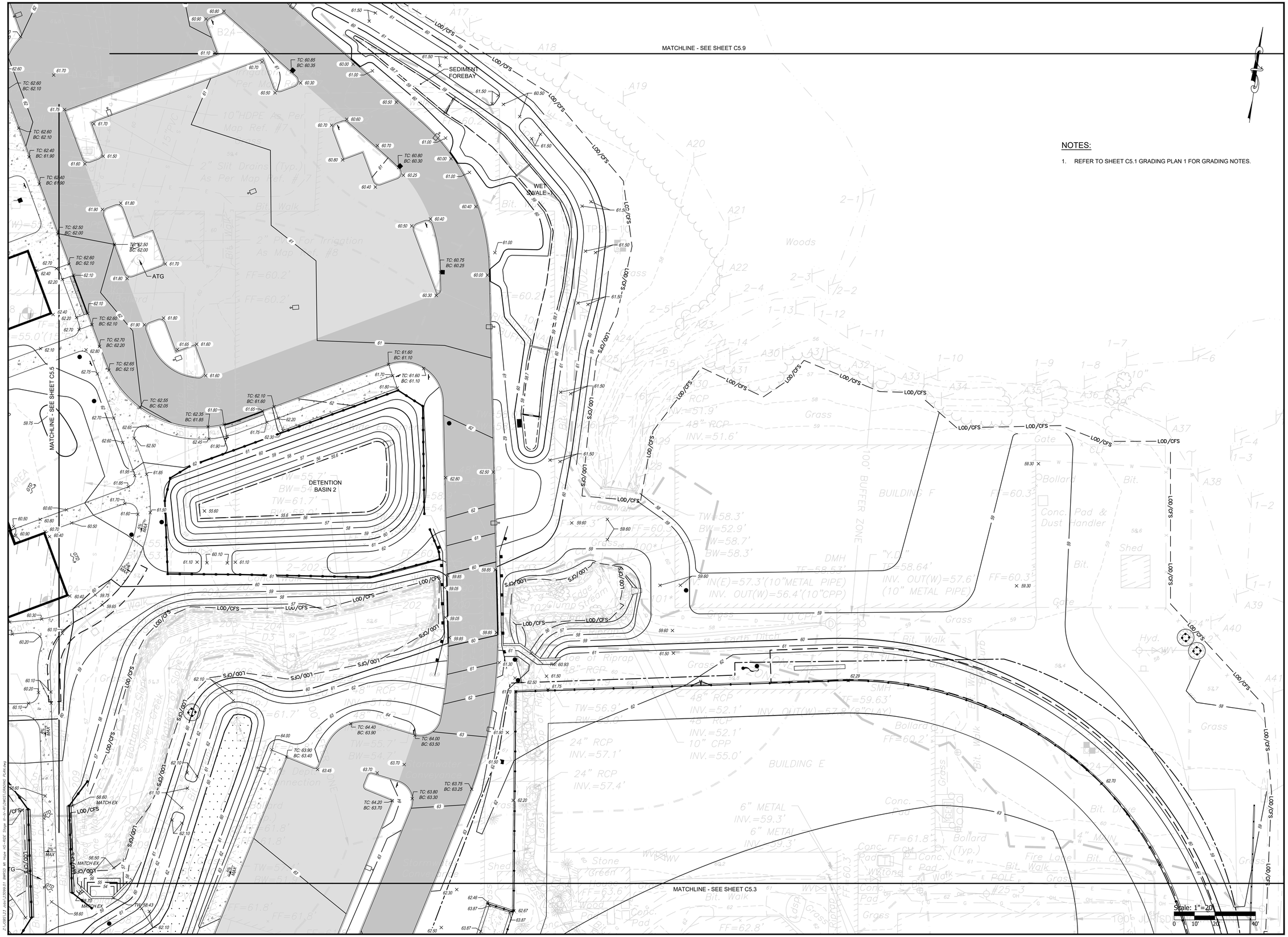
GRADING PLAN 3

DRAWING NO.:

C5.3

SHEET NO. 34 OF 93

Item C1.



NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
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DAVID L. POTTER
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06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

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1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

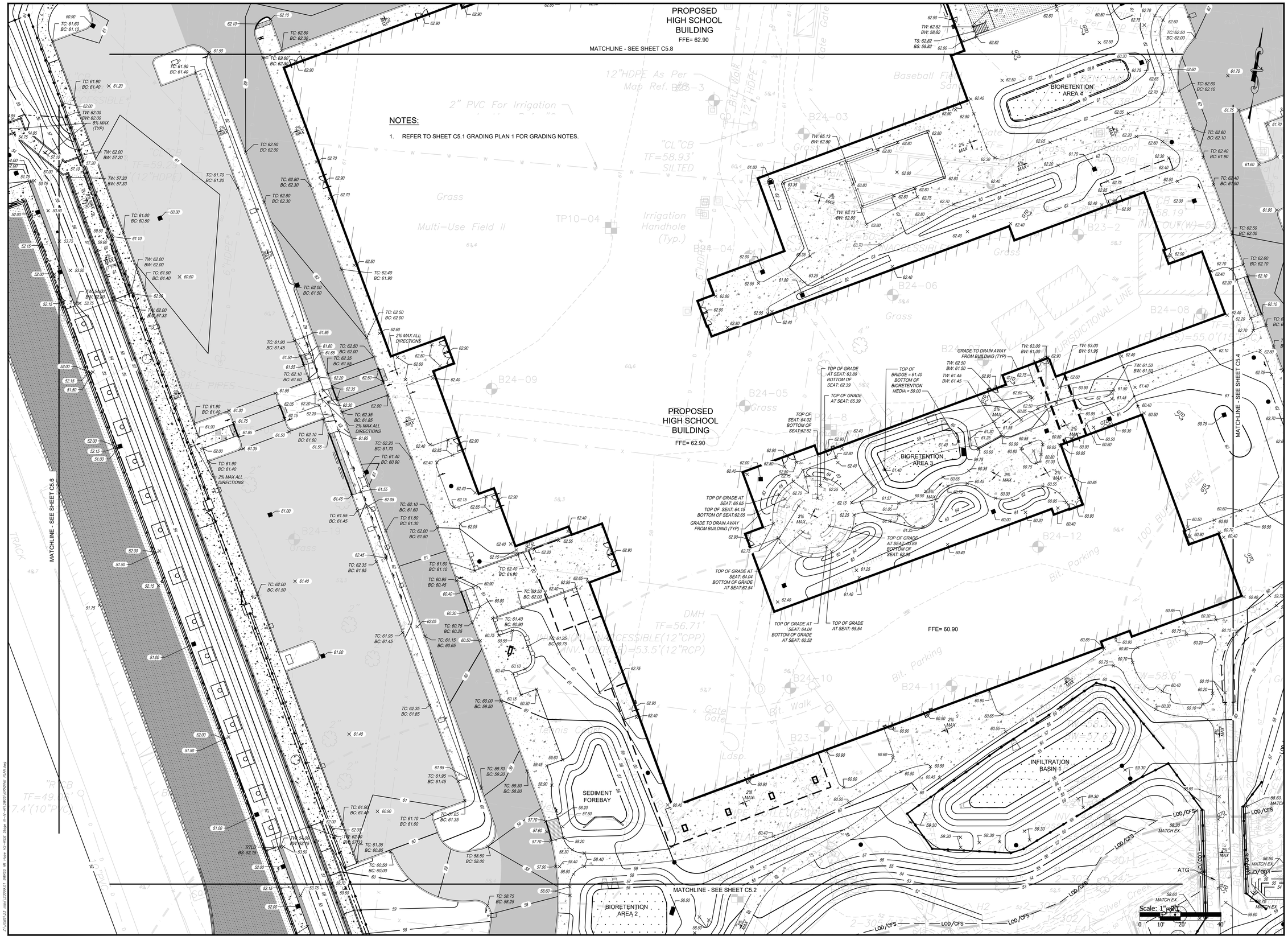
DRAWING TITLE:

GRADING PLAN 4

DRAWING NO.:
C5.4

SHEET NO. 35 OF 93

Item C1.



NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GRADING PLAN 5

DRAWING NO.:
C5.5

SHEET NO. 36 OF 93

MATCHLINE - SEE SHEET C5.7

SET RIM 12" BELOW FINISH GRADE

BUILDING
FFE= 52.25

ALT-001
PRESS BOX, GRANDSTAND, AND TOILET FACILITY AT THE TRACK AND FIELD
RTLD RTAD

BASE BID
GRADE TO DRAIN WITH 3:1 MAX SLOPE

ATG

SEDIMENT FOREBAY

DETENTION BASIN 1

SAND FILTER 1

2% MAX ALL DIRECTIONS

8% MAX (TYP)

0.5% (0.5% Subgrade Slope)

MATCHLINE - SEE SHEET C5.5

MATCHLINE - SEE SHEET C5.1

NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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No. 8665
06.02.25
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STATE OF RHODE ISLAND

REVISIONS:		
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PROJECT NO.:	23099.01
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CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GRADING PLAN 6

DRAWING NO.:
C5.6

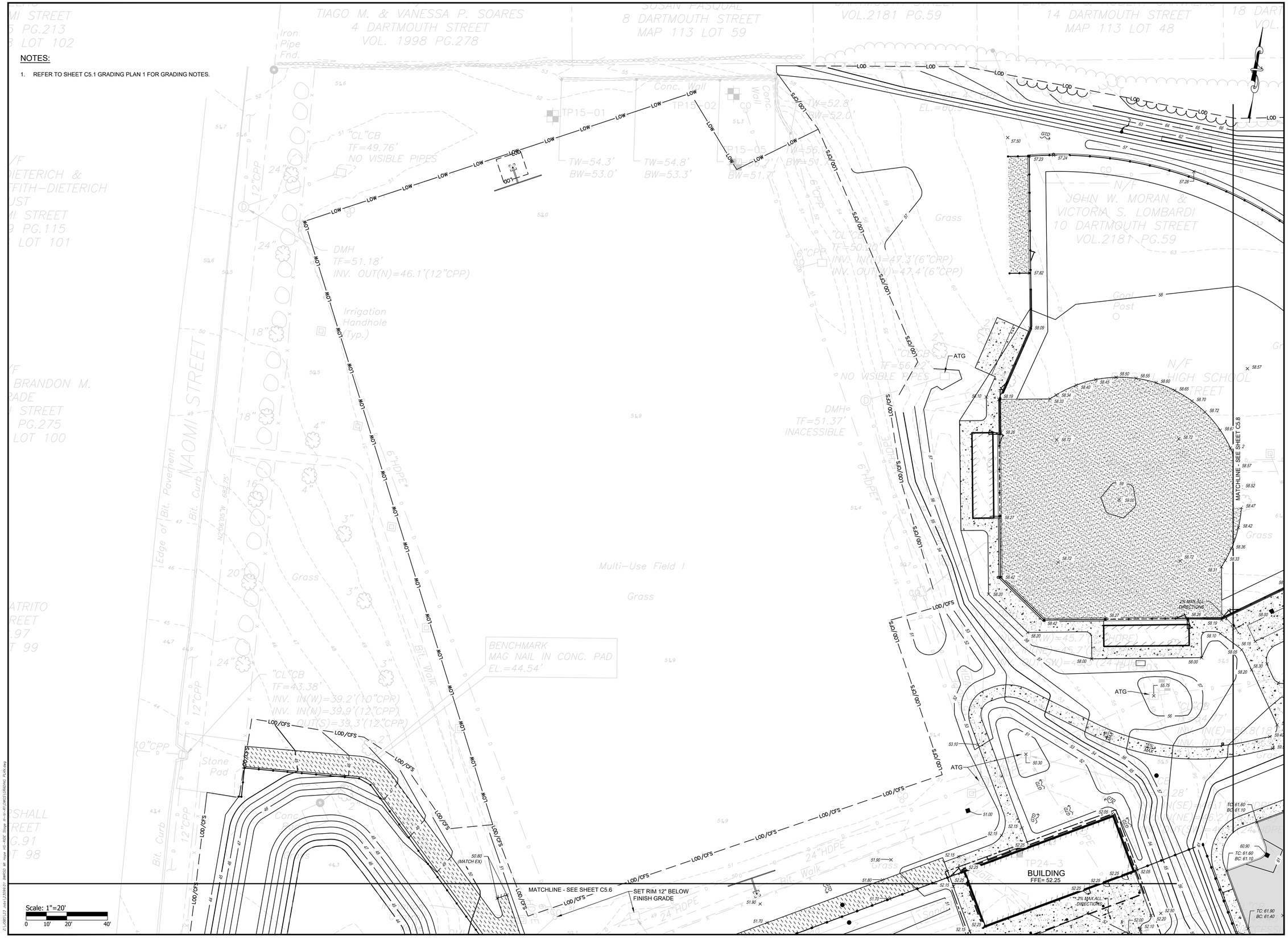
SHEET NO. 37 OF 93

Z:\J2309\23.1 John\23099.01 BWSD Mt Hope HS-RIDE Slope Rvt-AKL\DWG\DRAWING PLAN.dwg

Item C1.

NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON
ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED
PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

GRADING PLAN 7

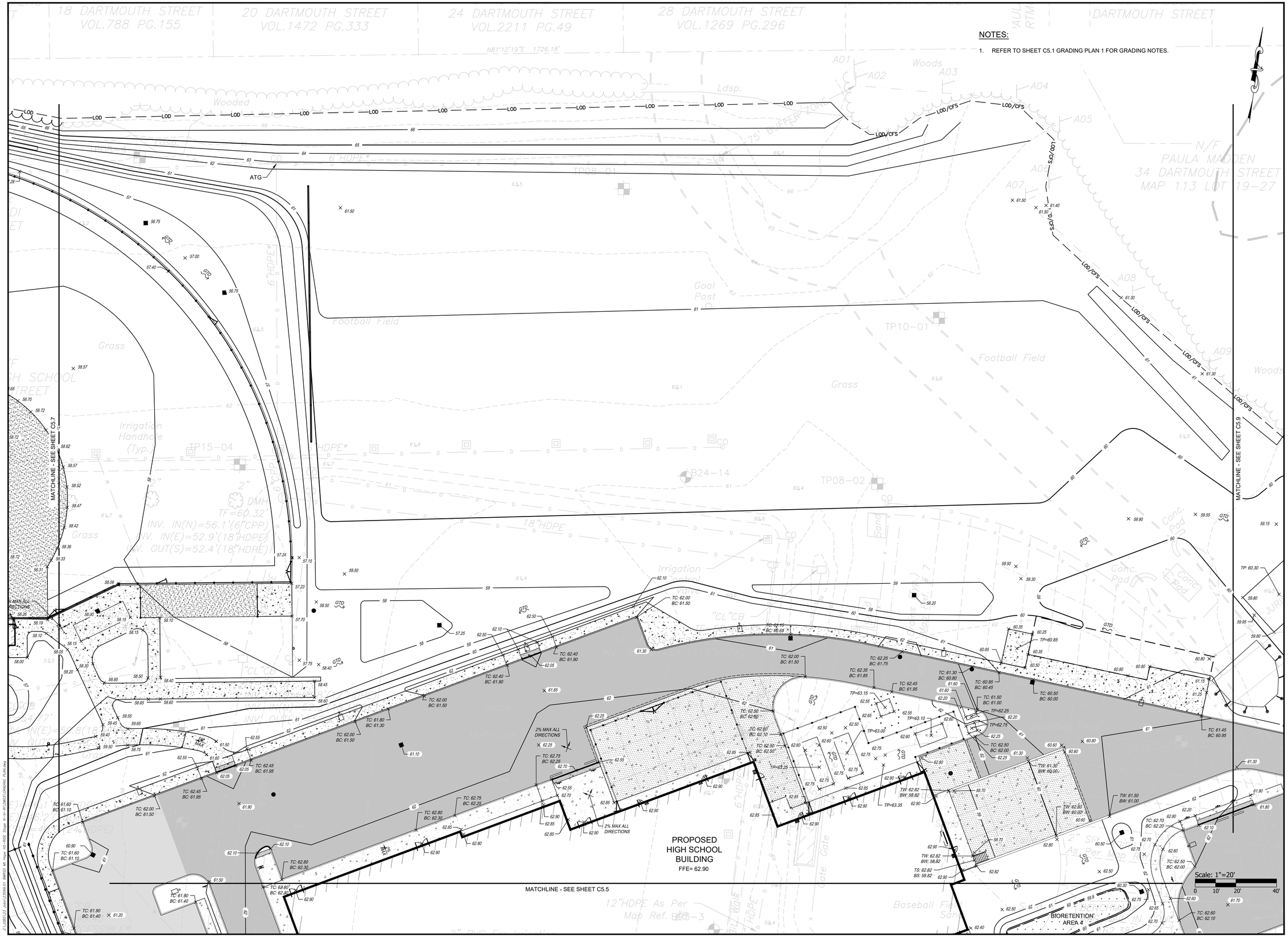
DRAWING NO.:
C5.7

SHEET NO. 38 OF 93

Item C1.

NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.



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APPROVED BY:	DLP

DRAWING TITLE:

GRADING PLAN 8

DRAWING NO.:

C5.8

SHEET NO. 39 OF 93

REET VOL.2154 PG.258

DARTMOUTH STREET

N/F
LA MADDEN
TMOUTH STREET
13 LOT 19-27

ZONE X

ZONE AE

Approximate 20' Wide Easement

N/F
BRISTOL HIGH SCHOOL
NAOMI STREET

A09

Woods

A10

A11

A12

A13

A14

A15

A16

A17

A18

A19

B24

LOD/CFS

MATCHLINE - SEE SHEET C5.8

MATCHLINE - SEE SHEET C5.4

15"PVC

SMH
TF=59.89'
FL(NW-S)=54.8'(15"PVC)

Irrigation Line As
Per Map Ref. #7

10"HDPE As Pe
Map Ref. #7

JURISDICTIONAL LINE

Approximate
Stream Boundary

SEDIMENT
FOREBAY

TC: 61.45
BC: 60.95

TC: 62.00
BC: 61.50

TC: 62.60
BC: 62.10

TC: 60.85
BC: 60.35

TP: 60.30

GTD

61.30 61.50 61.90 61.80 62.10 62.20 61.25 60.80 60.90 61.10 61.70 62.60 60.70 60.30 60.50 61.00 60.00 61.15 61.25 62.00 61.50 59.55 59.15 59.50 59.80 59.95 59.28 59.45 58.25 58.7 59.3 60.50

NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.

Scale: 1"=20'
0 10' 20' 40'

ZU-DRIVE\23_Jobs\23099.01_BWRSD_BR_Work_HS-RIDE_Drone_Base\HS-RIDE DWGS\GRADING PLAN.dwg

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APPROVED BY:	DLP

DRAWING TITLE:

GRADING PLAN 9

DRAWING NO.:
C5.9

SHEET NO. 40 OF 93

DRAIN INVERT TABLE

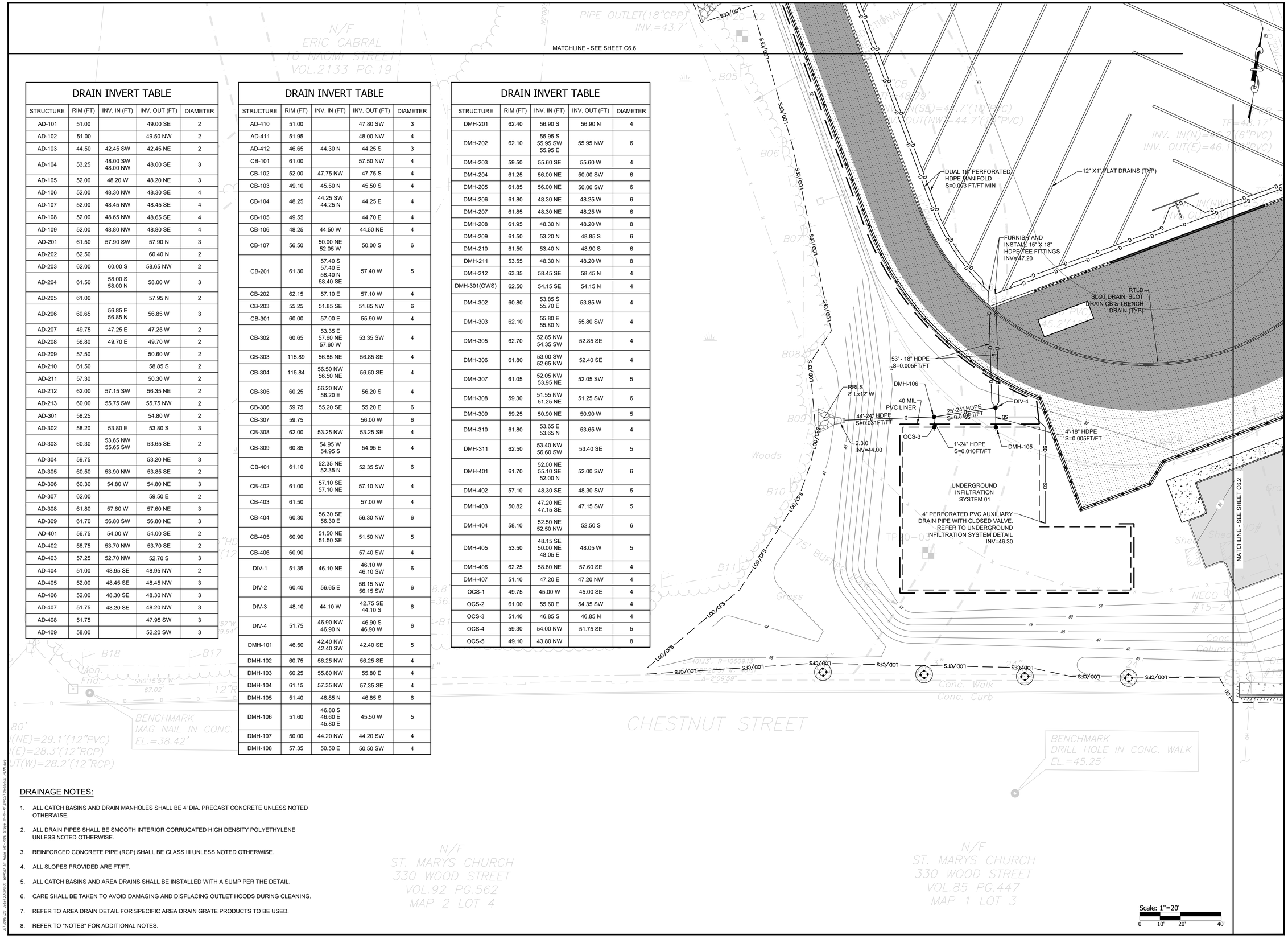
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)	DIAMETER
AD-101	51.00		49.00 SE	2
AD-102	51.00		49.50 NW	2
AD-103	44.50	42.45 SW	42.45 NE	2
AD-104	53.25	48.00 SW 48.00 NW	48.00 SE	3
AD-105	52.00	48.20 W	48.20 NE	3
AD-106	52.00	48.30 NW	48.30 SE	4
AD-107	52.00	48.45 NW	48.45 SE	4
AD-108	52.00	48.65 NW	48.65 SE	4
AD-109	52.00	48.80 NW	48.80 SE	4
AD-201	61.50	57.90 SW	57.90 N	3
AD-202	62.50		60.40 N	2
AD-203	62.00	60.00 S	58.65 NW	2
AD-204	61.50	58.00 S 58.00 N	58.00 W	3
AD-205	61.00		57.95 N	2
AD-206	60.65	56.85 E 56.85 N	56.85 W	3
AD-207	49.75	47.25 E	47.25 W	2
AD-208	56.80	49.70 E	49.70 W	2
AD-209	57.50		50.60 W	2
AD-210	61.50		58.85 S	2
AD-211	57.30		50.30 W	2
AD-212	62.00	57.15 SW	56.35 NE	2
AD-213	60.00	55.75 SW	55.75 NW	2
AD-301	58.25		54.80 W	2
AD-302	58.20	53.80 E	53.80 S	3
AD-303	60.30	53.65 NW 55.65 SW	53.65 SE	2
AD-304	59.75		53.20 NE	3
AD-305	60.50	53.90 NW	53.85 SE	2
AD-306	60.30	54.80 W	54.80 NE	3
AD-307	62.00		59.50 E	2
AD-308	61.80	57.60 W	57.60 NE	3
AD-309	61.70	56.80 SW	56.80 NE	3
AD-401	56.75	54.00 W	54.00 SE	2
AD-402	56.75	53.70 NW	53.70 SE	2
AD-403	57.25	52.70 NW	52.70 S	3
AD-404	51.00	48.95 SE	48.95 NW	2
AD-405	52.00	48.45 SE	48.45 NW	3
AD-406	52.00	48.30 SE	48.30 NW	3
AD-407	51.75	48.20 SE	48.20 NW	3
AD-408	51.75		47.95 SW	3
AD-409	58.00		52.20 SW	3

DRAIN INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)	DIAMETER
AD-410	51.00		47.80 SW	3
AD-411	51.95		48.00 NW	4
AD-412	46.65	44.30 N	44.25 S	3
CB-101	61.00		57.50 NW	4
CB-102	52.00	47.75 NW	47.75 S	4
CB-103	49.10	45.50 N	45.50 S	4
CB-104	48.25	44.25 SW 44.25 N	44.25 E	4
CB-105	49.55		44.70 E	4
CB-106	48.25	44.50 W	44.50 NE	4
CB-107	56.50	50.00 NE 52.05 W	50.00 S	6
CB-201	61.30	57.40 S 57.40 E 58.40 NI 58.40 SE	57.40 W	5
CB-202	62.15	57.10 E	57.10 W	4
CB-203	55.25	51.85 SE	51.85 NW	6
CB-301	60.00	57.00 E	55.90 W	4
CB-302	60.65	53.35 E 57.60 NE 57.60 W	53.35 SW	4
CB-303	115.89	56.85 NE	56.85 SE	4
CB-304	115.84	56.50 NW 56.50 NE	56.50 SE	4
CB-305	60.25	56.20 NW 56.20 E	56.20 S	4
CB-306	59.75	55.20 SE	55.20 E	6
CB-307	59.75		56.00 W	6
CB-308	62.00	53.25 NW	53.25 SE	4
CB-309	60.85	54.95 W 54.95 S	54.95 E	4
CB-401	61.10	52.35 NE 52.35 N	52.35 SW	6
CB-402	61.00	57.10 SE 57.10 NE	57.10 NW	4
CB-403	61.50		57.00 W	4
CB-404	60.30	56.30 SE 56.30 E	56.30 NW	6
CB-405	60.90	51.50 NE 51.50 SE	51.50 NW	5
CB-406	60.90		57.40 SW	4
DIV-1	51.35	46.10 NE	46.10 W 46.10 SW	6
DIV-2	60.40	56.65 E	56.15 NW 56.15 SW	6
DIV-3	48.10	44.10 W	42.75 SE 44.10 S	6
DIV-4	51.75	46.90 NW 46.90 N	46.90 S 46.90 W	6
DMH-101	46.50	42.40 NW 42.40 SW	42.40 SE	5
DMH-102	60.75	56.25 NW	56.25 SE	4
DMH-103	60.25	55.80 NW	55.80 E	4
DMH-104	61.15	57.35 NW	57.35 SE	4
DMH-105	51.40	46.85 N	46.85 S	6
DMH-106	51.60	46.80 S 46.60 E 45.80 E	45.50 W	5
DMH-107	50.00	44.20 NW	44.20 SW	4
DMH-108	57.35	50.50 E	50.50 SW	4

DRAIN INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)	DIAMETER
DMH-201	62.40	56.90 S	56.90 N	4
DMH-202	62.10	55.95 S 55.95 SW 55.95 E	55.95 NW	6
DMH-203	59.50	55.60 SE	55.60 W	4
DMH-204	61.25	56.00 NE	50.00 SW	6
DMH-205	61.85	56.00 NE	50.00 SW	6
DMH-206	61.80	48.30 NE	48.25 W	6
DMH-207	61.85	48.30 NE	48.25 W	6
DMH-208	61.95	48.30 N	48.20 W	8
DMH-209	61.50	53.20 N	48.85 S	6
DMH-210	61.50	53.40 N	48.90 S	6
DMH-211	53.55	48.30 N	48.20 W	8
DMH-212	63.35	58.45 SE	58.45 N	4
DMH-301(OWS)	62.50	54.15 SE	54.15 N	4
DMH-302	60.80	53.85 S 55.70 E	53.85 W	4
DMH-303	62.10	55.80 E 55.80 N	55.80 SW	4
DMH-305	62.70	52.85 NW 54.35 SW	52.85 SE	4
DMH-306	61.80	53.00 SW 52.65 NW	52.40 SE	4
DMH-307	61.05	52.05 NW 53.95 NE	52.05 SW	5
DMH-308	59.30	51.55 NW 51.25 NE	51.25 SW	6
DMH-309	59.25	50.90 NE	50.90 W	5
DMH-310	61.80	53.65 E 53.65 N	53.65 W	4
DMH-311	62.50	53.40 NW 56.60 SW	53.40 SE	5
DMH-401	61.70	52.00 NE 55.10 SE 52.00 N	52.00 SW	6
DMH-402	57.10	48.30 SE	48.30 SW	5
DMH-403	50.82	47.20 NE 47.15 SE	47.15 SW	5
DMH-404	58.10	52.50 NE 52.50 NW	52.50 S	6
DMH-405	53.50	48.15 SE 50.00 NE 48.05 E	48.05 W	5
DMH-406	62.25	58.80 NE	57.60 SE	4
DMH-407	51.10	47.20 E	47.20 NW	4
OCS-1	49.75	45.00 W	45.00 SE	4
OCS-2	61.00	55.60 E	54.35 SW	4
OCS-3	51.40	46.85 S	46.85 N	4
OCS-4	59.30	54.00 NW	51.75 SE	5
OCS-5	49.10	43.80 NW		8



DRAINAGE NOTES:

1. ALL CATCH BASINS AND DRAIN MANHOLES SHALL BE 4' DIA. PRECAST CONCRETE UNLESS NOTED OTHERWISE.
2. ALL DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED HIGH DENSITY POLYETHYLENE UNLESS NOTED OTHERWISE.
3. REINFORCED CONCRETE PIPE (RCP) SHALL BE CLASS III UNLESS NOTED OTHERWISE.
4. ALL SLOPES PROVIDED ARE FT/FT.
5. ALL CATCH BASINS AND AREA DRAINS SHALL BE INSTALLED WITH A SUMP PER THE DETAIL.
6. CARE SHALL BE TAKEN TO AVOID DAMAGING AND DISPLACING OUTLET HOODS DURING CLEANING.
7. REFER TO AREA DRAIN DETAIL FOR SPECIFIC AREA DRAIN GRATE PRODUCTS TO BE USED.
8. REFER TO "NOTES" FOR ADDITIONAL NOTES.

Z:\...\DWG\23.1 JobA\23099.01 BWSD\01 WP Work\05-BIDS Drops III-Work-Bid\DWGS\DRAINAGE PLAN.dwg

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DRAWING TITLE:
DRAINAGE PLAN 1

DRAWING NO.:
C6.1

SHEET NO. 41 OF 93

26'-12" HDPE S=0.007FT/FT
INV=48.80
AD-109
TOE DRAIN 6" PERFORATED PVC S=0.005 MIN
17'-12" HDPE S=0.007FT/FT
CONNECT TO SUBDRAIN
AD-108
CONNECT TO WALL DRAIN INV=54.00
27'-12" HDPE S=0.006FT/FT
CONTRACTOR SHALL FURNISH AND INSTALL FENCE FOOTINGS TO AVOID DRAINAGE AND UTILITY PIPES (TYP)
YD-101 RIM: 53.50 INV IN (NW): 48.55 INV OUT (SE): 48.55
AD-107
22'-12" HDPE S=0.006FT/FT
6" SCH 40 PVC S=0.005 MIN
AD-106
13'-12" HDPE S=0.007FT/FT
AD-104
AD-105
40'-12" HDPE S=0.006FT/FT
CONNECT TO WALL DRAIN INV=48.30
CB-102
25'-12" HDPE S=0.007FT/FT
55'-12" HDPE S=0.038FT/FT
CB-103
30'-12" HDPE S=0.037FT/FT
17'-15" HDPE S=0.007FT/FT
DIV-3
CB-104
6'-12" HDPE S=0.009FT/FT
35'-12" HDPE S=0.005FT/FT
44'-12" HDPE S=0.005FT/FT
CB-105
CB-106
2.3.0 INV=44.00
RRLS 4'L X 6'W
MATCHLINE - SEE SHEET C6.1
SFCD ELEV=44.45
SEDIMENT FOREBAY
AD-103
52'-15" HDPE S=0.006FT/FT
SM
4'-12" HDPE S=0.007FT/FT
DMH-101
22'-18" RCP S=0.006FT/FT
2.3.0 INV=42.25
RRLS 6'L x9'W
BIORETENTION AREA 1
RS ELEV=45.00
AUXILIARY DRAIN PIPE INV=43.10
S82°21'51"W
30'-12" RCP S=0.000FT/FT
2.3.0 INV=56.00
RRLS 4'L x12' W
DMH-103
144'-18" HDPE S=0.005FT/FT
MATCHLINE - SEE SHEET C6.5
SD
BIORETENTION AREA 2
DS
6" SUBDRAIN INV=52.05
6" SUBDRAIN INV=52.25
CB-107 (DOUBLE)
RS ELEV=57.50
75'-30" RCP S=0.013FT/FT
2.3.0 INV=49.00
RRLS 10'LX15'W
RS ELEV=50.20
2.3.0 INV=49.00
RRLS 4'L x6'W 49.00
102'-12" HDPE S=0.006FT/FT
37'-12" HDPE S=0.007FT/FT
2.3.0 INV=47.00
AD-207
RRLS
24'-12" HDPE S=0.006FT/FT
AUXILIARY DRAIN PIPE INV=48.00
SAND FILTER 5
RRLS 4'L x6'W
2.3.0 INV=49.00
RRLS 20'Lx30'W
2.3.0 INV=47.00
AD-208
RTLD 8" TRENCH DRAIN RIM=56.36 INV=50.50
RTLD 8" TRENCH DRAIN RIM=60.55 INV=55.50
RTLD 8" TRENCH DRAIN RIM=56.36 INV=50.00
RTLD 8" TRENCH DRAIN RIM=60.55 INV=55.90
73'-12" HDPE S=0.008FT/FT
AD-211
AD-209
149'-12" HDPE S=0.011FT/FT
DMH-108
93'-30" RCP S=0.005FT/FT
DMH-309
72'-30" RCP S=0.005FT/FT
RS ELEV=58.40
RRLS (R-7 OVER RS-2)
2.2.0A INV=53.60
16'-48" RCP S=0.021FT/FT
DMH-209
113'-48" RCP S=0.005FT/FT
97'-48" RCP S=0.005FT/FT
DIV-2
18'-15" HDPE S=0.050FT/FT
2.3.0 INV=55.00
12'-12" HDPE S=0.077FT/FT
38'-15" HDPE S=0.005FT/FT
RRLS 6'Lx9'W
2.3.0 INV=51.45
33'-15" HDPE S=0.011FT/FT
2.3.0 INV=54.85
RRLS 4'Lx6'W
CB-203 (DOUBLE)
RS ELEV=56.00
AUXILIARY DRAIN PIPE INV=53.85
SAND FILTER 2
SFCD ELEV=55.60
SEDIMENT FOREBAY
SM
212'-48" RCP S=0.006FT/FT
223'-48" RCP S=0.005FT/FT
2.3.0 INV=54.85
DMH-208
DMH-211
DMH-206
DMH-207
46'-12" HDPE S=0.011FT/FT
RTLD 8" TRENCH DRAIN RIM=61.35 INV=55.35
66'-12" HDPE S=0.010FT/FT
226'-48" RCP S=0.005FT/FT
230'-48" RCP S=0.005FT/FT
RTLD 8" TRENCH DRAIN RIM=61.35 INV=55.85
MATCHLINE - SEE SHEET C6.3
PIPE OUTLET(6" PVC) INV.=44.8'
Pond
ZONE AE EL 2-314
100' BUFFER AREA
N/F ST. MARYS CHURCH 330 WOOD STREET VOL.126 PG.462 MAP 1 LOT 2
N/F ST. MARYS CHURCH 330 WOOD STREET VOL.173 PG.212 MAP 1 LOT 1
DMH TF=44.30' INV.=37.3'
"C" CB TF=46.87' INV. IN(E)=41.7'(12"RCP) INV. OUT(S)=41.5'(15"RCP)
DMH TF=44.21' INV. IN(W)=36.2'(15"RCP) INV. IN(N)=35.9'(48"RCP) INV. OUT(S)=35.8'(48"RCP)
"C"CB TF=43.73' INV. OUT(S)=41.0'(12"x12"OPENING)
"CL"CB TF=57.18' INV. IN(W)=51.5'(12"RCP) INV.(S)=SILTED
"C"CB TF=57.23' INV. IN(E)=51.6'(12"PVC) INV. IN(N)=51.5'(8"RCP) INV. OUT(E)=51.5'(12"PVC)
SMH TF=60.74' INACCESSIBLE
SMH TF=60.18' INV. IN(NE)=55.5'(10"PVC) INV. IN(E)=55.2'(12"PVC) INV. IN(N)=54.2'(15"PVC) INV. OUT(S)=53.9'(18"PVC)
TF=42.68' INACCESSIBLE INV. IN(N)=41.0'(12"x12" OPENING) INV. IN(N)=35.9'(48"RCP) INV. OUT(S)=35.7'(48"RCP)
LOD/CFS
MHD
SFM
SWM

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

Scale: 1"=20'
0 10' 20' 40'

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DRAWN BY:	AKL
APPROVED BY:	DLP

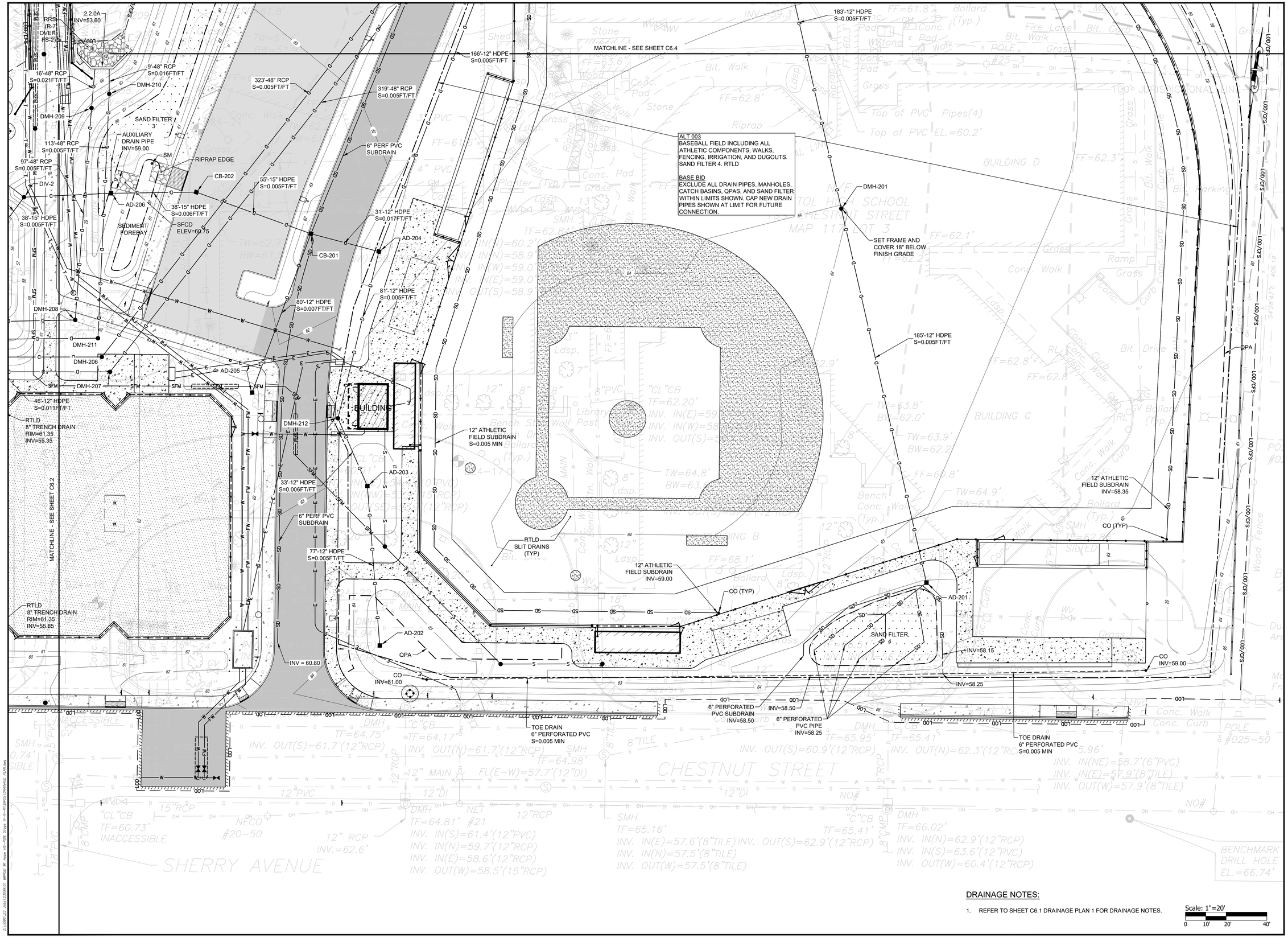
DRAWING TITLE:
DRAINAGE PLAN 2

DRAWING NO.:
C6.2

SHEET NO. 42 OF 93

Z:\...\23099.01 - Mt Hope HS--RIDE Stage III--Civil\03 DRAWINGS\C6.2 DRAINAGE PLAN 2.dwg

Item C1.



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APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 3

DRAWING NO.:
C6.3

SHEET NO. 43 OF 93

MATCHLINE - SEE SHEET C6.9

INV = 57.00
6" PVC
S = 0.005 FT/FT MIN
RIPRAP EDGE
CB-303
6" PERF PVC SUBDRAIN
INV = 57.40
SM
SEDIMENT FOREBAY
WET SWALE SFCD WITH WIER ELEV=59.20
RS ELEV=60.50
38'-12" RCP S=0.006FT/FT
67'-12" HDPE S=0.005FT/FT
6" PERF PVC SUBDRAIN
INV = 57.00
6" PVC
S = 0.005 FT/FT MIN
CB-304
RIPRAP EDGE
WET SWALE
6" PERF PVC SUBDRAIN
INV = 57.40
52'-15" HDPE S=0.005FT/FT
6" PERF PVC SUBDRAIN
INV = 57.00
CB-305
RIPRAP EDGE
6" PVC
S = 0.005 FT/FT MIN
6" PERF PVC SUBDRAIN
70'-18" HDPE S=0.005FT/FT
WET SWALE SFCD WITH WEIR (TYP) ELEV=59.20
AD-304 (PROVIDE OUTLET HOOD, SEE NOTE 6)
DMH-305
19'-15" RCP S=0.009FT/FT
THE CONTRACTOR SHALL FURNISH AND INSTALL FENCE FOOTINGS TO AVOID DRAINAGE AND UTILITY PIPES (TYP)
CB-307 (DOUBLE)
DMH-306
32'-18" HDPE S=0.006FT/FT
DMH-303
RRLS 8'Lx12'W
29'-18" RCP S=0.006FT/FT
INV = 59.00
19'-12" HDPE S=0.009FT/FT
64'-18" RCP S=0.005FT/FT
2.3.0 INV=55.60
12'-24" HDPE S=0.025FT/FT
DETENTION BASIN 2
17'-24" HDPE S=0.000FT/FT
2.1.0 INV=55.60
DMH-307
OCS-2
RS ELEV=60.10
RRS (R-8 OVER FS-3)
RRS (R-7 OVER FS-2)
RRS (R-7 OVER FS-2)
RRS (R-8 OVER FS-3)
23'-15" HDPE S=0.005FT/FT
DMH-203
RRLS (R-8 OVER FS-3) 5'LX7'W
2.3.0 INV=55.45
46'-12" HDPE S=0.007FT/FT
4'-48" RCP S=0.014FT/FT
DMH-204
DMH-202
2.2.0A INV=56.10
RRS (R-7 OVER FS-2)
11'-48" RCP S=0.007FT/FT
DMH-205
CO (TYP)
THE CONTRACTOR SHALL FURNISH AND INSTALL FENCE FOOTINGS TO AVOID DRAINAGE AND UTILITY PIPES (TYP)
12" ATHLETIC FIELD SUBDRAIN S=0.005 MIN
QPA
RTLD SLIT DRAINS (TYP)
183'-12" HDPE S=0.005FT/FT
RS ELEV=61.10
2.2.0A INV=53.60
RRS (R-7 OVER FS-2)
AD-210
INV = 60.00
166'-12" HDPE S=0.005FT/FT
MATCHLINE - SEE SHEET C6.3
9'-48" RCP S=0.016FT/FT
16'-48" RCP S=0.021FT/FT
DMH-210
323'-48" RCP S=0.005FT/FT
319'-48" RCP S=0.005FT/FT
MATCHLINE - SEE SHEET C6.5
LOD/CFS
SD
SM
FW
RRS
OS
QPA
Scale: 1" = 20'
0 10' 20' 40'

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 4

DRAWING NO.:
C6.4

SHEET NO. 44 OF 93

Z:_JOBS\23099.01 (MHS) Bristol MS Hope HS-RI\2 Design\Civil\Drawings\C6.4 DRAINAGE PLAN 4.dwg

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

PROPOSED HIGH SCHOOL BUILDING
FFE= 62.90

MATCHLINE - SEE SHEET C6.8

MATCHLINE - SEE SHEET C6.6

MATCHLINE - SEE SHEET C6.2

MATCHLINE - SEE SHEET C6.4

PROPOSED HIGH SCHOOL BUILDING
FFE= 62.90

FFE= 60.90

Scale: 1"=20'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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Bristol, Rhode Island

DAVID L POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
(CIVIL / L.A.)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 5

DRAWING NO.:
C6.5

SHEET NO. 45 OF 93

BASE BID
INCLUDE ALL DRAINAGE
SHOWN EXCEPT WALL DRAIN

MATCHLINE - SEE SHEET C6.7

REPLACE FRAME AND GRATE WITH FRAME AND COVER. REBUILD STRUCTURE AS REQUIRED TO SET RIM 12" BELOW FINISH GRADE.

CONNECT TO EX DRAIN
INV=44.10

CONNECT TO EX DRAIN
INV=45.80

151'-30" RCP
S=0.007FT/FT

RRLS
12'L X 17'W

2.3.0
INV=44.00

18"-36" RCP
S=0.006FT/FT

31'-36" RCP
S=0.006FT/FT

THE CONTRACTOR SHALL FURNISH AND INSTALL FENCE FOOTINGS TO AVOID DRAINAGE AND UTILITY PIPES (TYP)

DIV-1

SM

2.3.0
INV=46.00

SEDIMENT
FOREBAY

RRLS
4'L X 6'W

13'-12" RCP
S=0.005FT/FT

DETENTION
BASIN 1

15'

SFCD
ELEV=46.75

SAND
FILTER 1

AUXILIARY DRAIN PIPE
INV=45.00'

RS
ELEV=48.10

AD-412

24'-12" HDPE
S=0.010FT/FT

10'

RRLS
4'L X 5.7'W

INV=44.00

2.1.0
INV=45.00

2.1.0
INV=44.00

10'

RS
ELEV=48.10

OCS-5

17'-24" RCP
S=0.009FT/FT

CONNECT
TO EXISTING
DRAIN
INV=43.80

FES AND RRLS TO
REMAIN.
ELEV=43.40

159'-24" RCP
S=0.005FT/FT

31'-24" RCP
S=0.000FT/FT

OCS-1

DMH-403

5'-15" HDPE
S=0.005FT/FT

DMH-407

DUAL 15"
PERFORATED
HDPE
MANIFOLD
S=0.0025 MIN

RTLD
SLOT DRAIN, SLOT
DRAIN CB & TRENCH
DRAIN (TYP)

12" X1" FLAT
DRAINS (TYP)

TOE DRAIN
6" PERFORATED PVC
S=0.005 MIN

BUILDING
FFE= 52.25

CB-405

AD-408
(PROVIDE OUTLET
HOOD, SEE NOTE 6)

CONNECT TO
WALL DRAIN
INV=58.00

19'-12" HDPE
S=0.012FT/FT

INV=51.40

31'-6" SDR 35 PVC
S=0.241FT/FT

INV=48

DMH-405

INV=47.90'

163'-15" HDPE
S=0.005FT/FT

INV=47.70

8'-12" HDPE
S=0.010FT/FT

AD-411

5'-12" HDPE
S=0.005FT/FT

AD-407
(PROVIDE OUTLET
HOOD, SEE NOTE 6)

DUAL 15" HDPE
INV= 49.00

19'-12" HDPE
S=0.005FT/FT

AD-406
(PROVIDE OUTLET
HOOD, SEE NOTE 6)

28'-12" HDPE
S=0.005FT/FT

AD-405
(PROVIDE OUTLET
HOOD, SEE NOTE 6)

88'-12" HDPE
S=0.006FT/FT

AD-404

MATCHLINE - SEE SHEET C6.5

21'-24" RCP
S=0.006FT/FT

DMH-107

2.3.0
INV=44.00

RRLS
10'LX14'W
INV=44.00

0.5% (0.5% Subgrade Slope)

0.5% (0.5% Subgrade Slope)

MATCHLINE - SEE SHEET C6.1

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DAVID L POTTER
No. 8665
REGISTERED
PROFESSIONAL ENGINEER
(CIVIL)
06.02.25

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 6

DRAWING NO.:
C6.6

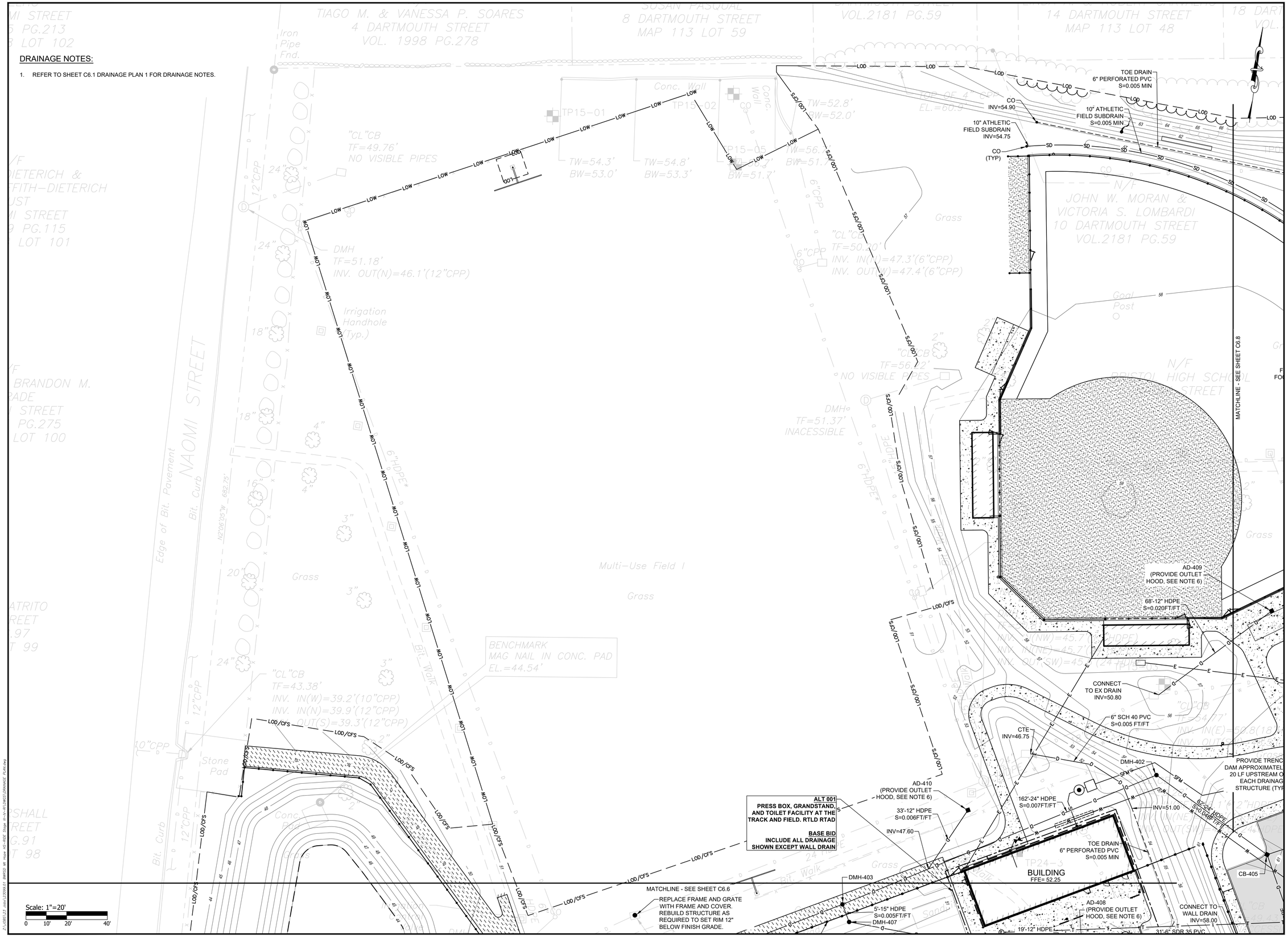
SHEET NO. 46 OF 93

Z:_JOBS\23.01_John\23099.01 BWRSD Mt Hope HS-RIDE Ships III-Art-BIM\CS1\DRAWINGS_PLAN.dwg

Item C1.

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.



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235 HIGH STREET
BRISTOL, RI 02809
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DAVID L. POTTER
No. 8665
06.02.25
REGISTERED
PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:

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1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DRAINAGE PLAN 7

DRAWING NO.:

C6.7

SHEET NO. 47 OF 93

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

AD-401
AD-402
AD-403 (PROVIDE OUTLET HOOD, SEE NOTE 6)
AD-409 (OUTLET NOTE 6)
AD-302
AD-303
AD-305 (PROVIDE OUTLET HOOD, SEE NOTE 6)
CB-301 (PROVIDE OUTLET HOOD, SEE NOTE 6)
CB-302
CB-401
CB-405
DMH-404
DMH-310
DMH-302
DMH-301(OWS)
DMH-401
CO INV=55.30
CO INV=60.50
CO INV=54.55
CO INV=54.55
CO INV=54.00
CO INV=54.40
INV=53.80
INV=53.40
INV = 58.30
INV = 58.50
6" ATHLETIC FIELD SUBDRAIN INV=59.10
6" ATHLETIC FIELD SUBDRAIN S=0.005 MIN
6" ATHLETIC FIELD SUBDRAIN S=0.005 MIN
ATHLETIC FIELD SUBDRAIN INV=57.15
10" ATHLETIC FIELD SUBDRAIN INV=54.75
TOE DRAIN 6" PERFORATED PVC S=0.005 MIN
TOE DRAIN 6" PERFORATED PVC S=0.005 MIN
6" PERF PVC SUBDRAIN
6" PERF PVC SUBDRAIN
6" PERFORATED PVC SUBDRAIN S=0.005 MIN
8" TRENCH DRAIN RIM = 58.70 INV = 54.30
6" PERFORATED PVC SUBDRAIN S=0.005 MIN
RTLD SLIT DRAINS (TYP)
RTLD SAND CHANNEL DRAIN (TYP)
RTLD SYNTHETIC TURF SYSTEM FOR RECREATIONAL AREA
RTPD ROOF DRAIN INV=57.45
192'-12" HDPE S=0.005FT/FT
198'-12" HDPE S=0.005FT/FT
57'-18" HDPE S=0.006FT/FT
86'-18" HDPE S=0.005FT/FT
193'-18" HDPE S=0.005FT/FT
51'-15" HDPE S=0.006FT/FT
28'-15" HDPE S=0.005FT/FT
32'-15" HDPE S=0.006FT/FT
26'-12" HDPE S=0.007FT/FT
48'-12" HDPE S=0.006FT/FT
29'-12" HDPE S=0.007FT/FT
88'-24" HDPE S=0.005FT/FT
46'-12" HDPE S=0.048FT/FT
6'-24" HDPE S=0.04FT/FT
6'-12" SCH 40 PVC S=0.018FT/FT
81'-6" PVC PERFORATED PIPE S=0.018FT/FT
38'-12" RCP S=0.006FT/FT
60'-12" HDPE S=0.006FT/FT
PROVIDE TRENCH DAM APPROXIMATELY 20 LF UPSTREAM OF EACH DRAINAGE STRUCTURE (TYP)
THE CONTRACTOR SHALL FURNISH AND INSTALL FENCE FOOTINGS TO AVOID DRAINAGE AND UTILITY PIPES (TYP)
AUXILIARY DRAIN PIPE INV=58.80
RRA 4'Lx6'W
BIORETENTION AREA 4
QPA
75' BUFFER ZONE
PROPOSED HIGH SCHOOL BUILDING FFE= 62.90
MATCHLINE - SEE SHEET C6.5
MATCHLINE - SEE SHEET C6.7
MATCHLINE - SEE SHEET C6.9
CONNECT TO WALL DRAIN INV=58.00
35 PVC
18 DARTMOUTH STREET VOL.788 PG.155
20 DARTMOUTH STREET VOL.1472 PG.333
24 DARTMOUTH STREET VOL.2211 PG.49
28 DARTMOUTH STREET VOL.1269 PG.296
N/F PAULA MADDEN 34 DARTMOUTH STREET MAP 113 LOT 19-27
DARTMOUTH STREET
N81°12'19"E 1726.18'
Football Field
Goal Post
Grass
Woods
Ldsp.
Wooded
TP08-01
TP08-02
TP10-01
TP15-04
B24-14
SCALE: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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199 Chestnut Street
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 8

DRAWING NO.:
C6.8
SHEET NO. 48 OF 93

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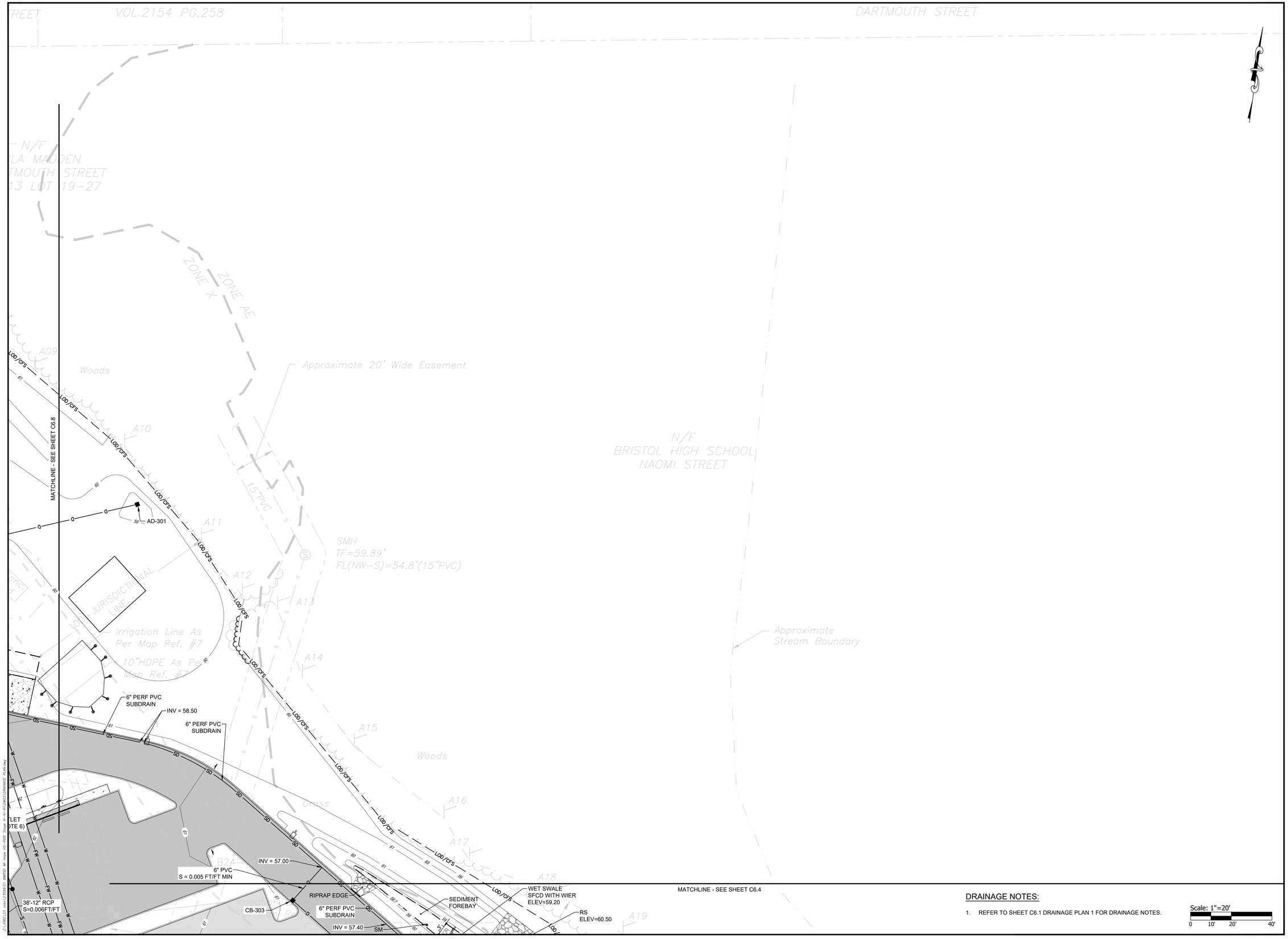

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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(CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DRAINAGE PLAN 9

DRAWING NO.:
C6.9
SHEET NO. 49 OF 93

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MATCHLINE - SEE SHEET C7.6

MATCHLINE - SEE SHEET C7.2

UNDERGROUND INFILTRATION SYSTEM 01

BENCHMARK
MAG NAIL IN CONC. WALK
EL.=38.42'

BENCHMARK
DRILL HOLE IN CONC. WALK
EL.=45.25'

CHESTNUT STREET

N/F
ERIC CABRAL
10 NAOMI STREET
VOL.2133 PG.19

N/F
ST. MARYS CHURCH
330 WOOD STREET
VOL.85 PG.447
MAP 1 LOT 3

Scale: 1"=20'
0 10' 20' 40'

UTILITY NOTES:

1. ALL SLOPES PROVIDED ARE FT/FT
2. ALL SEWER MANHOLES SHALL BE 4' DIA. UNLESS NOTED OTHERWISE.
3. REFER TO ELECTRICAL DRAWINGS FOR INFORMATION ON ELECTRIC AND TEL/DATA DUCT BANKS AND STRUCTURES. ALL ELECTRICAL FACILITIES DISPLAYED FOR REFERENCE ONLY.
4. CONTRACTOR SHALL FURNISH AND INSTALL ALL BENDS, TEES, AND FITTINGS ON WATER MAINS AS SERVICES AS REQUIRED.
5. REFER TO IRRIGATION DRAWINGS FOR INFORMATION ON YARD HYDRANTS AND APPURTENANCES.
6. REFER TO "NOTES" FOR ADDITIONAL NOTES.

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

PARE

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BRISTOL, RI 02809
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06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 1

DRAWING NO.:
C7.1

SHEET NO. 50 OF 93

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MATCHLINE - SEE SHEET C7.5

MATCHLINE - SEE SHEET C7.1

MATCHLINE - SEE SHEET C7.3

HYD (TYP)

RTED PULL BOX

THE CONTRACTOR SHALL FURNISH AND INSTALL FENCE FOOTINGS TO AVOID UTILITY PIPES (TYP)

RTED (TYP)

RTED

RTED UP

SEDIMENT FOREBAY

BIORETENTION AREA 2

BIORETENTION AREA-1

SAND FILTER 2

SAND FILTER 5

PIPE OUTLET(6" PVC) INV.=44.8'

SEWER FORCE MAIN INV. 54.90

SMH BOLTED FRAME AND COVER RIM= 58.60

FURNISH AND INSTALL INSULATION AROUND SEWER FORCE MAIN

6" SDR-21 PVC SEWER FORCE MAIN

SMH-09 FORCE MAIN CLEANOUT MANHOLE

SEDIMENT FOREBAY

SEWER FORCE MAIN INV. ELEV.= 54.90

SEWER FORCE MAIN INV. ELEV.= 55.75

SMH BOLTED FRAME AND COVER RIM=60.85

CTE

LOD/CFS

LOD

SFM

OHW

SD

DS

FW

D

E

T

W

SW

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

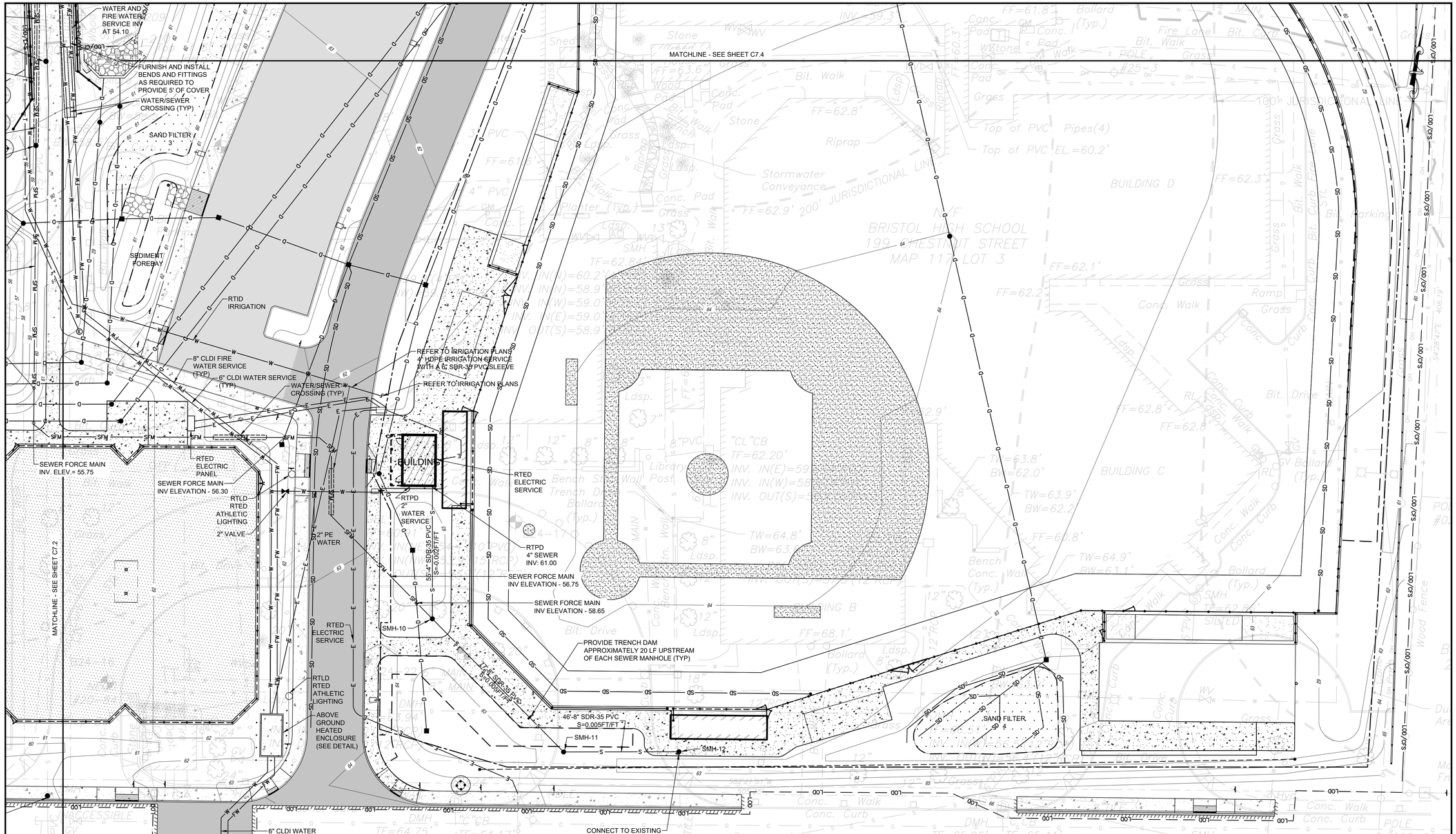
DRAWING TITLE:

UTILITY PLAN 2

DRAWING NO.:
C7.2

SHEET NO. 51 OF 93

Z:\JOBS\23.1 Jobs\23099.01 BWRSD MT Hope HS-RIDE Slope III-Civil\CAD\C3 UTILITY PLAN.dwg



SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

Scale: 1"=20'
0 10' 20' 40'

Item C1.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 3

DRAWING NO.:
C7.3

SHEET NO. 52 OF 93

MATCHLINE - SEE SHEET C7.9

SEWER INVERT TABLE			
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE			
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

MATCHLINE - SEE SHEET C7.5

MATCHLINE - SEE SHEET C7.3

Scale: 1"=20'

0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
06.02.25

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

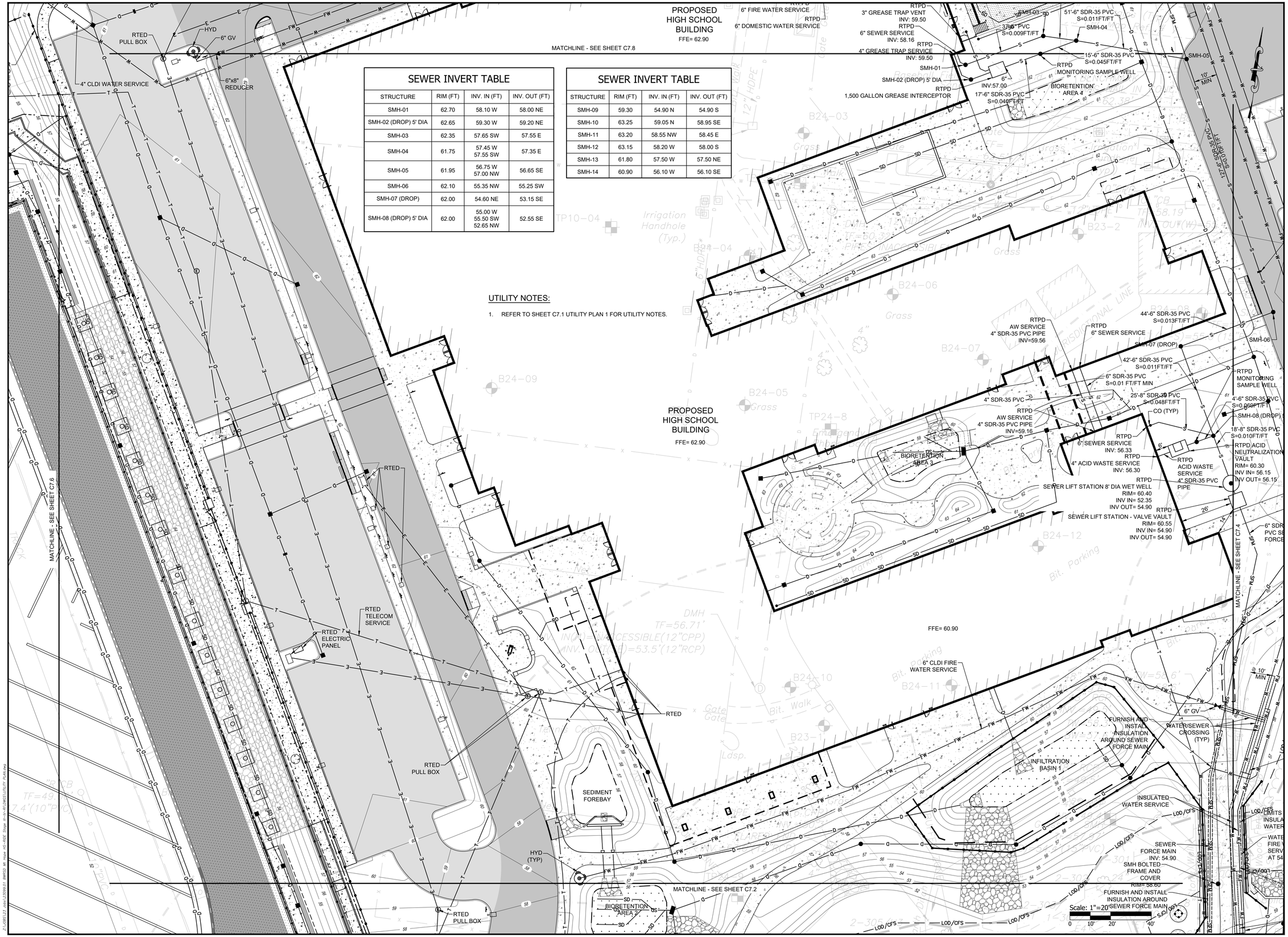
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 4

DRAWING NO.:
C7.4

SHEET NO. 53 OF 93

Item C1.



SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

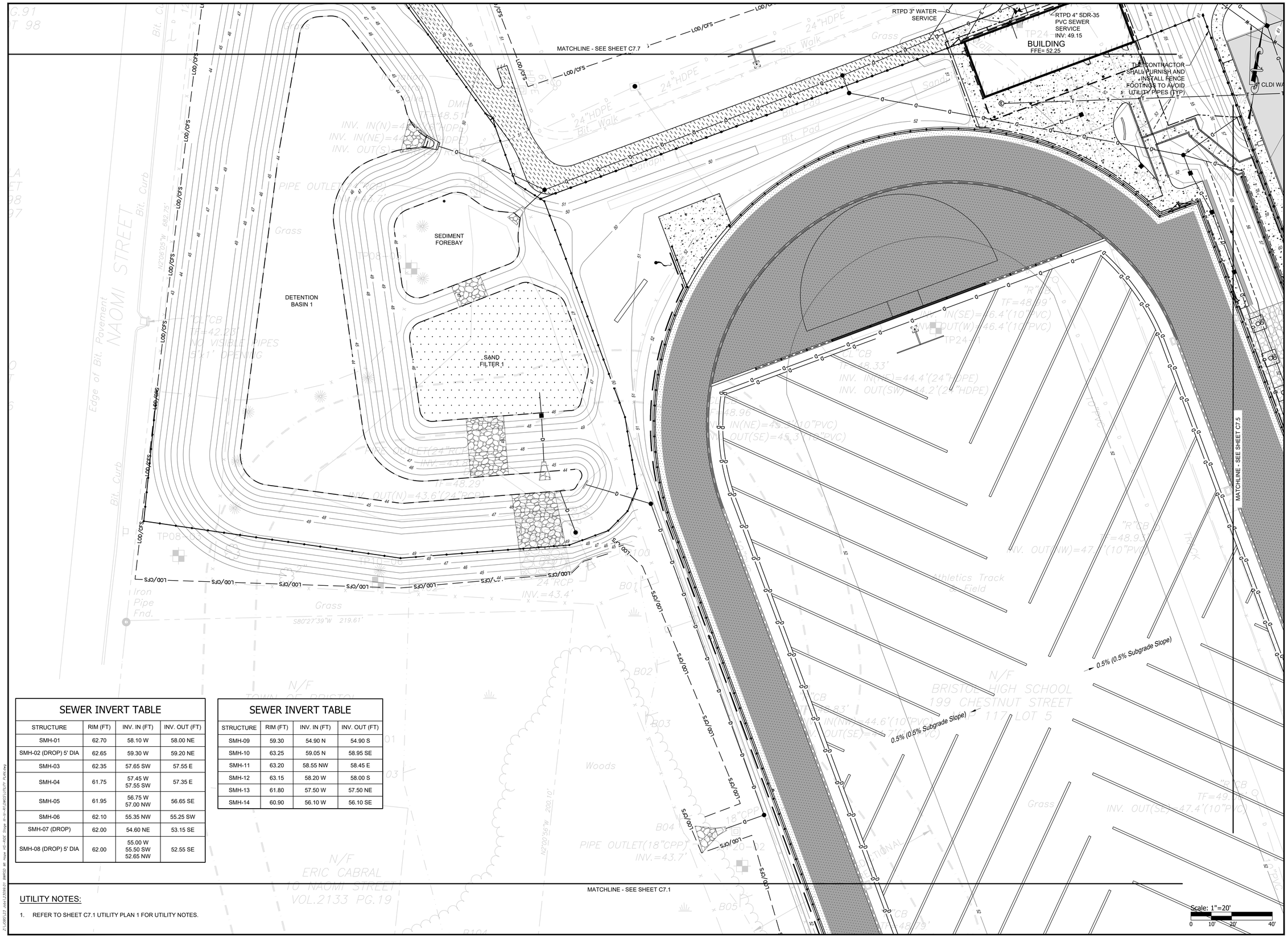
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 5

DRAWING NO.:
C7.5

SHEET NO. 54 OF 93



SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

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PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
04.02.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 6

DRAWING NO.:
C7.6

SHEET NO. 55 OF 93

SEWER INVERT TABLE

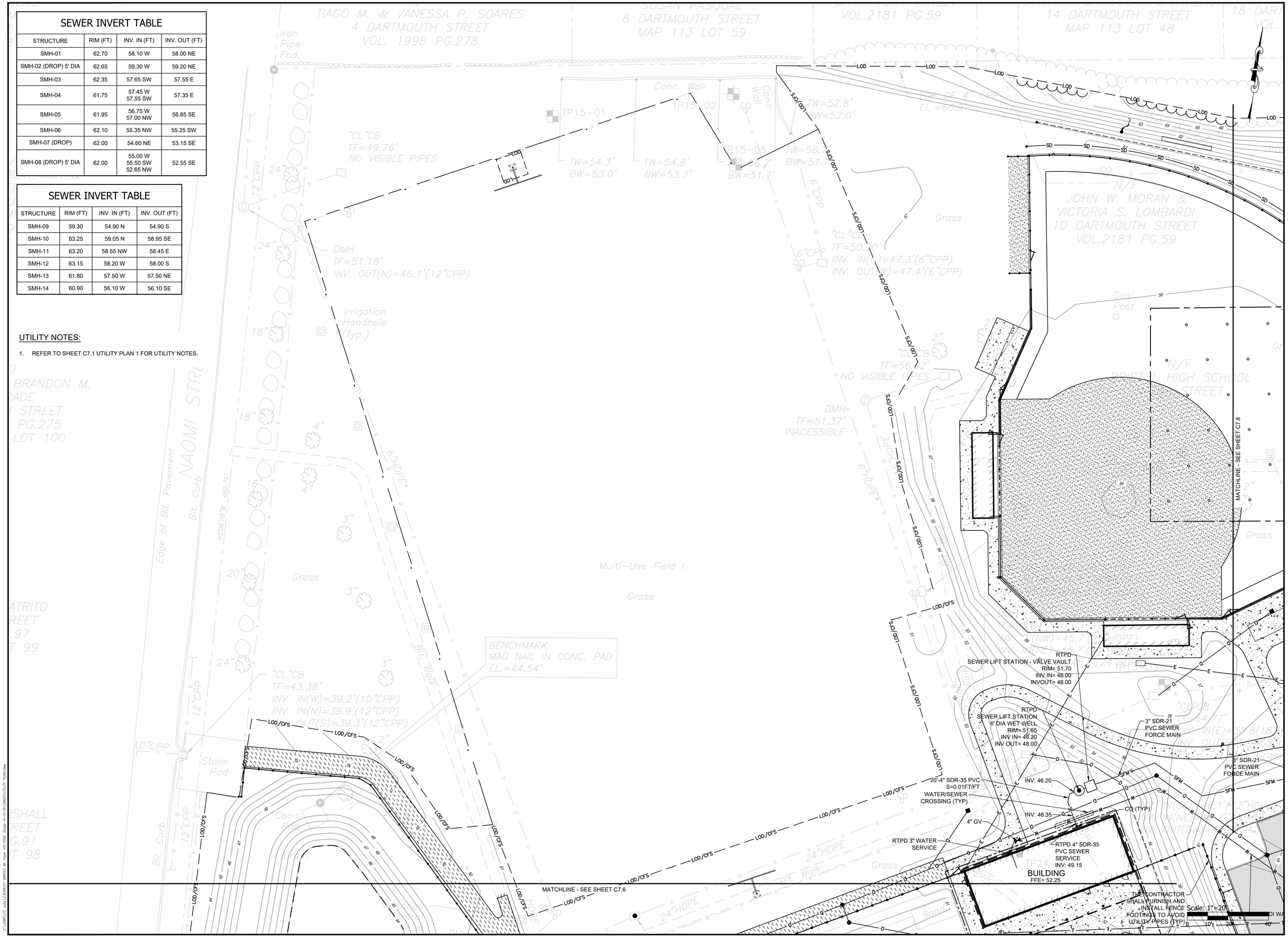
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.



OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 7

DRAWING NO.:
C7.7

SHEET NO. 56 OF 93

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SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

ALT-005
RTMD GEOTHERMAL WELL FIELD, GEOTHERMAL WELLS, GEOTHERMAL VAULT, AND GEOTHERMAL UTILITY CONNECTION

BASE BID
RTLD LOAM AND SEED

PROPOSED HIGH SCHOOL BUILDING
FFE= 62.90

MATCHLINE - SEE SHEET C7.7

MATCHLINE - SEE SHEET C7.9

MATCHLINE - SEE SHEET C7.5

SCALE: 1" = 20'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 8

DRAWING NO.:
C7.8
SHEET NO. 57 OF 93



SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

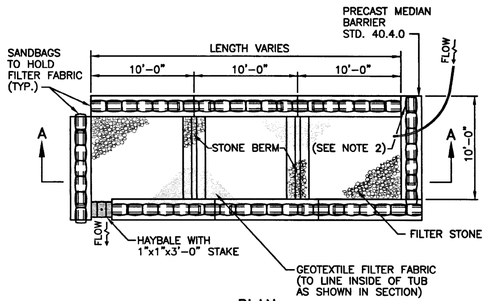
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

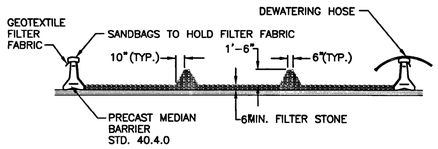
DRAWING TITLE:
UTILITY PLAN 9

DRAWING NO.:
C7.9
SHEET NO. 58 OF 93

Z:\JOBS\23099.01 Bristol HS\CAD\Sheets\C7.9 UTILITY PLAN 9.dwg Layout: C7.9 UTILITY PLAN 9 Xref: ...\Xref\C7.8 UTILITY PLAN 8.dwg



PLAN



SECTION

NOTS:
1. SHALL BE IN ACCORDANCE WITH SECTION 208 OF THE R.I. STANDARD SPECIFICATIONS.
2. PROVIDE ADDITIONAL SAND BAGS AS REQUIRED TO FILL SPACE BETWEEN ADJACENT BARRIERS.

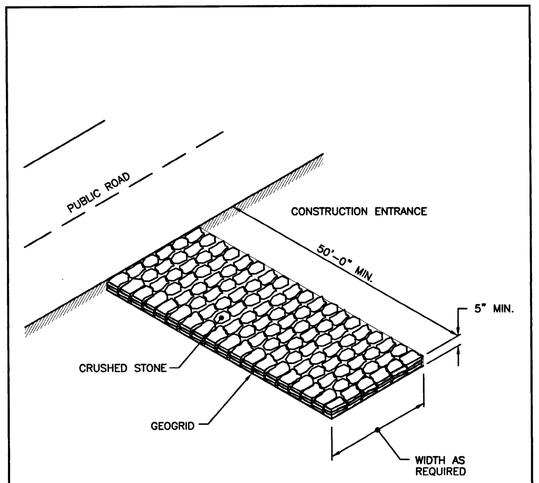
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

DEWATERING BASIN

JUNE 15, 1998 — ISSUE DATE

R.I. STANDARD 9.7.0



NOTE:
SHALL BE IN ACCORDANCE WITH SECTION 211 OF THE R.I. STANDARD SPECIFICATIONS.

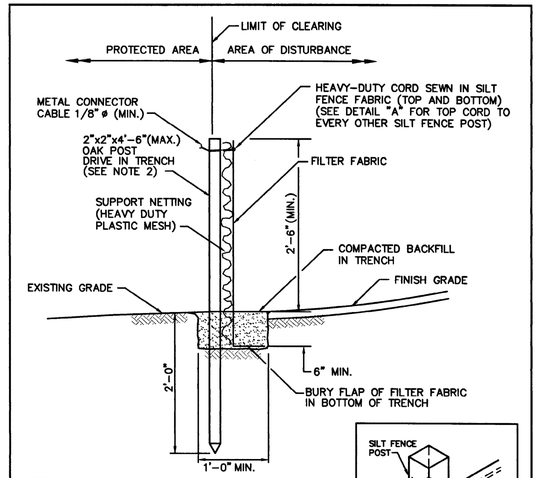
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

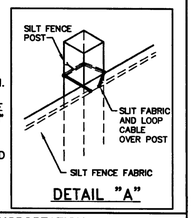
CONSTRUCTION ACCESS

JUNE 15, 1998 — ISSUE DATE

R.I. STANDARD 9.9.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
2. 2"x2"x4'-6"(MAX.) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAX.) O.C. IN WETLAND AREAS AND 4'-0" (MAX.) O.C. IN WETLAND RAVINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
3. 1"x1"x4'-6"(MIN.) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
4. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.



DETAIL "A"

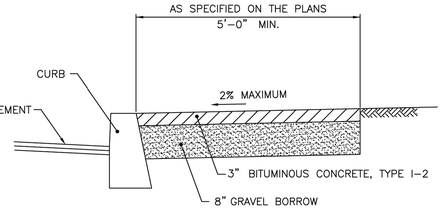
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

SILT FENCE DETAIL

JUNE 15, 1998 — ISSUE DATE

R.I. STANDARD 9.2.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. FOR CURB SETTING DETAIL REFERENCE STD. 7.6.0.

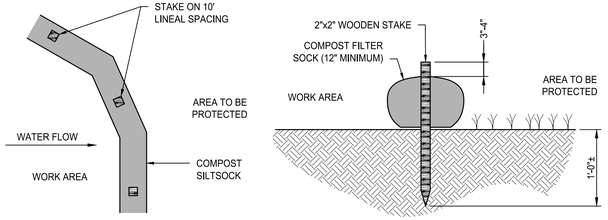
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	3/1/05
2	MLP	06/01/10

BITUMINOUS CONCRETE SIDEWALK

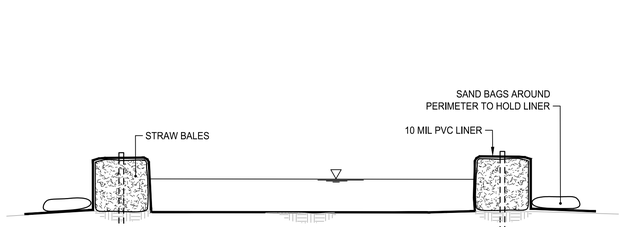
JUNE 15, 1998 — ISSUE DATE

R.I. STANDARD 43.2.0



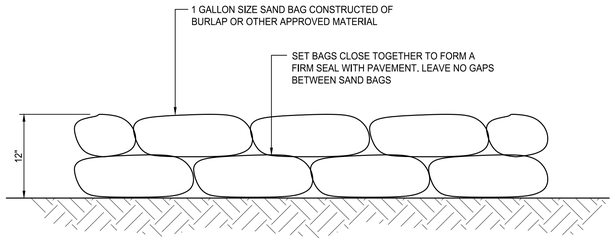
NOTES:
1. COMPOST/ SOIL/ ROCK/ SEED FILL TO MEET APPLICATION REQUIREMENTS.
2. COMPOST MATERIAL TO BE REMOVED OR DISPERSED ON SITE AS DETERMINED BY ENGINEER.
3. IF SOCK NETTING MUST BE JOINED, FIT BEGINNING OF NEW SOCK OVER END OF OLD SOCK, OVERLAPPING BY 2 FEET AND STACK OVERLAP, IF SOCK NETTING IS NOT JOINED, OVERLAP OLD SOCK WITH NEW ONE BY MINIMUM OF 2 FEET.

COMPOST FILTER SOCK DETAIL
NOT TO SCALE

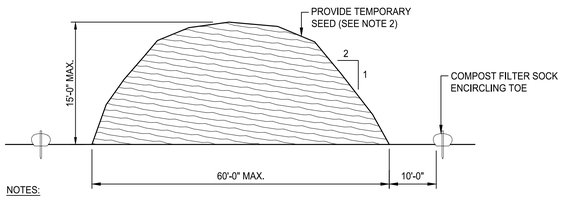


NOTE:
1. MINIMUM PLAN DIMENSIONS SHALL BE 10' X 10'.

CONCRETE WASHOUT FACILITY
NOT TO SCALE

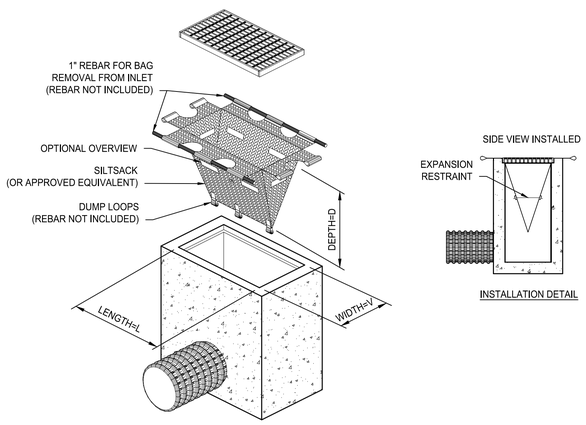


SAND BAG EROSION CONTROL BARRIER
NOT TO SCALE

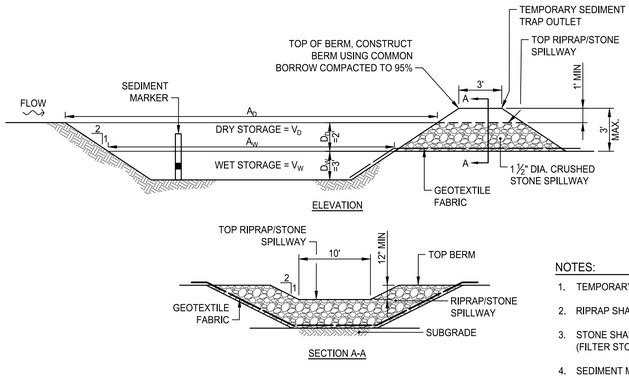


NOTES:
1. STOCKPILE AREA SHALL NOT EXCEED SPECIFIED DIMENSIONS WITHOUT APPROVAL FROM ENGINEER.
2. STOCKPILED ERODIBLE MATERIAL THAT WILL NOT BE USED FOR GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEED IMMEDIATELY FOLLOWING PLACEMENT. USE RIDOT STD. M.18.10.5 SEED MIX.

ERODIBLE MATERIAL STOCKPILE
NOT TO SCALE



TEMPORARY INLET PROTECTION
NOT TO SCALE



TST #	L_W (FT)	W_W (FT)	A_W (SF)	V_W (CF)	V_D (CF)	TOTAL STORAGE $V_W + V_D$ (CF)
TST-1	85	45	3825	9754	8754	18,260
TST-2	61	30	1830	4667	4452	9119
TST-3	70	35	2450	6247	5804	12,052
TST-4	70	30	2100	5355	5064	10,419
TST-5	70	30	2100	5355	5064	10,419
TST-6	90	45	4050	10,327	9244	19,572
TST-7	90	45	4050	10,327	9244	19,572
TST-8	85	40	3400	8670	7864	16,534
TST-9	30	25	750	1913	2004	3,917

NOTES:
1. TEMPORARY SEDIMENT TRAPS SHALL BE CLEANED OR REMOVED EVERY 6 MONTHS.
2. RIPRAP SHALL MEET RIDOT STANDARD SPECIFICATION M.10.03.2.
3. STONE SHALL MEET RIDOT STANDARD SPECIFICATION M.01.09 TABLE I, COLUMN V (FILTER STONE).
4. SEDIMENT MARKER SHALL BE INSTALLED SUCH THAT TOP OF BLACK ENAMEL BAND IS 1.5' FROM THE BOTTOM OF THE SEDIMENT TRAP.

TEMPORARY SEDIMENT TRAP DETAIL
NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER — No. 8665 — 06.02.25 — REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

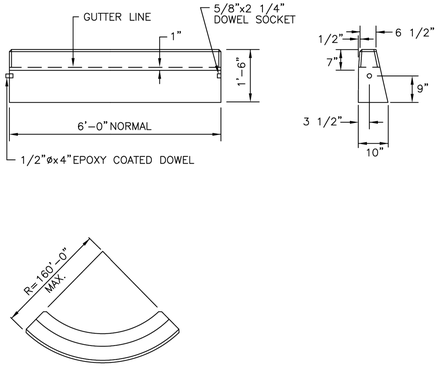
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 1

DRAWING NO.:
C8.1

SHEET NO. 59 OF 93

Z:\...\23099.01 Mt Hope HS-RIDEP Stage III-IV-RI\CIVIL\SITE\C8.1.dwg



CIRCULAR CURB

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0".
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0"RADIUS.
5. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

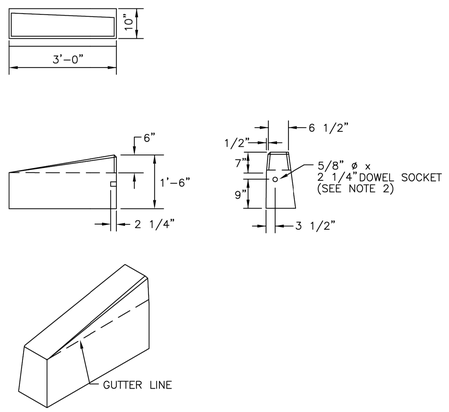
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

PRECAST CONCRETE CURB

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.1.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION, FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ø x 4" EPOXY COATED DOWEL.
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
5. LEFT AND RIGHT SECTIONS SHALL BE INSTALLED AS REQUIRED.

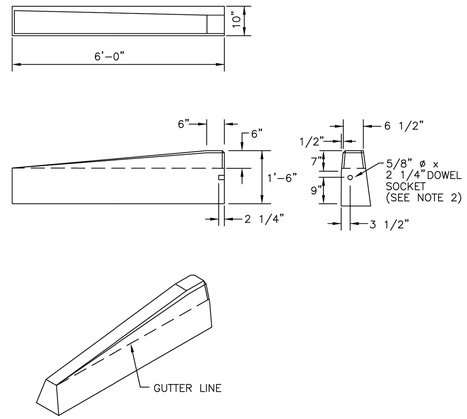
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05
2	MLP	06/01/10

3'-0" PRECAST CONCRETE TRANSITION CURB

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.1.1



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION. FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ø x 4" EPOXY COATED DOWEL.
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

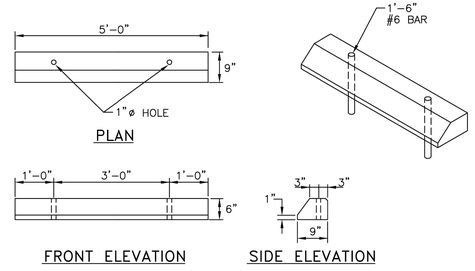
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

6'-0" PRECAST CONCRETE TRANSITION CURB

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.1.2



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. ALL EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
3. ALL SURFACES TO HAVE A SPONGE FLOAT FINISH.

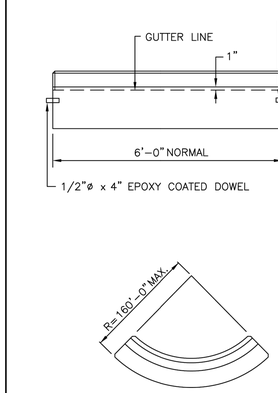
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

PRECAST CONCRETE CAR STOPS

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.2.4



CIRCULAR CURB

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR PIECES TO BE 3'-0".
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
5. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.

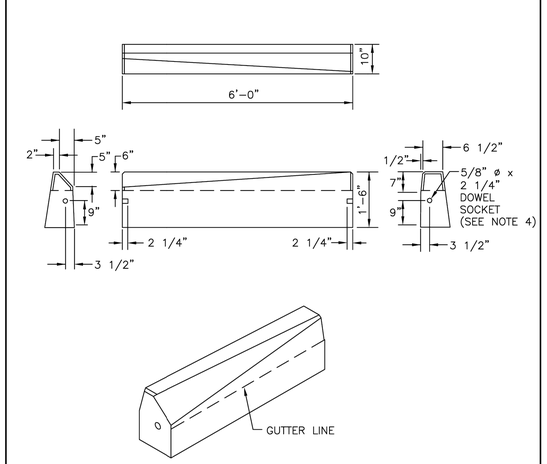
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

PRECAST CONCRETE SLOPED FACE CURB

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.2.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
3. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
4. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION. FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ø x 4" EPOXY COATED DOWEL.

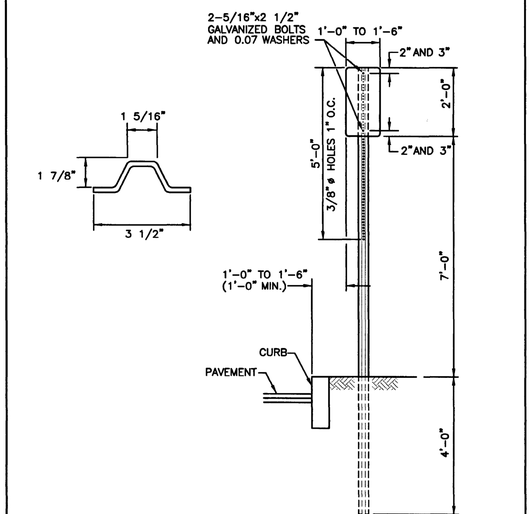
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

PRECAST CONCRETE TRANSITION CURB (VERTICAL FACE TO SLOPED FACE)

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.2.2



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE STANDARD SPECIFICATIONS.
2. PARKING SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOR MORE THAN 45° WITH A LINE PARALLEL TO FLOW OF TRAFFIC, 1'-6" (1'-0" MIN.) FROM EDGE OF CURB FACE.

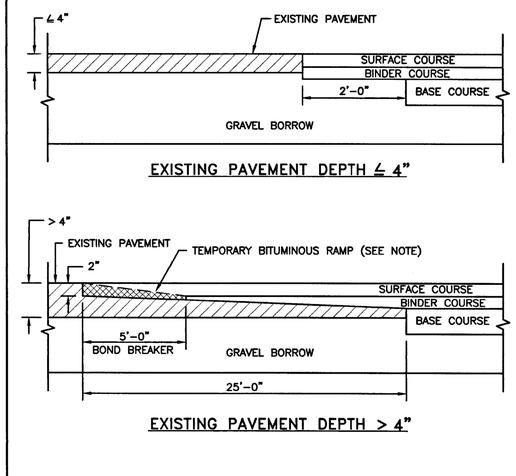
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

PARKING SIGN MOUNTING DETAIL

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 24.6.0



NOTE:
A BOND BREAKER (TAPERED OR EQUIVALENT) WILL BE PLACED 5'-0" FROM THE JOINT AND COVERED WITH THE BINDER COURSE AS THE TEMPORARY RAMP. PRIOR TO PLACING THE SURFACE COURSE, THE BINDER COURSE AND BOND BREAKER WILL BE REMOVED.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

TRANSVERSE PAVEMENT CUT AND MATCH

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 47.1.1

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

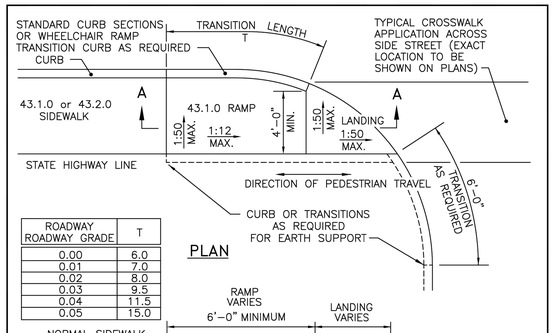
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 2

DRAWING NO.:
C8.2

SHEET NO. 60 OF 93

Z:_JOBS\23099.01 Mt Hope HS-RIDE Stage III-IV-V\PERMITS\DETAILS.dwg



ROADWAY ROADWAY GRADE	T
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. THIS DETAIL IS TO BE USED ONLY WHEN STATE RIGHT-OF-WAY IS LIMITED TO BACK OF SIDEWALK, AND SIDEWALK IS NARROW WITH NO PEDESTRIAN TRAFFIC FROM SIDE STREET.
3. WHEN ANY OBSTRUCTION LOCATED IN THE SIDEWALK FALLS WITHIN A CROSSWALK AREA, IF POSSIBLE, THE OBSTRUCTION SHALL BE PLACED SUCH THAT IT FALLS OUTSIDE OF THE RAMP.
4. AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK, AND IT IS TO BE CENTERED WHENEVER POSSIBLE.
5. DRAINAGE FACILITIES ARE TO BE LOCATED UP-GRADE OF ALL WHEELCHAIR RAMPS.
6. LOCATION OF WHEELCHAIR RAMPS IS AS SHOWN ON CONTRACT DRAWINGS.
7. ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
8. WHERE THE ROAD PROFILE EXCEEDS 5% THE TRANSITION LENGTH (T) SHALL BE EIGHTEEN FEET (18'-0").
9. THE ENTRANCE OF THE WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
10. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0"(GREATER LENGTHS PREFERRED).
11. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

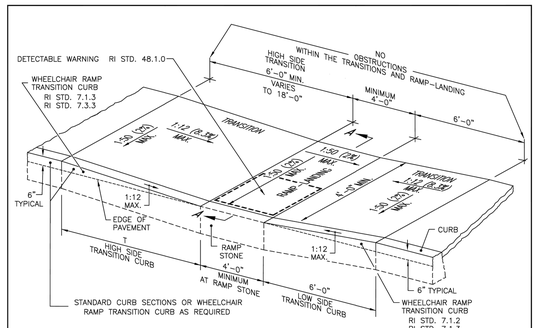
REVISIONS		
NO.	BY	DATE
1	MLP	Dec 2005
2	MLP	Sep 2012

WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS

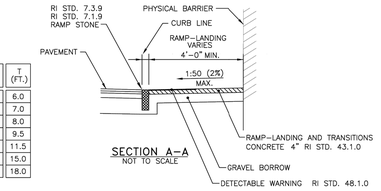
CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 43.3.1

NOTES:
1. FOR ALL LOCATIONS, DETECTABLE WARNING PANELS SHALL BE INSTALLED IN ACCORDANCE WITH LANDSCAPE DRAWINGS AND SPECIFICATION 321212 CONCRETE PAVING.



ISOMETRIC VIEW
NOT TO SCALE



ROADWAY PROFILE GRADE	T (FT.)
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0
> 0.05	18.0

SECTION A-A
NOT TO SCALE

NOTES:
1. THIS DETAIL MAY BE USED WHEN A PHYSICAL BARRIER IS PRESENT AND THERE IS INSUFFICIENT ROOM TO PROPERLY CONSTRUCT AN ADA ACCESSIBLE RAMP AND LANDING; A TECHNICAL INFEASIBILITY FINDING IS REQUIRED.
2. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE RI STANDARD SPECIFICATIONS.
3. THE RAMP-LANDING AND TRANSITIONS SHALL BE FREE OF OBSTRUCTIONS.
4. LOCATION OF THE RAMP-LANDING IS AS SHOWN ON CONTRACT DRAWINGS.
5. AN UNOBSTRUCTED PEDESTRIAN ACCESS ROUTE (PATH OF TRAVEL) WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.
6. THE ENTRANCE OF THE RAMP-LANDING SHALL BE FLUSH WITH THE PAVEMENT.
7. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0"(GREATER LENGTHS PREFERRED).
8. ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
9. DETECTABLE WARNINGS TO BE PAID FOR UNDER SECTION 942 OF THE RI STANDARD SPECIFICATIONS

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

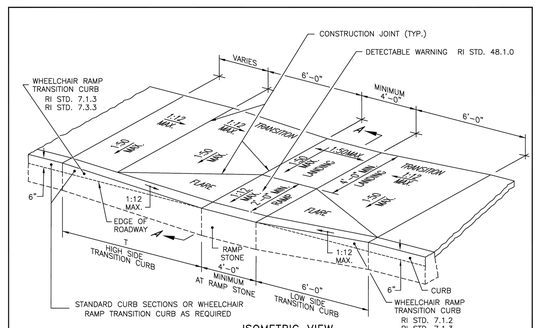
REVISIONS		
NO.	BY	DATE

RAMP-LANDING FOR NARROW SIDEWALK

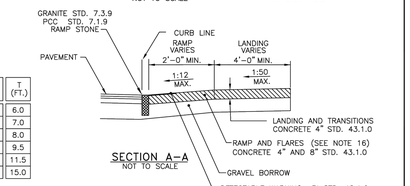
CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — MARCH 31, 2015 ISSUE DATE

R.I. STANDARD 43.3.2

NOTES:
1. FOR ALL LOCATIONS, DETECTABLE WARNING PANELS SHALL BE INSTALLED IN ACCORDANCE WITH LANDSCAPE DRAWINGS AND SPECIFICATION 321212 CONCRETE PAVING.



ISOMETRIC VIEW
NOT TO SCALE



ROADWAY PROFILE GRADE	T (FT.)
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0

SECTION A-A
NOT TO SCALE

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE RI STANDARD SPECIFICATIONS.
2. WHEN ANY OBSTRUCTION LOCATED IN THE SIDEWALK FALLS WITHIN A CROSSWALK AREA, THE WHEELCHAIR RAMP SHALL BE PLACED SUCH THAT THE OBSTRUCTION FALLS OUTSIDE OF THE RAMP.
3. AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK, AND IT IS TO BE CENTERED WHENEVER POSSIBLE.
4. DRAINAGE FACILITIES ARE TO BE LOCATED UP-GRADE OF ALL WHEELCHAIR RAMPS.
5. LOCATION OF WHEELCHAIR RAMPS IS AS SHOWN ON CONTRACT DRAWINGS.
6. IN NO INSTANCE SHALL THE SIDEWALK CROSS SLOPE EXCEED 1:50 EXCEPT WITHIN THE RAMP AREA.
7. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.
8. THE WHEELCHAIR RAMP SLOPE AND SIDE SLOPES (TRANSITIONS), MUST NOT BE STEEPER THAN 1:12. HOWEVER, THESE SLOPES MAY BE FLATTER THAN 1:12 WHEN WARRANTED BY SURROUNDING CONDITIONS.
9. WHERE THE ROAD PROFILE EXCEEDS 5% THE HIGH SIDE TRANSITION LENGTH (T) SHALL BE EIGHTEEN FEET (18'-0").
10. IN NO CASE, WHERE A STOP LINE IS WARRANTED, SHALL A RAMP BE PLACED BEHIND THE STOP LINE.
11. THE ENTRANCE OF THE WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
12. THE WHEELCHAIR RAMP SHALL BE CENTERED RADIALLY, OPPOSITE THE RADIUS POINT WHEN POSSIBLE.
13. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).
14. ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
15. DETECTABLE WARNINGS TO BE PAID FOR UNDER SECTION 942 OF THE RI STANDARD SPECIFICATIONS
16. 8" CONCRETE DEPTH FOR RADIUS WHEELCHAIR RAMPS ONLY. USE 4" DEPTH FOR TANGENT (MID-BLOCK) LOCATIONS.

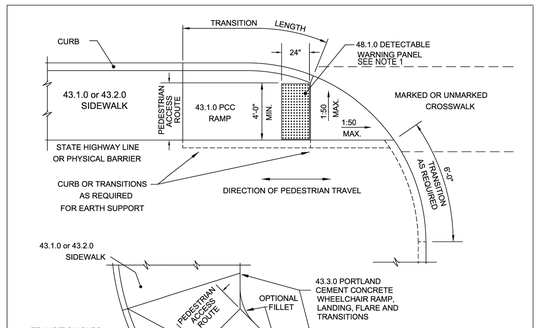
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

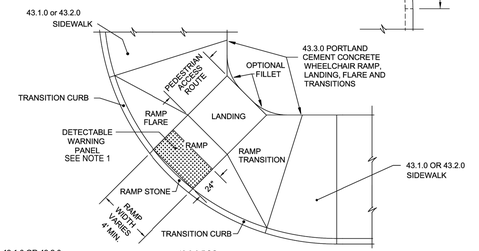
REVISIONS		
NO.	BY	DATE
1	MLP	Oct 2005
2	MLP	Jun 2008
3	MLP	Sep 2012

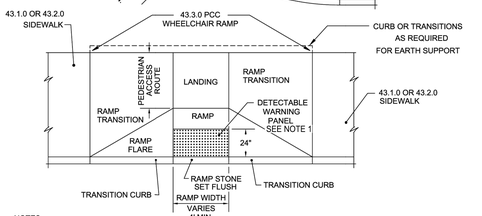
WHEELCHAIR RAMP

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 43.3.0







NOTES
1. CONTRACTOR SHALL PROVIDE DETECTABLE WARNING PANELS. REFER TO LANDSCAPE SPECIFICATION 321313 CONCRETE PAVING FOR PANEL PRODUCT SPECIFICATIONS.

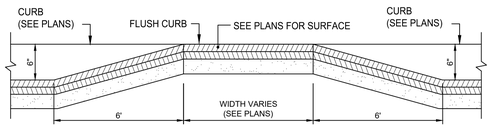
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 2005
2	MLP	Sep 2012

DETECTABLE WARNING PANEL PLACEMENT

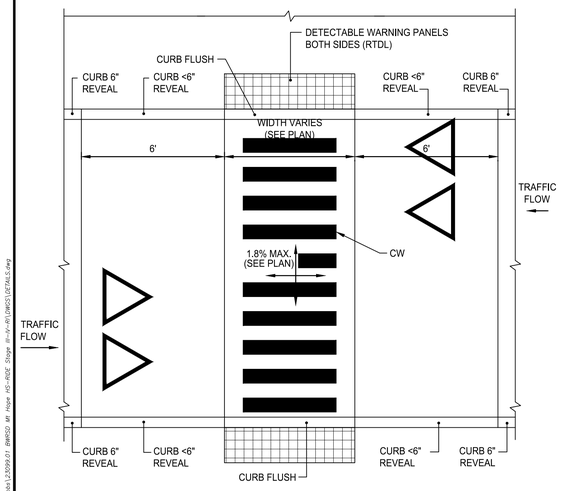
CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 48.1.0M

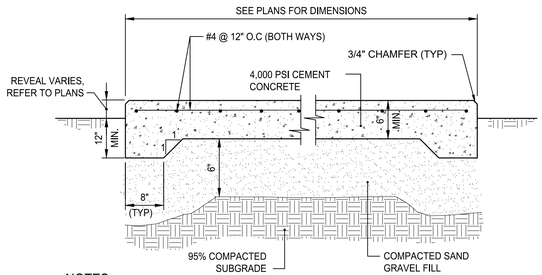


NOTE:
SPEED TABLE TO BE PAINTED WITH WHITE EPOXY RESIN PAVEMENT MARKING

SPEED TABLE SECTION DETAIL
NOT TO SCALE

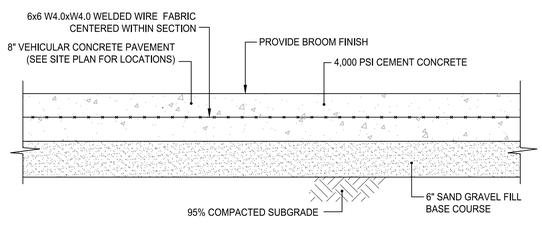


SPEED TABLE PLAN DETAIL
NOT TO SCALE

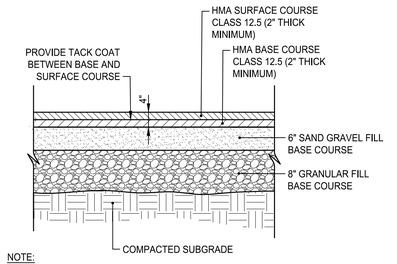


NOTES:
1. REINFORCING TO BE #4 GRADE 60 BARS AND SHALL CONFORM TO ASTM STANDARD A-615 OF THE LATEST DATA. REINFORCING RODS TO BE LOCATED IN THE CENTER OF THE SLAB, WITH A MINIMUM OF 2" CLEARANCE FROM FACE OF CONCRETE.
2. CONTRACTOR SHALL COORDINATE LOCATIONS OF OPENINGS, FENCE POSTS, OR OTHER FEATURES IN SLAB.

CEMENT CONCRETE PAD
NOT TO SCALE

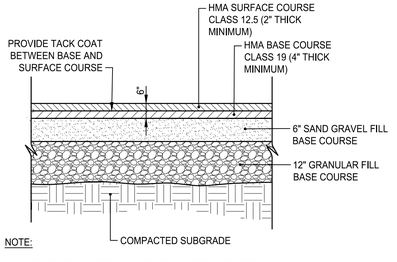


VEHICULAR CONCRETE PAVEMENT DETAIL
NOT TO SCALE



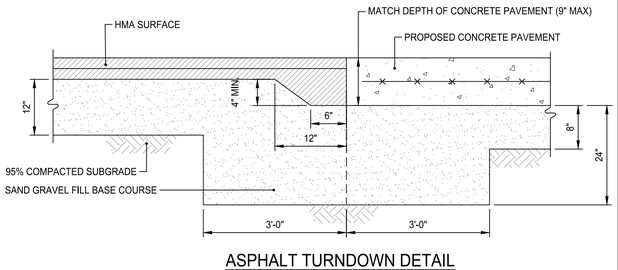
NOTE:
1. SUBMIT JOB MIX FORMULAS TO ENGINEER FOR APPROVAL PRIOR TO PLACEMENT.

HOT MIX ASPHALT PAVEMENT
NOT TO SCALE

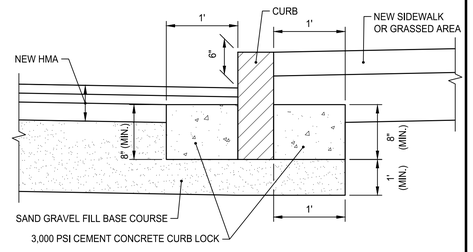


NOTE:
1. SUBMIT JOB MIX FORMULAS TO ENGINEER FOR APPROVAL PRIOR TO PLACEMENT.

HEAVY DUTY HOT MIX ASPHALT PAVEMENT
NOT TO SCALE



ASPHALT TURNDOWN DETAIL
NOT TO SCALE



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. PROVIDE CEMENT CONCRETE CURB LOCK ON ALL CURBS

CURB SETTING DETAIL
NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER — No. 8665 — 06.02.25 — REGISTERED PROFESSIONAL ENGINEER (CIVIL) — STATE OF RHODE ISLAND

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

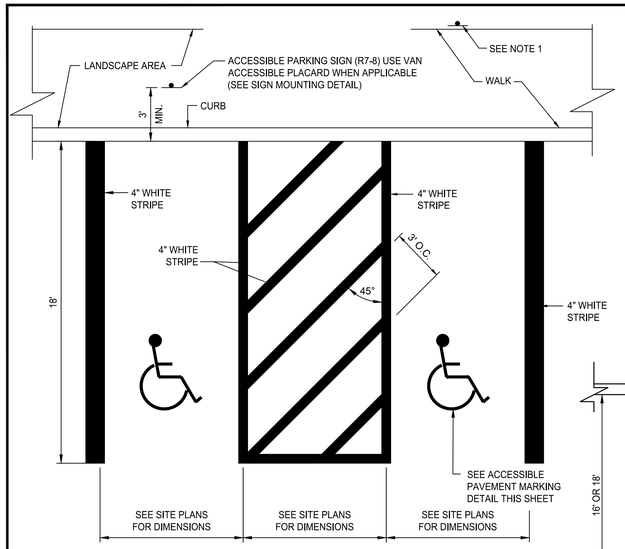
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 3

DRAWING NO.:
C8.3

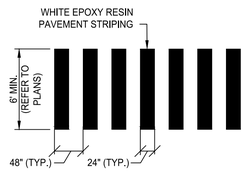
SHEET NO. 61 OF 93

Z:_JOBS\23099.01 Bristol HS Improvements\Design\Civil\Sheets\C8.3 DETAILS 3.dwg Layout: C8.3 User: akl Plotted: Jan 10, 2025 - 4:05:40PM

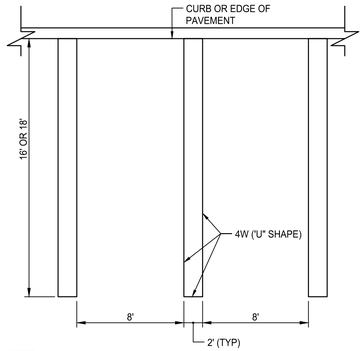


NOTES:
1. WHERE STALLS ABUT SIDEWALK, PARKING SIGNS SHOULD BE PLACED AT BACK EDGE OF SIDEWALK.
2. ALL PAVEMENT MARKINGS TO BE EPOXY RESIN.

ACCESSIBLE PARKING STALLS @ 90°
NOT TO SCALE

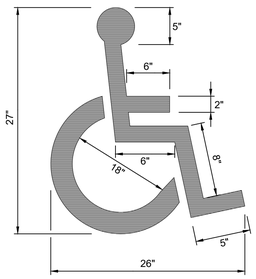


TYPICAL CROSSWALK DETAIL
NOT TO SCALE



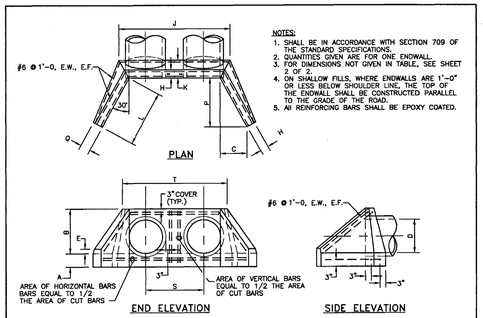
NOTES:
1. ALL PARKING PAVEMENT MARKINGS SHALL BE EPOXY RESIN, CONFORMING TO THE SPECIFICATIONS.
2. PAVEMENT MARKINGS SHALL BE INSTALLED PER SEC. 28-251.2.B OF THE TOWN OF BRISTOL CODE OF ORDINANCES.
3. REFER TO GENERAL PLANS FOR PAVEMENT MARKING TEXT WITHIN COMPACT PARKING SPACES. PAVEMENT MARKINGS SHALL USE 12" HEIGHT EPOXY RESIN. PAVEMENT MARKING LETTERS SHALL BE CENTERED IN THE STALL AND ALIGNED WITH THE END OF THE STALL STRIPING.

TYPICAL PARKING STALL
NOT TO SCALE



NOTE:
ACCESSIBLE PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE RULES & REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT.

ACCESSIBLE PAVEMENT MARKING
NOT TO SCALE



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 709 OF THE STANDARD SPECIFICATIONS.
2. QUANTITIES GIVEN ARE FOR ONE ENDWALL.
3. FOR DIMENSIONS NOT GIVEN IN TABLE, SEE SHEET 2 OF 2.
4. ON SHALLOW FILLS, WHERE ENDWALLS ARE 1'-0" OR LESS BELOW SHOULDER LINE, THE TOP OF THE ENDWALL SHALL BE CONSTRUCTED PARALLEL TO THE GRADE OF THE ROAD.
5. AI REINFORCING BARS SHALL BE EPOXY COATED.

FOR CORRUGATED METAL PIPE

DIAMETER OF PIPE	S	T	FILL SLOPE 1 1/2:1 CU. YD. CONCRETE ONE DOUBLE ENDWALL	FILL SLOPE 1 1/2:1 INCREASE CU. YD. FOR EACH ADDITIONAL PIPE	FILL SLOPE 2:1 CU. YD. CONCRETE ONE DOUBLE ENDWALL	FILL SLOPE 2:1 INCREASE CU. YD. FOR EACH ADDITIONAL PIPE
3'-6"	5'-3 1/2"	8'-9 1/2"	5.1	1.3	5.8	1.3
4'-0"	6'-0 1/2"	10'-0 1/2"	6.3	1.7	7.2	1.4
4'-6"	6'-9 1/2"	11'-3 1/2"	8.3	2.1	8.4	2.1
5'-0"	7'-6 1/2"	12'-6 1/2"	10.4	2.7	11.8	2.4
5'-6"	8'-3 1/2"	13'-9 1/2"	12.8	3.3	14.6	3.9
6'-0"	9'-0 1/2"	16'-0 1/2"	16.7	4.1	17.9	4.1
6'-6"	9'-9 1/2"	16'-3 1/2"	19.0	5.0	21.7	4.9
7'-0"	10'-6 1/2"	17'-6 1/2"	22.8	6.0	26.0	5.1

FOR CONCRETE PIPE

DIAMETER OF PIPE	S	T	FILL SLOPE 1 1/2:1 CU. YD. CONCRETE ONE DOUBLE ENDWALL	FILL SLOPE 1 1/2:1 INCREASE CU. YD. FOR EACH ADDITIONAL PIPE	FILL SLOPE 2:1 CU. YD. CONCRETE ONE DOUBLE ENDWALL	FILL SLOPE 2:1 INCREASE CU. YD. FOR EACH ADDITIONAL PIPE
3'-6"	6'-0"	9'-6"	4.1	1.3	5.5	1.3
4'-0"	6'-10"	10'-10"	6.0	1.6	6.9	1.6
4'-6"	7'-0"	12'-2"	7.7	2.1	8.8	2.1
5'-0"	8'-6"	13'-6"	9.7	2.6	11.2	2.6
5'-6"	9'-4"	14'-10"	12.1	3.3	13.9	3.3
6'-0"	10'-2"	16'-2"	14.7	4.0	16.9	4.0
6'-6"	11'-0"	17'-6"	17.7	4.8	20.4	4.8
7'-0"	11'-10"	18'-10"	21.2	5.7	24.4	5.7

SHEET 1 OF 2

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS

Joseph H. Capaldi, CHIEF ENGINEER, DIVISION OF PUBLIC WORKS — Edmund Parker Jr., CHIEF DESIGN ENGINEER, TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 2.2.0A

TABLE OF DIMENSIONS AND CONCRETE VOLUMES PER HEADWALL FOR 3'-6" TO 7'-0" CIRCULAR PIPE CULVERTS

DIAMETER OF PIPE		3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
FOR 1 1/2:1 FILL SLOPE	A	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"
	B	4'-4"	4'-10"	5'-4"	5'-10"	6'-4"	6'-10"	7'-4"	7'-10"
	C	3'-3 3/4"	3'-9"	4'-2 1/4"	4'-7"	5'-0 5/8"	5'-5 3/4"	5'-11"	6'-4 1/4"
	D	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
	E	0'-6"	0'-6"	0'-6"	0'-6"	0'-6"	0'-6"	0'-6"	0'-6"
	H	0'-10"	0'-10"	0'-11"	1'-0"	1'-1"	1'-2"	1'-3"	1'-4"
	J	11'-8 1/2"	13'-2 1/4"	14'-9 1/4"	16'-4"	17'-11"	19'-8"	21'-0 3/4"	22'-7 5/8"
	K	1'-11"	2'-0 1/2"	2'-3"	2'-5 1/2"	2'-8"	2'-10 1/2"	3'-1"	3'-3 1/2"
	L	6'-7 5/8"	7'-6"	8'-4 1/2"	9'-2 7/8"	10'-1 1/4"	10'-11 5/8"	11'-10"	12'-8 3/8"
	P	5'-9"	6'-6"	7'-3"	8'-0"	8'-9"	9'-6"	10'-3"	11'-0"
	Q	0'-11 1/2"	0'-11 1/2"	1'-0 1/2"	1'-1 1/2"	1'-2 1/2"	1'-3 1/2"	1'-4 1/2"	1'-5 1/2"
	CU. YD. CONC. CONC. PIPE C.M. PIPE	3.6	4.4	5.7	7.1	8.8	10.8	12.9	15.4
FOR 2:1 FILL SLOPE	C	4'-4"	4'-10 7/8"	5'-5 3/4"	6'-0 3/4"	6'-7 5/8"	7'-2 5/8"	7'-9 1/2"	8'-4 1/2"
	J	11'-8 1/4"	13'-2"	14'-9"	16'-3 3/4"	17'-10 3/4"	19'-5 1/2"	21'-0 1/2"	22'-7 1/8"
	L	8'-0"	8'-9 3/4"	10'-11 5/8"	12'-1 1/2"	13'-3 3/8"	14'-5 1/4"	15'-7"	16'-9"
	P	7'-6"	8'-6"	9'-6"	10'-6"	11'-6"	12'-6"	13'-6"	14'-6"
	CU. YD. CONC. CONC. PIPE C.M. PIPE	4.3	5.3	6.8	8.6	10.7	13.0	15.7	18.7
		4.5	5.6	7.2	9.1	11.4	13.9	16.8	20.0

NOTE:
FOR ALL DIMENSIONS NOT SHOWN, SEE VALUES LISTED ABOVE FOR 1 1/2:1 FILL SLOPE

SHEET 2 OF 2

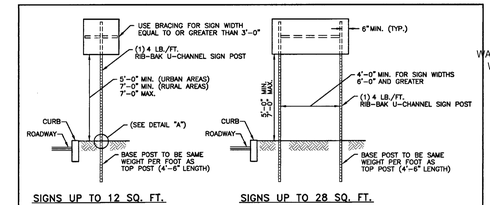
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

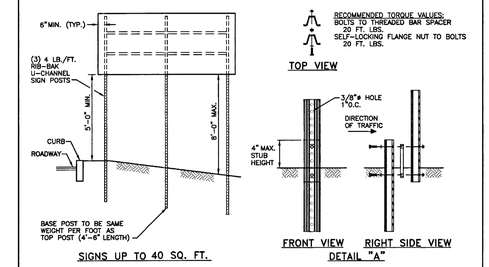
STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS

Joseph H. Capaldi, CHIEF ENGINEER, DIVISION OF PUBLIC WORKS — Edmund Parker Jr., CHIEF DESIGN ENGINEER, TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 2.2.0B



SIGNS UP TO 12 SQ. FT. — SIGNS UP TO 28 SQ. FT.



SIGNS UP TO 40 SQ. FT. — DETAIL "A"

INSTALLATION PROCEDURE:
1. REMOVE A SPADE PLUG OF SOIL (APPROXIMATELY 2" DEEP) FROM WHERE THE BASE POST WILL BE LOCATED.
2. DRIVE THE BASE POST IN THE CENTER OF THE HOLE JUST CREATED, TO WITHIN 4" OF GRADE LEVEL.
3. PLACE ONE BOLT AND FLAT WASHER IN THE TOP HOLE OF THE BASE POST. (IF THE TOP HOLE ON THE BASE POST, OR THE BOTTOM HOLE ON THE TOP POST IS LESS THAN 3/4" FROM END OF THE POST USE THE SECOND AND SIXTH HOLES.) WITH THE THREADED BAR SPACER ALIGNED WITH TOP HOLE ON THE BACK SIDE OF THE BASE POST, SECURELY TIGHTEN THE BOLT TO 20 FT. LBS. OF TORQUE. REPEAT THIS PROCESS FOR THE LOWER BOLT.
4. NEST THE TOP POST OVER THE PROTRUDING BOLTS ON THE BASE POST. PLACE A SELF-LOCKING FLANGE NUT ON EACH BOLT AND TIGHTEN SECURELY TO 20 FT. LBS. OF TORQUE.
5. REPLACE SOIL REMOVED IN STEP 1.
6. IN TRIPLE POST INSTALLATIONS USING 4 LB./FT. POSTS IN WEAK SOIL, A 1'-0"W x 6"H SOIL PLATE IS REQUIRED.

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE R.I. STANDARD SPECIFICATIONS.
2. THE SILVER ANODIZED BAR SPACER IS FOR USE WITH 2, 2.5 AND 2.75 LB./FT. RIB-BAK POST GRADE SP-80 ONLY.
3. THE GOLD ANODIZED BAR SPACER IS FOR USE WITH 3 AND 4 LB./FT. RIB-BAK POST GRADE SP-80 ONLY.
4. INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS.
5. FOR SIGNS GREATER THAN 40 SQ. FT., REFER TO STD. 30.1.0, 30.1.1, 30.2.0, 30.2.1, 30.3.0, 30.3.1, 30.4.0, 30.4.1, 30.4.2 AND 30.4.3

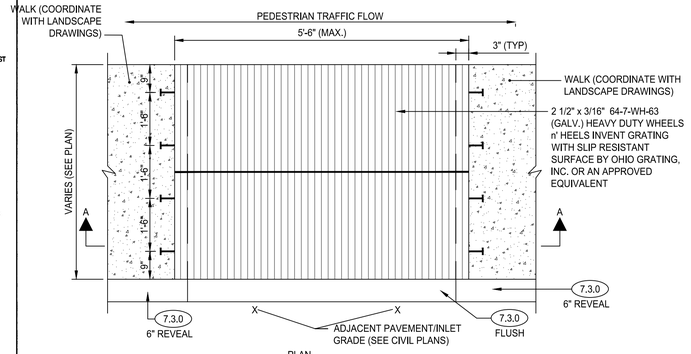
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

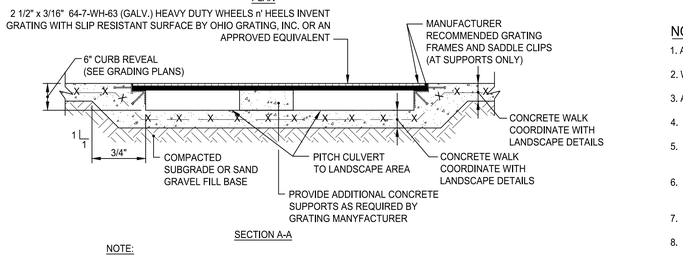
SIGN POST SELECTION AND INSTALLATION DETAILS U-CHANNEL POST (SIGNS UP TO 8'-0"Wx4'-0"H)

Joseph H. Capaldi, CHIEF ENGINEER, DIVISION OF PUBLIC WORKS — Edmund Parker Jr., CHIEF DESIGN ENGINEER, TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 24.2.0



PLAN



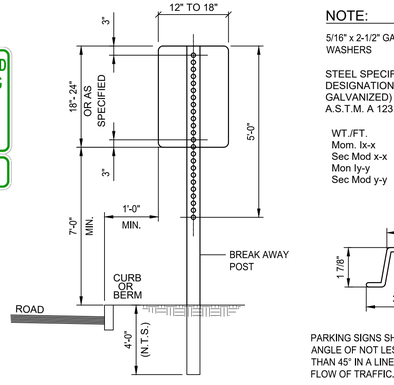
SECTION A-A

NOTE:
PROVIDE SUBMITTAL DEPICTING GRATE, CONCRETE WALK, SUPPORTS, AND OTHER INFORMATION FOR REVIEW BY OWNER'S REPRESENTATIVE

SIDEWALK GRADE
NOT TO SCALE

R7-8
12"x18"

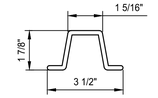
R7-8P
12"x 6"



NOTE:
5/16" x 2-1/2" GALVANIZED BOLTS & WASHERS

STEEL SPECIFICATION - A.S.T.M. DESIGNATION A499-64 ZINC (HOT GALVANIZED) SPECIFIED BY- A.S.T.M. A 123.

WT./FT.	3.00 #	4
Mom. Ix-x	0.484in	3
Sec Mod x-x	0.569in	4
Mon Iy-y	0.886in	4
Sec Mod y-y	0.506in	3



PARKING SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOR MORE THAN 45° IN A LINE PARALLEL TO THE FLOW OF TRAFFIC.

NOTES:
1. ALL LAG SCREWS, BOLTS AND WASHERS SHALL BE GALVANIZED 5/16"x2 1/2" LONG UNLESS OTHERWISE NOTED.
2. WASHERS SHALL BE 0.07" THICK.
3. ALL SIGN COLORS, RADII AND BORDERS AS SPECIFIED IN "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE STANDARD SPECIFICATIONS.
5. PARKING SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOT MORE THAN 45° WITH A LINE PARALLEL TO FLOW OF TRAFFIC, 1'-6" (1'-0" MIN.) FROM THE EDGE OF CURB FACE.
6. ALL ACCESSIBLE PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE RULES & REGULATIONS AS SPECIFIED BY THE AMERICAN DISABILITIES ACT (ADA).
7. SIGN(S) SHALL BE LOCATED SO THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.
8. FOR ACCESSIBLE VAN SPACE USE SIGN AS DETAILED.
9. FOR ACCESSIBLE SPACE FOR AUTOMOBILES USE ONLY HANDICAPPED PARKING SIGN.

ACCESSIBLE SIGN MOUNTING
NOT TO SCALE

LEGEND	DESIGNATION	SIZE
STOP	R1-1	(30" x 30")
RIGHT LANE MUST TURN RIGHT	R3-7R	(30" x 30")
LEFT LANE MUST TURN LEFT	R3-7L	(30" x 30")
DO NOT ENTER	R5-1	(24" x 24")
RESERVED PARKING	R7-8	(12" x 18")
VAN ACCESSIBLE	R7-8P	(12" x 6")
NO PARKING HERE TO CORNER	R7-11	(12" x 18")
	W16-7P(L)	(12" x 24")
	S1-1	(30" x 30")
AHEAD	W16-9P	(12" x 24")
	W17-1	(24" x 24")
	GENERAL DIRECTIONAL SIGN, REFER TO PLANS FOR TEXT	(30" x 24") OR AS REQUIRED
NO IDLING	NO IDLING	(12" x 18")
NO SMOKING	NO SMOKING	(24" x 36")
ELECTRIC VEHICLE PARKING AND CHARGING STATION	EVCS	(12" x 18")
ACCESSIBLE EV CHARGING USE LAST	ACCESSIBLE EV CHARGING USE LAST	(12" x 6")

NOTES:
1. SIGNS SHALL BE CONSTRUCTED OF TYPE III REFLECTORIZED SHEETING AND IN ACCORDANCE WITH MUTCD REQUIREMENTS, LATEST REVISION.
2. THE CONTRACTOR SHALL SUBMIT SAMPLE SIGNS TO THE OWNER FOR APPROVAL PRIOR TO FURNISHING.
3. LETTERS, COLOR, AND FONT FOR NON-STANDARD SIGNS SHALL BE SELECTED BY THE OWNER.
4. ALL SIGN MOUNTING SHALL CONFORM TO R.I. STD. DETAIL 24.2.0 EXCEPT R7-8 AND R7-8P. R7-8 AND R7-8P SHALL CONFORM TO ACCESSIBLE SIGN MOUNTING DETAIL.

SIGN SCHEDULE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

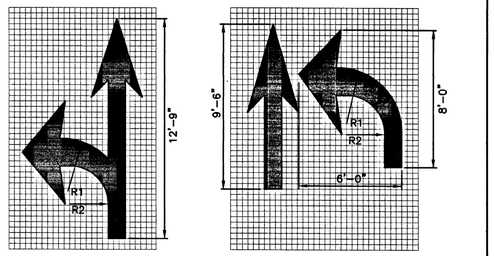
MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
06.02.25

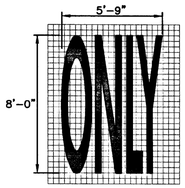
REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP
DRAWING TITLE:	DETAILS 4
DRAWING NO.:	C8.4
SHEET NO.	62 OF 93

Z:\JOBS\23 Jobs\23099.01 BWRSD MP Move HS-MS\C Design\Civil\DETAILS.dwg



R1 = 3'-2"
R2 = 2'-2"



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION T.20 OF THE R.I. STANDARD SPECIFICATIONS.
2. THE LONGITUDINAL SPACE BETWEEN WORD OR SYMBOL MESSAGES, INCLUDING ARROWS, SHOULD BE AT LEAST FOUR TIMES THE HEIGHT OF THE CHARACTER FOR LOW SPEED ROADS BUT NOT MORE THAN TEN TIMES THE HEIGHT OF THE CHARACTER UNDER ANY CONDITIONS.
3. THE SPACING OF THE PAVEMENT MARKINGS WILL BE AS SHOWN ON THE PLAN AND AS PER THE MUTCD.
4. SYMBOLS AND WORDS SHALL MEET THE REQUIREMENTS OF THE FHWA "STANDARD ALPHABET AND SYMBOLS FOR HIGHWAY PAVEMENT MARKINGS.

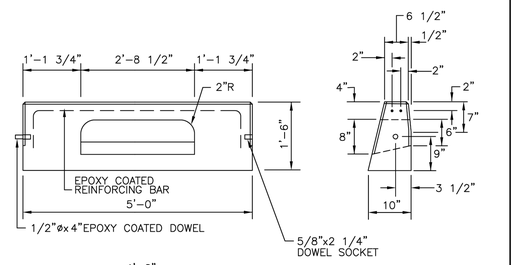
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

PAVEMENT MARKINGS
ARROWS AND ONLY

R.I. STANDARD 20.1.0

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
3. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

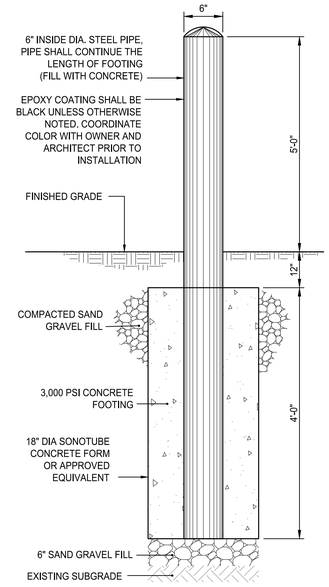
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

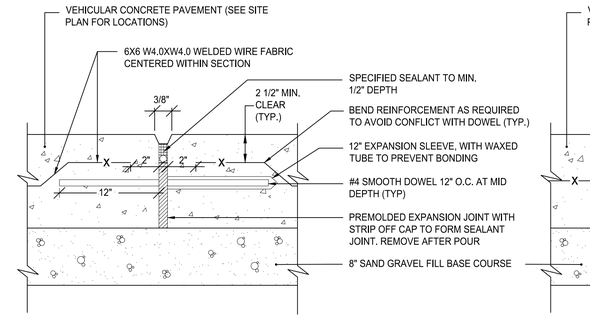
PRECAST CONCRETE INLET STONE
(FOR SQUARE CATCH BASIN)

R.I. STANDARD 7.1.5

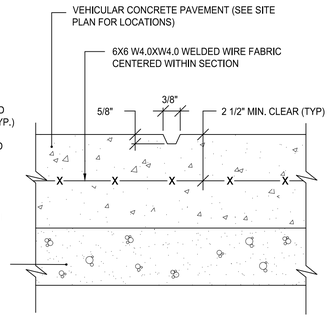
CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE



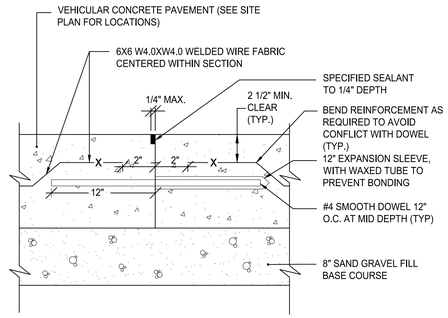
BOLLARD DETAIL
NOT TO SCALE



CONTROL JOINT AT 15' O.C. (MAX)



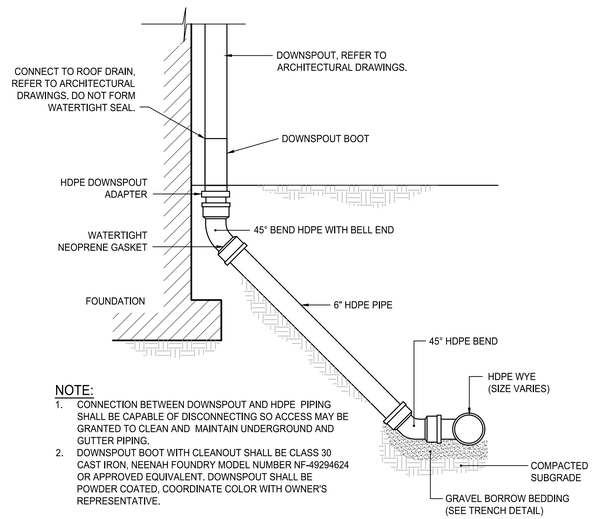
CONSTRUCTION JOINT (TYP)



NOTES:

1. EXPANSION JOINTS (E.J.) SHALL BE LOCATED AROUND ALL DRAIN STRUCTURES AND SITE FEATURES WITHIN THE VEHICULAR CONCRETE PAVEMENT. NO EXPANSION JOINTS AGAINST CURBING.
2. CONTROL JOINTS (C.J.) SHALL BE SPACED AT 15' O.C. MAX.
3. PRIOR TO COMMENCING WORK, PROVIDE SUBMITTAL DEPICTING LAYOUT OF EXPANSION, CONTROL, AND CONSTRUCTION JOINT LAYOUT AND SPACING FOR REVIEW BY OWNER'S REPRESENTATIVE.

EXPANSION, CONTROL, AND CONSTRUCTION JOINTS FOR VEHICULAR CONCRETE PAVING
NOT TO SCALE



NOTE:
1. CONNECTION BETWEEN DOWNSPOUT AND HDPE PIPING SHALL BE CAPABLE OF DISCONNECTING SO ACCESS MAY BE GRANTED TO CLEAN AND MAINTAIN UNDERGROUND AND GUTTER PIPING.
2. DOWNSPOUT BOOT WITH CLEANOUT SHALL BE CLASS 30 CAST IRON, NEENAH FOUNDRY MODEL NUMBER NF-49294624 OR APPROVED EQUIVALENT. DOWNSPOUT SHALL BE POWDER COATED, COORDINATE COLOR WITH OWNER'S REPRESENTATIVE.

DOWNSPOUT DETAIL
NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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0" 1"
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DAVID L. POTTER
No. 8665
06.02.25
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REVISIONS:

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1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
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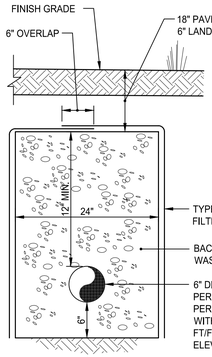
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 5

DRAWING NO.:
C8.5

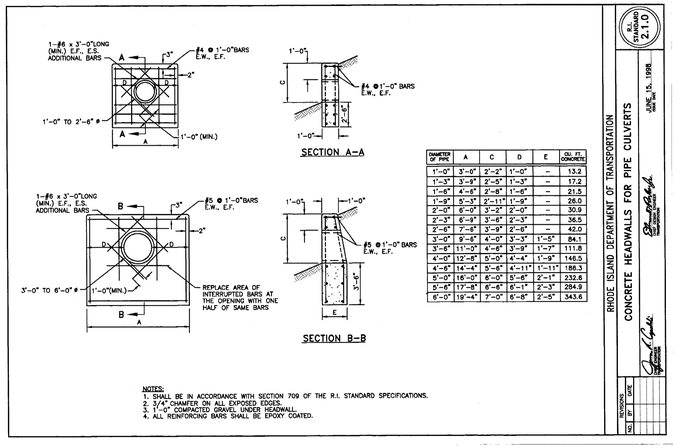
SHEET NO. 63 OF 93

Z:\JOBS\23.1 Jobs\23099.01 BWRSD MT Hope HS-RIDE Slope III-Civil\DWGS\23TAS.5.dwg



SUBDRAIN DETAIL

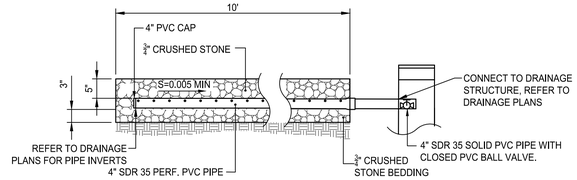
NOT TO SCALE



DIAMETER OF PIPE	A	C	D	E	CU. FT. CONCRETE
1'-0"	3'-0"	2'-2"	1'-0"	–	13.2
1'-3"	3'-9"	2'-5"	1'-3"	–	17.2
1'-6"	4'-6"	2'-8"	1'-6"	–	21.5
1'-9"	5'-3"	2'-11"	1'-9"	–	26.0
2'-0"	6'-0"	3'-2"	2'-0"	–	30.9
2'-3"	6'-9"	3'-5"	2'-3"	–	36.5
2'-6"	7'-6"	3'-9"	2'-6"	–	42.0
3'-0"	9'-6"	4'-0"	3'-3"	1'-5"	84.1
3'-6"	11'-0"	4'-6"	3'-9"	1'-7"	111.8
4'-0"	12'-6"	5'-0"	4'-6"	1'-9"	146.5
4'-6"	14'-4"	5'-6"	4'-11"	1'-11"	186.3
5'-0"	16'-0"	6'-0"	5'-6"	2'-1"	232.6
5'-6"	17'-8"	6'-8"	6'-1"	2'-3"	284.9
6'-0"	19'-4"	7'-0"	6'-8"	2'-5"	343.6

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
CONCRETE HEADWALLS FOR PIPE CULVERTS
R.I. STANDARD 2.1.0
JUNE 15, 1998
ISSUE DATE
Edward M. Parker, Jr.
CHIEF DESIGN ENGINEER
TRANSPORTATION
REVISIONS: NO. | BY | DATE

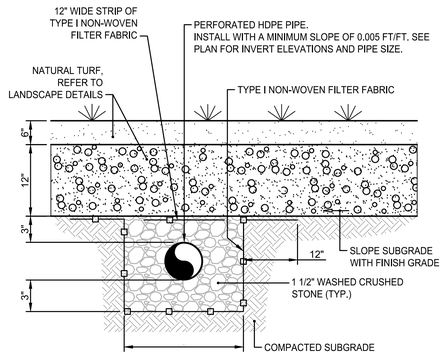
NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 709 OF THE R.I. STANDARD SPECIFICATIONS.
2. 3/4" CHAMFER ON ALL EXPOSED EDGES.
3. 1'-0" COMPACTED GRAVEL UNDER HEADWALL.
4. ALL REINFORCING BARS SHALL BE EPOXY COATED.



NOTE: PVC BALL VALVE SHALL REMAIN IN THE CLOSED POSITION WHEN INSTALLED AND POST CONSTRUCTION. AS REQUIRED THE OWNER SHALL OPEN THE VALVE TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES ONLY.

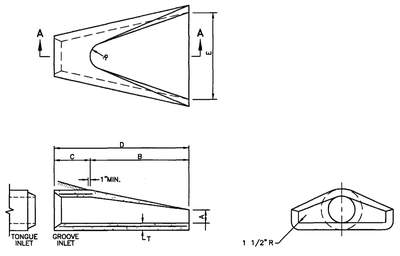
AUXILIARY DRAIN PIPE WITH CLOSED VALVE FOR STORMWATER MANAGEMENT AREAS DETAIL

NOT TO SCALE



ATHETIC FIELD SUBDRAIN DETAIL

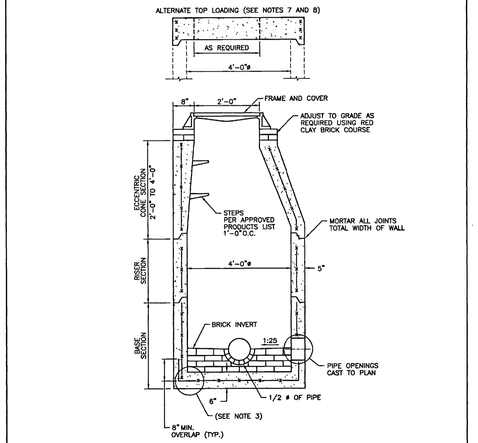
NOT TO SCALE



DIMENSIONS							REINFORCEMENT
DIA.	A	B	C	D	E	R	T	ONE LAYER REINFORCEMENT IN CENTER OF WALL MIN. AREA OF EACH WAY (SQ. IN./FT.)
1'-0"	4"	2'-0"	4'-0 7/8"	6'-0 7/8"	2'-0"	9"	2"	0.048
1'-3"	6"	2'-3"	3'-10"	6'-1"	2'-6"	11"	2 1/4"	0.054
1'-6"	9"	2'-5"	3'-10"	6'-1"	3'-0"	12"	2 1/2"	0.060
2'-0"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	1'-2"	3"	0.072
2'-6"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	1'-3"	3 1/2"	0.084
3'-0"	1'-3"	5'-3"	2'-10 3/4"	6'-1 3/4"	6'-0"	1'-5"	4"	0.096
3'-6"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	1'-10"	4 1/2"	0.108
4'-0"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	1'-10"	5"	0.120
4'-6"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"	2'-0"	5 1/2"	0.132
5'-0"	2'-6"	5'-0"	3'-3"	8'-3"	8'-0"	2'-0"	6"	0.144

NOTE:
SHALL BE IN ACCORDANCE WITH SECTION 701 OF THE R.I. STANDARD SPECIFICATIONS.

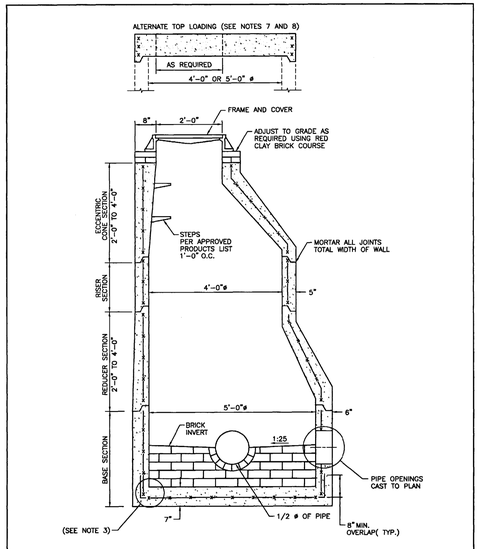
RHODE ISLAND DEPARTMENT OF TRANSPORTATION
PRECAST CONCRETE FLARED END SECTION
R.I. STANDARD 2.3.0
JUNE 15, 1998
ISSUE DATE
REVISIONS: NO. | BY | DATE



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED = 0.12 SQ. IN./LIN. FT. MINIMUM.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
4. ONE POUR MONOLITHIC BASE SECTION.
5. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
6. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
7. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
8. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
9. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
PRECAST 4'-0" ROUND MANHOLE
R.I. STANDARD 4.2.0
JUNE 15, 1998
ISSUE DATE
REVISIONS: NO. | BY | DATE

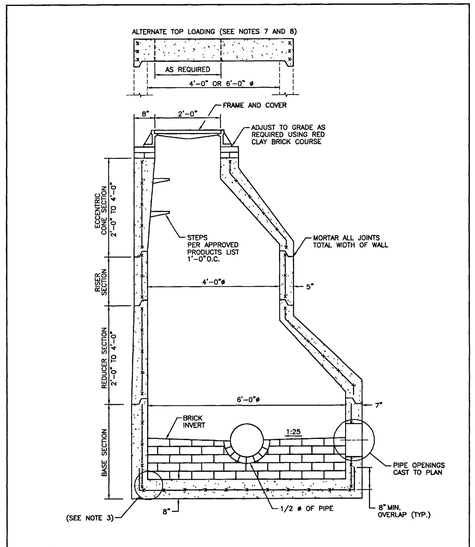
NOTES:
1. DAMP PROOFING COMPOUND SHALL BE APPLIED ON EXTERIOR WALLS



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED = 0.15 SQ. IN./LIN. FT. MINIMUM.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
4. ONE POUR MONOLITHIC BASE SECTION.
5. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
6. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
7. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
8. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
9. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
PRECAST 5'-0" ROUND MANHOLE
R.I. STANDARD 4.2.1
JUNE 15, 1998
ISSUE DATE
REVISIONS: NO. | BY | DATE

NOTES:
1. DAMP PROOFING COMPOUND SHALL BE APPLIED ON EXTERIOR WALLS



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED = 0.15 SQ. IN./LIN. FT. MINIMUM.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
4. ONE POUR MONOLITHIC BASE SECTION.
5. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
6. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
7. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
8. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
9. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
PRECAST 6'-0" ROUND MANHOLE
R.I. STANDARD 4.2.2
JUNE 15, 1998
ISSUE DATE
REVISIONS: NO. | BY | DATE

NOTES:
1. DAMP PROOFING COMPOUND SHALL BE APPLIED ON EXTERIOR WALLS

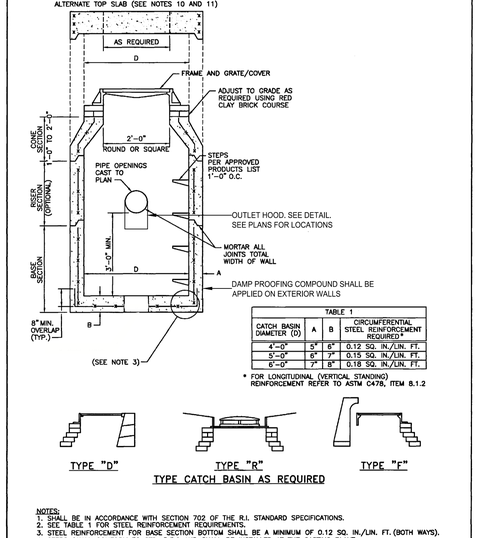


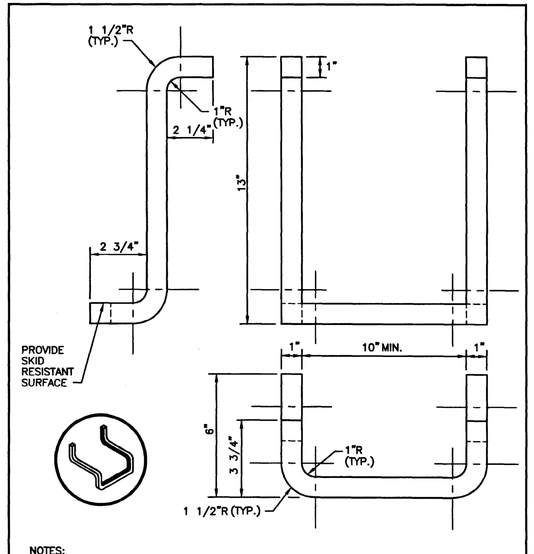
TABLE 1			
CATCH BASIN DIAMETER (D)	A	B	CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED*
4'-0"	5"	6"	0.12 SQ. IN./LIN. FT.
5'-0"	6"	7"	0.15 SQ. IN./LIN. FT.
6'-0"	7"	8"	0.18 SQ. IN./LIN. FT.

* FOR LONGITUDINAL (VERTICAL STANDING) REINFORCEMENT REFER TO ASTM C478, ITEM 8.1.2

TYPE CATCH BASIN AS REQUIRED

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
4. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
5. ONE POUR MONOLITHIC BASE SECTION.
6. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
7. CORBEL MADE OF RED CLAY BRICK WILL BE PERMITTED FOR THE "CONE SECTION" OF THE 4'-0"CATCH BASIN ONLY.
8. FOR CATCH BASIN TYPES "D" AND "F" STEPS MUST BE INSTALLED ON THE CURB SIDE OF THE STRUCTURE.
9. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.
10. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
11. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
12. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN
R.I. STANDARD 4.4.0M
JUNE 15, 1998
ISSUE DATE
REVISIONS: NO. | BY | DATE



NOTES:
1. STEPS SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.
2. CROSS SECTION AREA MAY BE REDUCED UPON SUBMISSION OF CERTIFIED LOAD TESTS. STEPS MUST SUPPORT 300 LBS.
3. STOCK SHOWN IS 1" SQUARE WHICH MAY BE REPLACED BY 1" DIAMETER.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
CATCH BASIN AND MANHOLE STEP
R.I. STANDARD 5.3.0
JUNE 15, 1998
ISSUE DATE
REVISIONS: NO. | BY | DATE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON
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06.02.25
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1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

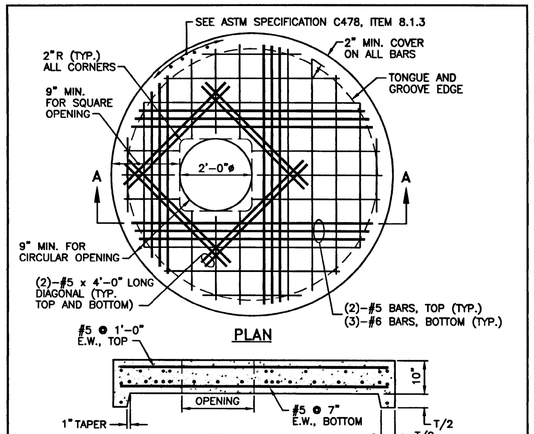
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 6

DRAWING NO.:
C8.6

SHEET NO. 64 OF 93

Z:\JOBS\23_Jobs\23099.01 BWRSD\2 MH Hope HS-RIDE Steps III\Civil\DWGS\12744.5.dwg



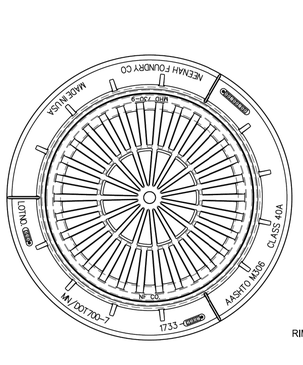
NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
3. THE CENTER LINE OF THE OPENING MUST BE WITHIN 2" FROM THE STEPS.
4. ALTERNATE TOP COVER IS STEEL REINFORCED TO MEET OR EXCEED H-25 OR HS-25 LOADINGS WITH EARTH PRESSURES INCLUDED. THIS IMPLIES THAT THE TOP SLAB IS DESIGNED FOR AXLE LOADS OF NO MORE THAN 20 TONS.
5. ALL REBAR SHALL HAVE A MINIMUM OF 2" CLEARANCE FROM OPENING.
6. ALL REBARS IN THE BOTTOM MAT ARE #5 @ 2", BOTH WAYS, WITH 2" MINIMUM COVER, EXCEPT FOR REBARS ADJACENT TO THE OPENING. THESE BARS SHALL BE (3)-#6 SHOWN WITH A HEAVIER LINE FOR CLARITY). REBARS IN THE TOP MAT ARE #5 @ 1'-0", BOTH WAYS, WITH 2" MINIMUM COVER, EXCEPT FOR REBARS ADJACENT TO THE OPENING. THESE BARS SHALL BE (2)-#5 BARS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS			ALTERNATE TOP COVER FOR ROUND PRECAST MANHOLES AND CATCH BASINS	R.I. STANDARD 4.7.2
NO.	BY	DATE	JUNE 15, 1998 ISSUE DATE	

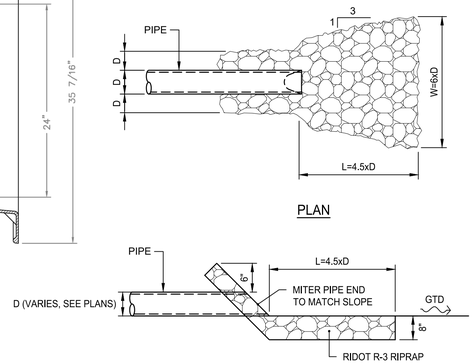
CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION



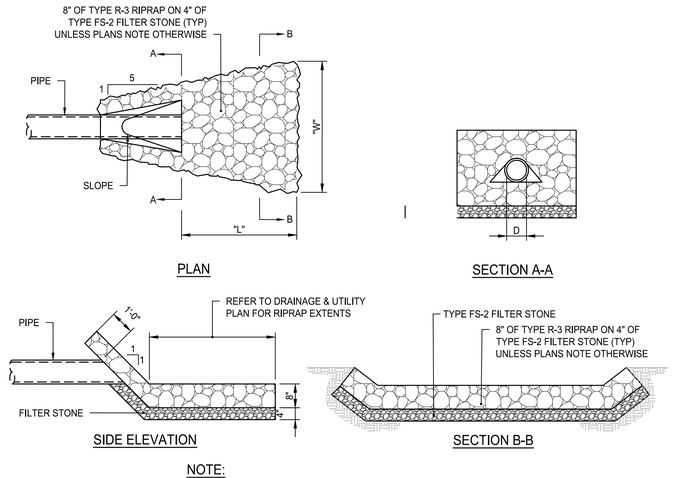
NOTES:

1. NEENA FOUNDRY R2561 OR APPROVED EQUIVALENT.
2. FRAME AND GRATE SHALL MEET H-20 LOADING CRITERIA.
3. ALL LIFTING HOLES TO BE PLUGGED IN AND OUT WITH HYDRAULIC CEMENT.
4. REFER TO DRAINAGE PLANS FOR STRUCTURES WITH DOME GRATES.

DOME GRATE DETAIL
NOT TO SCALE



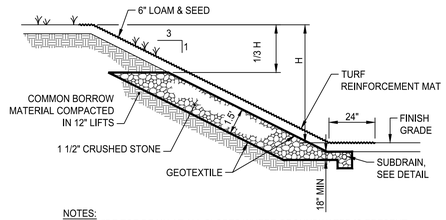
RIPRAP APRON
NOT TO SCALE



NOTE:

1. REFER TO DRAINAGE PLANS FOR RIPRAP AND FILTER STONE SIZE. PROVIDE STONE SIZES DEPICTED ON DETAIL UNLESS PLANS NOTE OTHERWISE.

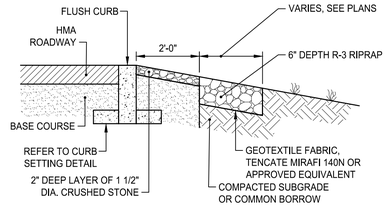
RIPRAP LEVEL SPREADER
NOT TO SCALE



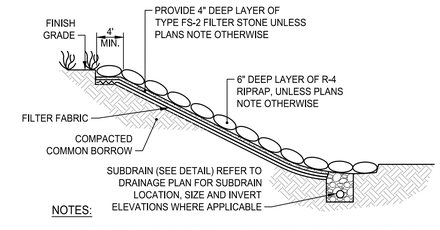
NOTES:

1. PROVIDE TOE DRAIN AT ALL SLOPES WHERE GROUNDWATER IS PRESENT.
2. REFER TO DRAWINGS FOR SUBDRAIN ELEVATIONS.

TOE DRAIN DETAIL
NOT TO SCALE



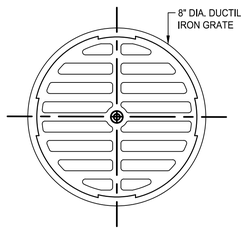
RIPRAP EDGE
NOT TO SCALE



NOTES:

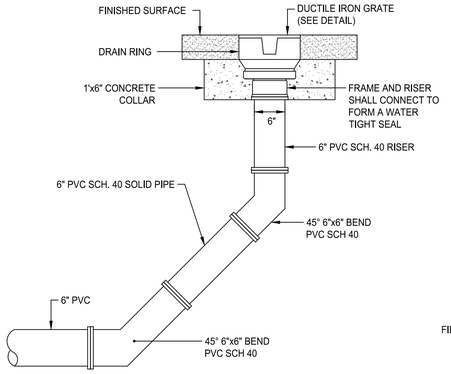
1. REFER TO DRAINAGE PLANS FOR RIPRAP AND FILTER STONE SIZE. PROVIDE STONE SIZES DEPICTED ON DETAIL UNLESS PLANS NOTE OTHERWISE.

RIPRAP SLOPE
NOT TO SCALE

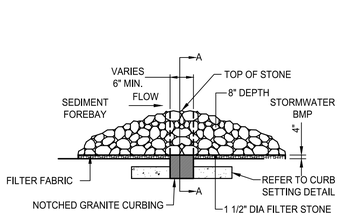


NOTES:

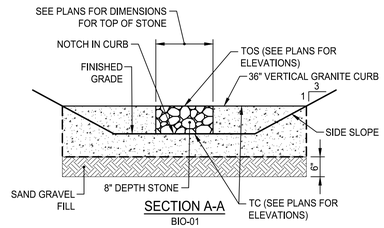
1. MATERIALS SHALL CONFORM TO ASTM A 536 GRADE 70-50-05.
2. CASTING SHALL BE FURNISHED WITH A BLACK PAINT.
3. GRATE SHALL BE ADA COMPLIANT.
4. GRATE SHALL BE NYLOPLAST 0899CGBL OR APPROVED EQUIVALENT.

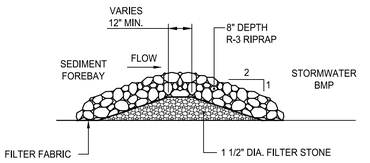


YARD DRAIN DETAIL
NOT TO SCALE



SEDIMENT FOREBAY CHECK DAM WITH WEIR
NOT TO SCALE

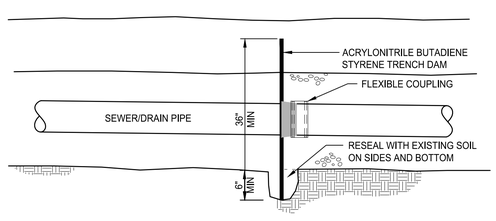


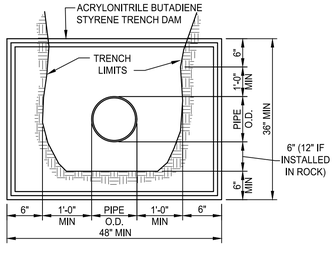


NOTES:

1. REFER TO RIDOT STANDARD SPECIFICATIONS SECTION M01.10 FOR FILTER STONE GRADATION.

SEDIMENT FOREBAY CHECK DAM
NOT TO SCALE

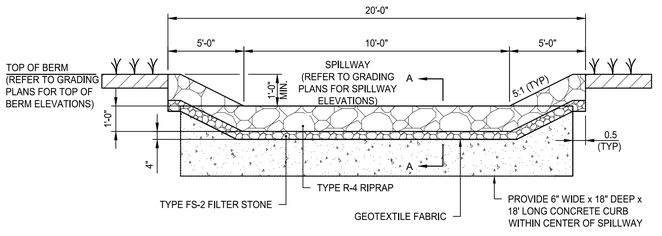




NOTES:

1. INSTALL TRENCH DAM EVERY 300 FEET ALONG PIPE AND 20 FT PRIOR TO EACH STRUCTURE.

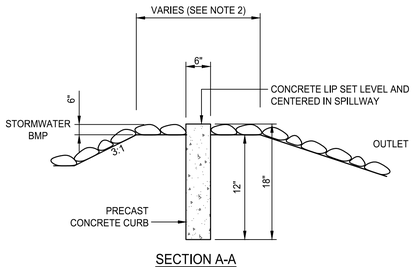
TRENCH DAM
NOT TO SCALE



NOTES:

1. CONTRACTOR SHALL FILL VOIDS BETWEEN CURB SECTIONS WITH MORTAR
2. BASIN BERM WIDTHS SHALL BE A MINIMUM OF 5' WIDE FOR BIORETENTION AREAS, AND SAND FILTERS. BASIN BERM WIDTHS SHALL BE A MINIMUM OF 10' WIDE FOR DETENTION BASINS AND INFILTRATION BASINS.

RIPRAP SPILLWAY DETAIL
NOT TO SCALE



SECTION A-A
NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER — No. 8665 — 06.02.25 — REGISTERED PROFESSIONAL ENGINEER — CIVIL

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
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DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP
DRAWING TITLE:	DETAILS 7
DRAWING NO.:	C8.7
SHEET NO.	65 OF 93

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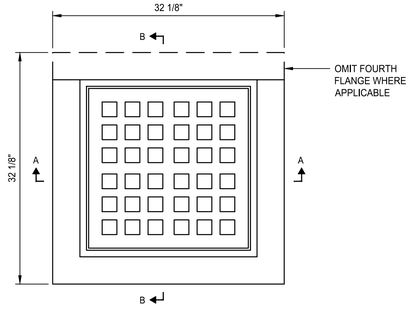
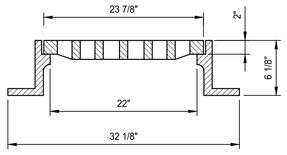
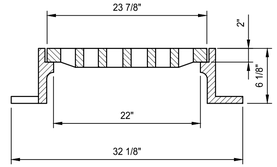


PLAN



SECTION A-A



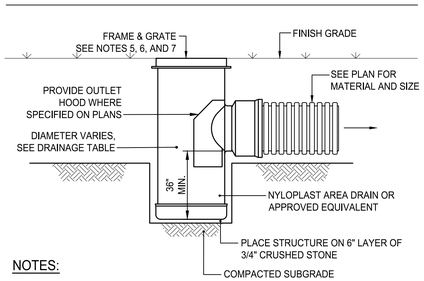
SECTION B-B

NOTES:

1. NEENAH FOUNDRY R-3405-A OR APPROVED EQUIVALENT.
2. FRAME AND GRATE SHALL MEET H-20 LOADING CRITERIA.

SQUARE CATCH BASIN FRAME & GRATE

NOT TO SCALE

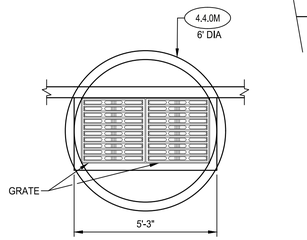


NOTES:

1. DRAIN BASIN SHALL BE CUSTOM MANUFACTURED FOR THE PROJECT WITH THE INLETS AND OUTLETS REQUIRED.
2. STRUCTURES SHALL BE CONSTRUCTED TO WITHSTAND LOADS IMPOSED BY CONSTRUCTION VEHICLES.
3. DRAIN BASIN SHALL BE CONSTRUCTED OF HIGH DENSITY POLYETHYLENE.
4. FRAME AND GRATE SHALL BE CONSTRUCTED OF DUCTILE IRON AND CONFORM TO ASTM A536 GRADE 70-50-05. GRATES SHALL BE NYLOPLAST 2499CGS OR APPROVED EQUIVALENT. CONTRACTOR SHALL PROVIDE THE SPECIFIED GRATE UNLESS OTHERWISE NOTED.
5. PROVIDE 24" DOME GRATE AT AD-101, AD-102, AD-103, AD-104, AD-201, AD-202, AD-203, AD-204, AD-205, AD-206, AD-207, AD-208, AD-210, AD-212, AD-301, AD-302, AD-303, AD-304, AD-305, AD-306, AD-307, AD-308, AD-309, AD-401, AD-402, AD-403, AD-404, AD-407 . PROVIDE NYLOPLAST 2499CGD OR APPROVED EQUIVALENT.
6. PROVIDE 24" PEDESTRIAN GRATE AT AD-408, PROVIDE NYLOPLAST 2499CGP OR APPROVED EQUIVALENT. FRAME AND GRATE SHALL BE ADA COMPLIANT.
7. PROVIDE 12" PEDESTRIAN GRATE WITH A CAP STYLE REDUCER AT AD-105, AD-106, AD-107, AD-108, AD-109, AD-208, AD-211, AD-405, AD-406, AD-409 . PROVIDE NYLOPLAST 1299 CGPL OR APPROVED EQUALIVALENT. CAP STYLE REDUCER SHALL BE 12" TO 24" REDUCER MANUFACTURED BY NYLOPLAST OR APPROVED EQUIVALENT.
8. SAND FILTER-01 OVERFLOW DRAINAGE STRUCTURE (AD-412) SHALL HAVE A NEENAH FOUNDRY10" DIA. GRATE, MODEL #1291-5626 OR APPROVED EQUIVALENT. GRATE SHALL BE H-20 LOAD RATING AND COMPATIBLE WITH THE AREA DRAIN PRODUCT SPECIFIED. CONTRACTOR SHALL PROVIDE A CAP STYLE 12" TO 24" REDUCER WITH A DUCTILE IRON BASE PLATE MANUFACTURED BY NYLOPLAST OR APPROVED EQUIVALENT
9. REFER TO DRAINAGE PLANS FOR STRUCTURE DIAMETER.

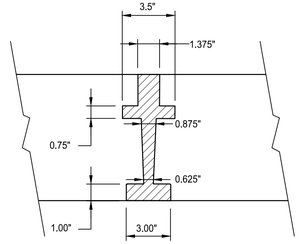
AREA DRAIN DETAIL

NOT TO SCALE

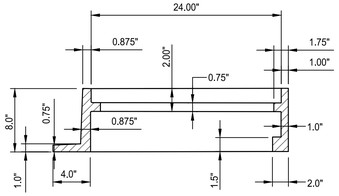


NOTE:
PROVIDE TYPE "F" CATCH BASIN ALONG ENTIRE LENGTH OF GRATE FOR CATCH BASINS PROPOSED ALONG CURB.

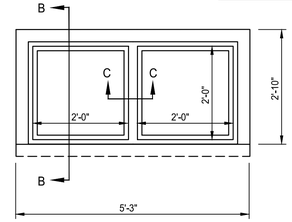
PLAN



SECTION C - C



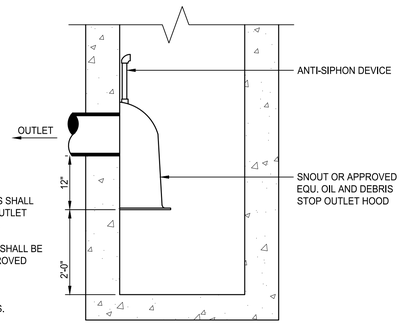
SECTION B - B



FRAME FOR DOUBLE GRATE CATCH BASIN

DOUBLE GRATE CATCH BASIN

NOT TO SCALE

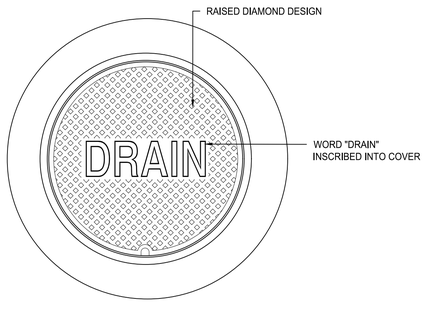


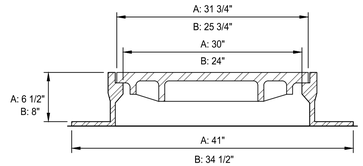
NOTES:

1. FOR CATCH BASINS OUTLET HOODS SHALL BE SNOUT OIL AND DEBRIS STOP OUTLET HOOD OR APPROVED EQUIVALENT.
2. FOR AREA DRAINS OUTLET HOODS SHALL BE NYLOPLAST ENVIROHOOD OR APPROVED EQUIVALENT.
3. REFER TO DRAINAGE PLANS FOR STRUCTURES WITH OUTLET HOODS.

DEEP SUMP WITH OUTLET HOOD DETAIL

NOT TO SCALE



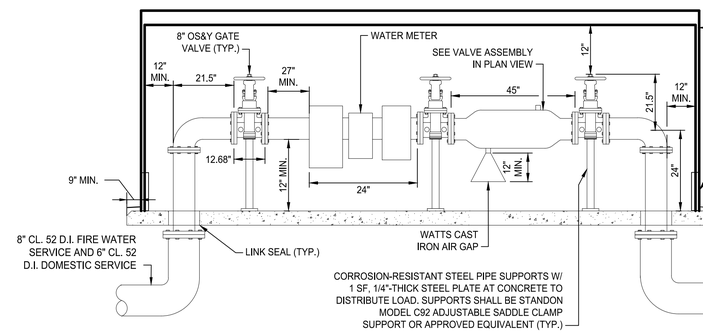


NOTES:

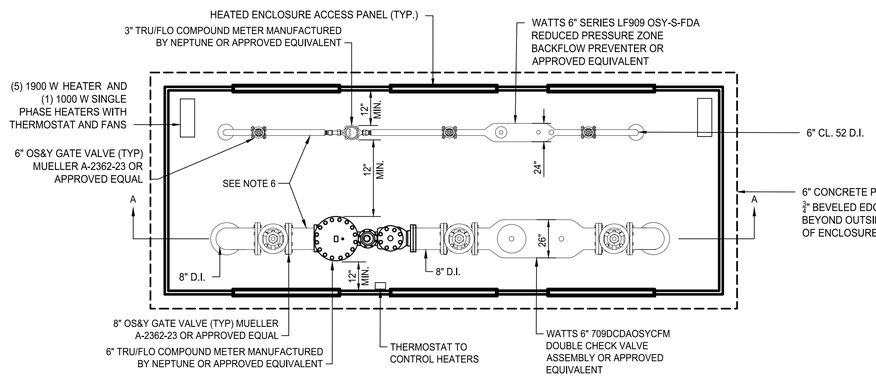
1. ALL FRAMES AND COVERS SHALL MEET H-20 LOADING CRITERIA.
2. PROVIDE:
   A: 30" DIA. DRAIN MANHOLE FRAME AND COVER SHALL BE NEENAH FOUNDRY, INC. MODEL #R-1557 OR APPROVED EQUIVALENT.
   B: 24" DIA. DRAIN MANHOLE FRAME AND COVER SHALL BE NEENAH FOUNDRY, INC. MODEL #R-1556 OR APPROVED EQUIVALENT.
3. ALL DRAIN MANHOLES SHALL HAVE 24" DIA. DRAIN MANHOLE COVER UNLESS NOTED OTHERWISE.

DRAIN MANHOLE FRAME & COVER

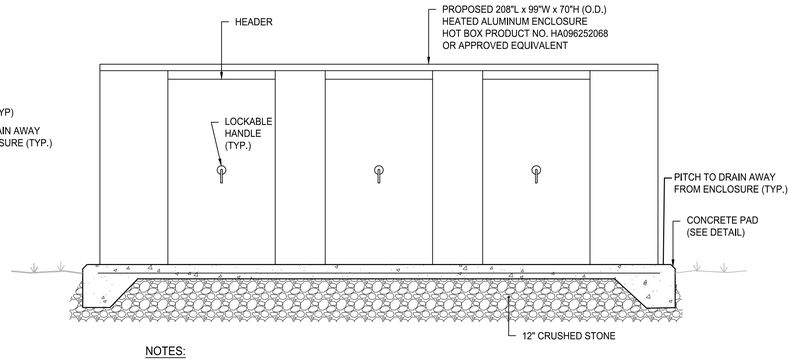
NOT TO SCALE



SECTION A-A



PLAN VIEW



ELEVATION VIEW

NOTES:

1. ALL INTERIOR PIPING SHALL BE CLASS 53 DUCTILE IRON WITH FLANGED JOINTS.
2. ALL BURIED PIPING SHALL BE CLASS 52 CEMENT-LINED DUCTILE IRON WITH MECHANICAL JOINTS.
3. ALL EXPOSED METAL SURFACES TO BE BONDED BY ELECTRICIAN PER NATIONAL ELECTRIC CODE.
4. CONTRACTOR SHALL SUPPORT ALL INTERIOR PIPING WITH PIPE SUPPORTS, NO LESS THAN 3 SUPPORTS PER LINE.
5. COMPONENTS OF ENCLOSURE INCLUDING BUT NOT LIMITED TO ACCESS PANELS AND ANCHORS, QUANTITIES AND SPACING PER MANUFACTURER'S RECOMMENDATIONS.
6. PIPE DIAMETERS OF STRAIGHT RUN PIPE SHALL BE PROVIDED BEFORE METER/STRAINER ASSEMBLY.
7. THE VAULT SHALL BE AN INSULATED HEATED ENCLOSURE OF ALUMINUM CONSTRUCTION AND SHALL COMPLY WITH ASSE 1060, CLASS I.
8. THE VAULT INTERIOR DIMENSIONS SHALL BE APPROPRIATELY SIZED BY THE MANUFACTURER BASED ON INTERIOR PIPING ITEMS.
9. THE ENCLOSURE MUST BE CAPABLE OF MAINTAINING A MINIMUM TEMPERATURE OF 40°F (4°C) AND SHALL BE SUPPORTED BY A CONCRETE PAD IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
10. HEATED ENCLOSURE SHALL BE MANUFACTURED BY HOT BOX OR APPROVED EQUIVALENT.

ABOVE GROUND HEATED ENCLOSURE

NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
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DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DETAILS 8

DRAWING NO.:
C8.8

SHEET NO. 66 OF 93

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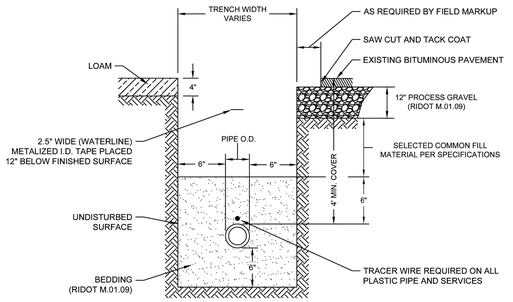
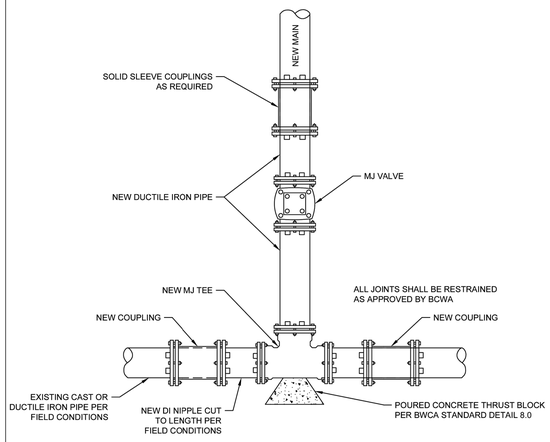


NOTES:

1. ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS AND SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
2. ROADWAY AND SIDEWALK RESTORATION SHALL BE PERFORMED IN ACCORDANCE WITH ALL MUNICIPAL OR RIDOT PERMIT REQUIREMENTS.
3. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

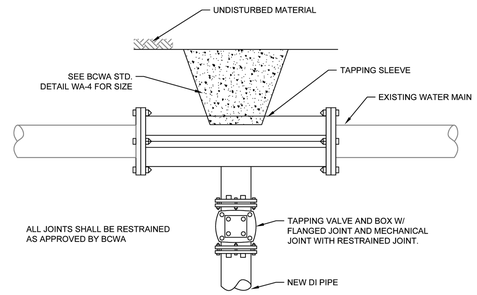
BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL COUNTY WATER AUTHORITY	DETAIL No.	W-1	
TRENCH DETAIL				
NOT TO SCALE				



NOTES:

1. ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
2. ALL WORK AND MATERIALS SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
3. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

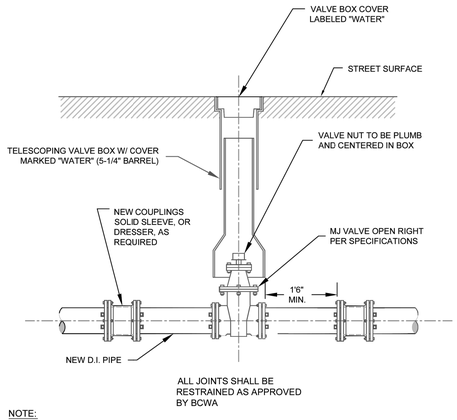
BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL COUNTY WATER AUTHORITY	DETAIL No.	W-3	
NEW TEE IN EXISTING MAIN DETAIL				
NOT TO SCALE				



NOTES:

1. TAPPING SLEEVE, VALVE AND PIPE TO BE DISINFECTED WITH CHLORINE SOLUTION PRIOR TO INSTALL.
2. TAPPING SLEEVE TO BE PRESSURE TESTED USING AIR PRIOR TO TAPPING PIPE.
3. ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
4. THRUST BLOCK PER BCWA SPECIFICATIONS. SEE BCWA STANDARD DETAIL 8.0.
5. ALL WORK AND MATERIALS SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
6. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

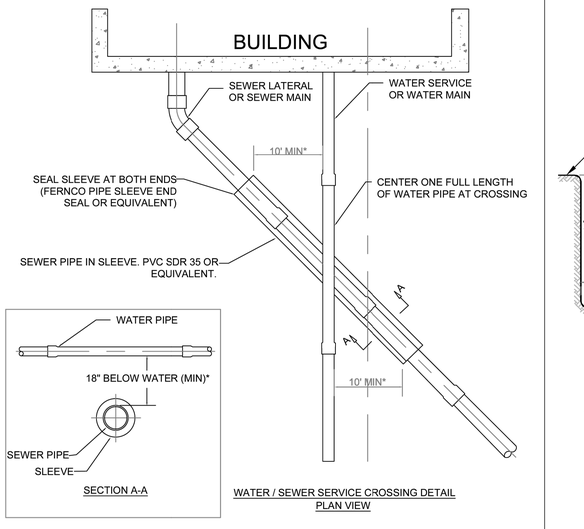
BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL COUNTY WATER AUTHORITY	DETAIL No.	W-4	
TAPPING SLEEVE AND VALVE				
NOT TO SCALE				



NOTE:

1.) ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
2.) ALL WORK AND MATERIALS SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
3.) WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

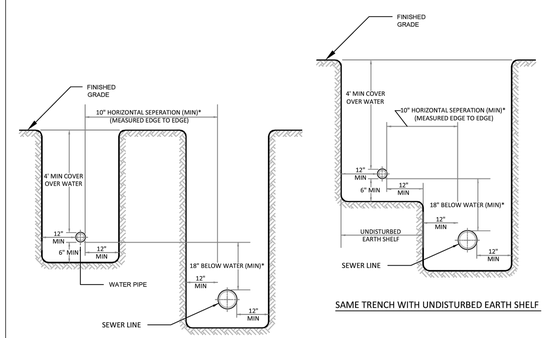
BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL COUNTY WATER AUTHORITY	DETAIL No.	W-5	
NEW MJ VALVE, INSTALLED IN EXISTING MAIN				
NOT TO SCALE				



WATER / SEWER SERVICE CROSSING DETAIL
PLAN VIEW

IF THE 18 INCH MINIMUM VERTICAL SEPARATION CANNOT BE MAINTAINED, CONSTRUCT SEWER USING AWWA APPROVED WATER MAIN PIPE AND PRESSURE TEST TO 150psi. FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING, MEASURED PARALLEL TO THE WATER PIPE, OR ENCASE SEWER PIPE IN PVC SLEEVE.

BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL COUNTY WATER AUTHORITY	DETAIL No.	W-8	
WATER/SEWER CROSSING				
NOT TO SCALE				

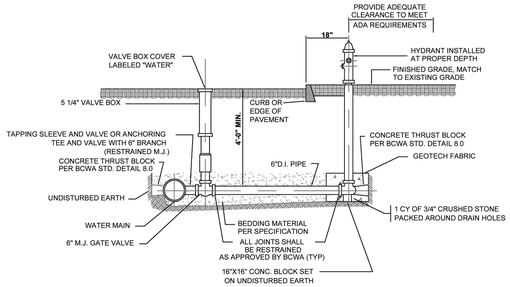


SAME TRENCH WITH UNDISTURBED EARTH SHELF

SEPARATE TRENCHES (PREFERRED)

NOTES:
1. THE VERTICAL SEPARATION BETWEEN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE A MINIMUM OF 18 INCHES.
2. THE HORIZONTAL SEPARATION BETWEEN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE A MINIMUM OF 10 FEET.
3. IF 1 OR 2 CANNOT BE MAINTAINED THE PROPOSED UTILITY SHALL BE INSTALLED WITHIN A CARRIER PIPE UPON WRITTEN APPROVAL BY THE BCWA.
4. SEWER MAIN AND SERVICES ARE NOT ALLOWED TO CROSS OVER THE TOP OF WATER MAIN.
5. CONCRETE ENCASEMENT IS NOT ALLOWED.

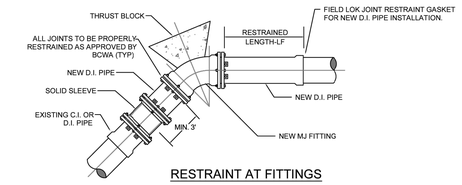
BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL COUNTY WATER AUTHORITY	DETAIL No.	W-9	
UTILITY SEPARATION NEW CONSTRUCTION				
NOT TO SCALE				



NOTES:

1. ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
2. ALL WORK SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
3. HYDRANT MUST BE BURIED TO MANUFACTURERS PROPER DEPTH (BURY LINE) TO ALLOW SUFFICIENT CLEARANCE TO BOLTUNBOLT THE UPPER BARREL AND SAFETY FLANGES AND FOR PROPER BREAK AWAY FUNCTION.
4. USE APPROVED JOINT RESTRAINT GLANDS AND THRUST BLOCKS. THRUST BLOCKING SHALL HAVE A MINIMUM OF 3 SQUARE FEET AGAINST UNDISTURBED EARTH.
5. BARRINGTON HYDRANTS TO BE (OPEN LEFT), 4-1/2" PUMPER NOZZLE WITH CAP THREAD G.A.N.S., TWO 2-1/2" HOSE NOZZLES WITH CAPS , THREAD G.A.N.S., 6" M.J. CONNECTION WITH ACCESSORIES, OPERATING AND CAP NUTS TO BE 1-3/8" POINT TO FLAT POINT PENTAGON.
6. BRISTOL & WARREN HYDRANTS TO BE (OPEN LEFT), 4" PUMPER NOZZLE WITH CAP THREAD G.A 7-465., TWO 2-1/2" HOSE NOZZLES WITH CAPS, THREAD G.A.N.S., 6" M.J. CONNECTION WITH ACCESSORIES, OPERATING AND CAP NUTS TO BE 1-3/8" POINT TO FLAT POINT PENTAGON.
7. FACTORY APPLIED PAINT: BARREL & HEAD - SAFETY YELLOW; BONNET AND CAPS - SILVER ALUMINUM
8. ALL HYDRANTS SHALL HAVE A 5 1/4" DIAMETER MAIN VALVE.
9. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL COUNTY WATER AUTHORITY	DETAIL No.	WA-2	
HYDRANT DETAIL				
NOT TO SCALE				



RESTRAINT AT FITTINGS

MINIMUM SURFACE AREA OF CONCRETE THRUST BLOCK AGAINST UNDISTURBED EARTH -- IN S.F. (SQUARE FEET)
MINIMUM RESTRAINED LENGTH OF PIPE ON EITHER SIDE OF FITTING -- IN L.F. (LINEAR FEET)

PIPE SIZE	PLUG		TEE		90° BEND		45° BEND		22 1/2° BEND		11 1/2° BEND	
	SF	LF	SF	LF	SF	LF	SF	LF	SF	LF	SF	LF
6"	2.8	46	2.8	40	4.0	22	2.1	9	1.1	5	1.0	3
8"	4.8	60	4.8	54	6.8	29	3.7	12	1.9	6	1.0	3
10"	7.3	72	7.3	66	10.3	34	5.6	15	2.8	7	1.4	4
12"	10.3	85	10.3	79	14.5	40	7.9	17	4.0	8	2.0	4
16"	17.8	109	17.8	109	25.2	51	13.6	22	7.0	11	3.5	6
20"	27.5	131	27.5	126	38.9	62	21.0	26	10.7	13	5.4	7
24"	39.2	154	39.2	148	55.4	72	30.0	30	15.3	15	7.7	8

1. ALL CONCRETE TO BE CLASS B (AE)
2. THE "SF" VALUES IN THE ABOVE TABLE ARE BASED ON 3000 p.s.f. SOIL BEARING CAPACITY, 150 p.s.i. TEST PRESSURE AND A 1.5 FACTOR OF SAFETY.
3. THE "LF" VALUES IN THE ABOVE TABLE ARE BASED ON A TYPE 3 LAYING CONDITION, A SAND SILT SOIL DESIGNATION, A 5 FOOT RUN LENGTH, 150 P.S.I. TEST PRESSURE AND A 1.5 FACTOR OF SAFETY AS USED IN THE "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" COMPUTER PROGRAM BY THE DUCTILE IRON PIPE RESEARCH ASSOCIATION.
4. IF SOIL CONDITIONS OR EXCAVATION LIMITS ENCOUNTERED DURING CONSTRUCTION MAKE IT UNFEASIBLE TO PLACE THRUST BLOCKS AGAINST UNDISTURBED EARTH OF THE PROPER BEARING CAPACITY, THE CONTRACTOR SHALL DESIGN AND PLACE SPECIAL REACTION BLOCKS OF SUFFICIENT WEIGHT TO RESIST FULL THRUST UNDER ALL CONDITIONS. THE DESIGN SHALL BE SUBJECT TO BCWA APPROVAL.
5. MINIMUM SURFACE AREAS SHALL BE INCREASED BY 50% IF DEEMED NECESSARY BY THE ENGINEER.
6. A MECHANICAL JOINT RESTRAINT SYSTEM MUST BE USED FOR VERTICAL BENDS.
7. AT THE DISCRETION OF THE ENGINEER, A JOINT RESTRAINT SYSTEM MAY BE SUBSTITUTED FOR OR USED IN COMBINATION WITH PROPER THRUST BLOCKING.
8. A 48 HR. CURING PERIOD MUST BE GIVEN BEFORE FULL LINE PRESSURE CAN BE APPLIED TO NEW CONCRETE THRUST BLOCKS.
9. THRUST BLOCK DESIGN FOR PIPE LARGER THAN 24" SHALL BE REVIEWED ON AN INDIVIDUAL BASIS BY THE BCWA.
10. THE RESTRAINED LENGTH IS BASED ON DUCTILE IRON PIPE WITH 4 FOOT COVER. IF THE DEPTH VARIES, OR THE DUCTILE IRON PIPE IS POLY WRAPPED THE RESTRAINED LENGTH MUST BE RE-CALCULATED.
11. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL COUNTY WATER AUTHORITY	DETAIL No.	WA-4	
THRUST BLOCK				
NOT TO SCALE				

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

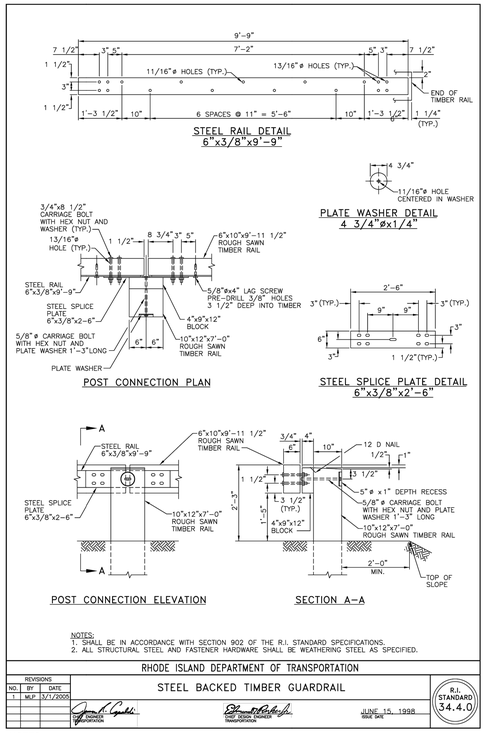
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 9

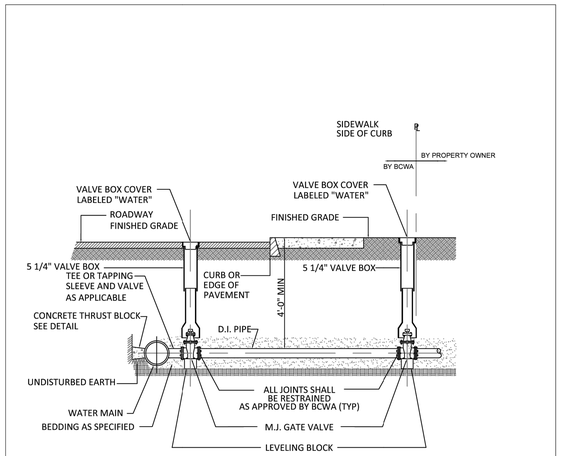
DRAWING NO.:
C8.9

SHEET NO. 67 OF 93

Z:\JOBS\23_Jobs\23099.01 BWRSD\2 Design\Civil\Sheets\C8.9 DETAILS 9.dwg



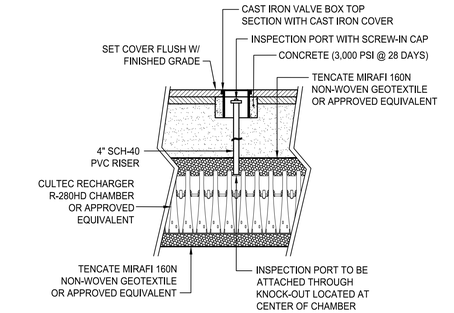
NOTES:
1. FOR ALL LOCATIONS, DETECTABLE WARNING PANELS SHALL BE INSTALLED IN ACCORDANCE WITH LANDSCAPE DRAWINGS AND SPECIFICATION 321212 CONCRETE PAVING



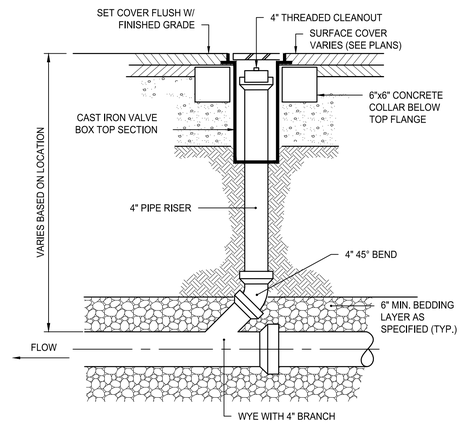
NOTE:

1.) ALL SERVICE MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
2.) SERVICE LINE FROM GATE BOX TO BUILDING SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
3.) TAPPING SLEEVE TO BE PRESSURE TESTED PRIOR TO INSTALLATION.
4.) STREET SIDE OF SERVICE TO BE INSTALLED FIRST, LOCATION TO BE DETERMINED BY BCWA.
5.) WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

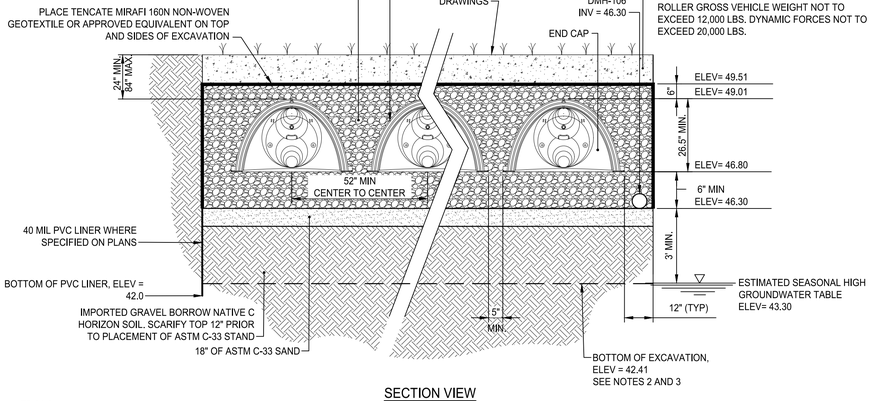
BRISTOL COUNTY WATER AUTHORITY
400 CHILD STREET, WARREN, RHODE ISLAND
WATER SERVICE CONNECTION GREATER THAN 4-INCHES
NOT TO SCALE
BRISTOL COUNTY WATER AUTHORITY
SECTION: WATER MAIN INSTALLATION
DECEMBER 2018
DETAIL No. WA-7
REVISIONS: 1/1/2018 - CONVERTED TO AUTOCAD



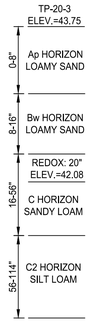
INSPECTION PORT DETAIL
NOT TO SCALE



CLEANOUT DETAIL
NOT TO SCALE



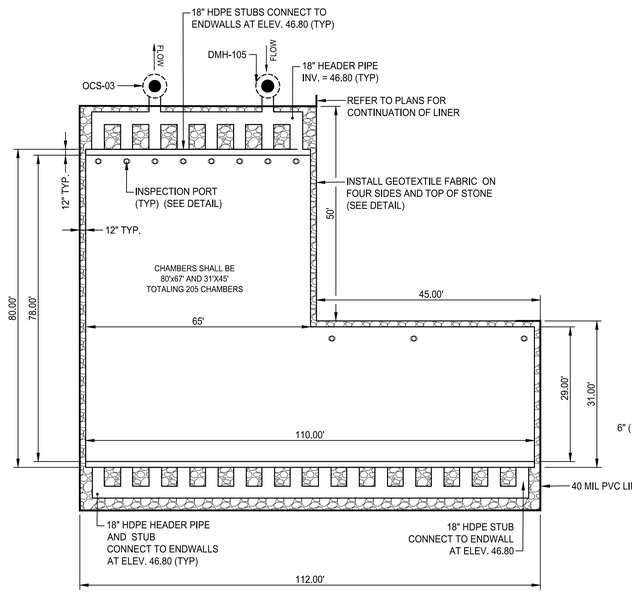
SECTION VIEW



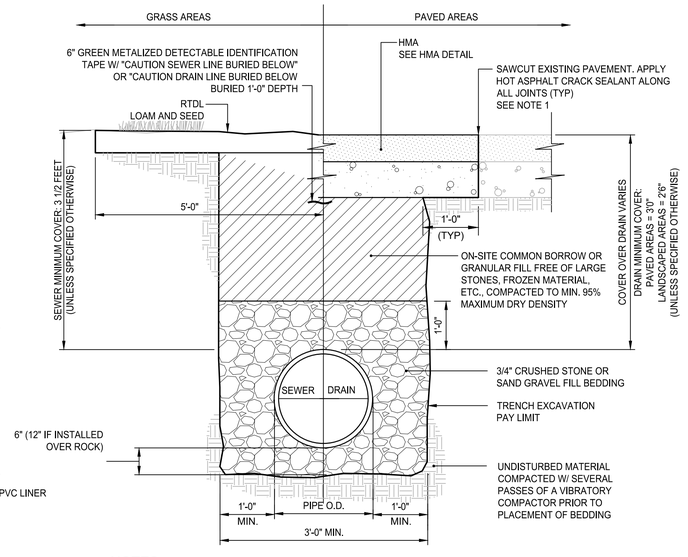
NOTES:

1. CONTRACTOR SHALL TAKE PRECAUTION NOT TO COMPACT SUBGRADE.
2. CONTRACTOR SHALL EXCAVATE TO C-HORIZON SOILS WITHIN LIMITS OF INFILTRATION. CONTRACTOR SHALL EXCAVATE TO B-HORIZON SOILS OUTSIDE OF LIMITS OF INFILTRATION.
3. GRAVEL BORROW MATERIAL UNDER UGIS SHALL CONFORM TO A USDA LOAMY SAND OR SANDY LOAM SOIL TEXTURE. CONTRACTOR SHALL SEND A SAMPLE TO THE ENGINEER TO CLASSIFY THE USDA SOIL TEXTURE AS PART OF THE SUBMITTAL.
4. CONTRACTOR SHALL NOT PLACE OR OPERATE HEAVY MACHINERY ON SUBGRADE OF INFILTRATING AREAS.
5. CONTRACTOR SHALL NOTIFY ENGINEER (48 HRS MIN) PRIOR TO EXPOSING SUBGRADE TO SCHEDULE SUBGRADE OBSERVATION.
6. ONCE CONTRACTOR HAS SUBGRADE EXPOSED, THE ENGINEER SHALL BE CONTACTED FOR SUBGRADE OBSERVATION.
7. CONSTRUCTION OF THE SYSTEM SHALL NOT PROCEED FURTHER UNTIL ENGINEER OBSERVES SUBGRADE, STOCKPILED CRUSHED STONE PRIOR TO INSTALLATION.
8. CONTRACTOR SHALL INSTALL UNDERGROUND INFILTRATION SYSTEM PER MANUFACTURERS RECOMMENDATIONS.
9. ESHGWT AS DETERMINED BY INTERPOLATING THE GROUNDWATER OBSERVED AT TP-20-3

UNDERGROUND INFILTRATION SYSTEM
NOT TO SCALE



PLAN VIEW



NOTES:

1. WHERE THE DISTANCE BETWEEN THE SAWCUT AND EDGE OF PAVEMENT IS 3' OR LESS, THE CONTRACTOR SHALL REPLACE THE PAVEMENT FROM THE TRENCH EDGE TO THE EXISTING EDGE OF PAVEMENT.
2. 3/4" DIA. CRUSHED STONE SHALL BE USED AS BEDDING WHERE TRENCH IS BELOW THE GROUND WATER TABLE.

GRAVITY SEWER/DRAIN TRENCH DETAIL
NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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DAVID L. POTTER
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REGISTERED PROFESSIONAL ENGINEER (CIVIL)
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CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

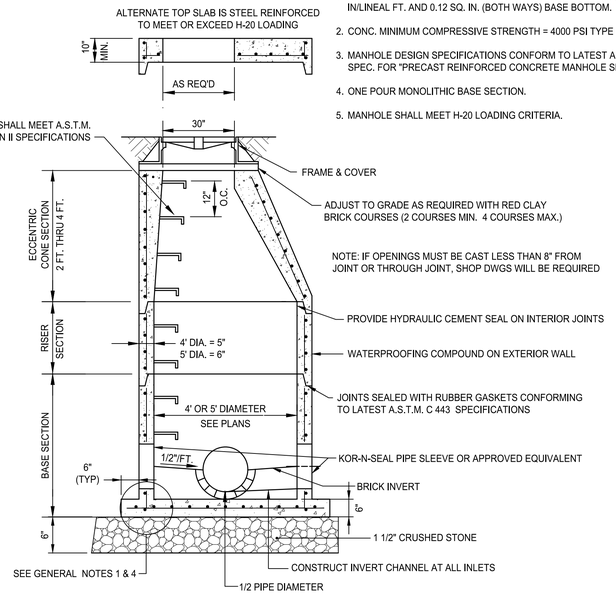
DRAWING TITLE:
DETAILS 10

DRAWING NO.:
C8.10
SHEET NO. 68 OF 93

Z:\...\23099.01 - Mt Hope HS - RIDEP - Design\...\C8.10 DETAILS 10.dwg

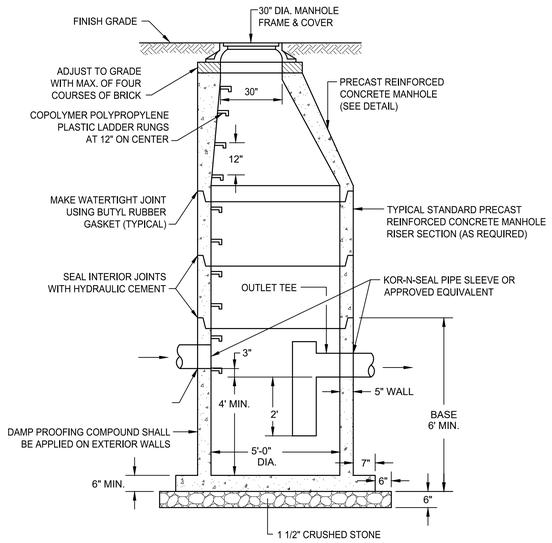
GENERAL NOTES:

1. REINFORCING STEEL CONFORMS TO LATEST A.S.T.M. A 185 SPEC. 0.12 SQ. IN/LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
2. CONC. MINIMUM COMPRESSIVE STRENGTH = 4000 PSI TYPE III CEMENT.
3. MANHOLE DESIGN SPECIFICATIONS CONFORM TO LATEST A.S.T.M. C 478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
4. ONE POUR MONOLITHIC BASE SECTION.
5. MANHOLE SHALL MEET H-20 LOADING CRITERIA.



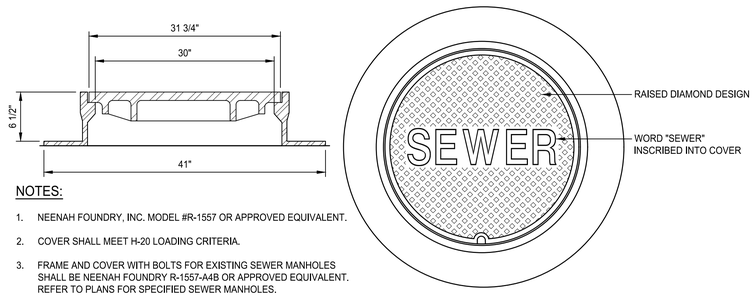
TYPICAL SEWER MANHOLE DETAIL

NOT TO SCALE



PRECAST CONCRETE OIL WATER SEPARATOR (OWS)

NOT TO SCALE

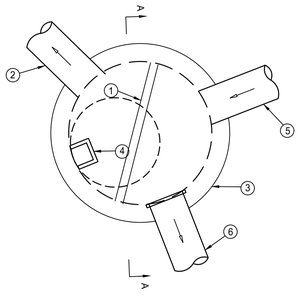


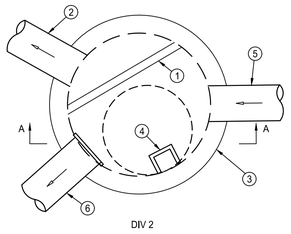
NOTES:

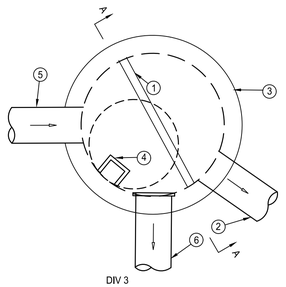
1. NEENAH FOUNDRY, INC. MODEL #R-1557 OR APPROVED EQUIVALENT.
2. COVER SHALL MEET H-20 LOADING CRITERIA.
3. FRAME AND COVER WITH BOLTS FOR EXISTING SEWER MANHOLES SHALL BE NEENAH FOUNDRY R-1557-A4B OR APPROVED EQUIVALENT. REFER TO PLANS FOR SPECIFIED SEWER MANHOLES.

SANITARY MANHOLE FRAME & COVER

NOT TO SCALE







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DIV-2	56.15	8	56.80
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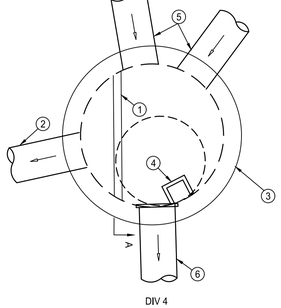
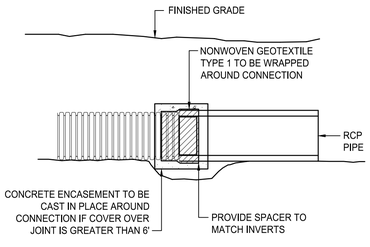
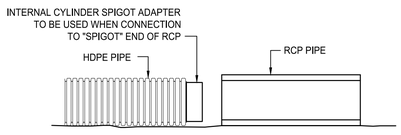
DIV-4	46.90	18	48.40





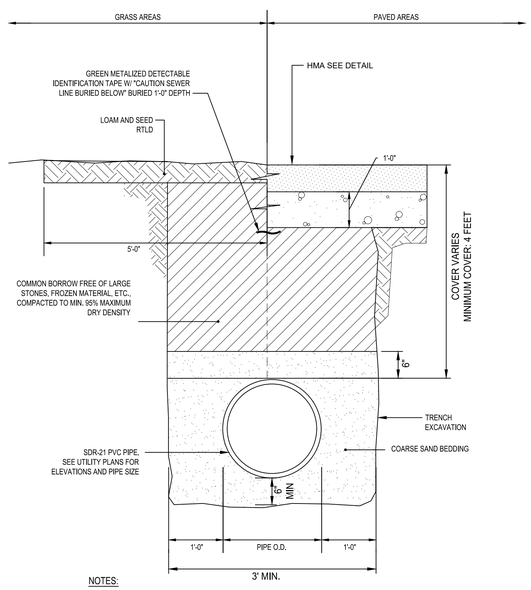


NOTES:

1. INTERNAL CYLINDER ADAPTER TO BE WELDED TO HDPE, OUTSIDE DIAMETER TO BE INSERTED INTO INSIDE DIAMETER OF CONCRETE PIPE.
2. NON-WOVEN GEOTEXTILE TO BE WRAPPED AROUND CONNECTION WITH FULL SEAM OVERLAP TO PROVIDE FULL PROTECTION FROM SOIL INTRUSION.
3. CONNECTION TO BE MADE IN ACCORDANCE WITH PIPE MANUFACTURER'S REQUIREMENTS.
4. INTERNAL CYLINDER SPIGOT ADAPTER NOT REQUIRED IF HDPE IS CONNECTION TO "BELL" END OF RCP.

HDPE/RCP PIPE JOINT

NOT TO SCALE

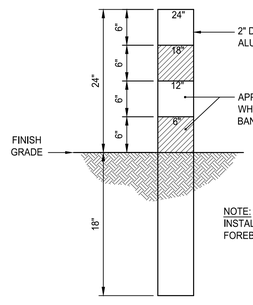


NOTES:

1. FOR PIPE INSTALLATION IN ROCK OR LEDGE MINIMUM TRENCH WIDTH SHOULD EQUAL THE DIAMETER OF THE PIPE PLUS 18 INCHES ON EACH SIDE.

TYPICAL SEWER FORCE MAIN TRENCH DETAIL

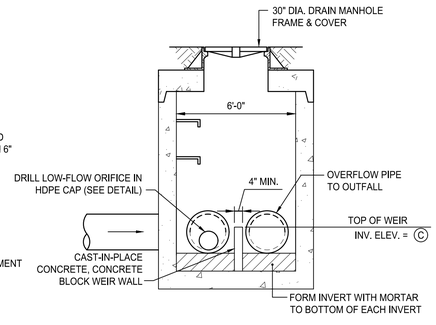
NOT TO SCALE



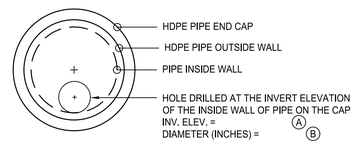
NOTE:
INSTALL IN ALL SEDIMENT FOREBAYS.

SEDIMENT MARKER DETAIL

NOT TO SCALE



SECTION A-A DIVERSION WEIR WALL ELEVATION



CAP ELEVATION

TYPICAL NOTES LEGEND

1. CAST IN PLACE CONCRETE DIVERSION WEIR WALL (4" WIDE)
2. OVERFLOW PIPE TO OUTFALL
3. PRECAST 6' DIAMETER MANHOLE (RIDOT STANDARD 4.2.2)
4. PROVIDE STEPS PER RIDOT STANDARD 4.2.1
5. PIPE IN
6. PIPE WITH CAP AND LOW FLOW WATER QUALITY ORIFICE (REFER TO CAP DETAIL) TO BIORETENTION AREA / SAND FILTER

TYPICAL DIVERSION MANHOLE DETAIL

NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

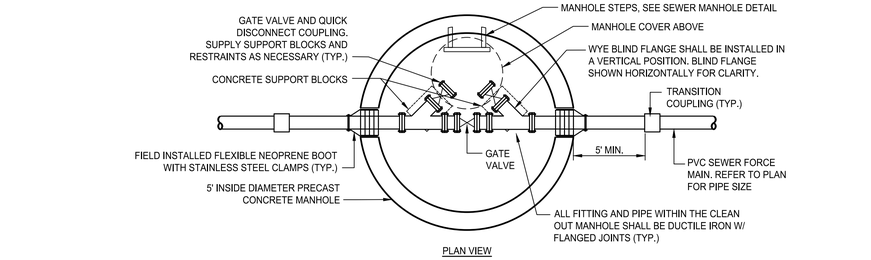
DRAWING TITLE:

DETAILS 11

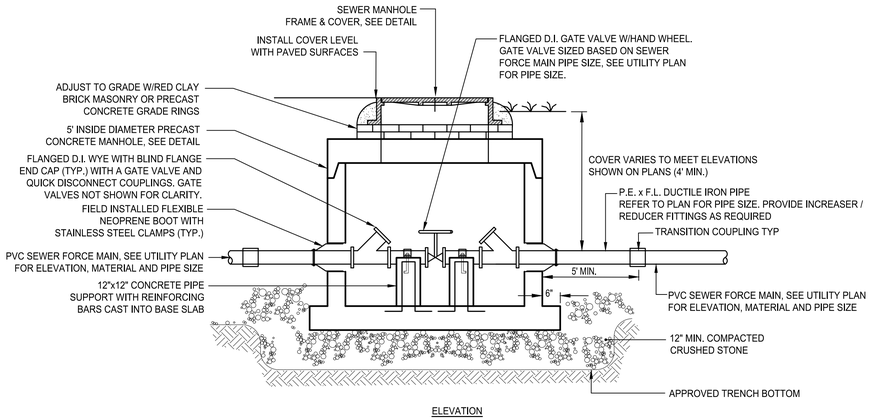
DRAWING NO.:
C8.11

SHEET NO. 69 OF 93

Z:_JOBS\23099.01 John's 2-3\23099.01 BMP.dwg, 6/2/2025 9:41:49 AM, Adobe PDF, Shaye Ali



PLAN VIEW



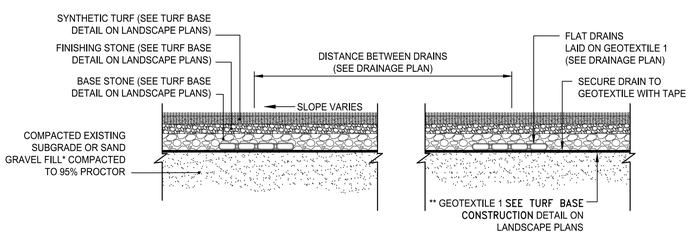
ELEVATION

NOTES:

1. MATERIAL BENEATH AND SURROUNDING EACH MANHOLE SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY.
2. ALL JOINTS BETWEEN MANHOLE SECTIONS SHALL BE SEALED WITH A BITUMASTIC SEALANT. ALL EXTERIOR JOINTS SHALL BE PARGED.

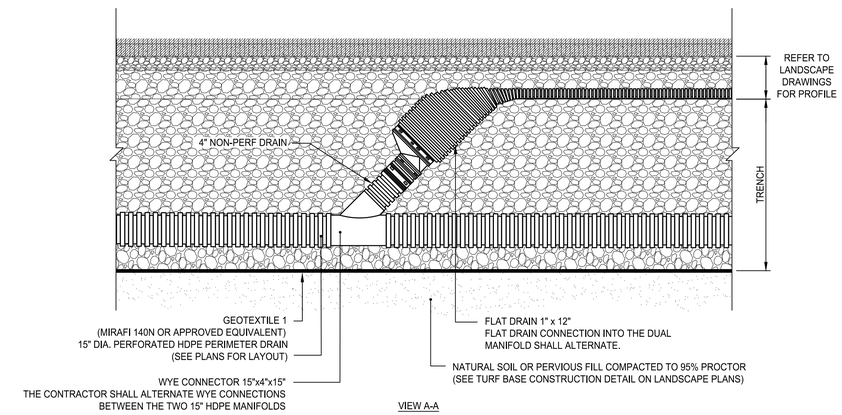
FORCE MAIN CLEANOUT MANHOLE

NOT TO SCALE



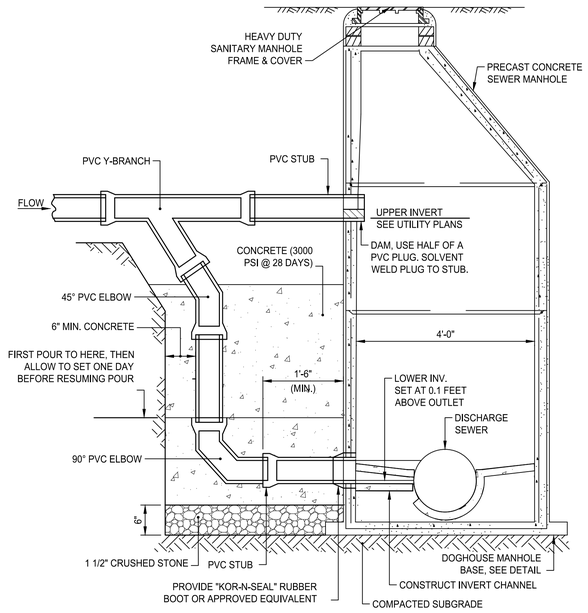
FLAT DRAINS UNDER SYNTHETIC TURF FIELD

NOT TO SCALE

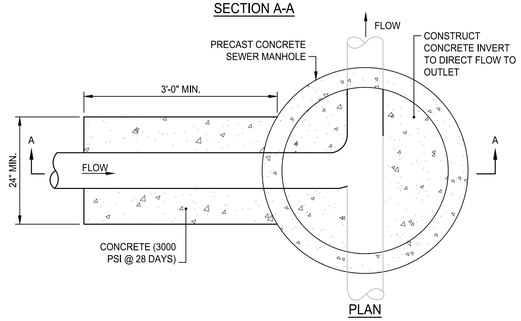


CONNECTION BETWEEN FLAT DRAIN & PERIMETER OR COLLECTOR DRAIN

NOT TO SCALE



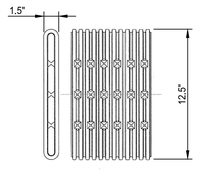
SECTION A-A



PLAN

OUTSIDE DROP MANHOLE DETAIL

NOT TO SCALE



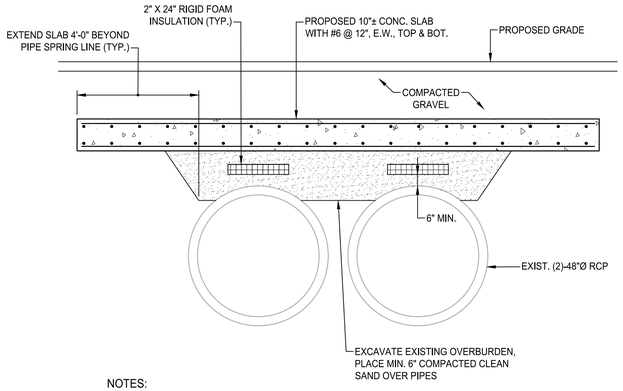
SLOT LENGTH (AVG), IN.= 1.125
SLOT WIDTH (AVG), IN.= 0.125
WATER INLET AREA (APPROX), IN.^{2}/FT = 20

Fabric Properties	Test Method	Minimum Average Roll Values
Grab Tensile Strength (lbs.) (weakest principle direction)	ASTM D4632	120
Grab Elongation (%) (weakest principle direction)	ASTM D4633	60
Trapezoidal Tear (lbs.) (weakest principle direction)	ASTM D4533	40
Puncture (lbs.)	ASTM D3786	30
Permittivity (sec^{-1})	ASTM D4491	0.7
AOS (U.S. Sieve Size)	ASTM D4751	60
U.V. Resistance	ASTM D4355	70

NOTES:
1. DRAIN SHALL HAVE ANNULAR INTERIOR AND EXTERIOR CORRUGATIONS AND SHALL MEET ASTM D7001.
2. OUTSIDE DIMENSIONS SHALL BE 1.5" THICK BY 12.5" WIDE. SHALL HAVE INTERNAL BRACING ADJOINING EACH LONG WALL TO PREVENT CRUSHING UNDER TYPICAL LOADING.
3. ALL PIPE AND FITTINGS SHALL BE MADE OF POLYETHYLENE WITH A MINIMUM CELL CLASSIFICATION OF 424420C AS DEFINED AND DESCRIBED IN ASTM D3350.
4. DRAIN SHALL BE WRAPPED AS REQUIRED IN GEOTEXTILE FABRIC PER MANUFACTURER'S RECOMMENDATIONS.

FLAT DRAIN

NOT TO SCALE

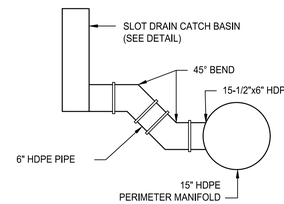


NOTES:

1. THIS DETAIL IS PROVIDED FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL INCLUDE COST FOR DESIGN AND INSTALLATION OF CROSSING IN BASE BID.
2. CONTRACTOR SHALL HIRE A STRUCTURAL ENGINEER TO PREPARE DESIGN DRAWINGS AND CALCULATIONS FOR A PROPOSED ROADWAY CROSSING OVER EXISTING 48" DIAMETER CULVERT PIPES.
3. ROADWAY CROSSING SHALL BE DESIGNED TO WITHSTAND H-20 LOADING CRITERIA, DISPERSE LOADS OFF EXISTING CULVERTS, AND AVOID DAMAGE TO EXISTING CULVERT PIPES. ROADWAY CROSSING IS WITHIN THE EXISTING FLOOD ZONE AND SHALL BE CAPABLE OF WITHSTANDING INUNDATION AND FORCES EXERTED BY SILVER CREEK DURING STORM EVENTS.
4. CONTRACTOR SHALL PROVIDE SUBMITTAL STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF RHODE ISLAND INCLUDING CALCULATIONS, PLANS, SECTION AND DETAILS FOR REVIEW BY THE OWNER'S REPRESENTATIVE.
5. CONTRACTOR SHALL SELECTIVELY DEMOLISH EXISTING FOUNDATION OVER EXISTING CULVERTS. CONTRACTOR SHALL PHOTODOCUMENT CULVERT PIPES BEFORE AND AFTER CONSTRUCTION TO CONFIRM THERE IS NO DAMAGE TO PIPES. COPY OF PHOTODOCUMENTATION SHALL BE PROVIDED TO OWNER'S REPRESENTATIVE.
6. SUBMITTAL SHALL DEPICT PORTIONS OF EXISTING FOUNDATION TO BE REMOVED AND PORTIONS OF FOUNDATION THAT WILL REMAIN IN PLACE.
7. 7. CONTRACTOR IS MADE AWARE THAT THE CROSSING IS WITHIN A FLOOD ZONE. DURING CONSTRUCTION, CONTRACTOR IS RESPONSIBLE TO ENSURE THAT PROPOSED IMPROVEMENTS ARE PROTECTED FROM FLOODING WITHIN SILVER CREEK.

HEAVY DUTY HOT MIX ASPHALT WITH 10" REINFORCED CONCRETE SLAB FOR CULVERT CROSSING

NOT TO SCALE



ATHLETIC FIELD SLOT DRAIN CONNECTION TO PERIMETER MANIFOLD

NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

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PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 12

DRAWING NO.:
C8.12

SHEET NO. 70 OF 93

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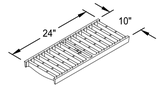
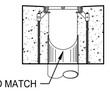


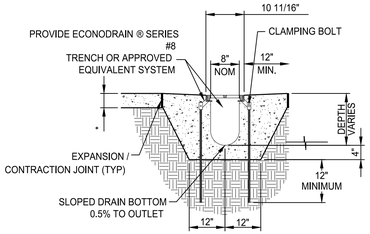
- STANDARD -
H-20 CAST IRON GRATE
55% OPEN AREA
65.8 SQ. INCHES PER LINEAR FOOT

GRATE DETAIL

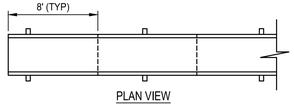


CUT OUTLET PIPE TO MATCH PROFILE OF TRENCH DRAIN

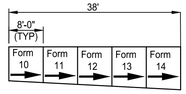
OUTLET FROM END OF TRENCH



SHALLOW EPS FORMS		
EPS FORM	DEPTH MIN	DEPTH MAX
10	8"	8 1/2"
11	8 1/2"	9"
12	9"	9 1/2"
13	9 1/2"	10"
14	10"	10 1/2"



PLAN VIEW

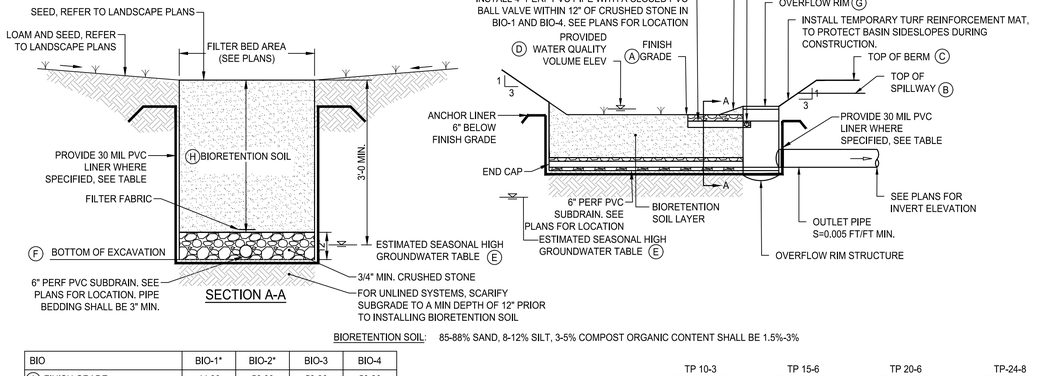


SECTION

CONSTRUCTION NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
2. SECURE OUTLET PIPE PRIOR TO CONCRETING OPERATIONS.
3. TRENCH DRAIN AND GRATE SHALL BE RATED TO WITHSTAND H-20 LOADING CRITERIA.
4. REFER TO LANDSCAPING DRAWINGS FOR ATHLETIC TRENCH DRAINS.

TRENCH DRAIN DETAIL

NOT TO SCALE



SECTION A-A

BIORETENTION SOIL: 85-88% SAND, 8-12% SILT, 3-5% COMPOST ORGANIC CONTENT SHALL BE 1.5%-3%

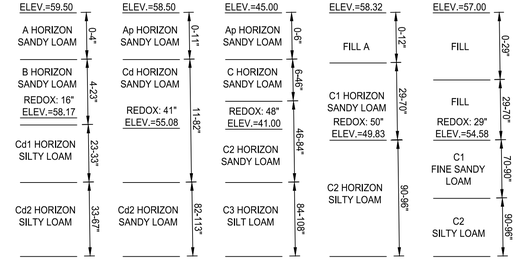
BIO	BIO-1*	BIO-2*	BIO-3	BIO-4
(A) FINISH GRADE	44.00	56.00	59.00	59.80
(B) TOP OF SPILLWAY	45.00	57.50	N/A	N/A
(C) TOP OF BERM	46.00	58.50	61.50	62.00
(D) PROVIDED WQV	44.50	54.66	58.91	58.42
(E) ESTIMATED SEASONAL HIGH GROUNDWATER TABLE	41.00	54.58	56.37	56.68
(F) BOTTOM OF EXCAVATION	42.00	52.00	55.25	56.80
(G) OVERFLOW RIM	44.50	56.50	59.75	60.30
TEST PITS REFERENCED	TP 20-6	TP 24-9	TP 24-8	TP 10-3 TP 15-6
(H) BIORETENTION MEDIA DEPTH	24"	36"	33"	36"
IS THE SYSTEM LINED?	NO	YES	YES	NO
DOES THE SYSTEM HAVE A SUBDRAIN?	NO	YES	YES	NO
DOES THE SYSTEM HAVE A AUXILIARY DRAIN PIPE?	YES	NO	NO	YES

* SIDEWALK GRATE

NOTES:
1. ESHGWT WAS DETERMINED BY TEST PIT DATA PERFORMED ON FEBRUARY 22, 2010, JULY 23, 2015, OCTOBER 9, 2020, AND JULY 18, 2024.

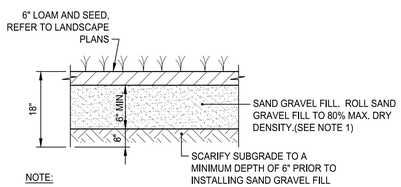
BIORETENTION DETAIL

NOT TO SCALE



BIORENTION NOTES:

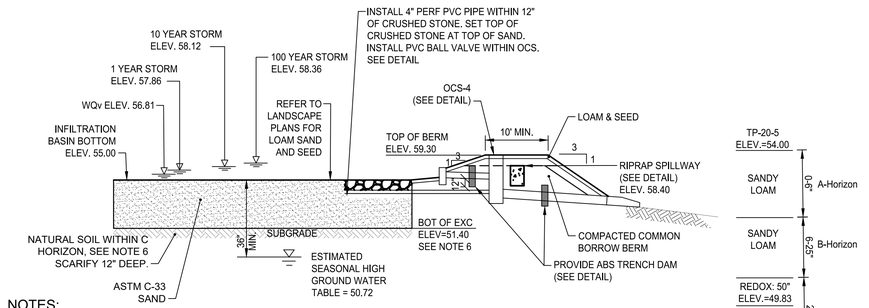
1. ABSOLUTELY NO RUNOFF SHALL ENTER THE BIORETENTION AREA UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.
2. CONSTRUCTION EQUIPMENT AND TRAFFIC SHALL BE RESTRICTED FROM TRAVELING OVER THE SAND FILTER AREA TO MINIMIZE COMPACTION OF THE SOILS.
3. IF NECESSARY, UTILIZE LIGHT-TRACKED EQUIPMENT WHEN EXCAVATING WITHIN THE BMP AREA TO AVOID COMPACTION OF THE BASIN FLOOR.
4. INITIAL EXCAVATION SHALL BE CARRIED TO WITHIN 1 FOOT OF THE SUBGRADE ELEVATION. FINAL EXCAVATION TO THE BASIN SUBGRADE SHALL BE DEFERRED UNTIL ALL UPSTREAM DISTURBED AREAS HAVE BEEN STABILIZED OR PROTECTED.
5. CONTRACTOR SHALL CONTACT THE ENGINEER 48 HOURS PRIOR TO EXPOSING THE SUBGRADE TO COORDINATE ENGINEER'S OBSERVATION OF SUBGRADE.
6. CONSTRUCTION OF THE SYSTEM SHALL NOT PROCEED FURTHER UNTIL ENGINEER OBSERVES SUBGRADE AND BACKFILL MEDIA PRIOR TO INSTALLATION.
7. ESHGWT FOR BIO-04 WAS DETERMINED BY INTERPOLATING THE GROUNDWATER OBSERVED AT TP-10-3 AND TP-15-6.



NOTE:
1. IF SOIL IN THE QPA HAS BEEN COMPACTED, THE SOIL MUST BE SUITABLY AMENDED, TILLED, AND RE-VEGETATED ONCE CONSTRUCTION IS COMPLETE.

QUALIFYING PERVIOUS AREA DETAIL

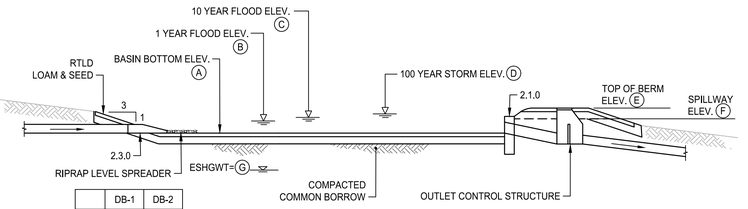
NOT TO SCALE



NOTES:
1. DO NOT COMPACT OR RUN HEAVY MACHINERY WITHIN BASIN.
2. ONCE CONTRACTOR HAS SUBGRADE EXPOSED, THE ENGINEER SHALL BE CONTACTED FOR OBSERVATION.
3. INFILTRATION BASIN SUBGRADE SHALL BE SCARIFIED 12" DEEP PRIOR TO PLACEMENT OF SAND LAYER.
4. RUNOFF SHALL NOT BE DIRECTED INTO THE BASIN UNTIL THE VEGETATION ON THE SIDE SLOPES HAS ESTABLISHED AND ALL UPSTREAM AREAS ARE STABILIZED.
5. BASIN BERM SHALL BE CONSTRUCTED WITH COMMON BORROW PLACED IN 12" LIFTS AND COMPACTED TO 95% TO FINISH GRADE. REMOVE ALL EXISTING TOPSOIL AND ORGANIC MATERIAL PRIOR TO CONSTRUCTION OF BASIN BERM. COMMON BORROW SHALL EXTEND 12" BELOW BASIN BOTTOM.
6. CONTRACTOR SHALL EXCAVATE ACROSS THE BASIN BOTTOM AS REQUIRED TO FULLY REMOVE THE 'A' AND 'B'-HORIZON SOILS. ASTM C-33 SAND SHALL BE PLACED TO PROPOSED SUBGRADE.
7. ESHGWT WAS DETERMINED BY INTERPOLATING THE GROUNDWATER OBSERVED AT TP-20-5.

INFILTRATION BASIN SECTION

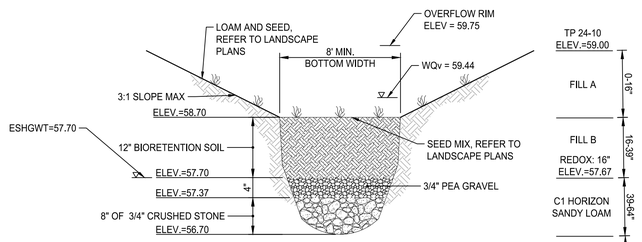
NOT TO SCALE



	DB-1	DB-2
(A)	44.00	55.60
(B)	44.98	56.91
(C)	46.46	58.09
(D)	48.08	58.67
(E)	49.00	61.10
(F)	48.10	60.10
(G)	42.80	53.90

DETENTION BASIN SECTION

NOT TO SCALE



MODIFIED BIORETENTION SOIL: 75-80% SAND, 20-25% COMPOST SHALL BE WELL-AGED LEAF COMPOST

NOTES:
1. THE CONTRACTOR SHALL EXCAVATE ACROSS THE SWALE BOTTOM AS REQUIRED TO FULLY REMOVE THE 'A' AND 'B'-HORIZON SOILS. ASTM C-33 SAND SHALL BE PLACED TO PROPOSED SUBGRADE.
2. SEE PLANS FOR LOCATION AND INVERTS OF CATCH BASINS.
3. ESHGWT AS DETERMINED BY INTERPOLATING THE GROUNDWATER OBSERVATIONS OBSERVED ON JULY 18, 2024 AND FEBRUARY 22, 2010.

WET SWALE

NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

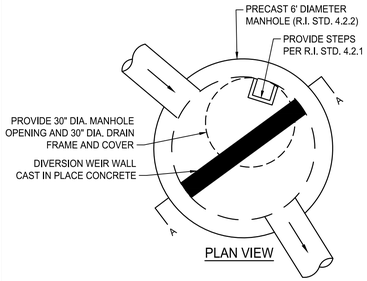
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 13

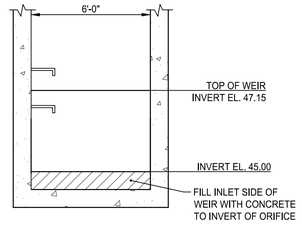
DRAWING NO.:
C8.13

SHEET NO. 71 OF 93

Z:\JOBS\23_obs\23099.01 BMROS Mt Hope HS-ROF Slope Rv-Kv-RI\DWG\DETAILS.dwg



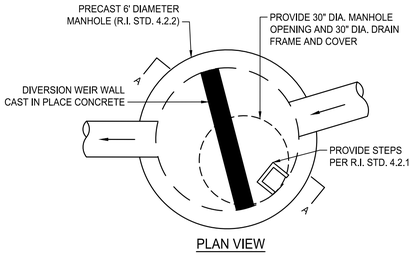
PLAN VIEW



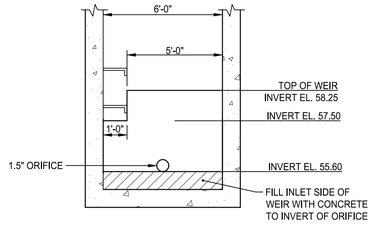
SECTION A-A WEIR WALL ELEVATION

OUTLET CONTROL STRUCTURE (OCS-1)

NOT TO SCALE



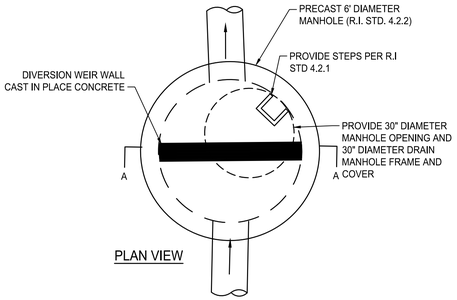
PLAN VIEW



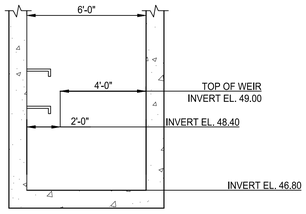
SECTION A-A WEIR WALL ELEVATION

OUTLET CONTROL STRUCTURE (OCS-2)

NOT TO SCALE



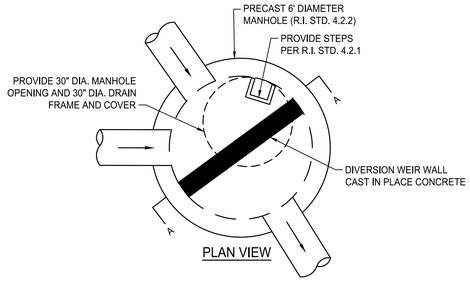
PLAN VIEW



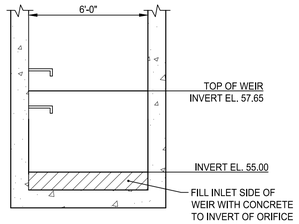
SECTION A-A WEIR WALL ELEVATION

OUTLET CONTROL STRUCTURE (OCS-03)

NOT TO SCALE



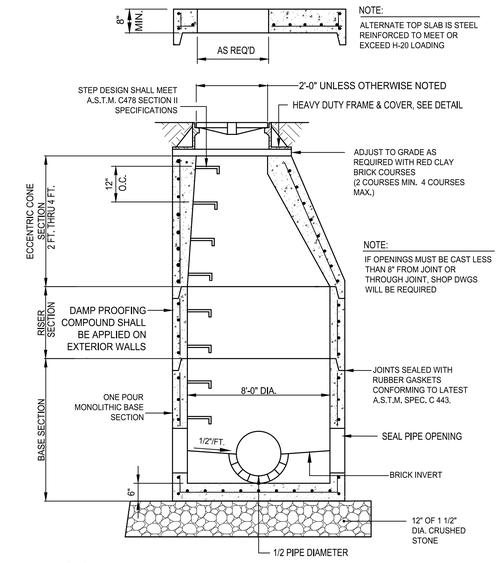
PLAN VIEW



SECTION A-A WEIR WALL ELEVATION

OUTLET CONTROL STRUCTURE (OCS-4)

NOT TO SCALE

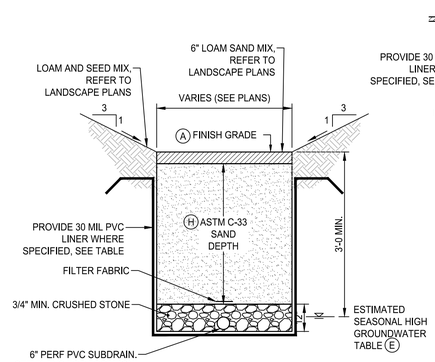


NOTES:

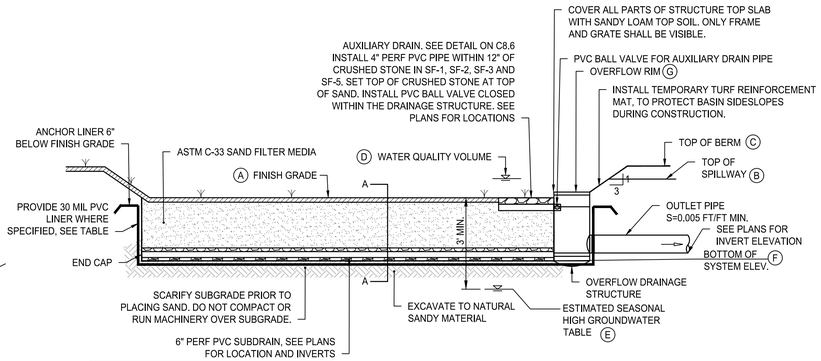
1. CONCRETE: 5,000 PSI MINIMUM STRENGTH AFTER 28 DAYS.
2. DESIGN LOADING: AASHTO HS20-44, 0 TO 5 FEET COVER.
3. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60. STEEL REINFORCEMENT SHALL BE MINIMUM OF 0.15 SQ IN/LF.
4. STRUCTURE SHALL CUSTOM MANUFACTURED FOR THE PROHJECT INLETS AND OUTLET.

8' DIA DRAIN MANHOLE DETAIL

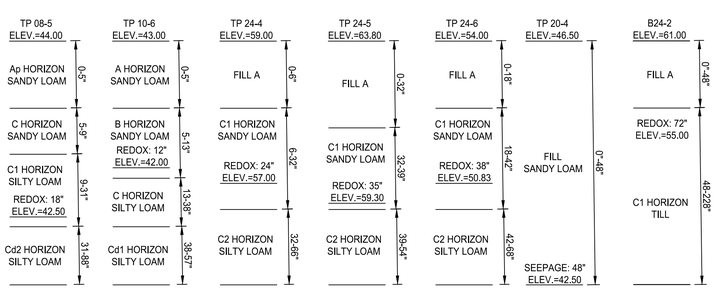
NOT TO SCALE



SECTION A-A

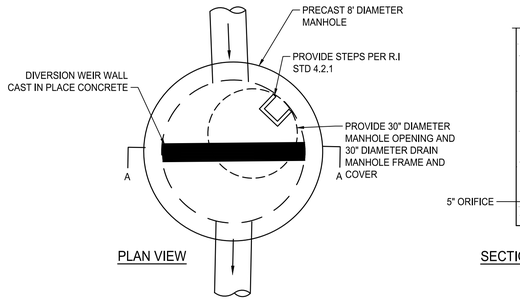


SAND FILTER	SF-1	SF-2	SF-3	SF-4	SF-5
A	46.00	54.85	60.00	61.00	49.00
B	48.10	56.00	61.10	N/A	50.2
C	49.00	57.00	62.00	62.00	51.50
D	46.63	55.02	57.97	59.00	49.35
E	42.50	51.83	53.30	63.40	45.40
F	42.50	51.85	57.00	58.00	46.00
G	46.65	55.25	60.65	61.50	49.75
H	36"	30"	30"	18"	30"
TEST PIT	TP 08-5 TP 10-6	TP 24-6	TP 24-4 TP 24-6 TP 20-05	TP 24-5 TP 24-4	TP20-4
LINED	NO	NO	NO	YES	NO
SUBDRAIN	NO	NO	NO	YES	NO
AUXILIARY DRAIN	YES	YES	YES	YES	YES

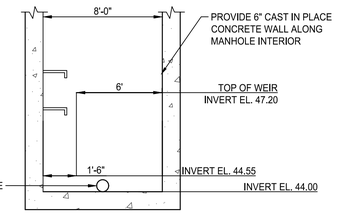


SAND FILTER DETAIL

NOT TO SCALE



PLAN VIEW



SECTION A-A WEIR WALL ELEVATION

OUTLET CONTROL STRUCTURE (OCS-05)

NOT TO SCALE

SAND FILTER NOTES:

1. ABSOLUTELY NO RUNOFF SHALL ENTER THE SAND FILTER AREA UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.
2. CONSTRUCTION EQUIPMENT AND TRAFFIC SHALL BE RESTRICTED FROM TRAVELING OVER THE SAND FILTER AREA TO MINIMIZE COMPACTION OF THE SOILS.
3. IF NECESSARY, UTILIZE LIGHT-TRACKED EQUIPMENT WHEN EXCAVATING WITHIN THE SAND FILTER AREA TO AVOID COMPACTION OF THE BASIN FLOOR.
4. INITIAL EXCAVATION SHALL BE CARRIED TO WITHIN 1 FOOT OF THE SUBGRADE ELEVATION. FINAL EXCAVATION TO THE BASIN SUBGRADE SHALL BE DEFERRED UNTIL ALL UPSTREAM DISTURBED AREAS HAVE BEEN STABILIZED OR PROTECTED.
5. CONTRACTOR SHALL CONTACT THE ENGINEER 48 HOURS PRIOR TO EXPOSING THE SUBGRADE TO COORDINATE ENGINEER'S OBSERVATION OF SUBGRADE.
6. CONSTRUCTION OF THE SYSTEM SHALL NOT COMMENCE UNTIL ENGINEER OBSERVES SUBGRADE AND BACKFILL MEDIA AND GRANTS PERMISSION TO PROCEED.
7. SEED WITHIN SAND FILTER SHALL BE NATIVE SEED MIX PER R.I. STD. M.18,10.6.
8. SCREENED LOAM SHALL PLACED ABOVE THE SAND FILTER MEDIA SHALL CONFORM TO "LOAMY SAND" PER USDA TEXTURAL CLASSIFICATION SYSTEM.
9. ESHGWT WAS DETERMINED BY FROM TEST PIT DATA PERFORMED ON NOVEMBER 17, 2008, FEBRUARY 22, 2010, JULY 23, 2015, OCTOBER 9, 2020 AND JULY 18, 2024.
10. SAND FILTER-01 OVERFLOW DRAINAGE STRUCTURE SHALL HAVE A NEENAH FOUNDRY10" DIA. GRATE, MODEL #1291-5626 OR APPROVED EQUIVALENT. GRATE SHALL BE H-20 LOAD RATING AND COMPATIBLE WITH THE AREA DRAIN PRODUCT SPECIFIED.

Z:\JOBS\23099.01 Johnston\23099.01 BWRSD MT Hope HS-RIDE Stage III-IV-RI\DWGS\DETAILS.dwg

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DETAILS 14

DRAWING NO.:
C8.14

SHEET NO. 72 OF 93

ALL EXISTING TREES IN THIS AREA ARE OUTSIDE OF THE LOD AND THEREFORE ARE EXPECTED TO NOT BE IMPACTED BY CONSTRUCTION, TYP.

TREES LINE TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO DETAIL, THIS SHEET AND SPECIFICATION 01 56 39

TREE LINETO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO DETAIL, THIS SHEET AND SPECIFICATION 01 56 39

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TREES AND SHRUBS WITHIN STREAM BANK AND OUTSIDE OF THE LOD TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE TO THE EXTENT POSSIBLE OR CONTRACTOR TO ADD FENCING AND SIGNAGE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO DETAIL, THIS SHEET AND SPECIFICATION 01 56 39

TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO DETAIL, THIS SHEET AND SPECIFICATION 01 56 39

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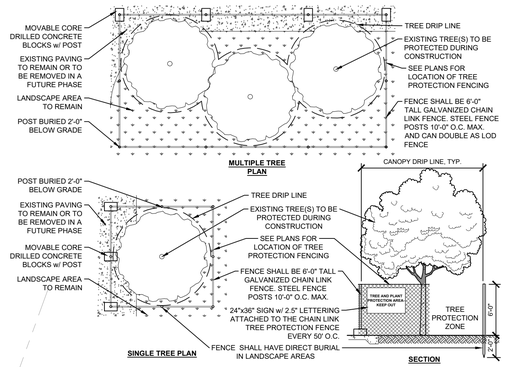

NOTE:
1. TYPICAL FOR ALL TREES NOTED ON PLAN 'TO BE PROTECTED' INSIDE WORK AREA
2. FENCE LOCATION TO BE APPROVED BY THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION ACTIVITIES.
3. THE SOIL WITHIN THE FENCE SHALL NOT BE DISTURBED IN ANY MANNER DURING CONSTRUCTION. NO EQUIPMENT, MATERIALS, SUPPLIES, AND/OR SALVAGE SHALL BE STORED OR PLACED WITHIN THE TREE PROTECTION ZONE. NO VEHICULAR OR EQUIPMENT TRAFFIC SHALL BE PERMITTED WITHIN THE TREE PROTECTION ZONE. NO FILLING OR CURING OF EXISTING SOILS SHALL BE PERMITTED WITHIN THE TREE PROTECTION ZONE. THE OWNER'S REPRESENTATIVE AND/OR LANDSCAPE ARCHITECT MUST APPROVE ANY DEVIATION FROM THE STANDARD.
4. REFER TO TEMPORARY TREE AND PLANT PROTECTION SPECIFICATION 01 56 39 FOR MORE INFORMATION.

1 CHAINLINK TREE PROTECTION AREA
1/4" = 1'-0"

NORTH

0 70 140 210 280 feet
1" = 70'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

TRAVERSE
landscape architects
150 Chestnut Street, 4th Floor
Providence, RI 02903
401-383-4950
www.traversela.com

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KATIE MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
TREE PROTECTION AND TRANSPLANT PLAN

DRAWING NO.:
L-001

SHEET NO. 73 OF 93

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GENERAL INFORMATION

1. SITE SAFETY AND PEDESTRIAN SAFETY IS OF EXTREME IMPORTANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXECUTING THE WORK IN A SAFE MANNER AND WILL BE EXPECTED TO WORK OFF HOURS AS REQUIRED TO ACCOMMODATE CAMPUS ACTIVITIES WHILE MAINTAINING THE PROJECT SCHEDULE.
2. CONTRACTOR TO COORDINATE WITH PUBLIC SAFETY AND PARKING THROUGH THE CONSTRUCTION MANAGER.
3. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL OSHA REGULATIONS, COMPLIANCE IS MANDATORY.
4. SITE FENCING SHALL BE ERECTED AND MAINTAINED BY THE CONTRACTOR AND APPROVED BY THE OWNER PRIOR TO THE COMMENCEMENT OF WORK.
5. VEHICULAR TRAFFIC OR PARKING OF CONSTRUCTION VEHICLES UNDER THE DRIP LINES (IN OR OUT OF THE CONSTRUCTION LIMITS) OF TREES IS STRICTLY PROHIBITED AND VEHICLES MAY BE TOWED. REFER TO TREE PROTECTION DETAILS AND SPECIFICATIONS.
6. UNFORESEEN CONDITIONS ARE INHERENT TO UNDERGROUND WORK AND ARE TO BE EXPECTED WITH THIS PROJECT. THE CONTRACTOR WILL RESPOND TO UNFORESEEN CONDITIONS AND PROVIDE THE NEEDED MANPOWER AND EQUIPMENT NECESSARY TO COMPLETE THE PROJECT BY THE CONTRACT COMPLETION DATE.
7. STAKING SHALL BE PROVIDED AND PAID FOR BY THE CONTRACTOR. STAKING TO BE PERFORMED BY LICENSED LAND SURVEYOR.
8. SITE CLEAN-UP SHALL BE PERFORMED ON A DAILY BASIS. SIDEWALKS, PARKING LOTS, ROADWAYS, ETC. SHALL BE KEPT CLEAN AT ALL TIMES.
9. ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THIS PROJECT BUT NOT SET FORTH AS A SPECIFIC BID ITEM, SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THE COMPLETION OF THIS WORK.
10. REPAIR OR REPLACE EXISTING FACILITIES (CURBS, PAVEMENT, UTILITIES, ETC.) TO REMAIN, AT NO ADDITIONAL EXPENSE TO THE OWNER.
11. IT IS INTENDED THAT ALL COSTS OF MATERIALS, EQUIPMENT, TOOLS, LABOR AND INCIDENTALS BE PAID FOR UNDER THE ITEMS LISTED ON THE BIDDER'S PROPOSAL. BEFORE SUBMITTING A BID ON THIS PROJECT, THE CONTRACTOR SHALL EXAMINE ALL DRAWINGS, SPECIFICATIONS, SPECIAL PROVISIONS AND THE JOB SITE. IF ANY DISCREPANCIES OR DELETIONS OCCUR IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPORT SAME TO THE OWNERS REPRESENTATIVE IN WRITING AND OBTAIN WRITTEN CLARIFICATION AND/OR INSTRUCTIONS ON HOW TO PROCEED.
12. WORK WHICH DOES NOT CONFORM TO THE REQUIREMENTS OF THE CONTRACT WILL BE CONSIDERED UNACCEPTABLE. UNACCEPTABLE WORK, WHETHER THE RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE MATERIALS, DAMAGE THROUGH CARELESSNESS OR ANY OTHER CAUSE, FOUND TO EXIST PRIOR TO THE FINAL ACCEPTANCE OF THE WORK, SHALL BE REMOVED AND REPLACED IN AN ACCEPTABLE MANNER, AS REQUIRED BY THE OWNERS REPRESENTATIVE OR LANDSCAPE ARCHITECT AT THE CONTRACTOR'S EXPENSE. WORK DONE CONTRARY TO THE INSTRUCTIONS. WORK DONE BEYOND THE LINES SHOWN ON THE PLANS OR ANY EXTRA WORK DONE WITHOUT AUTHORITY WILL NOT BE PAID FOR.
13. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE TOTAL SCOPE OF WORK AND ALL REQUIRED COORDINATION PRIOR TO SUBMITTING THEIR BID PROPOSAL, AND PRIOR TO COMMENCING WORK.
14. THE LOCATIONS OF ALL KNOWN UNDERGROUND UTILITIES ARE NOTED ON THE DRAWINGS. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS SHOWN ON THESE PLANS, IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION, SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES IN THE FIELD.THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIG SAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE EXACT FIELD LOCATION OF UTILITIES. THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED, IN WRITING, OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTIONS TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.

MATERIAL NOTES:

1. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ELEMENTS INCLUDING UTILITY LOCATIONS AND REQUIRED SLEEVING PRIOR TO INSTALLATION. VERIFY CRITICAL DIMENSIONS, REFERENCE POINT LOCATIONS AND CONSTRUCTION CONDITIONS PRIOR TO INITIATING CONSTRUCTION. TEMPORARY BENCHMARKS OR REFERENCE POINTS SHALL BE SET BY THE CONTRACTOR AS NECESSARY. NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHOULD ANY DISCREPANCY ARISE AND REDIRECT WORK TO AVOID DELAYS.
2. THE INTERFACE OF ALL PROPOSED IMPROVEMENTS TO EXISTING SHALL CONFORM AND BE SMOOTH AND UNIFORM.
3. ALL CHANGES IN SURFACE MATERIALS SHALL NOT HAVE A VERTICAL LEVEL CHANGE EXCEEDING 1/4" ABOVE FINISHED FLOOR OR 1/2" BEVELED WITH A MAXIMUM SLOPE OF 1:2.
4. REFER TO ARCHITECTURAL PLANS FOR ALL BUILDINGS.
5. REFER TO LANDSCAPE PLANS AND DETAILS FOR PLANTING AND PLANTING RELATED AMENITIES.
6. REFER TO CIVIL PLANS FOR INFORMATION REGARDING ROADWAY, CURBS, PAVEMENT STRIPING, TRAFFIC SIGNS, CROSSWALKS, UTILITIES, DRAINAGE, STORMWATER, GRADING, AND PHASING PLANS.
7. REFER TO ELECTRICAL PLANS FOR SITE LIGHTING, POWER AND COMMUNICATIONS INFORMATION SHOWN ON THIS PLAN. SITE LIGHTING IS FOR REFERENCE ONLY.
8. CONTRACTOR IS RESPONSIBLE FOR QUANTITIES OF ALL MATERIALS. ANY DISCREPANCIES BETWEEN PLAN AND SCHEDULE SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT.

LAYOUT NOTES:

1. ALL LINES ARE PERPENDICULAR OR PARALLEL TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
2. AUTOCAD PLANS OR ADDITIONAL COORDINATES WILL BE PROVIDED AFTER THE AWARD OF THE BID.

LAYOUT LEGEND:

CENTER LINE (TYPE)

NORTHING/EASTING POINT

TYPICAL DIMENSION — 1'-0"

RADII DIMENSION — R4"

PROPOSED ANGLE BETWEEN ELEMENTS — 90°

POINT OF BEGINNING

REFERENCE NOTES SCHEDULE

SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	
Athletic and Recreational Safety Netting					
	13-28-16A	12' Break-away Netting	160 lf	7/LA-305	
	13-28-16B	25' Break-away Netting	286 lf	7/LA-305	
	13-28-16C	25' Breakaway safety netting with 6' Chain Link Fence	289 lf	8/LA-304	
	13-28-16D	40' Softball Netted Backstop with padded knee wall and screened back with logo	90 lf	1/LA-303	
	13-28-16E	40' Netted Baseball Backstop with 42" padded knee wall and screened back with logo	150 lf	2/LA-307	
	13-28-16F	25' Netting with 42" padded knee rail	162 lf	4/LA-306	
SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	Alternate #
32 EXTERIOR IMPROVEMENTS					
	32-12-17A	Asphalt for Athletic Track	61,571 sf	2/LA-301	
	32-12-17B	Tennis Surfacing and Asphalt	32,256 sf	2/LA-309	
	32-12-18	Asphalt walkway	4,436 sf		Per Civil
CONCRETE PAVING					
	32-13-13	Concrete Paving	69,167 sf	1/L-301	
	32-13-13A	Concrete Paving	3,486 sf	1/L-301	ADD ALT #1 Bleacher, Pressbox, Support Building
	32-13-13B	Concrete Paving	9,200 sf	1/L-301	Add Alt #3 Baseball Field
	32-13-14	Exposed Aggregate Concrete Paving	3,828 sf	4/L-301	
AGGREGATE SURFACE					
	32-15-40	Crushed Stone Surfacing	471 sf	5/L-301	
CURBS AND GUTTERS					
	32-16-13	Granite Landscape Curb	370 lf	6/L-301	
	32-16-14	Flush Concrete Curb	114 lf	2/L-305	
	32-16-41	Turf Field End Curb	410 lf	13/LA-301	
ATHLETIC AND RECREATIONAL SURFACING					
	32-18-13	Synthetic Turf for Recreation Area	894 sf	5/L-305	
	32-18-23	Synthetic Turf Athletic Field Profile	91,928 sf	1/LA-301	
	32-18-24A	Baseball/Softball Infield Surfacing	25,418 sf	4/LA-302	
	32-18-24B	Warning Track	25,805 sf	8/LA-302	
	32-18-25	Track Surfacing	53,036 sf	2/LA-301	
FENCES AND GATES					
	32-31-13A	4' Black Chain Link Fence	2,978 lf	2/LA-304	
	32-31-13B	6' Black Chain Link Fence	1,309 lf	3/LA-304	
	32-31-13C	8' Black Chian Link Fence	144 lf	9/LA-304	
	32-31-13D	10' Black Chain Link Fence	914 lf	/	
	32-31-16	4' Wire Mesh Fence	847 lf	3/LA-305	
	32-31-16A	4' Wire Mesh Fence Mounted	522 lf	3/LA-305	
	32-31-16B	8' Wire Mesh Fence	334 lf	4/LA-305	
	32-31-19	6' Decorative Fence	1,237 lf	2/LA-305	
	32-31-23	8' PVC Fence	343 lf	6/LA-304	

RETAINING WALLS

32-32-13A	Poured in Place Concrete Retaining Wall A	99 lf	2/L-244	
32-32-13B	Poured in Place Concrete Retaining Wall B	99 lf	3/L-244	
32-32-13C	Poured in Place Concrete Retaining Wall C	140 lf	1/L-244	
32-32-13D	Poured in Place Concrete Retaining Wall D	23 lf	2/L-244	
32-32-13E	Poured in Place Concrete Retaining Wall E	404 lf	3/L-245	
32-32-13F	Poured in Place Concrete Retaining Wall F	93 lf	2/L-245	ADD ALT #1 Bleacher, Pressbox, Support Building
32-32-13G	Poured in Place Concrete Retaining Wall G	60 lf	7/L-301	
32-32-13H	Poured in Place Concrete Seat wall H	102 lf	2/L-245	
32-32-13I	Poured in Place Concrete Seat wall I	65 lf	2/L-245	

SITE FURNISHINGS

32-33-00A	Flagpole	4	1/L-302	
32-33-00B	Bike Rack	62	2/L-302	
32-33-00C	Bench	7	3/L-302	
32-33-00D	Square Table and Chairs	3	4/L-302	
32-33-00E	Litter/Recycle Receptacle	11	5/L-302	
32-33-00F	Bollard	8	6/L-302	
32-33-00G	Raised Planter	2	7/L-302	
32-33-00H	ADA Raised Planter	2	7/L-302	
32-33-00I	Lounge Chair	12	8/L-302	
32-33-00J	Picnic Table	8	9/L-302	
32-33-00K	Picnic Bench A	12	9/L-302	
32-33-00L	Picnic Bench B	4	9/L-302	
32-33-00M	ADA Patio Seating System	2	10/L-302	
32-33-00N	Patio Seating System	5	10/L-302	
32-33-00O	Cafe Table Set A	2	11/L-302	
32-33-00P	Cafe Table Set B	3	11/L-302	
32-33-00Q	Cafe Table Set C	3	11/L-302	
32-33-00R	Athletic Litter/ Recycle Receptacle	16	15/L-302	
32-34-13	Precast Concrete Boardwalk Paving	1,039 sf	4/L-304	

SODDING

32-92-23	Sodded Athletic Field Profile	209,148 sf	1/LA-302
32-92-24	LOWER ATHLETIC FIELD IMPROVEMENTS	87,946 sf	

PLANTING ACCESSORIES

32-94-50A	Landscape Boulder	46	12/L-301

SYMBOL	CODE	DESCRIPTION	QTY	DETAIL
33 UTILITIES				
D	33-40-00A	Natural Grass Athletic Field Collector Drain	2,382 lf	3/LA-302
	33-41-16	12" Flat panel subdrain (see civil for details and specifications)	3,978 lf	
D	33-41-16B	Perimeter collector drain see (civil for specifications)	2,340 lf	3/LA-301
	33-41-17	2" Sand Channel Drains for Athletic Fields	13,059 lf	2/LA-302
	33-42-40A	Track Slot Drain	748 lf	8/LA-301
	33-42-40B	Trench Drain - Track	554 lf	7/LA-301
	33-42-40C	Trench Drain - Tennis	277 lf	1/LA-309

PARE

OWNER/APPLICANT:
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235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT — KYLE MITCHELL BRADNER — No. 428

REVISIONS:

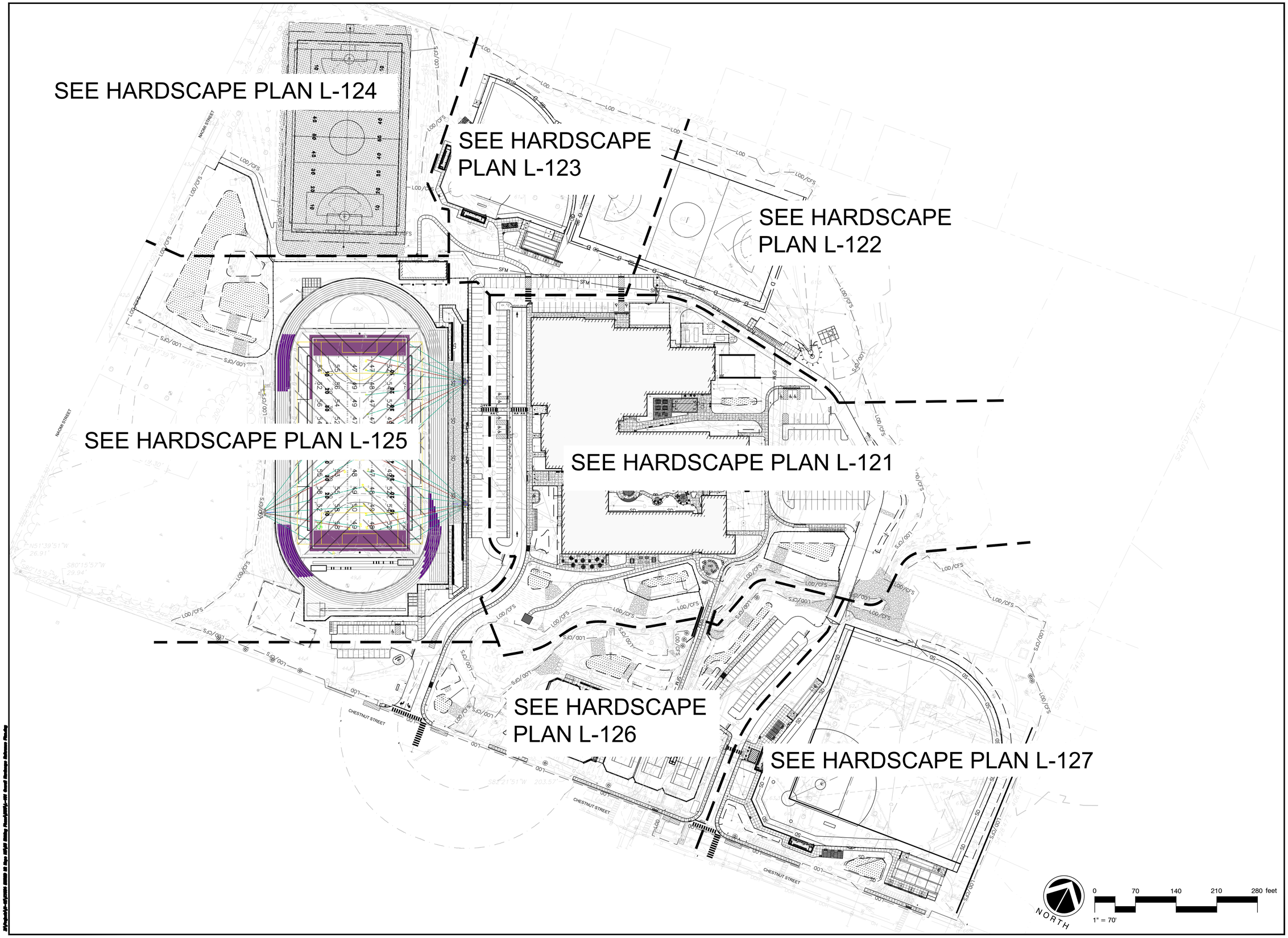
PROJECT NO.: 23099.01
DATE: JUNE 02, 2025
SCALE:
DESIGNED BY: DP
CHECKED BY:
DRAWN BY: DP
APPROVED BY: KB

DRAWING TITLE:
GENERAL NOTES AND SCHEDULES

DRAWING NO.:
L-100
SHEET NO. 74 OF 93

Z:\Projects\23099.01 Mt Hope HS\01 Bidding Phase\Drawings\L-100 General Notes and Schedules.dwg

Item C1.



PARE

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ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KRIS MITCHELL BRADNER
No. 428

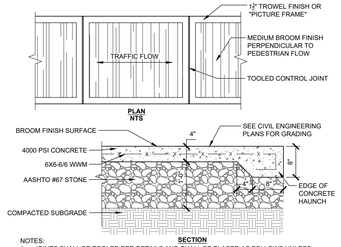
REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
OVERALL HARDSCAPE REFERENCE PLAN

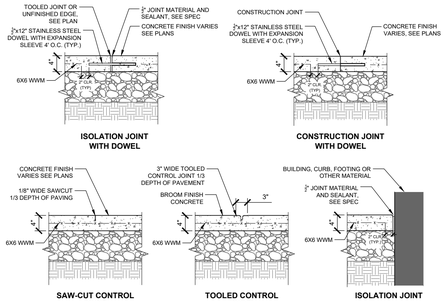
DRAWING NO.:
L-101

SHEET NO. 75 OF 93

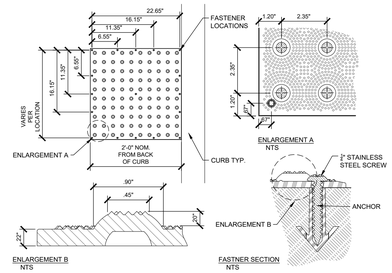


NOTES:
1. JOINTS SHALL BE TOOLED PER DETAILS AND SHALL BE PLACED AS FOLLOWS UNLESS OTHERWISE NOTED ON THE PLANS.
2. ISOLATION JOINTS SHALL BE INSTALLED AS NOTED ON THE PLANS.
3. CONTROL JOINTS SHALL BE PLACED AS NOTED ON THE PLANS.
4. BROOM FINISH SHALL BE PERPENDICULAR TO PEDESTRIAN TRAFFIC FLOW UNLESS OTHERWISE NOTED ON THE PLANS.

1 CONCRETE PAVING
1" = 1'-0"

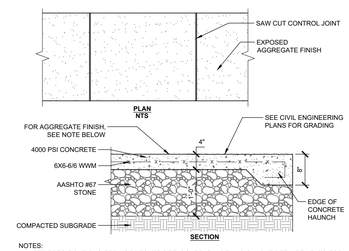


2 CONCRETE PAVEMENT JOINTS
1" = 1'-0"



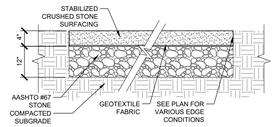
NOTES:
1. ALL DETECTABLE WARNING PLATES TO MEET MAAB REQUIREMENTS.
2. SEE CIVIL DETAILS FOR STANDARD CURB CUT.
3. SEE SPECIFICATIONS FOR MATERIAL AND MANUFACTURER.
4. DETECTABLE WARNING PLATES SHALL BE ABLE TO BE PLACED ON A RADIUS.

3 STEEL DETECTABLE WARNING PLATE
1" = 1'-0"



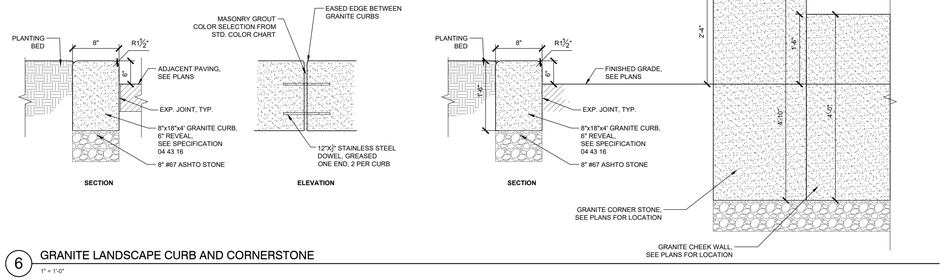
NOTES:
1. SEE SPECIFICATIONS FOR AGGREGATE SIZE, COLOR, SHAPE AND SAMPLE REQUIREMENTS FOR EXPOSED AGGREGATE SURFACE.
2. ISOLATION JOINTS SHALL BE INSTALLED AS NOTED ON THE PLANS.
3. SAWCUT CONTROL JOINTS SHALL BE PLACED AS NOTED ON THE PLANS FOR EXPOSED AGGREGATE PAVING.
4. THOROUGHLY WASH AND CLEAN ALL SURFACES AND REMOVE ALL DEBRIS AFTER SAWCUTTING.

4 EXPOSED AGGREGATE CONCRETE PAVING
1" = 1'-0"

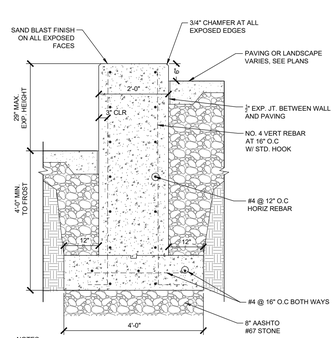


NOTES:
1. STONE SHALL BE PULVERIZED STONE LOCALLY-SOURCED, SEE SPEC 32 15 40.
2. SEE SPECIFICATION FOR MORE STONE AGGREGATE CRITERIA.
3. SEE PLANS FOR LOCATION AND LAYOUT

5 CRUSHED STONE SURFACING
1" = 1'-0"

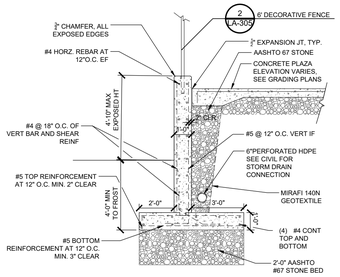


6 GRANITE LANDSCAPE CURB AND CORNERSTONE
1" = 1'-0"



NOTES:
1. CONTRACTOR SHALL SUBMIT STAMPED ENGINEERING SHOP DRAWINGS SHOWING ALL REINFORCEMENT, FOOTING DEPTHS INDICATING FINISHED GRADE AT FRONT, TOP AND BACK OF WALLS.
2. EXPOSED WALL SURFACES SHALL RECEIVE A MEDIUM SANDBLAST FINISH, CONTRACTOR SHALL PROVIDE MOCKUP FOR APPROVAL.

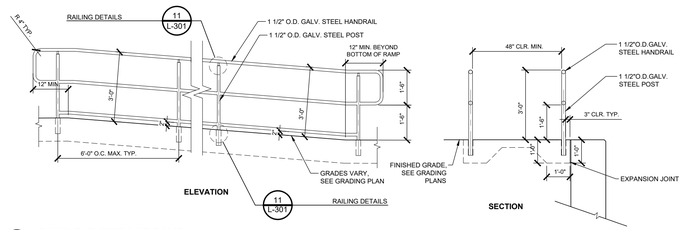
7 POURED IN PLACE CONCRETE WALL G, H, I
3/4" = 1'-0"



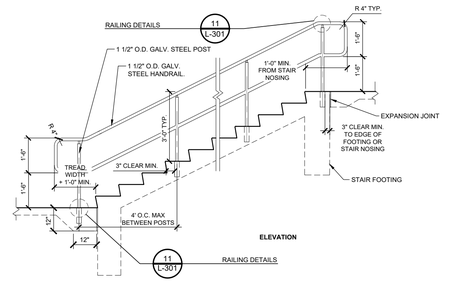
NOTES:
1. CONTRACTOR SHALL SUBMIT STAMPED ENGINEERING SHOP DRAWINGS SHOWING ALL REINFORCEMENT, FOOTING DEPTHS INDICATING FINISHED GRADE AT FRONT, TOP AND BACK OF WALLS
2. EXPOSED WALL SURFACES SHALL RECEIVE A MEDIUM SANDBLAST FINISH, CONTRACTOR SHALL PROVIDE MOCKUP FOR APPROVAL.
3. CONTROL JOINT APPROX. EVERY 20', EXPANSION JOINTS APPROX. EVERY 40', REFER TO STRUCTURAL PLAN, S 300, FOR JOINT DETAILS.

8 POURED IN PLACE CONCRETE WALL F
3/8" = 1'-0"

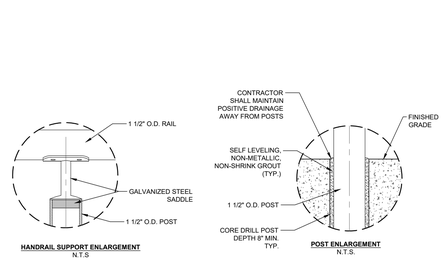
RAILING SYSTEM NOTES:
1. RAILING SYSTEMS FOR RAMPS AND STEPS SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
2. RAILING SYSTEMS SHALL BE GALVANIZED STEEL.
3. POSTS SHALL BE PLUMB. RAILS AND HAND GRIPS SHALL SLOPE WITH STAIR NOSINGS OR RAMP SLOPES.
4. CONTRACTOR SHALL PROVIDE FULL SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF RHODE ISLAND. SHOP DRAWINGS SHALL INDICATE FINISHED GRADE AND AS-BUILT DIMENSIONS OF STEPS AND RAMPS.
5. RAILING SYSTEMS SHALL COMPLY WITH 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN GUIDELINES AND MEET LIVE AND STATIC LOADS PER IBC BUILDING CODE.
6. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.



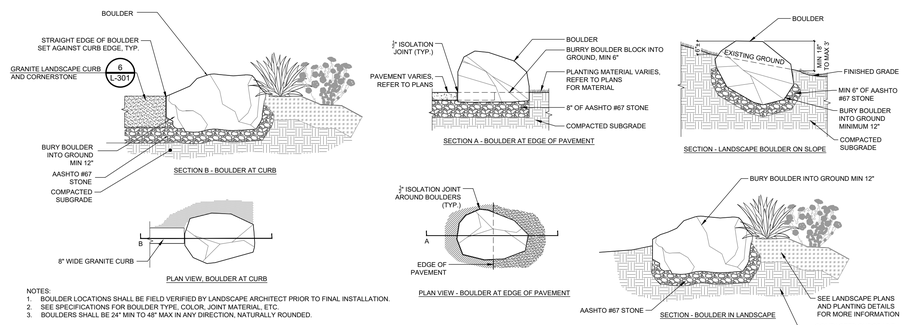
9 RAILING SYSTEM AT RAMP
1/2" = 1'-0"



10 RAILING SYSTEM AT STAIRS
1/2" = 1'-0"



11 RAILING DETAILS
1/2" = 1'-0"



NOTES:
1. BOULDER LOCATIONS SHALL BE FIELD VERIFIED BY LANDSCAPE ARCHITECT PRIOR TO FINAL INSTALLATION.
2. SEE SPECIFICATIONS FOR BOULDER TYPE, COLOR, JOINT MATERIAL, ETC.
3. BOULDERS SHALL BE 24" MIN TO 48" MAX IN ANY DIRECTION, NATURALLY ROUNDED.

12 LANDSCAPE BOULDER DETAILS
1/2" = 1'-0"

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PARE

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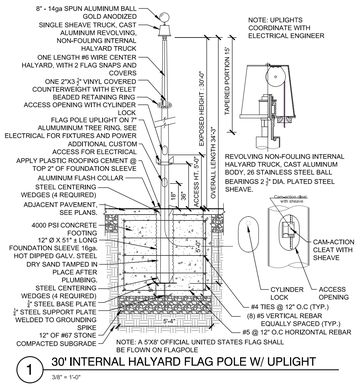
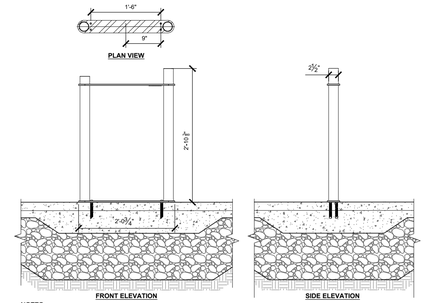
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.:
L-301
SHEET NO. 76 OF 93

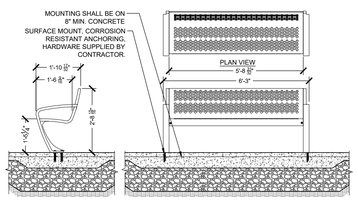


1 30' INTERNAL HALYARD FLAG POLE W/ UPLIGHT
3/8" = 1'-0"



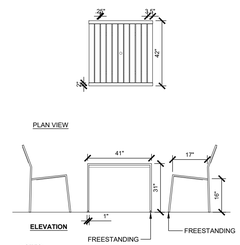
NOTES:
1. BIKE RACK SHALL BE SURFACE MOUNTED AT LOCATION SHOWN ON PLANS.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

2 BIKE RACK
1" = 1'-0"



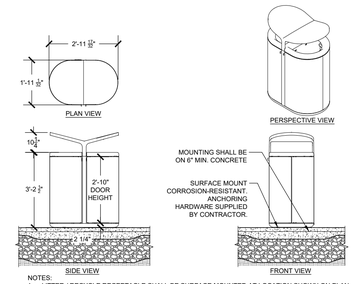
NOTES:
1. BENCH SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS AND SHALL BE SURFACE MOUNT.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

3 BENCH
1/2" = 1'-0"



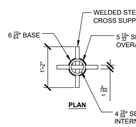
NOTES:
1. TABLES SHALL MEET THE ADA REQUIRED 19" MINIMUM KNEE/TOE CLEARANCE DEPTH
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

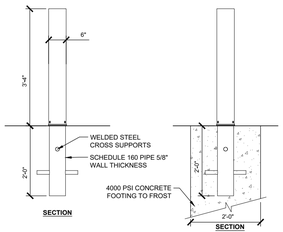
4 SQUARE TABLE AND CHAIRS
1/4" = 1'-0"



NOTES:
1. LITTER / RECYCLE RECEPTACLE SHALL BE SURFACE MOUNTED AT LOCATION SHOWN ON PLAN.
2. INCLUDE RECYCLE ACESSORIES FOR RECYCLING RECEPTACLE.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH
5. SEE SPECIFICATIONS FOR LID AND PLAQUE OPTIONS.

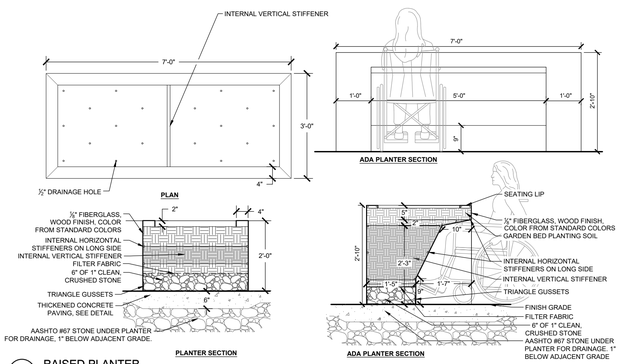
5 LITTER AND RECYCLING RECEPTACLE
1/2" = 1'-0"



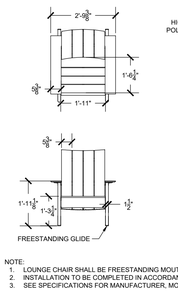


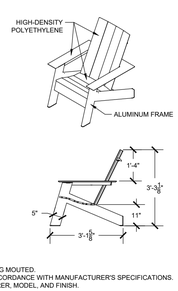
NOTES:
1. BOLLARD SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

6 BOLLARD
3/4" = 1'-0"



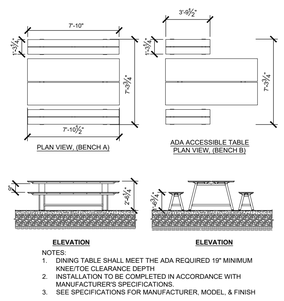
7 RAISED PLANTER
3/4" = 1'-0"





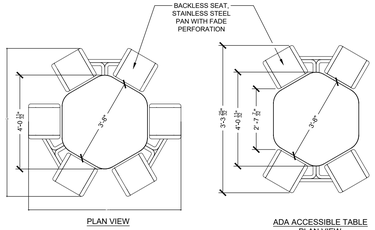
NOTE:
1. LOUNGE CHAIR SHALL BE FREESTANDING MOUTED.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, AND FINISH.

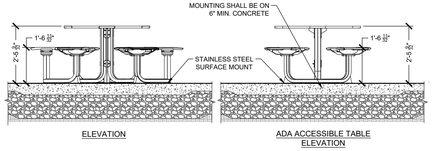
8 LOUNGE CHAIR
1/2" = 1'-0"



NOTES:
1. DINING TABLE SHALL MEET THE ADA REQUIRED 19" MINIMUM KNEE/TOE CLEARANCE DEPTH
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

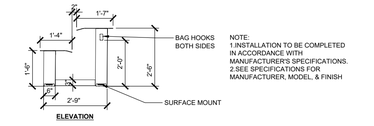
9 PICNIC TABLE AND PICNIC BENCH
1/4" = 1'-0"



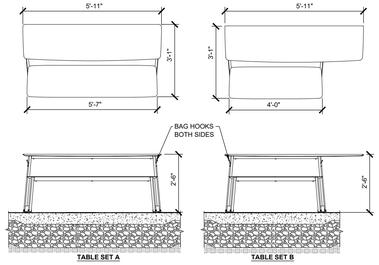


NOTES:
1. TABLE SHALL BE SURFACE MOUNTED AT LOCATIONS SHOWN ON PLAN.
2. TABLE SHALL MEET THE ADA REQUIRED 19" MINIMUM KNEE/TOE CLEARANCE DEPTH
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

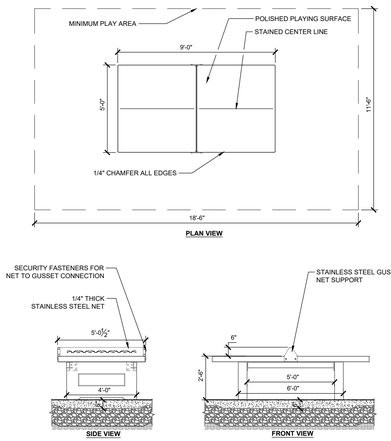
10 PATIO SEATING SYSTEM
1/2" = 1'-0"



NOTE:
1.INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2.SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

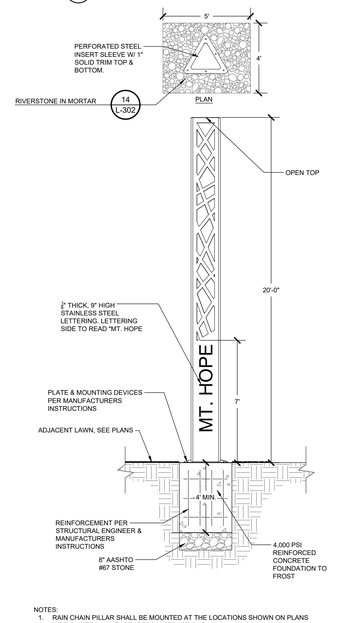


11 CAFE TABLE SET
1/2" = 1'-0"
P-EDU-BWRMH-255



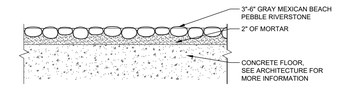
NOTES:
1. TABLES SHALL SURFACE MOUNTED AT LOCATION SHOWN ON PLANS.
2. MOUNTING HARDWARE SHALL BE TAMPER PROOF.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, AND FINISH.

12 PING PONG TABLE
3/8" = 1'-0"
P-EDU-BWRMH-284

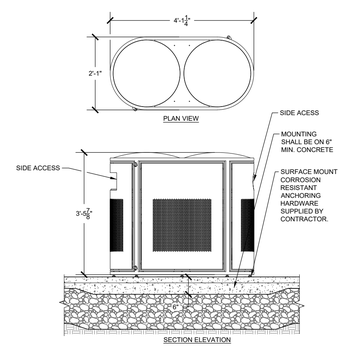


NOTES:
1. RAIN CHAIN PILLAR SHALL BE MOUNTED AT THE LOCATIONS SHOWN ON PLANS
2. INSTALL PER MANUFACTURERS INSTRUCTIONS
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR FOOTINGS STAMPED BY A LICENCED RI STRUCTURAL ENGINEER.
4. SEE SPECIFICATION FOR MAKE, MODEL, MOUNTING AND COLOR
5. FINISH TO BE POWDERCOATED CUSTOM RAL COLOR PER SELECTION BY OWNERSHIP.

13 RAIN CHAIN PILLARS
3/8" = 1'-0"
P-EDU-BWRMH-290



14 RIVERSTONE IN MORTAR
1" = 1'-0"
P-EDU-BWRMH-168



NOTES:
1. LITTER / RECYCLE RECEPTACLE SHALL BE SURFACE MOUNTED AT LOCATION SHOWN ON PLAN.
2. INCLUDE RECYCLE ACESSORIES FOR RECYCLING RECEPTACLE.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH
5. SEE SPECIFICATIONS FOR LID AND PLAQUE OPTIONS.

15 ATHLETIC LITTER/RECYCLE RECEPTACLE
3/4" = 1'-0"
P-EDU-BWRMH-303

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401-383-4950
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SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

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199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

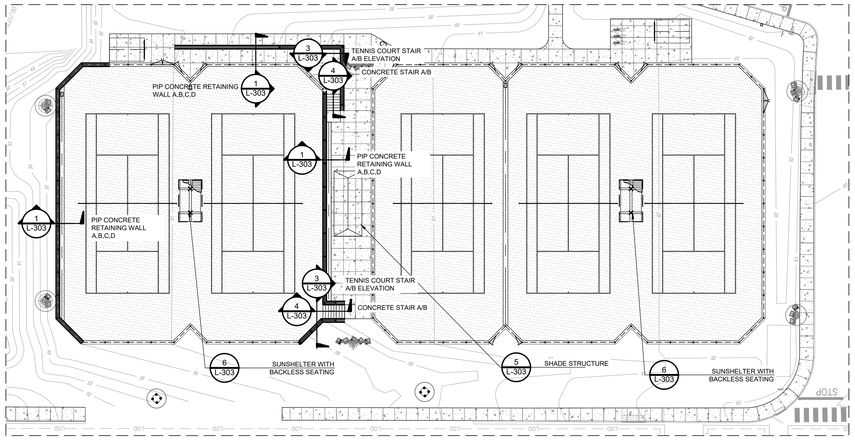
REGISTERED LANDSCAPE ARCHITECT MITCHELL BRADNER No. 428

REVISIONS:

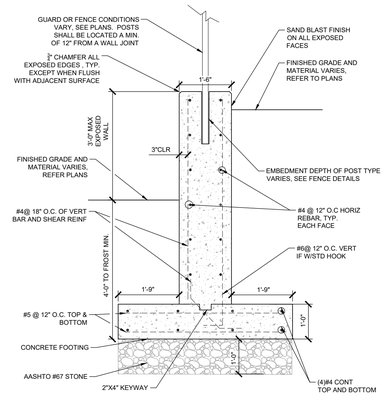
PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.:
L-302
SHEET NO. 77 OF 93

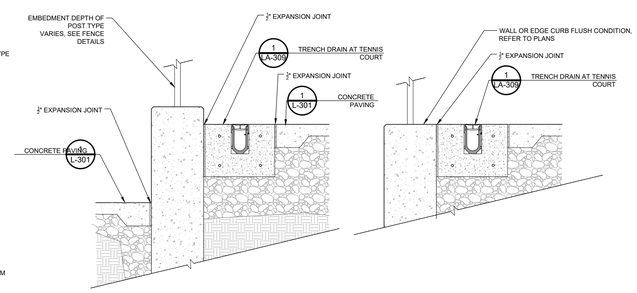


KEY PLAN



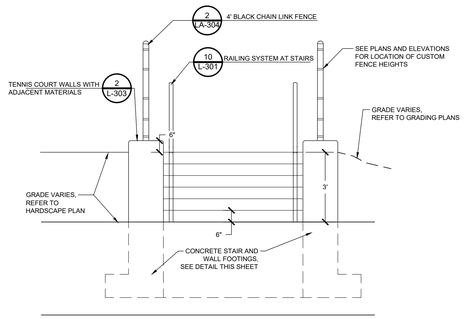
NOTES:
1. CONTRACTOR SHALL SUBMIT STAMPED ENGINEERING SHOP DRAWINGS SHOWING ALL REINFORCEMENT, FOOTING DEPTHS INDICATING FINISHED GRADE AT FRONT, TOP AND BACK OF WALLS
2. EXPOSED WALL SURFACES SHALL RECEIVE A MEDIUM SANDBLAST FINISH, CONTRACTOR SHALL PROVIDE MOCKUP FOR APPROVAL.
3. CONTROL JOINT APPROX. EVERY 20', EXPANSION JOINTS APPROX. EVERY 40',REFER TO STRUCTURAL PLAN, S 300, FOR JOINT DETAILS.

1 PIP CONCRETE RETAINING WALL A,B,C,D
3/4" = 1'-0"



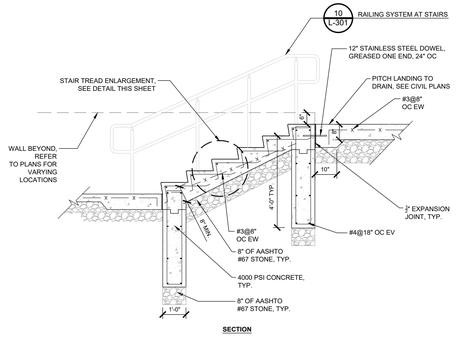
NOTES:
1. CONTRACTOR TO SUBMIT STAMPED STRUCTURAL SHOP DRAWINGS SHOWING ALL REINFORCEMENT, FOOTING DEPTHS INDICATING FINISHED GRADING AT FRONT, TOP AND BACK OF WALLS

2 TENNIS COURT WALLS WITH ADJACENT MATERIALS
3/4" = 1'-0"

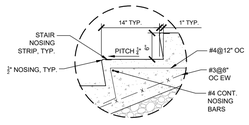


3 TENNIS COURT STAIR A/B ELEVATION
1/2" = 1'-0"

P-EDU-BWRMH-278

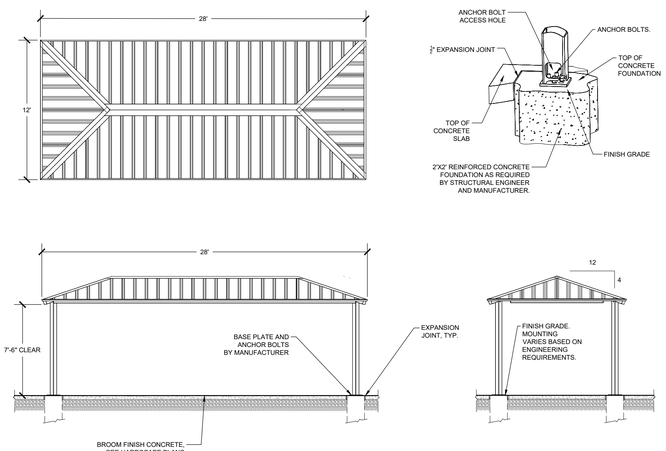


SECTION



STAIR TREAD ENLARGEMENT
N.T.S.

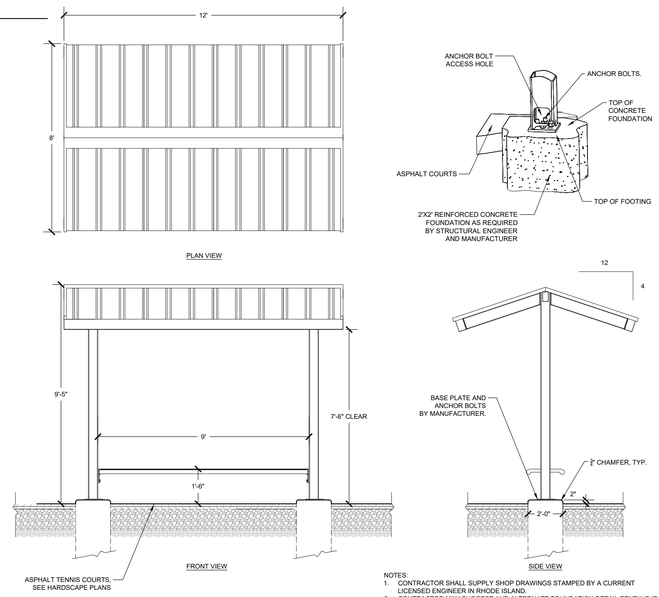
4 CONCRETE STAIR A/B
1/2" = 1'-0"



NOTES:
1. CONTRACTOR SHALL SUPPLY SHOP DRAWINGS STAMPED BY A CURRENT LICENSED ENGINEER IN RHODE ISLAND.
2. CONTRACTOR MAY SUGGEST AND ALTERNATE FOUNDATION DETAIL PENDING IT IS REVIEWED AND STAMPED BY A RI LICENSED STRUCTURAL ENGINEER.
3. OWNER SHALL HAVE FINAL APPROVALS ON ALL COLORS.

5 SHADE STRUCTURE
1/4" = 1'-0"

P-EDU-BWRMH-264



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2. CONTRACTOR MAY SUGGEST AND ALTERNATE FOUNDATION DETAIL PENDING IT IS REVIEWED AND STAMPED BY A RI LICENSED STRUCTURAL ENGINEER.
3. OWNER SHALL HAVE FINAL APPROVALS ON ALL COLORS.

6 SUNSHELTER WITH BACKLESS SEATING
1/2" = 1'-0"

P-EDU-BWRMH-266

PARE

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REGISTERED LANDSCAPE ARCHITECT
KEITH MITCHELL BRADNER
No. 428

REVISIONS:

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CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.:
L-303
SHEET NO. 78 OF 93

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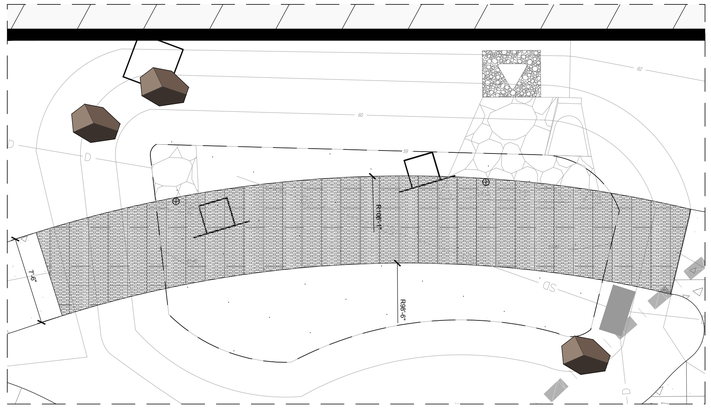
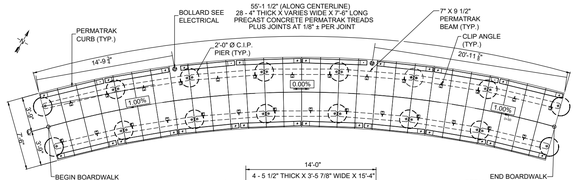


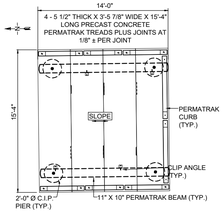
KEY PLAN

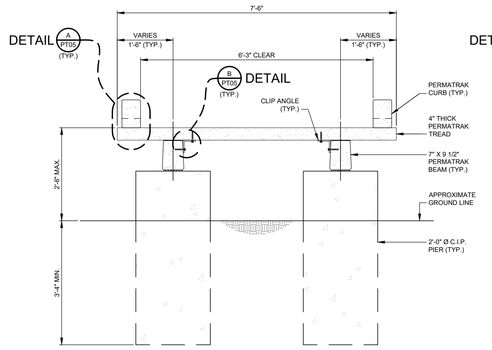
0 4 8 12 16 feet

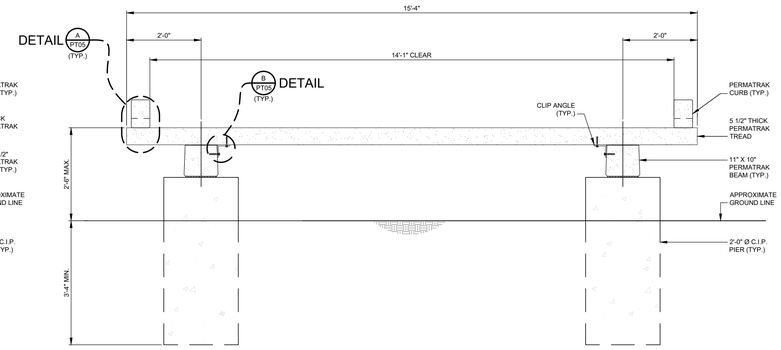
1/4" = 1'-0"

NORTH









KEY PLAN

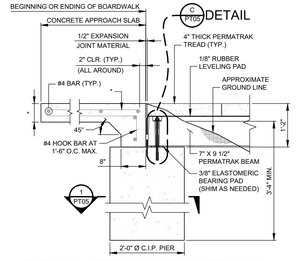
0 4 8 12 16 feet

1/4" = 1'-0"

NORTH

* SEE SITE DRAWINGS FOR DIMENSIONING, REINFORCEMENT, AND CONCRETE MATERIAL REQUIREMENTS OF APPROACH SLAB.

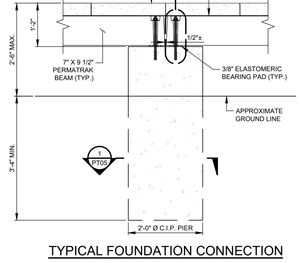
NOTE: CURB NOT SHOWN FOR CLARITY



TYPICAL APPROACH AT BOARDWALK

SCALE: N.T.S

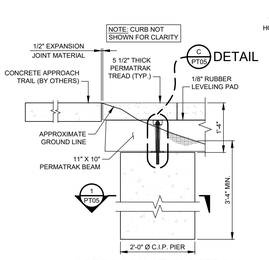
NOTE: CURB NOT SHOWN FOR CLARITY



TYPICAL FOUNDATION CONNECTION DETAIL AT BOARDWALK

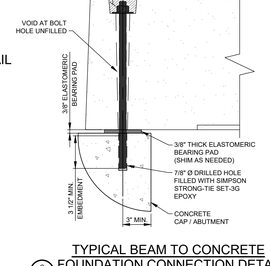
SCALE: N.T.S

NOTE: CURB NOT SHOWN FOR CLARITY



APPROACH AT PLATFROM

SCALE: N.T.S



C PT05 TYPICAL BEAM TO CONCRETE FOUNDATION CONNECTION DETAIL

SCALE: N.T.S.



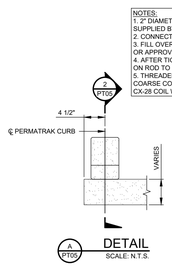
ELASTOMERIC PAD PLAN AT 7" X 9 1/2" BEAMS

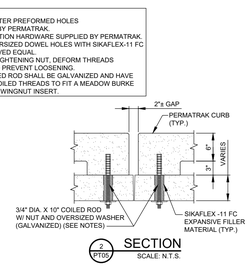
SCALE: 3" = 1'-0"

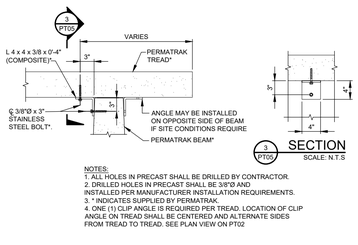
ELASTOMERIC PAD PLAN AT 11" X 10" BEAMS

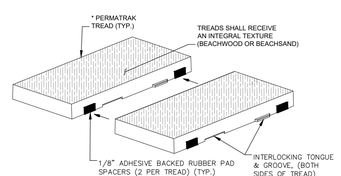
SCALE: 3" = 1'-0"

NOTES:
1. 2" DIAMETER PREFORMED HOLES SUPPLIED BY PERMATRAK.
2. CONNECTION HARDWARE SUPPLIED BY PERMATRAK.
3. FILL OVERSIZED DOWEL HOLES WITH SIKAFLEX-11 FC OR APPROVED EQUAL.
4. AFTER TIGHTENING NUT, DEFORM THREADS ON ROD TO PREVENT LOOSENING.
5. THREADED ROD SHALL BE GALVANIZED AND HAVE COARSE COILED THREADS TO FIT A MEADOW BURKE CX-28 COIL WINGNUT INSERT.



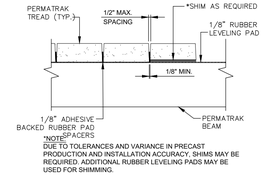






TYPICAL TREAD RUBBER SPACING DETAIL

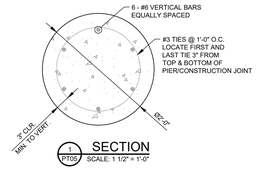
SCALE: N.T.S.



*NOTE:
DUE TO TOLERANCES AND VARIANCE IN PRECAST PRODUCTION AND INSTALLATION ACCURACY, SHIMS MAY BE REQUIRED. ADDITIONAL RUBBER LEVELING PADS MAY BE USED FOR SHIMMING.

TYPICAL SHIM (UNDER TREAD) & TREAD SPACING DETAIL

SCALE: N.T.S.



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KYLE MITCHELL GRADNER
No. 428

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DESIGNED BY:	DP
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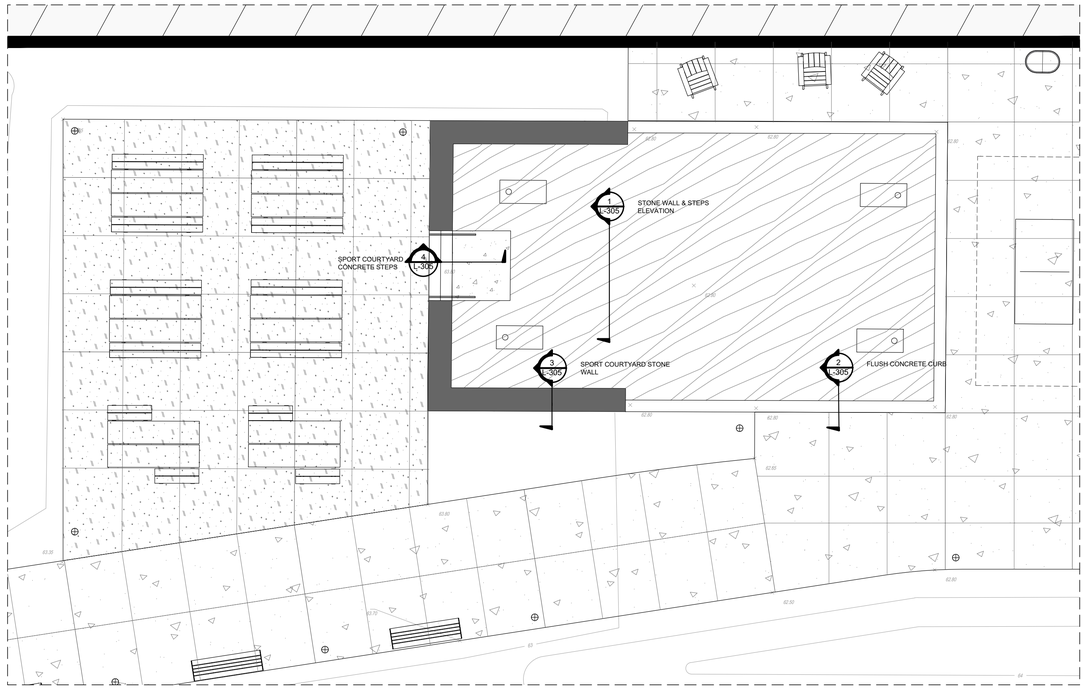
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.:
L-304

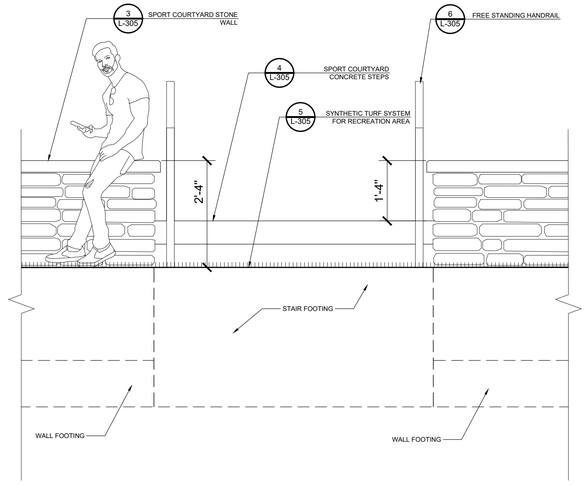
SHEET NO. 79 OF 93

Plotted By: dpalmer Plotted On: Wednesday, June 04, 2025 - 8:46:38 AM
File Name: P:\23099.01 MT. HOPE HIGH SCHOOL\Drawings\Landscape\L-304 Site Details.dwg

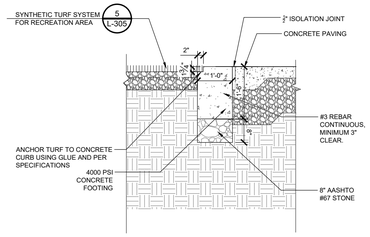


KEY PLAN

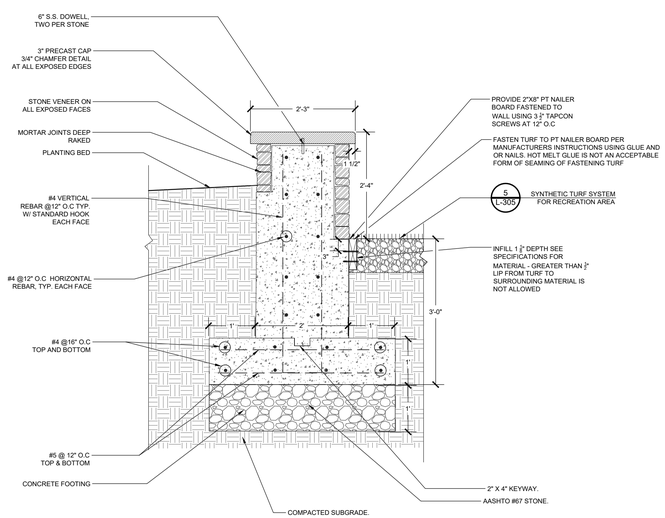
0 4 8 12 16 feet
1" = 4'
NORTH



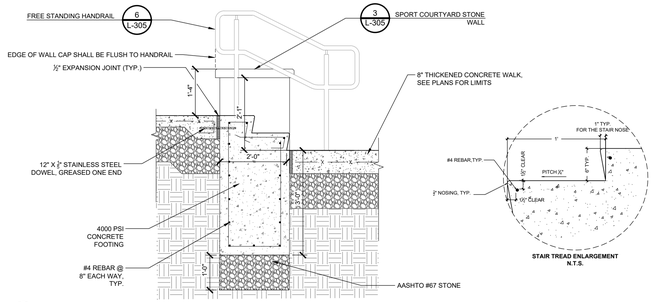
1 STONE WALL & STEPS ELEVATION
1" = 1'-0"



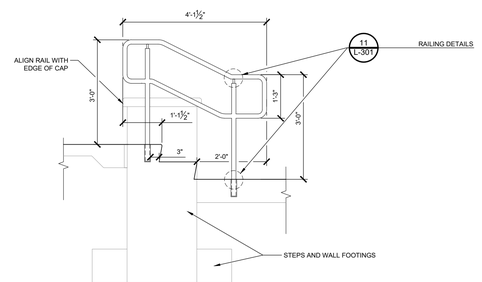
2 FLUSH CONCRETE CURB
3/4" = 1'-0"



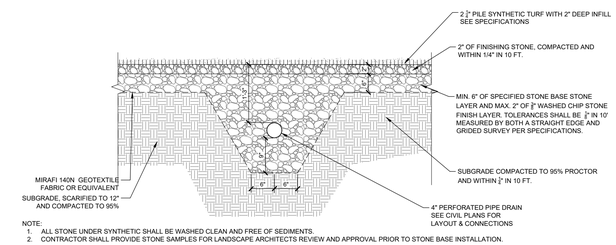
3 SPORT COURTYARD STONE WALL
1" = 1'-0"



4 SPORT COURTYARD CONCRETE STEPS
3/4" = 1'-0"



6 FREE STANDING HANDRAIL
3/4" = 1'-0"



NOTE:
1. ALL STONE UNDER SYNTHETIC SHALL BE WASHED CLEAN AND FREE OF SEDIMENTS.
2. CONTRACTOR SHALL PROVIDE STONE SAMPLES FOR LANDSCAPE ARCHITECTS REVIEW AND APPROVAL PRIOR TO STONE BASE INSTALLATION.

5 SYNTHETIC TURF SYSTEM FOR RECREATION AREA
1" = 1'-0"

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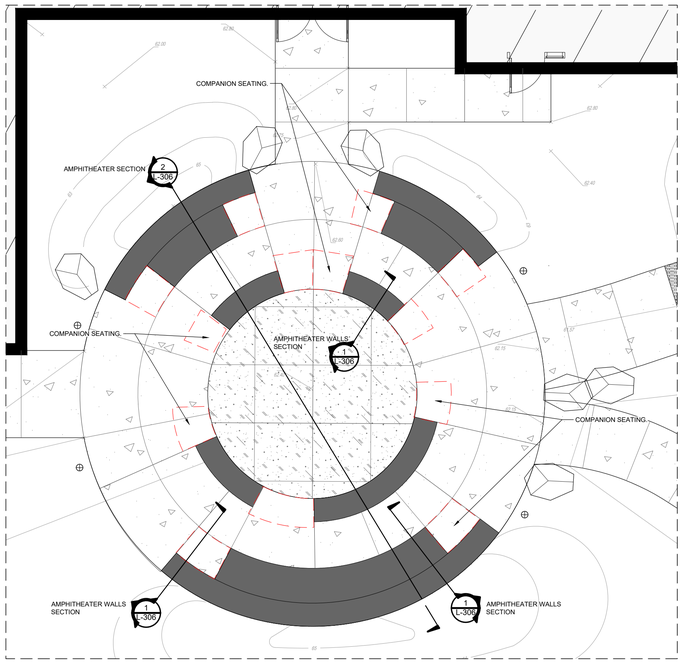
L-305
SHEET NO. 80 OF 93

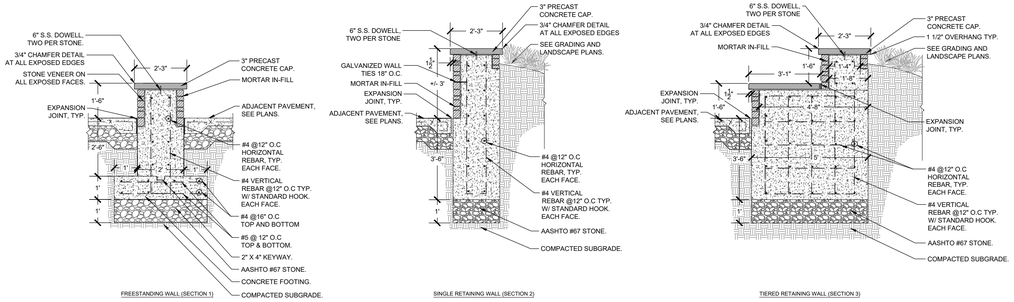


KEY PLAN

0 4 8 12 16 feet

1" = 4'

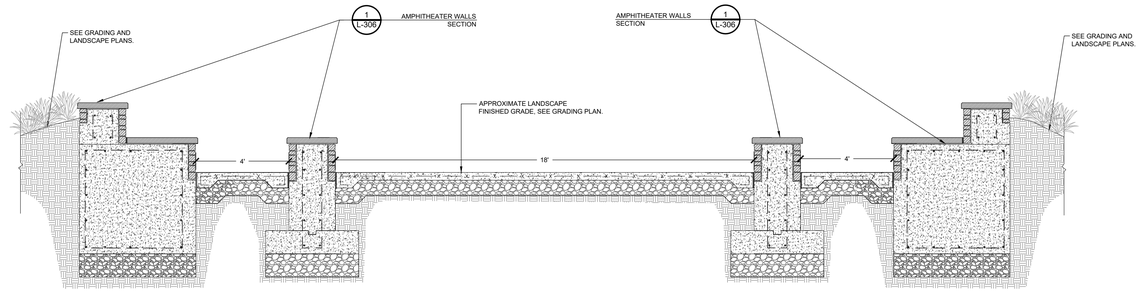
NORTH



1 AMPHITHEATER WALLS SECTION

1/2" = 1'-0"

P-EDU-BWRMH-261



2 AMPHITHEATER SECTION

1/2" = 1'-0"

P-EDU-BWRMH-262



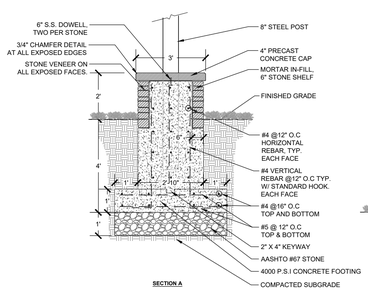
AMPHITEATRE WALLS IMAGE 1



AMPHITEATRE WALLS IMAGE 2



AMPHITEATRE WALLS IMAGE 3



NOTES:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN RI. SHOPS SHALL INDICATE ALL MATERIALS, LAYOUT, DIMENSIONS, HARDWARE AND STRUCTURAL CALCULATIONS MEETING IBC CODES
2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING LAYOUT OF SIGN, COLORS, LOGO, FONT AND SIZE. OWNER SHALL PROVIDE VECTOR FILE FOR LOGO.
3. STEEL POSTS AND HARDWARE SHALL BE GALVANIZED AND POWDER COATED. COLOR SHALL BE BLACK.
4. STONE SHALL BE LOCALLY SOURCED VENEER MATCHING MATERIALS ON BUILDING AND COURTYARD STONE. PATTERN SHALL BE RANDOM STACKED ASHLAR WITH RAKED JOINTS TO IMITATE DRY STACK
5. ARCHITECTURAL PRECAST CAP SHALL MATCH BUILDING MATERIAL.
6. REFER TO ELECTRICAL PLANS FOR POWER AND DATA TO MESSAGE BOARD.

3 MT HOPE ENTRANCE SIGN

1/2" = 1'-0"

P-EDU-BWRMH-302

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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150 Chestnut Street, 4th Floor
Providence, RI 02903
401-383-4950
www.traversela.com

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KATHLEEN MITCHELL BRADNER
No. 428

REVISIONS:

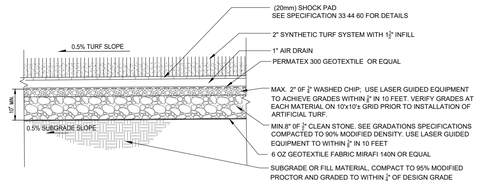
PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.:
L-306

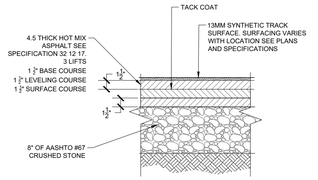
SHEET NO. 81 OF 93

Drawings and Specifications as Instruments of Service

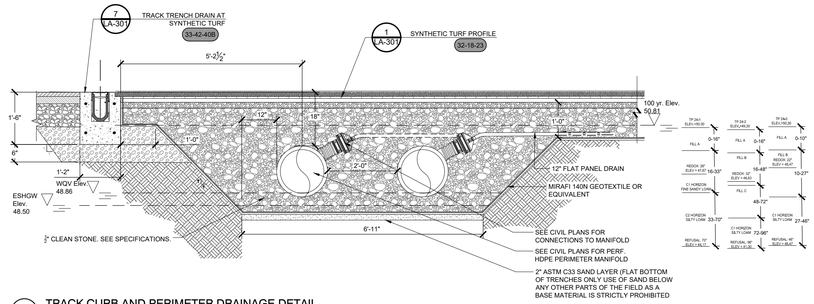


NOTE:
1. ALL STONES UNDER SYNTHETIC SHALL BE WASHED CLEAN AND FREE OF SEDIMENTS.
2. CONTRACTOR SHALL PROVIDE STONE SAMPLES FOR LANDSCAPE ARCHITECTS REVIEW AND APPROVAL PRIOR TO STONE BASE INSTALLATION.

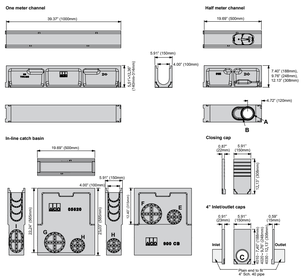
1 SYNTHETIC TURF PROFILE
1" = 1'-0"



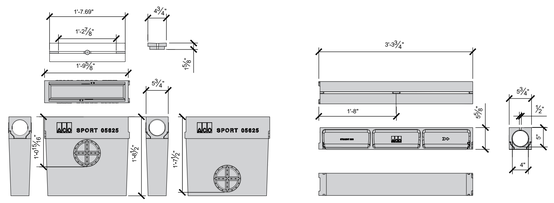
2 TRACK SURFACING PROFILE
1 1/2" = 1'-0"



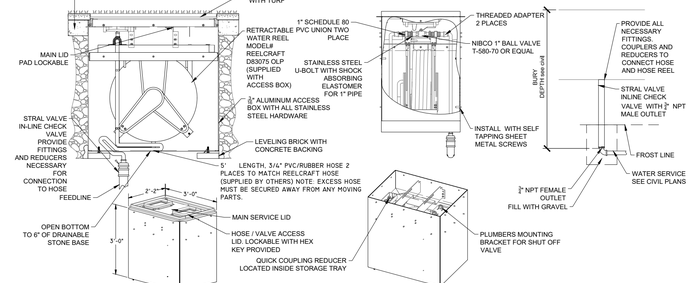
3 TRACK CURB AND PERIMETER DRAINAGE DETAIL
3/4" = 1'-0"



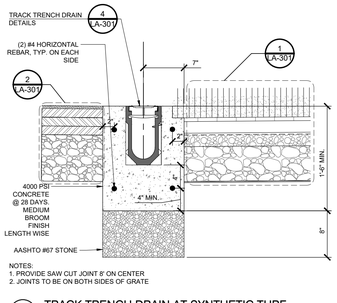
4 TRACK TRENCH DRAIN DETAILS
3/4" = 1'-0"



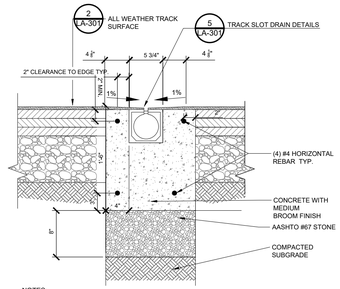
5 TRACK SLOT DRAIN DETAILS
1" = 1'-0"



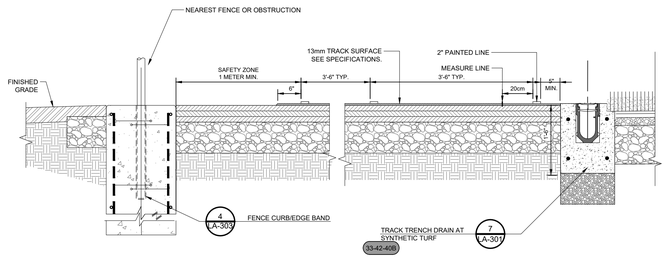
6 SYNTHETIC TURF WATER ACCESS WITH HOSE REEL
1/2" = 1'-0"



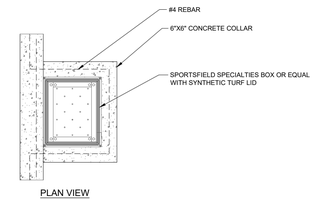
7 TRACK TRENCH DRAIN AT SYNTHETIC TURF
1 1/2" = 1'-0"



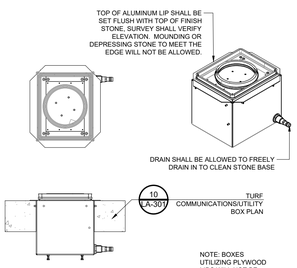
8 TRACK SLOT DRAIN
1 1/2" = 1'-0"



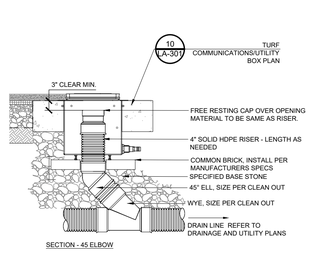
9 TRACK SECTION WITH TRENCH CURB
1" = 1'-0"



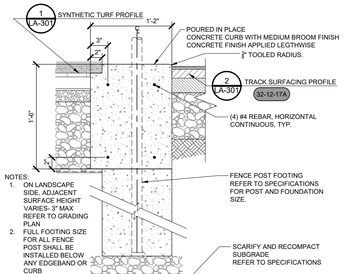
10 TURF COMMUNICATIONS/UTILITY BOX PLAN
1" = 1'-0"



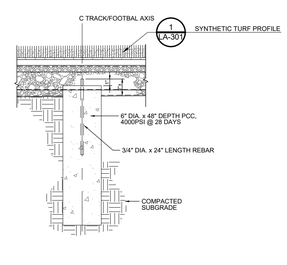
11 ALUMINUM UTILITY BOX WITH INFILL RETAINER
1" = 1'-0"



12 SYNTHETIC TURF STORM CLEANOUT
1" = 1'-0"

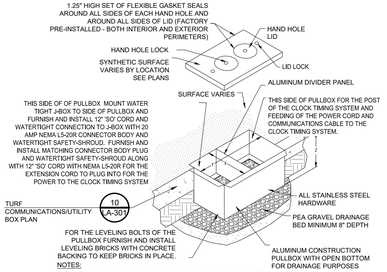


13 14" TURF CURB WITH FENCE OR NET
1 1/2" = 1'-0"



14 RADIUS POINT MARKER
3/4" = 1'-0"

P-EDU-BWRMH-TRAC-61



15 ATHLETIC COMBOX
1" = 1'-0"

PARE

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MT. HOPE HIGH SCHOOL
199 Chestnut Street
Assessors Plat 12, Lots 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KATE MITCHELL GRADNER
No. 428

REVISIONS:

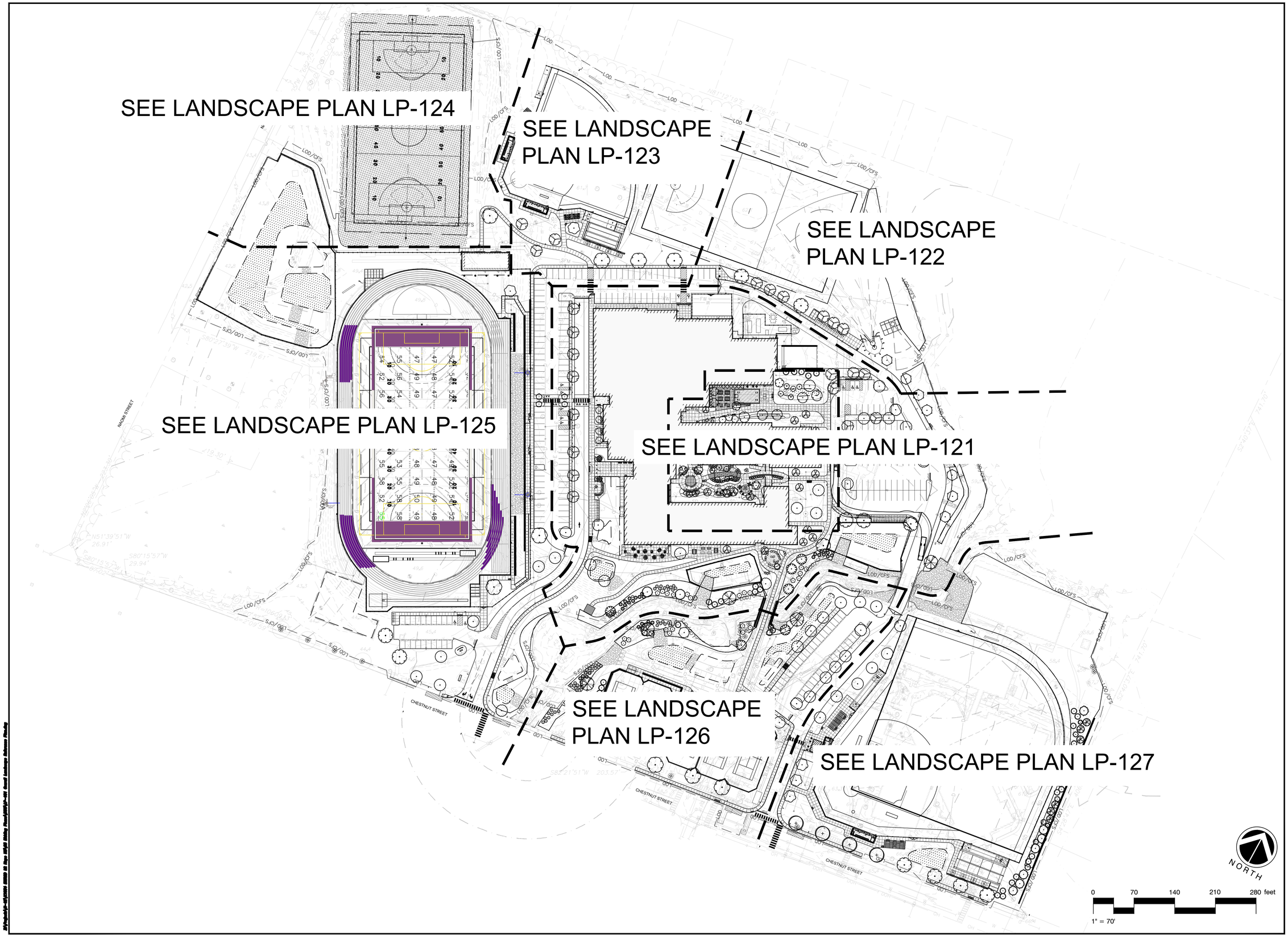
PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.:
LA-301
SHEET NO. 82 OF 93

Z:\Projects\23099.01 Mt Hope High School\Drawings\LA-301.dwg

Item C1.



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BRISTOL, RI 02809
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ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KRIS MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
OVERALL PLANTING PLAN

DRAWING NO.:
LP-101

SHEET NO. 83 OF 93

SEE LANDSCAPE PLAN LP-123

SEE LANDSCAPE PLAN LP-122

SEE LANDSCAPE PLAN LP-125

SEE LANDSCAPE ENLARGEMENT PLAN LP-141

SEE LANDSCAPE ENLARGEMENT PLAN LP-142

SEE LANDSCAPE PLAN LP-127

SEE LANDSCAPE PLAN LP-126

EXISTING TREES WITHIN STREAM AREA TO REMAIN.

EXISTING TREES WITHIN STREAM AREA TO REMAIN

0 30 60 90 120 feet

1" = 30'

NORTH

PLANT SCHEDULE LP-121

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES					
AR	17	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
AM	4	Acer rubrum 'Autumn Flame' / Autumn Flame Red Maple	B&B	2"-2.5" Cal.	
AF	11	Acer rubrum 'Frank Jr.' / Redpointe® Maple	B&B	2"-2.5" Cal.	
BW	11	Betula populifolia 'Whitespire' / Whitespire Gray Birch	#7		6'-7' H
CA1	2	Carpinus caroliniana / Musclewood	B&B	1.5"-2" Cal.	
CC2	7	Cercis canadensis / Eastern Redbud	B&B	2"-2.5" Cal.	
CC1	2	Cercis canadensis 'Forest Pansy' / Forest Pansy Eastern Redbud	Multi-stem B&B	2"-2.5" Cal.	
HV2	6	Hamamelis vernalis / Ozark Witchhazel	Multi-stem B&B		6'-7' H
HV1	12	Hamamelis virginiana / Common Witch Hazel	Multi-stem B&B		7'-8' H
JH	6	Juniperus chinensis 'Hetzii' / Hetzi Juniper	B&B		6'-7' H
JE	12	Juniperus virginiana / Eastern Redcedar	B&B		7'-8' H
LF	4	Liriodendron tulipifera 'Fastigiata' / Columnar Tulip Poplar	B&B	2"-2.5" Cal.	
MX	7	Magnolia x 'Jane' / Jane Magnolia	B&B	2.5"-3" CAL.	
NS	4	Nyssa sylvatica / Tupelo	B&B	2"-2.5" Cal.	
NC	5	Nyssa sylvatica 'Northern Splendor' / Northern Splendor Tupelo	B&B	2.5"-3"	
PO	2	Platanus occidentalis / American Sycamore	B&B	2"-2.5" Cal.	
QB	5	Quercus bicolor / Swamp White Oak	B&B	2"-2.5" Cal.	
QR	4	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.	
TA2	1	Tilia americana / American Linden	B&B	2.5"-3" CAL.	

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS				
Co	15	Cephalanthus occidentalis / Buttonbush	#3	
Cc	13	Clethra alnifolia 'Crystalina' / Sugartina® Summersweet	#5	
Cr	17	Cornus sericea / Red Twig Dogwood	#3	
Cf2	23	Cornus sericea 'Farrow' / Arctic Fire® Red Twig Dogwood	#3	
Ck	19	Cornus sericea 'Kelseyi' / Kelsey's Dwarf Red Twig Dogwood	#3	
Ht2	11	Hydrangea serrata 'MAK20' / Tuff Stuff™ Hydrangea	#5	
Ii	35	Ilex glabra 'Compacta' / Compact Inkberry	#5	
Iw	20	Ilex verticillata / Winterberry	#3	
Ivs	2	Ilex verticillata 'Southern Gentleman' / Southern Gentleman Winterberry	#3	
Rl	3	Rhododendron x 'Lee's Dark Purple / Lee's Dark Purple Rhododendron	B & B	2'-3' H
Rp	16	Rhododendron x 'Purple Gem' / Purple Gem Rhododendron	#5	2'-3' H
To	4	Thuja occidentalis 'Hetz Midget' / Hetz's Midget Arborvitae	#5	

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
PERENNIALS/GRASSES				
Al	66	Anemone x hybrida 'Lucky Charm' / Lucky Charm Japanese Anemone	#1	24" o.c.
Ao	124	Aster oblongifolius 'Raydon's Favorite' / Raydon's Favorite Fall Aster	#1	24" o.c.
Bs	24	Boltonia asteroides 'Snowbank' / Snowbank False Aster	#1	24" o.c.
Ct	159	Carex tenuiculmis 'Cappuccino' / Cappuccino Sedge	#1	18" o.c.
Ea	95	Echinacea x 'Balsomrosa' / Sombrero® Rosada Coneflower	#1	24" o.c.
Ep	21	Eupatorium fistulosum 'JoJo' / JoJo Joe Pye Weed	#1	24" o.c.
Hr	35	Helleborus x hybridus 'RD09' / FrostKiss™ Pippa's Purple Hellebore	#1	24" o.c.
Ht	20	Hosta x 'T Rex' / T Rex Hosta	#1	36" o.c.
Iv	30	Iris versicolor / Blue Flag	#1	24" o.c.
Ms	19	Matteuccia struthiopteris / Ostrich Fern	#1	36" o.c.
Pvs	75	Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass	#1	24" o.c.
Pm	10	Physostegia virginiana 'Miss Manners' / Miss Manners Obedient Plant	#1	24" o.c.
Ru	152	Rudbeckia x 'American Gold Rush' / American Gold Rush Coneflower	#1	24" o.c.
Sc2	63	Salvia nemorosa 'Caradonna' / Cardonna Meadow Sage	#1	24" o.c.
Ss	293	Schizachyrium scoparium 'The Blues' / The Blues Little Bluestem	#2	18" o.c.
Si	97	Sorghastrum nutans 'Indian Steel' / Indian Steel Indian Grass	#1	24" o.c.

SEED MIXES			
Re	23,812 sf	/ RESTORATION SEED MIX	seed
Sa	12,839 sf	/ DETENTION BASIN SEED MIX	seed
Oc	1,411 sf	/ OPEN CHANNEL SEED MIX	seed
Ws	3,289 sf	/ WILDFLOWER SEED MIX	seed

NOTES ON SEED MIXES
1. RESTORATION SEED MIX - NEW ENGLAND ROADSIDE MATRIX UPLAND SEED MIX
2. DETENTION BASIN SEED MIX - NEW ENGLAND EROSION CONTROL / RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES
3. OPEN CHANNEL SEED MIX - NEW ENGLAND EROSION CONTROL / RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES
4. WILDFLOWER SEED MIX - NEW ENGLAND SHOWY WILDFLOWER SEED MIX

PARE

OWNER/APPLICANT:
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235 HIGH STREET
BRISTOL, RI 02809
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SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

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199 Chestnut Street
ASSESSOR'S PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KEITH MITCHELL BRADNER
No. 428

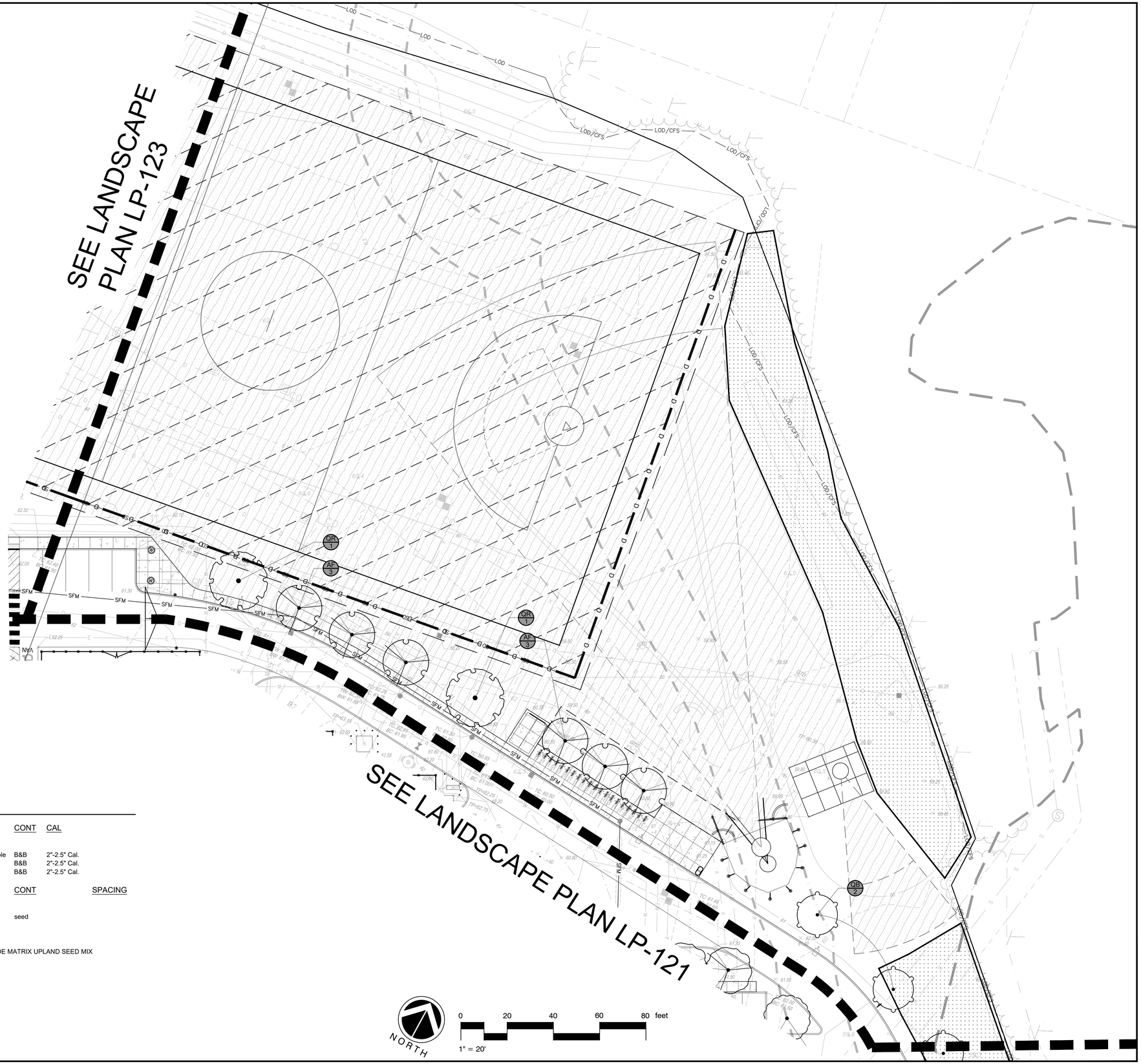
REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
LANDSCAPE PLAN

DRAWING NO.:
LP-121
SHEET NO. 84 OF 93

Plotted: 6/3/2025 8:55 AM By: MHall Bradner
J:\Projects\23099.01 Mt Hope HS\03 Design Development\LP-121 Landscape Plan.dwg



PLANT SCHEDULE LP-122

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL
TREES				
AF	6	Acer rubrum 'Frank Jr.' / Redpointe® Maple	B&B	2"-2.5" Cal.
OB	2	Quercus bicolor / Swamp White Oak	B&B	2"-2.5" Cal.
QR	2	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
SEED MIXES				
Re	7,985 sf	/ RESTORATION SEED MIX	seed	

NOTES ON SEED MIXES
1. RESTORATION SEED MIX - NEW ENGLAND ROADSIDE MATRIX UPLAND SEED MIX

PARE

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KEVIN MITCHELL BRADNER
No. 428

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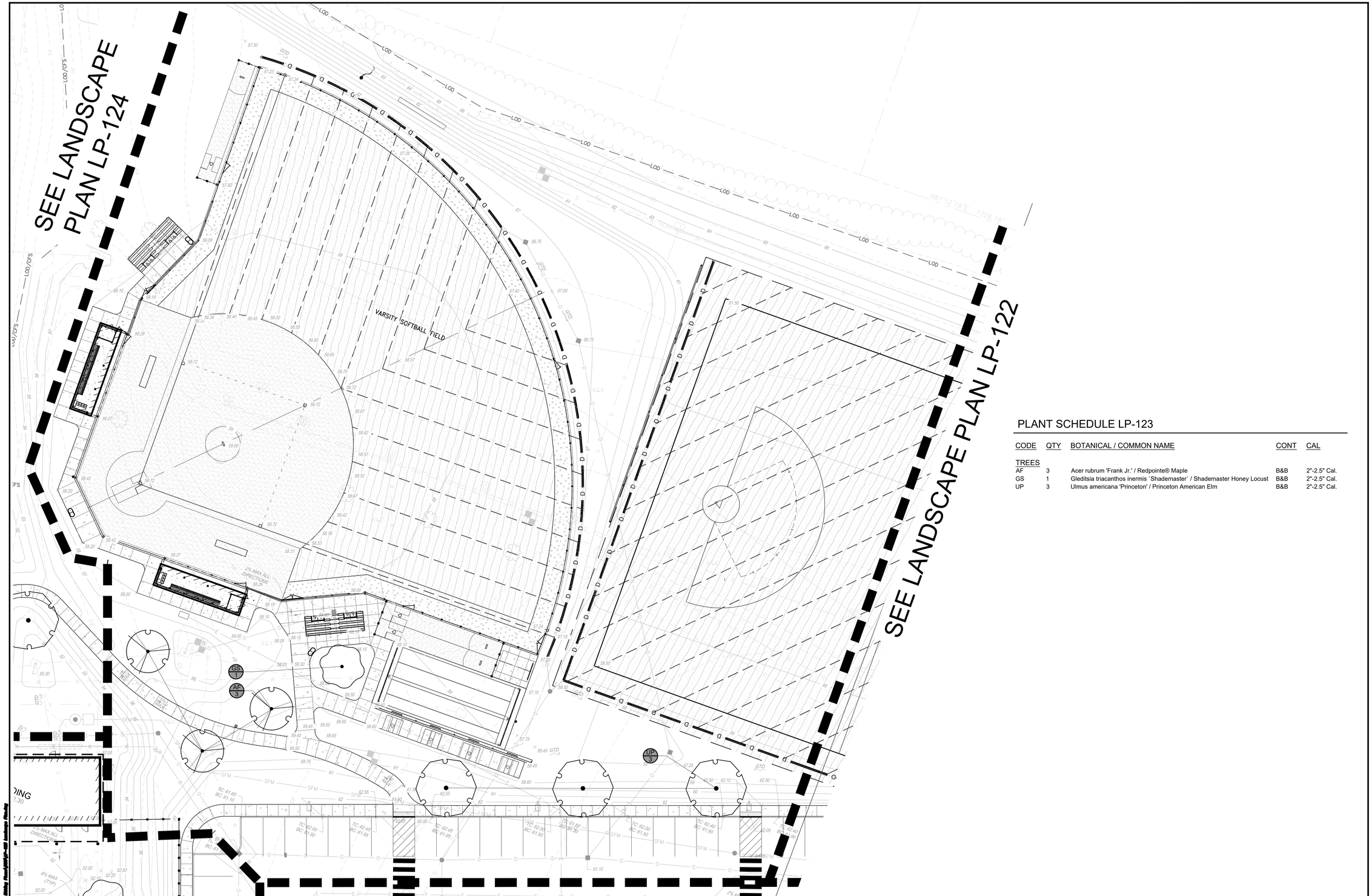
APPROVED BY:	KB

DRAWING TITLE:
LANDSCAPE PLAN

DRAWING NO.:
LP-122

SHEET NO. 85 OF 93



PLANT SCHEDULE LP-123

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL
TREES				
AF	3	Acer rubrum 'Frank Jr.' / Redpointe® Maple	B&B	2"-2.5" Cal.
GS	1	Gleditsia triacanthos inermis `Shademaster` / Shademaster Honey Locust	B&B	2"-2.5" Cal.
UP	3	Ulmus americana 'Princeton' / Princeton American Elm	B&B	2"-2.5" Cal.

NORTH

0 20 40 60 80 feet

1" = 20'

PARE

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JEFF MITCHELL BRADNER
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CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
LANDSCAPE PLAN

DRAWING NO.:
LP-123
SHEET NO. 86 OF 93

NAOMI STREET

SEE LANDSCAPE PLAN LP-123

SEE LANDSCAPE PLAN LP-125

DETENTION BASIN

SEDIMENT FOREBAY

LOD/CFS

UP 1

SFM

PLANT SCHEDULE LP-124

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL
TREES				
UP	1	Ulmus americana 'Princeton' / Princeton American Elm	B&B	2"-2.5" Cal.

NORTH

0 20 40 60 80 feet

1" = 20'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

TRAVERSE
landscape architects
150 Chestnut Street, 4th Floor
Providence, RI 02903
401-383-4950
www.traversela.com

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 12, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KEVIN MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
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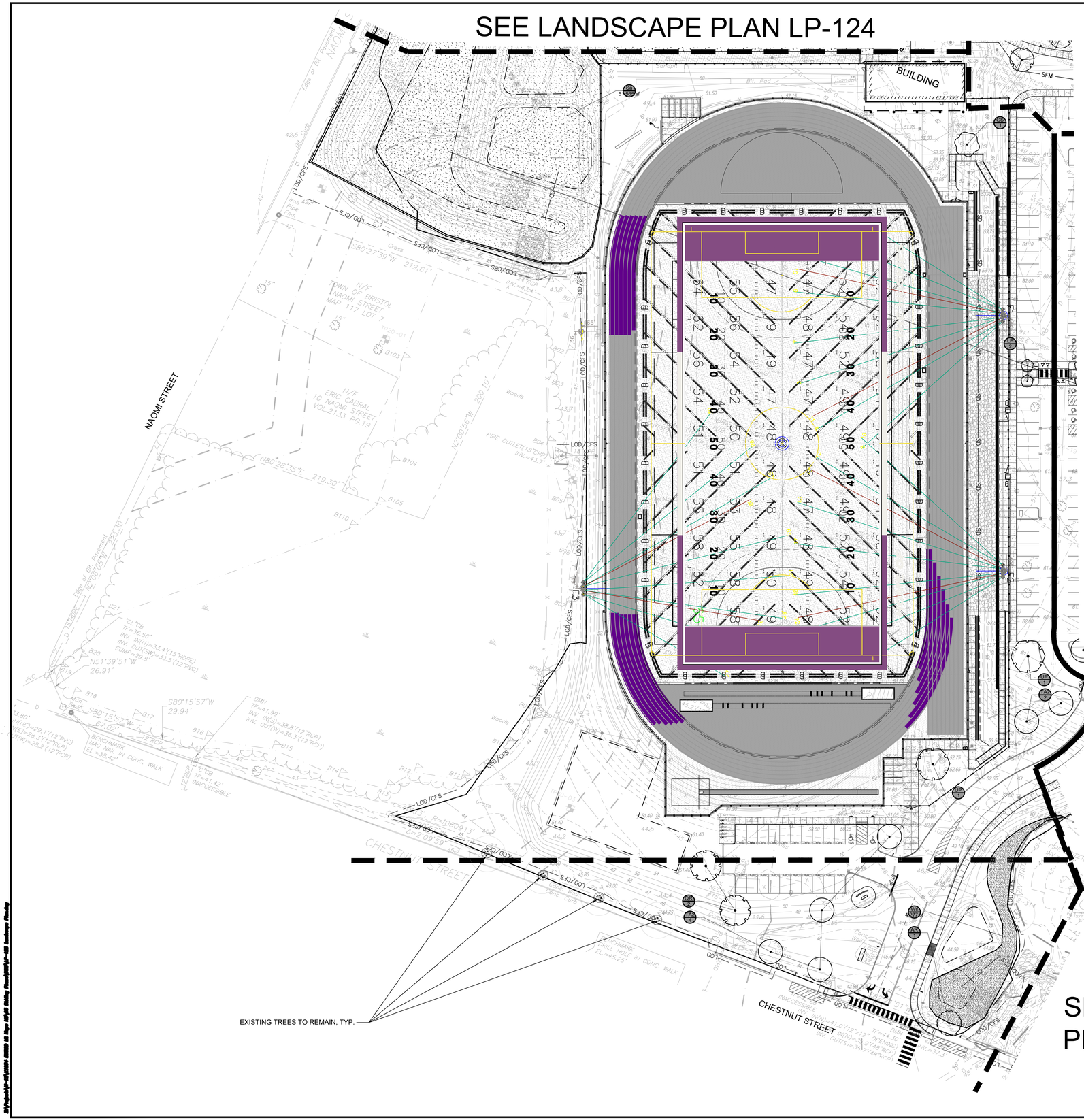
APPROVED BY:	KB

DRAWING TITLE:
LANDSCAPE PLAN

DRAWING NO.:
LP-124
SHEET NO. 87 OF 93

Item C1.



PLANT SCHEDULE LP-125

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL
TREES				
AR	1	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.
GS	1	Gleditsia triacanthos inermis `Shademaster` / Shademaster Honey Locust	B&B	2"-2.5" Cal.
LF	2	Liriodendron tulipifera 'Fastigiata' / Columnar Tulip Poplar	B&B	2"-2.5" Cal.
QR	2	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.
TA2	6	Tilia americana / American Linden	B&B	2.5"-3" CAL.
UP	2	Ulmus americana 'Princeton' / Princeton American Elm	B&B	2"-2.5" Cal.

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
SEED MIXES				
Sa	51,565 sf	/ DETENTION BASIN SEED MIX	seed	
Ws	4,277 sf	/ WILDFLOWER SEED MIX	seed	

NOTES ON SEED MIXES
1. DETENTION BASIN SEED MIX - NEW ENGLAND EROSION CONTROL / RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES
2. WILDFLOWER SEED MIX - NEW ENGLAND SHOWY WILDFLOWER SEED MIX

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KRIS MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
LANDSCAPE PLAN

DRAWING NO.:
LP-125

SHEET NO. 88 OF 93

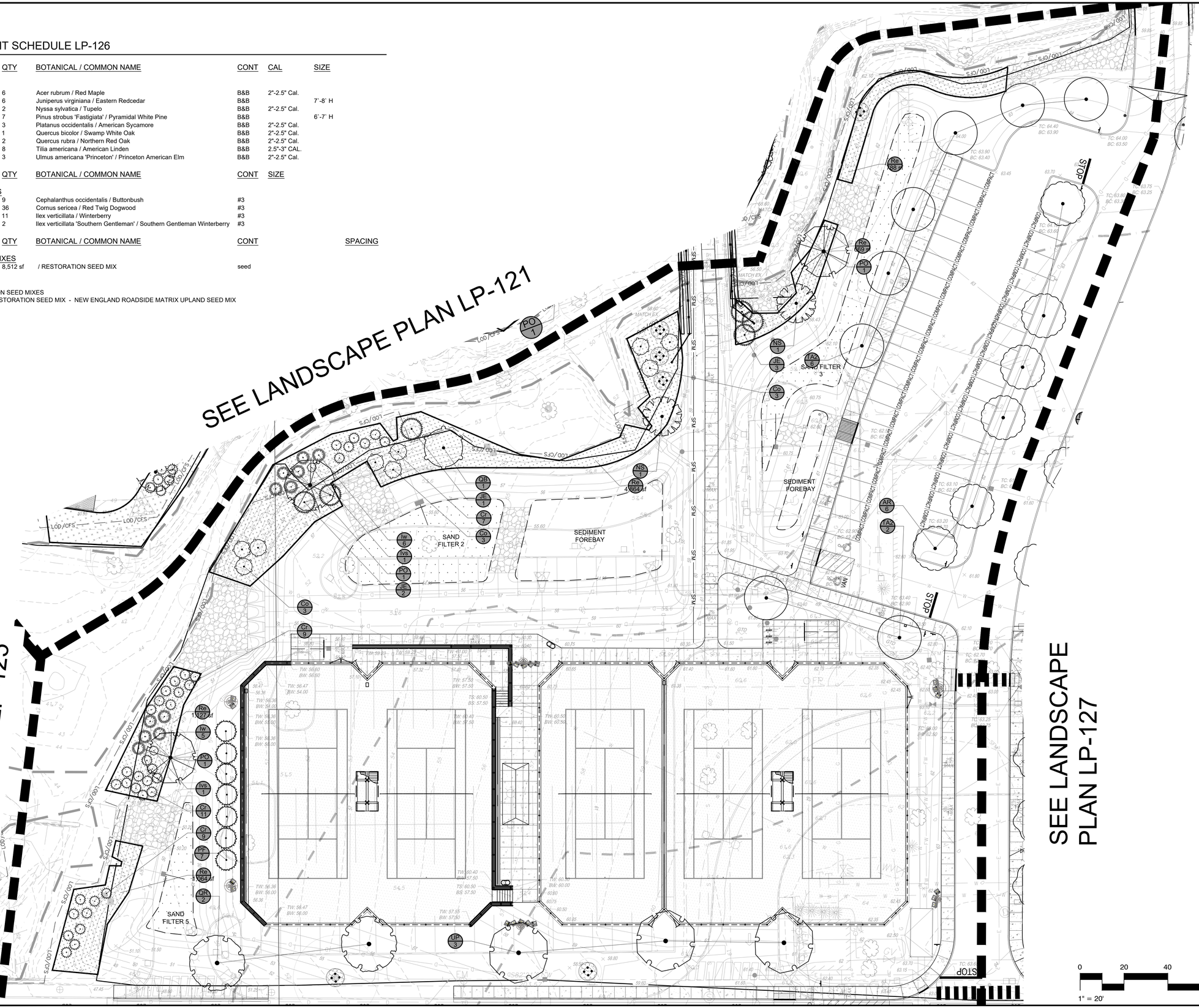
PLANT SCHEDULE LP-126

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES					
AR	6	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
JE	6	Juniperus virginiana / Eastern Redcedar	B&B		7`-8` H
NS	2	Nyssa sylvatica / Tupelo	B&B	2"-2.5" Cal.	
PF	7	Pinus strobus 'Fastigiata' / Pyramidal White Pine	B&B		6`-7` H
PO	3	Platanus occidentalis / American Sycamore	B&B	2"-2.5" Cal.	
QB	1	Quercus bicolor / Swamp White Oak	B&B	2"-2.5" Cal.	
QR	2	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.	
TA2	8	Tilia americana / American Linden	B&B	2.5"-3" CAL.	
UP	3	Ulmus americana 'Princeton' / Princeton American Elm	B&B	2"-2.5" Cal.	

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS				
Co	9	Cephalanthus occidentalis / Buttonbush	#3	
Cr	36	Cornus sericea / Red Twig Dogwood	#3	
Iw	11	Ilex verticillata / Winterberry	#3	
Ivs	2	Ilex verticillata 'Southern Gentleman' / Southern Gentleman Winterberry	#3	

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
SEED MIXES				
Re	8,512 sf	/ RESTORATION SEED MIX	seed	

NOTES ON SEED MIXES
1. RESTORATION SEED MIX - NEW ENGLAND ROADSIDE MATRIX UPLAND SEED MIX



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
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Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KEITH MITCHELL GRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
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DRAWING TITLE:
LANDSCAPE PLAN

DRAWING NO.:
LP-126
SHEET NO. 89 OF 93

PLANT SCHEDULE LP-127

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES					
AR	2	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
GS	3	Gleditsia triacanthos inermis `Shademaster` / Shademaster Honey Locust	B&B	2"-2.5" Cal.	
IO	7	Ilex opaca / American Holly	B&B		5`-6` H
IJ	3	Ilex opaca 'Jersey Knight' / Jersey Knight American Holly	B&B		4'-5' H
JE	17	Juniperus virginiana / Eastern Redcedar	B&B		7`-8` H
PS	9	Pinus strobus / White Pine	B&B		8'-10' H
PA	4	Platanus x acerifolia 'Bloodgood' / Bloodgood London Plane Tree	B&B	2.5"-3" Cal.	
QR	4	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.	
TA2	4	Tilia americana / American Linden	B&B	2.5"-3" CAL.	
TC	6	Tsuga canadensis / Eastern Hemlock	B&B		7`-8` H

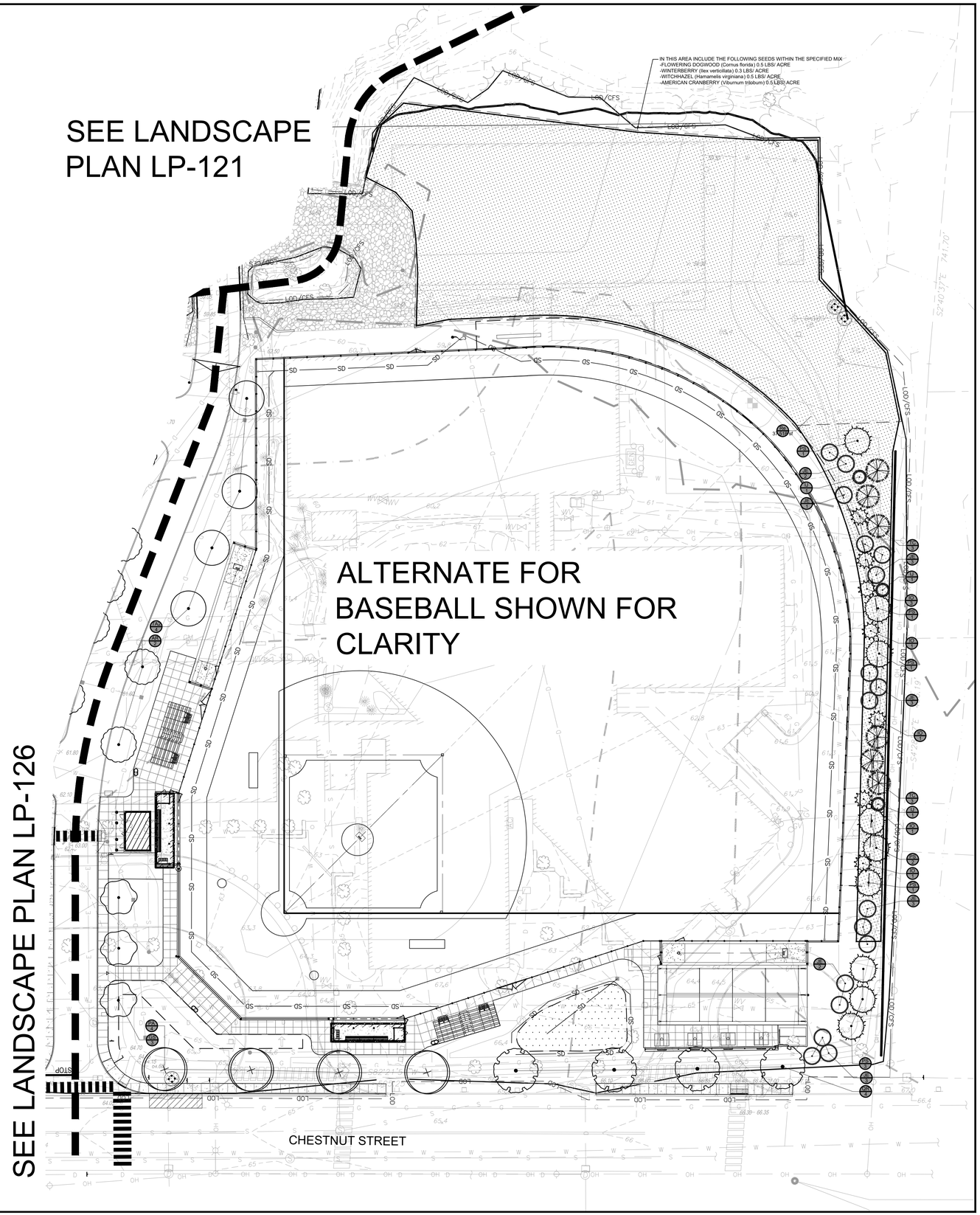
CODE	QTY	BOTANICAL / COMMON NAME	CONT
SEED MIXES			
Re	37,518 sf	/ RESTORATION SEED MIX	seed

NOTES ON SEED MIXES
1. RESTORATION SEED MIX - NEW ENGLAND ROADSIDE MATRIX UPLAND SEED MIX

NORTH

0 30 60 90 120 feet

1" = 30'



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REGISTERED LANDSCAPE ARCHITECT
KEITH MITCHELL GRADNER
No. 428

REVISIONS:

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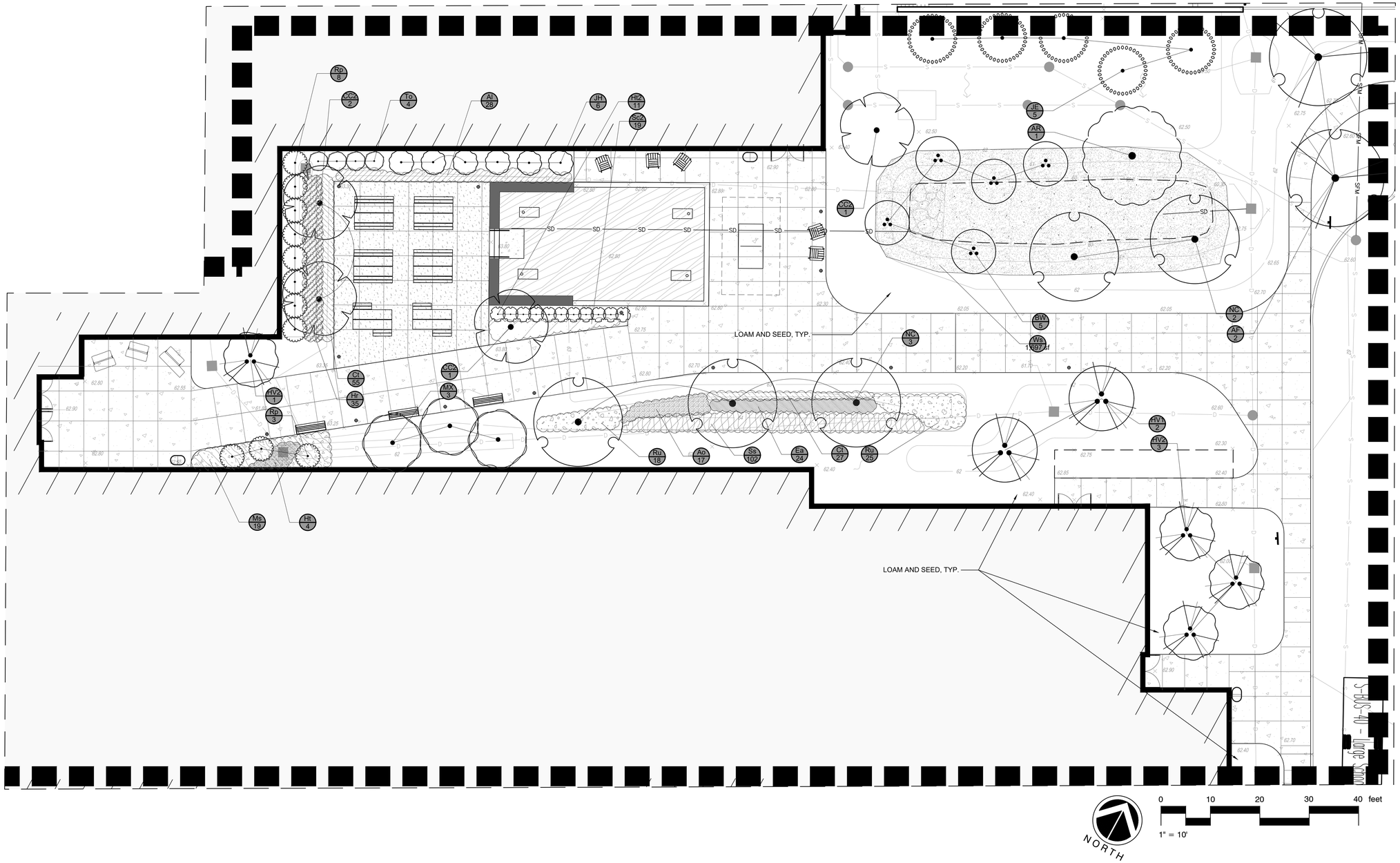
DRAWING TITLE:
LANDSCAPE PLAN

DRAWING NO.:
LP-127

SHEET NO. 90 OF 93

Any alteration of original drawing shall be done in such a manner as to preserve the original intent.



PLANT SCHEDULE LP-141

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES					
AR	1	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
AF	2	Acer rubrum 'Frank Jr.' / Redpointe® Maple	B&B	2"-2.5" Cal.	
BW	5	Betula populifolia 'Whitespire' / Whitespire Gray Birch	#7		6`-7` H
CC2	4	Cercis canadensis / Eastern Redbud	B&B	2"-2.5" Cal.	
HV2	4	Hamamelis vernalis / Ozark Witchhazel	Multi-stem B&B		6`-7` H
HV1	2	Hamamelis virginiana / Common Witch Hazel	Multi-stem B&B		7`-8` H
JH	6	Juniperus chinensis 'Hetzii' / Hetzi Juniper	B&B		6`-7` H
JE	5	Juniperus virginiana / Eastern Redcedar	B&B		7`-8` H
MX	3	Magnolia x 'Jane' / Jane Magnolia	B&B	2.5"-3" CAL.	
NC	5	Nyssa sylvatica `Northern Splendor` / Northern Splendor Tupelo	B&B	2.5"-3"	

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS				
Ht2	11	Hydrangea serrata `MAK20` / Tuff Stuff™ Hydrangea	#5	
Rp	11	Rhododendron x 'Purple Gem' / Purple Gem Rhododendron	#5	2`-3` H
To	4	Thuja occidentalis `Hetz Midget` / Hetz`s Midget Arborvitae	#5	

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
PERENNIALS/GRASSES				
Al	28	Anemone x hybrida 'Lucky Charm' / Lucky Charm Japanese Anemone	#1	24" o.c.
Ao	17	Aster oblongifolius `Raydon`s Favorite` / Raydon`s Favorite Fall Aster	#1	24" o.c.
Ct	82	Carex tenuiculmis 'Cappuccino' / Cappuccino Sedge	#1	18" o.c.
Ea	24	Echinacea x `Balsomrosa` / Sombrero® Rosada Coneflower	#1	24" o.c.
Hr	35	Helleborus x hybridus `RD09` / FrostKiss™ Pippa`s Purple Hellebore	#1	24" o.c.
Ht	4	Hosta x 'T Rex' / T Rex Hosta	#1	36" o.c.
Ms	19	Matteuccia struthiopteris / Ostrich Fern	#1	36" o.c.
Ru	43	Rudbeckia x 'American Gold Rush' / American Gold Rush Coneflower	#1	24" o.c.
Sc2	19	Salvia nemorosa 'Caradonna' / Cardonna Meadow Sage	#1	24" o.c.
Ss	102	Schizachyrium scoparium `The Blues` / The Blues Little Bluestem	#2	18" o.c.

CODE	QTY	BOTANICAL / COMMON NAME	CONT
SEED MIXES			
Ws	1,697 sf	/ WILDFLOWER SEED MIX	seed

NOTES ON SEED MIXES
1. WILDFLOWER SEED MIX - NEW ENGLAND SHOWY WILDFLOWER SEED MIX

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KATE MITCHELL BRADNER
No. 428

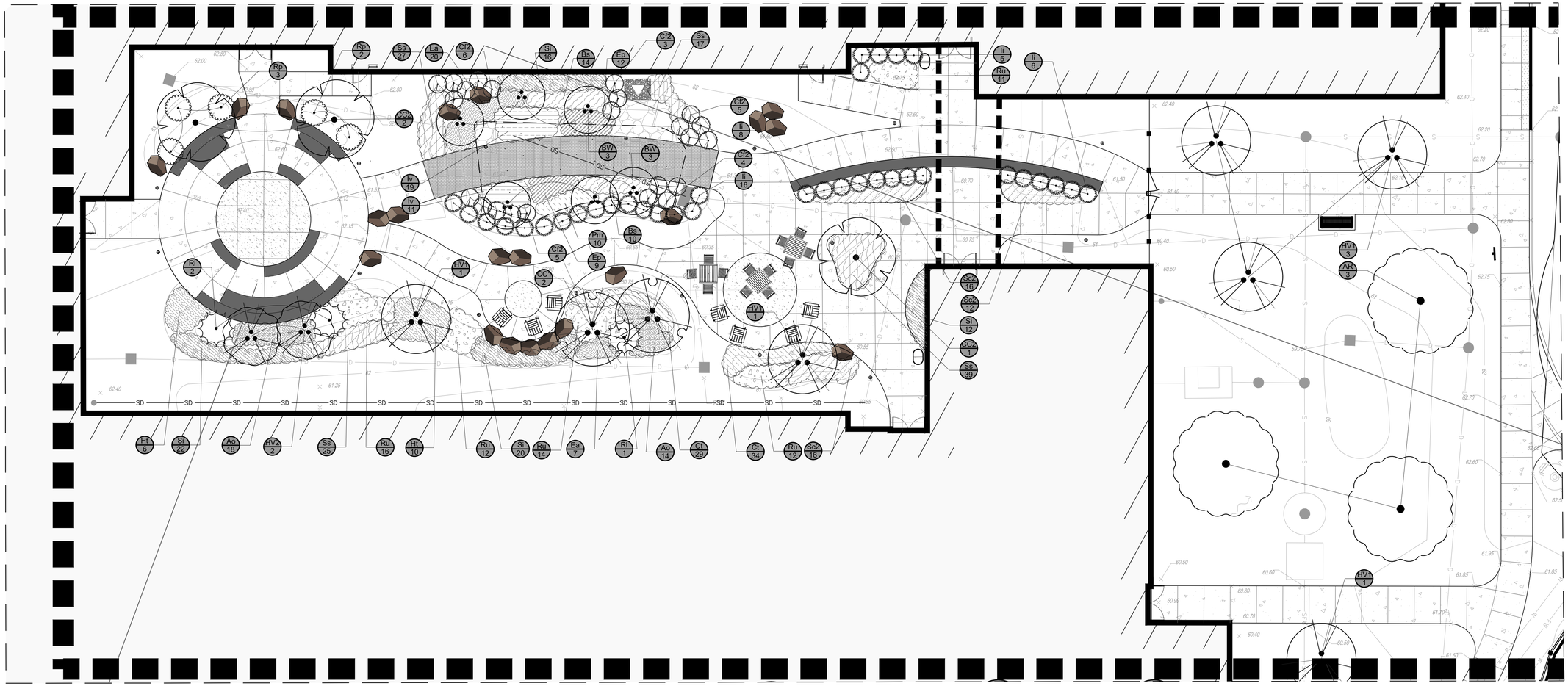
REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
ENLARGEMENT PLAN

DRAWING NO.:
L-141
SHEET NO. 91 OF 93

Plotted by: dpierce 6:30pm on May 30, 2025 File: 23099.01 Bristol, RI - Landscape Background - Planting



PLANT SCHEDULE LP-142

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES					
AR	3	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
BW	6	Betula populifolia 'Whitespire' / Whitespire Gray Birch	#7		6`-7` H
CC2	3	Cercis canadensis / Eastern Redbud	B&B	2"-2.5" Cal.	
CC1	2	Cercis canadensis 'Forest Pansy' / Forest Pansy Eastern Redbud	Multi-stem B&B	2"-2.5" Cal.	
HV2	2	Hamamelis vernalis / Ozark Witchhazel	Multi-stem B&B		6`-7` H
HV1	6	Hamamelis virginiana / Common Witch Hazel	Multi-stem B&B		7`-8` H

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS				
Cf2	23	Cornus sericea 'Farrow' / Arctic Fire® Red Twig Dogwood	#3	
Ii	35	Ilex glabra 'Compacta' / Compact Inkberry	#5	
Rl	3	Rhododendron x `Lee`s Dark Purple / Lee`s Dark Purple Rhododendron	B & B	2`-3` H
Rp	5	Rhododendron x 'Purple Gem' / Purple Gem Rhododendron	#5	2`-3` H

CODE	QTY	BOTANICAL / COMMON NAME	CONT
PERENNIALS/GRASSES			
Ao	32	Aster oblongifolius `Raydon`s Favorite` / Raydon`s Favorite Fall Aster	#1
Bs	24	Boltonia asteroides 'Snowbank' / Snowbank False Aster	#1
Ct	63	Carex tenuiculmis 'Cappuccino' / Cappuccino Sedge	#1
Ea	27	Echinacea x `Balsomrosa` / Sombrero® Rosada Coneflower	#1
Ep	21	Eupatorium fistulosum 'JoJo' / JoJo Joe Pye Weed	#1
Ht	16	Hosta x 'T Rex' / T Rex Hosta	#1
Iv	30	Iris versicolor / Blue Flag	#1
Pm	10	Physostegia virginiana `Miss Manners` / Miss Manners Obedient Plant	#1
Ru	65	Rudbeckia x 'American Gold Rush' / American Gold Rush Coneflower	#1
Sc2	44	Salvia nemorosa 'Caradonna' / Cardonna Meadow Sage	#1
Ss	108	Schizachyrium scoparium `The Blues` / The Blues Little Bluestem	#2
Si	70	Sorghastrum nutans 'Indian Steel' / Indian Steel Indian Grass	#1

PARE

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KIM MITCHELL GRADNER
No. 428

REVISIONS:

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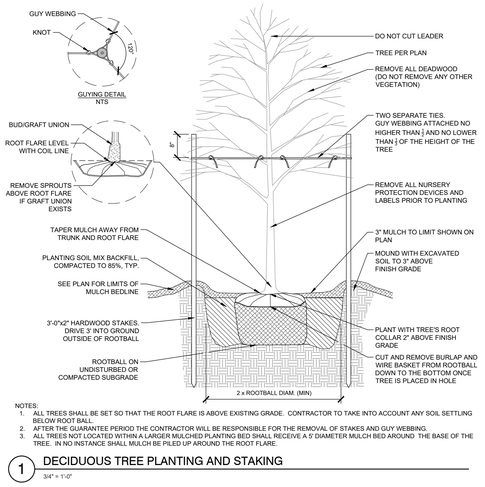
DRAWING TITLE:
ENLARGEMENT PLAN

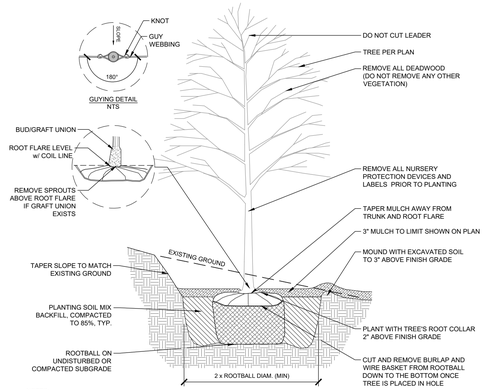
DRAWING NO.:
LP-142
SHEET NO. 92 OF 93

J:\Projects\23099 BWRSD HS Rep #3\03 Bidding Permitting\LP-142 Landscape Enlargement Plan.dwg



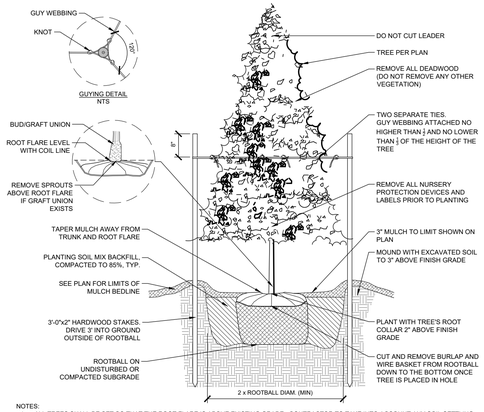
NOTES:
1. ALL TREES SHALL BE SET SO THAT THE ROOT FLARE IS ABOVE EXISTING GRADE. CONTRACTOR TO TAKE INTO ACCOUNT ANY SOIL SETTLING BELOW ROOT BALL.
2. AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.
3. ALL TREES NOT LOCATED WITHIN A LARGER MULCHED PLANTING BED SHALL RECEIVE A 5' DIAMETER MULCH BED AROUND THE BASE OF THE TREE. IN NO INSTANCE SHALL MULCH BE PILED UP AROUND THE ROOT FLARE.

1 DECIDUOUS TREE PLANTING AND STAKING
3/4" = 1'-0"



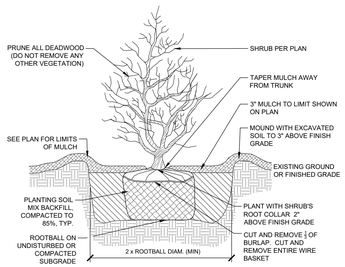
NOTES:
1. ALL TREES SHALL BE SET SO THAT THE ROOT FLARE IS ABOVE EXISTING GRADE. CONTRACTOR TO TAKE INTO ACCOUNT ANY SOIL SETTLING BELOW ROOT BALL.
2. SLOPE PLANTING STAKES SHALL BE PLACED PARALLEL TO SLOPE.
3. AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.
4. ALL TREES NOT LOCATED WITHIN A LARGER MULCHED PLANTING BED SHALL RECEIVE A 5' DIAMETER MULCH BED AROUND THE BASE OF THE TREE. IN NO INSTANCE SHALL MULCH BE PILED UP AROUND THE ROOT FLARE.

2 DECIDUOUS TREE PLANTING AND STAKING ON SLOPE
3/4" = 1'-0"

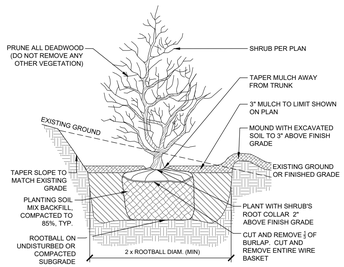


NOTES:
1. ALL TREES SHALL BE SET SO THAT THE ROOT FLARE IS ABOVE EXISTING GRADE. CONTRACTOR TO TAKE INTO ACCOUNT ANY SOIL SETTLING BELOW ROOT BALL.
2. AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.
3. ALL TREES NOT LOCATED WITHIN A LARGER MULCHED PLANTING BED SHALL RECEIVE A 5' DIAMETER MULCH BED AROUND THE BASE OF THE TREE. IN NO INSTANCE SHALL MULCH BE PILED UP AROUND THE ROOT FLARE.

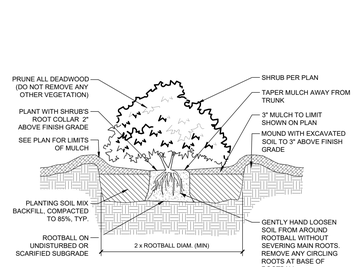
3 EVERGREEN TREE PLANTING AND STAKING
3/4" = 1'-0"



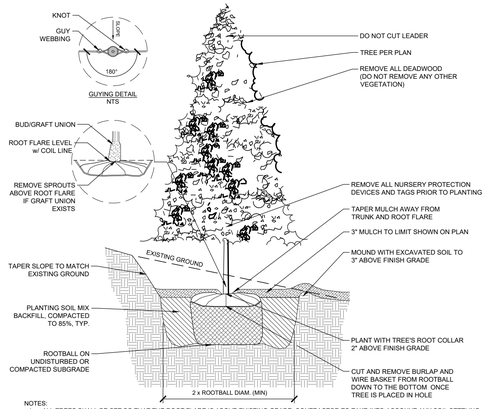
5 SHRUB PLANTING
1" = 1'-0"



6 SHRUB PLANTING ON SLOPE
1" = 1'-0"

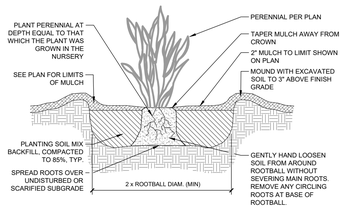


7 CONTAINER GROWN SHRUB PLANTING
1" = 1'-0"

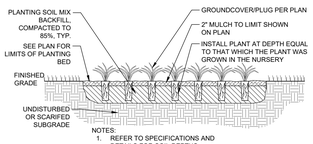


NOTES:
1. ALL TREES SHALL BE SET SO THAT THE ROOT FLARE IS ABOVE EXISTING GRADE. CONTRACTOR TO TAKE INTO ACCOUNT ANY SOIL SETTLING BELOW THE ROOT BALL.
2. SLOPE PLANTING STAKES SHALL BE PLACED PARALLEL TO SLOPE.
3. AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.
4. ALL TREES NOT LOCATED WITHIN A LARGER MULCHED PLANTING BED SHALL RECEIVE A 5' DIAMETER MULCH BED AROUND THE BASE OF THE TREE. IN NO INSTANCE SHALL MULCH BE PILED UP AROUND THE ROOT FLARE.

4 EVERGREEN TREE PLANTING AND STAKING ON SLOPE
3/4" = 1'-0"

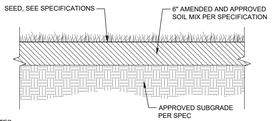


8 GRASS OR PERENNIAL PLANTING
1" = 1'-0"



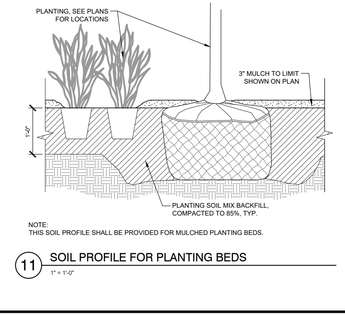
NOTES:
1. REFER TO SPECIFICATIONS AND DETAILS FOR SOIL DEPTHS.

9 GROUNDCOVER & PLUG PLANTING
1" = 1'-0"



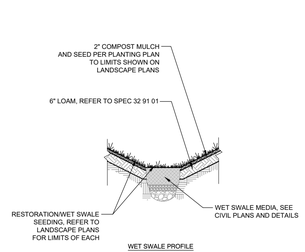
NOTES:
1. SEE PLANS FOR LIMITS OF GENERAL LAWN SEEDED AREAS.
2. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR WITH 6 INCHES LOAM AND SEED.
3. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED.
4. CONTRACTOR SHALL ENSURE A FULL 6" DEPTH OF LOAM AFTER ROLLING, RAKING, AND WATERING. PREPARED SEED BED SHALL BE REVIEWED BY THE LANDSCAPE ARCHITECT PRIOR TO SEEDING ACTIVITIES.

10 LOAM & SEED
1" = 1'-0"



NOTE:
THIS SOIL PROFILE SHALL BE PROVIDED FOR MULCHED PLANTING BEDS.

11 SOIL PROFILE FOR PLANTING BEDS
1" = 1'-0"



12 SAND FILTER, WET SWALE AND BIORETENTION SURFACE PROFILES
3/8" = 1'-0"

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MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

TRAVERSE landscape architects
150 Chestnut Street, 4th Floor
Providence, RI 02903
401-383-4950
www.traversella.com

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

REGISTERED LANDSCAPE ARCHITECT
KIRK MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.:
LP-301
SHEET NO. 93 OF 93

MT. HOPE HIGH SCHOOL

199 Chestnut Street

Assessor's Plat 117, Lots 3, 4, 5, 6, & 7
Bristol, Rhode Island

OWNER/ APPLICANT:

BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809

CIVIL ENGINEER:

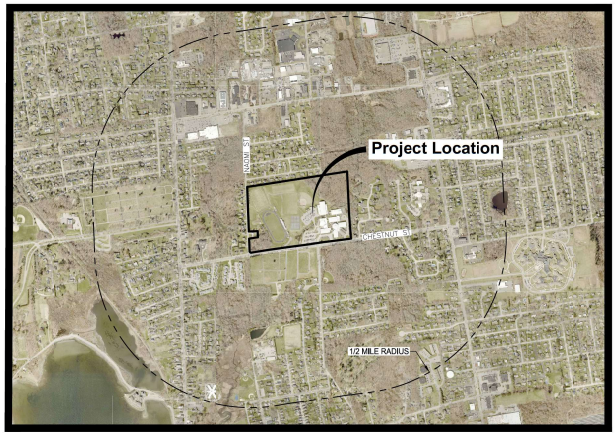
PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

LANDSCAPE ARCHITECT:

TRAVERSE
landscape architects
150 Chestnut Street, 4th Floor
Providence, RI 02903

WETLAND CONSULTANT:

LEC ENVIRONMENTAL CONSULTANTS, INC
680 WARREN AVE, UNIT 3
EAST PROVIDENCE, RI 02914
401-685-3109



Scale : N.T.S.

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RIDEM SUBMISSION
FEBRUARY 7, 2025
REVISION 1 APRIL 17, 2025
REVISION 2 JUNE 2, 2025

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

REFERENCE

1. PROJECT LOCATION: MT. HOPE HIGH SCHOOL, 199 CHESTNUT ST, BRISTOL, RI 02809. ASSESSOR'SMAP 117, LOTS 3, 4, 5, 6, AND 7.
2. EXISTING CONDITIONS MAPPING TAKEN FROM PLAN ENTITLED "MT. HOPE HIGH SCHOOL" PREPARED BY MARTINEZ, COUCH AND ASSOCIATES LLC, DATED 12/23/2024.
3. WETLAND FLAGS IDENTIFYING WETLAND RESOURCE AREAS WERE PLACED BY IEC ENVIRONMENTAL CONSULTANTS ON FEBRUARY 12 AND 28, 2024 AND LOCATED BY MARTINEZ, COUCH AND ASSOCIATES LLC.

GENERAL NOTES

1. PER AVAILABLE RIDEM MAPPING, THE PROJECT SITE IS LOCATED WITHIN A NATURAL HERITAGE AREA. THE PROJECT IS ALSO LOCATED WITHIN THE SILVER CREEK WATERSHED AREA.
2. THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED FEBRUARY 2025 WITH ALL REVISIONS AND ADDENDA, AND THE RHODE ISLAND STANDARD DETAILS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO. ALL WORK SHALL MEET OR EXCEED THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WITH LATEST REVISIONS. THE LATEST REVISION OF THE STANDARD SPECIFICATIONS MAY BE OBTAINED AT THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION.
3. THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE ENGINEER AND OWNER'S REPRESENTATIVE AS REQUIRED.
4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AND/OR BARRIERS AROUND ALL OPEN EXCAVATED AREAS IN ACCORDANCE WITH OSHA FEDERAL, STATE, AND LOCAL REQUIREMENTS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED. NO FIELD ADJUSTMENTS IN THE LOCATION OF SITE ELEMENTS SHALL BE MADE WITHOUT THE ENGINEER'S APPROVAL.
6. IF ANY DEVIATION OR ALTERATION OF THE WORK PROPOSED ON THESE DRAWINGS IS REQUIRED, THE CONTRACTOR SHALL IMMEDIATELY CONTACT AND COORDINATE ANY DEVIATIONS WITH THE ENGINEER AND OWNER.
7. ANY AREA OUTSIDE OF THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
8. ALL SITE WORK SHALL MEET OR EXCEED THE SITE WORK SPECIFICATIONS PREPARED FOR THIS PROJECT.
9. ALL SIGNS SHALL BE REFLECTORIZED TYPE III SHEETING AND CONFORM WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST REVISION.
10. ALL UTILITIES (LOCATION AND ELEVATION) DEPICTED SHALL BE CONSIDERED APPROXIMATE ONLY. BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIG SAFE" AT 1-888-DIG-SAFE (1-888-344-7233) TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES AND THE COST TO REPAIR THE DAMAGES TO INITIAL CONDITIONS, AS DEPICTED ON THE PLANS, SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
11. NO EXCAVATION SHALL BE DONE UNTIL UTILITY COMPANIES ARE PROPERLY NOTIFIED IN ADVANCE. NOTE THAT NOT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL RESPECTIVE UTILITY COMPANIES TO VERIFY AND LOCATE EXISTING UTILITIES.

LAYOUT NOTES

1. ALL LINES ARE PERPENDICULAR OR PARALLEL TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
2. ACCESSIBLE RAMPS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY STANDARDS.
3. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL PERFORM BENCHMARK FIELD LEVEL VERIFICATION AND COORDINATE LAYOUT CHECK. THE CONTRACTOR SHALL CONTACT PARE CORPORATION IF ANY DISCREPANCIES ARE FOUND.
4. DIMENSIONS OF PARKING SPACES AND DRIVEWAYS ARE FROM FACE OF CURB TO FACE OF CURB. DIMENSIONS FROM BUILDING ARE FROM FACE OF BUILDING TO FACE OF CURB.
5. ALIGN WALKWAYS ON DOORWAYS THEY SERVE TO PROVIDE MINIMUM REQUIRED MANEUVERING CLEARANCE IN ACCORDANCE WITH THE AMERICAN WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES.

DEMOLITION NOTES

1. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION OF STRUCTURES, PAVEMENT AND CONCRETE MATERIALS, AND UTILITIES WITH APPROPRIATE PROPOSED SITE GENERAL, GRADING, UTILITY, AND LANDSCAPING DRAWINGS.
2. ALL NOTED UTILITIES TO BE REMOVED AND DISPOSED OF, RELOCATED OR CAPPED REPRESENT ALL KNOWN SITE CONDITIONS TO BE DEMOLISHED. THE CONTRACTOR SHALL COORDINATE ALL UNFORESEEN CONDITIONS WITH THE PROJECT ENGINEER, OWNER AND/OR RESPECTIVE UTILITY COMPANIES PRIOR TO PROCEEDING WITH WORK.
3. WATER, SEWER, DRAINAGE, GAS, AND OTHER SITE UTILITIES SERVICING THE EXISTING FACILITIES ARE TO REMAIN ACTIVE THROUGHOUT CONSTRUCTION. THERE SHALL BE NO INTERRUPTION OF UTILITY SERVICES DURING THE CONSTRUCTION OPERATION WITHOUT APPROVAL FROM THE OWNER.

GRADING AND UTILITY NOTES

1. UNDERGROUND UTILITIES DEPICTED WERE COMPILED FROM AVAILABLE RECORD PLANS AND SHALL BE CONSIDERED APPROXIMATE ONLY. BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIG SAFE" AT 1-888-DIG-SAFE (1-888-344-7233) TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES DEPICTED OR NOT DEPICTED ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS TO REPAIR SUCH DAMAGES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. NO EXCAVATION SHALL BE DONE UNTIL UTILITY COMPANIES ARE PROPERLY NOTIFIED.
2. ALL WORK PERFORMED AND ALL MATERIALS FURNISHED SHALL CONFORM WITH THE LINES AND GRADES ON THE PLANS AND SITE WORK SPECIFICATIONS.
3. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUT NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE, BLEND NEW PAVEMENT AND CURBS SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
4. ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE SURROUNDING SURFACE OR PAVEMENT FINISH GRADE. RIM ELEVATIONS OF STRUCTURES AND MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS.
5. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION OF PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED.
6. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION SHALL BE PROVIDED ON A SKETCH TO SCALE OF THE EXISTING UTILITY WITH TIES TO KNOWN POINTS, PHOTOS AND FURNISHED TO THE ENGINEER FOR RESOLUTION.
7. THE CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION, ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS SHALL BE RESTORED TO ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
8. GAS, ELECTRIC, AND COMMUNICATIONS ROUTING ARE SUBJECT TO REVIEW AND APPROVAL BY APPROPRIATE UTILITY COMPANIES.
9. DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES BY PROVIDING TEMPORARY SUPPORTS OR SHEETING AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
10. ALL GRAVITY SANITARY PIPING SHALL BE SDR-35 PVC. ALL SEWER CONSTRUCTON SHALL CONFORM TO THE TOWN OF BRISTOL SEWER AND SEWAGE DISPOSAL ORDINANCE .
11. ALL WATER LINE BENDS AND TEES SHALL BE REINFORCED WITH THRUST BLOCKS. ALL WATER DISTRIBUTION PIPING AND FITTINGS MUST ADHERE TO THE BRISTOL COUNTY WATER AUTHORITY SPECIFICATIONS AND SHALL BE INSPECTED BEFORE, DURING, AND AFTER CONSTRUCTION PRIOR TO TAPPING THE SERVICE MAIN. THE CONTRACTOR SHALL COORDINATE AND CONFIRM ALL WATER DISTRIBUTION MATERIAL PRODUCTS WITH THE BRISTOL COUNTY WATER AUTHORITY PRIOR TO ORDERING OR PURCHASING PRODUCTS.
12. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
13. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MIN. OF 1/8" PER FOOT UNLESS SPECIFIED OTHERWISE.
14. THE PROPOSED WALKWAYS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM RUNNING SLOPE OF 5% AS SHOWN ON CONSTRUCTION DETAILS AND GRADING PLAN.

STORMWATER MANAGEMENT SYSTEM INSPECTION AND MAINTENANCE NOTES

DURING CONSTRUCTION (CONTRACTOR'S RESPONSIBILITY)

1. THE CONTRACTOR SHALL REMOVE SEDIMENT AND DEBRIS FROM ALL CATCH BASINS, MANHOLES, AND THE DRAINAGE SYSTEM ON A ROUTINE BASIS, IMMEDIATELY FOLLOWING SITE STABILIZATION, AND PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
2. THE CLOSED DRAINAGE SYSTEM AND ASSOCIATED STRUCTURES SHALL BE CLEANED AND FLUSHED BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM UNTIL ACCEPTANCE OF THE SYSTEM BY THE ENGINEER AND THE TOWN OF BRISTOL. FOLLOWING ACCEPTANCE OF THE PROPOSED DRAINAGE SYSTEM, THE OWNER OF THE SITE SHALL BE RESPONSIBLE FOR THE LONG-TERM INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM.
3. ANY ACCUMULATION OF PONDING WATER IN AREAS WITHIN THE LIMITS OF DISTURBANCE, OTHER THAN DESIGNATED AREAS, SHALL BE REMOVED ACCORDINGLY AND PREVENTED IN THE FUTURE.

POST CONSTRUCTION (OWNER'S RESPONSIBILITY)

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

1. THE PARKING LOT AND ENTRY DRIVES SHALL BE SWEPT BY THE OWNER ONCE IN THE SPRING AND ONCE DURING THE FALL TO REMOVE SEDIMENTS.
2. TRASH, LITTER, SEDIMENT AND OTHER DEBRIS SHALL BE REMOVED FROM ANY STORMWATER FACILITY (INCLUDING CATCH BASINS, MANHOLES, INLETS, DIVERSION AND OUTLET STRUCTURES) AT LEAST TWICE A YEAR, ONCE IN THE MONTH OF APRIL AND ONCE IN THE MONTH OF OCTOBER, AT THE COST OF THE OWNER.
3. ALL SEDIMENTS REMOVED SHALL BE DISPOSED OF AT AN APPROVED AND PERMITTED LOCATION.
4. SNOW STORAGE IS PROHIBITED IN THE STORMWATER BMPS.
5. ALL CLEANING AND MAINTENANCE OF DRAINAGE SYSTEM BMPS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. SEE ADDITIONAL INSPECTION, MAINTENANCE, AND REPAIR NOTES FOR THE STORMWATER SYSTEM. THE OWNER SHALL COMPLY WITH THE TOWN OF BRISTOL OPERATION AND MAINTENANCE REQUIREMENTS PER SECTION 29-62 OF THE CODE OF ORDINANCES.

EROSION AND SEDIMENTATION CONTROL NOTES - RHODE ISLAND

1. THE CONTRACTOR AND RELEVANT SUBCONTRACTORS SHALL READ AND UNDERSTAND THE RIPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (GENERAL PERMIT) AND THE SITE SPECIFIC SOIL EROSION AND SEDIMENT CONTROL PLAN (ESCP) PREPARED FOR THE PROJECT. ALL EROSION CONTROLS SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST REVISION.
2. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE CONDITIONS ISSUED FOR THE PROJECT BY RIDEM AND THE TOWN OF BRISTOL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH ALL PERMIT REQUIREMENTS AND CONSTRUCTION DOCUMENTS. PER THE TOWN OF BRISTOL'S CODE OF ORDINANCES CHAPTER 29, THE CONTRACTOR SHALL PROVIDE NOTIFICATION OF PROJECT COMPLETION, THE TOWN OF BRISTOL'S BUILDING OFFICIAL SHALL BE NOTIFIED TO MAKE A FINAL INSPECTION OF THE SITE AND SHALL PREPARE A FINAL SUMMARY INSPECTION REPORT OF FINDINGS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING OR INSTALLING ALL TEMPORARY SEDIMENT AND EROSION CONTROLS AS SHOWN ON THESE PLANS AND SHALL MAINTAIN ALL EROSION CONTROL MEASURES AS NECESSARY DURING THE ENTIRE CONSTRUCTION PERIOD.
4. ANTI-TRACKING PADS (RI. STD. DETAIL 3.9.0) SHALL BE PROVIDED AT ALL POINTS OF VEHICULAR INGRESS AND EGRESS ON THE CONSTRUCTION SITE AND SHALL BE MAINTAINED TO LIMIT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADS. PER THE PROJECT SPECIFICATIONS, THE CONTRACTOR SHALL BE BACKCHARGED IF ALL POINTS OF INGRESS AND EGRESS ARE NOT MAINTAINED.
5. EROSION CONTROL BARRIERS SHALL BE INSTALLED AS SHOWN ON THE EROSION CONTROL PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATIONS.
6. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A WEEKLY BASIS AND AFTER EACH STORM EVENT OF 0.25 INCH OR GREATER DURING CONSTRUCTION TO ENSURE THAT CHANNELS, DITCHES AND PIPES ARE CLEAR OF DEBRIS AND THAT THE EROSION CONTROL BARRIERS ARE INTACT. IDENTIFIED DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.
7. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS AS NECESSARY OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
8. THE CONTRACTOR SHALL CLEAN AND MAINTAIN EROSION CONTROL BARRIER WHEN SEDIMENT ACCUMULATES TO ONE HALF THE HEIGHT OF THE BARRIER. MATERIAL COLLECTED FROM THE SEDIMENTATION BARRIERS SHALL BE REMOVED AS NECESSARY AND DISPOSED IN AN UPLAND AREA.
9. THE CONTRACTOR SHALL SCHEDULE HIS WORK TO ALLOW THE FINISHED SUBGRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PONDING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO APPLICATION OF SURFACE PAVING. PROVIDE TEMPORARY POSITIVE DRAINAGE, AS REQUIRED, TO STABILIZED DISCHARGE POINTS.
10. INSTALLATION OF THE EROSION CONTROL BARRIERS AS ILLUSTRATED IS INTENDED TO REPRESENT THE MINIMUM SEDIMENTATION CONTROL FACILITIES NECESSARY TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
11. REQUIRED SEDIMENTATION CONTROL FACILITIES MUST BE PROPERLY ESTABLISHED, CLEARLY VISIBLE AND IN OPERATION PRIOR TO INITIATING ANY LAND CLEARING ACTIVITY AND/OR OTHER CONSTRUCTION RELATED WORK. SUCH FACILITIES SHALL REPRESENT THE LIMIT OF WORK. WORKERS SHALL BE INFORMED THAT NO CONSTRUCTION ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK AT ANY TIME THROUGHOUT THE CONSTRUCTION PERIOD.
12. THE CONTRACTOR SHALL MAINTAIN A SUFFICIENT RESERVE OF VARIOUS EROSION CONTROL MATERIALS ONSITE AT ALL TIMES FOR EMERGENCY PURPOSES OR ROUTINE MAINTENANCE.
13. EXISTING AND NEWLY INSTALLED CATCH BASINS AND STORM DRAIN INLETS SHALL BE PROTECTED WITH APPROPRIATE TEMPORARY INLET PROTECTION IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.
14. DEWATERING WASTE WATERS PUMPED FROM EXCAVATIONS SHALL BE CONVEYED BY HOSE TO AN UPLAND AREA AND DISCHARGED INTO STRAW BALE CORRALS OR SEDIMENTATION SACS. ALL DEWATERING OPERATIONS SHALL BE IN ACCORDANCE WITH STATE REGULATIONS.
15. THE CONTRACTOR SHALL NOT REMOVE ANY TEMPORARY SEDIMENT CONTROL BARRIERS UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.
16. CONSTRUCTION SITE WASTE MATERIALS SHALL BE PROPERLY CONTAINED ONSITE AND DISPOSED OFF SITE AT A LOCATION IN ACCORDANCE WITH THE LOCAL AND STATE REGULATIONS.
17. RIP-RAP OR OTHER ENERGY DISSIPATERS SHALL BE USED WHERE NECESSARY TO PREVENT SCOUR.
18. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS UPON COMPLETION OF WORK IN THAT AREA.
19. ALL DRAINAGE STRUCTURES SHALL BE CLEARED OF ACCUMULATED SEDIMENT PRIOR TO ACCEPTANCE OF FINAL PROJECT.
20. NEWLY VEGETATED AREAS SHALL BE MAINTAINED REGULARLY TO ENSURE STABLE VEGETATED SURFACES.
21. EROSION AND SEDIMENTATION CONTROLS SHALL BE UTILIZED AS SHOWN ON THE PLANS. POTENTIAL EROSION AND SEDIMENTATION PROBLEMS ASSOCIATED WITH THE CONSTRUCTION OF THE PROJECT SHALL BE AVOIDED THROUGH THE PROJECT SCHEDULING AND THE USE OF APPROPRIATE STANDARD CONTROLS (RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK) AS ILLUSTRATED ON THE PROJECT PLANS.
22. WHERE EROSION CONTROLS ARE NEEDED ON IMPERVIOUS SURFACES, THE CONTRACTOR SHALL PROVIDE SAND BAG EROSION CONTROL BARRIER.
23. TEMPORARY DIVERSION (TD) MAY CONSIST OF A DITCH OR SWALE, OR MAY BE ACHIEVED USING WOOD CHIPS, COIR LOGS, OR SIMILAR MATERIALS.
24. TEMPORARY SEDIMENT TRAPS (TST) AND TEMPORARY SWALES (TSW) SHALL BE SIZED BY THE CONTRACTOR USING THE PARAMETERS CONTAINED IN THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.

SEDIMENT FOREBAY INSPECTION, MAINTENANCE, AND REPAIR NOTES

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

1. SEDIMENT FOREBAY SHALL BE INSPECTED A MINIMUM OF TWO TIMES PER YEAR AND AFTER EVERY STORM OF 2.5" INCH OR GREATER FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY THE OWNER.
2. SEDIMENT FOREBAYS SHALL BE CLEANED IF SEDIMENT REACHES HALF THE DESIGN DEPTH.
3. SEDIMENT FOREBAY CHECK DAMS SHALL BE REPLACED IF DRAWDOWN TIMES WITHIN THE SEDIMENT FOREBAY EXCEED 48 HOURS FOLLOWING THE STORM EVENT.
4. ALL SEDIMENTS REMOVED SHALL BE DISPOSED OF AT AN APPROVED AND PERMITTED LOCATION.
5. VEGETATION SHALL NOT EXCEED 18" IN HEIGHT IN THE SEDIMENT FOREBAYS.

SAND FILTER NOTES INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT SAND FILTER AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.9"
   - INSPECT SAND FILTER FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY OWNER.
3. BI-ANNUALLY
   - INSPECT SAND FILTER A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY IN APRIL AND OCTOBER. SEDIMENT SHALL BE REMOVED FROM SAND FILTER IF THE SEDIMENT EXCEEDS 1".
   - MOW SIDESLOPES AND BOTTOM OF SAND FILTER A MINIMUM OF TWO TIMES PER YEAR.
4. QUARTERLY
   - INSPECT SAND FILTER OUTLET CONTROL STRUCTURE AND ALL OVERFLOW CHANNELS. THE OWNER SHALL STABILIZE ERODED BANKS AND REPAIR ERODED AREAS AT INFLOW AND OUTFLOW STRUCTURES AS NECESSARY.
5. IF SEDIMENT BUILD-UP HAS LIMITED THE FILTERING CAPABILITIES TO BELOW THE DESIGN RATE OR PONDING HAS EXCEEDED 72 HOURS THE FOLLOWING SHALL BE COMPLETED:
   - THE TOP 6" OF SOIL SHALL BE REMOVED AND DISPOSED AT A PERMITTED LOCATION.
   - THE EXPOSED SURFACE SHALL BE SCARIFIED.
   - THE TOP 6" SHALL BE RESTORED TO THE ORIGINAL DESIGN SPECIFICATIONS WITH ASTM C-33 SAND.
6. TRASH AND DEBRIS SHALL BE REMOVED FROM SAND FILTER AS NECESSARY.
7. AUXILIARY DRAIN PIPES WITHIN SF-01, SF-02, SF-03 AND SF-05 SHALL BE INSPECTED ANNUALLY. THE OWNER SHALL KEEP THE PVC BALL VALVE IN THE CLOSED POSITION AT ALL TIMES EXCEPT WHERE NECESSARY TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES.

BIORETENTION AREA INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT BIORETENTION AREA AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT BIORETENTION AREA FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY OWNER.
3. BI-ANNUALLY
   - INSPECT BIORETENTION AREA A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY IN APRIL AND OCTOBER. SEDIMENT SHALL BE REMOVED FROM BIORETENTION AREA IF THE SEDIMENT EXCEEDS 1".
   - MOW SIDE SLOPES AND BOTTOM OF BIORETENTION AREA A MINIMUM OF TWO TIMES PER YEAR.
4. QUARTERLY
   - INSPECT BIORETENTION AREA OUTLET CONTROL STRUCTURE AND ALL OVERFLOW CHANNELS. THE OWNER SHALL STABILIZE ERODED BANKS AND REPAIR ERODED AREAS AT INFLOW AND OUTFLOW STRUCTURES AS NECESSARY.
5. IF SEDIMENT BUILD-UP HAS LIMITED THE FILTERING CAPABILITIES TO BELOW THE DESIGN RATE OR PONDING HAS EXCEEDED 48 HOURS THE FOLLOWING SHALL BE COMPLETED:
   - THE TOP 6" OF SOIL SHALL BE REMOVED AND DISPOSED AT A PERMITTED LOCATION.
   - THE EXPOSED SURFACE SHALL BE SCARIFIED.
   - THE TOP 6" SHALL BE RESTORED TO THE ORIGINAL DESIGN SPECIFICATIONS WITH A LOAMY SAND TOPSOIL.
6. TRASH AND DEBRIS SHALL BE REMOVED FROM BIORETENTION AREA AS NECESSARY.
7. AUXILIARY DRAIN PIPES WITHIN BIO-01 AND BIO-04 SHALL BE INSPECTED ANNUALLY. THE OWNER SHALL KEEP THE PVC BALL VALVE IN THE CLOSED POSITION AT ALL TIMES EXCEPT WHERE NECESSARY TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES.

DETENTION BASIN INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. SEDIMENT SHALL BE REMOVED FROM THE DETENTION BASIN WHEN THE SEDIMENT VOLUME EXCEEDS 10 PERCENT OF THE TOTAL BASIN VOLUME. THE REMOVED SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED AND PERMITTED LOCATION.
2. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT INFILTRATION PRACTICES AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
3. BI-ANNUALLY
   - INSPECT DETENTION BASIN A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY ONCE IN APRIL AND ONCE IN OCTOBER.
   - MOW SIDE SLOPES AND BOTTOM OF DETENTION BASIN A MINIMUM OF TWO TIMES PER YEAR. THE VEGETATION SHALL NOT EXCEED 18" IN HEIGHT.
4. QUARTERLY
   - THE DETENTION BASIN OUTLET STRUCTURES AND ALL OUTFLOW CHANNELS SHOULD BE INSPECTED QUARTERLY BY THE OWNER.

QUALIFYING PERVIOUS AREA INSPECTION, MAINTENANCE AND REPAIR NOTES

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

1. THE QUALIFYING PERVIOUS AREAS (QPA'S) MUST BE INSPECTED A MINIMUM OF TWO TIMES PER YEAR FOR SEDIMENT, PONDING, EROSION, AND VEGETATION.
2. REMOVE ACCUMULATED SEDIMENT FROM THE QPA'S IF SEDIMENT EXCEEDS 1".
3. OWNER SHALL REPAIR ANY SLOPES THAT HAVE BEEN DAMAGED DUE TO EROSION OR OTHER MEANS. OWNER SHALL REPLACE ANY VEGETATION THAT HAS DIED OR BEEN DAMAGED.
4. OWNER SHALL MOW GRASS WITHIN THE QPA A MINIMUM OF TWO TIMES ANNUALLY TO MAINTAIN A MINIMUM GRASS HEIGHT OF 6".
5. TRASH AND DEBRIS SHALL BE REMOVED FROM THE QPA'S AS NECESSARY.

WET SWALE INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. DURING THE SIX MONTHS IMMEDIATELY AFTER CONSTRUCTION, FILTER PRACTICES SHALL BE INSPECTED FOLLOWING AT LEAST THE FIRST TWO PRECIPITATION EVENTS OF AT LEAST .0 INCH TO ENSURE THAT THE SYSTEM IS FUNCTIONING PROPERLY. THEREAFTER, INSPECTIONS SHALL BE CONDUCTED ON AN ANNUAL BASIS AND AFTER STORM EVENTS OF GREATER THAN OR EQUAL 2.8" FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE.
2. TRASH AND DEBRIS SHALL BE REMOVED FROM THE FOREBAY AND SWALES SYSTEM AS NECESSARY.
3. MINIMUM VEGETATIVE COVERAGE OF 50% IS NOT ACHIEVED IN THE PLANTED AREAS AFTER THE SECOND GROWING SEASON, A REINFORCEMENT PLANTING IS REQUIRED. VEGETATION SHALL BE PRUNED WHERE DEAD OR DYING BRANCHES ARE OBSERVED.

UNDERGROUND INFILTRATION SYSTEM INSPECTION, MAINTENANCE, AND REPAIR NOTES

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

1. THE SYSTEM SHALL BE MAINTAINED AS RECOMMENDED BY THE MANUFACTURER.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT INFILTRATION/DETENTION SYSTEM FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY THE OWNER.
3. BI-ANNUALLY
   - INSPECTIONS SHALL BE PERFORMED A MINIMUM OF TWO TIMES PER YEAR ON THE INSPECTION PORTS AND DRAINAGE STRUCTURES OF THE UNDERGROUND INFILTRATION SYSTEM TO ENSURE PROPER OPERATION OF THE SYSTEM.
4. AUXILIARY DRAIN PIPES WITHIN UGS-01 SHALL BE INSPECTED ANNUALLY. THE OWNER SHALL KEEP THE PVC BALL VALVE IN THE CLOSED POSITION AT ALL TIMES EXCEPT WHERE NECESSARY TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES.

INFILTRATION BASIN INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT INFILTRATION PRACTICES AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT INFILTRATION BASIN FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY OWNER.
3. BI-ANNUALLY
   - INSPECT INFILTRATION BASIN A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY IN APRIL AND OCTOBER. SEDIMENT SHALL BE REMOVED FROM INFILTRATION BASIN IF THE SEDIMENT EXCEEDS 1".
   - MOW SIDESLOPES AND BOTTOM OF INFILTRATION BASIN A MINIMUM OF TWO TIMES PER YEAR.
4. QUARTERLY
   - INSPECT INFILTRATION BASIN OUTLET CONTROL STRUCTURE AND ALL OVERFLOW CHANNELS. THE OWNER SHALL STABILIZE ERODED BANKS AND REPAIR ERODED AREAS AT INFLOW AND OUTFLOW STRUCTURES AS NECESSARY.
5. IF SEDIMENT BUILD-UP HAS LIMITED THE INFILTRATION CAPABILITIES TO BELOW THE DESIGN RATE OR PONDING HAS EXCEEDED 48 HOURS THE FOLLOWING SHALL BE COMPLETED:

Item C1.

ABBREVIATIONS

GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUST
APPROX	APPROXIMATE
AC	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
ASSF	AREA SUBJECT TO STORM FLOWAGE
ATD	ASPHALT TURNDOWN
ATG	ADJUST TO GRADE
BB	BITUMINOUS BERM
BC	BOTTOM OF CURB (FINISHED GRADE ON LOW SIDE OF CURB)
BD	BOUND
BIT	BITUMINOUS
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BMP	BEST MANAGEMENT PRACTICE
BO	BY OTHERS
BOL	BOLLARD
BOS	BOTTOM OF SLOPE
BOT	BOTTOM
BPM	BLACK OUT PAVEMENT MARKING
BR	BRIDGE
BS	BOTTOM OF STAIR (FINISHED GRADE AT BOTTOM STAIR)
BW	BOTTOM OF WALL (FINISHED GRADE ON LOW SIDE OF WALL)
BWL	BROKEN WHITE LINE
BYL	BROKEN YELLOW LINE
C=	CURVE LENGTH
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CCW	CEMENT CONCRETE WALK
CD	CHECK DAM
CE	CONSTRUCTION ENTRANCE
CEM	CEMENT
CFS	COMPOST SILTER SOCK
CG	CLEAR AND GRUB VEGETATION
CH	CHORD LENGTH
CI	CURB INLET
CIP	CAST IRON PIPE
CL	CENTERLINE
CLDI	CEMENT-LINED DUCTILE IRON
CLF	CHAIN LINK FENCE
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CLR	CLEAR
CLS	CLASS
CM	SAWCUT AND MATCH
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CP	CONCRETE PAD
CR GR	CROWN GRADE
CSP	CORRUGATED STEEL PIPE
CSTR	CONCRETE STAIRS
CTE	CONNECT TO EXISTING
CW	CROSSWALK
DEMO	DEMOLITION
DET	DETECTABLE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DIV	DIVERSION
DMH	DRAIN MANHOLE
DTP	DRIPLINE TREE PROTECTION
DWL	DOTTED WHITE LINE
DWLEx	DOTTED WHITE LINE EXTENSION
DBWL	DOUBLE WHITE LINE
DWP	DETECTABLE WARNING PANEL
DYL	DOTTED YELLOW LINE
DYLEx	DOTTED YELLOW LINE EXTENSION
DBYL	DOUBLE YELLOW LINE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (or EL)	ELEVATION
EMB	EMBANKMENT
EMH	ELECTRIC MANHOLE
EOP	EDGE OF PAVEMENT
ETR	EXISTING TO REMAIN, PROTECT DURING CONSTRUCTION.

EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FES	FLARED END SECTION
FFE	FINISH FLOOR ELEVATION
FLDSTN	FIELDSTONE
FND	FOUND
FT	FOOT
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
GTD	GRADED TO DRAIN
GV	GATE VALVE
HCPS	HANDICAP ACCESSIBLE PARKING SIGN
HDBC	HEAVY DUTY BITUMINOUS CONCRETE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HDPS	HANDICAP ACCESSIBLE PARKING SIGN
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HMAW	HOT MIXED ASPHALT WALKWAY
HOR	HORIZONTAL
HPR	HEADWALL PROTECTION RACK
HYD	HYDRANT
ID	INSIDE DIAMETER
INV	INVERT
JCT	JUNCTION
L=	LENGTH OF CURVE
LB	LEACHBASIN
LOD	LIMIT OF DISTURBANCE
LP	LOW POINT
LPR	LICENSE PLATE READER
LS	LOAM AND SEED
LSOD	LOAM AND SOD
LT	LEFT
LTP	LIGHT POLE
MAX	MAXIMUM
MB	MAILBOX
MCW	MONOLITHIC CONCRETE WALK
MH	MANHOLE
MIN	MINIMUM
MON	MONITORING
MUTCD	MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OCS	OUTLET CONTROL STRUCTURE
OD	OUTSIDE DIAMETER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OWS	OIL WATER SEPARATOR
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCFES	PRECAST CONCRETE FLARED END SECTION
PCTC	PRECAST CONCRETE TRANSITION CURB
PCR	PEDESTRIAN CURB RAMP
PE	POLYETHYLENE
PERF	PERFORATED
PGL	PROFILE GRADE LINE
PHMA	POROUS HOT MIXED ASPHALT PAVEMENT
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
POC	POINT ON CURVE
POT	POINT ON TANGENT
PM	PAVEMENT MARKING
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVCH	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATER WAY
QPA	QUALIFYING PERVIOUS AREA
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK

R=	RADIUS
RA	RAILING
RCP	REINFORCED CONCRETE PIPE
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RETWALL	RETAINING WALL
RRLS	RIPRAP LEVEL SPREADER
ROW	RIGHT OF WAY
RR	RAILROAD
RRS	RIPRAP SLOPE
RS	RIPRAP SPILLWAY
RT	RIGHT
RTAD	REFER TO ARCHITECTURAL DRAWINGS
RTED	REFER TO ELECTRICAL DRAWINGS
RTFPD	REFER TO FIRE PROTECTION DRAWINGS
RTID	REFER TO IRRIGATION DRAWINGS
RTLD	REFER TO LANDSCAPE DRAWINGS
RTMD	REFER TO MECHANICAL DRAWINGS
RTPD	REFER TO PLUMBING DRAWINGS
RTSD	REFER TO STRUCTURAL DRAWINGS
S=	SLOPE
SB	SAND BAG EROSION CONTROL BARRIER
SDR	STANDARD DIMENSIONAL RATIO
SED	SEDIMENT
SESC	SOIL EROSION AND SEDIMENT CONTROL
SFL	STATE FREEWAY LINE
SFRD	SEDIMENT FOREBAY CHECK DAM
SG	SWING GATE
SHL	STATE HIGHWAY LINE
SHLD	SHOULDER
SHLO	STATE HIGHWAY LAYOUT
SHP	HANDICAP PARKING PAVEMENT MARKING
SM	SEDIMENT MARKER
SMH	SEWER MANHOLE
SSD	STOPPING SIGHT DISTANCE
ST	STREET
STA	STATION
SW	SIDEWALK
SWL	SINGLE SOLID WHITE LINE
SWR	SEWER
SYL	SINGLE SOLID YELLOW LINE
T=	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TD	TEMPORARY DIVERSION
TEMP	TEMPORARY
TC	TOP OF CURB
TDS	TEMPORARY DIVERSION SWALE
TGP	TREE GROUP PROTECTION
TIP	TEMPORARY INLET PROTECTION
TNH	TELEPHONE MANHOLE
TOS	TOP OF SLOPE
TP	TEST PIT
TRAN	TRANSITION
TRM	TURF REINFORCEMENT MAT
TS	TOP OF STAIR (FINISHED GRADE OF TOP STAIR)
TSB	TEMPORARY SEDIMENT TRAP
TSW	TEMPORARY SWALE
TW	TOP OF WALL
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
VCC	VERTICAL CONCRETE CURB
VCP	VEHICULAR CONCRETE PAVEMENT
VFC	VITRIFIED CLAY
VEG	VEGETATION
VEH	VEHICULAR
VFS	VEGETATED FILTER STRIP
VGC	VERTICAL GRANITE CURB
VGTC	VERTICAL GRANITE TRANSITION CURB
VLF	VINYL FENCE
W/	WITH
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WL	WATER METER/WATER MAIN
WMH	WATER MANHOLE
WPM	WATER PAINT MARK
X-SECT	CROSS SECTION
YD	YARD DRAIN
4D"	4" DOUBLE YELLOW EPOXY RESIN PAVEMENT MARKING
4W	4" SOLID WHITE EPOXY RESIN PAVEMENT MARKING
12W	12" SOLID WHITE EPOXY RESIN PAVEMENT MARKING

RHODE ISLAND STANDARD DETAILS

1.1.0	=	UNDERDRAIN
2.1.0	=	CONCRETE HEADWALLS FOR PIPE CULVERTS PRECAST CONCRETE FLARED END SECTION - R.I. STD. 2.3.0
2.2.0A	=	STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS (SHEET 1 OF 2) - R.I. STD. 2.2.0A
2.2.0B	=	STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS (SHEET 2 OF 2) - R.I. STD. 2.2.0B
2.3.0	=	PRECAST CONCRETE FLARED END SECTION - R.I. STD. 2.3.0
4.2.0	=	PRECAST 4'-0" ROUND MANHOLE - R.I. STD. 4.2.0
4.2.1	=	PRECAST 5'-0" ROUND MANHOLE - R.I. STD. 4.2.1
4.2.2	=	PRECAST 6'-0" ROUND MANHOLE - R.I. STD. 4.2.2
4.4.0	=	PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN - R.I. STD. 4.4.0
4.7.2	=	ALTERNATE TOP COVER FOR ROUND PRECAST MANHOLES AND CATCH BASINS - R.I. STD. 4.7.2
5.3.0	=	CATCH BASIN AND MANHOLE STEP - R.I. STD. 5.3.0
7.1.0	=	PRECAST CONCRETE CURB - R.I. STD. 7.1.0
7.1.1	=	3'-0" PRECAST CONCRETE TRANSITION CURB - R.I. STD. 7.1.1
7.1.2	=	6'-0" PRECAST CONCRETE TRANSITION CURB - R.I. STD. 7.1.2
7.1.4	=	PRECAST CONCRETE 2'-0" RADIUS CURB - R.I. STD. 7.1.4
7.1.5	=	PRECAST CONCRETE INLET STONE (FOR SQUARE CATCH BASIN) - R.I. STD. 7.1.5
7.2.0	=	PRECAST CONCRETE SLOPED FACED CURB - R.I. STD. 7.2.0
7.2.2	=	PRECAST CONCRETE TRANSITION CURB - R.I. STD. 7.2.2
7.2.4	=	PRECAST CONCRETE CAR STOPS - R.I. STD. 7.2.4
9.2.0	=	SILT FENCE DETAIL - R.I. STD. 9.2.0
9.7.0	=	DEWATERING BASIN - R.I. STD. 9.7.0
9.9.0	=	CONSTRUCTION ACCESS - R.I. STD. 9.9.0
10.3.0	=	CONCRETE RETAINING WALL DETAIL - R.I. STD. 10.3.0
20.1.0	=	PAVEMENT MARKINGS - ARROWS AND ONLY - R.I. STD. 20.1.0
24.8.0	=	PARKING SIGN MOUNTING DETAIL - R.I. STD. 24.8.0
34.4.0	=	STEEL BACKED TIMBER GUARDRAIL - R.I. STD. 34.4.0
43.1.0M	=	CEMENT CONCRETE SIDEWALK (MODIFIED) - R.I. STD. 43.1.0M
43.2.0	=	BITUMINOUS CONCRETE SIDEWALK - R.I. STD. 43.2.0
43.3.0	=	WHEELCHAIR RAMP - R.I. STD. 43.3.0
43.3.1	=	WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS - R.I. STD. 43.3.1
43.3.2	=	RAMP-LANDING FOR NARROW SIDEWALK - R.I. STD. 43.3.2
47.1.1	=	TRANSVERSE PAVEMENT CUT AND MATCH - R.I. STD. 47.1.1
48.1.0M	=	DETECTABLE WARNING SYSTEM (MODIFIED) - R.I. STD. 48.1.0M

RHODE ISLAND ABBREVIATIONS

GENERAL

RIDEM	RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
RIDOT	RHODE ISLAND DEPARTMENT OF TRANSPORTATION
RIHP	RHODE ISLAND HIGHWAY PLAT
RIPDES	RHODE ISLAND POLLUTION DISCHARGE ELIMINATION SYSTEM
R.I. STD.	RHODE ISLAND STANDARD

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
EASEMENT LINE		
CONTOUR	255	255
SPOT ELEVATION	X 407.5	255.10
DRAINAGE LINE	D D D	D D D
SUBDRAIN		SD SD
WATER LINE	W W W	W W W
FIRE WATER LINE		FW FW
SANITARY SEWER LINE	S S S	S S S
SEWER FORCE MAIN		SFM SFM
GAS LINE	G G G	
ELECTRIC	E E E	E E E
TELEPHONE LINE	T T T	T T T
OVERHEAD ELECTRIC LINE	OH OH	OHW
LIMIT OF DISTURBANCE		LOD
LIMIT OF DISTURBANCE/ COMPOST FILTER SOCK		LOD/CFS
COMPOST FILTER SOCK		
SILT FENCE		
CATCH BASIN / AREA DRAIN		
YARD DRAIN		
HYDRANT	Hyd.	
DRAINAGE MANHOLE	D	
SEWER MANHOLE	S	
CLEANOUT		
UTILITY POLE		
WATER VALVE	W	
GAS GATE	G	
LIGHT POLE		
ELECTRICAL PULLBOX		E
TREE LINE		
STONE WALL		
CHAIN LINK FENCE	X X X	
CURBING		
EDGE OF PAVEMENT		
SAWCUT LINE		
SIGN		
LANDSCAPE BOLLARD		
NO. OF PARKING SPACES		XX
WETLAND EDGE		
BUFFER ZONE AND JURISDICTIONAL AREA	415 416	
FLOODPLAIN		
SAND BAGS		

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 11, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

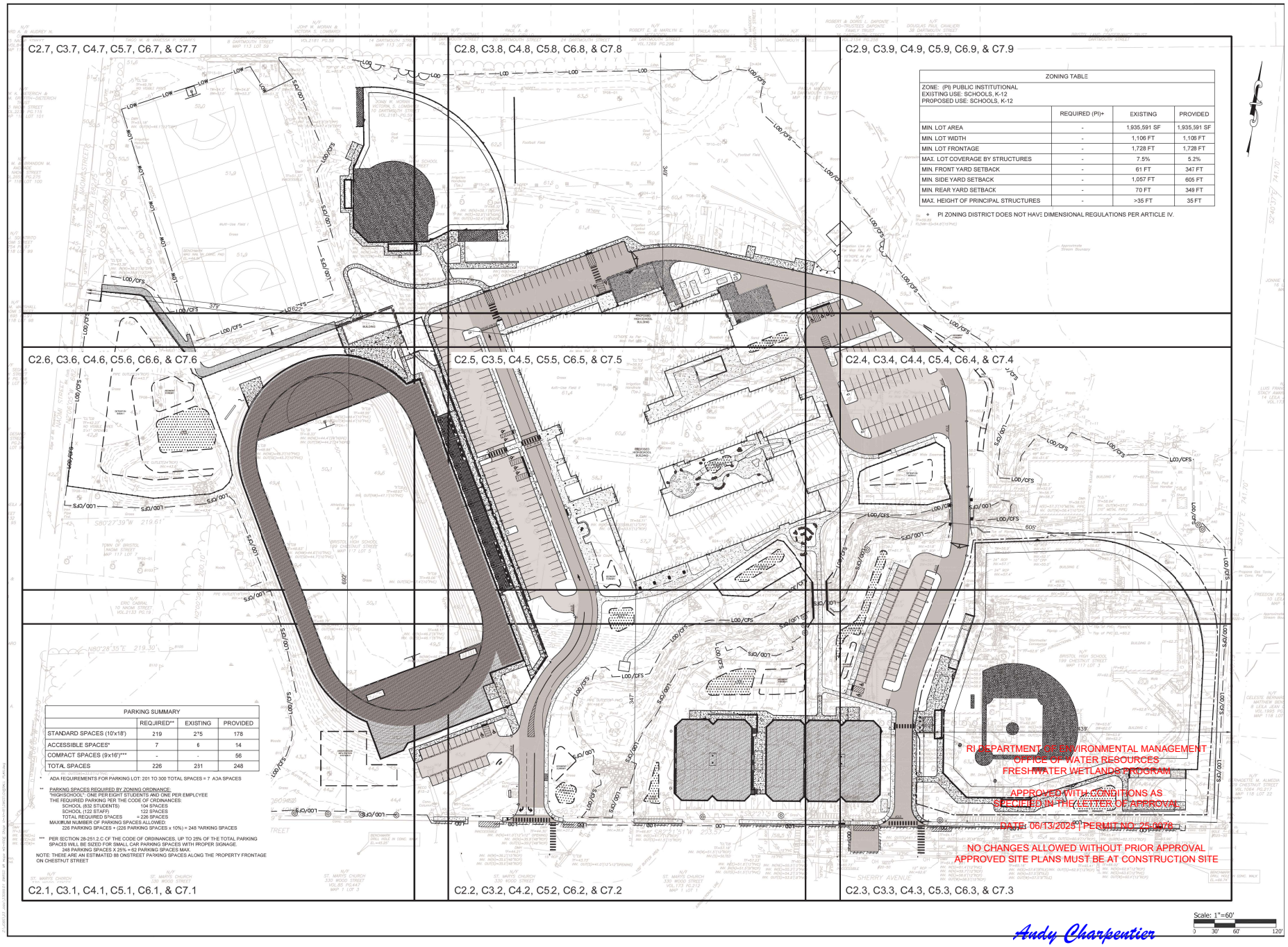
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM R"C
2	06-02-2025	RIDEM R"C

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
LEGEND

DRAWING NO.:
C1.2

SHEET NO. 2 OF 93



ZONING TABLE			
ZONE: (PI) PUBLIC INSTITUTIONAL EXISTING USE: SCHOOLS, K-12 PROPOSED USE: SCHOOLS, K-12			
	REQUIRED (PI)+	EXISTING	PROVIDED
MIN. LOT AREA	-	1,935,591 SF	1,935,591 SF
MIN. LOT WIDTH	-	1,106 FT	1,106 FT
MIN. LOT FRONTAGE	-	1,728 FT	1,728 FT
MAX. LOT COVERAGE BY STRUCTURES	-	7.5%	5.2%
MIN. FRONT YARD SETBACK	-	61 FT	347 FT
MIN. SIDE YARD SETBACK	-	1,057 FT	605 FT
MIN. REAR YARD SETBACK	-	70 FT	349 FT
MAX. HEIGHT OF PRINCIPAL STRUCTURES	-	>35 FT	35 FT

+ PI ZONING DISTRICT DOES NOT HAVE DIMENSIONAL REGULATIONS PER ARTICLE IV.

PARKING SUMMARY			
	REQUIRED**	EXISTING	PROVIDED
STANDARD SPACES (10'x18')	219	275	178
ACCESSIBLE SPACES*	7	6	14
COMPACT SPACES (9'x16')***	-	-	56
TOTAL SPACES	226	231	248

* ADA REQUIREMENTS FOR PARKING LOT: 201 TO 300 TOTAL SPACES = 7 ADA SPACES

** PARKING SPACES REQUIRED BY ZONING ORDINANCE:
"HIGH SCHOOL": ONE PER EIGHT STUDENTS AND ONE PER EMPLOYEE
THE REQUIRED PARKING PER THE CODE OF ORDINANCES:
SCHOOL (832 STUDENTS) 104 SPACES
SCHOOL (122 STAFF) 122 SPACES
TOTAL REQUIRED SPACES = 226 SPACES
MAXIMUM NUMBER OF PARKING SPACES ALLOWED:
226 PARKING SPACES + (226 PARKING SPACES x 10%) = 248 PARKING SPACES

*** PER SECTION 28-251.2.C OF THE CODE OF ORDINANCES, UP TO 25% OF THE TOTAL PARKING SPACES WILL BE SIZED FOR SMALL CAR PARKING SPACES WITH PROPER SIGNAGE.
248 PARKING SPACES X 25% = 62 PARKING SPACES MAX.
NOTE: THERE ARE AN ESTIMATED 85 ONSTREET PARKING SPACES ALONG THE PROPERTY FRONTAGE ON CHESTNUT STREET

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0978

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

Scale: 1"=60'
0 30' 60' 120'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

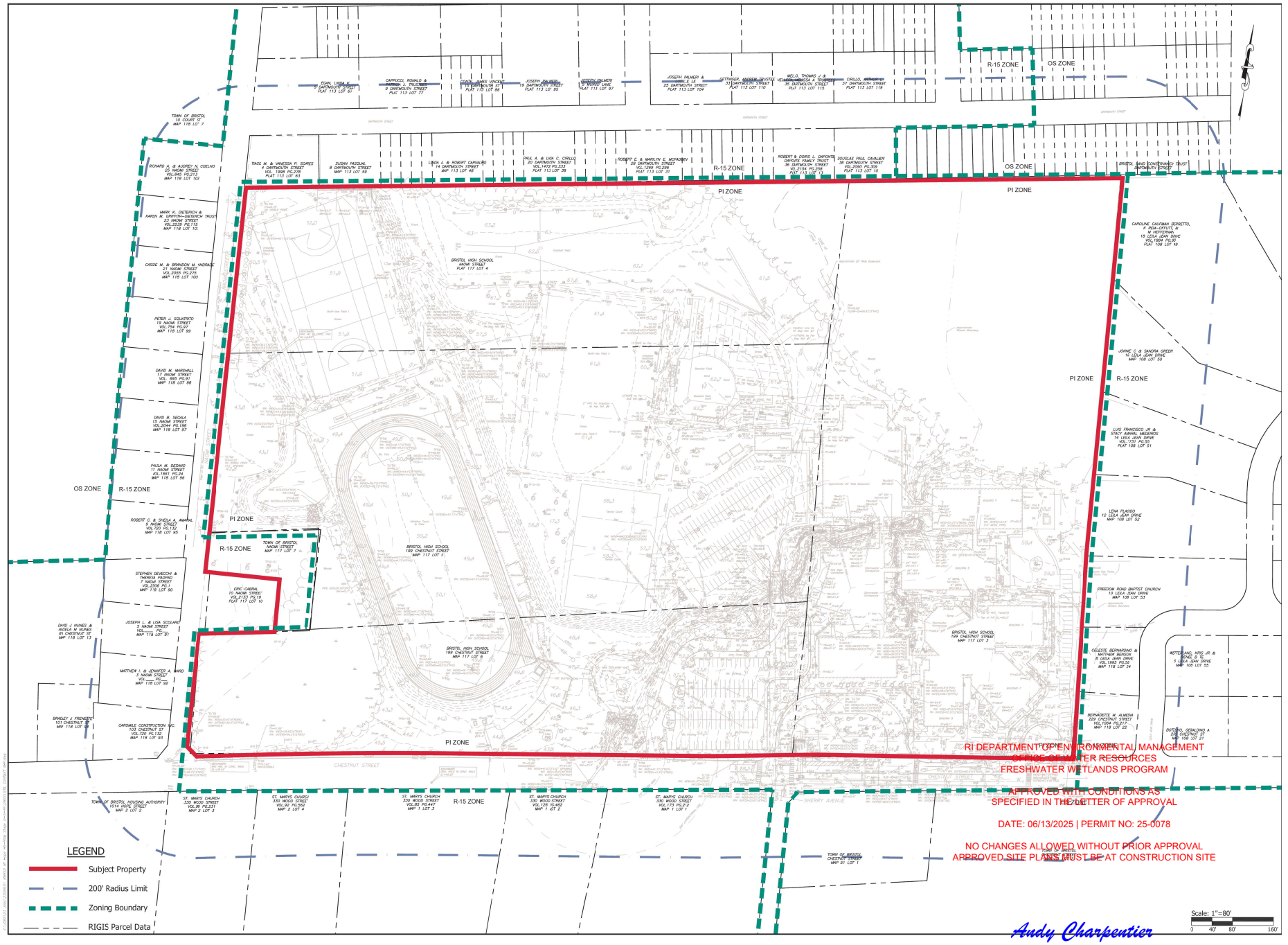
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=60'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
OVERALL PLAN

DRAWING NO.:
C1.3

SHEET NO. 3 OF 93



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REVISIONS:

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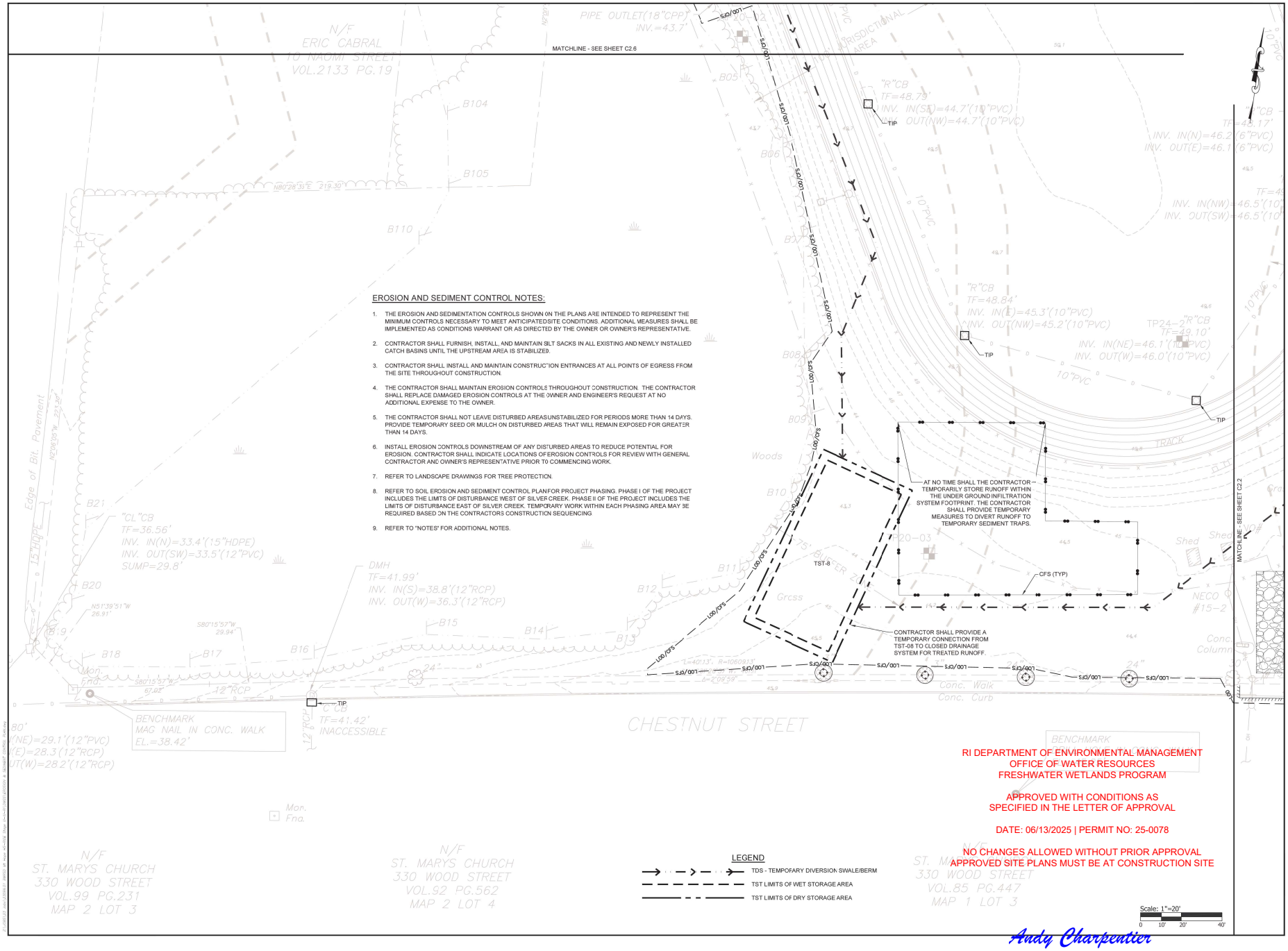
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=80'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
VICINITY AND RADIUS MAP

DRAWING NO.:
C1.4

SHEET NO. 4 OF 93



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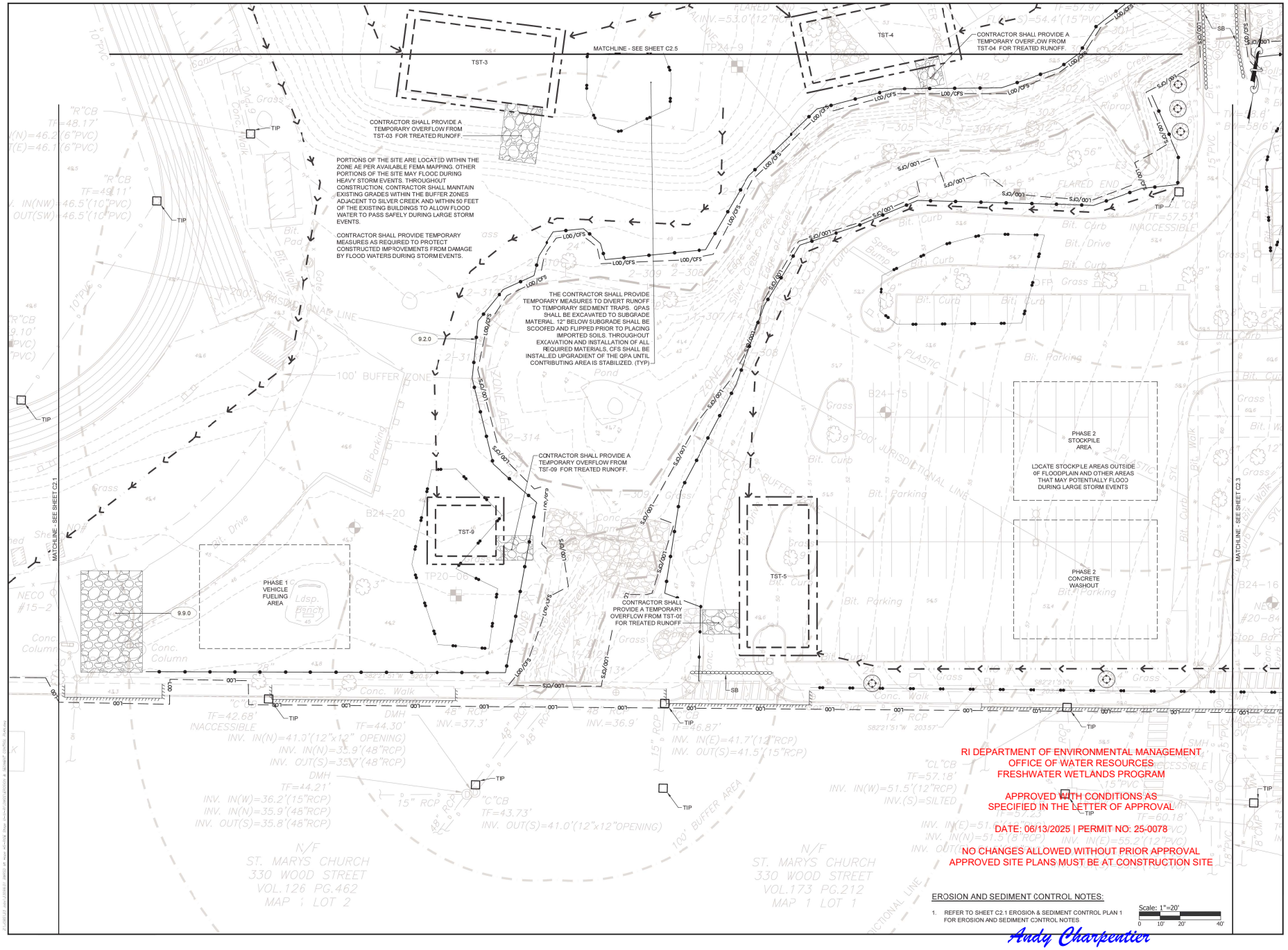
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 1

DRAWING NO.:
C2.1

SHEET NO. 5 OF 93



PARE

OWNER/APPLICANT:
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235 HIGH STREET
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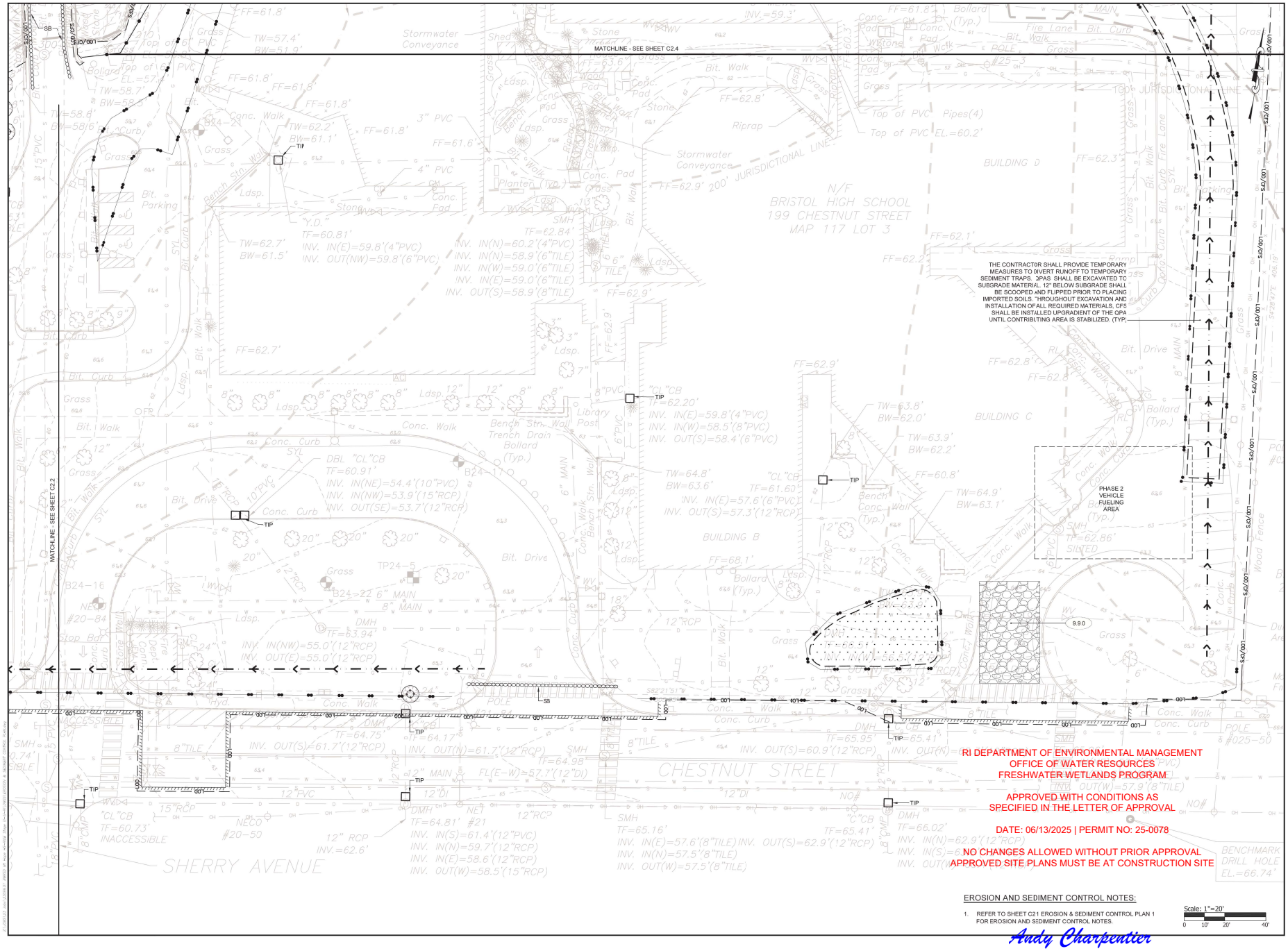
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 2

DRAWING NO.:
C2.2

SHEET NO. 6 OF 93



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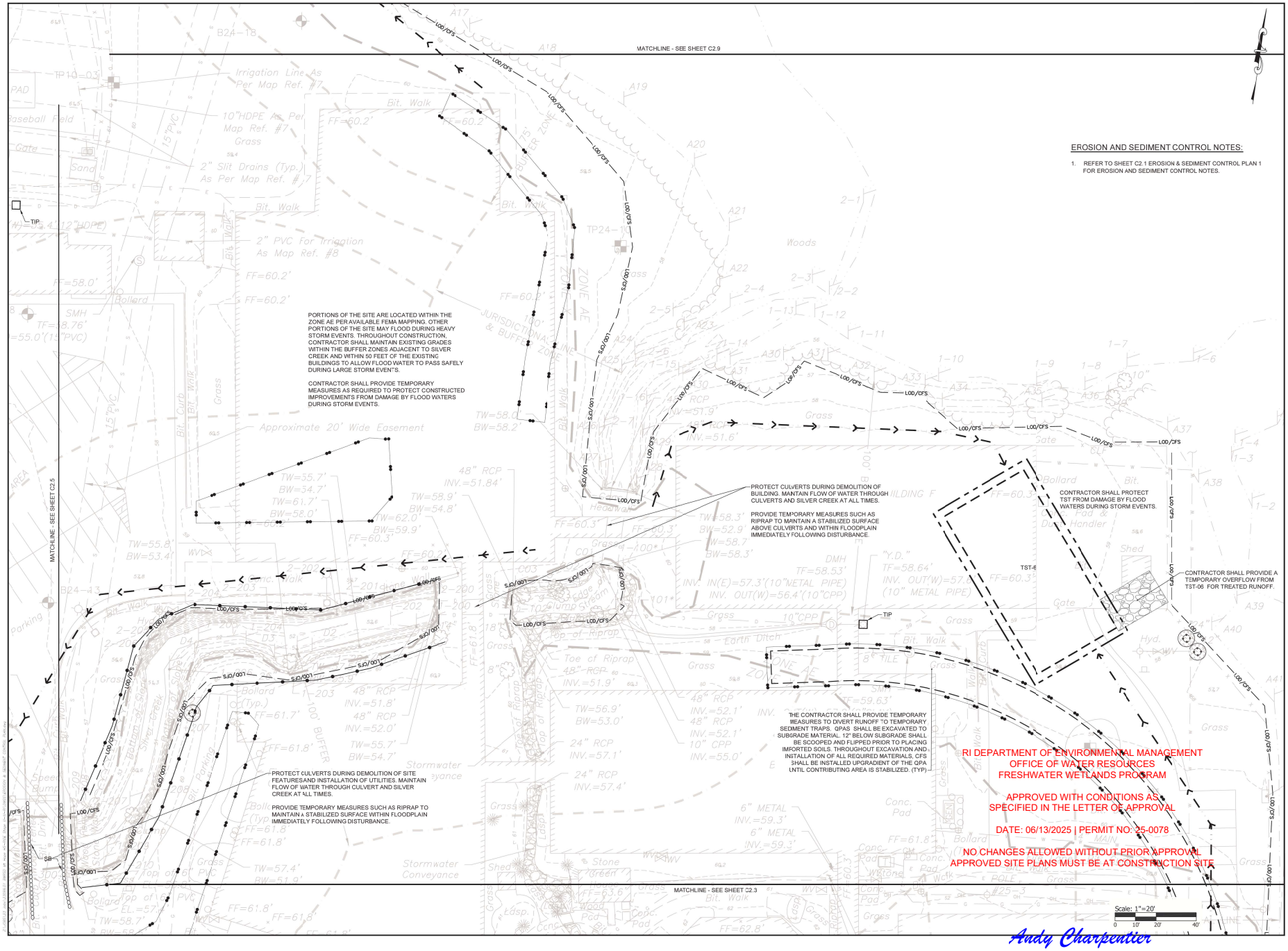
DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 3

DRAWING NO.:
C2.3

SHEET NO. 7 OF 93



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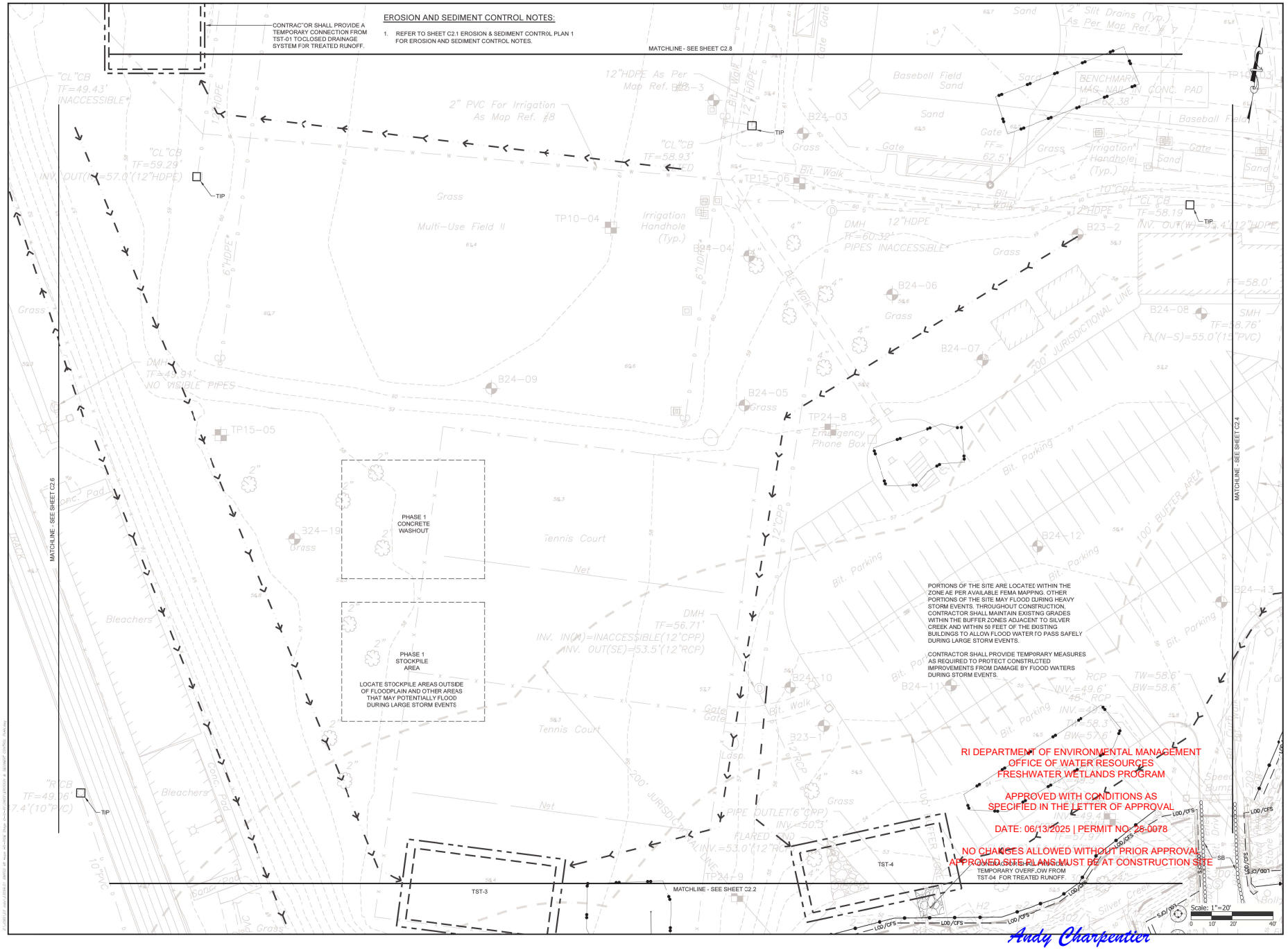
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 4

DRAWING NO.:
C2.4

SHEET NO. 8 OF 93



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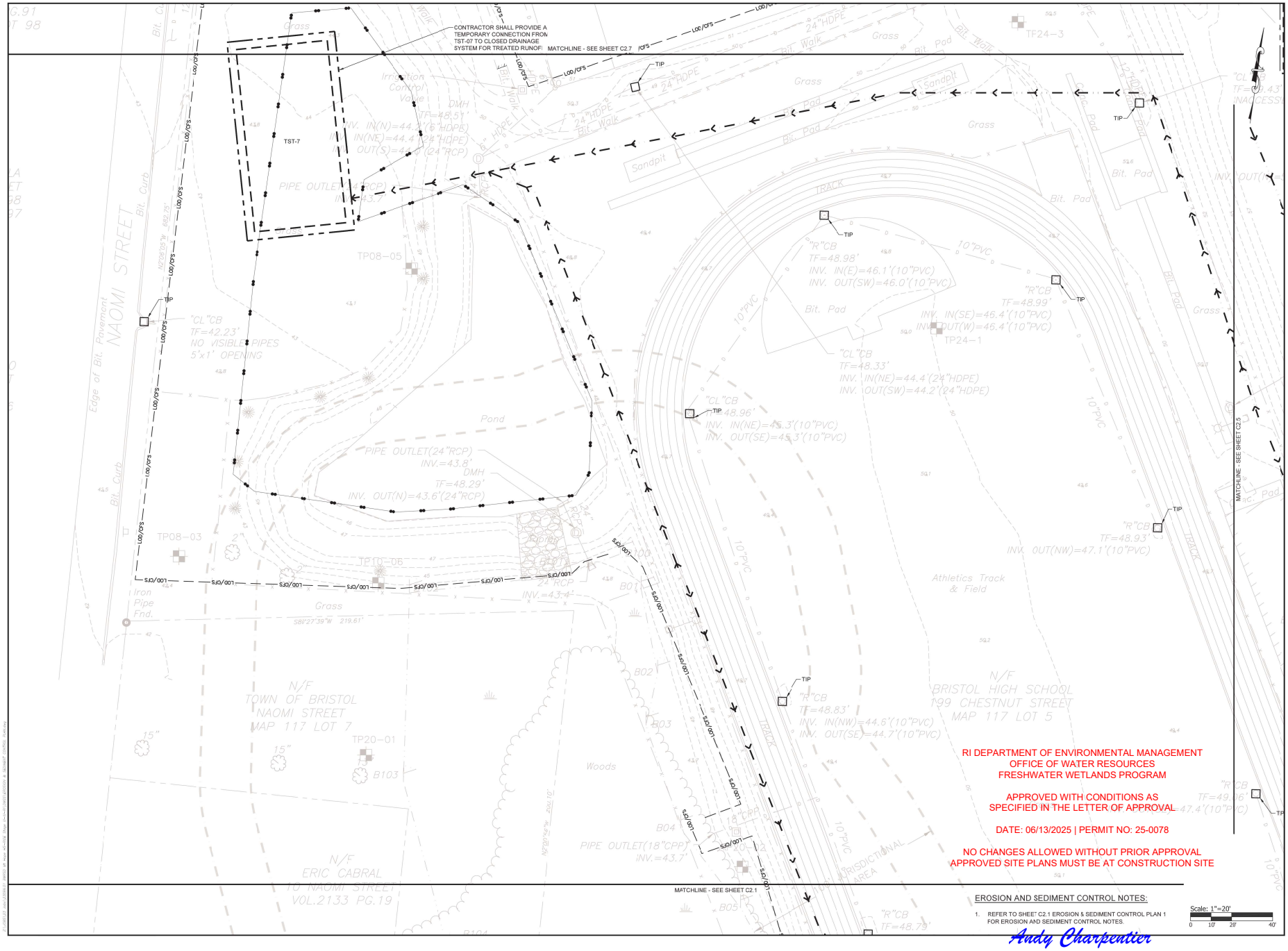
DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 5

DRAWING NO.:
C2.5

SHEET NO. 9 OF 93



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EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.

Scale: 1"=20'
0 10' 20' 40'

Andy Charpentier

PARE

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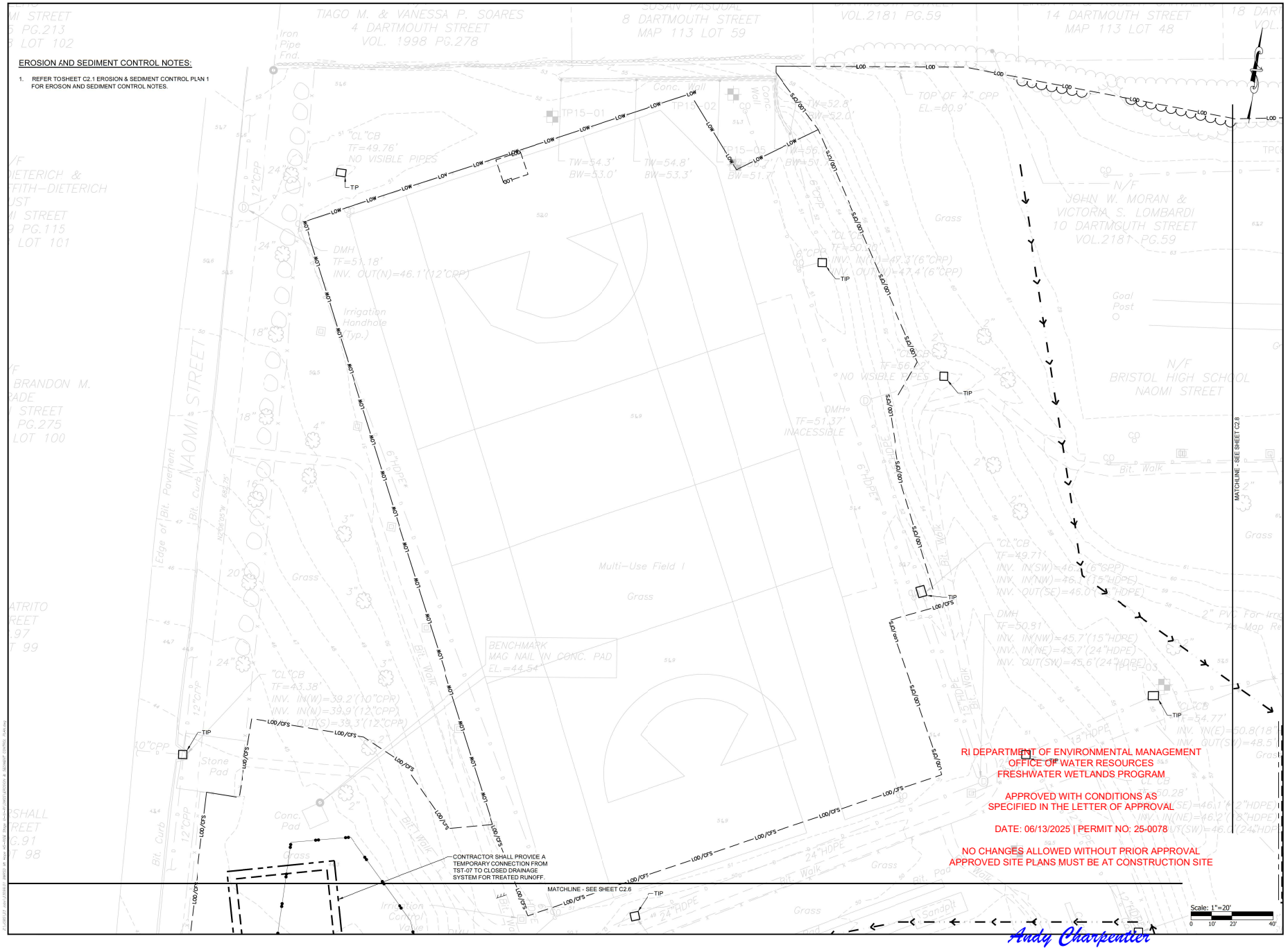
DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 6

DRAWING NO.:
C2.6

SHEET NO. 10 OF 93



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04.02.25
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DAVID L. POTTER

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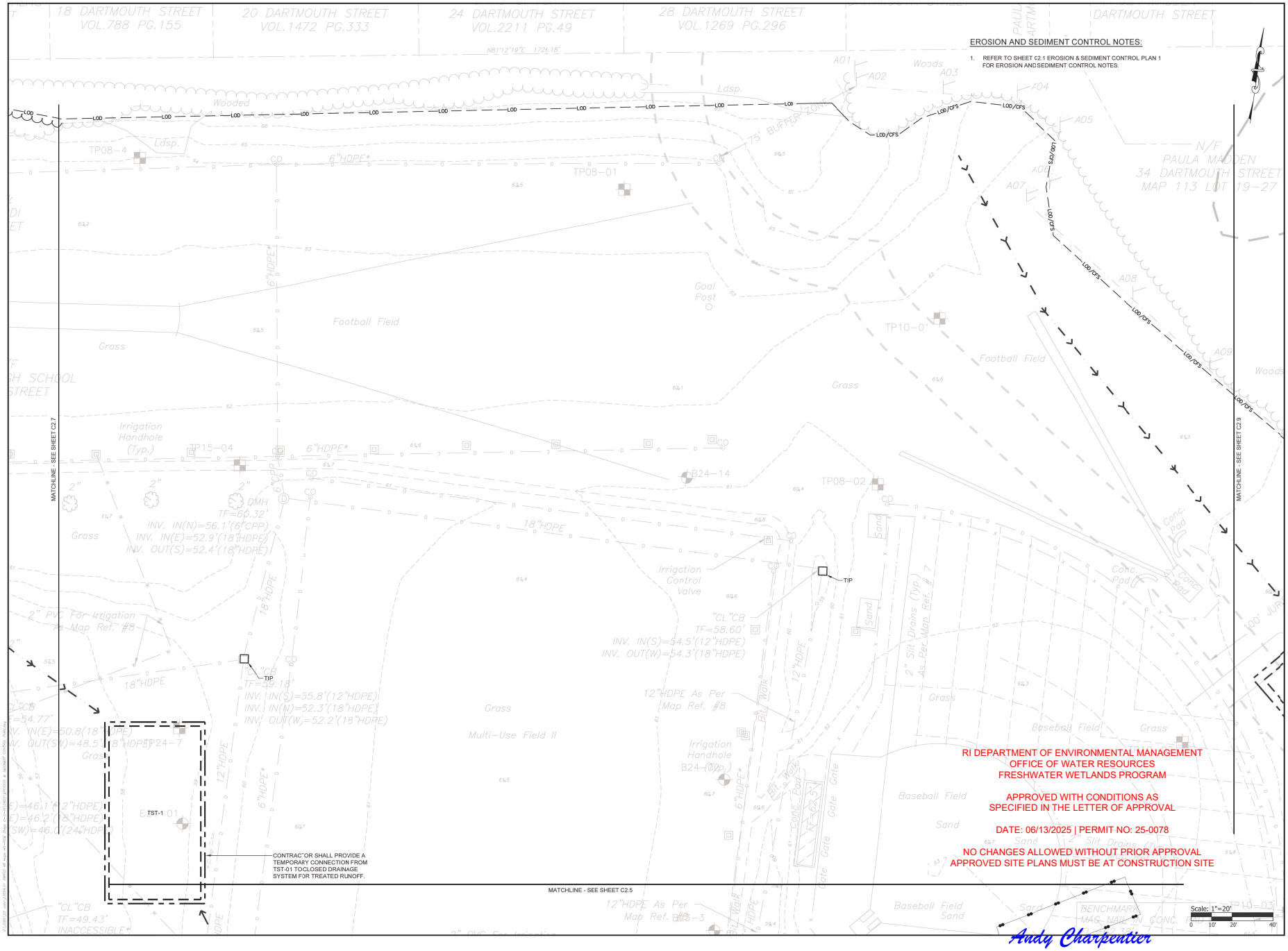
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 7

DRAWING NO.:
C2.7

SHEET NO. 11 OF 93



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235 HIGH STREET
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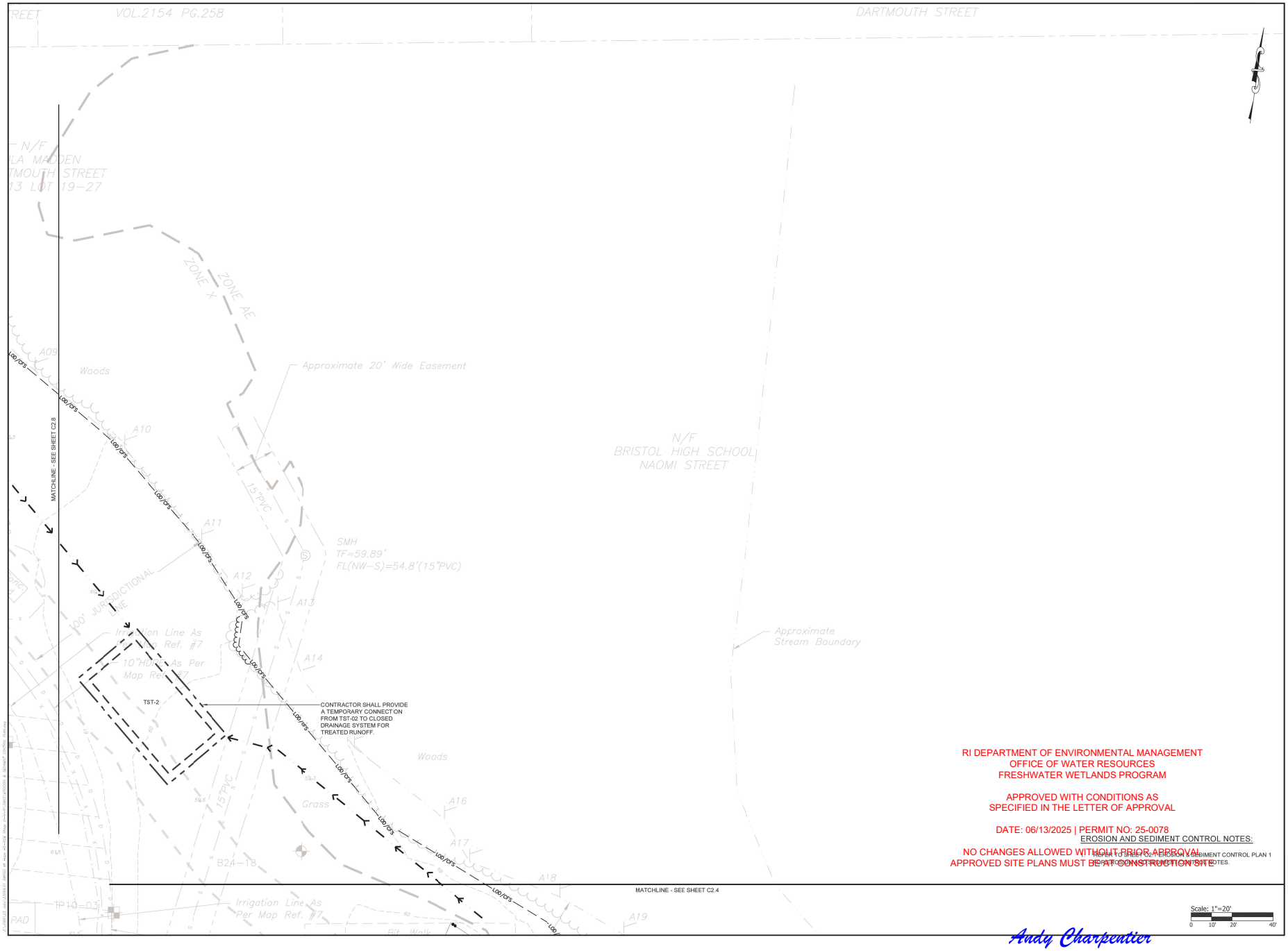
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 8

DRAWING NO.:
C2.8

SHEET NO. 12 OF 93



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EROSION AND SEDIMENT CONTROL NOTES:

REFER TO SHEET C2.7 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION CONTROL NOTES.

Andy Charpentier

PARE

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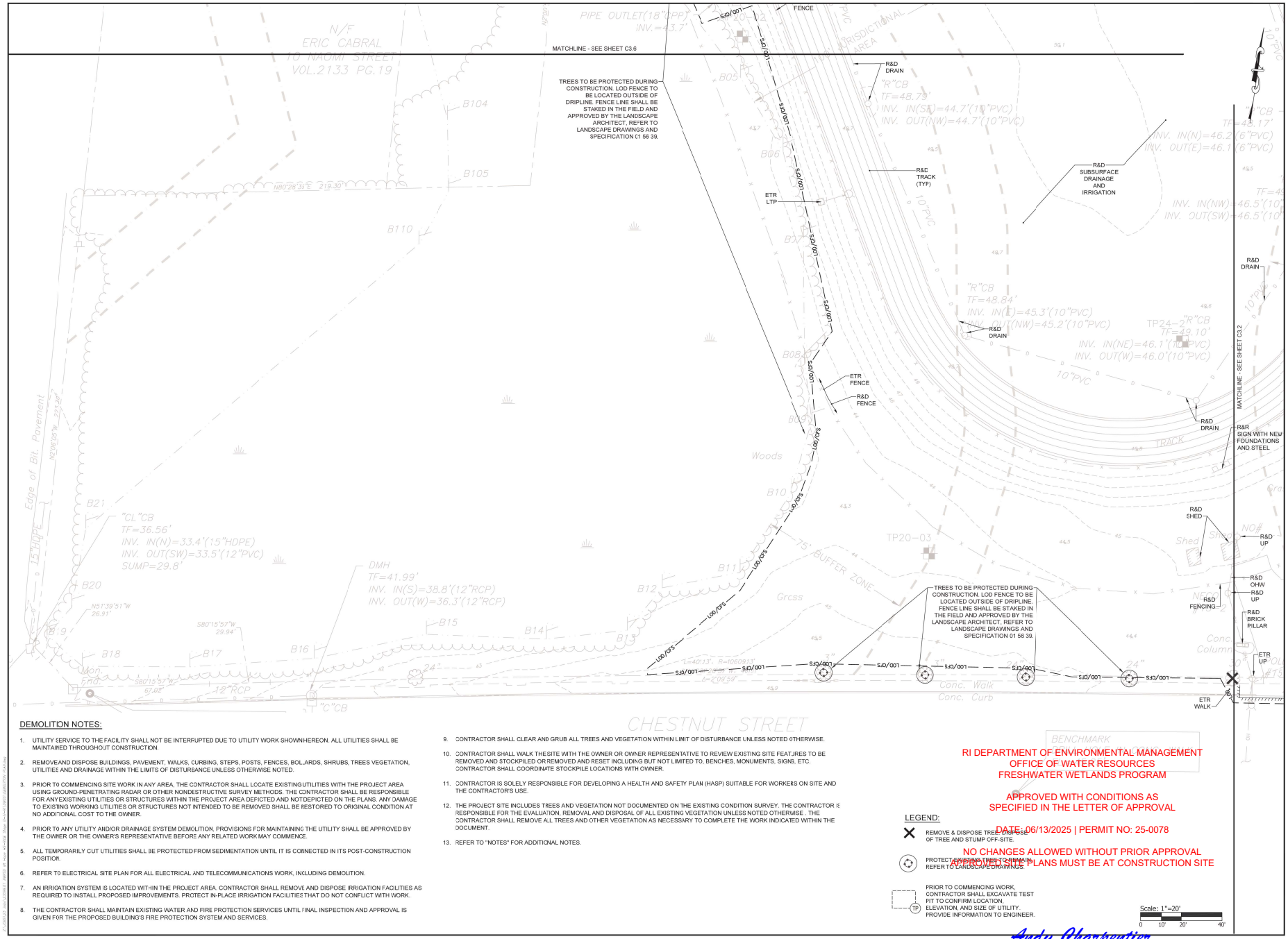
DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 9

DRAWING NO.:
C2.9

SHEET NO. 13 OF 93



DEMOLITION NOTES:

1. UTILITY SERVICE TO THE FACILITY SHALL NOT BE INTERRUPTED DUE TO UTILITY WORK SHOWNHEREON. ALL UTILITIES SHALL BE MAINTAINED THROUGHOJT CONSTRUCTION.
2. REMOVEAND DISPOSE BUILDINGS, PAVEMENT, WALKS, CURBING, STEPS, POSTS, FENCES, BOL.ARDS, SHRUBS, TREES VEGETATION, UTILITIES AND DRAINAGE WITHIN THE LIMITS OF DISTURBANCE UNLESS OTHERWISE NOTED.
3. PRIOR TO COMMENCING SITE WORK IN ANY AREA, THE CONTRACTOR SHALL LOCATE EXISTINGUTILITIES WITH THE PROJECT AREA USING GROUND-PENETRATING RADAR OR OTHER NONDESTRUCTIVE SURVEY METHODS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANYEXISTING UTILITIES OR STRUCTURES WITHIN THE PROJECT AREA DEFICTED AND NOTDEPICTED ON THE PLANS. ANY DAMAGE TO EXISTING WORKING UTILITIES OR STRUCTURES NOT INTENDED TO BE REMOVED SHALL BE RESTORED TO ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
4. PRIOR TO ANY UTILITY AND/OR DRAINAGE SYSTEM DEMOLITION, PROVISIONS FOR MAINTAINING THE UTILITY SHALL BE APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE BEFORE ANY RELATED WORK MAY COMMENCE.
5. ALL TEMPORARILY CUT UTILITIES SHALL BE PROTECTED FROM SEDIMENTATION UNTIL IT IS CONNECTED IN ITS POST-CONSTRUCTION POSITION.
6. REFER TO ELECTRICAL SITE PLAN FOR ALL ELECTRICAL AND TELECOMMUNICATIONS WORK, INCLUDING DEMOLITION.
7. AN IRRIGATION SYSTEM IS LOCATED WIT-HIN THE PROJECT AREA. CONTRACTOR SHALL REMOVE AND DISPOSE IRRIGATION FACILITIES AS REQUIRED TO INSTALL PROPOSED IMPROVEMENTS. PROTECT IN-PLACE IRRIGATION FACILITIES THAT DO NOT CONFLICT WITH WORK.
8. THE CONTRACTOR SHALL MAINTAIN EXISTING WATER AND FIRE PROTECTION SERVICES UNTIL FINAL INSPECTION AND APPROVAL IS GIVEN FOR THE PROPOSED BUILDING'S FIRE PROTECTION SYSTEM AND SERVICES.
9. CONTRACTOR SHALL CLEAR AND GRUB ALL TREES AND VEGETATION WITHIN LIMIT OF DISTURBANCE UNLESS NOTED OTHERWISE.
10. CONTRACTOR SHALL WALK THESITE WITH THE OWNER OR OWNER REPRESENTATIVE TO REVIEW EXISTING SITE FEATJRES TO BE REMOVED AND STOCKPILED OR REMOVED AND RESET INCLUDING BUT NOT LIMITED TO, BENCHES, MONUMENTS, SIGNS, ETC. CONTRACTOR SHALL COORDINATE STOCKPILE LOCATIONS WITH OWNER.
11. CONTRACTOR IS SOLELY RESPONSIBLE FOR DEVELOPING A HEALTH AND SAFETY PLAN (HASP) SUITABLE FOR WORKERS ON SITE AND THE CONTRACTOR'S USE.
12. THE PROJECT SITE INCLUDES TREES AND VEGETATION NOT DOCUMENTED ON THE EXISTING CONDITION SURVEY. THE CONTRACTOR IS RESPONSIBLE FOR THE EVALUATION, REMOVAL AND DISPOSAL OF ALL EXISTING VEGETATION UNLESS NOTED OTHERWISE . THE CONTRACTOR SHALL REMOVE ALL TREES AND OTHER VEGETATION AS NECESSARY TO COMPLETE THE WORK INDICATED WITHIN THE DOCUMENT.
13. REFER TO "NOTES" FOR ADDITIONAL NOTES.

LEGEND:

- REMOVE & DISPOSE TREE, DISPOSE OF TREE AND STUMP OFF-SITE.
- PROTECT EXISTING TREE TO REMAIN, REFER TO LANDSCAPE DRAWINGS.
- PRIOR TO COMMENCING WORK, CONTRACTOR SHALL EXCAVATE TEST PIT TO CONFIRM LOCATION, ELEVATION, AND SIZE OF UTILITY. PROVIDE INFORMATION TO ENGINEER.

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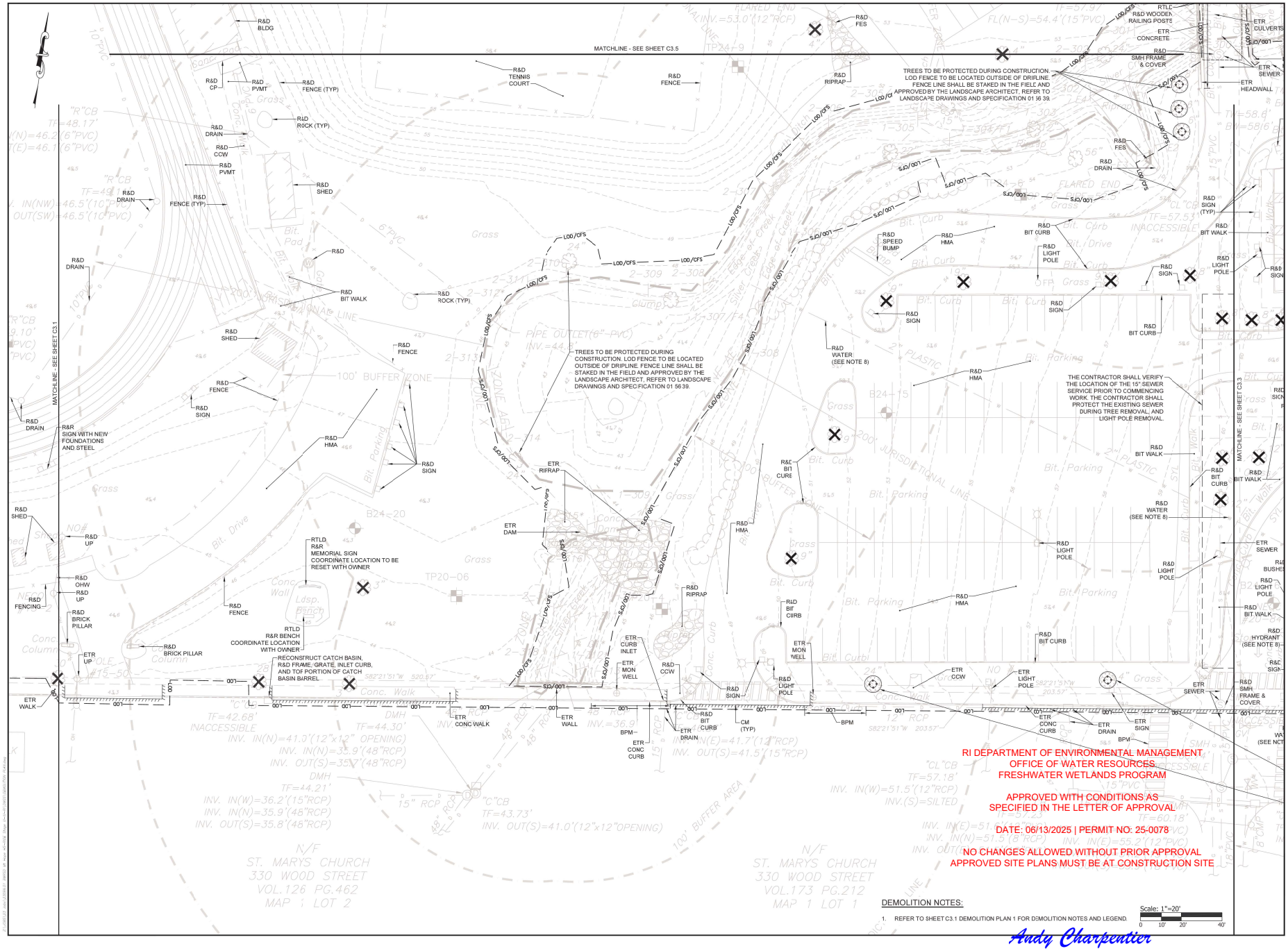
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 1

DRAWING NO.:
C3.1

SHEET NO. 14 OF 93



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DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

Scale: 1"=20'
0 10' 20' 40'

Andy Charpentier

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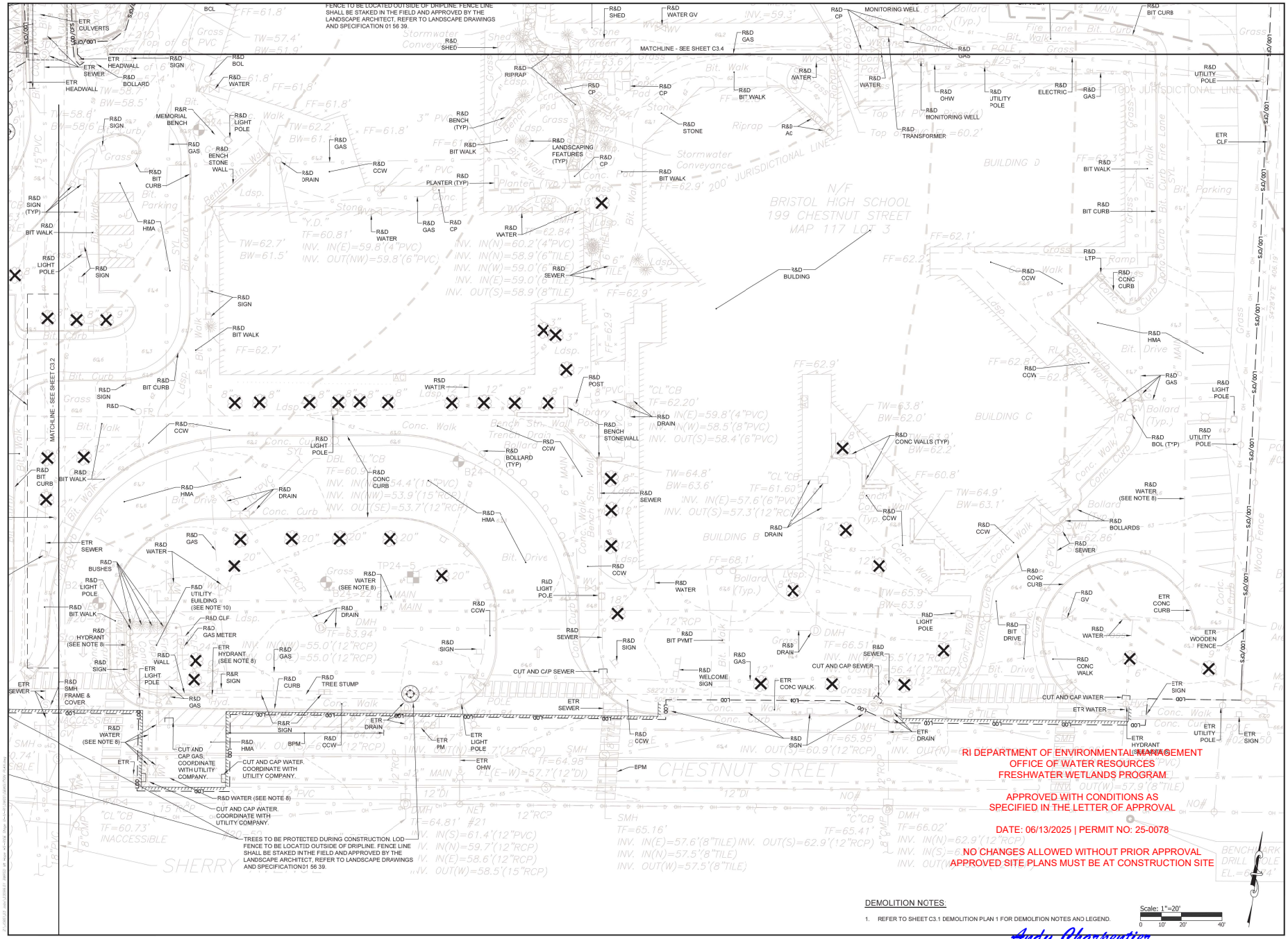
DRAWING TITLE:
DEMOLITION PLAN 2

DRAWING NO.:
C3.2

SHEET NO. 15 OF 93

Item C1.



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.01.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

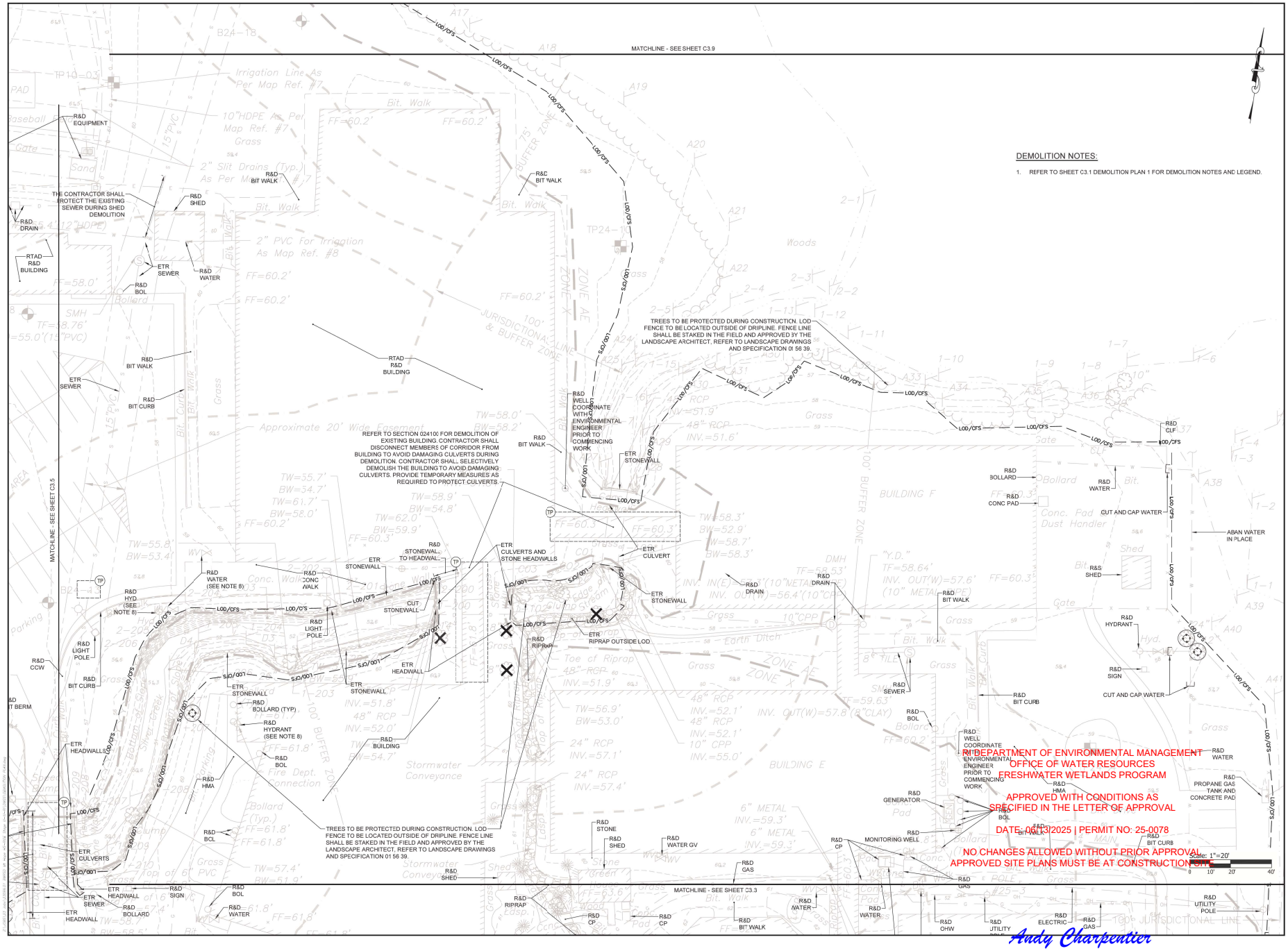
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 3

DRAWING NO.:
C3.3

SHEET NO. 16 OF 93



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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199 Chestnut Street
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
STATE OF RHODE ISLAND

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

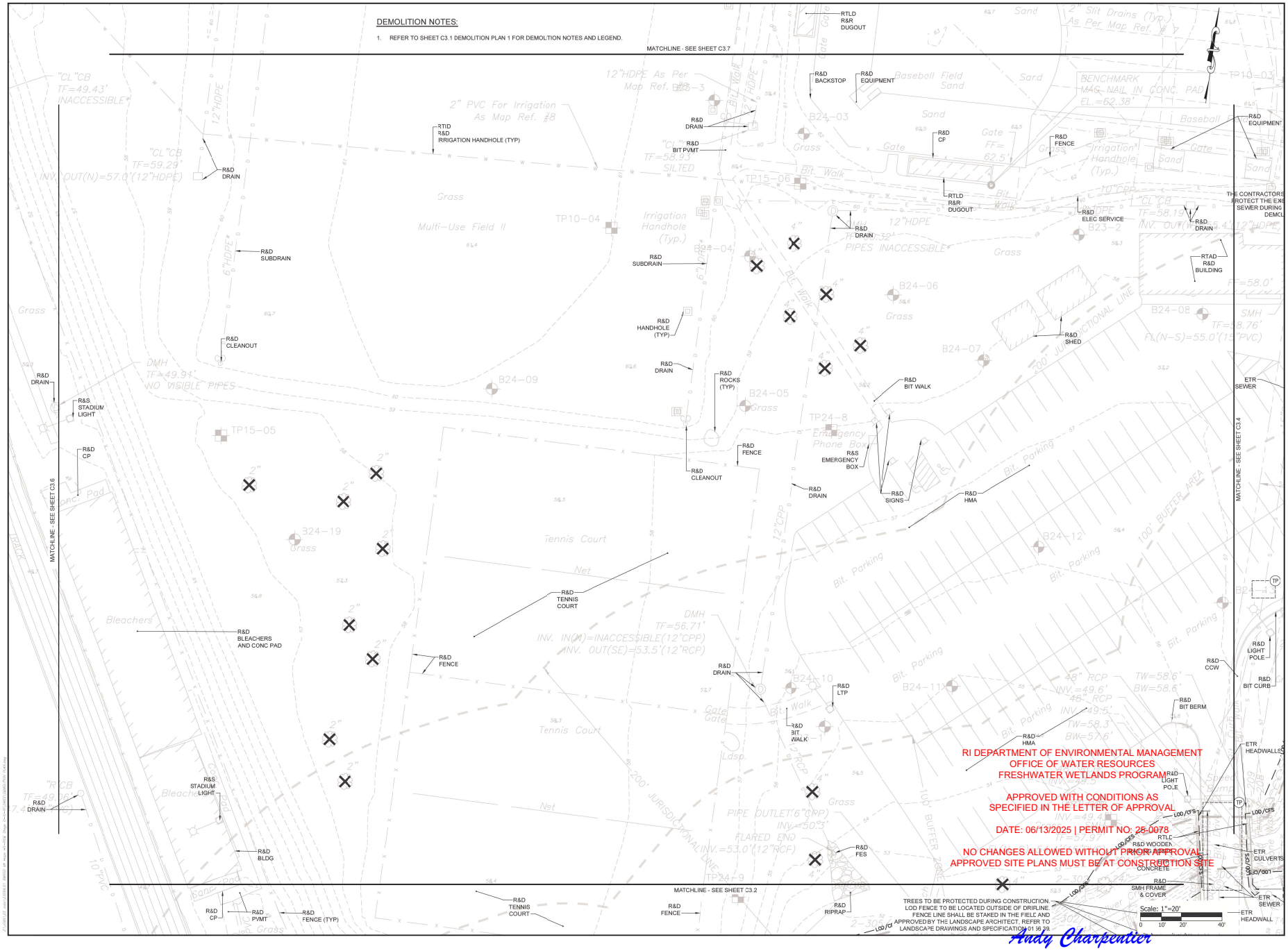
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 4

DRAWING NO.:
C3.4

SHEET NO. 17 OF 93

Andy Charpentier



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:		
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PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
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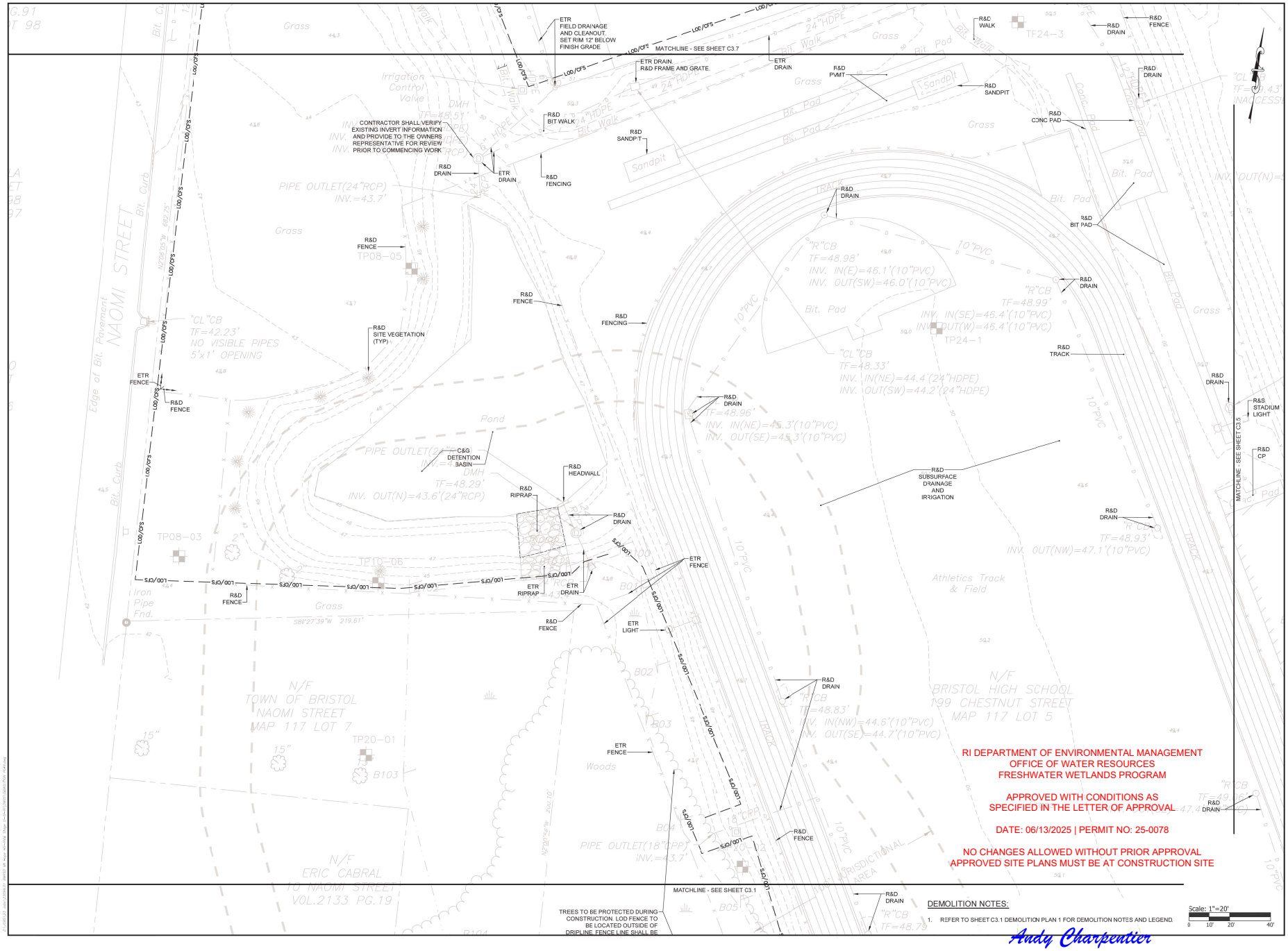
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 5

DRAWING NO.:
C3.5

SHEET NO. 18 OF 93



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

Andy Charpentier

PARE

OWNER/APPLICANT:
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235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
DAVID L. POTTER

REVISIONS:

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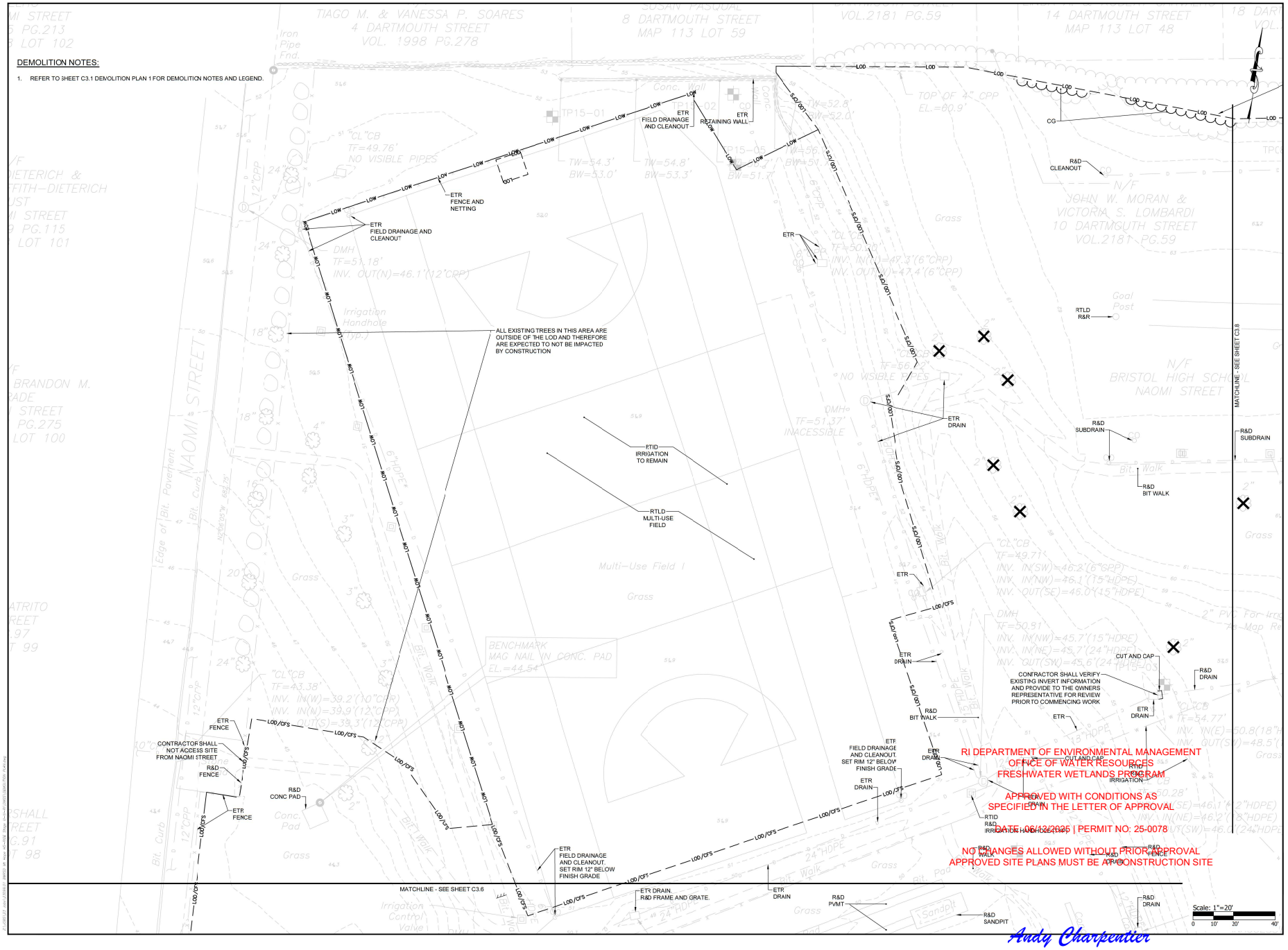
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 6

DRAWING NO.:
C3.6

SHEET NO. 19 OF 93



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/12/2025 | PERMIT NO: 25-0078

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Andy Charpentier

PARE

OWNER/APPLICANT:
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235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
STATE OF RHODE ISLAND

REVISIONS:		
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PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
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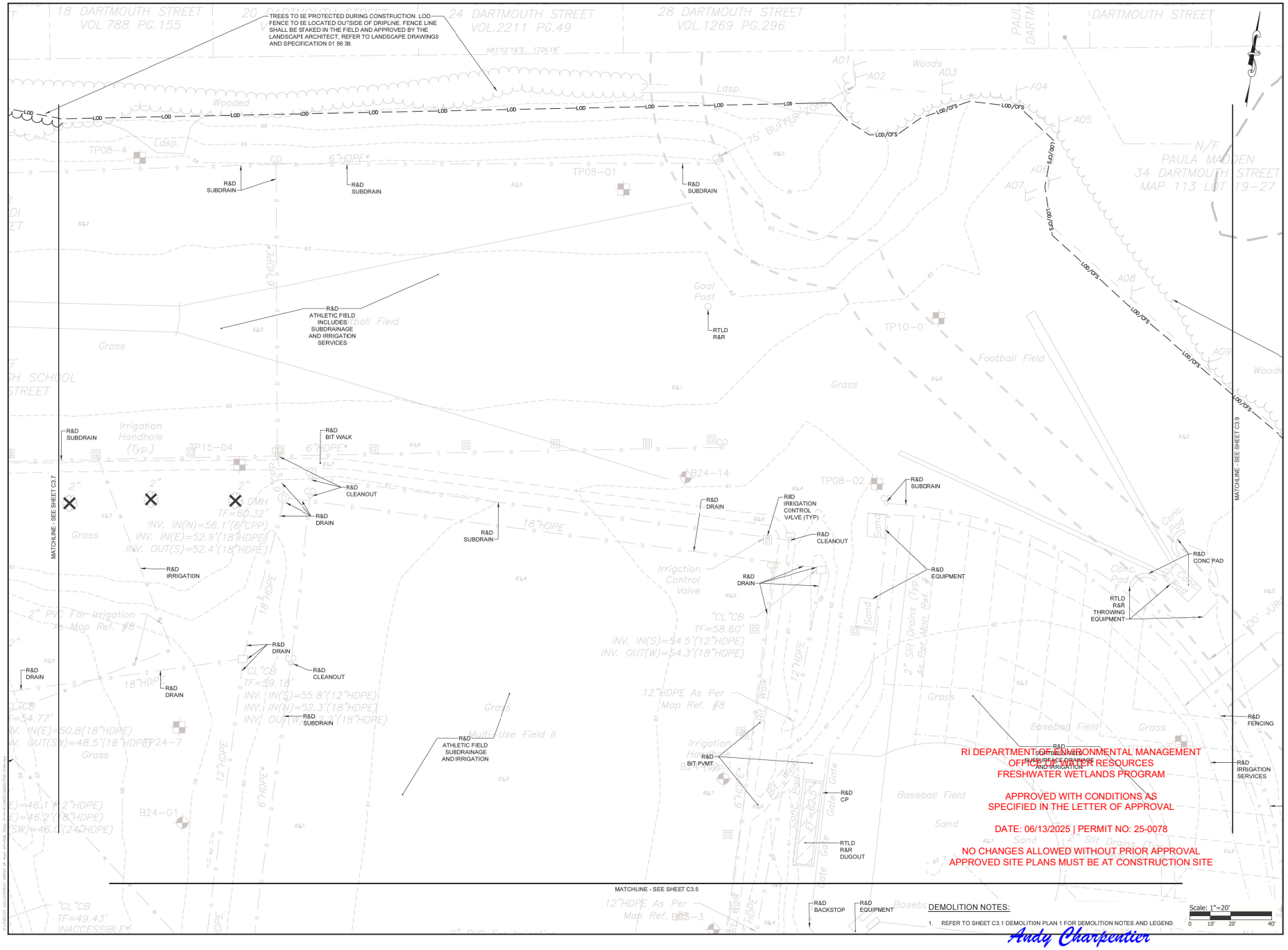
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 7

DRAWING NO.:
C3.7

SHEET NO. 20 OF 93



PARE

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235 HIGH STREET
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401-253-4000

SCALE ADJUSTMENT GUIDE
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Bristol, Rhode Island

DAVID L POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
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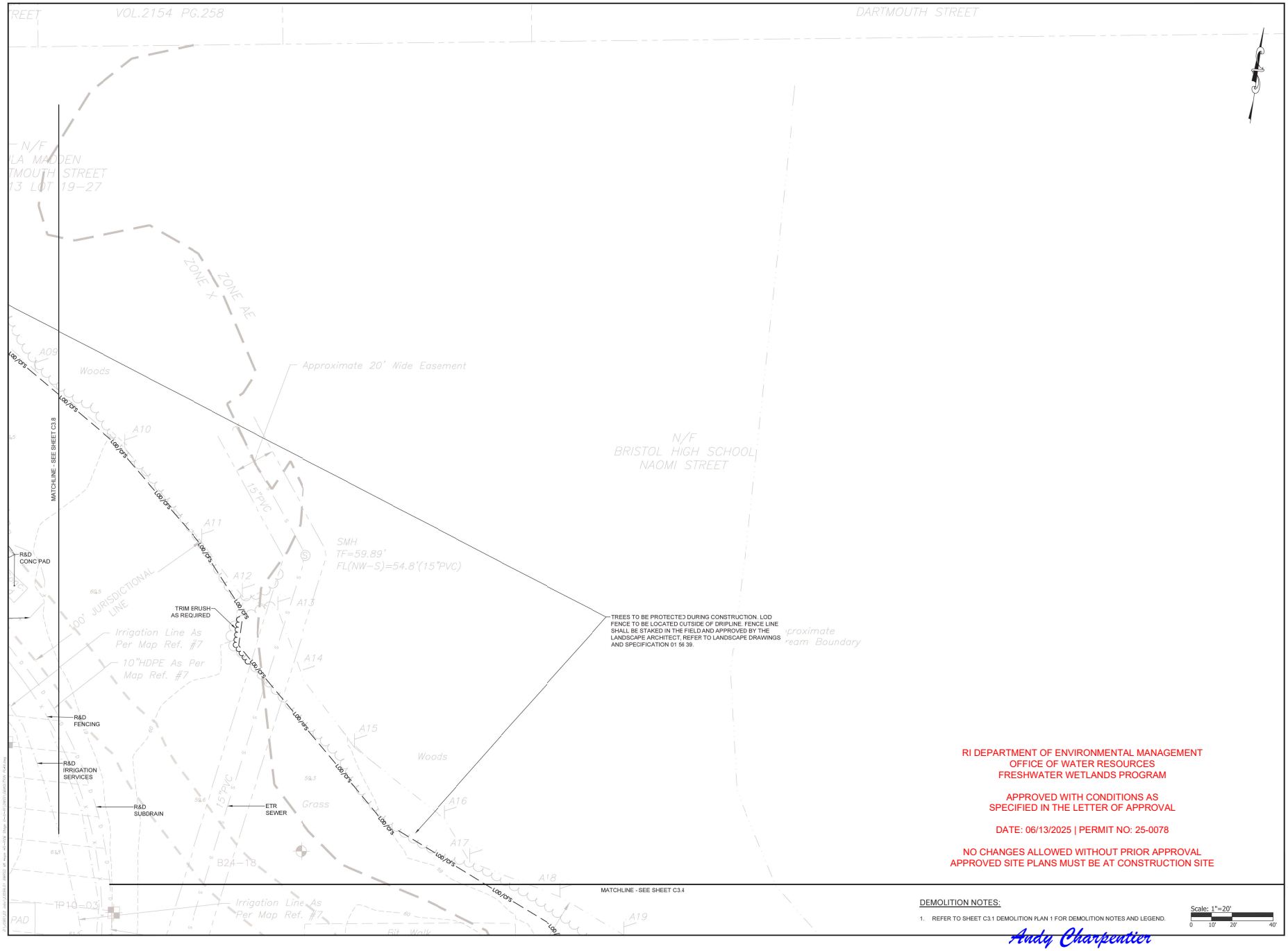
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 8

DRAWING NO.:
C3.8

SHEET NO. 21 OF 93

Andy Charpentier



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

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DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

Scale: 1"=20'
0 10' 20' 40'

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
04.01.25
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

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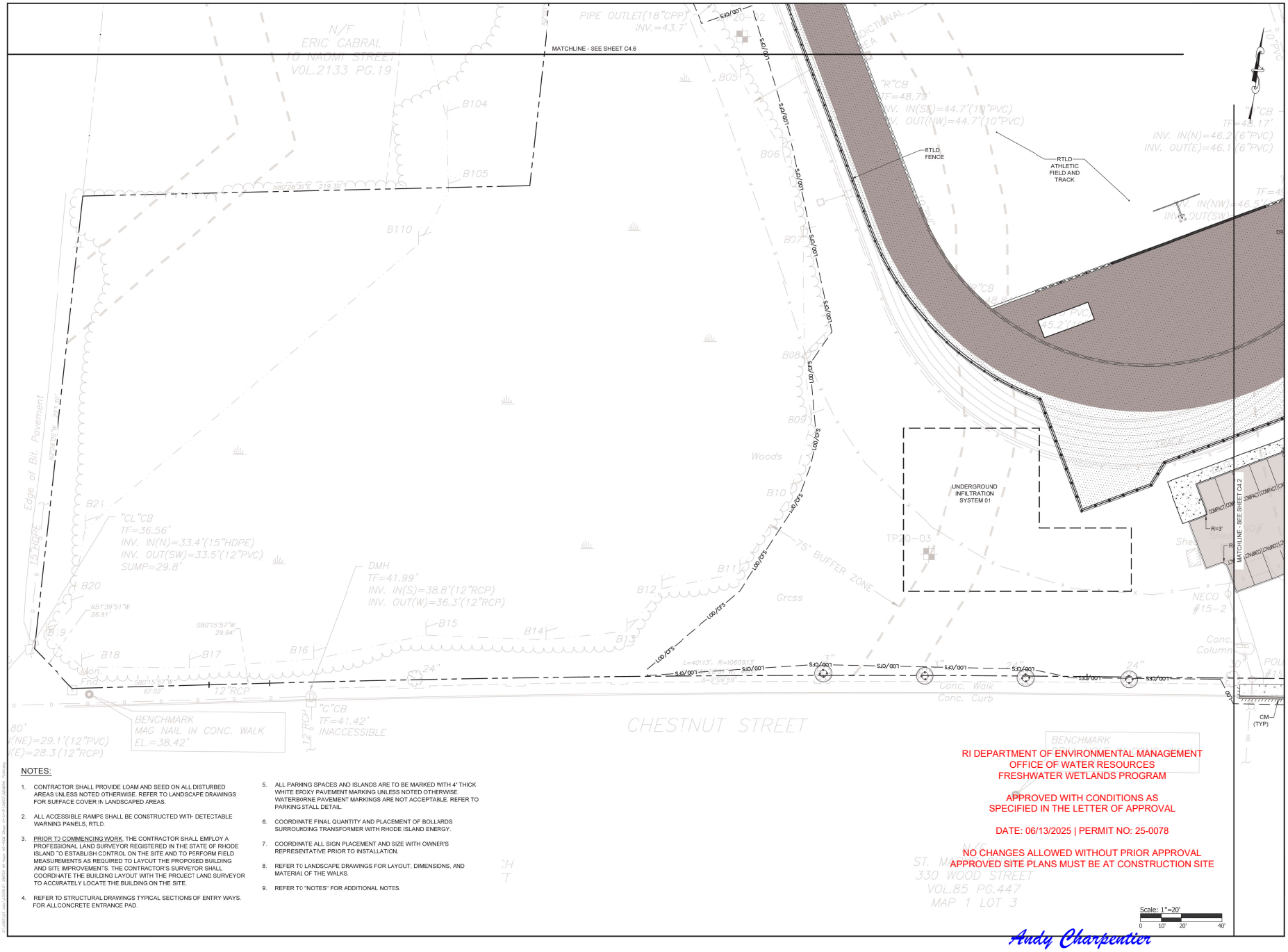
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 9

DRAWING NO.:
C3.9

SHEET NO. 22 OF 93



NOTES:

1. CONTRACTOR SHALL PROVIDE LOAM AND SEED ON ALL DISTURBED AREAS UNLESS NOTED OTHERWISE. REFER TO LANDSCAPE DRAWINGS FOR SURFACE COVER IN LANDSCAPED AREAS.
2. ALL ACCESSIBLE RAMPS SHALL BE CONSTRUCTED WITH DETECTABLE WARNING PANELS, RTLD.
3. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL EMPLOY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF RHODE ISLAND "TO ESTABLISH CONTROL ON THE SITE AND TO PERFORM FIELD MEASUREMENTS AS REQUIRED TO LAYCUT THE PROPOSED BUILDING AND SITE IMPROVEMENT"S. THE CONTRACTOR'S SURVEYOR SHALL COORDINATE THE BUILDING LAYOUT WITH THE PROJECT LAND SURVEYOR TO ACCURATELY LOCATE THE BUILDING ON THE SITE.
4. REFER TO STRUCTURAL DRAWINGS TYPICAL SECTIONS OF ENTRY WAYS. FOR ALL CONCRETE ENTRANCE PAD.
5. ALL PARKING SPACES AND ISLANDS ARE TO BE MARKED WITH 4" THICK WHITE EPOXY PAVEMENT MARKING UNLESS NOTED OTHERWISE. WATERBORNE PAVEMENT MARKINGS ARE NOT ACCEPTABLE. REFER TO PARKING STALL DETAIL.
6. COORDINATE FINAL QUANTITY AND PLACEMENT OF BOLLARDS SURROUNDING TRANSFORMER WITH RHODE ISLAND ENERGY.
7. COORDINATE ALL SIGN PLACEMENT AND SIZE WITH OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
8. REFER TO LANDSCAPE DRAWINGS FOR LAYOUT, DIMENSIONS, AND MATERIAL OF THE WALKS.
9. REFER TO "NOTES" FOR ADDITIONAL NOTES.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Andy Charpentier

PARE

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235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
(DLP)

REVISIONS:		
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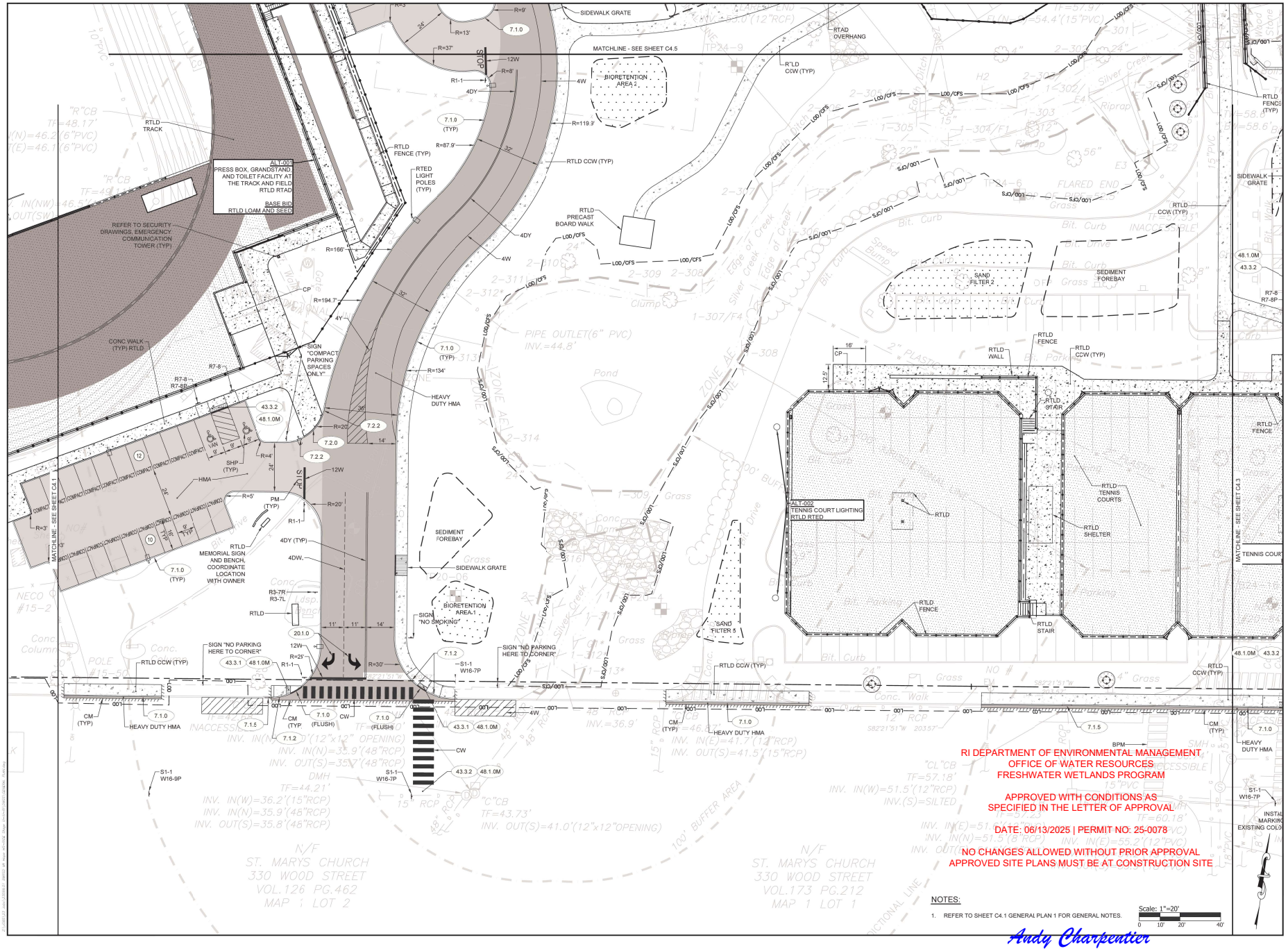
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 1

DRAWING NO.:
C4.1

SHEET NO. 23 OF 93


MATCHLINE - SEE SHEET C4.5
MATCHLINE - SEE SHEET C4.1
MATCHLINE - SEE SHEET C4.3
ALT-001
PRESS BOX, GRANDSTAND AND TOILET FACILITY AT THE TRACK AND FIELD
RTLD RTAD
BASE BID
RTLD LOAM AND SEED
ALT-002
TENNIS COURT LIGHTING
RTLD RTED
RTLD TRACK
RTLD FENCE (TYP)
RTED LIGHT POLES (TYP)
RTLD CCW (TYP)
RTLD PRECAST BOARD WALK
RTAD OVERHANG
SIDEWALK GRATE
BIORETENTION AREA 2
BIORETENTION AREA 1
SAND FILTER 2
SAND FILTER 1
SEDIMENT FOREBAY
RTLD WALL
RTLD STAIR
RTLD RAMP
RTLD TENNIS COURTS
RTLD SHELTER
TENNIS COURT
REFER TO SECURITY DRAWINGS, EMERGENCY COMMUNICATION TOWER (TYP)
CONC WALK (TYP) RTLD
SIGN "COMPACT PARKING SPACES ONLY"
HEAVY DUTY HMA
SHP (TYP)
HMA
RTLD MEMORIAL SIGN AND BENCH, COORDINATE LOCATION WITH OWNER
SIGN "NO SMOKING"
SIGN "NO PARKING HERE TO CORNER"
PIPE OUTLET(6" PVC) INV.=44.8'
INACCESSIBLE
N/F ST. MARYS CHURCH 330 WOOD STREET VOL.126 PG.462 MAP 1 LOT 2
N/F ST. MARYS CHURCH 330 WOOD STREET VOL.173 PG.212 MAP 1 LOT 1
100' BUFFER AREA
ZONE AE
ZONE X
Silver Creek
Edge of Creek
Pond
Grass
Bit. Curb
Bit. Drive
Conc. Walk
Riprap
Clump
Speed Bump
Flared End
Sidewalk
Inaccessible
Inaccessible Ramp
Parking
Compact
Sign
Tree
Shrub
Fence
Wall
Stair
Shelter
Courts
Sand Filter
Forebay
Grate
Curb
Drive
Walk
Ramp
Pond
Creek
Buffer
Zone
Flood
Utility
Pole
Light
Bench
Memorial
Tennis
Hmda
Rtld
Rtad
Rted
Cp
Cm
Dmh
Smh
Inv
Rcp
Pvc
Hdpe
Bpm
Cw
Pm
Shp
Hma
Ldsp
Conc
Bldg
Lod/cfs
S.o./001
4w
4dy
4dw
12w
Stop
Yield
Compact
Cmpact
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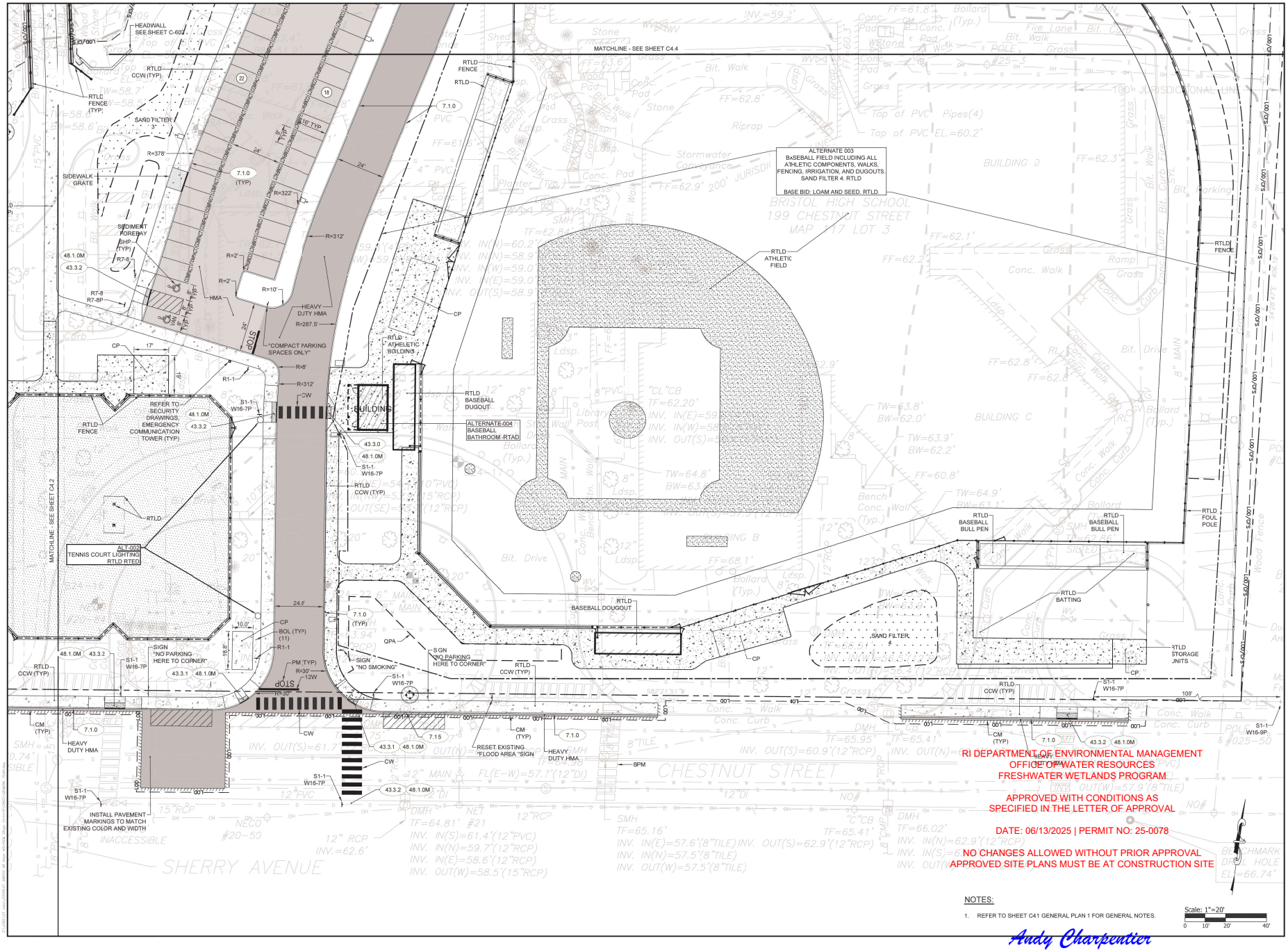

PARE

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235 HIGH STREET
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No. 8665
06.01.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

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1	04-17-2025	RIDEM RTC
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PROJECT NO.:	23099.01
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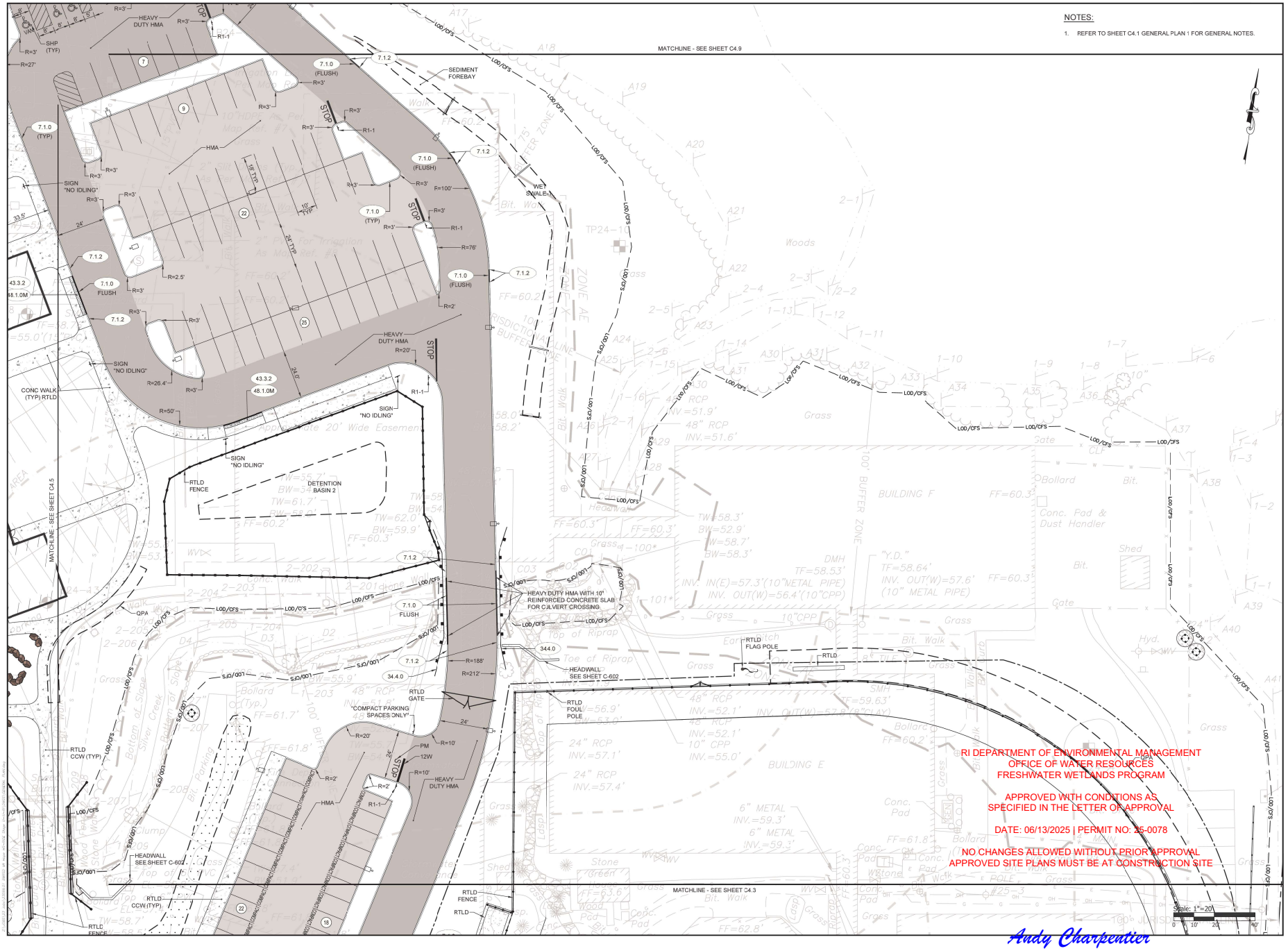
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 3

DRAWING NO.:
C4.3

SHEET NO. 25 OF 93



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

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Andy Charpentier

PARE

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06.01.25
REGISTERED PROFESSIONAL ENGINEER
DAVID L. POTTER

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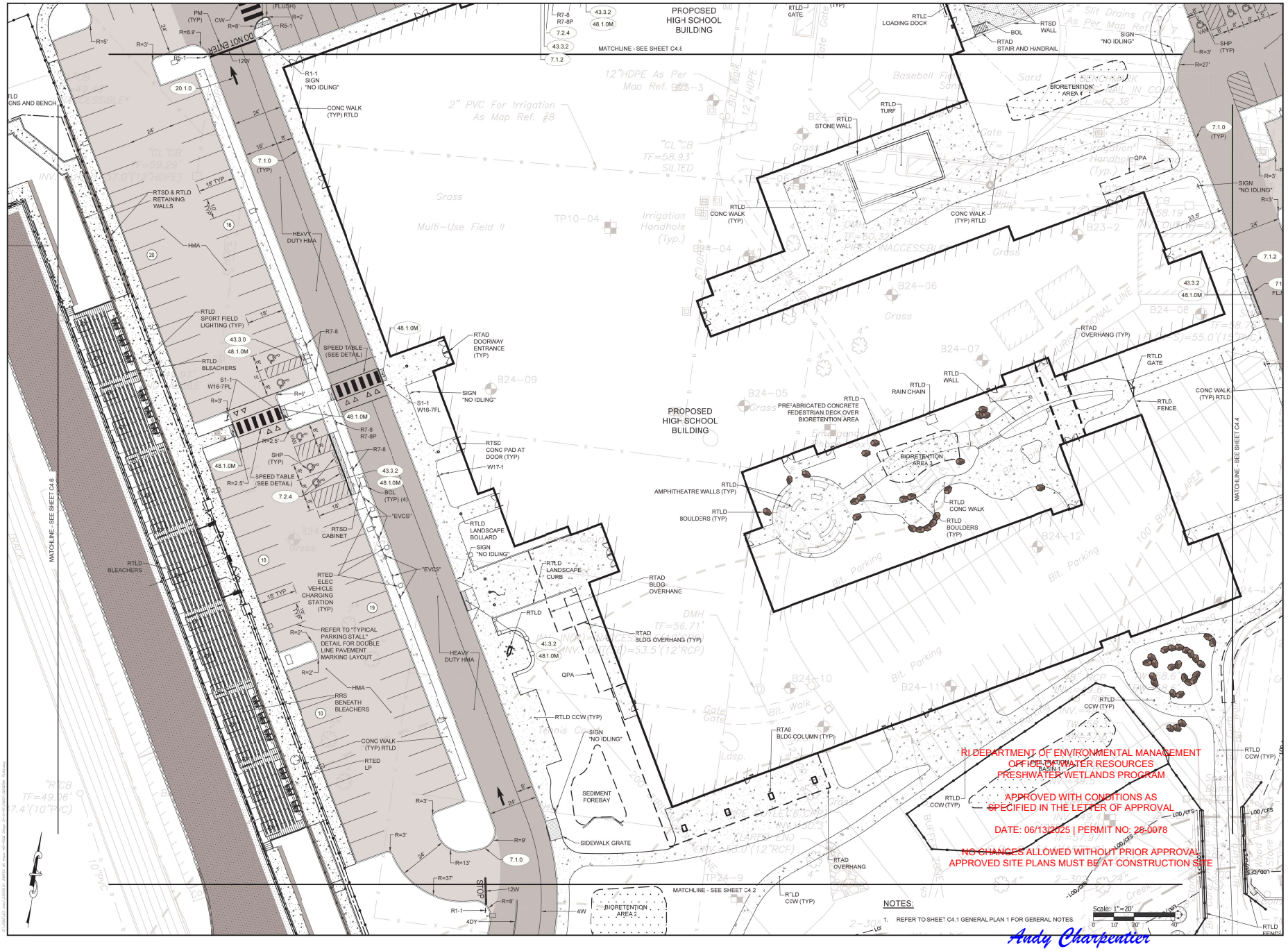
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 4

DRAWING NO.:
C4.4

SHEET NO. 26 OF 93



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OFFICE OF WATER RESOURCES
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06.02.25
REGISTERED PROFESSIONAL ENGINEER
DAVID L. POTTER

REVISIONS:

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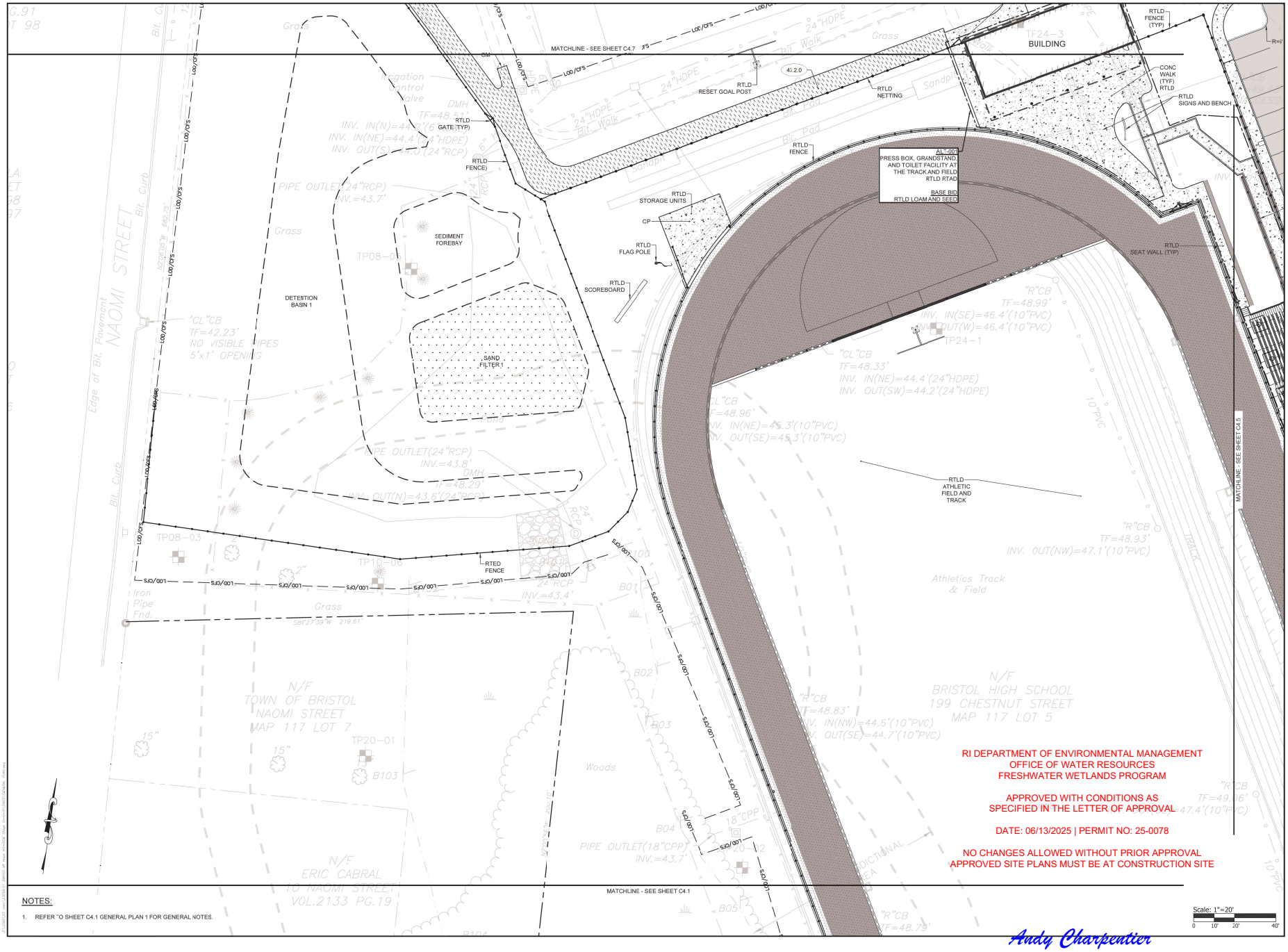
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 5

DRAWING NO.:
C4.5

SHEET NO. 27 OF 93



NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

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CIVIL

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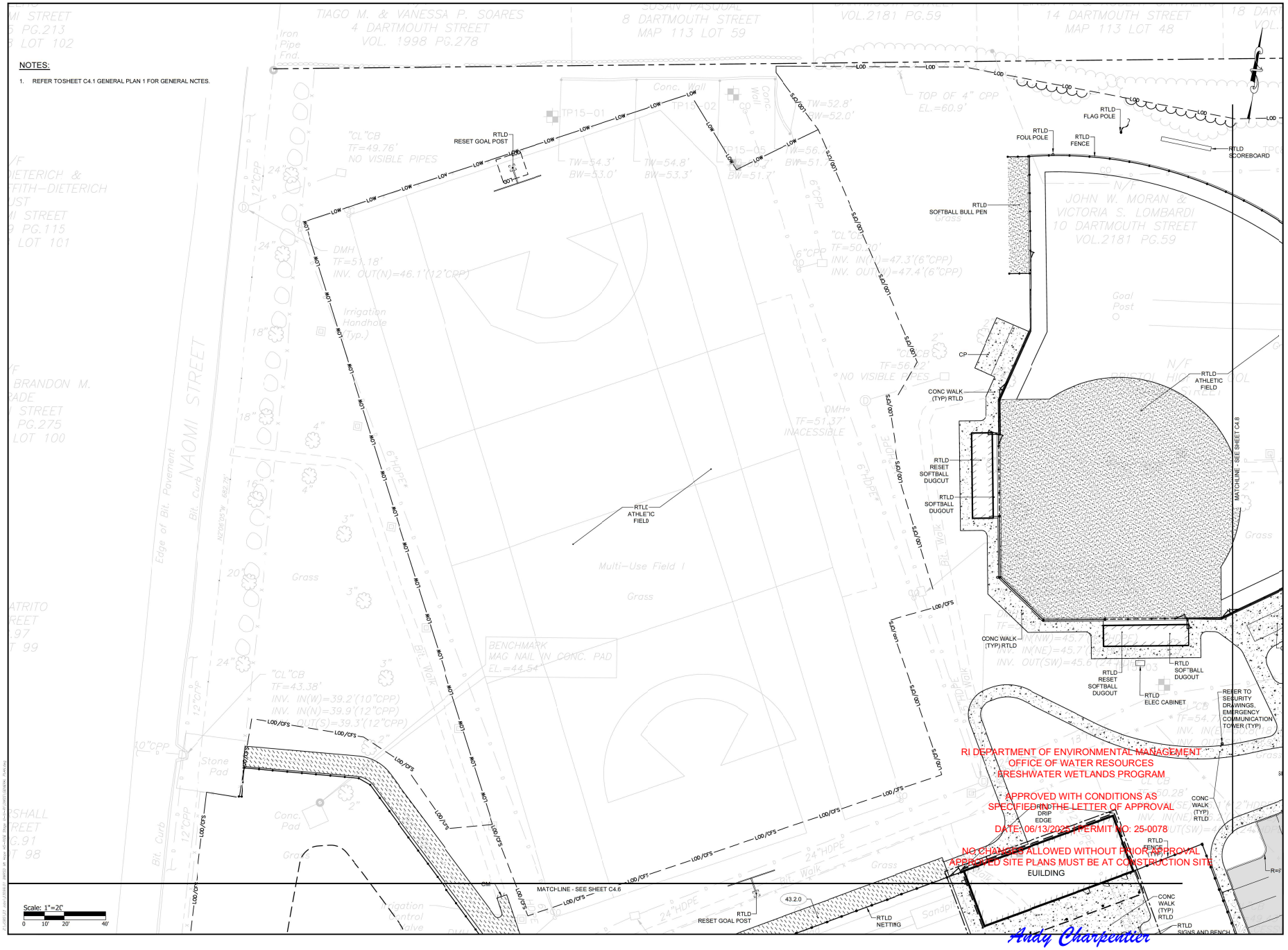
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 6

DRAWING NO.:
C4.6

SHEET NO. 28 OF 93



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
STATE OF RHODE ISLAND

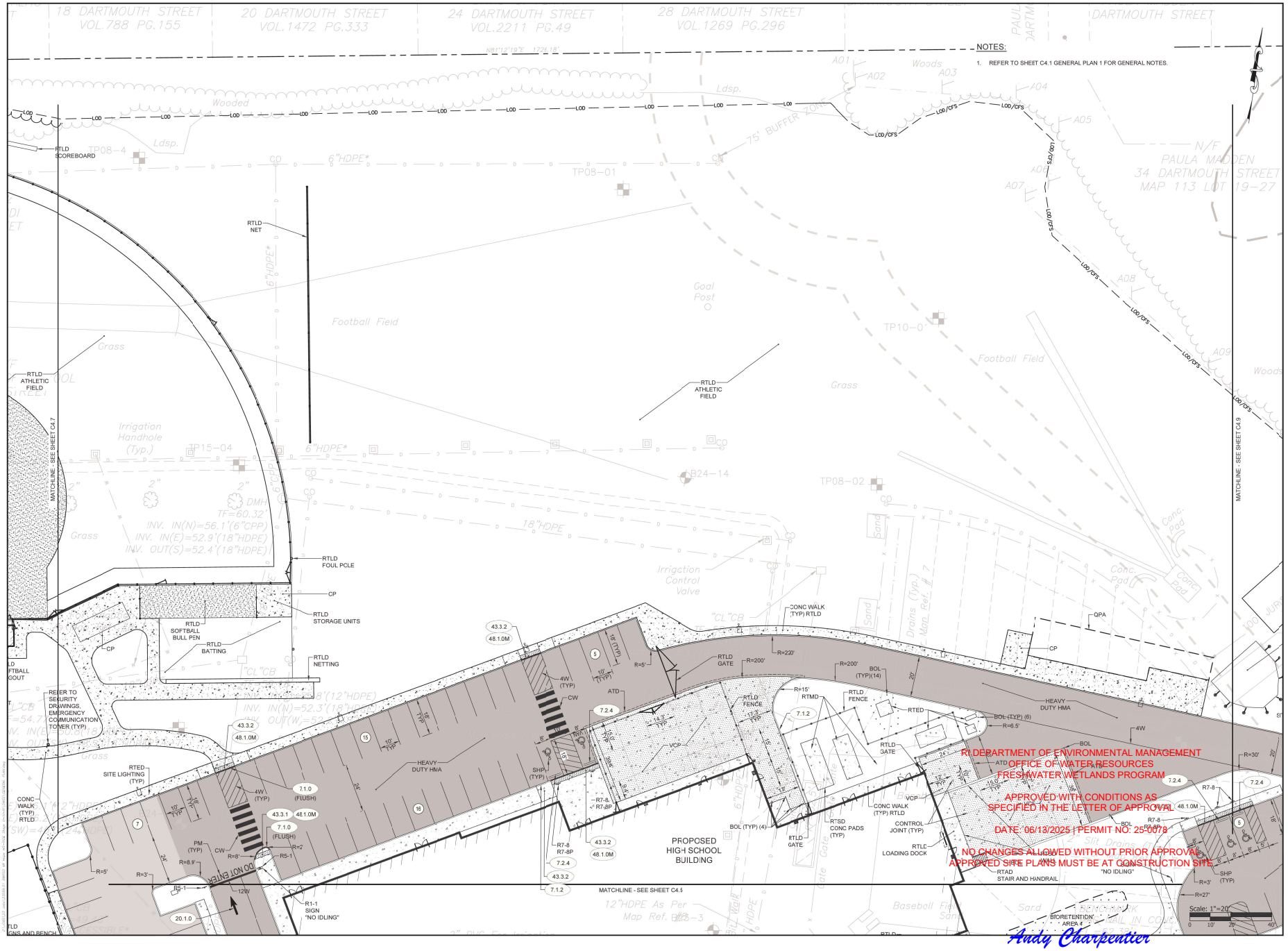
REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 7

DRAWING NO.:
C4.7

SHEET NO. 29 OF 93



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

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Andy Charpentier

PARE

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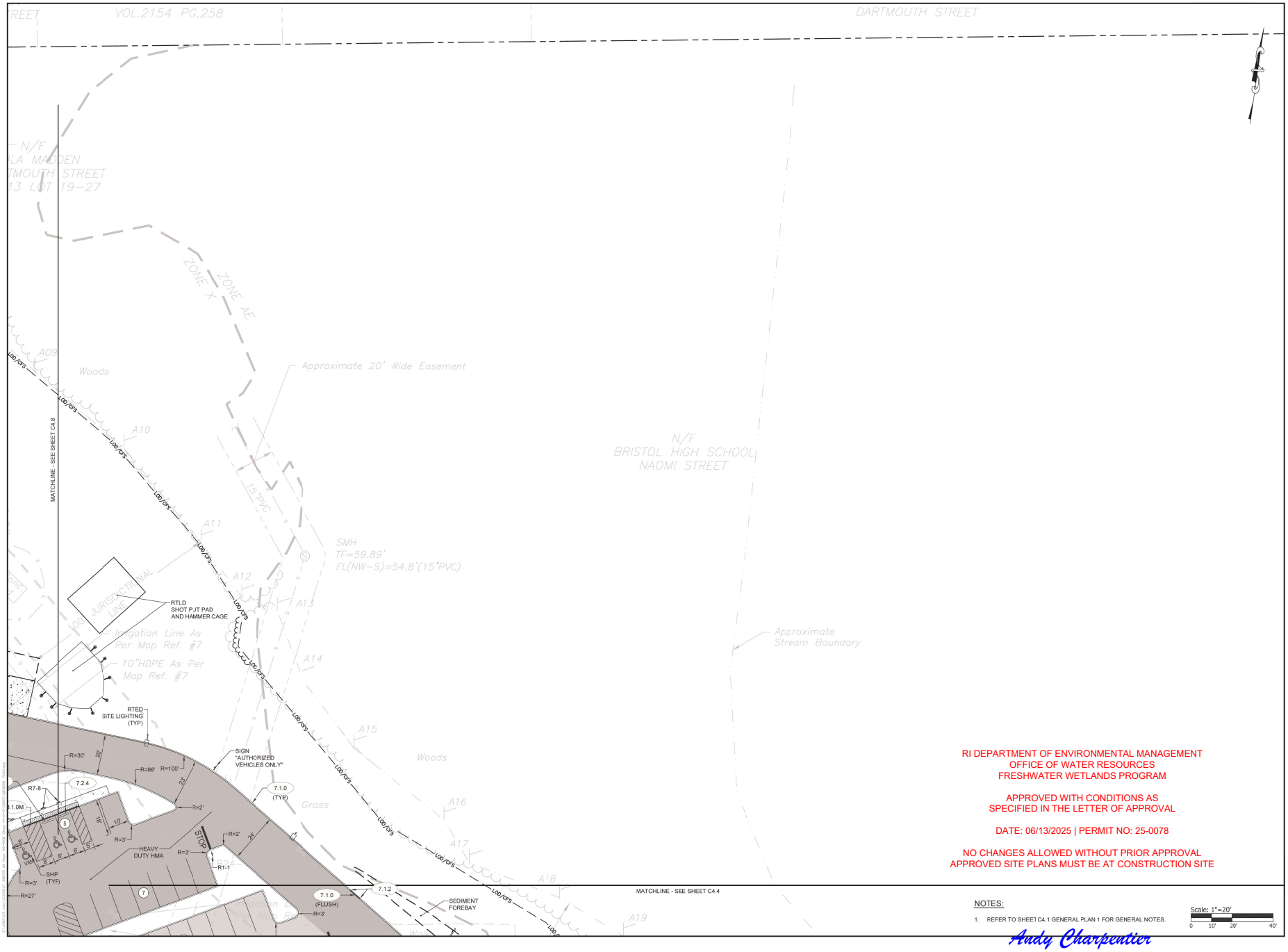
DRAWING TITLE:
GENERAL PLAN 8

DRAWING NO.:
C4.8

SHEET NO. 30 OF 93



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NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

Scale: 1"=20'
0 10' 20' 40'

Andy Charpentier

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DAVID L. POTTER
No. 8665
04.01.25
REGISTERED
PROFESSIONAL ENGINEER
(CIVIL)

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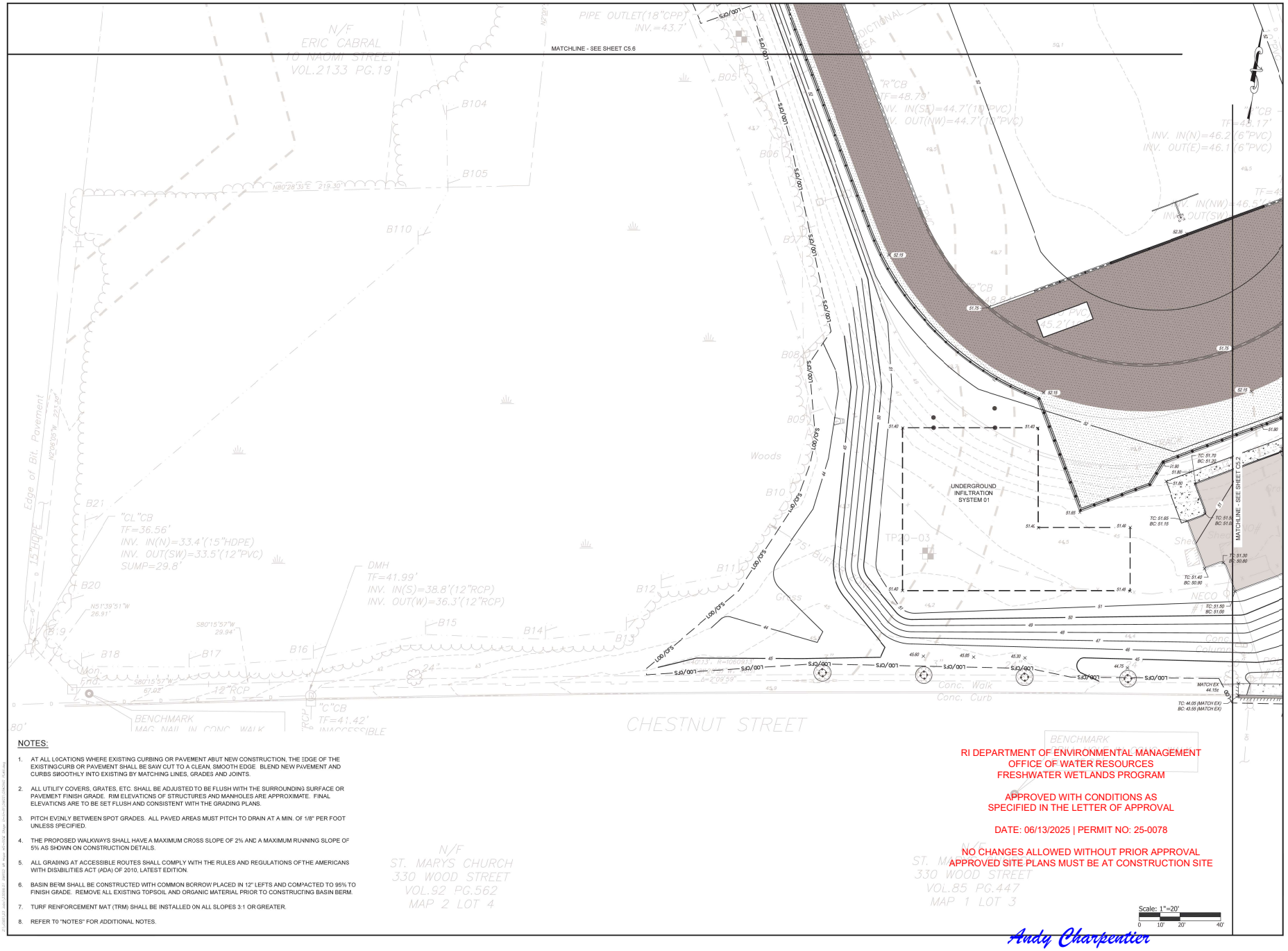
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 9

DRAWING NO.:
C4.9

SHEET NO. 31 OF 93



NOTES:

1. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUT NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT AND CURBS SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
2. ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE SURROUNDING SURFACE OR PAVEMENT FINISH GRADE. RIM ELEVATIONS OF STRUCTURES AND MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS.
3. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MIN. OF 1/8" PER FOOT UNLESS SPECIFIED.
4. THE PROPOSED WALKWAYS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM RUNNING SLOPE OF 5% AS SHOWN ON CONSTRUCTION DETAILS.
5. ALL GRADING AT ACCESSIBLE ROUTES SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA) OF 2010, LATEST EDITION.
6. BASIN BERM SHALL BE CONSTRUCTED WITH COMMON BORROW PLACED IN 12" LIFTS AND COMPACTED TO 95% TO FINISH GRADE. REMOVE ALL EXISTING TOPSOIL AND ORGANIC MATERIAL PRIOR TO CONSTRUCTING BASIN BERM.
7. TURF REINFORCEMENT MAT (TRM) SHALL BE INSTALLED ON ALL SLOPES 3:1 OR GREATER.
8. REFER TO "NOTES" FOR ADDITIONAL NOTES.

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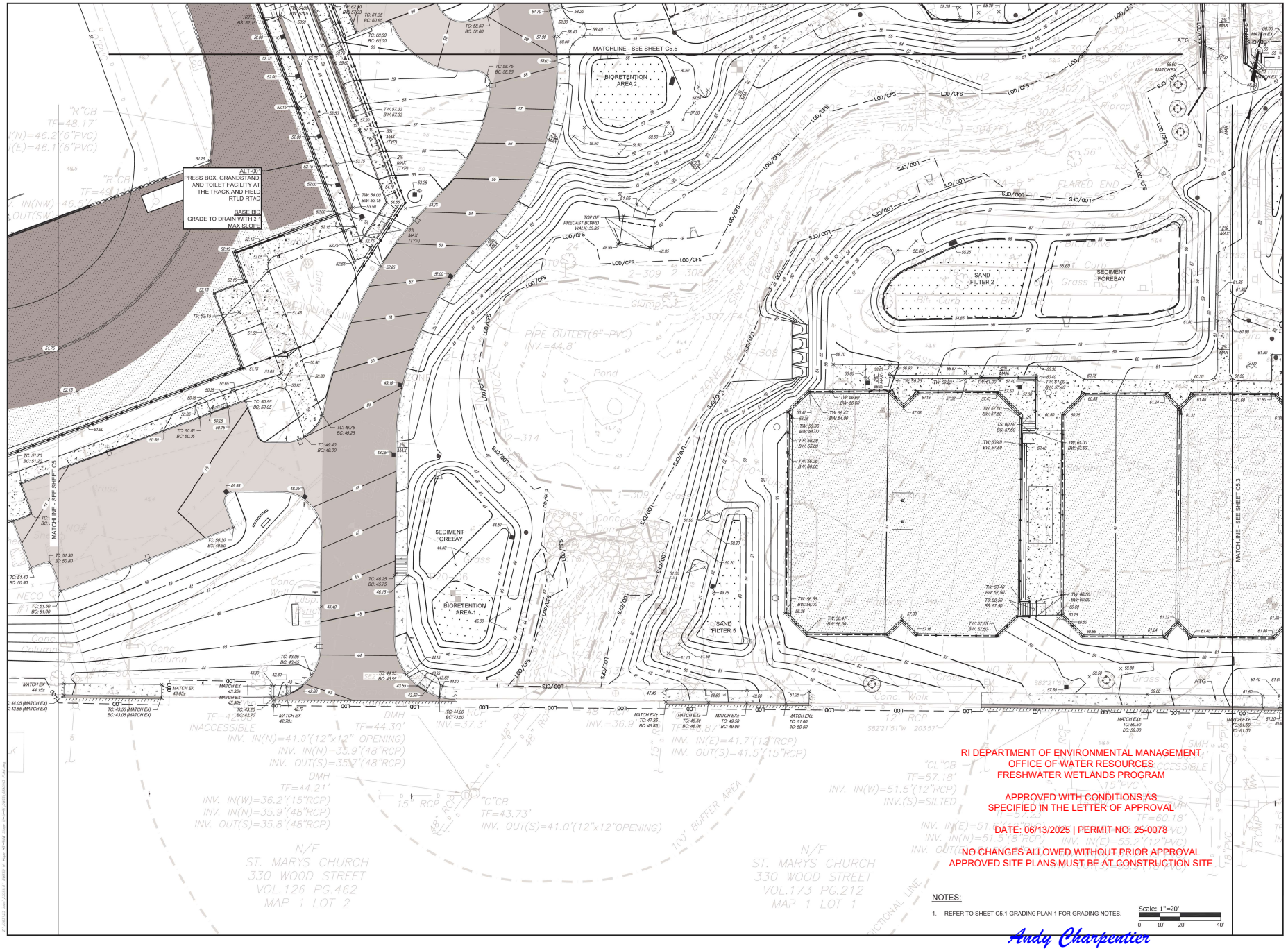
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GRADING PLAN 1

DRAWING NO.:
C5.1

SHEET NO. 32 OF 93



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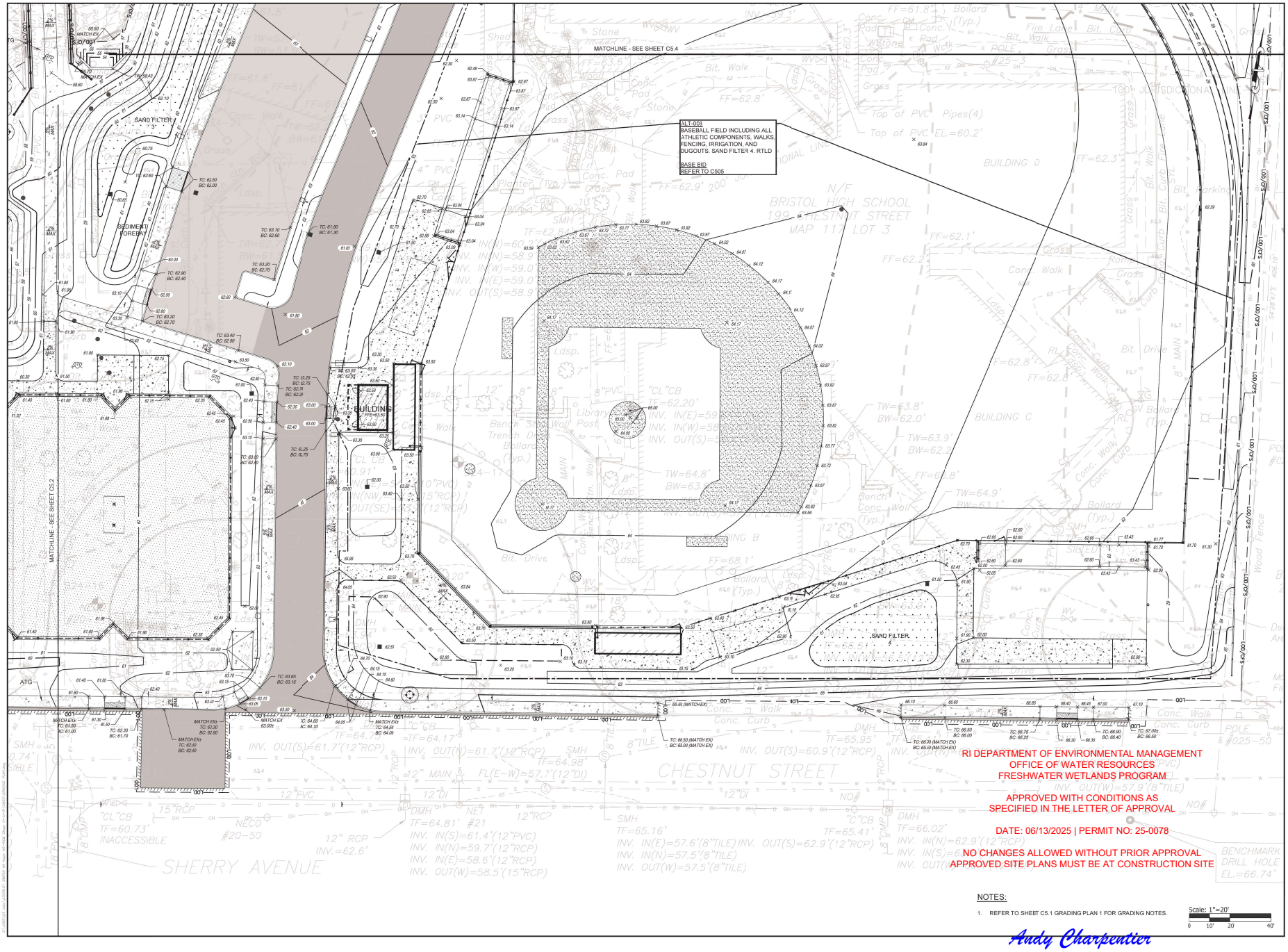
DRAWING TITLE:
GRADING PLAN 2

DRAWING NO.:
C5.2

SHEET NO. 33 OF 93



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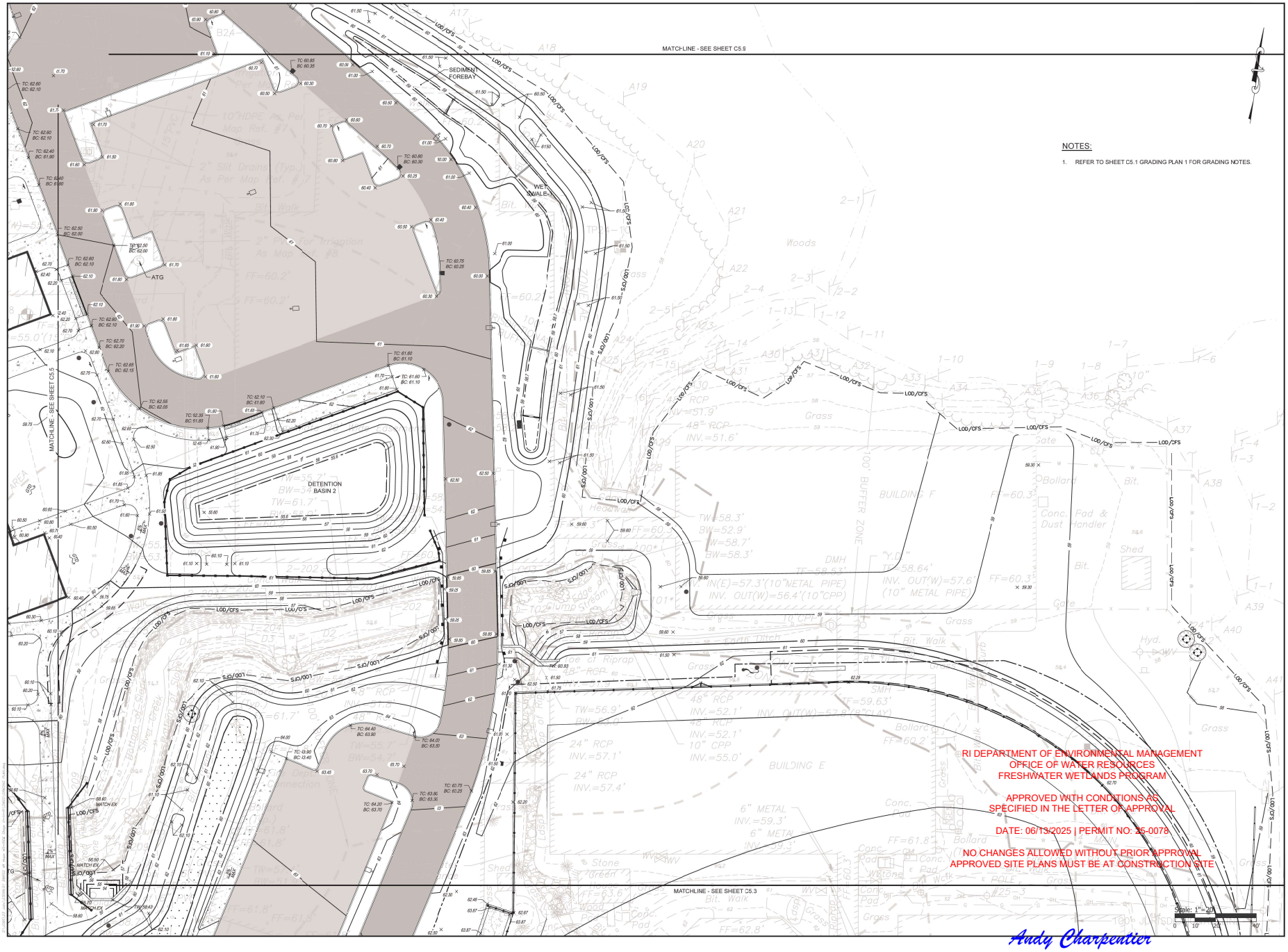
APPROVED BY:	DLP

DRAWING TITLE:
GRADING PLAN 3

DRAWING NO.:
C5.3

SHEET NO. 34 OF 93

Item C1.



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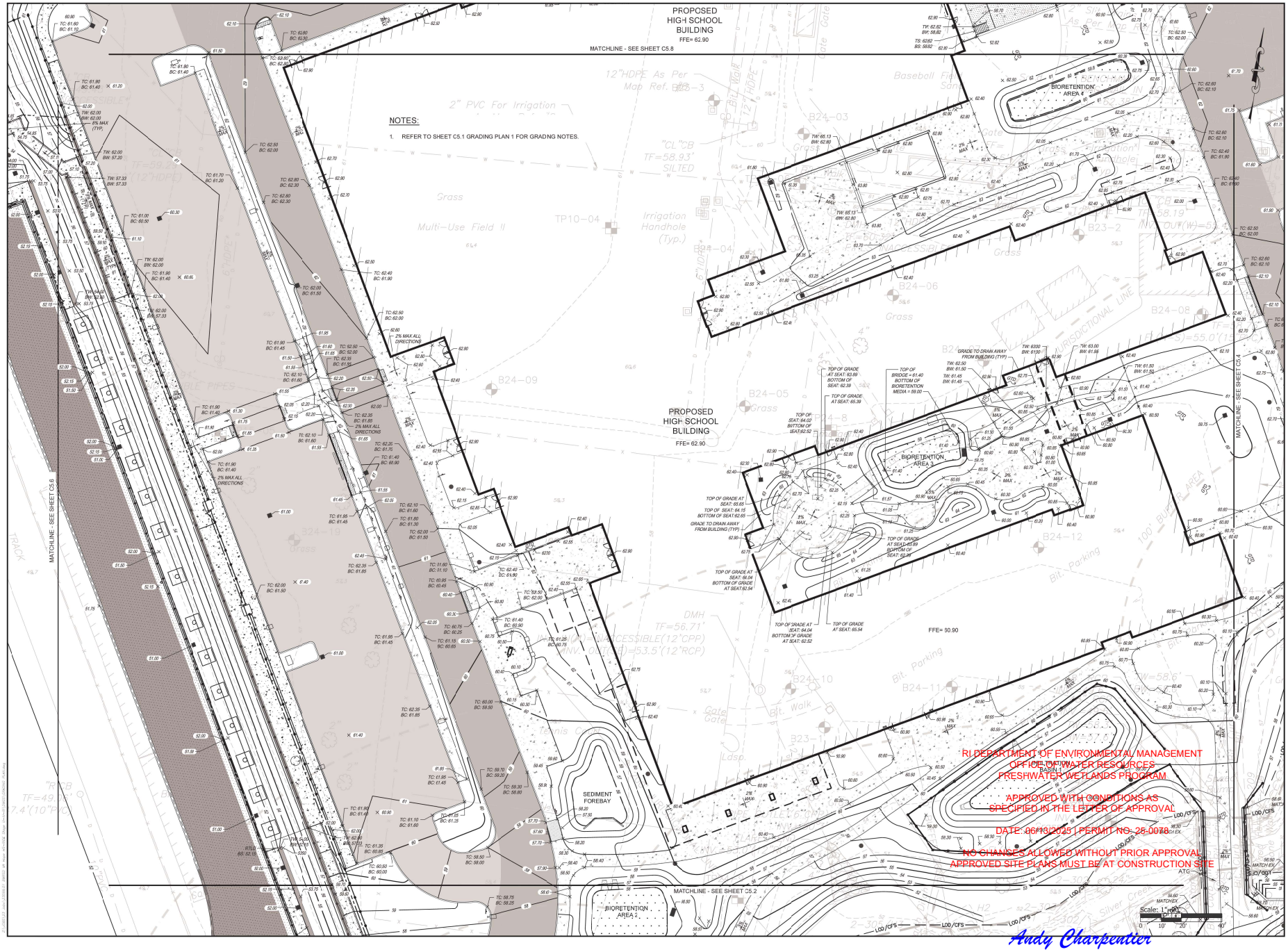
DRAWING TITLE:
GRADING PLAN 4

DRAWING NO.:
C5.4

SHEET NO. 35 OF 93



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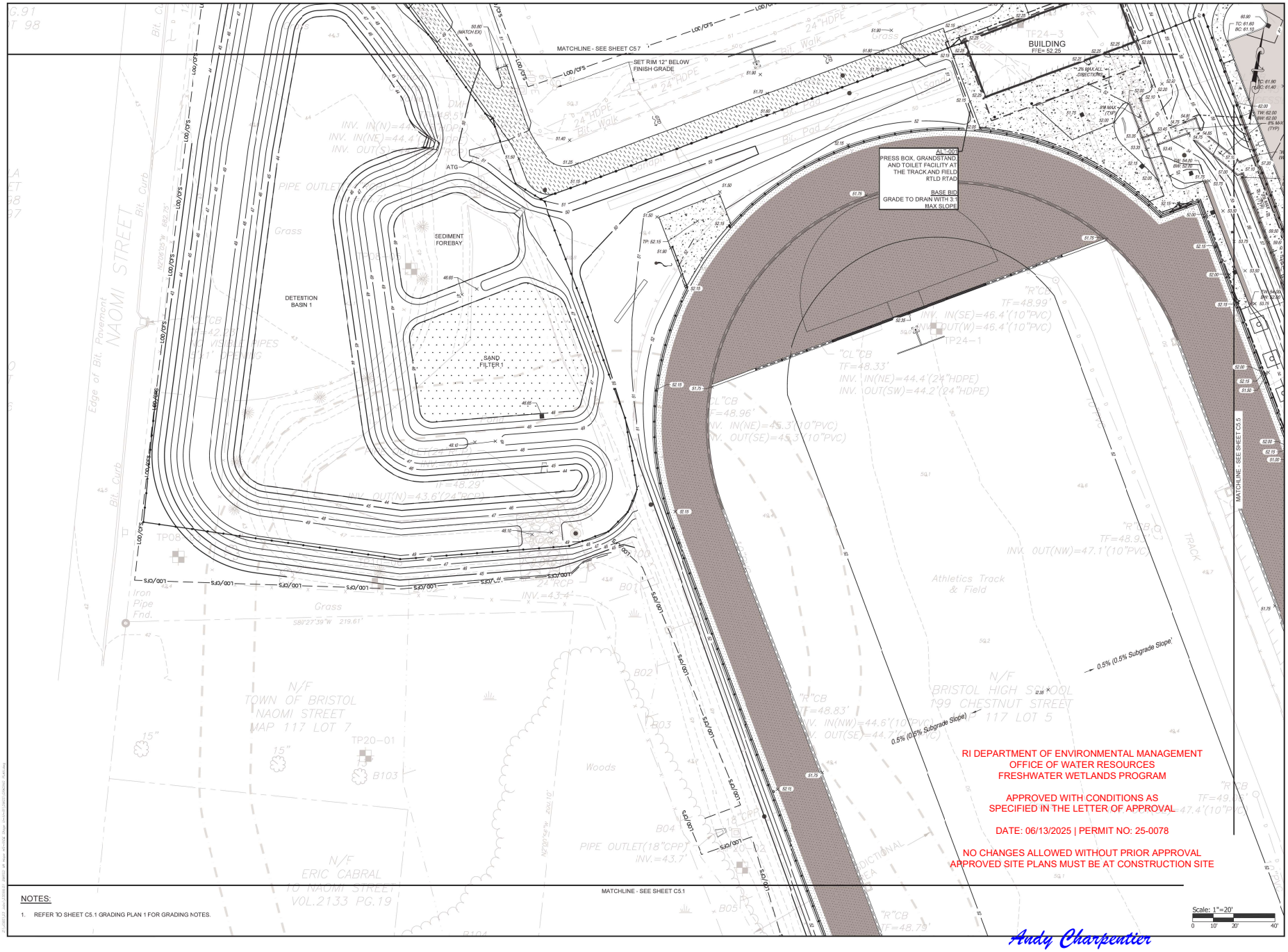
DRAWING TITLE:
GRADING PLAN 5

DRAWING NO.:
C5.5

SHEET NO. 36 OF 93



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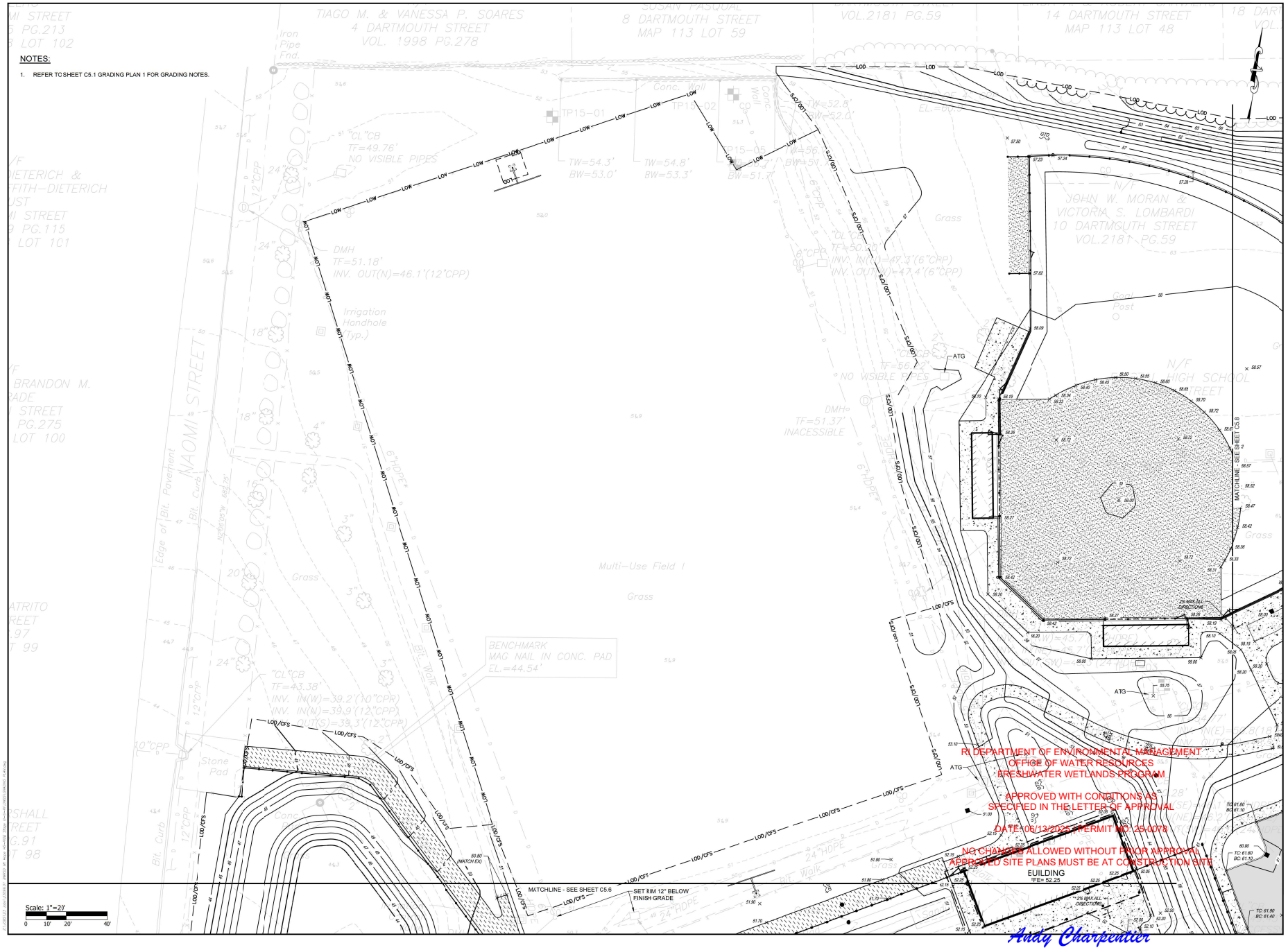
DRAWING TITLE:
GRADING PLAN 6

DRAWING NO.:
C5.6

SHEET NO. 37 OF 93



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GRADING PLAN 7

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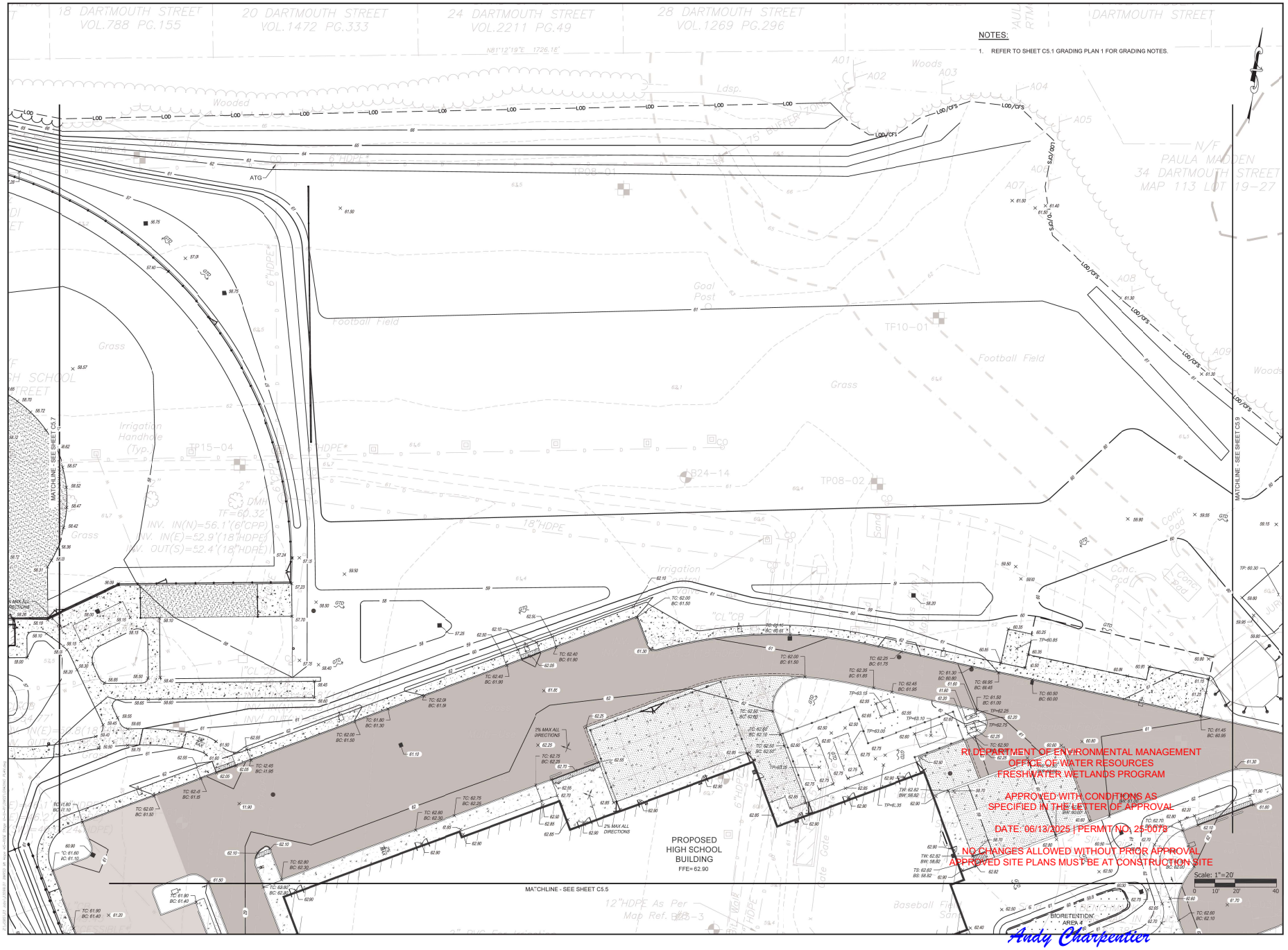
C5.7

SHEET NO. 38 OF 93



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GRADING PLAN 8

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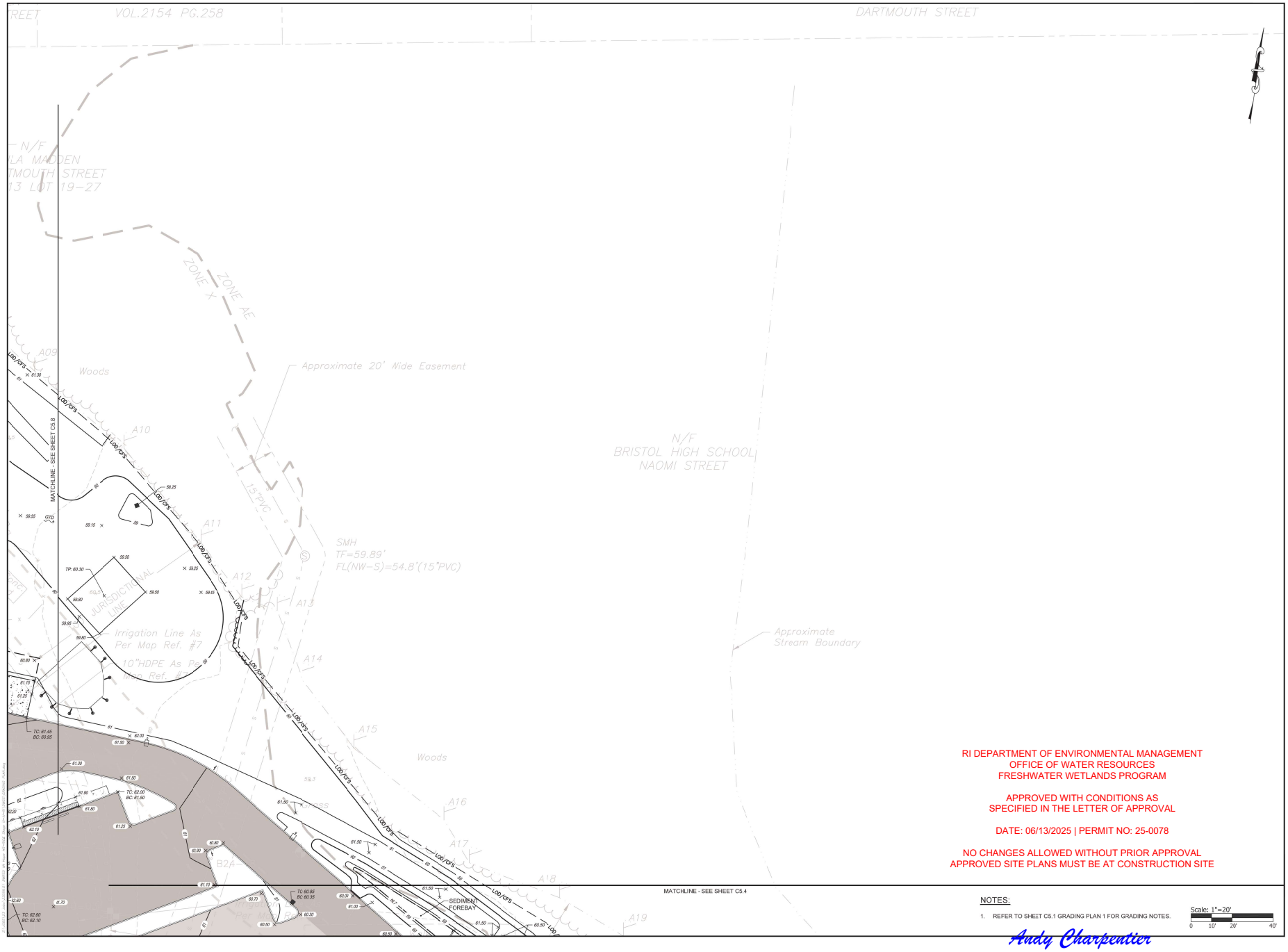
C5.8

SHEET NO. 39 OF 93



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DRAWING TITLE:
GRADING PLAN 9

DRAWING NO.:
C5.9

SHEET NO. 40 OF 93

DRAIN INVERT TABLE

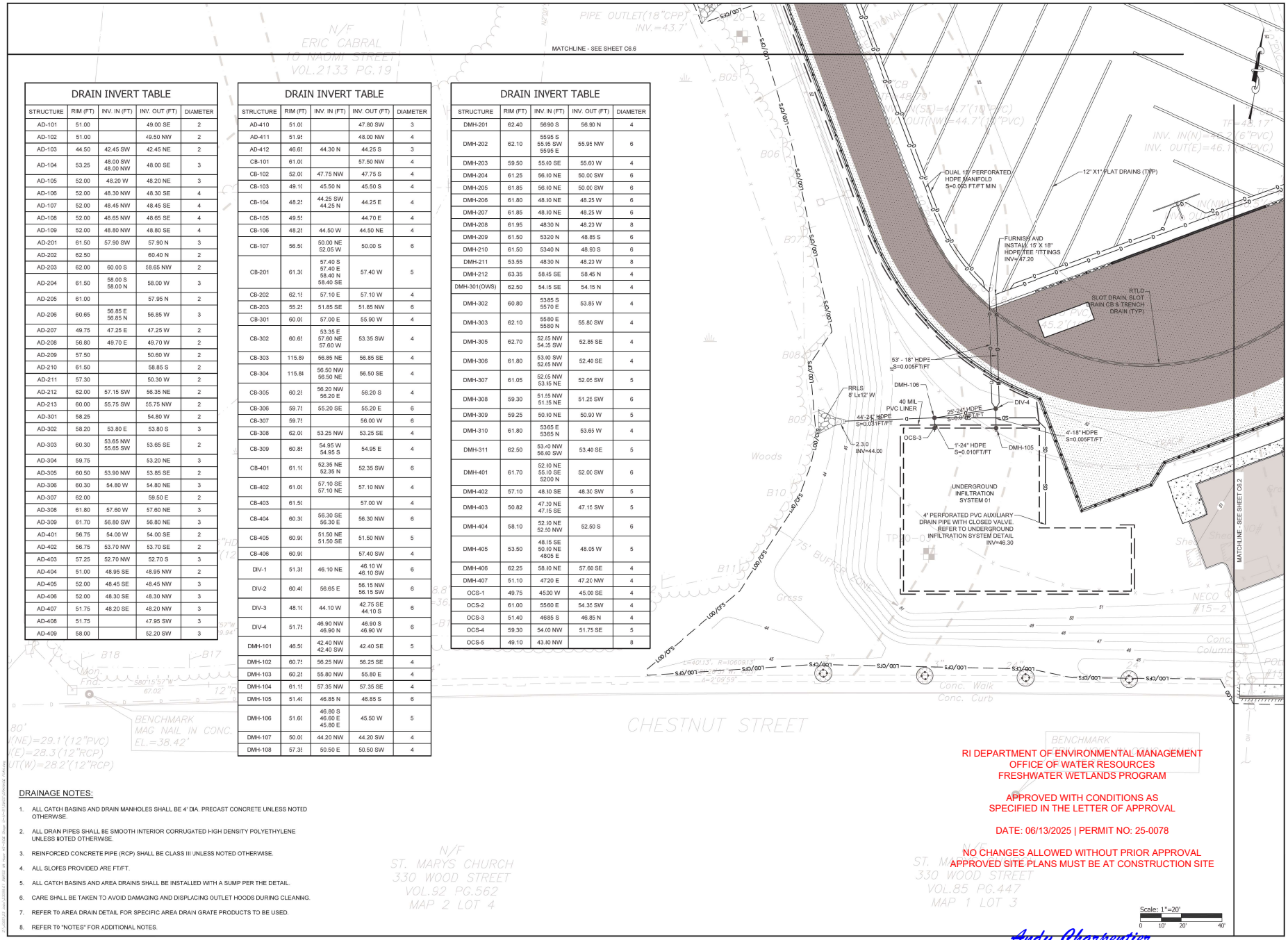
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)	DIAMETER
AD-101	51.00		49.00 SE	2
AD-102	51.00		49.50 NW	2
AD-103	44.50	42.45 SW	42.45 NE	2
AD-104	53.25	48.00 SW 48.00 NW	48.00 SE	3
AD-105	52.00	48.20 W	48.20 NE	3
AD-106	52.00	48.30 NW	48.30 SE	4
AD-107	52.00	48.45 NW	48.45 SE	4
AD-108	52.00	48.65 NW	48.65 SE	4
AD-109	52.00	48.80 NW	48.80 SE	4
AD-201	61.50	57.90 SW	57.90 N	3
AD-202	62.50		60.40 N	2
AD-203	62.00	60.00 S	58.65 NW	2
AD-204	61.50	58.00 S 58.00 N	58.00 W	3
AD-205	61.00		57.95 N	2
AD-206	60.65	56.85 E 56.85 N	56.85 W	3
AD-207	49.75	47.25 E	47.25 W	2
AD-208	56.80	49.70 E	49.70 W	2
AD-209	57.50		50.60 W	2
AD-210	61.50		58.85 S	2
AD-211	57.30		50.30 W	2
AD-212	62.00	57.15 SW	56.35 NE	2
AD-213	60.00	55.75 SW	55.75 NW	2
AD-301	58.25		54.80 W	2
AD-302	58.20	53.80 E	53.80 S	3
AD-303	60.30	53.65 NW 55.65 SW	53.65 SE	2
AD-304	59.75		53.20 NE	3
AD-305	60.50	53.90 NW	53.85 SE	2
AD-306	60.30	54.80 W	54.80 NE	3
AD-307	62.00		59.50 E	2
AD-308	61.80	57.60 W	57.60 NE	3
AD-309	61.70	56.80 SW	56.80 NE	3
AD-401	56.75	54.00 W	54.00 SE	2
AD-402	56.75	53.70 NW	53.70 SE	2
AD-403	57.25	52.70 NW	52.70 S	3
AD-404	51.00	48.95 SE	48.95 NW	2
AD-405	52.00	48.45 SE	48.45 NW	3
AD-406	52.00	48.30 SE	48.30 NW	3
AD-407	51.75	48.20 SE	48.20 NW	3
AD-408	51.75		47.95 SW	3
AD-409	58.00		52.20 SW	3

DRAIN INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)	DIAMETER
AD-410	51.00		47.80 SW	3
AD-411	51.95		48.00 NW	4
AD-412	46.65	44.30 N	44.25 S	3
CB-101	61.00		57.50 NW	4
CB-102	52.00	47.75 NW	47.75 S	4
CB-103	49.10	45.50 N	45.50 S	4
CB-104	48.25	44.25 SW 44.25 N	44.25 E	4
CB-105	49.55		44.70 E	4
CB-106	48.25	44.50 W	44.50 NE	4
CB-107	56.50	50.00 NE 52.05 W	50.00 S	6
CB-201	61.30	57.40 S 57.40 E 58.40 N 58.40 SE	57.40 W	5
CB-202	62.15	57.10 E	57.10 W	4
CB-203	55.25	51.85 SE	51.85 NW	6
CB-301	60.00	57.00 E	55.90 W	4
CB-302	60.65	53.35 E 57.60 NE 57.60 W	53.35 SW	4
CB-303	115.80	56.85 NE	56.85 SE	4
CB-304	115.84	56.50 NW 56.50 NE	56.50 SE	4
CB-305	60.25	56.20 NW 56.20 E	56.20 S	4
CB-306	59.75	55.20 SE	55.20 E	6
CB-307	59.75		56.00 W	6
CB-308	62.00	53.25 NW	53.25 SE	4
CB-309	60.85	54.95 W 54.95 S	54.95 E	4
CB-401	61.10	52.35 NE 52.35 N	52.35 SW	6
CB-402	61.00	57.10 SE 57.10 NE	57.10 NW	4
CB-403	61.50		57.00 W	4
CB-404	60.30	56.30 SE 56.30 E	56.30 NW	6
CB-405	60.90	51.50 NE 51.50 SE	51.50 NW	5
CB-406	60.90		57.40 SW	4
DIV-1	51.30	46.10 NE	46.10 W 46.10 SW	6
DIV-2	60.40	56.65 E	56.15 NW 56.15 SW	6
DIV-3	48.10	44.10 W	42.75 SE 44.10 S	6
DIV-4	51.75	46.90 NW 46.90 N	46.90 S 46.90 W	6
DMH-101	46.50	42.40 NW 42.40 SW	42.40 SE	5
DMH-102	60.75	56.25 NW	56.25 SE	4
DMH-103	60.25	55.80 NW	55.80 E	4
DMH-104	61.15	57.35 NW	57.35 SE	4
DMH-105	51.40	46.85 N	46.85 S	6
DMH-106	51.60	46.80 S 46.60 E 45.80 E	45.50 W	5
DMH-107	50.00	44.20 NW	44.20 SW	4
DMH-108	57.35	50.50 E	50.50 SW	4

DRAIN INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)	DIAMETER
DMH-201	62.40	56.90 S	56.90 N	4
DMH-202	62.10	55.95 S 55.45 SW 55.95 E	55.95 NW	6
DMH-203	59.50	55.50 SE	55.60 W	4
DMH-204	61.25	56.30 NE	50.00 SW	6
DMH-205	61.85	56.30 NE	50.00 SW	6
DMH-206	61.80	48.30 NE	48.25 W	6
DMH-207	61.85	48.30 NE	48.25 W	6
DMH-208	61.95	48.30 N	48.20 W	8
DMH-209	61.50	53.20 N	48.85 S	6
DMH-210	61.50	53.40 N	48.90 S	6
DMH-211	53.55	48.30 N	48.20 W	8
DMH-212	63.35	58.45 SE	58.45 N	4
DMH-301(OWS)	62.50	54.15 SE	54.15 N	4
DMH-302	60.80	53.85 S 55.70 E	53.85 W	4
DMH-303	62.10	55.80 E 55.80 N	55.80 SW	4
DMH-305	62.70	52.65 NW 54.35 SW	52.85 SE	4
DMH-306	61.80	53.00 SW 52.65 NW	52.40 SE	4
DMH-307	61.05	52.65 NW 53.35 NE	52.05 SW	5
DMH-308	59.30	51.55 NW 51.25 NE	51.25 SW	6
DMH-309	59.25	50.10 NE	50.90 W	5
DMH-310	61.80	53.65 E 53.65 N	53.65 W	4
DMH-311	62.50	53.40 NW 56.60 SW	53.40 SE	5
DMH-401	61.70	52.10 NE 55.10 SE 52.00 N	52.00 SW	6
DMH-402	57.10	48.30 SE	48.30 SW	5
DMH-403	50.82	47.20 NE 47.15 SE	47.15 SW	5
DMH-404	58.10	52.30 NE 52.10 NW	52.50 S	6
DMH-405	53.50	48.15 SE 50.30 NE 48.05 E	48.05 W	5
DMH-406	62.25	58.30 NE	57.60 SE	4
DMH-407	51.10	47.20 E	47.20 NW	4
OCS-1	49.75	45.00 W	45.00 SE	4
OCS-2	61.00	55.60 E	54.35 SW	4
OCS-3	51.40	46.85 S	46.85 N	4
OCS-4	59.30	54.00 NW	51.75 SE	5
OCS-5	49.10	43.30 NW		8



DRAINAGE NOTES:

1. ALL CATCH BASINS AND DRAIN MANHOLES SHALL BE 4' DIA. PRECAST CONCRETE UNLESS NOTED OTHERWISE.
2. ALL DRAN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED HIGH DENSITY POLYETHYLENE UNLESS NOTED OTHERWISE.
3. REINFORCED CONCRETE PIPE (RCP) SHALL BE CLASS III UNLESS NOTED OTHERWISE.
4. ALL SLOPES PROVIDED ARE FT/FT.
5. ALL CATCH BASINS AND AREA DRAINS SHALL BE INSTALLED WITH A SUMP PER THE DETAIL.
6. CARE SHALL BE TAKEN TO AVOID DAMAGING AND DISPLACING OUTLET HOODS DURING CLEANING.
7. REFER TO AREA DRAIN DETAIL FOR SPECIFIC AREA DRAIN GRATE PRODUCTS TO BE USED.
8. REFER TO "NOTES" FOR ADDITIONAL NOTES.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

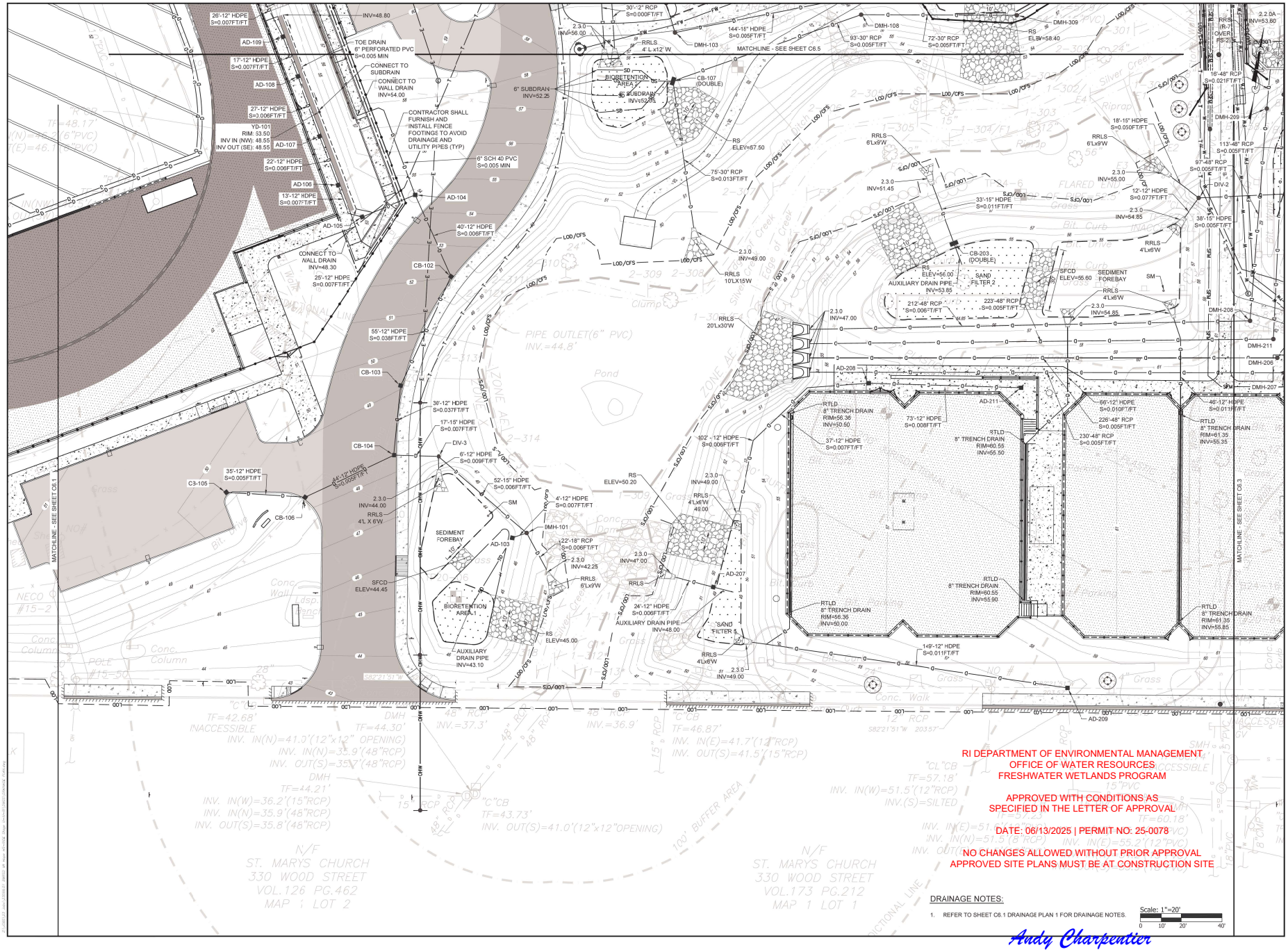
REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 1

DRAWING NO.:
C6.1

SHEET NO. 41 OF 93



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

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DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

Scale: 1"=20'
0 10' 20' 40'

Andy Charpentier

PARE

OWNER/APPLICANT:
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235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
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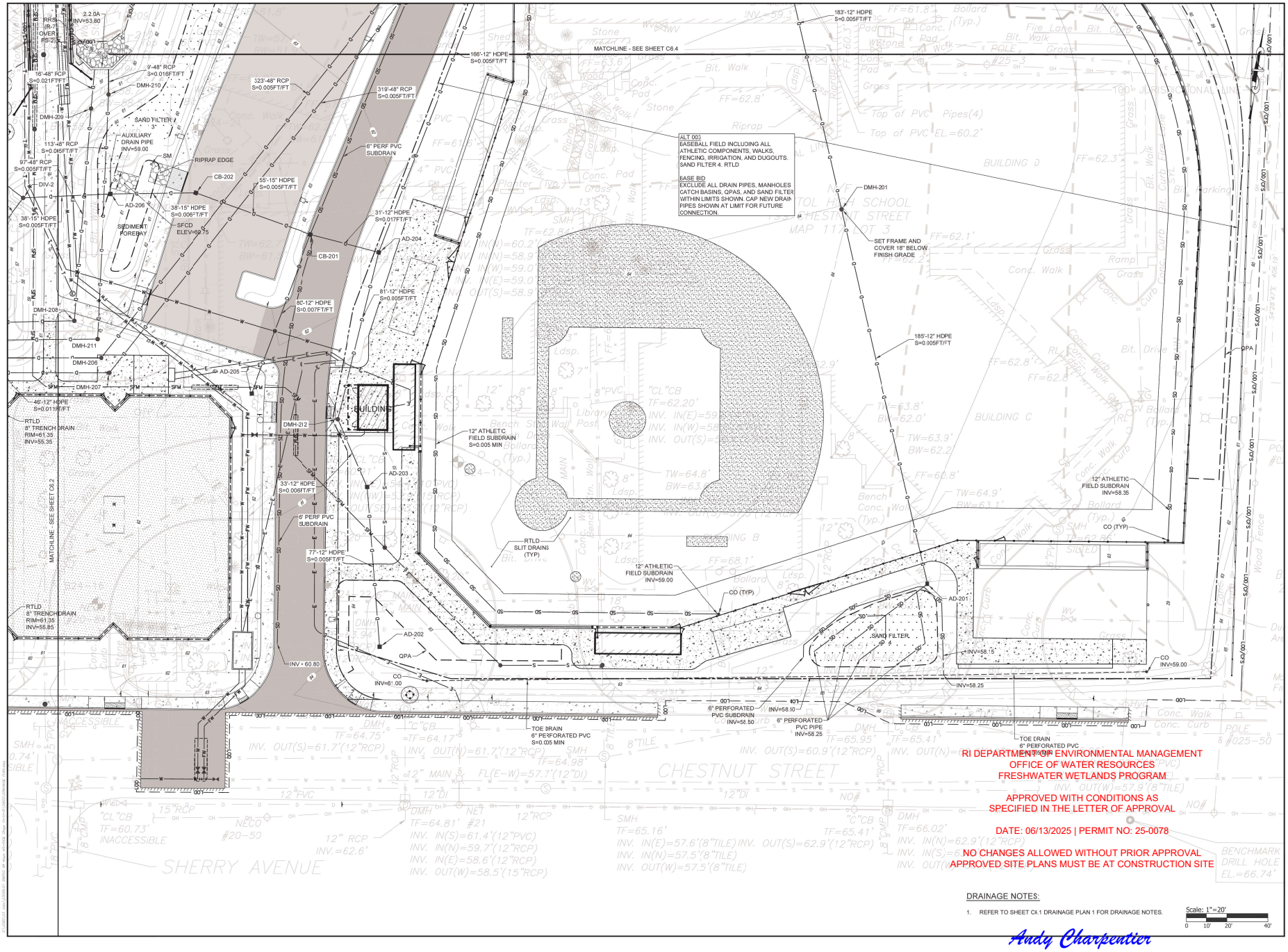
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 2

DRAWING NO.:
C6.2

SHEET NO. 42 OF 93



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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DATE: 06/13/2025 | PERMIT NO: 25-0078

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DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

Scale: 1"=20'
0 10' 20' 40'

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.01.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

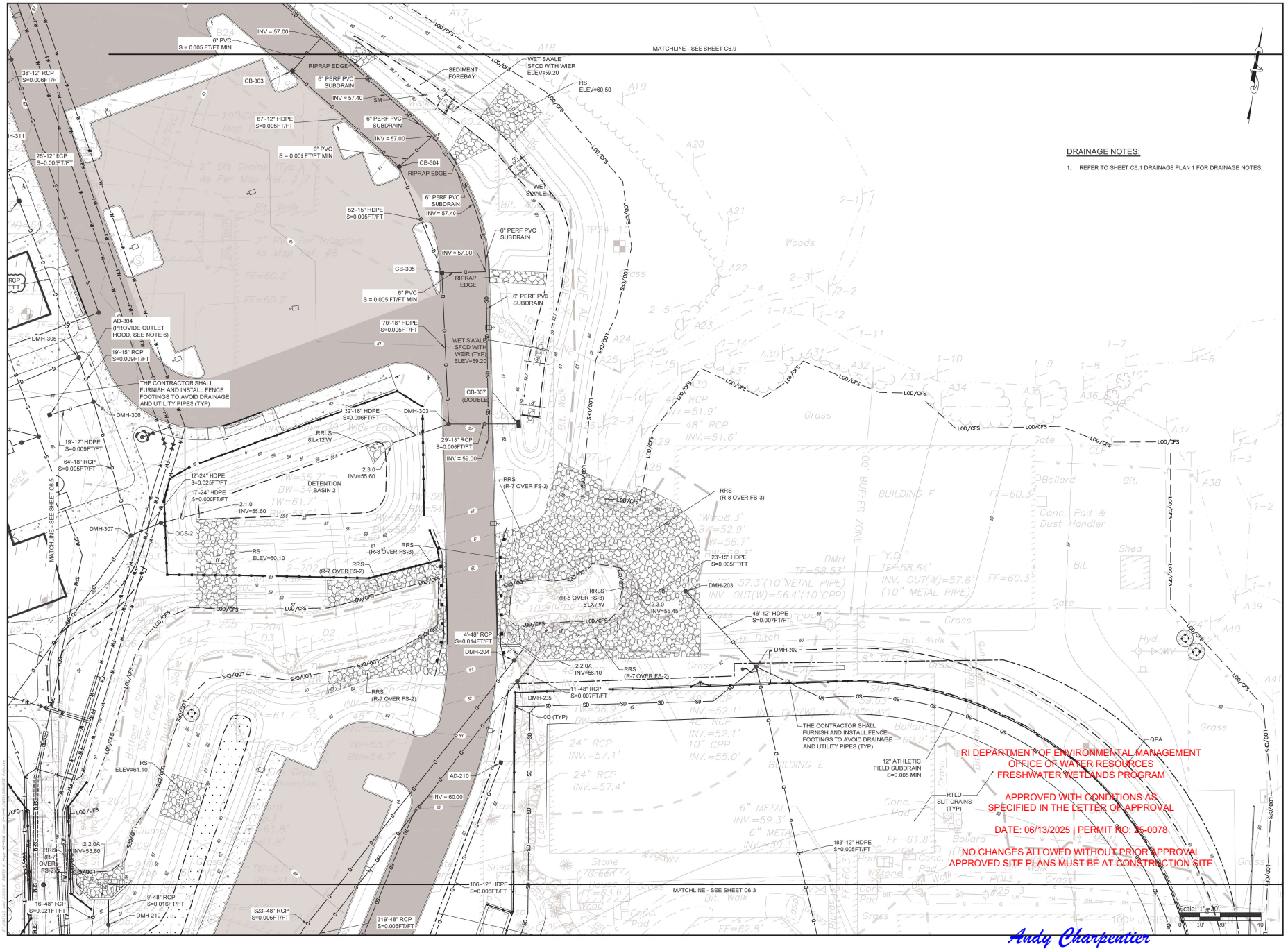
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 3

DRAWING NO.:
C6.3

SHEET NO. 43 OF 93



DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

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Andy Charpentier

PARE

OWNER/APPLICANT:
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.01.25
REGISTERED PROFESSIONAL ENGINEER
DIVISION OF CIVIL

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

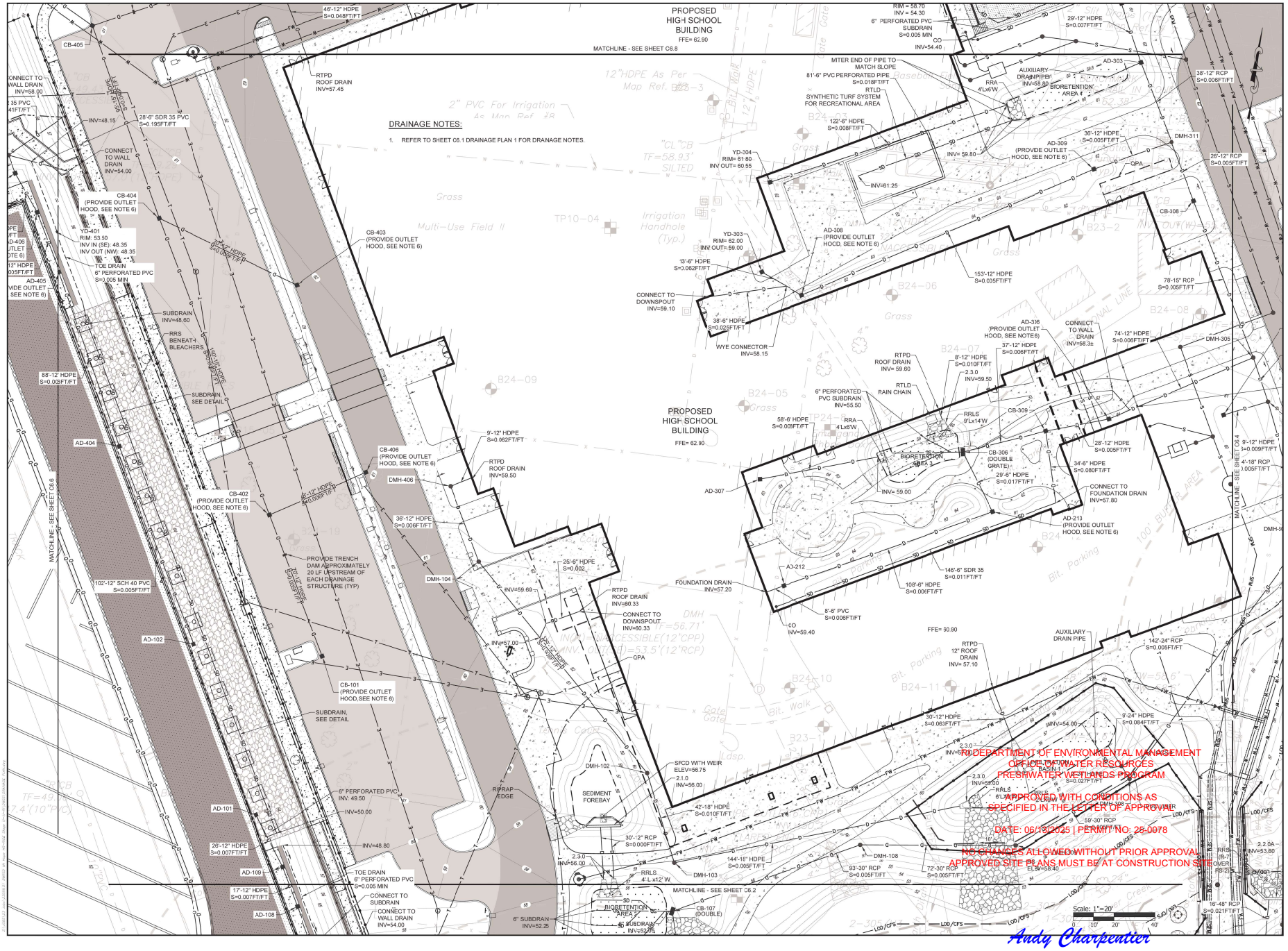
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DRAINAGE PLAN 4

DRAWING NO.:
C6.4

SHEET NO. 44 OF 93



PARE

OWNER/APPLICANT:
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235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

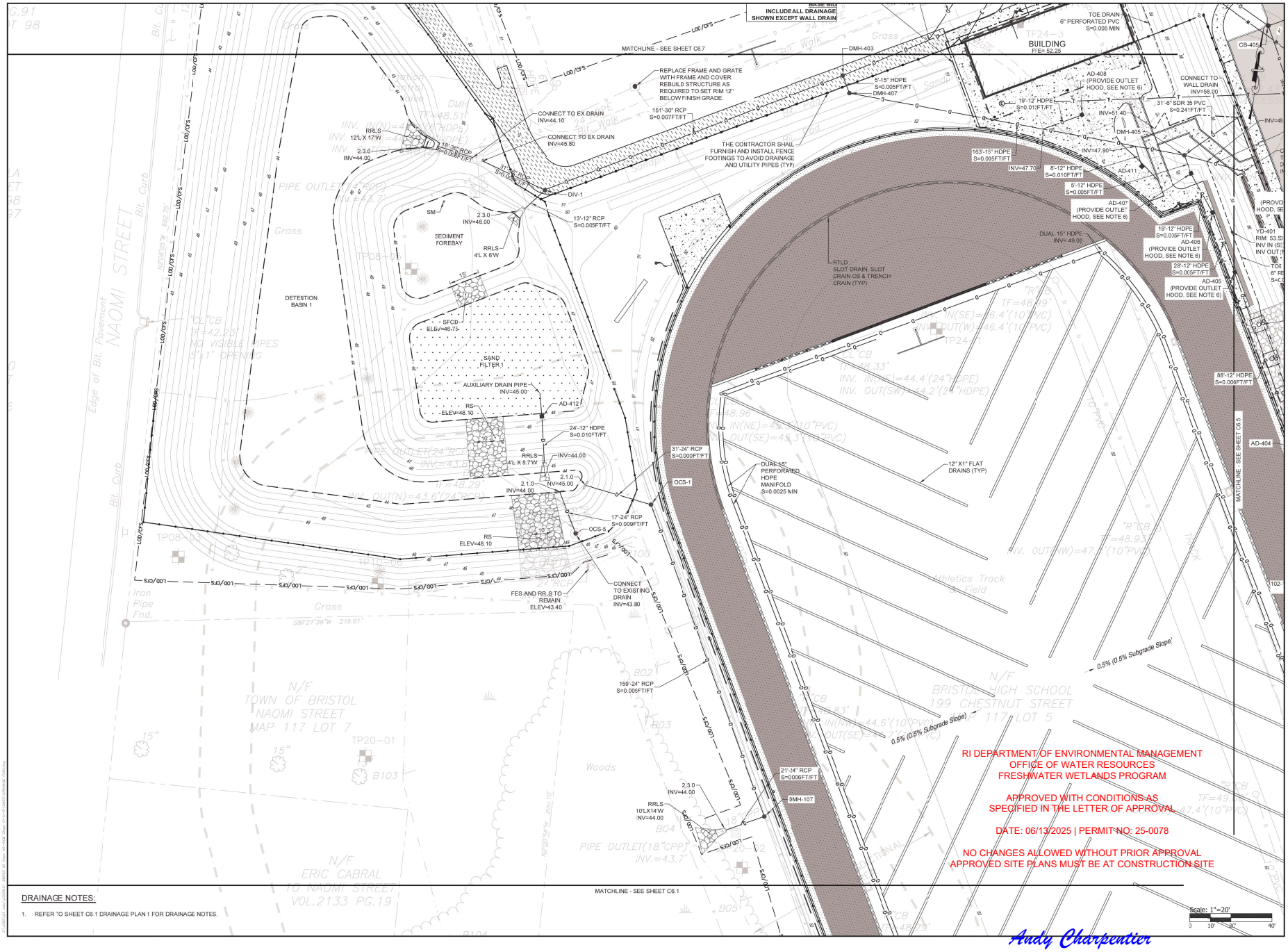
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DRAINAGE PLAN 5

DRAWING NO.:
C6.5

SHEET NO. 45 OF 93



DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
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401-253-4000

SCALE ADJUSTMENT GUIDE
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
04.01.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

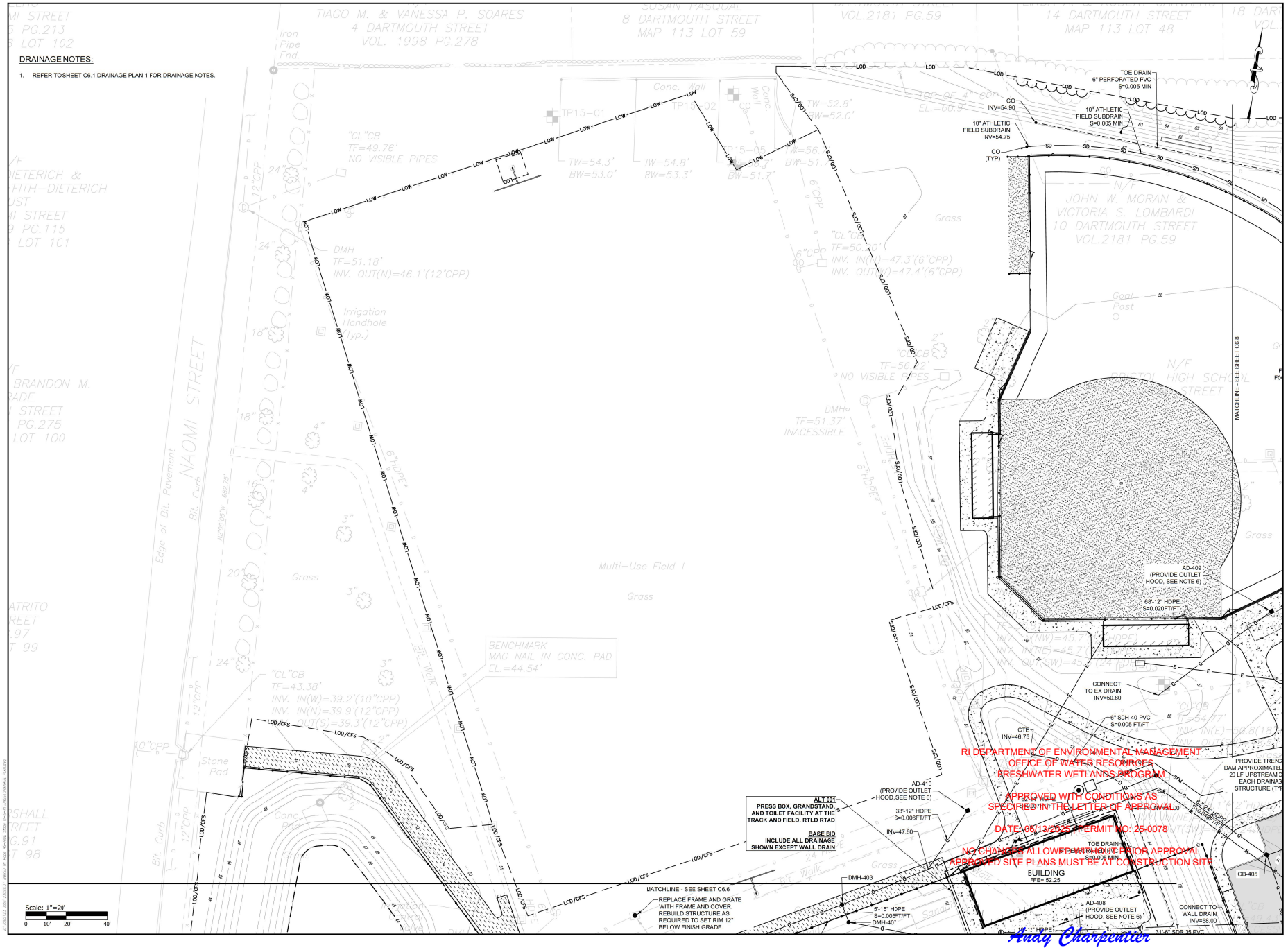
REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 6

DRAWING NO.:
C6.6

SHEET NO. 46 OF 93



PARE

OWNER/APPLICANT:
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SCHOOL DISTRICT
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BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED
PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

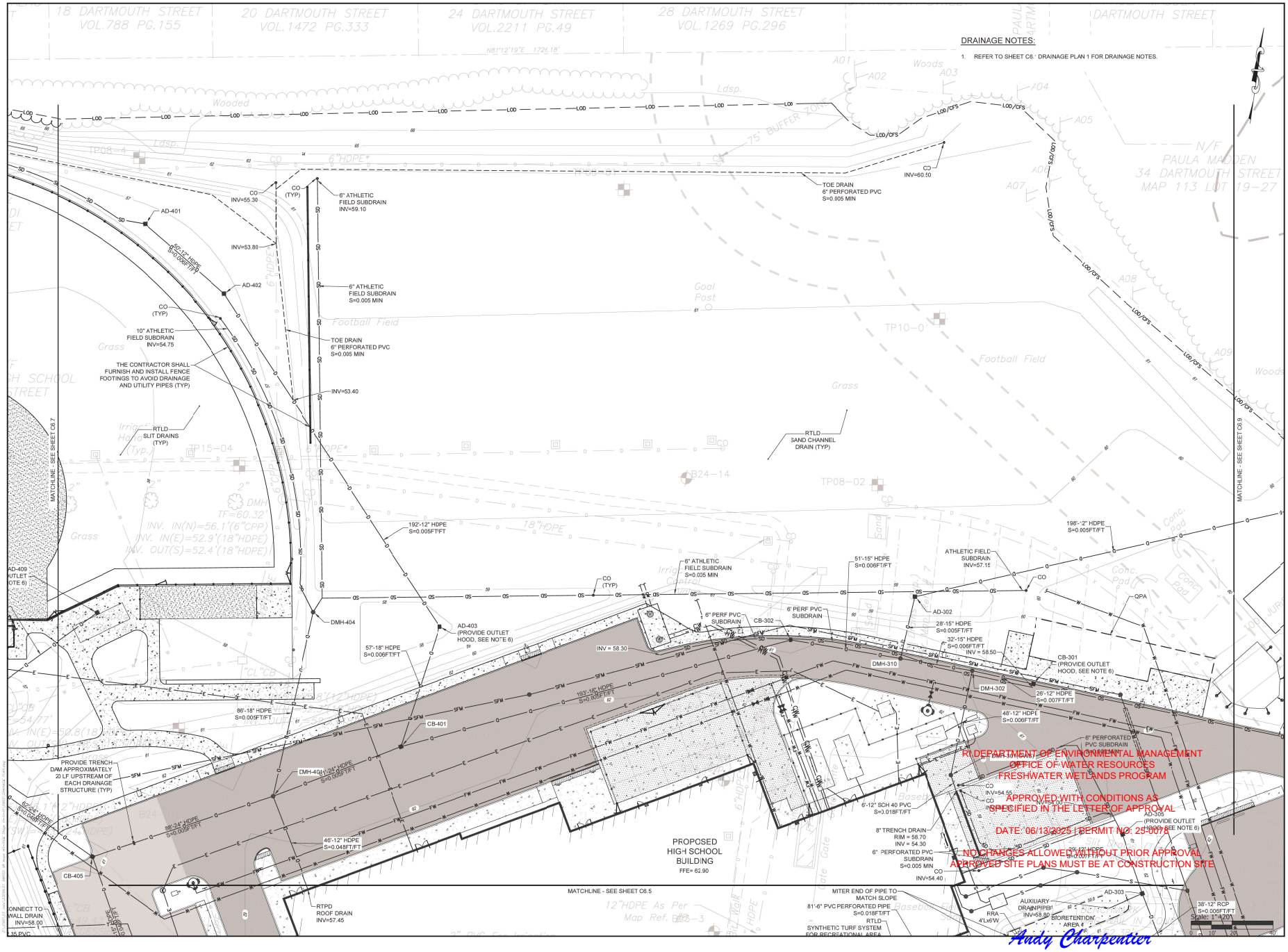
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DRAINAGE PLAN 7

DRAWING NO.:
C6.7

SHEET NO. 47 OF 93



PARE

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235 HIGH STREET
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SCALE ADJUSTMENT GUIDE
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
DAVID L. POTTER

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

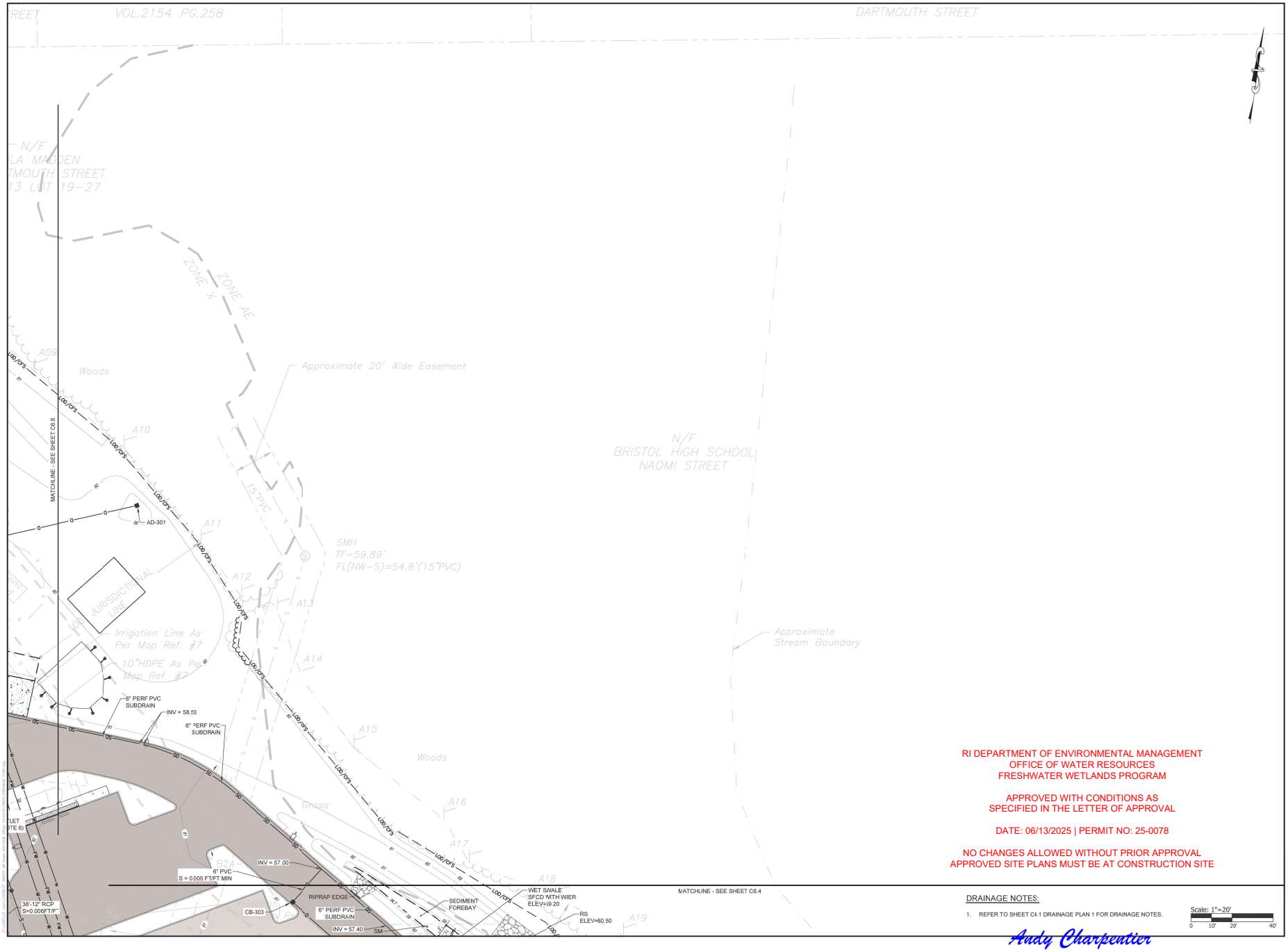
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DRAINAGE PLAN 8

DRAWING NO.:
C6.8

SHEET NO. 48 OF 93



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

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APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

DRAINAGE NOTES:

1. REFER TO SHEET C4.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

Scale: 1"=20'
0 10' 20' 40'

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
04.01.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

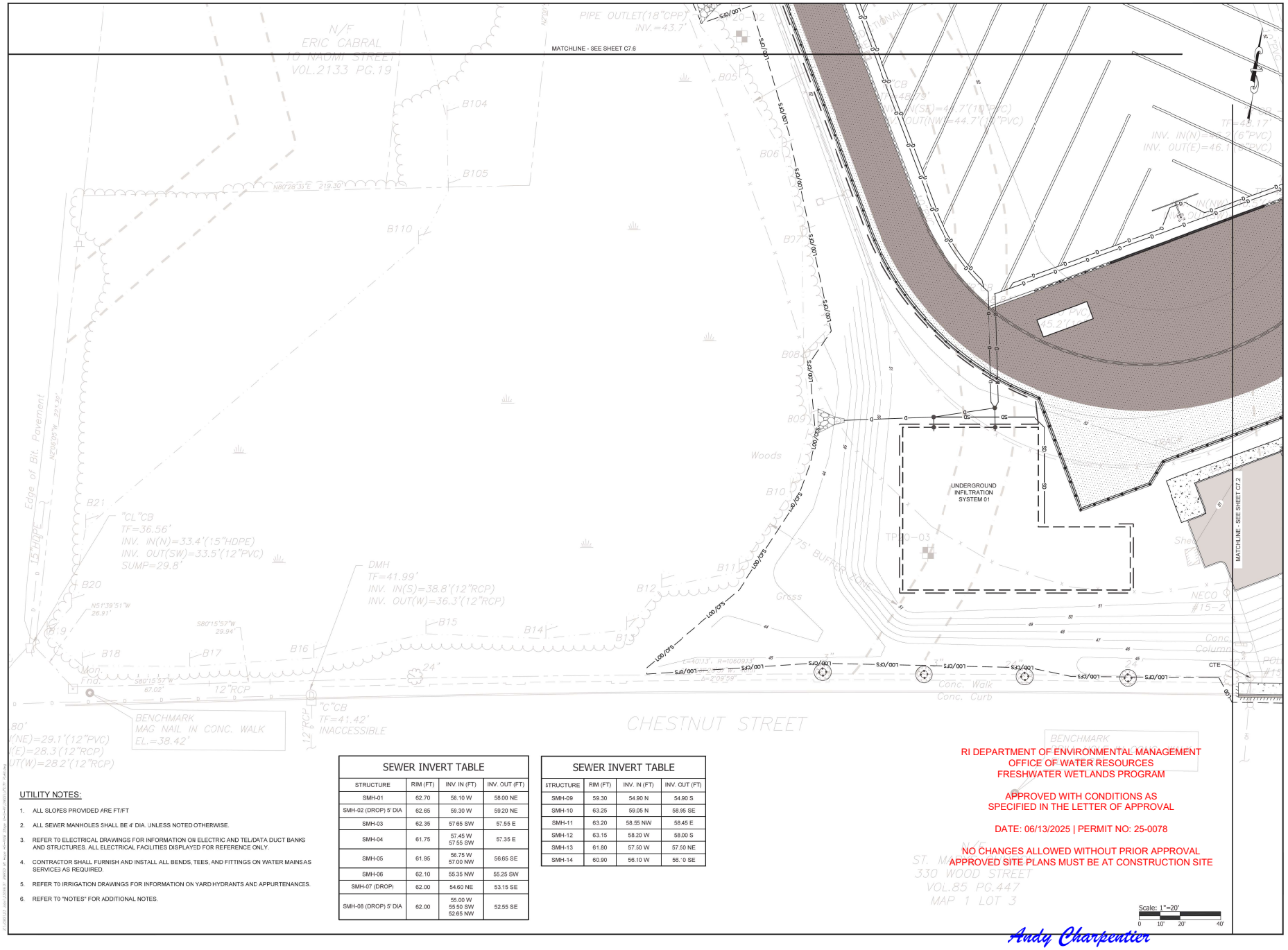
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 9

DRAWING NO.:
C6.9

SHEET NO. 49 OF 93



SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. ALL SLOPES PROVIDED ARE FT/FT
2. ALL SEWER MANHOLES SHALL BE 4' DIA. UNLESS NOTED OTHERWISE.
3. REFER TO ELECTRICAL DRAWINGS FOR INFORMATION ON ELECTRIC AND TEL/DATA DUCT BANKS AND STRUCTURES. ALL ELECTRICAL FACILITIES DISPLAYED FOR REFERENCE ONLY.
4. CONTRACTOR SHALL FURNISH AND INSTALL ALL BENDS, TEES, AND FITTINGS ON WATER MAINS AS SERVICES AS REQUIRED.
5. REFER TO IRRIGATION DRAWINGS FOR INFORMATION ON YARD HYDRANTS AND APPURTENANCES.
6. REFER TO "NOTES" FOR ADDITIONAL NOTES.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

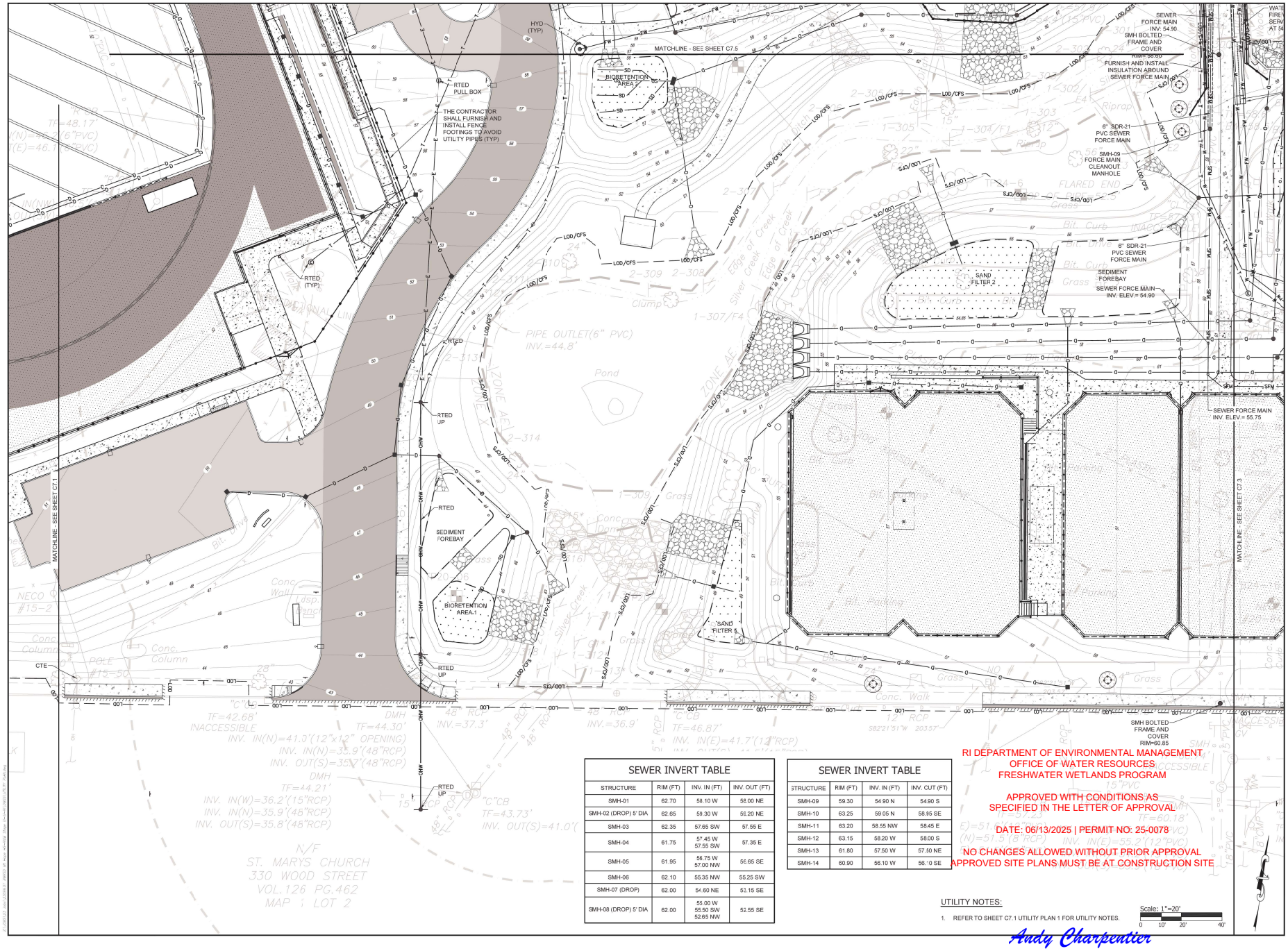
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 1

DRAWING NO.:
C7.1

SHEET NO. 50 OF 93



SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	55.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. CUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

Scale: 1"=20'
0 10' 20' 40'

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.01.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

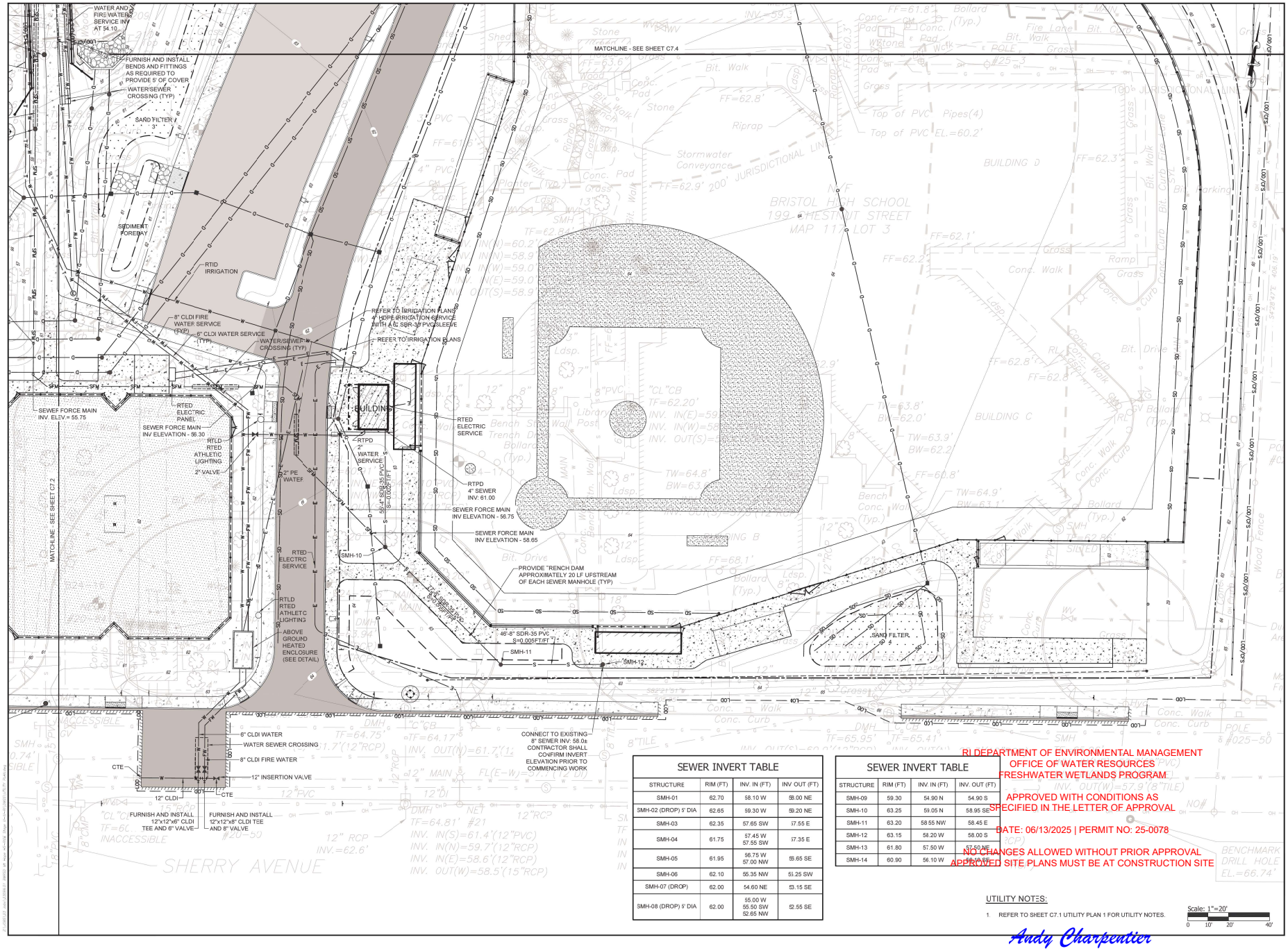
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 2

DRAWING NO.:
C7.2

SHEET NO. 51 OF 93



SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	55.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

Scale: 1"=20'
0 10' 20' 40'

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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MT. HOPE HIGH SCHOOL
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.01.25
REGISTERED PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:

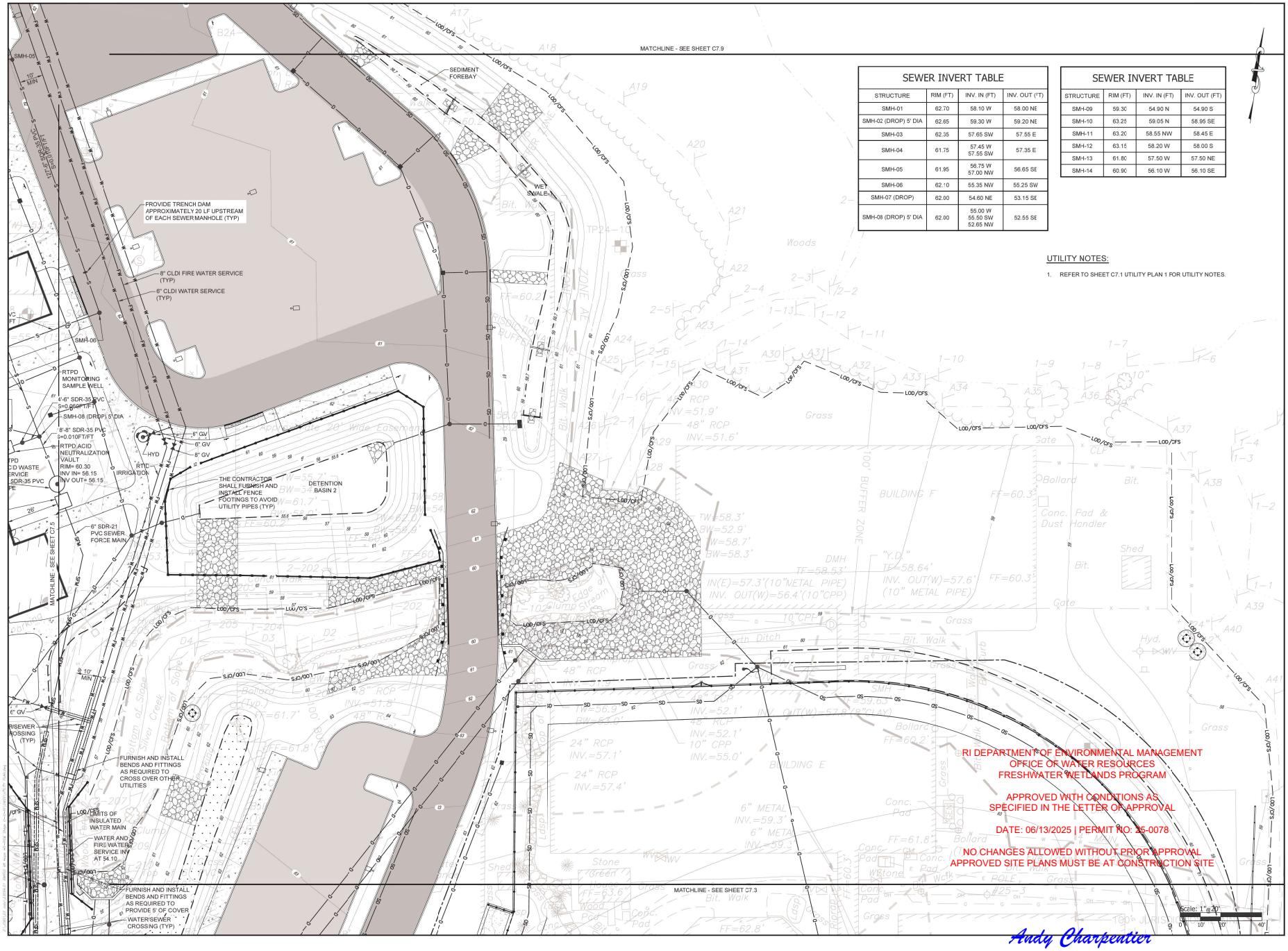
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 3

DRAWING NO.:
C7.3

SHEET NO. 52 OF 93



SEWER INVERT TABLE			
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE			
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

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Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.01.25
REGISTERED PROFESSIONAL ENGINEER
(DLP)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

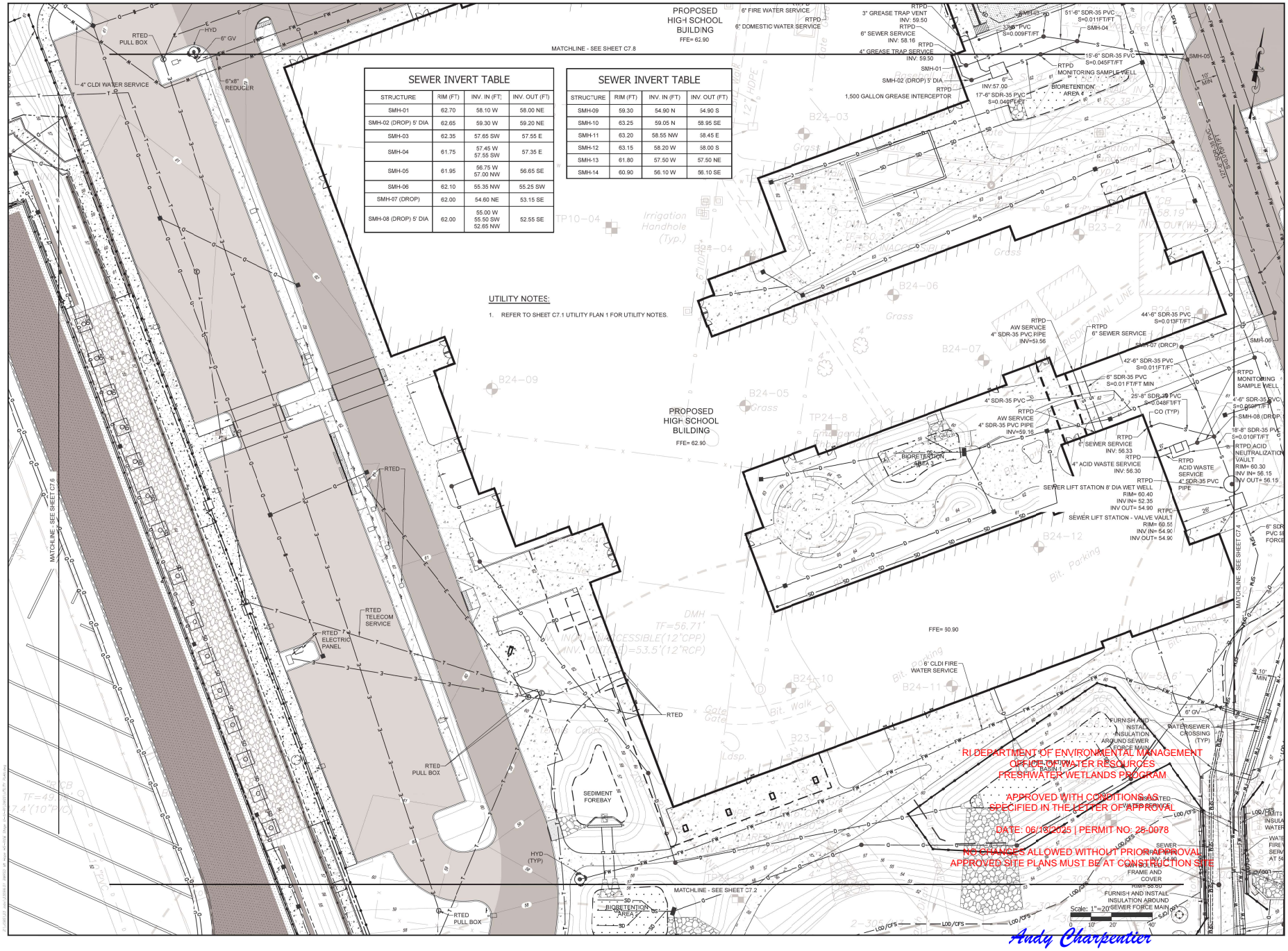
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

UTILITY PLAN 4

DRAWING NO.:
C7.4

SHEET NO. 53 OF 93



SEWER INVERT TABLE			
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE			
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/19/2025 | PERMIT NO: 25-0078

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
DAVID L. POTTER

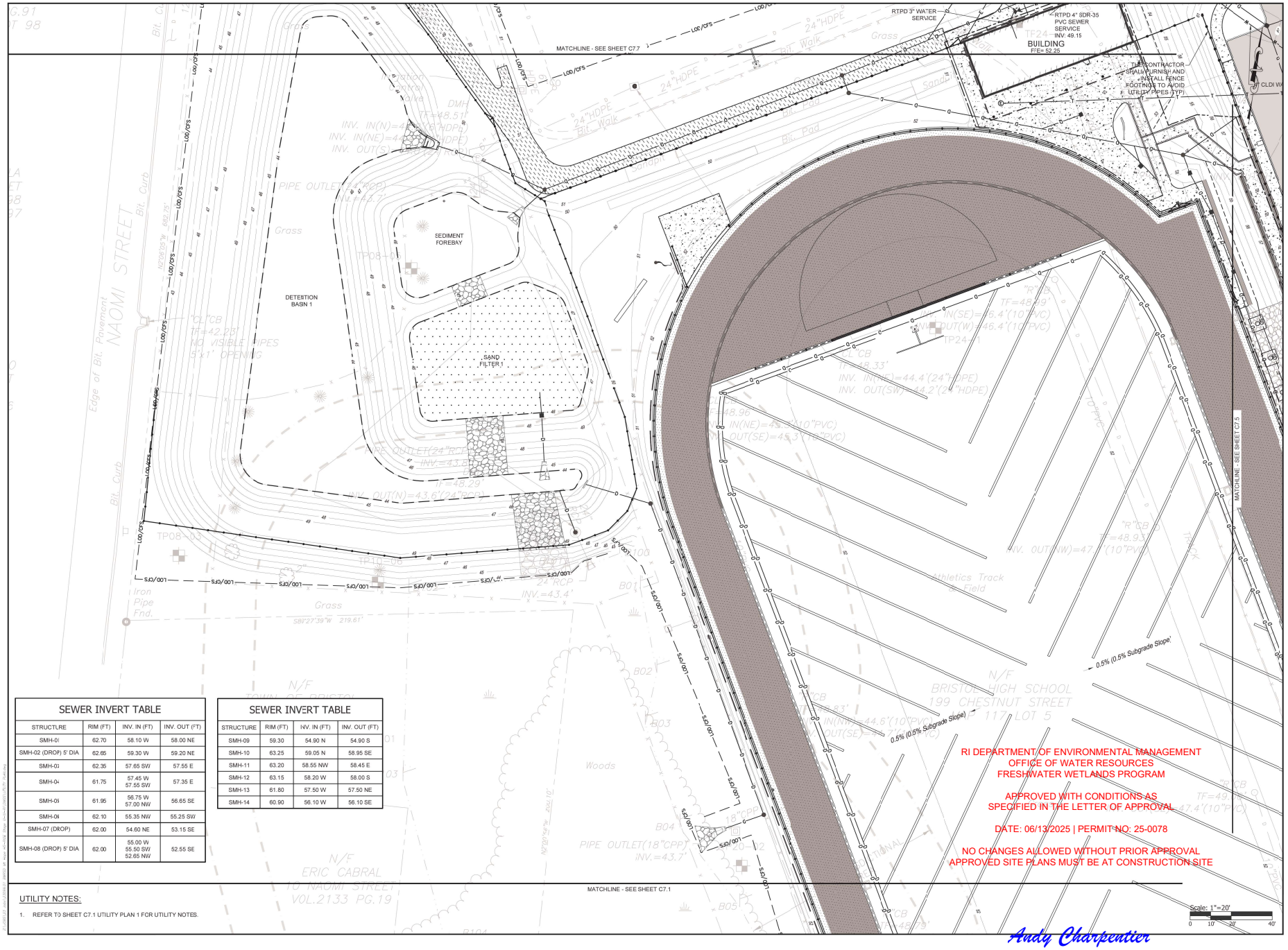
REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 5

DRAWING NO.:
C7.5

SHEET NO. 54 OF 93



SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
04.01.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 6

DRAWING NO.:
C7.6

SHEET NO. 55 OF 93

SEWER INVERT TABLE

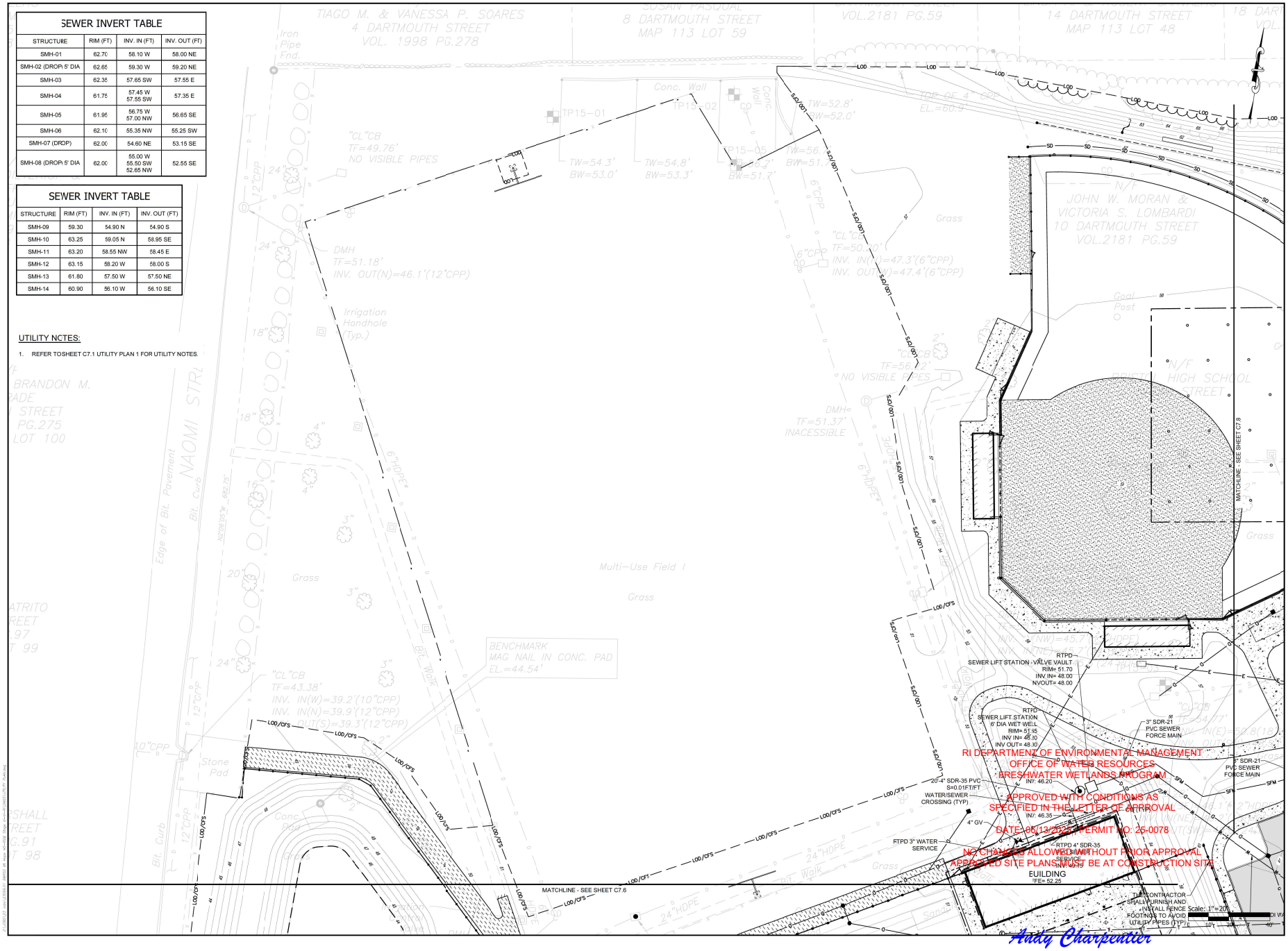
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NCTES:

1. REFER TOSHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATE: 05/13/2025 PERMIT NO: 25-0078
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED
PROFESSIONAL ENGINEER
(DLP)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

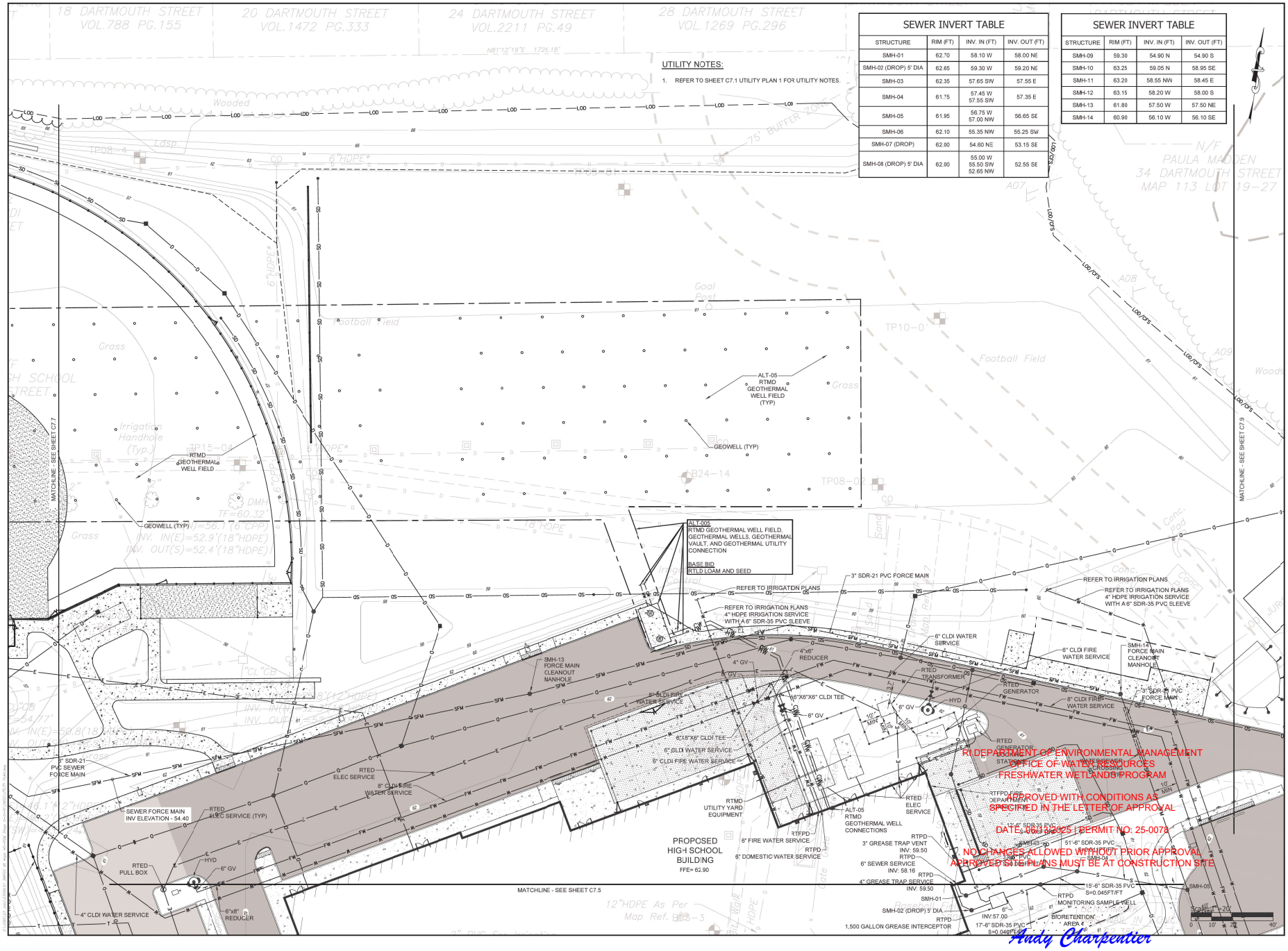
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

UTILITY PLAN 7

DRAWING NO.:
C7.7

SHEET NO. 56 OF 93



SEWER INVERT TABLE			
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE			
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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0" 1"
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
DIVISION OF CIVIL

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

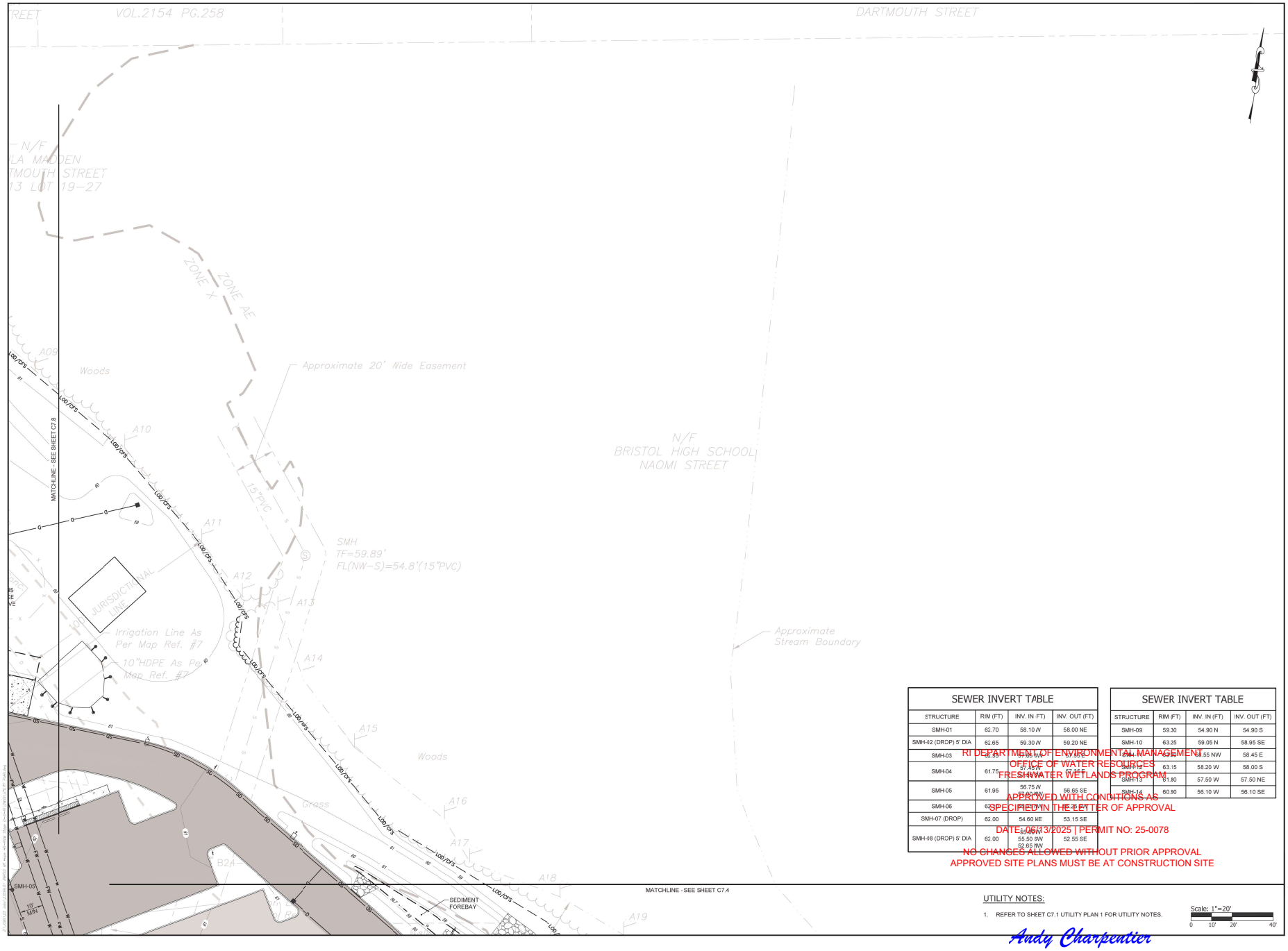
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 8

DRAWING NO.:
C7.8

SHEET NO. 57 OF 93

Item C1.



SEWER INVERT TABLE			
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.55	57.05 SW	57.55 E
SMH-04	61.75	57.45 W 57.45 W	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.[illegible]	55.00 NW	55.[illegible] SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE			
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
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SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
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DATE: 06/13/2025 | PERMIT NO: 25-0078
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APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

Scale: 1"=20'
0 10' 20' 40'

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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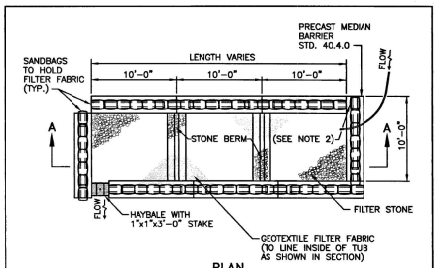
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP
DRAWING TITLE:	UTILITY PLAN 9
DRAWING NO.:	C7.9
SHEET NO.	58 OF 93



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 208 OF THE R.I. STANDARD SPECIFICATIONS.
2. PROVIDE ADDITIONAL SAND BAGS AS REQUIRED TO FILL SPACE BETWEEN ADJACENT BARRIERS.

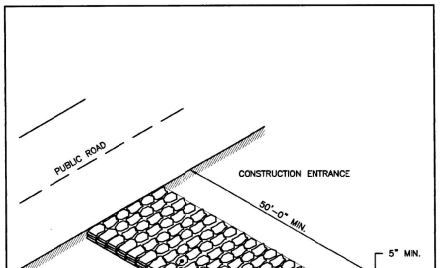
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

DEWATERING BASIN

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 9.7.0



NOTE:
SHALL BE IN ACCORDANCE WITH SECTION 211 OF THE R.I. STANDARD SPECIFICATIONS.

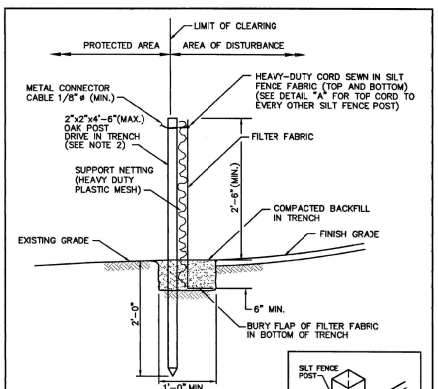
RHODE ISLAND DEFARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

CONSTRUCTION ACCESS

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 9.9.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
2. 2"x2"x4'-6"(MAX.) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAX.) O.C. IN WETLAND AREAS AND 4'-0" (MAX.) O.C. IN WETLAND RAVINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
3. 1"x1"x4'-6"(MIN.) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
4. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

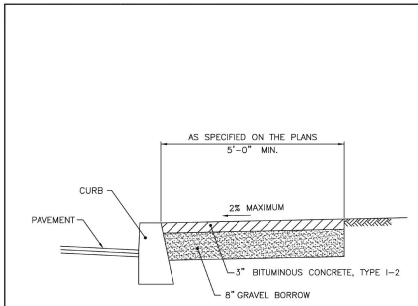
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

SILT FENCE DETAIL

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 9.2.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. FOR CURB SETTING DETAIL REFERENCE STD. 7.6.0.

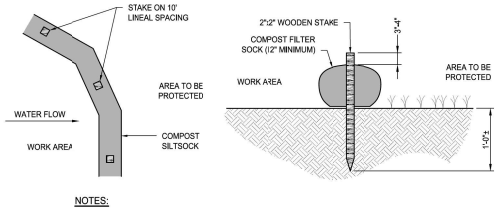
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE
1	MLF	3/1/05
2	MLF	06/01/10

BITUMINOUS CONCRETE SIDEWALK

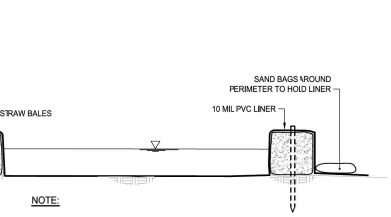
JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 43.2.0



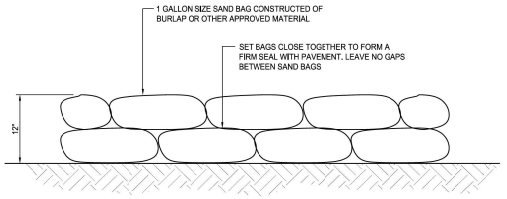
NOTES:
1. COMPOST/ SOIL/ ROCK/ SEED FILL TO MEET APPLICATION REQUIREMENTS
2. COMPOST MATERIAL TO BE REMOVED OR DISPERSED ON SITE AS DETERMINED BY ENGINEER.
3. IF SOCK NETTING MUST BE JOINED, FIT BEGINNING OF NEW SOCK OVER END OF OLD SOCK, OVERLAPPING BY 2 FEET AND STACK OVERLAP. IF SOCK NETTING IS NOT JOINED, OVERLAP OLD SOCK WITH NEW ONE BY MINIMUM OF 2 FEET.

COMPOST FILTER SOCK DETAIL
NOT TO SCALE

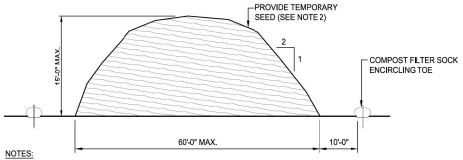


NOTE:
1. MINIMUM PLAN DIMENSIONS SHALL BE 10' X 10'.

CONCRETE WASHOUT FACILITY
NOT TO SCALE

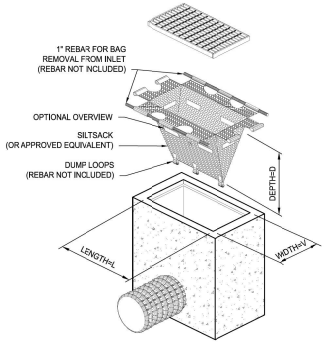


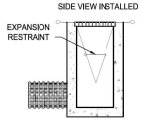
SAND BAG EROSION CONTROL BARRIER
NOT TO SCALE



NOTES:
1. STOCKPILE AREA SHALL NOT EXCEED SPECIFIED DIMENSIONS WITHOUT APPROVAL FROM ENGINEER.
2. STOCKPILED ERODIBLE MATERIAL THAT WILL NOT BE USED FOR GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEED IMMEDIATELY FOLLOWING PLACEMENT. USERIDOT STD. M.18.10.S SEED MIX.

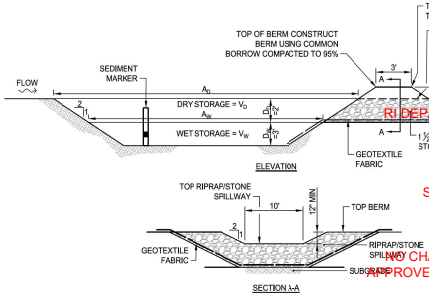
ERODIBLE MATERIAL STOCKPILE
NOT TO SCALE





INSTALLATION DETAIL

TEMPORARY INLET PROTECTION
NOT TO SCALE



TST #	L_W (FT)	W_W (FT)	A_W (SF)	V_W (CF)	V_D (CF)	TOTAL STORAGE $V_W + V_D$ (CF)
TST-1	85	45	3825	9754	8754	18,260
TST-2	61	30	1830	4667	4452	9119
TST-3	70	35	2450	6247	5804	12,052
TST-4	85	45	3825	9754	5064	10,419
TST-5	85	45	3825	5355	5064	10,419
TST-6	90	45	4050	10,327	9244	19,572
TST-7	90	45	4050	10,327	9244	19,572
TST-8	45	20	900	8670	7864	16,534
TST-9	30	20	780	1913	2004	3,917

NOTES:
1. TEMPORARY SEDIMENT TRAPS SHALL BE CLEANED OR REMOVED EVERY 6 MONTHS.
2. SURFACE RUNOFF MUST FLOW THROUGH THE OUTLET OVER THE CENTER COLUMN V (FILTER STONE).
3. SEDIMENT MARKER SHALL BE INSTALLED SUCH THAT TOP OF BLACK ENAMEL BAND IS 15' FROM THE BOTTOM OF THE SEDIMENT TRAP.

TEMPORARY SEDIMENT TRAP DETAIL
NOT TO SCALE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
WATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATE: 06/13/2025 | PERMIT NO. 25-0078
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AVAILABLE ON SITE

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

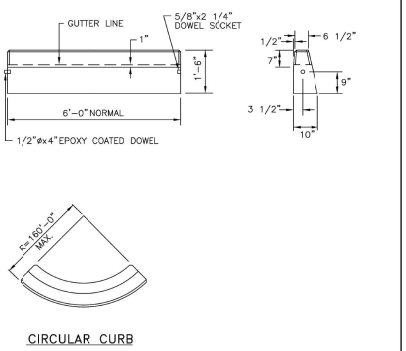
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 1

DRAWING NO.:
C8.1

SHEET NO. 59 OF 93

Item C1.



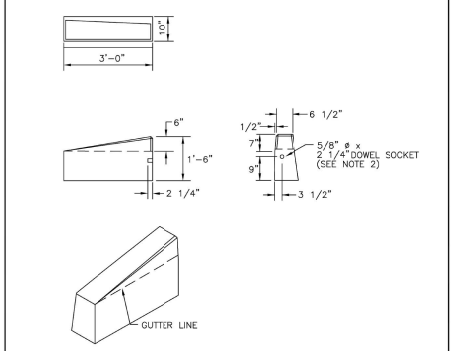
CIRCULAR CURB

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0".
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 150'-0" RADIUS.
5. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS			PRECAST CONCRETE CURB	R.I. STANDARD 7.1.0
NO.	BY	DATE		
1	MLP	Mar 05		

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

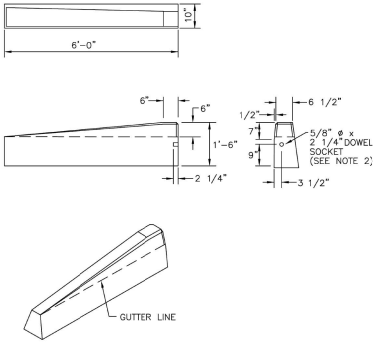


NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION, FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ø x 4" EPOXY COATED DOWEL.
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
5. LEFT AND RIGHT SECTIONS SHALL BE INSTALLED AS REQUIRED.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS			3'-0" PRECAST CONCRETE TRANSITION CURB	R.I. STANDARD 7.1.1
NO.	BY	DATE		
1	MLP	Mar 05		
2	MLP	06/01/10		

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

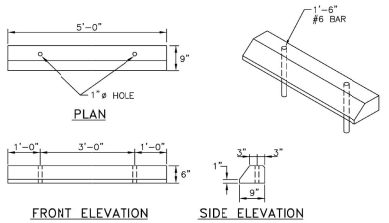


NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION, FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ø x 4" EPOXY COATED DOWEL.
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS			6'-0" PRECAST CONCRETE TRANSITION CURB	R.I. STANDARD 7.1.2
NO.	BY	DATE		
1	MLP	Mar 05		

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

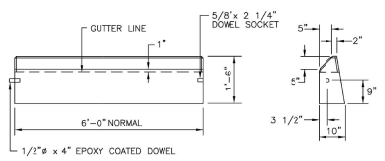


NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. ALL EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
3. ALL SURFACES TO HAVE A SPONGE FLOAT FINISH.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS			PRECAST CONCRETE CAR STOPS	R.I. STANDARD 7.2.4
NO.	BY	DATE		
1	MLP	Mar 05		

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE



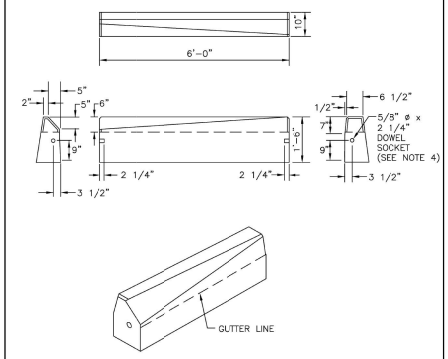
CIRCULAR CURB

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR PIECES TO BE 3'-0".
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
5. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS			PRECAST CONCRETE SLOPED FACE CURB	R.I. STANDARD 7.2.0
NO.	BY	DATE		
1	MLP	Mar 05		

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

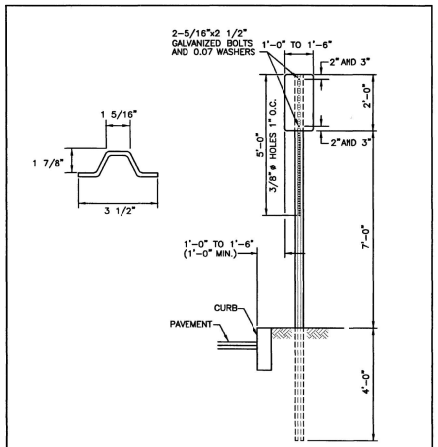


NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE RI. STANDARD SPECIFICATIONS.
2. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
3. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
4. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION. FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ø x 4" EPOXY COATED DOWEL.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS			PRECAST CONCRETE TRANSITION CURB (VERTICAL FACE TO SLOPED FACE)	R.I. STANDARD 7.2.2
NO.	BY	DATE		
1	MLP	Mar 05		

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

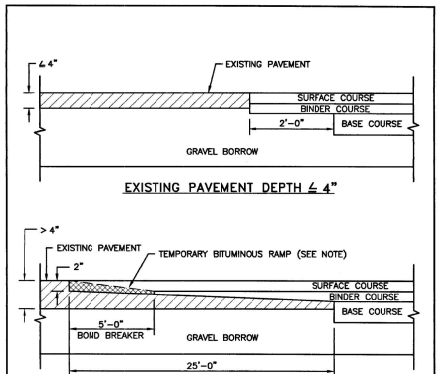


NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE STANDARD SPECIFICATIONS.
2. PARKING SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOR MORE THAN 45° WITH A LINE PARALLEL TO FLOW OF TRAFFIC, 1'-6" (1'-0" MIN.) FROM EDGE OF CURB FACE.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS			PARKING SIGN MOUNTING DETAIL	R.I. STANDARD 24.6.0
NO.	BY	DATE		

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE



NOTE:
A BOND BREAKER (TAPERED OR EQUIVALENT) WILL BE PLACED 5'-0" FROM THE JOINT AND COVERED WITH THE BINDER COURSE IS THE TEMPORARY RAMP. PRIOR TO PLACING SURFACE COURSE, THE BOND BREAKER WILL BE REMOVED.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS			TRANSVERSE PAVEMENT CUT AND MATCH	R.I. STANDARD 47.1.1
NO.	BY	DATE		

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
SPECIFIED IN THE LETTER OF APPROVAL
DATE: 06/13/2025 | PERMIT NO: 25-0078
NO CHANGES ALLOWED WITHOUT WRITTEN APPROVAL
APPROVED SITE PLANS MUST BE ON SITE DURING CONSTRUCTION

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER — No. 8665 — 06.02.25 — REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

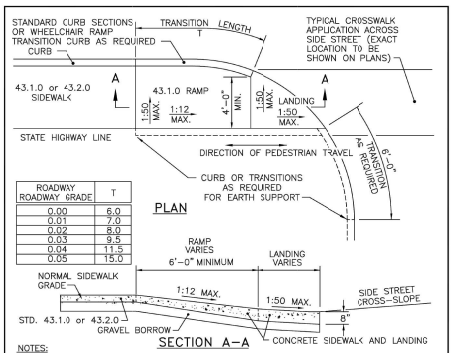
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 2

DRAWING NO.:
C8.2

SHEET NO. 60 OF 93



ROADWAY ROADWAY GRADE	T
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. THIS DETAIL IS TO BE USED ONLY WHEN STATE RIGHT-OF-WAY IS LIMITED TO BACK OF SIDEWALK, AND SIDEWALK IS NARROW WITH NO PEDESTRIAN TRAFFIC FROM SIDE STREET.
3. WHEN ANY OBSTRUCTION LOCATED IN THE SIDEWALK FALLS WITHIN A CROSSWALK AREA, IF POSSIBLE, THE OBSTRUCTION SHALL BE PLACED SUCH THAT IT FALLS OUTSIDE OF THE RAMP.
4. AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK, AND IT IS TO BE CENTERED WHENEVER POSSIBLE.
5. DRAINAGE FACILITIES ARE TO BE LOCATED UP-GRADE OF ALL WHEELCHAIR RAMPS.
6. LOCATION OF WHEELCHAIR RAMPS IS AS SHOWN ON CONTRACT DRAWINGS.
7. ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
8. WHERE THE ROAD PROFILE EXCEEDS 5% THE TRANSITION LENGTH (T) SHALL BE EIGHTEEN FEET (18'-0").
9. THE ENTRANCE OF THE WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
10. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0"(GREATER LENGTHS PREFERRED).
11. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.

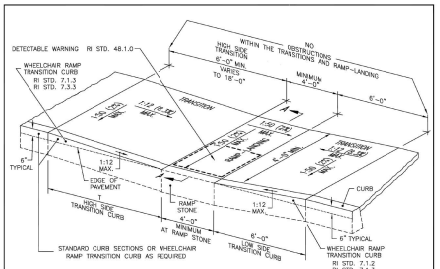
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

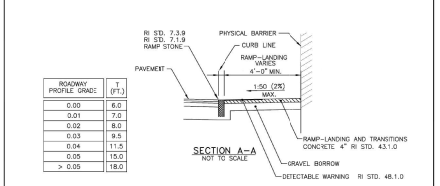
REVISIONS NO.	BY	DATE
1	MLP	Dec 2005
2	MLP	Sep 2012

WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 43.3.1





ROADWAY PROFILE GRADE	T (FT.)
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0
> 0.05	18.0

NOTES:
1. THIS DETAIL MAY BE USED WHEN A PHYSICAL BARRIER IS PRESENT AND THERE IS INSUFFICIENT ROOM TO PROPERLY CONSTRUCT AN ADA ACCESSIBLE RAMP AND LANDING; A TECHNICAL INFEASIBILITY FINDING IS REQUIRED.
2. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE RI STANDARD SPECIFICATIONS.
3. THE RAMP-LANDING AND TRANSITIONS SHALL BE FREE OF OBSTRUCTIONS.
4. LOCATION OF THE RAMP-LANDING IS AS SHOWN ON CONTRACT DRAWINGS.
5. AN UNOBSTRUCTED PEDESTRIAN ACCESS ROUTE (PATH OF TRAVEL) WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.
6. THE ENTRANCE OF THE RAMP-LANDING SHALL BE FLUSH WITH THE PAVEMENT.
7. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).
8. ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
9. DETECTABLE WARNINGS TO BE PAID FOR UNDER SECTION 942 OF THE RI STANDARD SPECIFICATIONS

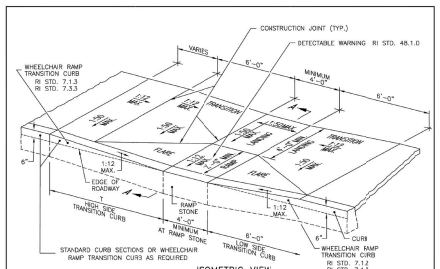
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

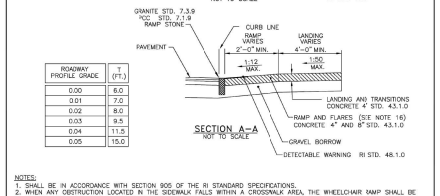
RAMP-LANDING FOR NARROW SIDEWALK

MARCH 31, 2015 ISSUE DATE

R.I. STANDARD 43.3.2

NOTES:
1. FOR ALL LOCATIONS, DETECTABLE WARNING PANELS SHALL BE INSTALLED IN ACCORDANCE WITH LANDSCAPE DRAWINGS AND SPECIFICATION 321212 CONCRETE PAVING.





ROADWAY PROFILE GRADE	T (FT.)
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0

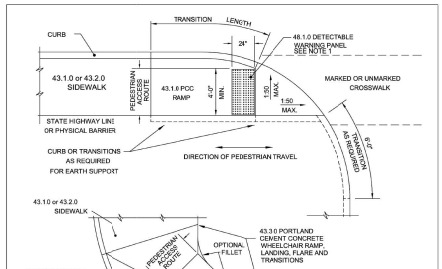
NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE RI STANDARD SPECIFICATIONS.
2. WHEN ANY OBSTRUCTION LOCATED IN THE SIDEWALK FALLS WITHIN A CROSSWALK AREA, THE WHEELCHAIR RAMP SHALL BE PLACED SUCH THAT THE OBSTRUCTION FALLS OUTSIDE OF THE RAMP.
3. AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK, AND T IS TO BE CENTERED WHENEVER POSSIBLE.
4. DRAINAGE FACILITIES ARE TO BE LOCATED UP-GRADE OF ALL WHEELCHAIR RAMPS.
5. LOCATION OF WHEELCHAIR RAMPS IS AS SHOWN ON CONTRACT DRAWINGS.
6. IN NO INSTANCE SHALL THE SIDEWALK CROSS SLOPE EXCEED 1:50 EXCEPT WITHIN THE RAMP AREA.
7. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.
8. THE RAMP SLOPE (RUNNING SLOPE AND CROSS SLOPE COMBINED), MUST NOT BE STEEPER THAN 1:12. HOWEVER, THESE SLOPES MAY BE FLATTER THAN 1:12 WHEN WARRANTED BY SURROUNDING CONDITIONS.
9. WHERE THE ROAD PROFILE EXCEEDS 5% THE HIGH SIDE TRANSITION LENGTH (T) SHALL BE EIGHTEEN FEET (18'-0").
10. IN NO CASE, WHERE A STOP LINE IS WARRANTED, SHALL A RAMP BE PLACED BEHIND THE STOP LINE.
11. THE ENTRANCE OF THE WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
12. THE WHEELCHAIR RAMP SHALL BE CENTERED RADIALLY OPPOSITE THE RADIUS POINT WHEN POSSIBLE.
13. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).
14. ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
15. DETECTABLE WARNINGS TO BE PAID FOR UNDER SECTION 942 OF THE RI STANDARD SPECIFICATIONS.
16. 8" CONCRETE DEPTH FOR RADIUS WHEELCHAIR RAMPS ONLY. USE 4" DEPTH FOR TANGENT (MID-BLOCK) LOCATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

WHEELCHAIR RAMP

JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 43.3.0



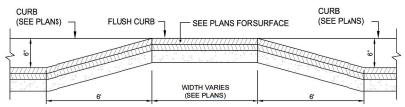
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

DETECTABLE WARNING PANEL PLACEMENT

JUNE 15, 1998 ISSUE DATE

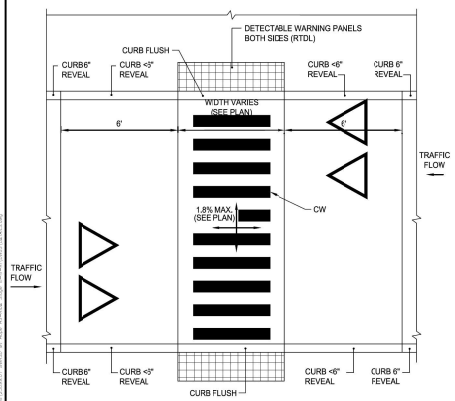
R.I. STANDARD 48.1.0M

NOTES:
1. FOR ALL LOCATIONS, DETECTABLE WARNING PANELS SHALL BE INSTALLED IN ACCORDANCE WITH LANDSCAPE DRAWINGS AND SPECIFICATION 321212 CONCRETE PAVING.

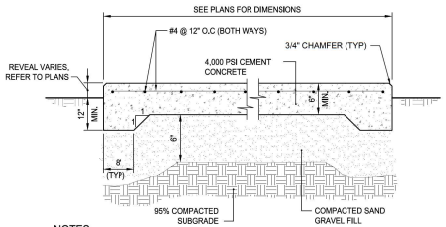


NOTE:
SPEED TABLE TO BE PAINTED WITH WHITE EPOXY RESIN PAVEMENT MARKING

SPEED TABLE SECTION DETAIL
NOT TO SCALE

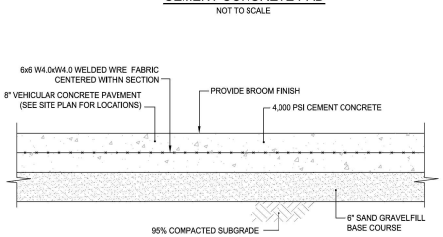


SPEED TABLE PLAN DETAIL
NOT TO SCALE

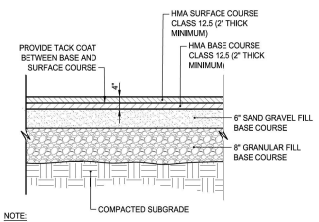


NOTES:
1. REINFORCING TO BE #4 GRADE 60 BARS AND SHALL CONFORM TO ASTM STANDARD A-615 OF THE LATEST DATA, REINFORCING RODS TO BE LOCATED IN THE CENTER OF THE SLAB, WITH A MINIMUM OF 2" CLEARANCE FROM FACE OF CONCRETE.
2. CONTRACTOR SHALL COORDINATE LOCATIONS OF OPENINGS, FENCE POSTS, OR OTHER FEATURES IN SLAB.

CEMENT CONCRETE PAD
NOT TO SCALE

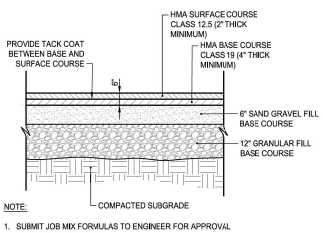


VEHICULAR CONCRETE PAVEMENT DETAIL
NOT TO SCALE



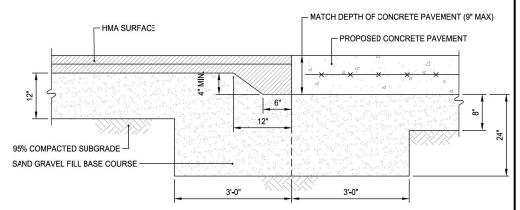
NOTE:
1. SUBMIT JOB MIX FORMULAS TO ENGINEER FOR APPROVAL PRIOR TO PLACEMENT.

HOT MIX ASPHALT PAVEMENT
NOT TO SCALE

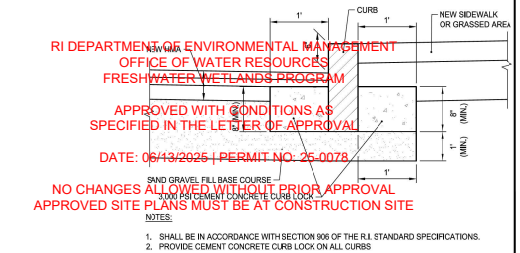


NOTE:
1. SUBMIT JOB MIX FORMULAS TO ENGINEER FOR APPROVAL PRIOR TO PLACEMENT.

HEAVY DUTY HOT MIX ASPHALT PAVEMENT
NOT TO SCALE



ASPHALT TURNDOWN DETAIL
NOT TO SCALE



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. PROVIDE CEMENT CONCRETE CURB LOCK ON ALL CURBS

CURB SETTING DETAIL
NOT TO SCALE

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.01.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

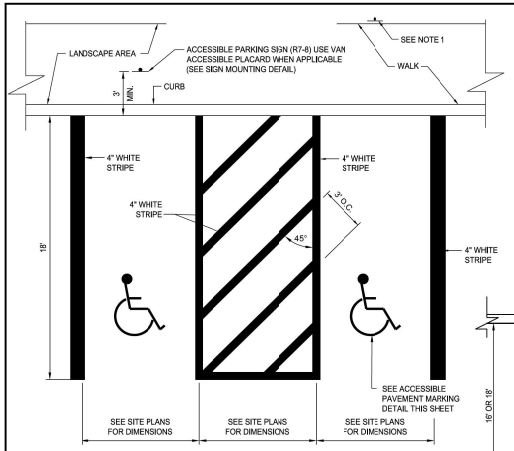
REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 3

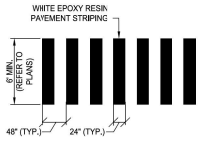
DRAWING NO.:
C8.3

SHEET NO. 61 OF 93

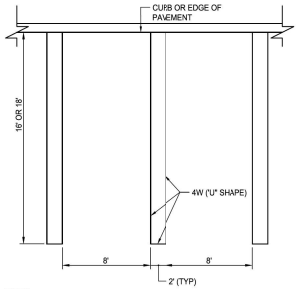


NOTES:
1. WHERE STALLS ABUT SIDEWALK, PARKING SIGNS SHOULD BE PLACED AT BACK EDGE OF SIDEWALK.
2. ALL PAVEMENT MARKINGS TO BE EPOXY RESIN.

ACCESSIBLE PARKING STALLS @ 90°
NOT TO SCALE

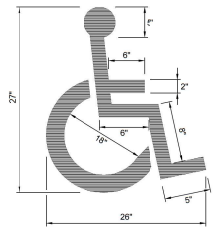


TYPICAL CROSSWALK DETAIL
NOT TO SCALE



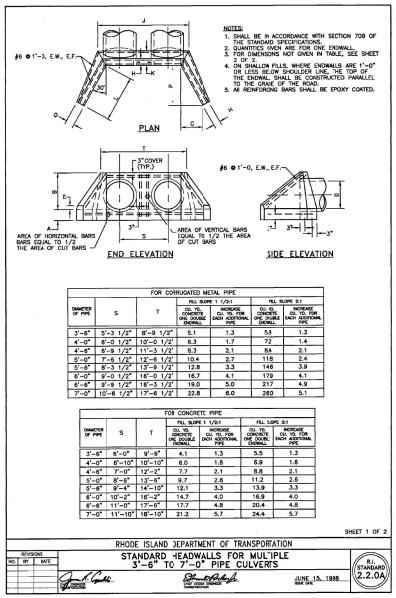
NOTES:
1. ALL PARKING PAVEMENT MARKINGS SHALL BE EPOXY RESIN, CONFORMING TO THE SPECIFICATIONS.
2. PAVEMENT MARKINGS SHALL BE INSTALLED PER SEC. 28-251.2.B OF THE TOWN OF BRISTOL CODE OF ORDINANCES.
3. REFER TO GENERAL PLANS FOR PAVEMENT MARKING TEXT WITHIN COMPACT PARKING SPACES. PAVEMENT MARKINGS SHALL USE 12" HEIGHT EPOXY RESIN. PAVEMENT MARKING LETTERS SHALL BE CENTERED IN THE STALL, AND ALIGNED WITH THE END OF THE STALL STRIPING.

TYPICAL PARKING STALL
NOT TO SCALE



NOTE:
ACCESSIBLE PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE RULES & REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT.

ACCESSIBLE PAVEMENT MARKING
NOT TO SCALE



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 709 OF THE STANDARD SPECIFICATIONS.
2. QUANTITIES GIVEN ARE FOR ONE ENDWALL.
3. FOR DIMENSIONS NOT GIVEN IN TABLE, SEE SHEET 2 OF 2.
4. ON SHALLOW FILLS, WHERE ENDWALLS ARE 1'-0" OR LESS IN HEIGHT, SLOPES UNDER THE WING OF THE ENDWALL SHALL BE CONSTRUCTED PARALLEL TO THE GRADE OF THE ROAD.
5. ALL REINFORCING BARS SHALL BE EPOXY COATED.

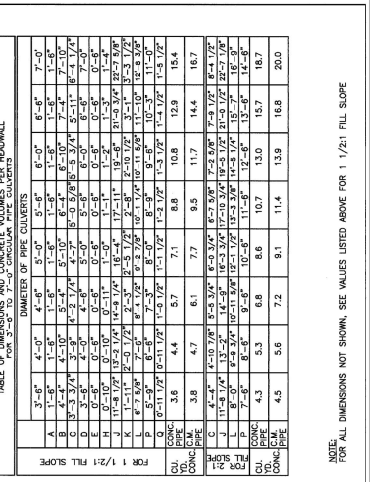
FOR CORRUGATED METAL PIPE

DIAMETER OF PIPE	S	T	FILL SLOPE 1 1/2:1 CU. YD. CONCRETE ONE HEADWALL (INCL. HAUNCH BEARING)	FILL SLOPE 1 1/2:1 INCREASE CU. YD. FOR EACH ADDITIONAL PIPE	FILL SLOPE 2:1 CU. YD. CONCRETE ONE HEADWALL (INCL. HAUNCH BEARING)	FILL SLOPE 2:1 INCREASE CU. YD. FOR EACH ADDITIONAL PIPE
3'-6"	5'-3 1/2"	8'-9 1/2"	5.1	1.3	5.3	1.3
4'-0"	6'-0 1/2"	10'-0 1/2"	6.3	1.7	7.2	1.4
4'-6"	6'-9 1/2"	11'-3 1/2"	8.3	2.1	84	2.1
5'-0"	7'-6 1/2"	12'-6 1/2"	10.4	2.7	118	2.4
5'-6"	8'-3 1/2"	13'-9 1/2"	12.8	3.3	146	3.9
6'-0"	9'-0 1/2"	15'-0 1/2"	16.7	4.1	179	4.1
6'-6"	9'-9 1/2"	16'-3 1/2"	19.0	5.0	217	4.9
7'-0"	10'-6 1/2"	17'-6 1/2"	22.8	6.0	260	5.1

FOR CONCRETE PIPE

DIAMETER OF PIPE	S	T	FILL SLOPE 1 1/2:1 CU. YD. CONCRETE ONE HEADWALL (INCL. HAUNCH BEARING)	FILL SLOPE 1 1/2:1 INCREASE CU. YD. FOR EACH ADDITIONAL PIPE	FILL SLOPE 2:1 CU. YD. CONCRETE ONE HEADWALL (INCL. HAUNCH BEARING)	FILL SLOPE 2:1 INCREASE CU. YD. FOR EACH ADDITIONAL PIPE
3'-6"	6'-0"	9'-6"	4.1	1.3	5.5	1.3
4'-0"	6'-10"	10'-10"	6.0	1.8	6.9	1.6
4'-6"	7'-0"	12'-2"	7.7	2.1	8.8	2.1
5'-0"	8'-5"	13'-5"	9.7	2.6	11.2	2.6
5'-6"	9'-4"	14'-10"	12.1	3.3	13.9	3.3
6'-0"	10'-2"	16'-2"	14.7	4.0	16.9	4.0
6'-6"	11'-0"	17'-6"	17.7	4.8	20.4	4.8
7'-0"	11'-10"	18'-10"	21.2	5.7	24.4	5.7

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS
R.I. STANDARD 2.2.0A
JUNE 15, 1998
SHEET 1 OF 2



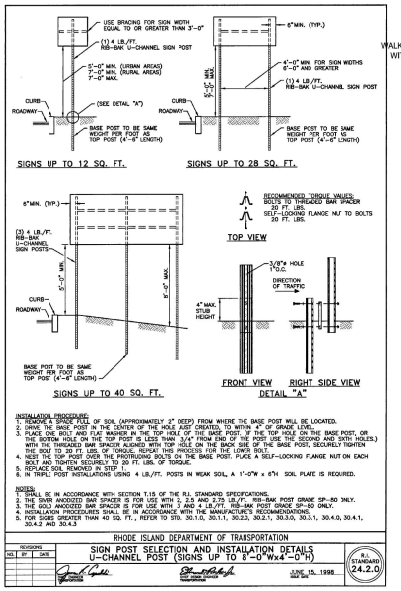
NOTE:
FOR ALL DIMENSIONS NOT SHOWN, SEE VALUES LISTED ABOVE FOR 1 1/2:1 FILL SLOPE

SHEET 2 OF 2
RHODE ISLAND DEPARTMENT OF TRANSPORTATION
STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS
R.I. STANDARD 2.2.0B
JUNE 15, 1998

LEGEND	DESIGNATION	SIZE
STOP	R1-1	(30" x 30")
RIGHT LANE MUST TURN RIGHT	R3-7R	(30" x 30")
LEFT LANE MUST TURN LEFT	R3-7L	(30" x 30")
DO NOT ENTER	R5-1	(24" x 24")
RESERVED PARKING	R7-8	(12" x 18")
VAN ACCESSIBLE	R7-8P	(12" x 6")
NO PARKING HERE TO CORNER	R7-11	(12" x 18")
	W16-7P(L)	(12" x 24")
	S1-1	(30" x 30")
AHEAD	W16-9P	(12" x 24")
	W17-1	(24" x 24")
	GENERAL DIRECTIONAL SIGN, REFER TO PLANS FOR TEXT	(30" x 24") OR AS REQUIRED
NO IDLING	NO IDLING	(12" x 18")
EV CHARGING USE LAST	EVCS	(24" x 36")
EV CHARGING USE LAST	EV CHARGING USE LAST	(12" x 18")
		(12" x 6")

NOTES:
1. SIGNS SHALL BE CONSTRUCTED OF TYPE III REFLECTORIZED SHEETING AND IN ACCORDANCE WITH SECTION 710 OF THE STANDARD SPECIFICATIONS.
2. THE SIGN INSTALLATOR SHALL SUBMIT SAMPLE SIGNS TO THE OWNER FOR APPROVAL PRIOR TO FURNISHING.
3. LETTERS, COLOR, AND FONT FOR NON-STANDARD SIGNS SHALL BE SELECTED BY THE OWNER.
4. ALL SIGN MOUNTING SHALL CONFORM TO R.I. STD. DETAIL 24.2.0 EXCEPT R7-8 AND R7-8P. R7-8 AND R7-8P SHALL CONFORM TO ACCESSIBLE SIGN MOUNTING DETAIL.

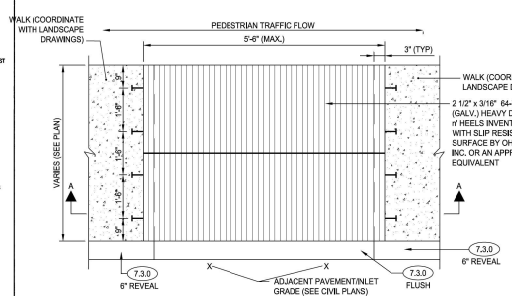
SIGN SCHEDULE



INSTALLATION PROCEDURE:
1. REMOVE A SPADE FULL OF SOIL (APPROXIMATELY 2" DEEP) FROM WHERE THE BASE POST WILL BE LOCATED.
2. DRIVE THE BASE POST IN THE CENTER OF THE HOLE JUST CREATED, TO WITHIN 4" OF GRADE LEVEL.
3. PLACE ONE BOLT AND FLAT WASHER IN THE TOP HOLE OF THE BASE POST. IF THE TOP HOLE ON THE BASE POST, OR THE BOLT HOLE IN THE SIGN POST IS NOT ALIGNED, ROTATE THE BASE POST UNTIL THE HOLES ARE ALIGNED (WITH SIX HOLES.) WITH THE THREADED BAR SPACER ALIGNED WITH TOP HOLE ON THE BACK SIDE OF THE BASE POST, SECURELY TIGHTEN THE BOLT TO 20 FT. LBS. OF TORQUE. REPEAT THIS PROCESS FOR THE LOWER BOLT.
4. NEST THE TOP POST OVER THE PROTRUDING BOLTS ON THE BASE POST. PLACE A SELF-LOCKING FLANGE NUT ON EACH BOLT AND TIGHTEN SECURELY TO 20 FT. LBS. OF TORQUE.
5. REPLACE SOIL REMOVED IN STEP 1.
6. IN TRIPLE POST INSTALLATIONS USING 4 LB./FT. POSTS IN WEAK SOIL, A 1'-0"W x 6"H SOIL PLACE IS REQUIRED.

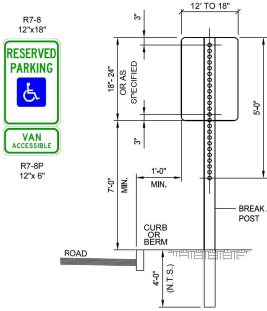
NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE R.I. STANDARD SPECIFICATIONS.
2. THE SWIV ANODIZED BAR SPACER IS FOR USE WITH 2, 2.5 AND 2.75 LB./FT. RIB-BAK POST GRADE SP--50 ONLY.
3. THE GOLD ANODIZED BAR SPACER IS FOR USE WITH 3 AND 4 LB./FT. RIB--BAK POST GRADE SP--50 ONLY.
4. INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS.
5. FOR SIGNS GREATER THAN 40 SQ. FT., REFER TO STD. 30.1.0, 30.1.1, 30.2.3, 30.2.1, 30.3.0, 30.3.1, 30.4.0, 30.4.1, 30.4.2 AND 30.4.3

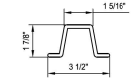
RHODE ISLAND DEPARTMENT OF TRANSPORTATION
SIGN POST SELECTION AND INSTALLATION DETAILS U-CHANNEL POST (SIGNS UP TO 8'-0"Wx4'-0"H)
R.I. STANDARD 24.2.0
JUNE 15, 1998



NOTE:
PROVIDE SUBMITTAL DEPICTING GRATE, CONCRETE WALK, SUPPORTS, AND OTHER INFORMATION FOR REVIEW BY OWNER'S REPRESENTATIVE

SIDEWALK GRATE
NOT TO SCALE





NOTE:
5/16" x 2-1/2" GALVANIZED BOLTS & WASHERS

STEEL SPECIFICATION - A.S.T.M. DESIGNATION A499-64 ZINC (HOT GALVANIZED) SPECIFIED BY- A.S.T.M. A 123.

WT./FT.	3.00	#
Mom. Ix-x	0.484	in 4
Sec Mod x-x	0.569	in 3
Mon Iy-y	0.886	in 4
Sec Mod y-y	0.506	in 3

PARKING SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOR MORE THAN 45° IN A LINE PARALLEL TO THE FLOW OF TRAFFIC.

NOTES:
1. ALL LAG SCREWS, BOLTS AND WASHERS SHALL BE GALVANIZED 5/16"x2 1/2" LONG UNLESS OTHERWISE NOTED.
2. WASHERS SHALL BE 0.07" THICK.
3. ALL SIGN COLORS, RADII AND BORDERS AS SPECIFIED IN "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE STANDARD SPECIFICATIONS.
5. PARKING SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOT MORE THAN 45° WITH A LINE PARALLEL TO FLOW OF TRAFFIC, 1'-6" (1'-0" MIN.) FROM THE EDGE OF CURB FACE.
6. ALL ACCESSIBLE PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE RULES & REGULATIONS OF THE AMERICAN DISABILITIES ACT (ADA).
7. SIGN(S) SHALL BE LOCATED SO THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.
8. FOR ACCESSIBLE VAN SPACE USE SIGN AS DETAILED.
9. FOR ACCESSIBLE SPACE FOR AUTOMOBILES USE ONLY HANDICAPPED PARKING SIGN.

ACCESSIBLE SIGN MOUNTING
NOT TO SCALE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATE: 08/28/2025 | PERMIT NO. 25-0078
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

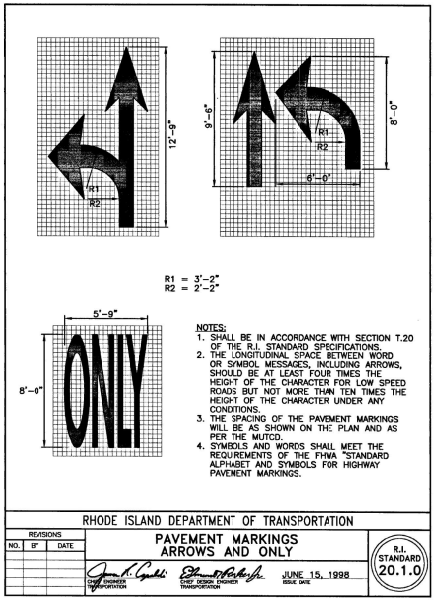
REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 4

DRAWING NO.:
C8.4

SHEET NO. 62 OF 93



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION T.20 OF THE R.I. STANDARD SPECIFICATIONS.
2. THE LONGITUDINAL SPACE BETWEEN WORD OR SYMBOL MESSAGES, INCLUDING ARROWS, SHOULD BE AT LEAST FOUR TIMES THE HEIGHT OF THE CHARACTER FOR LOW SPEED ROADS BUT NOT MORE THAN TEN TIMES THE HEIGHT OF THE CHARACTER UNDER ANY CONDITIONS.
3. THE SPACING OF THE PAVEMENT MARKINGS WILL BE AS SHOWN ON THE PLAN AND AS PER THE MUTCD.
4. SYMBOLS AND WORDS SHALL MEET THE REQUIREMENTS OF THE FHWA "STANDARD ALPHABET AND SYMBOLS FOR HIGHWAY PAVEMENT MARKINGS.

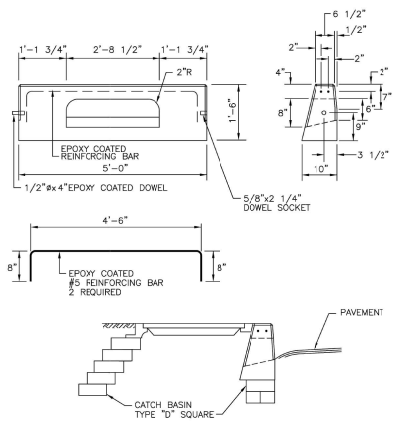
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

PAVEMENT MARKINGS ARROWS AND ONLY

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 20.1.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
3. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

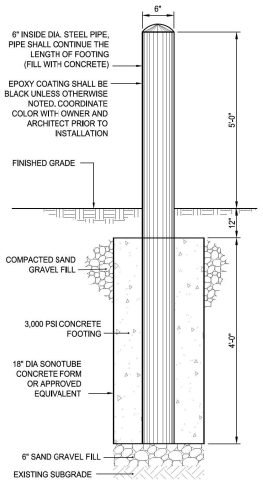
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE
1	MLP	Mar '05

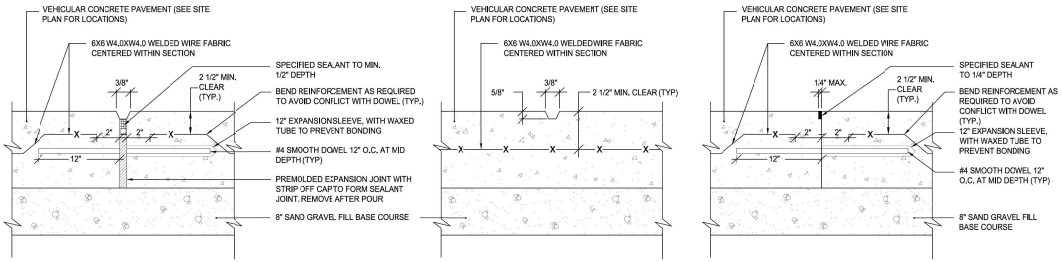
PRECAST CONCRETE INLET STONE (FOR SQUARE CATCH BASIN)

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.1.5



BOLLARD DETAIL
NOT TO SCALE



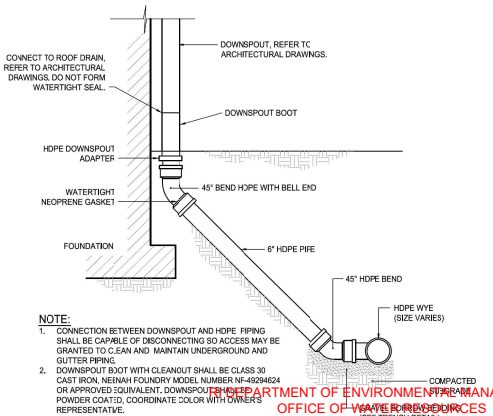
CONTROL JOINT AT 15' C.C. (MAX)

CONSTRUCTION JOINT (TYP)

NOTES:

1. EXPANSION JOINTS (E.J.) SHALL BE LOCATED AROUND ALL DRAIN STRUCTURES AND SITE FEATURES WITHIN THE VEHICULAR CONCRETE PAVEMENT, NO EXPANSION JOINTS AGAINST CURBING.
2. CONTROL JOINTS (C.J.) SHALL BE SPACED AT 15' O.C. MAX.
3. PROR TO COMMENCING WORK, PROVIDE SUBMITTAL DEPICTING LAYOUT OF EXPANSION, CONTROL, AND CONSTRUCTION JOINT LAYOUT AND SPACING FOR REVIEW BY OWNER'S REPRESENTATIVE.

EXPANSION, CONTROL, AND CONSTRUCTION JOINTS FOR VEHICULAR CONCRETE PAVING
NOT TO SCALE



NOTE:
1. CONNECTION BETWEEN DOWNSPOUT AND HDPE PIPING SHALL BE CAPABLE OF DISCONNECTING SO ACCESS MAY BE GRANTED TO C.EAN AND MAINTAIN UNDERGROUND AND GUTTER PIPING.
2. DOWNSPOUT BOOT WITH CLEANOUT SHALL BE CLASS 30 CAST IRON, NEENAH FOUNDRY MODEL NUMBER NF-49294624 OR APPROVED EQUIVALENT. DOWNSPOUT SHALL BE POWDER COATED, COORDINATE COLOR WITH OWNER'S REPRESENTATIVE.

DOWNSPOUT DETAIL
NOT TO SCALE

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
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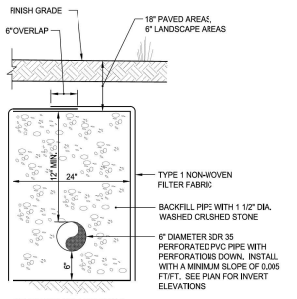
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 5

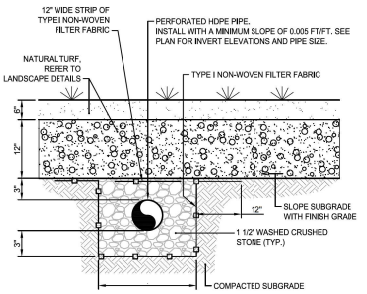
DRAWING NO.:
C8.5

SHEET NO. 63 OF 93



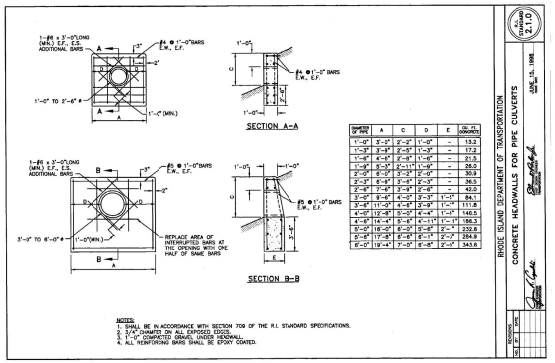
SUBDRAIN DETAIL

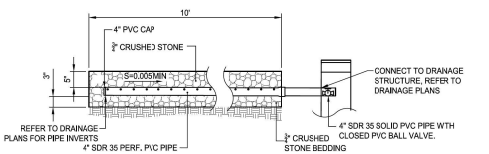
NOT TO SCALE



ATHETIC FIELD SUBDRAIN DETAIL

NOT TO SCALE

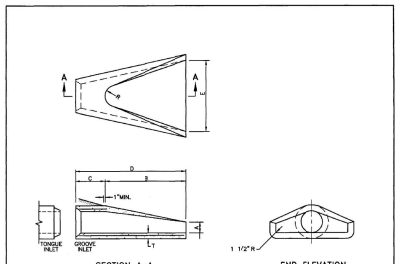




NOTE: PVC BALL VALVE SHALL REMAIN N THE CLOSED PCSITION WHEN INSTALLED AND POST CONSTRUCTION. AS REQUIRED THE OWNER SHALL OPEN THE VALVE TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSESONLY.

AUXILIARY DRAIN PIPE WITH CLOSED VALVE FOR STORMWATER MANAGEMENT AREAS DETAIL

NOT TO SCALE



DIMENSIONS								REINFORCEMENT
DIA.	A	B	C	D	E	R	T	ONE LAYER REINFORCEMENT IN CENTER OF WALL MIN. AREA OF EACH WAY (SQ. IN./FT.)
1'-0"	4"	2'-0"	4'-0 7/8"	6'-3 7/8"	2'-0"	6"	2"	0.048
1'-3"	6"	2'-3"	3'-10"	6'-1"	2'-6"	11"	2 1/4"	0.054
1'-6"	9"	2'-3"	3'-10"	6'-1"	3'-0"	12"	2 1/2"	0.060
2'-0"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	1'-0"	3"	0.072
2'-6"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	1'-2"	3 1/2"	0.084
3'-0"	1'-3"	5'-3"	2'-11 3/4"	6'-1 3/4"	6'-0"	1'-8"	4"	0.096
3'-6"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	1'-10"	4 1/2"	0.108
4'-0"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	1'-10"	5"	0.120
4'-6"	2'-3"	6'-0"	2'-11"	8'-4"	7'-6"	2'-0"	5 1/2"	0.132
5'-0"	2'-6"	6'-0"	3'-3"	8'-5"	8'-0"	2'-2"	6"	0.144

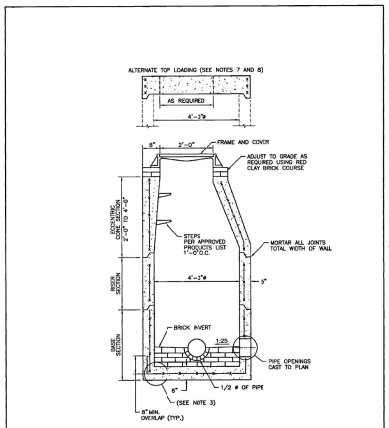
NOTE: SHALL BE IN ACCORDANCE WITH SECTION 701 OF THE R.I. STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE FLARED END SECTION

R.I. STANDARD 2.3.0

JUNE 15, 1998



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED = 0.12 SQ. IN. / LIN. FT. MINIMUM.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
4. ONE POUR MONOLITHIC BASE SECTION.
5. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
6. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
7. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
8. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
9. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

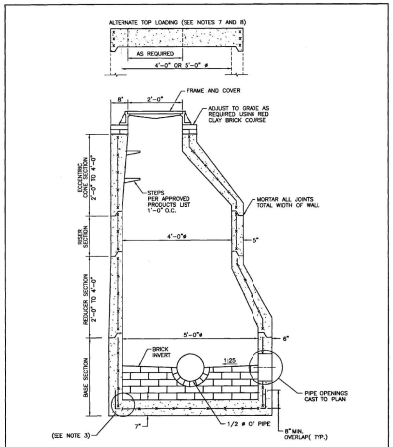
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

PRECAST 4'-0" ROUND MANHOLE

R.I. STANDARD 4.2.0

JUNE 15, 1998

NOTES:
1. DAMP PROOFING COMPOUND SHALL BE APPLIED ON EXTERIOR WALLS



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9. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

PRECAST 6'-0" ROUND MANHOLE

R.I. STANDARD 4.2.2

JUNE 15, 1998

NOTES:
1. DAMP PROOFING COMPOUND SHALL BE APPLIED ON EXTERIOR WALLS

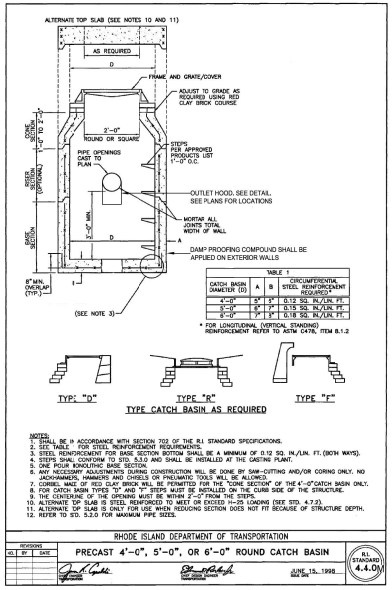


TABLE 1			
CATCH BASIN DIAMETER (D)	A	B	CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED *
4'-0"	5"	3"	0.12 SQ. IN./LIN. FT.
5'-0"	6"	3"	0.15 SQ. IN./LIN. FT.
6'-0"	7"	3"	0.18 SQ. IN./LIN. FT.

* FOR LONGITUDINAL (VERTICAL STANDING) REINFORCEMENT REFER TO ASTM C478, ITEM 8.1.2

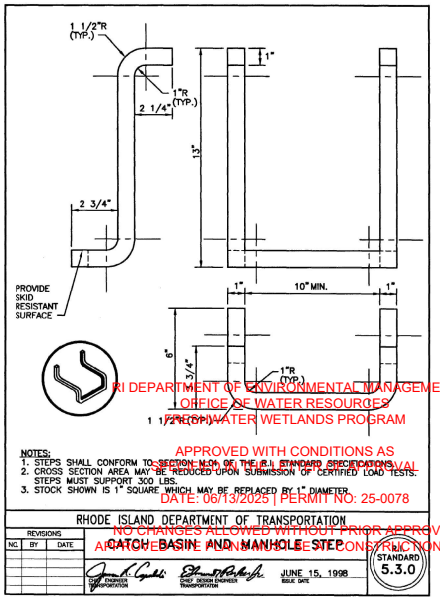
NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. SEE TABLE FOR STEEL REINFORCEMENT REQUIREMENTS.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
4. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
5. ONE POUR MONOLITHIC BASE SECTION.
6. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
7. CORBEL MADE OF RED CLAY BRICK WILL BE PERMITTED FOR THE "CONE SECTION" OF THE 4'-0" CATCH BASIN ONLY.
8. FOR CATCH BASIN TYPES "D" AND "F" STEPS MUST BE INSTALLED ON THE CURB SIDE OF THE STRUCTURE.
9. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.
10. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
11. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
12. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN

R.I. STANDARD 4.4.0

JUNE 15, 1998



NOTES:
1. STEPS SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.
2. CROSS SECTION AREA MAY BE REDUCED UPON SUBMISSION OF CERTIFIED LOAD TESTS. STEPS MUST SUPPORT 300 LBS.
3. STOCK SHOWN IS 1" SQUARE WHICH MAY BE REPLACED BY 1" DIAMETER.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

CATCH BASIN AND MANHOLE STEP

R.I. STANDARD 5.3.0

JUNE 15, 1998

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS
SHOWN ON PLANS AND SPECIFICATIONS
DATE: 06/13/2025 | PERMIT NO: 25-0078

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE ON CONSTRUCTION SITE

Andy Charpentier

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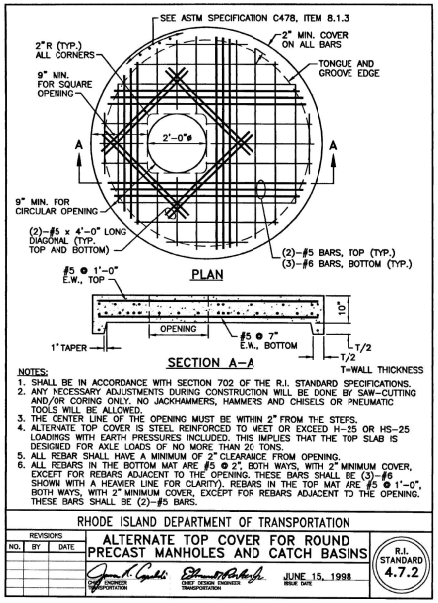
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DETAILS 6

DRAWING NO.:
C8.6

SHEET NO. 64 OF 93



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW–CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
3. THE CENTER LINE OF THE OPENING MUST BE WITHIN 2" FROM THE STEPS.
4. ALTERNATE TOP COVER IS STEEL REINFORCED TO MEET OR EXCEED H–25 OR HS–25 LOADINGS WITH EARTH PRESSURES INCLUDED. THIS IMPLIES THAT THE TOP SLAB IS DESIGNED FOR AXLE LOADS OF NO MORE THAN 20 TONS.
5. ALL REBAR SHALL HAVE A MINIMUM OF 2" CLEARANCE FROM OPENING.
6. ALL REBARS IN THE BOTTOM MAT ARE #5 @ 2", BOTH WAYS, WITH 2" MINIMUM COVER, EXCEPT FOR REBARS ADJACENT TO THE OPENING. THESE BARS SHALL BE (3)–#6 SHOWN WITH A HEAVIER LINE FOR CLARITY). REBARS IN THE TOP MAT ARE #5 @ 1'–0", BOTH WAYS, WITH 2" MINIMUM COVER, EXCEPT FOR REBARS ADJACENT TO THE OPENING. THESE BARS SHALL BE (2)–#5 BARS.

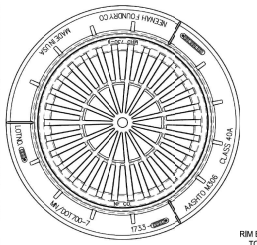
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

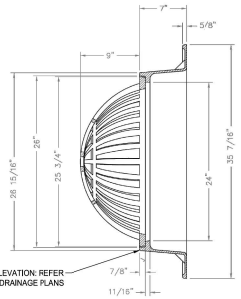
REVISIONS NO.	BY	DATE

ALTERNATE TOP COVER FOR ROUND PRECAST MANHOLES AND CATCH BASINS

JUNE 15, 1998 ISSUE DATE

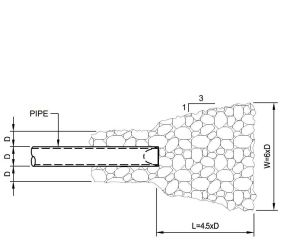
R.I. STANDARD 4.7.2



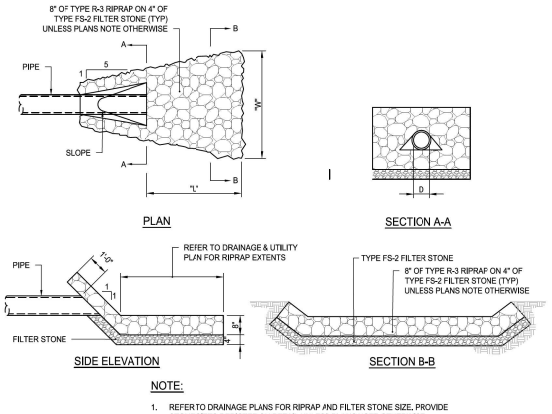


NOTES:
1. NEENA FOUNDRY R2561 CR APPROVED EQUIVALENT.
2. FRAME AND GRATE SHALL MEET H-20 LOADING CRITERIA.
3. ALL LIFTING HOLES TO BE PLUGGED IN AND OUT WITH HYDRAULIC CEMENT.
4. REFER TO DRAINAGE PLANS FOR STRUCTURES WITH DOME GRATES.

DOME GRATE DETAIL
NOT TO SCALE

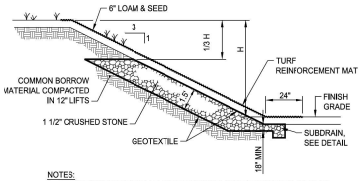


RIPRAP APRON
NOT TO SCALE



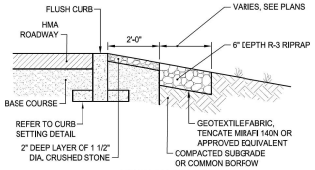
NOTE:
1. REFER TO DRAINAGE PLANS FOR RIPRAP AND FILTER STONE SIZE. PROVIDE STONE SIZES DEPICTED ON DETAIL UNLESS PLANS NOTE OTHERWISE.

RIPRAP LEVEL SPREADER
NOT TO SCALE

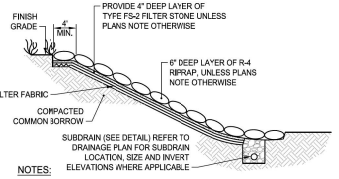


NOTES:
1. PROVIDE TOE DRAIN AT ALL SLOPES WHERE GROUNDWATER IS PRESENT.
2. REFER TO DRAWINGS FOR SUBDRAIN ELEVATIONS.

TOE DRAIN DETAIL
NOT TO SCALE

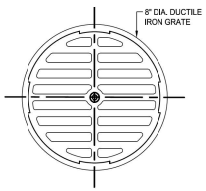


RIPRAP EDGE
NOT TO SCALE

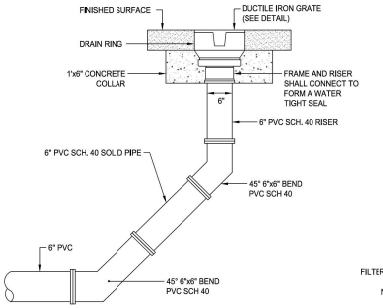


NOTES:
1. REFER TO DRAINAGE PLANS FOR RIPRAP AND FILTER STONE SIZE. PROVIDE STONE SIZES DEPICTED ON DETAIL UNLESS PLANS NOTE OTHERWISE.

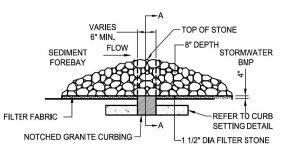
RIPRAP SLOPE
NOT TO SCALE

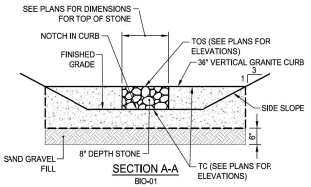


NOTES:
1. MATERIALS SHALL CONFORM TO ASTM A 536 GRADE 70-50-05.
2. CASTING SHALL BE FURNISHED WITH A BLACK PAINT.
3. GRATE SHALL BE ADA COMPLIANT.
4. GRATE SHALL BE NYLOPLAST 0899CGBL OR APPROVED EQUIVALENT.

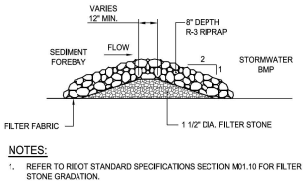


YARD DRAIN DETAIL
NOT TO SCALE



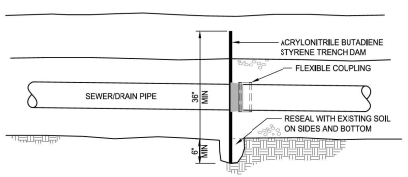


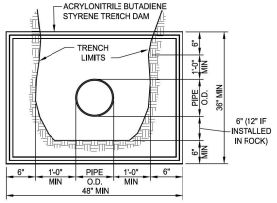
SEDIMENT FOREBAY CHECK DAM WITH WEIR
NOT TO SCALE



NOTES:
1. REFER TO RIDOT STANDARD SPECIFICATIONS SECTION M01.10 FOR FILTER STONE GRADATION.

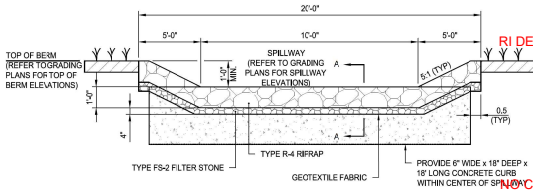
SEDIMENT FOREBAY CHECK DAM
NOT TO SCALE

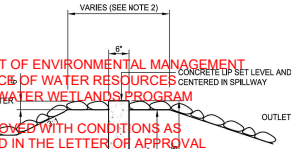




NOTES:
1. INSTALL TRENCH DAM EVERY 300 FEET ALONG PIPE AND 20 FT PRIOR TO EACH STRUCTURE.

TRENCH DAM
NOT TO SCALE





NOTES:
1. CONTRACTOR SHALL FILL VOIDS BETWEEN CURB SECTIONS WITH MORTAR
2. BASIN BERM WIDTHS SHALL BE A MINIMUM OF 5' WIDE FOR BIORETENTION AREAS, AND SAND FILTERS. BASIN BERM WIDTHS SHALL BE A MINIMUM OF 10' WIDE FOR DETENTION BASINS AND INFILTRATION BASINS.

RIPRAP SPILLWAY DETAIL
NOT TO SCALE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATE: 06/13/2025 PERMIT NO: 25-0078
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
DIVISION

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

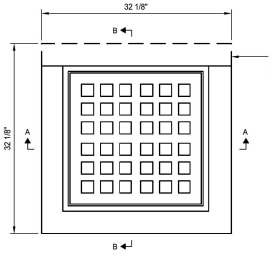
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 7

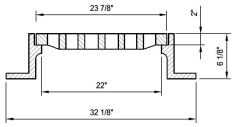
DRAWING NO.:
C8.7

SHEET NO. 65 OF 93

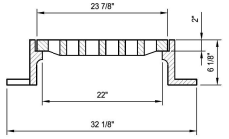
Item C1.



PLAN



SECTION A-A



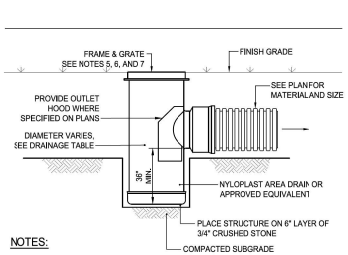
SECTION B-B

NOTES:

1. NEENAH FOUNDRY R-2405-A OR APPROVED EQUIVALENT.
2. FRAME AND GRATE SHALL MEET H-20 LOADING CRITERIA.

SQUARE CATCH BASIN FRAME & GRATE

NOT TO SCALE

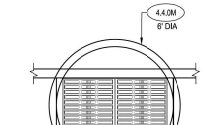


NOTES:

1. DRAIN BASIN SHALL BE CUSTOM MANUFACTURED FOR THE PROJECT WITH THE INLETS AND OUTLETS REQUIRED.
2. STRUCTURES SHALL BE CONSTRUCTED TO WITHSTAND LOADS IMPOSED BY CONSTRUCTION VEHICLES.
3. DRAIN BASIN SHALL BE CONSTRUCTED OF HIGH DENSITY POLYETHYLENE.
4. FRAME AND GRATE SHALL BE CONSTRUCTED OF DUCTILE IRON AND CONFORM TO ASTM A536 GRADE 70-50-05. GRATES SHALL BE NYLOPLAST 2499CGS OR APPROVED EQUIVALENT. CONTRACTOR SHALL PROVIDE THE SPECIFIED GRATE UNLESS OTHERWISE NOTED.
5. PROVIDE 24" DOME GRATE AT AD-101, AD-102, AD-103, AD-104, AD-201, AD-202, AD-203, AD-204, AC-205, AD-206, AD-207, AD-208, AD-210, AC-212, AD-301, AD-302, AD-303, AD-304, AD-305 AD-306, AD-307, AD-308, AD-309, AD-401, AD-402, AD-403, AC-404, AD-407 . PROVIDE NYLOPLAST 2499CGS OR APPROVED EQUIVALENT.
6. PROVIDE 24" PEDESTRIAN GRATE AT AD-408, PROVIDE NYLOPLAST 2499CGP OR APPROVED EQUIVALENT. FRAME AND GRATE SHALL BE ADA COMPLIANT.
7. PROVIDE 12" PEDESTRIAN GRATE WITH A CAP STYLE REDUCER AT AD-105, AD-106, AD-107, AD-108, AD-109, AD-208, AD-211, AD-405, AD-406, AD-409 , PROVIDE NYLOPLAST 1299 CGPL OR APPROVED EQUALVALENT. CAP STYLE REDUCER SHALL BE 12" TO 24" REDUCER MANUFACTURED BY NYLOPLAST OR APPROVED EQUIVALENT.
8. SAND FILTER-01 OVERFLOW DRAINAGE STRUCTURE (AD-412) SHALL HAVE A NEENAH FOUNDRY 10" DIA. GRATE, MODEL #1291-5626 OR APPROVED EQUIVALENT. GRATE SHALL BE H-20 LOAD RATING AND COMPATIBLE WITH THE AREA DRAIN PRODUCT SPECIFIED. CONTRACTOR SHALL PROVIDE A CAP STYLE 12" TO 24" REDUCER WITH A DUCTILE IRON BASE PLATE MANUFACTURED BY NYLOPLAST OR APPROVED EQUIVALENT
9. REFER TO DRAINAGE PLANS FOR STRUCTURE DIAMETER.

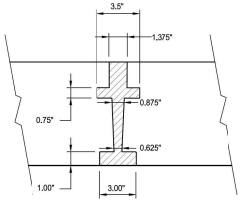
AREA DRAIN DETAIL

NOT TO SCALE

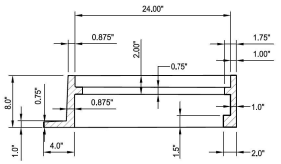


NOTE:
PROVIDE TYPE "F" CATCH BASIN ALONG ENTIRE LENGTH OF GRATE FOR CATCH BASINS PROPOSED ALONG CURB.

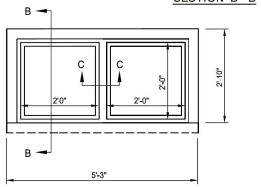
PLAN



SECTION C - C



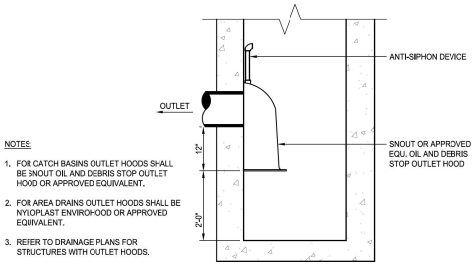
SECTION B - B



FRAME FOR DOUBLE GRATE CATCH BASIN

DOUBLE GRATE CATCH BASIN

NOT TO SCALE

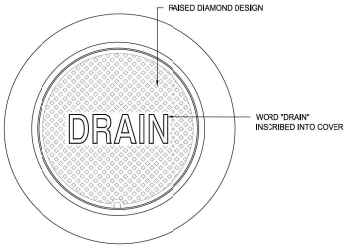


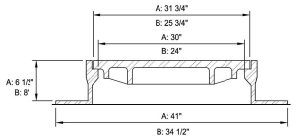
NOTES:

1. FOR CATCH BASINS OUTLET HOODS SHALL BE SNOUT OIL AND DEBRIS STOP OUTLET HOOD OR APPROVED EQUIVALENT.
2. FOR AREA DRAINS OUTLET HOODS SHALL BE NYLOPLAST ENVIRO-HOOD OR APPROVED EQUIVALENT.
3. REFER TO DRAINAGE PLANS FOR STRUCTURES WITH OUTLET HOODS.

DEEP SUMP WITH OUTLET HOOD DETAIL

NOT TO SCALE



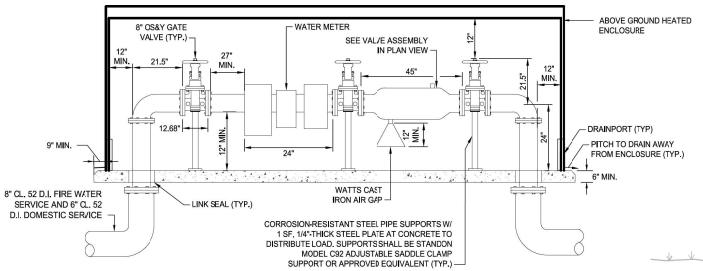


NOTES:

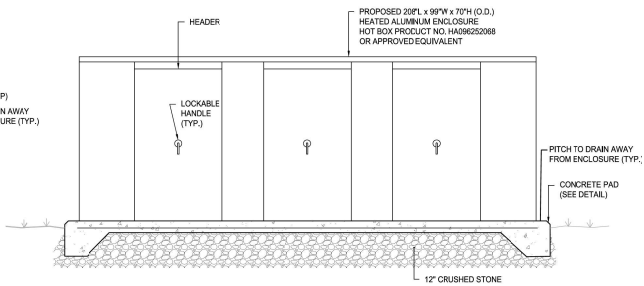
1. ALL FRAMES AND COVERS SHALL MEET H-20 LOADING CRITERIA.
2. PROVIDE:
   A: 30" DIA. DRAIN MANHOLE FRAME AND COVER SHALL BE NEENAH FOUNDRY, INC. MODEL #R-1557 OR APPRO/ED EQUIVALENT.
   B: 24" DIA. DRAIN MANHOLE FRAME AND COVER SHALL BE NEENAH FOUNCRY, INC. MODEL #R-1556 OR APPRO/ED EQUIVALENT.
3. ALL DRAIN MANHOLES SHALL HAVE 24" DIA. DRAIN MANHOLE COVER UNLESS NOTED OTHERWISE.

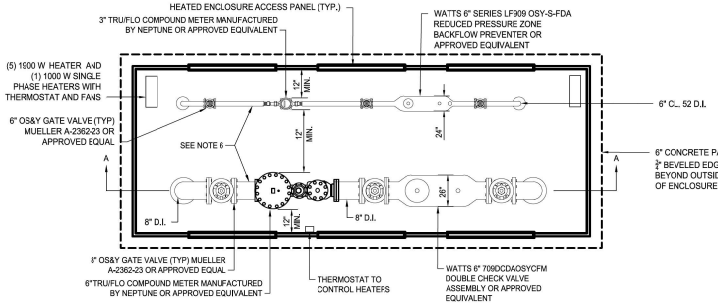
DRAIN MANHOLE FRAME & COVER

NOT TO SCALE



SECTION A-A





PLAN VIEW

ABOVE GROUND HEATED ENCLOSURE

NOT TO SCALE

NOTES:

1. ALL INTERIOR PIPING SHALL BE CLASS 53 DUCTILE IRON WITH FLANGED JOINTS.
2. ALL BURIED PIPING SHALL BE CLASS 52 CEMENT-LINED DUCTILE IRON WITH MECHANICAL JOINTS.
3. ALL EXPOSED METAL SURFACES TO BE BONDED BY ELECTRICIAN PER NATIONAL ELECTRIC CODE.
4. CONTRACTOR SHALL SUPPORT ALL INTERIOR PIPING WITH PIPE SUPPORTS, NO LESS THAN 3 SUPPORTS PER LINE.
5. COMPONENTS OF ENCLOSURE INCLUDING BUT NOT LIMITED TO ACCESS PANELS AND ANCHORS, QUANTITIES AND SPACING PER MANUFACTURER'S RECOMMENDATIONS.
6. PIPE DIAMETERS OF STRAIGHT RUN PIPE SHALL BE PROVIDED BEFORE METERSTRAINER ASSEMBLY.
7. THE VAULT SHALL BE AN INSULATED HEATED ENCLOSURE OF ALUMINUM CONSTRUCTION AND SHALL COMPLY WITH ASSE 1060, CLASS I.
8. THE VAULT INTERIOR DIMENSIONS SHALL BE APPROPRIATELY SIZED BY THE MANUFACTURER BASED ON INTERIOR PIPING LENGTHS.
9. THE ENCLOSURE MUST BE CAPABLE OF MAINTAINING A MINIMUM TEMPERATURE OF 40°F (4°C) AND SHALL BE SUPPORTED BY A CONCRETE PAD IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
10. HEATED ENCLOSURE SHALL BE AN INSULATED HOT BOX OR APPROVED EQUIVALENT.

ELEVATION VIEW

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATE: 06/03/2025 PERMIT NO. 2025-0329
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
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DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
DIVISION OF CIVIL

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

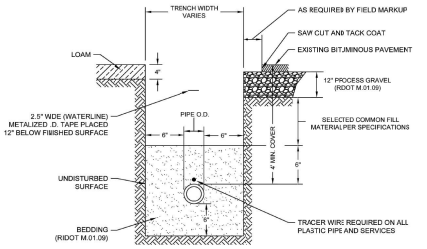
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DETAILS 8

DRAWING NO.:
C8.8

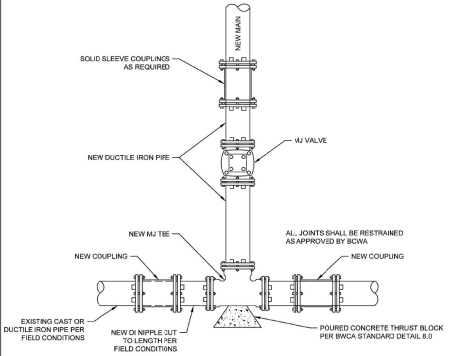
SHEET NO. 66 OF 93



NOTES:

1. ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS AND SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
2. ROADWAY AND SIDEWALK RESTORATION SHALL BE PERFORMED IN ACCORDANCE WITH ALL MUNICIPAL OR RIDOT PERMIT REQUIREMENTS.
3. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAILAND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

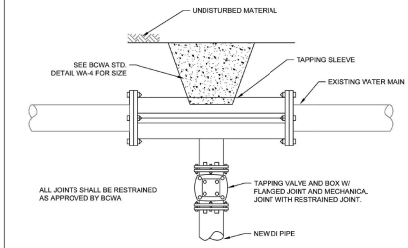
BRISTOL COUNTY WATER AUTHORITY		SECTION	DECEMBER 2016	REVISIONS
450 CHILD STREET, WARREN, RHODE ISLAND	BCWA BRISTOL COUNTY WATER AUTHORITY	WATER MAIN INSTALLATION	DETAIL No. W-1	1/2018 - CONVERTED TO AUTOCAD
TRENCH DETAIL				
NOT TO SCALE				



NOTES:

1. ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
2. ALL WORK AND MATERIALSSHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
3. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

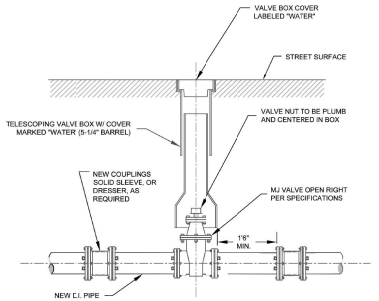
BRISTOL COUNTY WATER AUTHORITY		SECTION	DECEMBER 2016	REVISIONS
450 CHILD STREET, WARREN, RHODE ISLAND	BCWA BRISTOL COUNTY WATER AUTHORITY	WATER MAIN INSTALLATION	DETAIL No. W-3	1/2018 - CONVERTED TO AUTOCAD
NEW TEE IN EXISTING MAIN DETAIL				
NOT TO SCALE				



NOTES:

1. TAPPING SLEEVE, VALVE AND PIPE TO BE DISINFECTED WITH CHLORINE SOLUTION PRIOR TO INSTALL.
2. TAPPING SLEEVE TO BE PRESSURE TESTED USING AIR PRIOR TO TAPPING PIPE.
3. ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
4. THRUST BLOCK PER BCWA SPECIFICATIONS. SEE BCWA STANDARD DETAIL 8.0.
5. ALL WORK AND MATERIALS SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BENG BACKFILLED AND/OR ACTIVATED.
6. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

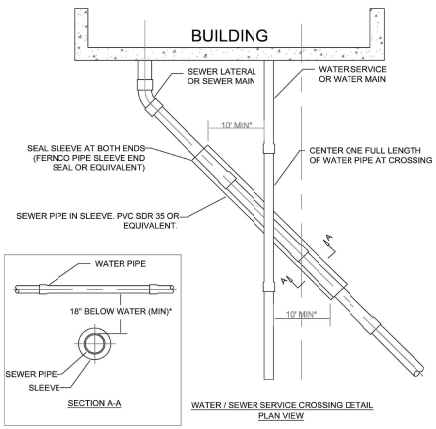
BRISTOL COUNTY WATER AUTHORITY		SECTION	DECEMBER 2016	REVISIONS
450 CHILD STREET, WARREN, RHODE ISLAND	BCWA BRISTOL COUNTY WATER AUTHORITY	WATER MAIN INSTALLATION	DETAIL No. W-4	1/2018 - CONVERTED TO AUTOCAD
TAPPING SLEEVE AND VALVE				
NOT TO SCALE				



NOTE:

1.) ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
2.) ALL WORK AND MATERIALS SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
3.) WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

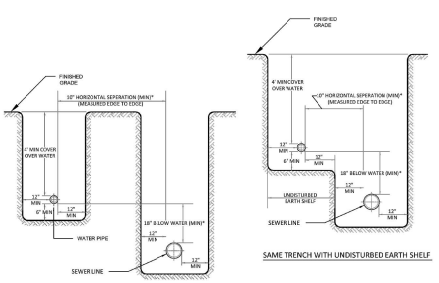
BRISTOL COUNTY WATER AUTHORITY		SECTION	DECEMBER 2018	REVISIONS
450 CHILD STREET, WARREN, RHODE ISLAND	BCWA BRISTOL COUNTY WATER AUTHORITY	WATER MAIN INSTALLATION	DETAIL No. W-5	11/2018 - CONVERTED TO AUTOCAD
NEW MJ VALVE, INSTALLED IN EXISTING MAIN				
NOT TO SCALE				



WATER / SEWER SERVICE CROSSING DETAIL
PLAN VIEW

IF THE 18 INCH MINIMUM VERTICAL SEPARATION CANNOT BE MAINTAINED, CONSTRUCT SEWER USING AWWA APPROVED WATER MAIN PIPE AND PRESSURE TEST TO 150psi. FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING, MEASURED PARALLEL TO THE WATER PIPE, OR ENCASE SEWER PIPE IN PVC SLEEVE.

BRISTOL COUNTY WATER AUTHORITY		SECTION	DECEMBER 2016	REVISIONS
450 CHILD STREET, WARREN, RHODE ISLAND	BCWA BRISTOL COUNTY WATER AUTHORITY	WATER MAIN INSTALLATION	DETAIL No. W-8	1/2018 - CONVERTED TO AUTOCAD
WATER/SEWER CROSSING				
NOTTO SCALE				



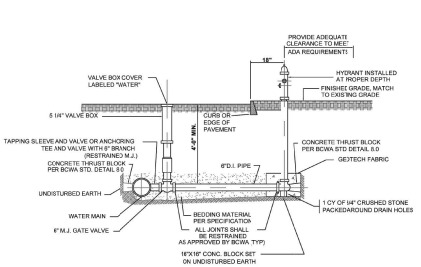
SEPARATE TRENCHES (PREFERRED)

SAME TRENCH WITH UNDISTURBED EARTH SHELF

NOTES:

1. THE VERTICAL SEPARATION BETWEIN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE A MINIMUM OF 18 INCHES.
2. THE HORIZONTAL SEPARATION BETWEEN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE A MINIMUM OF 10 FEET.
3. IF 1 OR 2 CANNOT BE MAINTAINED THE PROPOSED UTILITY SHALL BE INSTALLED WITHIN A CARRIER PIPE UPON WRITTEN APPROVAL BY THE BCWA.
4. SEWER MAIN AND SERVICES ARE NOT ALLOWED TO CROSS OVER THE TOP OF WATER MAIN.
5. CONCRETE ENCASEMENT IS NOT ALOWED.

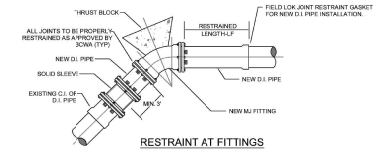
BRISTOL COUNTY WATER AUTHORITY		SECTION	DECEMBER 2016	REVISIONS
450 CHILD STREET, WARREN, RHODE ISLAND	BCWA BRISTOL COUNTY WATER AUTHORITY	WATER MAIN INSTALLATION	DETAIL No. W-9	1/2018 - CONVERTED TO AUTOCAD
UTILITY SEPARATION NEW CONSTRUCTION				
NOT TO SCALE				



NOTES:

1. ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
2. ALL WORK SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BENG BACKFILLED AND/OR ACTIVATED.
3. HYDRAN" MUST BE BURIED TO MANUFACTURERS PROPER DEPTH (BURY LINE) TO ALLOW SUFFICIENT CLEARANCE TO BOLTUNBOLT THE UPPER BARREL AND SAFETY FLANGES AND FOR PROPER BREAK AWMY FUNCTION.
4. USE APPROVED JOINT RESTRAINT GLANDS AND THRUST BLOCKS. THRUST BLOCKING SHALL HAVE A MINIMUM 3F 3 SQUARE FEET AGAINST UNDISTURBED EARTH.
5. BARRINGTON HYDRANTS TO BE (OPEN LEFT), 4-1/2" PUMPER NOZZLE WITH CAP THREAD G.A.N.S., TWO 2-1/2" HISE NOZZLES WITH CAPS, THREAD G.A.N.S., 6" M.J. CONNECTION WITH ACCESSORIES, OPERATING AND CAP NUTS TO BE 1-3/" POINT TO FLAT POINT PENTAGON.
6. BRISTOL & WARREN HYDRANTS TO BE (OPEN LEFT), 4" PUMPER NOZZLE WITH CAP THREAD G.A 7-465., TWO 2-1/2" HOSE NOZZLES WITH CAPS, THREAD G.A.N.S., 6" M.J. CONNECTION WITH ACCESSORIES, OPERATING AND CAP NUTS TO BE 1-3/0" POINT TO FLAT POINT PENTAGON.
7. FACTORY APPLIED PAINT: BARREL & HEAD - SAFETY YELLOW, BONNET AND CAPS - SILVER ALUMINUM
8. ALL HYDRANTS SHALL HAVE A 5 1/4" DIAMETER MAIN VALVE.
9. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

BRISTOL COUNTY WATER AUTHORITY		SECTION	DECEMBER 2016	REVISIONS
450 CHILD STREET, WARREN, RHODE ISLAND	BCWA BRISTOL COUNTY WATER AUTHORITY	WATER MAIN INSTALLATION	DETAIL No. WA-2	1/2018 - CONVERTED TO AUTOCAD
HYDRANT DETAIL				
NOT TO SCALE				



RESTRAINT AT FITTINGS

MINIMUM SURFACE AREA OF CONCRETE THRUST BLOCK AGAINST UNDISTURBED EARTH – IN S.F. (SQUARE FEET)
MINIMUM RESTRAINED LENGTH OF PIPE ON EITHER SIDE OF FITTING – IN L.F. (LINEAR FEET)

PIPE SIZE	PLUG 90° LF	PLUG 90° LF	TEE 90° LF	TEE 90° LF	60° BEND LF	60° BEND LF	45° BEND LF	45° BEND LF	22 1/2° BEND LF	22 1/2° BEND LF	11 1/2° BEND LF	11 1/2° BEND LF
4"	2.8	46	2.8	40	4.0	22	2.1	9	1.1	5	1.0	3
6"	4.8	60	4.8	54	6.8	29	3.7	12	1.9	6	1.0	3
8"	7.3	72	7.3	66	10.3	34	5.6	15	2.8	7	1.4	4
12"	10.3	85	10.3	79	14.5	40	7.9	17	4.0	8	2.0	4
16"	13.8	98	13.8	92	19.5	46	10.6	20	5.4	9	2.7	5
20"	27.5	131	27.5	126	38.9	62	21.0	28	10.7	13	5.4	7
24"	39.2	164	39.2	148	55.4	72	30.0	30	15.3	15	7.7	8

1. ALL CONCRETE TOBE CLASS B (AE)
2. THE "SF" VALUES IN THE ABOVE TABLE ARE BASED ON 3000 p.s.f SOIL BEARING CAPACITY, 150 p.s.i. TEST PRESSURE AND A . 5 FACTOR OF SAFETY.
3. THE "LF" VALUES IN THE ABOVE TABLE ARE BASED ON A TYPE 3 JAYING CONDITION, A SAND SILT SOIL DESIGNATION, A 5 FOOT RUN LENGTH, 150 P.S.I. TEST PRESSURE AND A 1.5 FACTOR OF SAFETY AS USED IN THE "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" COMPUTER PROGRAM BY THE DUCTILE IRON PIPE RESEARCH ASSOCIATION.
4. IF SOIL CONDITIONS OR EXCAVATION LIMITS ENCOUNTERED DURING CONSTRUCTION MAKE IT UNFEASIBLE TO PLACE THRUST BLOCKS AGAINST UNDISTURBED EARTH OF THE PROPER BEARING CAPACITY, THE CONTRACTOR SHALL DESIGN CONCRETE THRUST BLOCKS OR OTHER RESTRAINT SYSTEMS TO SUIT THE ACTUAL FIELD CONDITIONS. THE DESIGN SHALL BE SUBJECT TO BCWA APPROVAL.
5. MINIMUM SURFACE AREAS SHALL BE INCREASED BY 50% IF DEEMED NECESSARY BY THE ENGINEER.
6. A MECHANICAL JOINT RESTRAINT SYSTEM MUST BE USED FOR VERTICAL BENDS.
7. AT THE DISCRETION OF THE ENGINEER, A JOINT RESTRAINT SYSTEM MAY BE SUBSTITUTED FOR OR USED IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
8. VALVES CURRENTLY IN USE IN BRISTOL AND WARREN MAY NOT BE SUITABLE FOR USE WITH NEW CONCRETE THRUST BLOCKS. ALL VALVES SHALL BE APPROVED BY THE BCWA PRIOR TO INSTALLATION.
9. THRUST BLOCK DESIGN FOR PIPE LARGER THAN 24" SHALL BE REVIEWED ON AN INDIVIDUAL BASIS BY THE BCWA.
10. THE MINIMUM DEPTH OF COVER FOR THRUST BLOCKS IS 4'-0". THE DEPTH VARIES, OR THE DUCTILE IRON PIPE'S JOINTS WHERE THE RESTRAINED LENGTH MUST BE CALCULATED.
11. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

BRISTOL COUNTY WATER AUTHORITY		SECTION	DECEMBER 2018	REVISIONS
450 CHILD STREET, WARREN, RHODE ISLAND	BCWA BRISTOL COUNTY WATER AUTHORITY	WATER MAIN INSTALLATION	DETAIL No. WA-4	11/2018 - CONVERTED TO AUTOCAD
THRUST BLOCK				
NOT TO SCALE				

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: 06/10/2025 PERMIT NO: 25-2007
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
04.01.25
REGISTERED PROFESSIONAL ENGINEER
DAVID L. POTTER

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

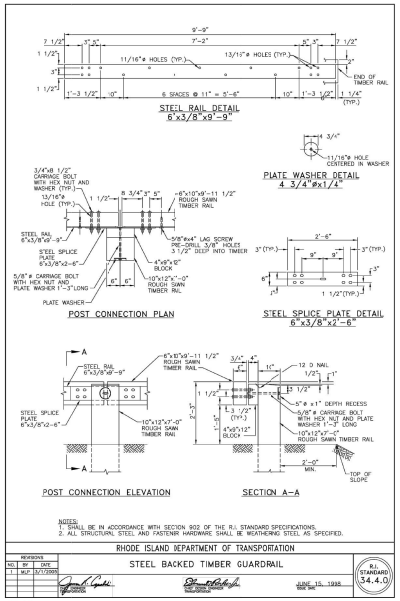
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

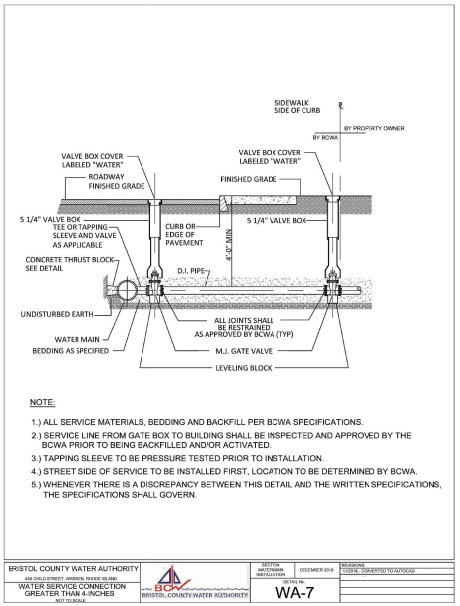
DETAILS 9

DRAWING NO.:
C8.9

SHEET NO. 67 OF 93

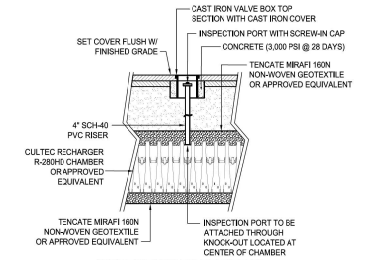


NOTES:
1. FOR ALL LOCATIONS, DETECTABLE WARNING PANELS SHALL BE INSTALLED IN ACCORDANCE WITH LANDSCAPE DRAWINGS AND SPECIFICATION 121212 CONCRETE PAVING

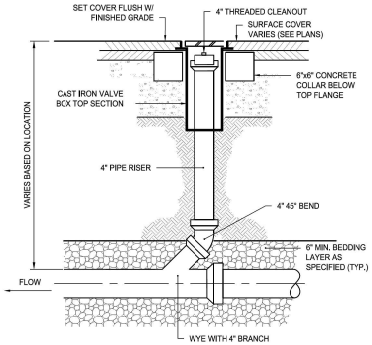


NOTE:
1.) ALL SERVICE MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
2.) SERVICE LINE FROM GATE BOX TO BUILDING SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
3.) TAPPING SLEEVE TO BE PRESSURE TESTED PRIOR TO INSTALLATION.
4.) STREET SIDE OF SERVICE TO BE INSTALLED FIRST, LOCATION TO BE DETERMINED BY BCWA.
5.) WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

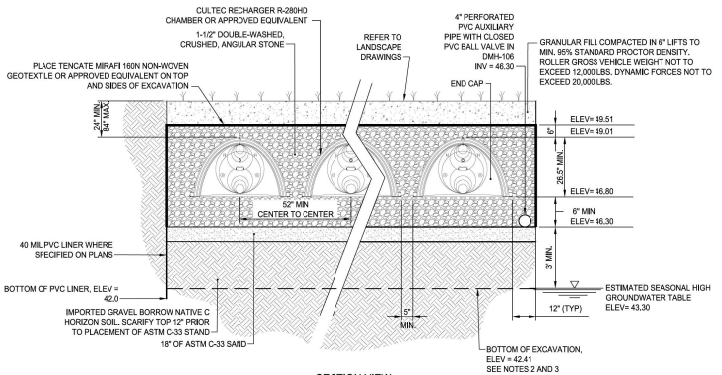
BRISTOL COUNTY WATER AUTHORITY
450 CHILI STREET, WARREN, RHODE ISLAND
WATER SERVICE CONNECTION GREATER THAN 4-INCHES
NOT TO SCALE
BRISTOL COUNTY WATER AUTHORITY
SECTION WATERMAIN INSTALLATION
DETAIL No. WA-7
DECEMBER 2018
REVISIONS: 7/2018 - CONVERTED TO AUTOCAD



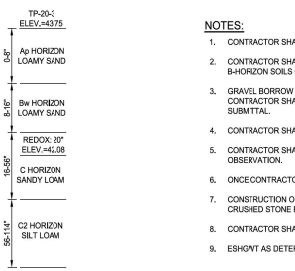
INSPECTION PORT DETAIL
NOT TO SCALE



CLEANOUT DETAIL
NOT TO SCALE

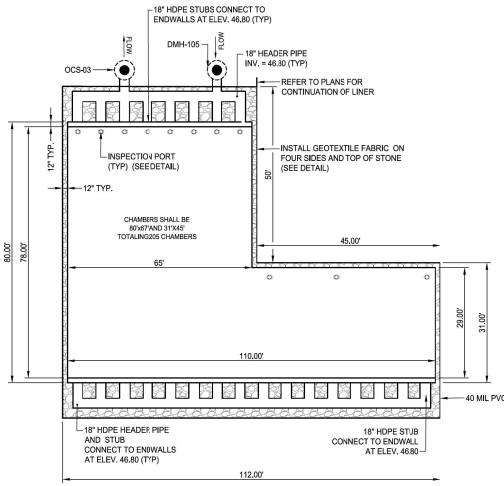


SECTION VIEW

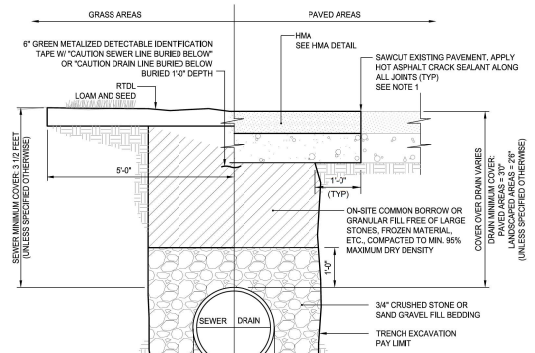


NOTES:
1. CONTRACTOR SHALL TAKE PRECAUTION NOT TO COMPACT SUBGRADE.
2. CONTRACTOR SHALL EXCAVATE TO C-HORIZON SOILS WITHIN LIMITS OF INFILTRATION. CONTRACTOR SHALL EXCAVATE TO B-HORIZON SOILS OUTSIDE OF LIMITS OF INFILTRATION.
3. GRAVEL BORROW MATERIAL UNDER UGIS SHALL CONFORM TO A USDA LOAMY SAND OR SANDY LOAM SOIL TEXTURE. CONTRACTOR SHALL SEND A SAMPLE TO THE ENGINEER TO CLASSIFY THE USDA SOIL TEXTURE AS PART OF THE SUBMITTAL.
4. CONTRACTOR SHALL NOT PLACE OR OPERATE HEAVY MACHINERY ON SUBGRADE OF INFILTRATING AREAS.
5. CONTRACTOR SHALL NOTIFY ENGINEER (48 HRS MIN) PRIOR TO EXPOSING SUBGRADE TO SCHEDULE SUBGRADE OBSERVATION.
6. ONCECONTRACTOR HAS SUBGRADE EXPOSED, THE ENGINEER SHALL BE CONTACTED FOR SUBGRADEOBSERVATION.
7. CONSTRUCTION OF THE SYSTEN SHALL NOT PROCEED FURTHER UNTIL ENGINEER OBSERVES SUBGRAOE, STOCKPILED CRUSHED STONE PRIOR TO INSTALLATION.
8. CONTRACTOR SHALL INSTALL UNDERGROUND INFILTRATION SYSTEM PER MANUFACTURERS RECOMMENDATIONS.
9. ESHGNT AS DETERMINED BY INTERPOLATING THE GROUNDWATER OBSERVED AT TP-20-3

UNDERGROUND INFILTRATION SYSTEM
NOT TO SCALE



PLAN VIEW



NOTES:
1. WHERE THE DISTANCE BETWEEN THE GAWCUT AND EDGE OF PAVEMENT IS 5'-0" OR LESS, THE CONTRACTOR SHALL REPLACE THE PAVEMENT FROM THE TRENCH EDGE TO THE EXISTING EDGE OF PAVEMENT.
2. 3/4" DIA. CRUSHED STONE SHALL BE USED AS BEDDING WHERE TRENCH IS BELOW THE GROUND WATER TABLE

GRAVITY SEWER/DRAIN TRENCH DETAIL
NOT TO SCALE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATE APPROVED: PERMIT NO. 24-0295
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
DIVISION OF

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 10

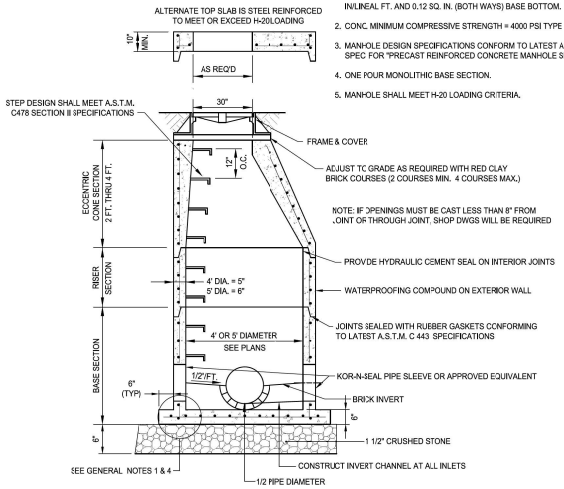
DRAWING NO.:
C8.10

SHEET NO. 68 OF 93

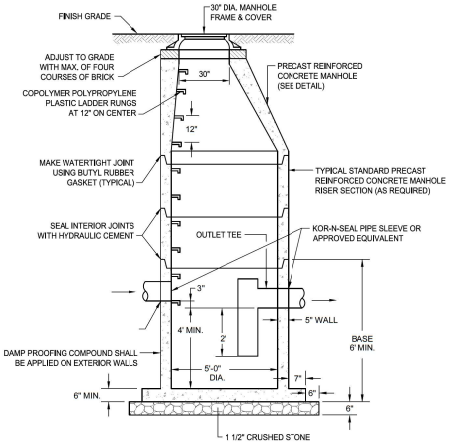
Item C1.

GENERAL NOTES:

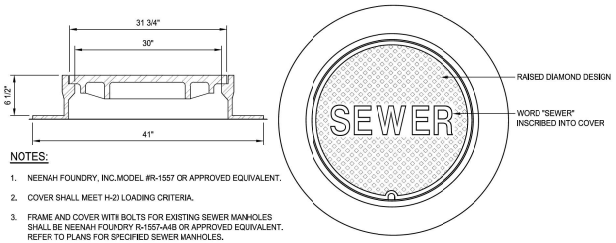
1. REINFORCING STEEL CONFORMS TO LATEST A.S.T.M. A 185 SPEC. 0.12 SQ. IN/LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
2. CONC. MINIMUM COMPRESSIVE STRENGTH = 4000 PSI TYPE III CEMENT.
3. MANHOLE DESIGN SPECIFICATIONS CONFORM TO LATEST A.S.T.M. C 478 SPEC FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
4. ONE POUR MONOLITHIC BASE SECTION.
5. MANHOLE SHALL MEET H-20 LOADING CRITERIA.



TYPICAL SEWER MANHOLE DETAIL
NOT TO SCALE



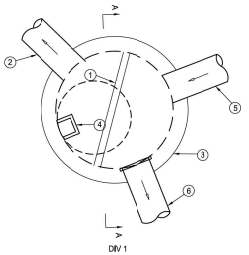
PRECAST CONCRETE OIL WATER SEPARATOR (OWS)
NOT TO SCALE

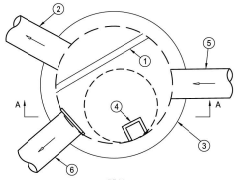


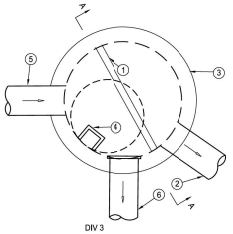
NOTES:

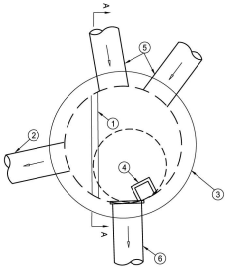
1. NEENAH FOUNDRY, INC. MODEL #R-1557 OR APPROVED EQUIVALENT.
2. COVER SHALL MEET H-20 LOADING CRITERIA.
3. FRAME AND COVER WITH BOLTS FOR EXISTING SEWER MANHOLES SHALL BE NEENAH FOUNDRY R-1557-A4B OR APPROVED EQUIVALENT. REFER TO PLANS FOR SPECIFIED SEWER MANHOLES.

SANITARY MANHOLE FRAME & COVER
NOT TO SCALE

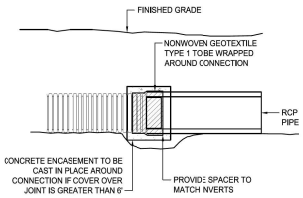


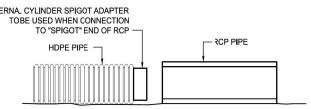






	Ⓐ	Ⓑ	Ⓒ
DIV-1	46.10	11	47.00
DIV-2	56.15	8	56.80
DIV-3	44.10	9	44.85
DIV-4	46.90	18	48.40

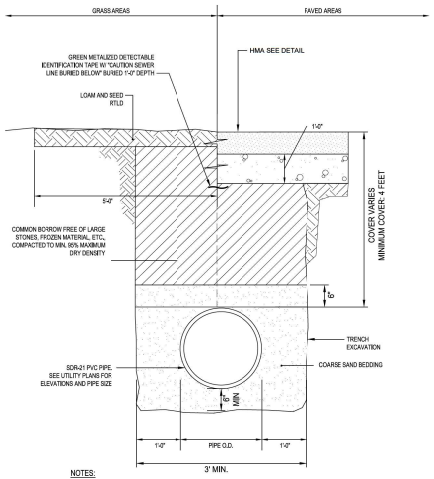




NOTES:

1. INTERNAL CYLINDER ADAPTER TO BE WELDED TO HDPE, OUTSIDE DIAMETER TO BE INSERTED INTO INSIDE DIAMETER OF CONCRETE PIPE.
2. NON-WOVEN GEOTEXTILE TO BE WRAPPED AROUND CONNECTION WITH FULL SEAM OVERLAP TO PROVIDE FULL PROTECTION FROM SOIL INTRUSION.
3. CONNECTION TO BE MADE IN ACCORDANCE WITH PIPE MANUFACTURER'S REQUIREMENTS.
4. INTERNAL CYLINDER SPIGOT ADAPTER NOT REQUIRED IF HDPE IS CONNECTION TO "BELL" END OF RCP.

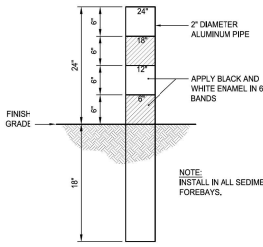
HDPE/RCP PIPE JOINT
NOT TO SCALE



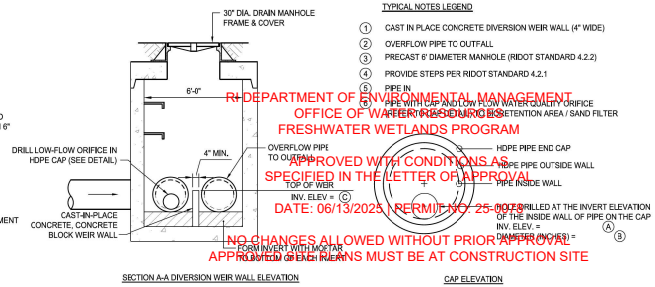
NOTES:

1. FOR PIPE INSTALLATION IN ROCK OR LEDGE MINIMUM TRENCH WIDTH SHOULD EQUAL THE DIAMETER OF THE PIPE PLUS 18 INCHES ON EACH SIDE.

TYPICAL SEWER FORCE MAIN TRENCH DETAIL
NOT TO SCALE



SEDIMENT MARKER DETAIL
NOT TO SCALE



TYPICAL NOTES LEGEND

1. CAST IN PLACE CONCRETE DIVERSION WEIR WALL (4" WIDE)
2. OVERFLOW PIPE TC OUTFALL
3. PRECAST 6' DIAMETER MANHOLE (RIDOT STANDARD 4.2.2)
4. PROVIDE STEPS PER RIDOT STANDARD 4.2.1
5. PIPE IN
6. PIPE WITH CAP AND LOW FLOW WATER QUALITY ORIFICE
7. AFTER CASE DETENTION BIO-RETENTION AREA / SAND FILTER

SECTION A-A DIVERSION WEIR WALL ELEVATION

CAP ELEVATION

TYPICAL DIVERSION MANHOLE DETAIL
NOT TOSCALE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
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401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
06.01.25
REGISTERED PROFESSIONAL ENGINEER
DIVISION

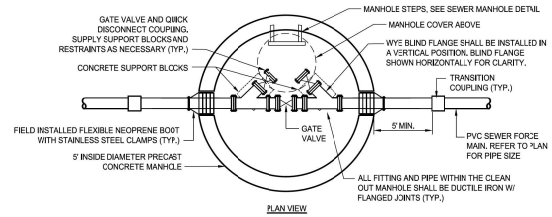
REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

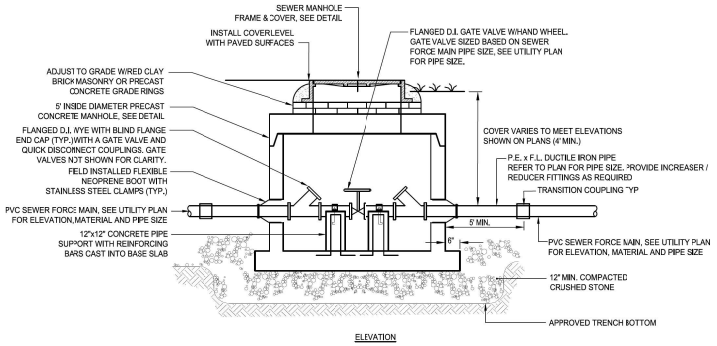
DRAWING TITLE:
DETAILS 11

DRAWING NO.:
C8.11

SHEET NO. 69 OF 93



PLAN VIEW



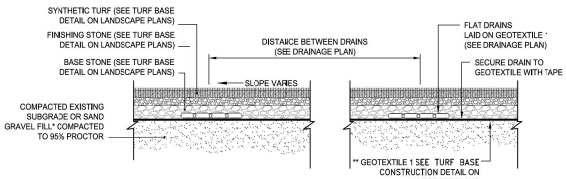
ELEVATION

NOTES:

1. MATERIAL BENEATH AND SURROUNDING EACH MANHOLE SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY.
2. ALL JOINTS BETWEEN MANHOLE SECTIONS SHALL BE SEALED WITH A BITUMASTIC SEALANT. ALL EXTERIOR JOINTS SHAL. BE PARGED.

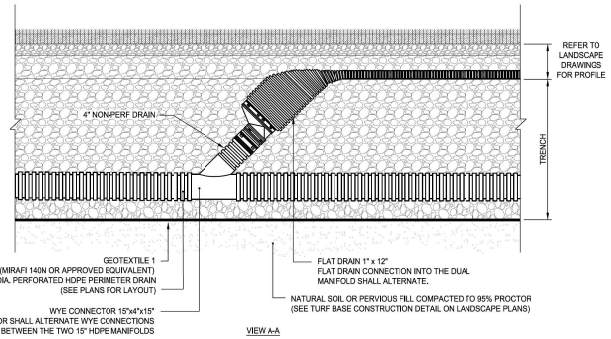
FORCE MAIN CLEANOUT MANHOLE

NOT TO SCALE



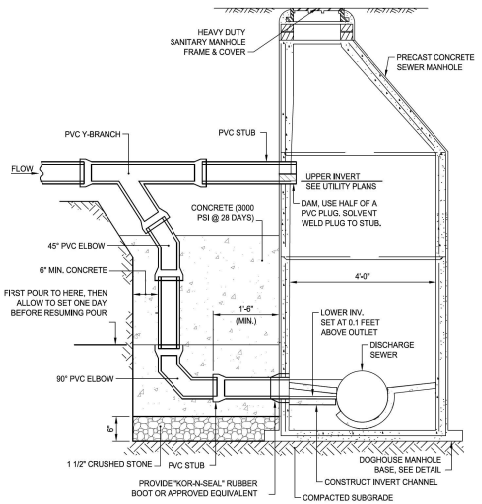
FLAT DRAINS UNDER SYNTHETIC TURF FIELD

NOT TO SCALE

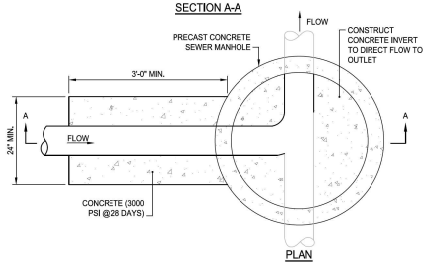


CONNECTION BETWEEN FLAT DRAIN & PERIMETER OR COLLECTOR DRAIN

NOT TO SCALE



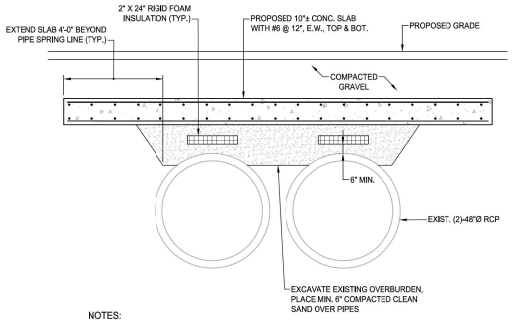
SECTION A-A



PLAN

OUTSIDE DROP MANHOLE DETAIL

NOT TO SCALE

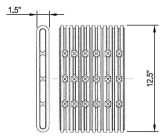


NOTES:

1. THIS DETAIL IS PROVIDED FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL INCLUDE COST FOR DESIGN AND INSTALLATION OF CROSSING IN BASE BID.
2. CONTRACTOR SHALL HIRE A STRUCTURAL ENGINEER TO PREPARE DESIGN DRAWINGS AND CALCULATIONS FOR A PROPOSED ROADWAY CROSSING OVER EXISTING 48" DIAMETER CULVERT PIPES.
3. ROADWAY CROSSING SHALL BE DESIGNED TO WITHSTAND H-20 LOADING CRITERIA, DISPERSE LOADS OFF EXISTING CULVERTS, AND AVOID DAMAGE TO EXISTING CULVERT PIPES. ROADWAY CROSSING IS WITHIN THE EXISTING FLOOD ZONE AND SHALL BE CAPABLE OF WITHSTANDING INUNDATION AND FORCES EXERTED BY SILVER CREEK DURING STORM EVENTS.
4. CONTRACTOR SHALL PROVIDE SUBMITTAL STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF RHODE ISLAND INCLUDING CALCULATIONS, PLANS, SECTION AND DETAILS FOR REVIEW BY THE OWNER'S REPRESENTATIVE.
5. CONTRACTOR SHALL SELECTIVELY DEMOLISH EXISTING FOUNDATION OVER EXISTING CULVERTS. CONTRACTOR SHALL PHOTODOCUMENT CULVERT PIPES BEFORE AND AFTER CONSTRUCTION TO CONFIRM THERE IS NO DAMAGE TO PIPES. COPY OF PHOTODOCUMENTATION SHALL BE PROVIDED TO OWNER'S REPRESENTATIVE.
6. SUBMITTAL SHALL DEPICT PORTIONS OF EXISTING FOUNDATION TO BE REMOVED AND PORTIONS OF FOUNDATION THAT WILL REMAIN IN PLACE.
7. 7. CONTRACTOR IS MADE AWARE THAT THE CROSSING IS WITHIN A FLOOD ZONE. DURING CONSTRUCTION, CONTRACTOR IS RESPONSIBLE TO ENSURE THAT PROPOSED IMPROVEMENTS ARE PROTECTED FROM FLOODING WITHIN SILVER CREEK.

HEAVY DUTY HOT MIX ASPHALT WITH 10" REINFORCED CONCRETE SLAB FOR CULVERT CROSSING

NOT TO SCALE



SLOT LENGTH AVG), IN.= 1.125
SLOT WIDTH (AVG), IN.= 0.125
WATER INLET AREA (APPROX), IN.^{2}/FT = 20

Fabric Properties	Test Method	Minimum Average Roll Values
Grab Tensile Strength (lbs.) (weakest principle direction)	ASTM D4632	120
Grab Elongation (%) (weakest principle direction)	ASTM D4633	80
Trapezoidal Tear (lbs.) (weakest principle direction)	ASTM D4533	40
Puncture (lbs.)	ASTM D3786	30
Permittivity (sec^{-1})	ASTM D4491	0.7
AOS (U.S. Sieve Size)	ASTM D4751	60
U.V. Resistance	ASTM D4355	70

NOTES:
1. DRAIN SHALL HAVE ANNULAR INTERIOR AND EXTERIOR CORRUGATIONS AND SHALL MEET ASTM D7001.
2. OUTSIDE DIMENSIONS SHALL BE 1.5" THICK BY 12.5" WIDE. SHALL HAVE INTERNAL BRACING ADJOINING EACH LONG WALL TO PREVENT CRUSHING UNDER TYPICAL LOADING.
3. ALL PIPE AND FITTINGS SHALL BE MADE OF POLYETHYLENE WITH A MINIMUM CELL CLASSIFICATION OF 424420C AS DEFINED AND DESCRIBED IN ASTM D3350.
4. DRAIN SHALL BE WRAPPED AS REQUIRED IN GEOTEXTILE FABRIC PER MANUFACTURER'S RECOMMENDATIONS.

FLAT DRAIN

NOT TO SCALE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

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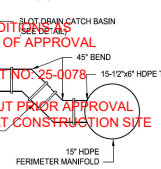

ATHLETIC FIELD SLOT DRAIN CONNECTION TO PERIMETER MANIFOLD

NOT TO SCALE

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

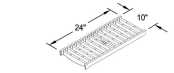
DETAILS 12

DRAWING NO.:

C8.12

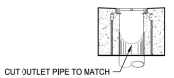
SHEET NO. 70 OF 93

Item C1.



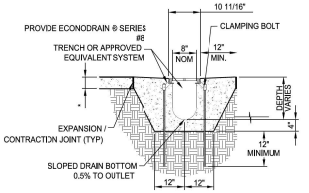
- STANDARD -
H-20 CAST IRON GRATE
55% OPEN AREA
65.8 SQ. INCHES PER LINEAR FOOT

GRATE DETAIL

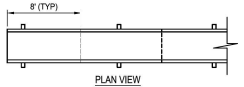


CUT OUTLET PIPE TO MATCH PROFILE OF TRENCH DRAIN

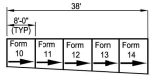
OUTLET FROM END OF TRENCH



SHALLOW EPS FORMS		
EPS FORM	DEPTH MIN	DEPTH MAX
10	8"	8 1/2"
11	8 1/2"	9"
12	9"	9 1/2"
13	9 1/2"	10"
14	10"	10 1/2"



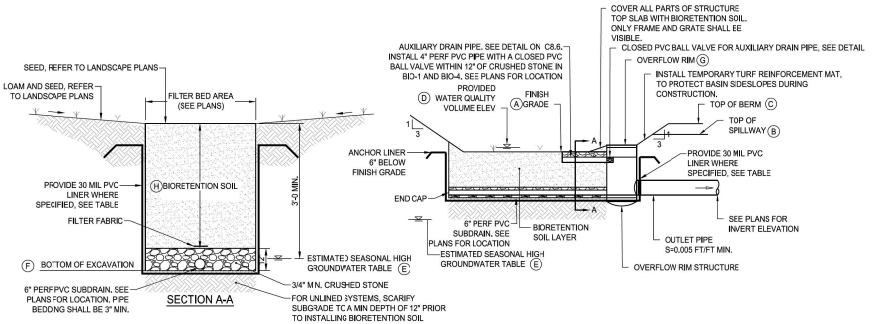
PLAN VIEW



SECTION

CONSTRUCTION NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
2. SECURE OUTLET PIPE PRIOR TO CONCRETING OPERATIONS.
3. TRENCH DRAIN AND GRATE SHALL BE RATED TO WITHSTAND H-20 LOADING CRITERIA.
4. REFER TO LANDSCAPING DRAWINGS FOR ATHLETIC TRENCH DRAINS.

TRENCH DRAIN DETAIL
NOT TO SCALE



SECTION A-A

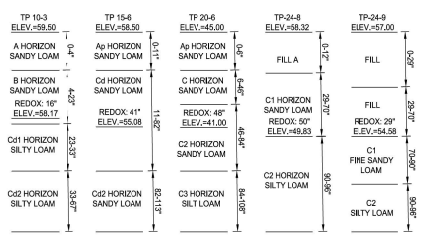
BIORETENTION SOIL: 85-88% SAND, 8-12% SILT, 3-5% COMPOST ORGANIC CONTENT SHALL BE 1.5%-3%

BIO	BIO-1*	BIO-2*	BIO-3	BIO-4
(A) FINISH GRADE	44.00	56.00	39.00	59.80
(B) TOP OF SPILLWAY	45.00	57.50	N/A	N/A
(C) TOP OF BERM	46.00	58.50	51.50	62.00
(D) PROVIDED WQV	44.50	54.66	58.91	58.42
(E) ESTIMATED SEASONAL HIGH GROUNDWATER TABLE	41.00	54.58	56.37	56.68
(F) BOTTOM OF EXCAVATION	42.00	52.00	55.25	56.80
(G) OVERFLOW RIM	44.50	56.50	59.75	60.30
TEST PIT'S REFERENCED	TP 20-6	TP 24-9	TP 24-8	TP 10-3 TP 15-6
(H) BIORETENTION MEDIA DEPTH	24"	36"	33"	36"
IS THE SYSTEM LINED?	NO	YES	YES	NO
DOES THE SYSTEM HAVE A SUBDRAIN?	NO	YES	YES	NO
DOES THE SYSTEM HAVE A AUXILIARY DRAIN PIPE?	YES	NO	NO	YES

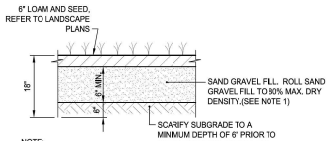
* SIDEWALK GRADE

NOTES:
1. ESHGWT WAS DETERMINED BY TEST PIT DATA PERFORMED ON FEBRUARY 22, 2010, JULY 23, 2015, OCTOBER 9, 2020, AND JULY 18, 2024.

BIORETENTION DETAIL
NOT TO SCALE

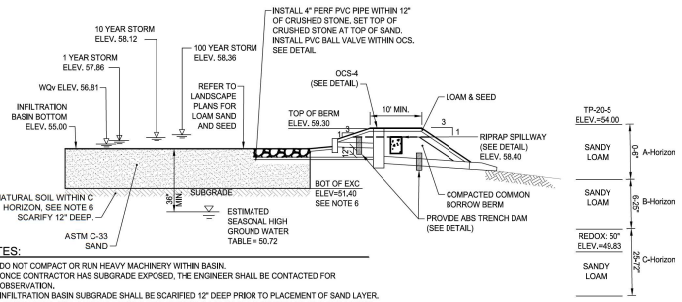


BIORENTION NOTES:
1. ABSOLUTELY NO RUNOFF SHALL ENTER THE BIORETENTION AREA UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.
2. CONSTRUCTION EQUIPMENT AND TRAFFIC SHALL BE RESTRICTED FROM TRAVELING OVER THE SAND FILTER AREA TO MINIMIZE COMPACTION OF THE SOILS.
3. IF NECESSARY, UTILIZE LIGHT-TRACKED EQUIPMENT WHEN EXCAVATING WITHIN THE BMP AREA TO AVOID COMPACTION OF THE BASIN FLOOR.
4. INITIALEXCAVATION SHALL BE CARRIED TO WITHIN 1 FOOT OF THE SUBGRADE ELEVATION. FINAL EXCAVATION TO THE BASIN SUBGRADE SHALL BE DEFERRED UNTIL ALL UPSTREAM DISTURBED AREAS HAVE BEEN STABILIZED OR PROTECTED.
5. CONTRACTOR SHALL CONTACT THE ENGINEER 48 HOURS PRIOR TO EXPOSING THE SUBGRADE TO COORDINATE ENGINEER'S OBSERVATION OF SUBGRADE.
6. CONSTRUCTION OF THE SYSTEM SHALL NOT PROCEED FURTHER UNTIL ENGINEER OBSERVES SUBGRADE AND BACKFILL MEDIA PRIOR TO INSTALLATION.
7. ESHGWT FOR BIO-04 WAS DETERMINED BY INTERPOLATING THE GROUNDWATER OBSERVED AT TP- 0-3 AND TP-15-6.



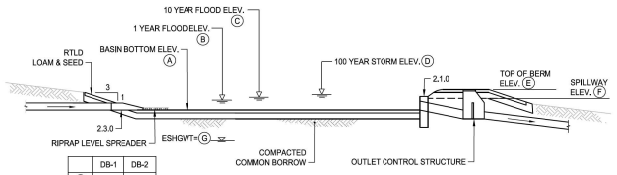
NOTE:
1. IF SOIL IN THE QPA HAS BEEN COMPACTED, THE SOIL MUST BE SUITABLY AMENDED, TILLED, AND RE-VEGETATED ONCE CONSTRUCTION IS COMPLETE.

QUALIFYING PERVIOUS AREA DETAIL
NOT TO SCALE



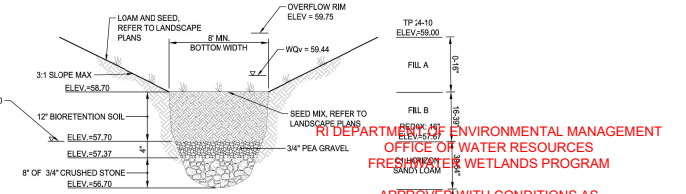
NOTES:
1. DO NOT COMPACT OR RUN HEAVY MACHINERY WITHIN BASIN.
2. ONCE CONTRACTOR HAS SUBGRADE EXPOSED, THE ENGINEER SHALL BE CONTACTED FOR OBSERVATION.
3. INFILTRATION BASIN SUBGRADE SHALL BE SCARIFIED 12" DEEP PRIOR TO PLACEMENT OF SAND LAYER.
4. RUNOFF SHALL NOT BE DIRECTED INTO THE BASIN UNTIL THE VEGETATION ON THE SIDE SLOPES HAS ESTABLISHED AND ALL UPSTREAM AREAS ARE STABILIZED.
5. BASIN BERM SHALL BE CONSTRUCTED WITH COMMON BORROW PLACED IN 12" LIFTS AND COMPACTED TO 95% TO FINISH GRADE. REMOVE ALL EXISTING TOPSOIL AND ORGANIC MATERIAL PRIOR TO CONSTRUCTION OF BASIN BERM. COMMON BORROW SHALL EXTEND 12" BELOW BASIN BOTTOM.
6. CONTRACTOR SHALL EXCAVATE ACROSS THE BASIN BOTTOM AS REQUIRED TO FULLY REMOVE THE 'A' AND 'B'-HORIZON SOILS. ASTM C-33 SAND SHALL BE PLACED TO PROPOSED SUBGRADE.
7. ESHGWT WAS DETERMINED BY INTERPOLATING THE GROUNDWATER OBSERVED AT TP-20-5.

INFILTRATION BASIN SECTION
NOT TO SCALE



	DB-1	DB-2
(A)	44.00	55.60
(B)	44.98	56.91
(C)	46.46	58.09
(D)	48.08	58.67
(E)	49.00	61.10
(F)	48.10	60.10
(G)	42.80	53.90

DETENTION BASIN SECTION
NOT TO SCALE



MODIFIED BIORETENTION SOIL: 75-80% SAND, 20-25% COMPOST SHALL BE WELL-AGED LEAF COMPOST

NOTES:
1. THE CONTRACTOR SHALL EXCAVATE ACROSS THE SWALE BOTTOM AS REQUIRED TO FULLY REMOVE THE 'A' AND 'B'-HORIZON SOILS. ASTM C-33 SAND SHALL BE PLACED TO PROPOSED SUBGRACE.
2. SEE PLANS FOR LOCATION AND INVERTS OF CATCH BASINS.
3. ESHGWT AS DETERMINED BY INTERPOLATING THE GROUNDWATER OBSERVATIONS OBSERVED ON JULY 18, 2024 AND FEBRUARY 22, 2010.

WET SWALE
NOT TO SCALE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

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Andy Charpentier

PARE

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BRISTOL, RI 02809
401-253-4000

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DAVID L. POTTER
No. 8665
06.02.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

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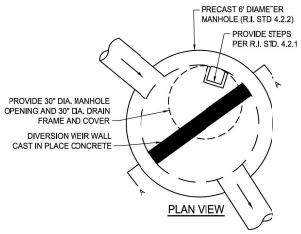
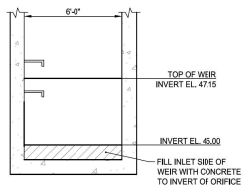
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 13

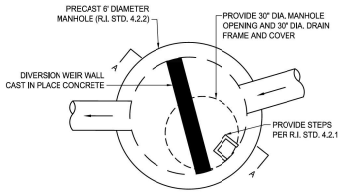
DRAWING NO.:
C8.13

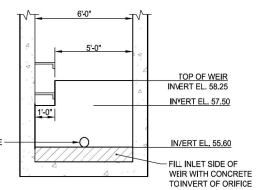
SHEET NO. 71 OF 93



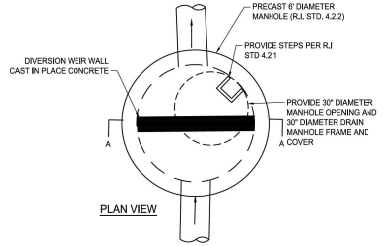


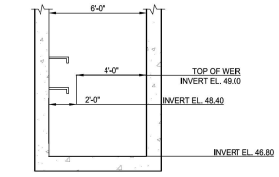
OUTLET CONTROL STRUCTURE (OCS-1)
NOT TO SCALE



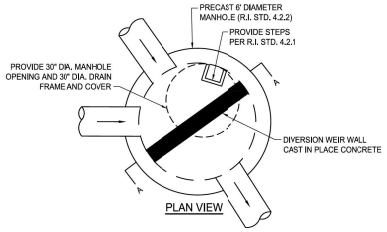


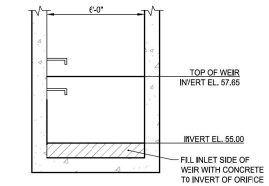
OJTLET CONTROL STRUCTURE (OCS-2)
NOT TO SCALE



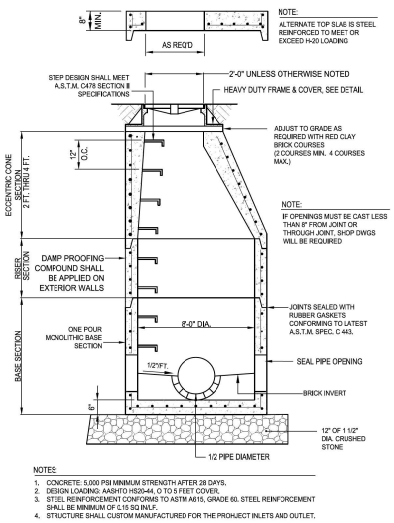


OUTLET CONTROL STRLCTURE (OCS-03)
NOT TO SCALE

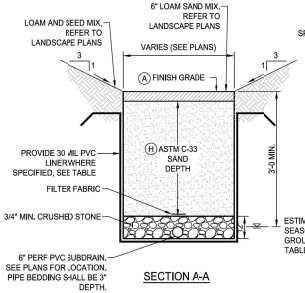


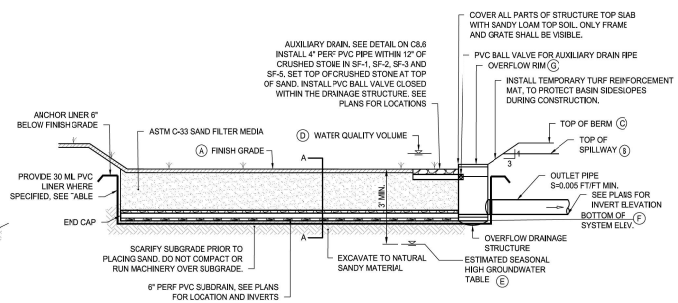


CUTLET CONTROL STRUCTURE (OCS-4)
NOT TO SCALE

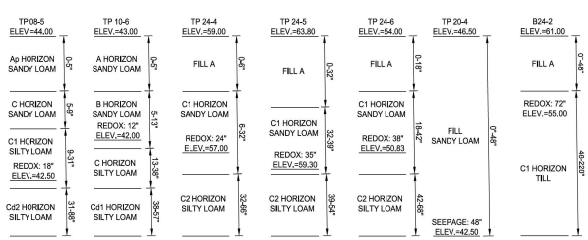


8' DIA DRAIN MANHOLE DETAIL
NOT TOSCALE

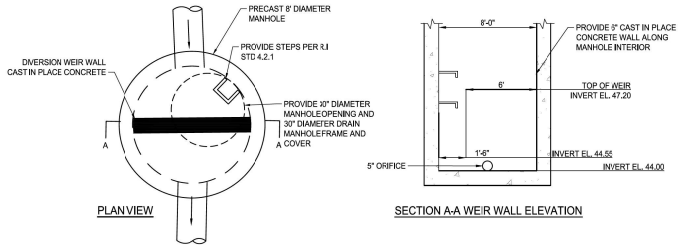




SAND FILTER	SF-1	SF-2	SF-3	SF-4	SF-5
A	46.00	54.85	60.00	61.00	49.00
B	48.10	56.00	61.10	N/A	50.2
C	49.00	57.00	62.00	62.00	51.50
D	46.63	55.02	57.97	59.00	49.35
E	42.50	51.83	53.30	63.40	45.40
F	42.50	51.85	57.00	58.00	46.00
G	46.65	55.25	60.65	61.50	49.75
H	36"	30"	30"	18"	30"
TEST PIT	TP 08-5 TP 10-6	TP 24-6	TP 24-4 TP 24-5 TP 2C-05	TP 24-5 TP 24-4	TP20-4
LINED	NO	NO	NO	YES	NO
SUBDRAIN	NO	NO	NO	YES	NO
AUXILIARY DRAIN	YES	YES	YES	YES	YES



SAND FILTER DETAIL
NO" TO SCALE



OUTLET CONTROL STRUCTURE (OCS-05)
NOT TO SCALE

SAND FILTER NOTES:

1. ABSOLUTELY NO RUNOFF SHALL ENTER THE SAND FILTER AREA UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.
2. CONSTRUCTION EQUIPMENT AND TRAFFIC SHALL BE RESTRICTED FROM TRAVELING OVER THE SAND FILTER AREA TO MINIMIZE COMPACTION OF THE SOILS.
3. IF NECESSARY, UTILIZE LIGHT-TRACKED EQUIPMENT WHEN OPERATING WITHIN THE SAND FILTER AREA TO AVOID COMPACTION OF THE BASIN FLOOR.
4. INITIAL EXCAVATION SHALL BE CARRIED TO WITHIN 1 FOOT OF THE SUBGRADE ELEVATION. FINAL EXCAVATION TO THE BASIN SUBGRADE SHALL BE DEFERRED UNTIL ALL UPSTREAM DISTURBED AREAS HAVE BEEN STABILIZED OR PROTECTED.
5. CONTRACTOR SHALL CONTACT THE ENGINEER 48 HOURS PRIOR TO EXPOSING THE SUBGRADE TO COORDINATE ENGINEER'S OBSERVATION OF SUBGRADE.
6. CONSTRUCTION OF THE SYSTEM SHALL NOT COMMENCE UNTIL ENGINEER OBSERVES SUBGRADE AND BACKFILL MEDIA AND GRANTS PERMISSION TO PROCEED.
7. SEED WITHIN SAND FILTER SHALL BE NATIVE GRASS MIX AS SHOWN ON LANDSCAPE PLANS.
8. SCREENED LOAM SHALL PLACED ABOVE THE SAND FILTER MEDIA SHALL CONFORM TO "LOAMY SAND" PER USDA TEXTURAL CLASSIFICATION SYSTEM.
9. ESHGWT WAS DETERMINED BY FROM TEST PIT DATA PERFORMED ON NOVEMBER 17, 2008, FEBRUARY 22, 2010, JULY 23, 2015, OCTOBER 9, 2020 AND JULY 18, 2004.
10. SAND FILTER-01 OVERFLOW DRAINAGE STRUCTURE SHALL HAVE A NEENAH FOUNDRY10" DIA. GRATE, MODEL#1291-5626 OR APPROVED EQUIVALENT. GRATE SHALL BE H-20 LOAD RATING AND COMPATIBLE WITH THE AREA DRAIN PRODUCT SPECIFIED.

IN DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATE: 06/13/2025 PERMIT NO: 25-0078
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.01.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

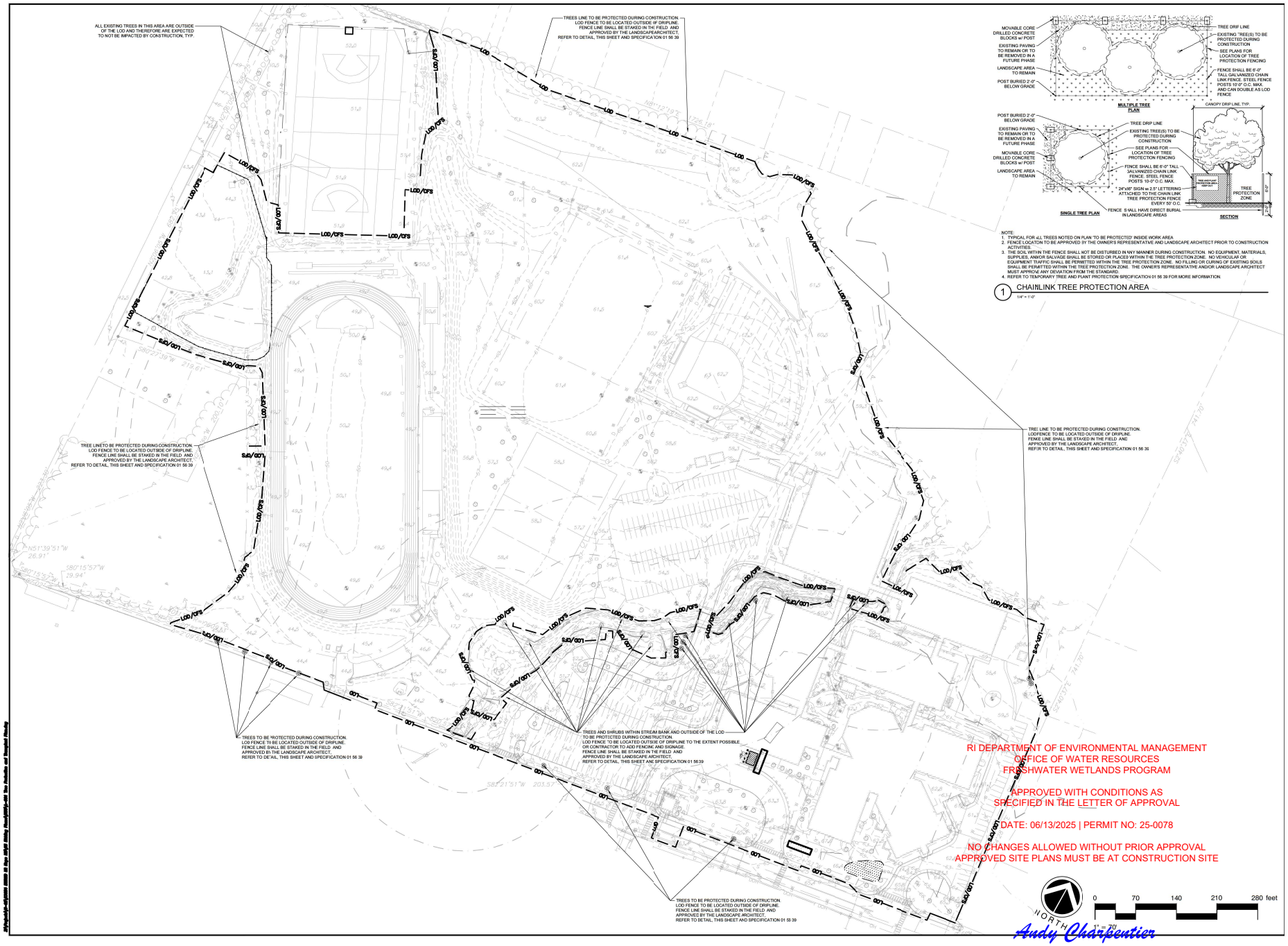
REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 14

DRAWING NO.:
C8.14

SHEET NO. 72 OF 93



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ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KATHLEEN MICHELL BRADNER
No. 429

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
TREE PROTECTION AND TRANSPLANT PLAN

DRAWING NO.:
L-001

SHEET NO. 73 OF 93

Plotted: 6/13/2025 10:03 AM By: DP Xrefs: Plan-Grading.dwg, Plan-Utilities.dwg, Plan-Landscape.dwg, Plan-Boundary.dwg, Plan-Survey.dwg

GENERAL INFORMATION

1. SITE SAFETY AND PEDESTRIAN SAFETY IS OF EXTREME IMPORTANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXECUTING THE WORK IN A SAFE MANNER AND WILL BE EXPECTED TO WORK OFF HOURS AS REQUIRED TO ACCOMMODATE CAMPUS ACTIVITIES WHILE MAINTAINING THE PROJECT SCHEDULE.
2. CONTRACTOR TO COORDINATE WITH PUBLIC SAFETY AND PARKING THROUGH THE CONSTRUCTION MANAGER.
3. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL OSHA REGULATIONS, COMPLIANCE IS MANDATORY.
4. SITE FENCING SHALL BE ERECTED AND MAINTAINED BY THE CONTRACTOR AND APPROVED BY THE OWNER PRIOR TO THE COMMENCEMENT OF WORK.
5. VEHICULAR TRAFFIC OR PARKING OF CONSTRUCTION VEHICLES UNDER THE DRIP LINES (IN OR OUT OF THE CONSTRUCTION LIMITS) OF TREES IS STRICTLY PROHIBITED AND VEHICLES MAY BE TOWED. REFER TO TREE PROTECTION DETAILS AND SPECIFICATIONS.
6. UNFORESEEN CONDITIONS ARE INHERENT TO UNDERGROUND WORK AND ARE TO BE EXPECTED WITH THIS PROJECT. THE CONTRACTOR WILL RESPOND TO UNFORESEEN CONDITIONS AND PROVIDE THE NEEDED MANPOWER AND EQUIPMENT NECESSARY TO COMPLETE THE PROJECT BY THE CONTRACT COMPLETION DATE.
7. STAKING SHALL BE PROVIDED AND PAID FOR BY THE CONTRACTOR. STAKING TO BE PERFORMED BY LICENSED LAND SURVEYOR.
8. SITE CLEAN-UP SHALL BE PERFORMED ON A DAILY BASIS. SIDEWALKS, PARKING LOTS, ROADWAYS, ETC. SHALL BE KEPT CLEAN AT ALL TIMES.
9. ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THIS PROJECT BUT NOT SET FORTH AS A SPECIFIC BID ITEM, SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THE COMPLETION OF THIS WORK.
10. REPAIR OR REPLACE EXISTING FACILITIES (CURBS, PAVEMENT, UTILITIES ETC.) TO REMAIN, AT NO ADDITIONAL EXPENSE TO THE OWNER.
11. IT IS INTENDED THAT ALL COSTS OF MATERIALS, EQUIPMENT, TOOLS, LABOR AND INCIDENTALS BE PAID FOR UNDER THE ITEMS LISTED ON THE BIDDER'S PROPOSAL. BEFORE SUBMITTING A BID ON THIS PROJECT, THE CONTRACTOR SHALL EXAMINE ALL DRAWINGS, SPECIFICATIONS, SPECIAL PROVISIONS AND THE JOB SITE. IF ANY DISCREPANCIES OR DELETIONS OCCUR IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPORT SAME TO THE OWNERS REPRESENTATIVE IN WRITING AND OBTAIN WRITTEN CLARIFICATION AND/OR INSTRUCTIONS ON HOW TO PROCEED.
12. WORK WHICH DOES NOT CONFORM TO THE REQUIREMENTS OF THE CONTRACT WILL BE CONSIDERED UNACCEPTABLE. UNACCEPTABLE WORK, WHETHER THE RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE MATERIALS, DAMAGE THROUGH CARELESSNESS OR ANY OTHER CAUSE, FOUND TO EXIST PRIOR TO THE FINAL ACCEPTANCE OF THE WORK, SHALL BE REMOVED AND REPLACED IN AN ACCEPTABLE MANNER, AS REQUIRED BY THE OWNERS REPRESENTATIVE OR LANDSCAPE ARCHITECT AT THE CONTRACTOR'S EXPENSE. WORK DONE CONTRARY TO THE INSTRUCTIONS. WORK DONE BEYOND THE LINES SHOWN ON THE PLANS OR ANY EXTRA WORK DONE WITHOUT AUTHORITY WILL NOT BE PAID FOR.
13. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE TOTAL SCOPE OF WORK AND ALL REQUIRED COORDINATION PRIOR TO SUBMITTING THEIR BID PROPOSAL, AND PRIOR TO COMMENCING WORK.
14. THE LOCATIONS OF ALL KNOWN UNDERGROUND UTILITIES ARE NOTED ON THE DRAWINGS. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS SHOWN ON THESE PLANS, IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION, SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES IN THE FIELD. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIG SAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE EXACT FIELD LOCATION OF UTILITIES. THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED, IN WRITING, OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTIONS TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.

MATERIAL NOTES

1. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ELEMENTS INCLUDING UTILITY LOCATIONS AND REQUIRED SLEEVING PRIOR TO INSTALLATION. VERIFY CRITICAL DIMENSIONS, REFERENCE POINT LOCATIONS AND CONSTRUCTION CONDITIONS PRIOR TO INITIATING CONSTRUCTION. TEMPORARY BENCHMARKS OR REFERENCE POINTS SHALL BE SET BY THE CONTRACTOR AS NECESSARY. NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHOULD ANY DISCREPANCY ARISE AND REDIRECT WORK TO AVOID DELAYS.
2. THE INTERFACE OF ALL PROPOSED IMPROVEMENTS TO EXISTING SHALL CONFORM AND BE SMOOTH AND UNIFORM.
3. ALL CHANGES IN SURFACE MATERIALS SHALL NOT HAVE A VERTICAL LEVEL CHANGE EXCEEDING 1/4" ABOVE FINISHED FLOOR OR 1/2" BEVELED WITH A MAXIMUM SLOPE OF 1:2.
4. REFER TO ARCHITECTURAL PLANS FOR ALL BUILDINGS.
5. REFER TO LANDSCAPE PLANS AND DETAILS FOR PLANTING AND PLANTING RELATED AMENITIES.
6. REFER TO CIVIL PLANS FOR INFORMATION REGARDING ROADWAY, CURBS, PAVEMENT STRIPING, TRAFFIC SIGNS, CROSSWALKS, UTILITIES, DRAINAGE, STORMWATER, GRADING, AND PHASING PLANS.
7. REFER TO ELECTRICAL PLANS FOR SITE LIGHTING, POWER AND COMMUNICATIONS INFORMATION SHOWN ON THIS PLAN. SITE LIGHTING IS FOR REFERENCE ONLY.
8. CONTRACTOR IS RESPONSIBLE FOR QUANTITIES OF ALL MATERIALS. ANY DISCREPANCIES BETWEEN PLAN AND SCHEDULE SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT.

LAYOUT NOTES:

1. ALL LINES ARE PERPENDICULAR OR PARALLEL TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
2. AUTOCAD PLANS OR ADDITIONAL COORDINATES WILL BE PROVIDED AFTER THE AWARD OF THE BID.

LAYOUT LEGEND:

CENTER LINE (TYPE)

NORTHING/EASTING POINT

TYPICAL DIMENSION (1'-0")

RADII DIMENSION (R4")

PROPOSED ANGLE BETWEEN ELEMENTS (45°)

POINT OF BEGINNING

REFERENCE NOTES SCHEDULE

SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	Alternate #
Athletic and Recreational Safety Netting					
	13-28-16A	12' Break-away Netting	160 lf	7/LA-305	
	13-28-16B	25' Break-away Netting	286 lf	7/LA-305	
	13-28-16C	25' Breakaway safety netting with 6' Chain Link Fence	289 lf	8/LA-304	
	13-28-16D	40' Softball Netted Backstop with padded knee wall and screened back with logo	90 lf	1/LA-303	
	13-28-16E	40' Netted Baseball Backstop with 42" padded knee wall and screened back with logo	150 lf	2/LA-307	
	13-28-16F	25' Netting with 42" padded knee rail	162 lf	4/LA-306	
SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	Alternate #
32 EXTERIOR IMPROVEMENTS					
	32-12-17A	Asphalt for Athletic Track	31,571 sf	2/LA-301	
	32-12-17B	Tennis Surfacing and Asphalt	32,256 sf	2/LA-309	
	32-12-16	Asphalt walkway	4,436 sf		Per Civil
CONCRETE PAVING					
	32-13-13	Concrete Paving	39,167 sf	1/L-301	
	32-13-13A	Concrete Paving	3,486 sf	1/L-301	ADD ALT #1 Bleacher, Pressbox, Support Building
	32-13-13B	Concrete Paving	9,200 sf	1/L-301	Add Alt #3 Baseball Field
	32-13-14	Exposed Aggregate Concrete Paving	3,828 sf	4/L-301	
AGGREGATE SURFACE					
	32-15-40	Crushed Stone Surfacing	471 sf	5/L-301	
CURBS AND GUTTERS					
	32-16-13	Granite Landscape Curb	370 lf	6/L-301	
	32-16-14	Flush Concrete Curb	114 lf	2/L-305	
	32-16-41	Turf Field End Curb	410 lf	13/LA-301	
ATHLETIC AND RECREATIONAL SURFACING					
	32-18-13	Synthetic Turf for Recreation Area	394 sf	5/L-305	
	32-18-23	Synthetic Turf Athletic Field Profile	91,928 sf	1/LA-301	
	32-18-24A	Baseball/Softball Infield Surfacing	25,418 sf	4/LA-302	
	32-18-24B	Warning Track	25,805 sf	8/LA-302	
	32-18-25	Track Surfacing	53,036 sf	2/LA-301	
FENCES AND GATES					
	32-31-13A	4' Black Chain Link Fence	2,978 lf	2/LA-304	
	32-31-13B	6' Black Chain Link Fence	1,309 lf	3/LA-304	
	32-31-13C	8' Black Chian Link Fence	144 lf	9/LA-304	
	32-31-13D	10' Black Chain Link Fence	914 lf	/	
	32-31-16	4' Wire Mesh Fence	347 lf	3/LA-305	
	32-31-16A	4' Wire Mesh Fence Mounted	522 lf	3/LA-305	
	32-31-16B	8' Wire Mesh Fence	334 lf	4/LA-305	
	32-31-19	6' Decorative Fence	1,237 lf	2/LA-305	
	32-31-23	8' PVC Fence	343 lf	6/LA-304	
RETAINING WALLS					
	32-32-13A	Poured in Place Concrete Retaining Wall A	99 lf	2/L-244	
	32-32-13B	Poured in Place Concrete Retaining Wall B	99 lf	3/L-244	
	32-32-13C	Poured in Place Concrete Retaining Wall C	140 lf	1/L-244	
	32-32-13D	Poured in Place Concrete Retaining Wall D	23 lf	2/L-244	
	32-32-13E	Poured in Place Concrete Retaining Wall E	404 lf	3/L-245	
	32-32-13F	Poured in Place Concrete Retaining Wall F	93 lf	2/L-245	ADD ALT #1 Bleacher, Pressbox, Support Building
	32-32-13G	Poured in Place Concrete Retaining Wall G	60 lf	7/L-301	
	32-32-13H	Poured in Place Concrete Seat wall H	102 lf	2/L-245	
	32-32-13I	Poured in Place Concrete Seat wall I	65 lf	2/L-245	
SITE FURNISHINGS					
	32-33-00A	Flagpole	4	1/L-302	
	32-33-00B	Bike Rack	62	2/L-302	
	32-33-00C	Bench	7	3/L-302	
	32-33-00D	Square Table and Chairs	3	4/L-302	
	32-33-00E	Litter/Recycle Receptacle	11	5/L-302	
	32-33-00F	Bollard	8	6/L-302	
	32-33-00G	Raised Planter	2	7/L-302	
	32-33-00H	ADA Raised Planter	2	7/L-302	
	32-33-00I	Lounge Chair	12	8/L-302	
	32-33-00J	Picnic Table	8	9/L-302	
	32-33-00K	Picnic Bench A	12	9/L-302	
	32-33-00L	Picnic Bench B	4	9/L-302	
	32-33-00M	ADA Patio Seating System	2	10/L-302	
	32-33-00N	Patio Seating System	5	10/L-302	
	32-33-00O	Cafe Table Set A	2	11/L-302	
	32-33-00P	Cafe Table Set B	3	11/L-302	
	32-33-00Q	Cafe Table Set C	3	11/L-302	
	32-33-00R	Athletic Litter/ Recycle Receptacle	16	15/L-302	
	32-34-13	Precast Concrete Boardwalk Paving	1,039 sf	4/L-304	
SODDING					
	32-92-23	Sodded Athletic Field Profile	209,148 sf	1/LA-302	
	32-92-24	LOWER ATHLETIC FIELD IMPROVEMENTS	87,946 sf		
PLANTING ACCESSORES					
	32-94-50A	Landscape Boulder	46	12/L-301	
SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	
33 UTILITIES					
D	33-40-00A	Natural Grass Athletic Field Collector Drain	2,382 lf	3/LA-302	
	33-41-16	12" Flat panel subdrain (see civil for details and specifications)	3,978 lf		
D	33-41-16B	Perimeter collector drain see (civil for specifications)	2,340 lf	3/LA-301	
	33-41-17	2" Sand Channel Drains for Athletic Fields	13,059 lf	2/LA-302	
	33-42-40A	Track Slot Drain	748 lf	8/LA-301	
	33-42-40B	Trench Drain - Track	554 lf	7/LA-301	
	33-42-40C	Trench Drain - Tennis	277 lf	1/LA-309	

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

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ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT MICHELL BRADNER No. 429

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
GENERAL NOTES AND SCHEDULES

DRAWING NO.:
L-100

SHEET NO. 74 OF 93

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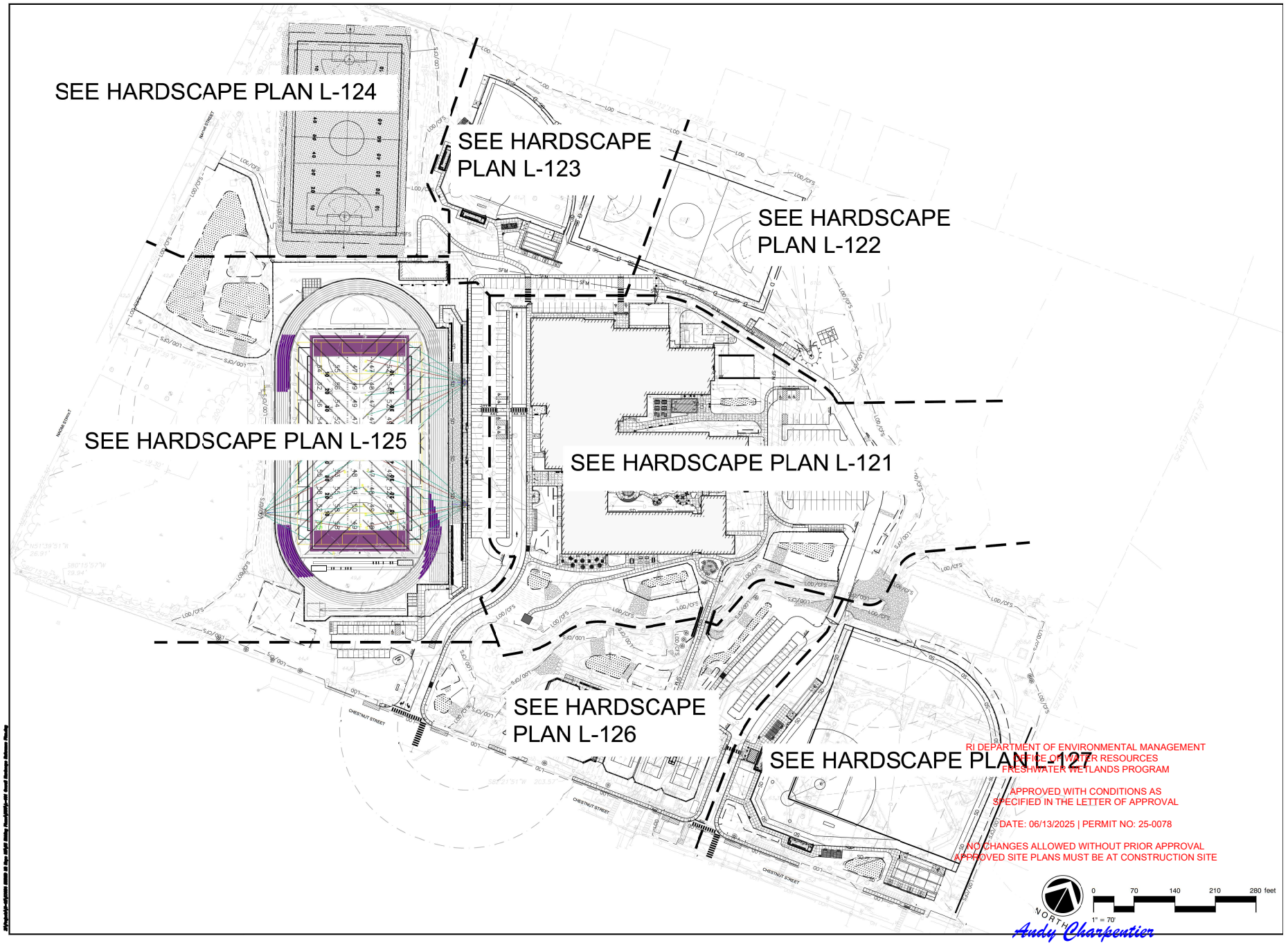

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REGISTERED LANDSCAPE ARCHITECT
JEFFREY MICHAEL BRADNER
No. 429

REVISIONS:

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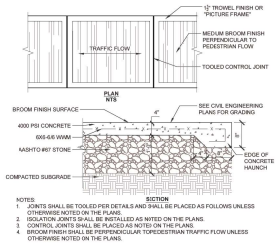
DRAWN BY:	DP
APPROVED BY:	KB

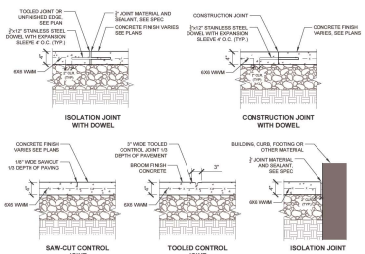
DRAWING TITLE:
OVERALL HARDSCAPE REFERENCE PLAN

DRAWING NO.:
L-101
SHEET NO. 75 OF 93

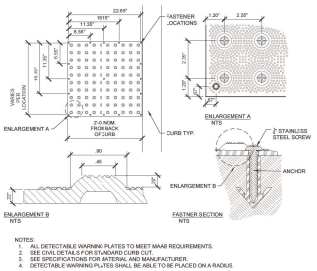


1 CONCRETE PAVING
1" = 1'-0"

NOTES:
1. JOINTS SHALL BE TOOLED PER DETAILS AND SHALL BE PLACED AS FOLLOWS UNLESS OTHERWISE NOTED ON THE PLANS.
2. ISOLATION JOINTS SHALL BE INSTALLED AS NOTED ON THE PLANS.
3. CONTROL JOINTS SHALL BE PLACED AS NOTED ON THE PLANS.
4. BROOM FINISH SHALL BE PERPENDICULAR TO PEDESTRIAN TRAFFIC FLOW UNLESS OTHERWISE NOTED ON THE PLANS.

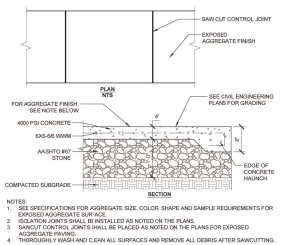


2 CONCRETE PAVEMENT JOINTS
1" = 1'-0"



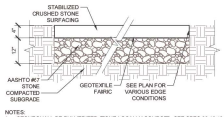
NOTES:
1. ALL DETECTABLE WARNING PLATES TO MEET MAAB REQUIREMENTS.
2. SEE CIVIL DETAILS FOR STANDARD CURB CUT.
3. SEE SPECIFICATIONS FOR JATERIAL AND MANUFACTURER.
4. DETECTABLE WARNING PLATES SHALL BE ABLE TO BE PLACED ON A RADIUS.

3 STEEL DETECTABLE WARNING PLATE
1" = 1'-0"



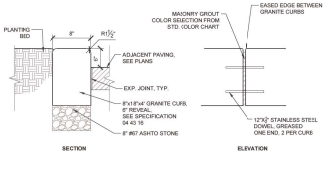
NOTES:
1. SEE SPECIFICATIONS FOR AGGREGATE SIZE, COLOR, SHAPE AND SAMPLE REQUIREMENTS FOR EXPOSED AGGREGATE SURFACE.
2. ISOLATION JOINTS SHALL BE INSTALLED AS NOTED ON THE PLANS.
3. SAWCUT CONTROL JOINTS SHALL BE PLACED AS NOTED ON THE PLANS FOR EXPOSED AGGREGATE FINISH.
4. THOROUGHLY WASH AND CLEAN ALL SURFACES AND REMOVE ALL DEBRIS AFTER SAWCUTTING.

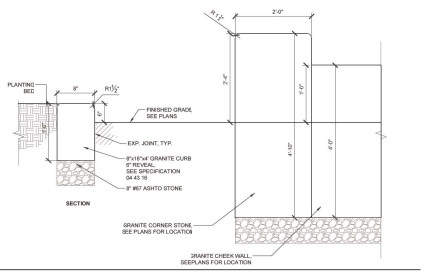
4 EXPOSED AGGREGATE CONCRETE PAVING
1" = 1'-0"



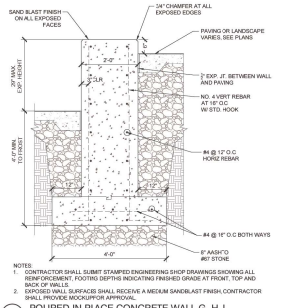
NOTES:
1. STONE SHALL BE PULVERIZED STONE LOCALLY-SOURCED. SEE SPEC 32 15 40.
2. SEE SPECIFICATION FOR MORE STONE AGGREGATE CRITERIA.
3. SEE PLANS FOR LOCATION AND LAYOUT

5 CRUSHED STONE SURFACING
1" = 1'-0"



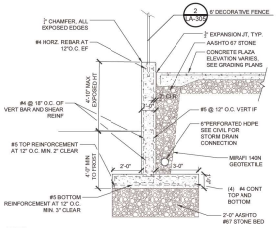


6 GRANITE LANDSCAPE CURB AND CORNERSTONE
1" = 1'-0"



NOTES:
1. CONTRACTOR SHALL SUBMIT STAMPED ENGINEERING SHOP DRAWINGS SHOWING ALL REINFORCEMENT, FOOTING DEPTHS INDICATING FINISHED GRADE AT FRONT, TOP AND BACK OF WALLS
2. EXPOSED WALL SURFACES SHALL RECEIVE A MEDIUM SANDBLAST FINISH, CONTRACTOR SHALL PROVIDE MOCKUP FOR APPROVAL.

7 POURED IN PLACE CONCRETE WALL G, H, I
3/4" = 1'-0"



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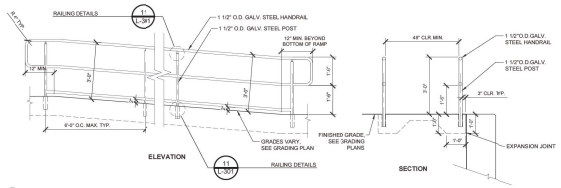
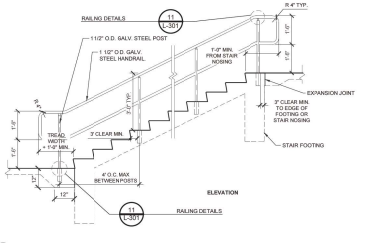
3. CONTROL JOINT APPROX. EVERY 20', EXPANSION JOINTS APPROX. EVERY 40', REFER TO STRUCTURAL PLAN, S 300, FOR JOINT DETAILS.

8 POURED IN PLACE CONCRETE WALL F
3/8" = 1'-0"

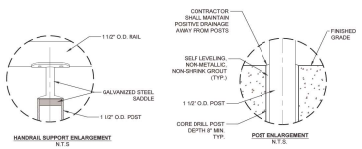
RAILING SYSTEM NOTES:
1. RAILING SYSTEMS FOR RAMPS AND STEPS SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
2. RAILING SYSTEMS SHALL BE GALVANIZED STEEL.
3. POSTS SHALL BE PLUMB. RAILS AND HAND GRIPS SHALL SLOPE WITH STAIR NOSINGS OR RAMP SLOPES.
4. CONTRACTOR SHALL PROVIDE FULL SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATEOF RHODE ISLAND. SHOP DRAWINGS SHALL INDICATE FINISHED GRADE AND AS-BUILT DIMENSIONS OF STEPS AND RAMPS.
5. RAILING SYSTEMS SHALL COMPLY WITH 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN GUIDELINES AND MEET LIVE AND STATIC LOADS PER IBC BUILDING CODE.
6. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.



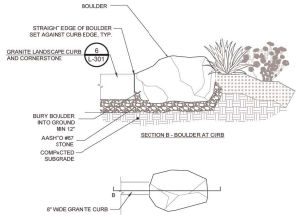
9 RAILING SYSTEM AT RAMP
1/2" = 1'-0"



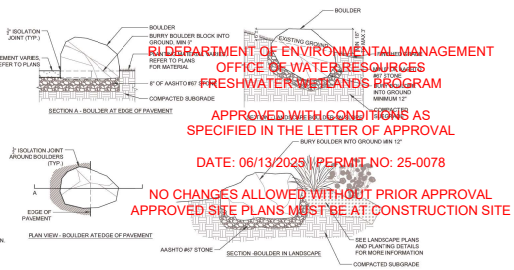
10 RAILING SYSTEM AT STAIRS
1/2" = 1'-0"



11 RAILING DETAILS
1/2" = 1'-0"



NOTES:
1. BOULDER LOCATIONS SHALL BE FIELD VERIFIED BY LANDSCAPE ARCHITECT PRIOR TO FINAL INSTALLATION.
2. SEE SPECIFICATIONS FOR BOULDER TYPE, COLOR, JOINT MATERIAL, ETC.
3. BOULDERS SHALL BE 24" MIN TO 40" MAX IN ANY DIRECTION, NATURALLY ROUNDED.



12 LANDSCAPE BOULDER DETAILS
1/2" = 1'-0"

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

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Andy Charpentier

PARE

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BRISTOL, RI 02809
401-253-4000

TRAVERSE
landscape architects
150 Chestnut Street, 4th Floor
Providence, RI 02903
401-383-4950
www.traverserla.com

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

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199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KEITH MICHAEL BRADNER
No. 429

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.:
L-301
SHEET NO. 78 OF 93

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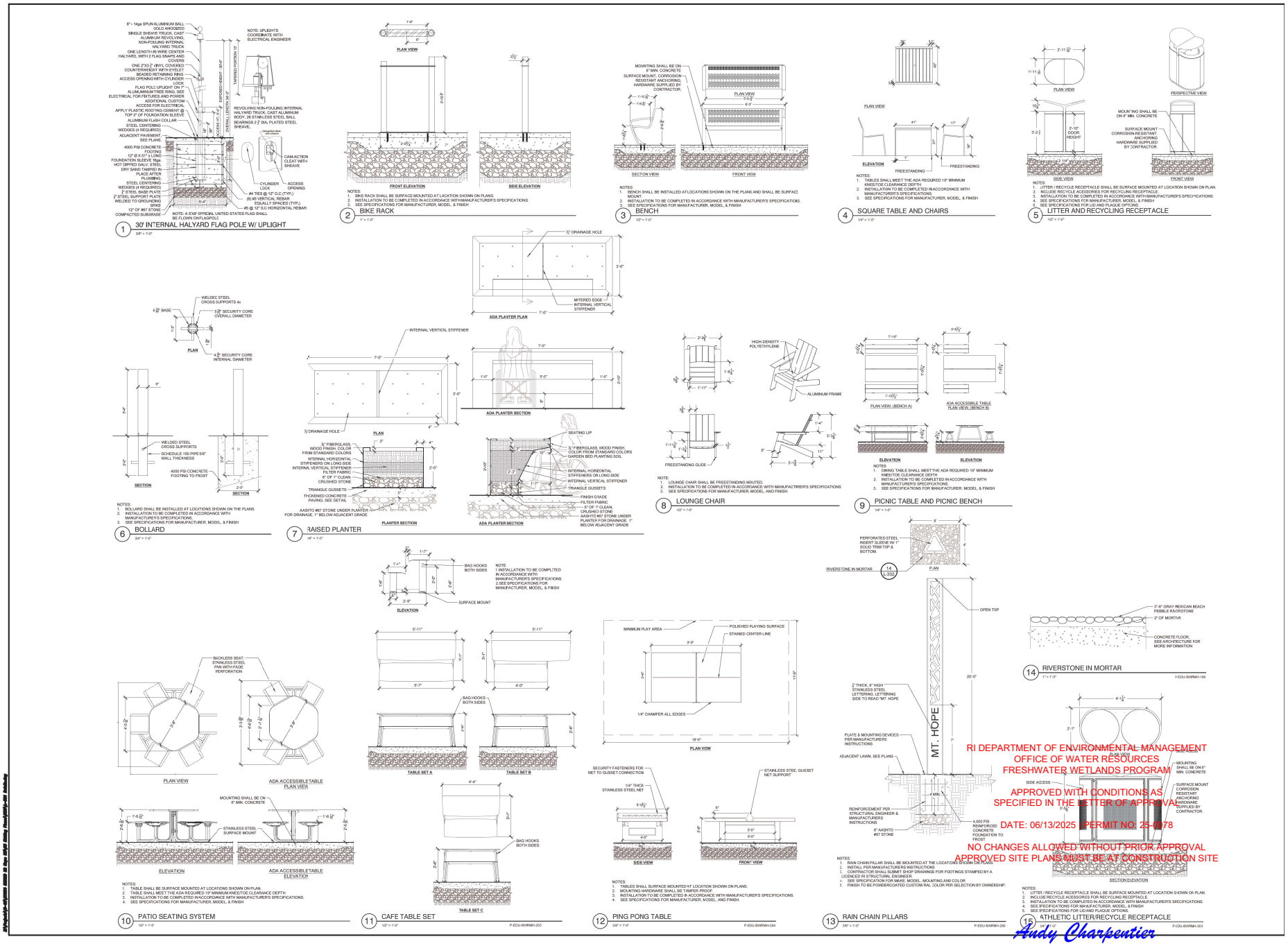
Item C1.



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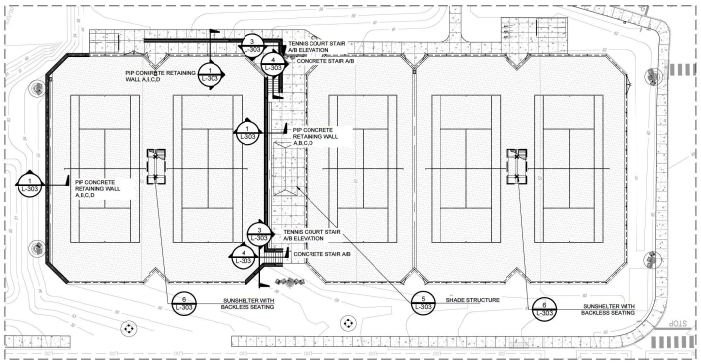
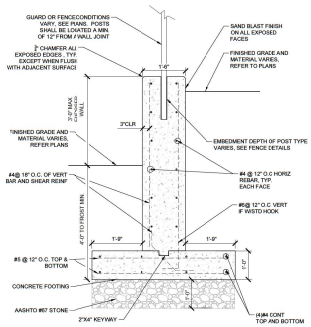
DRAWING NO.:	L-302
SHEET NO.	77 OF 93



KEY PLAN



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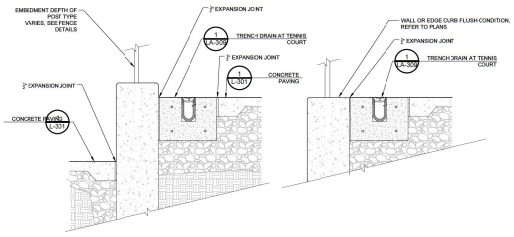
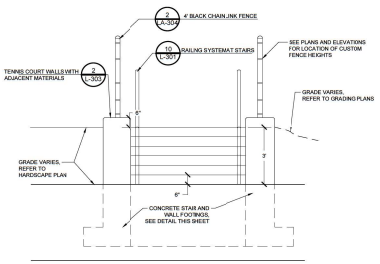
1 PIP CONCRETE RETAINING WALL A,B,C,D
3/4" = 1'-0"

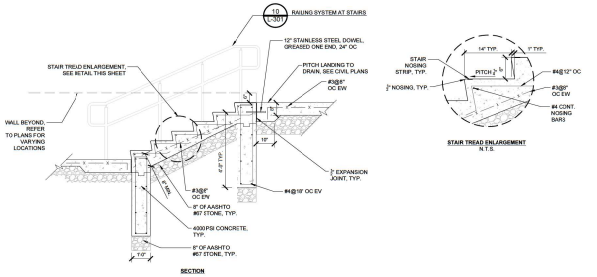


NOTES:
1. CONTRACTOR TO SUBMIT STAMPED STRUCTURAL SHOP DRAWINGS SHOWING ALL REINFORCEMENT, FOOTING DEPTHS INDICATING FINISHED GRADING AT FRONT, TOP AND BACK OF WALLS

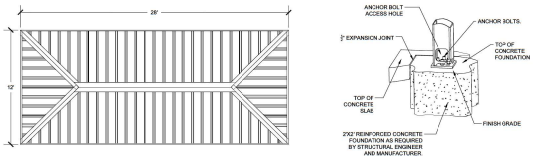
2 TENNIS COURT WALLS WITH ADJACENT MATERIALS
3/4" = 1'-0"

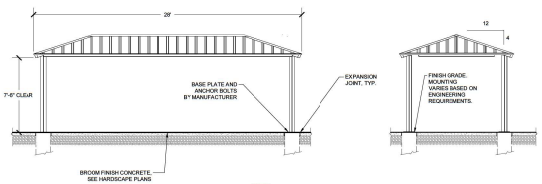


3 TENNIS COURT STAIF A/B ELEVATICN
1/2" = 1'-0"
P-EDU-BWRMH-276



4 CONCRETE STAIR A/B
1/2" = 1'-0"





NOTES:
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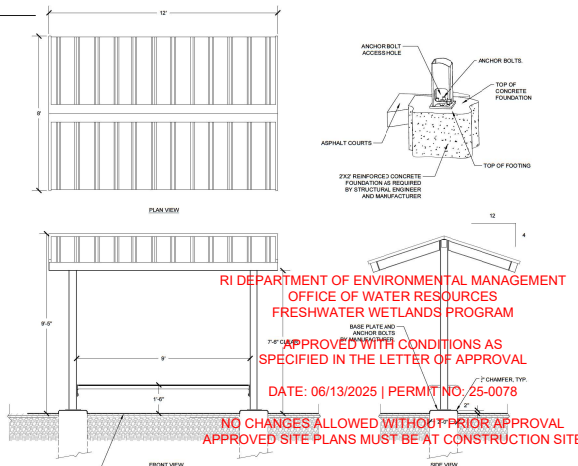
2. CONTRACTOR MAY SUGGEST AND ALTERNATE FOUNDATION DETAIL PONDING IT IS REVIEWED AND STAMPED BY A RI LICENSED STRUCTURAL ENGINEER.
3. OWNER SHALL HAVE TINAL APPROVALS ON ALL COLORS.

5 SHADE STRUCTURE
1/4" = 1'-0"
P-EDU-BWRMH-284



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3. OWNER SHALL HAVE FINAL APPROVALS ON ALL COLORS.

6 SUNSHELTER WITH BACKLESS SEATING
1/2" = 1'-0"
P-EDU-BWRMH-286

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DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.: L-303
SHEET NO. 78 OF 93

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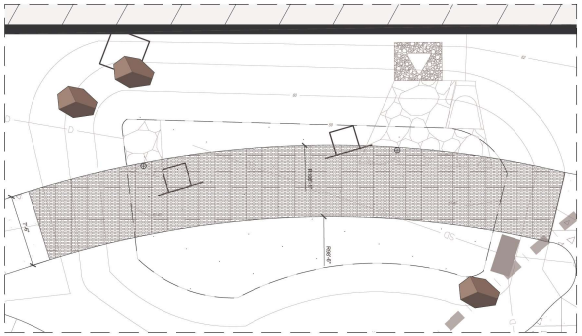
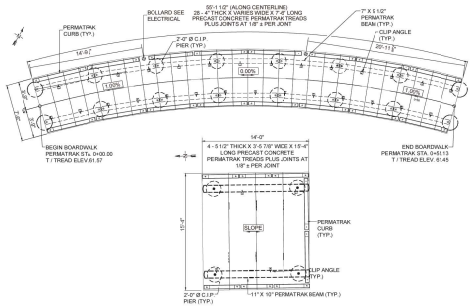
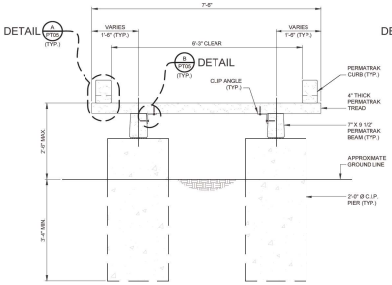
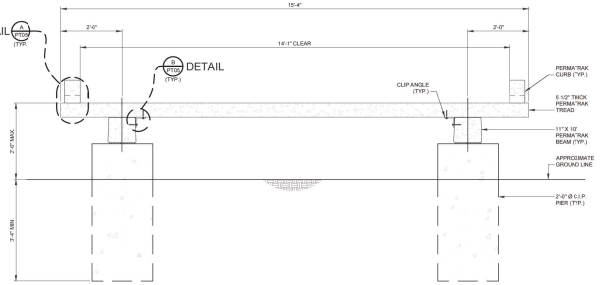
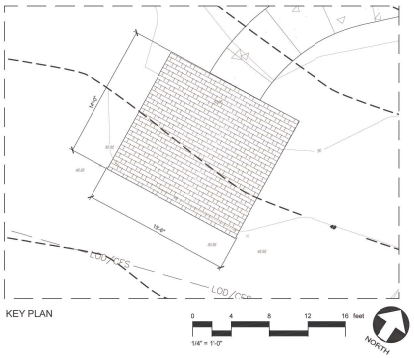
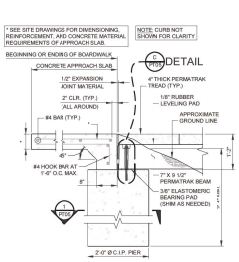




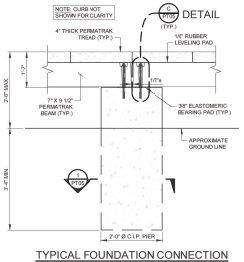




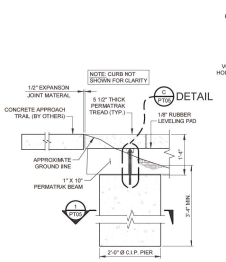




TYPICAL APPROACH AT BOARDWALK
SCALE: N.T.S



TYPICAL FOUNDATION CONNECTION
DETAIL AT BOARDWALK
SCALE: N.T.S



APPROACH AT PLATFORM
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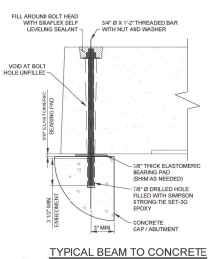
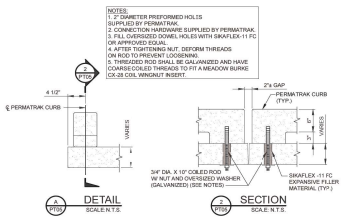
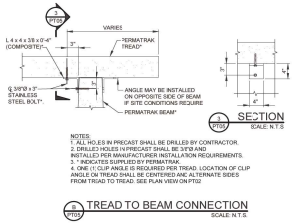


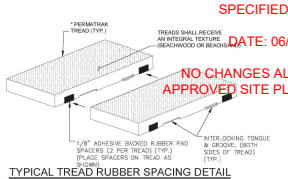
TYPICAL BEAM TO CONCRETE
FOUNDATION CONNECTION DETAIL
SCALE: N.T.S







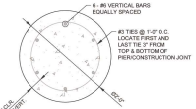
TREAD TO BEAM CONNECTION
SCALE: N.T.S



TYPICAL TREAD RUBBER SPACING DETAIL
SCALE: N.T.S



TYPICAL SHIM (UNDER TREAD)
& TREAD SPACING DETAIL
SCALE: N.T.S



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235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

TRAVERSE landscape architects
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401-383-4950
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SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
JEFFREY MICHAEL BRADNER
No. 429

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.: L-304
SHEET NO. 79 OF 93

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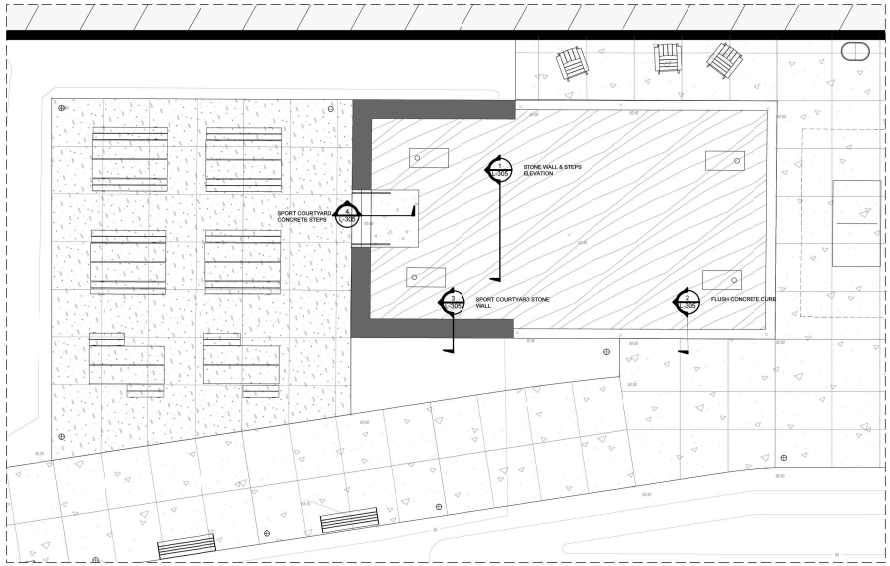
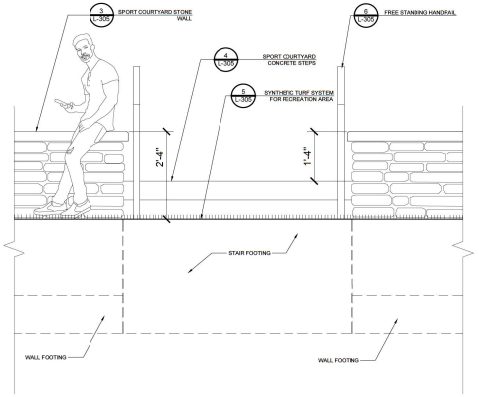
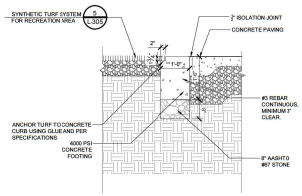
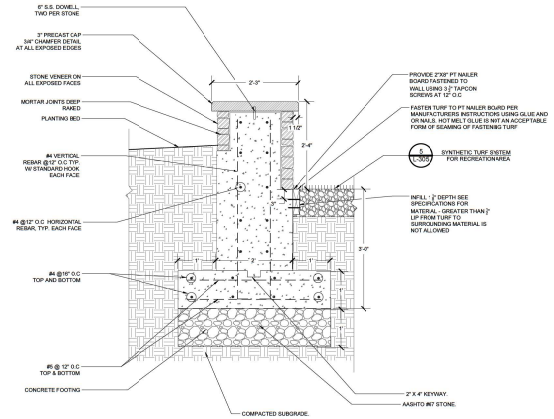




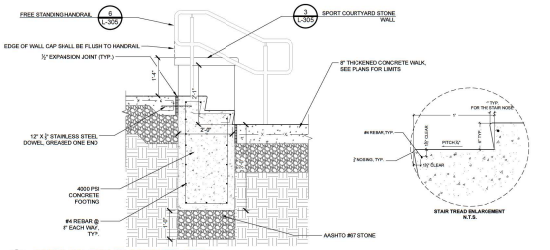
1 STONE WALL & STEPS ELEVATION
1" = 1'-0"



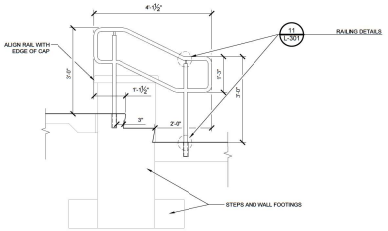
2 FLUSH CONCRETE CURB
3/4" = 1'-0"



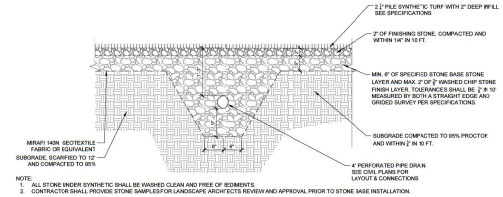
3 SPORT COURTYARD STONE WALL
1" = 1'-0"



4 SPORT COURTYARD CONCRETE STEPS
3/4" = 1'-0"



6 FREE STANDING HANDRAIL
3/4" = 1'-0"



NOTE:
1. ALL STONE UNDER SYNTHETIC SHALL BE WASHED CLEAN AND FREE OF SEDIMENTS.
2. CONTRACTOR SHALL PROVIDE STONE SAMPLES FOR LANDSCAPE ARCHITECTS REVIEW AND APPROVAL PRIOR TO STONE BASE INSTALLATION.

5 SYNTHETIC TURF SYSTEM FOR RECREATION AREA
1" = 1'-0"

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

PARE

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REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
KEITH MICHELL GRADNER
No. 429

REVISIONS:

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DATE:	JUNE 02, 2025
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CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.:
L-305
SHEET NO. 80 OF 93

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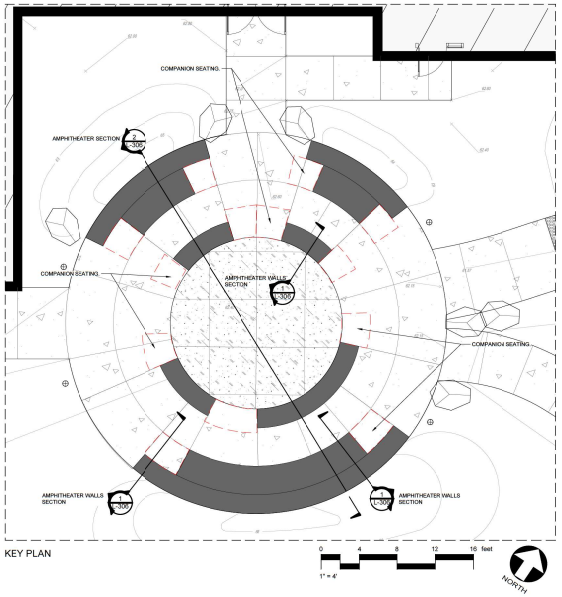
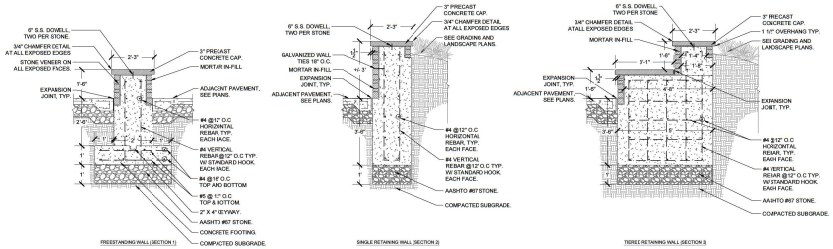


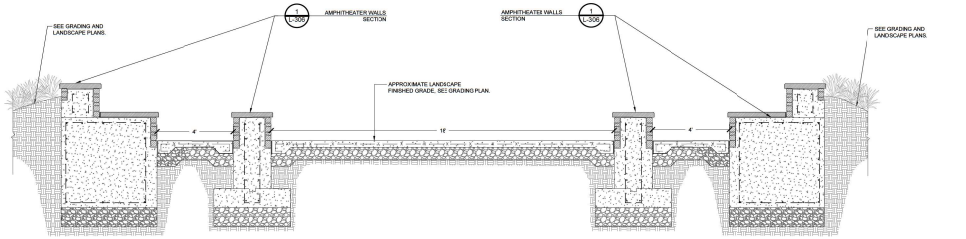
KEY PLAN



1 AMPHITHEATER WALLS SECTION

1/2" = 1'-0"

P-EDU-BWRMH-281



2 AMPHITHEATER SECTION

1/2" = 1'-0"

P-EDU-BWRMH-282



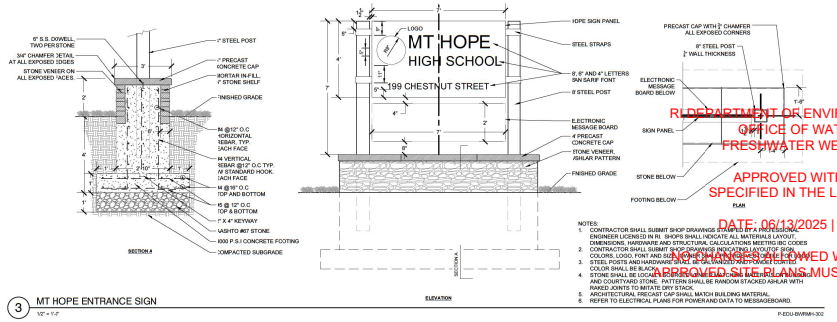
AMPHITEATRE WALLS IMAGE 1



AMPHITEATRE WALLS IMAGE 2



AMPHITEATRE WALLS IMAGE 3



NOTES:
1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN RI. SHOPS SHALL INDICATE ALL MATERIALS LAYOUT, DIMENSIONS, HARDWARE AND STRUCTURAL CALCULATIONS MEETING IBC CODES
2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING LAYOUT OF RGB COLORS, LOGO, FONT AND SIZE OF LETTERS AND NUMBERS.
3. STEEL POSTS AND HARDWARE SHALL BE PAINTED AND POWDER COATED
4. STONE SHALL BE ASHLAR PATTERN, SIMILAR TO ADJACENT WALLS AND COURTYARD STONE. PATTERN SHALL BE RANDOM STACKED ASHLAR WITH RAKED JOINTS TO MITIATE DRY STACK.
5. ARCHITECTURAL PRECAST CAP SHALL MATCH BUILDING MATERIAL.
6. REFER TO ELECTRICAL PLANS FOR POWER AND DATA TO MESSAGEBOARD.

3 MT HOPE ENTRANCE SIGN

1/2" = 1'-0"

P-EDU-BWRMH-302

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

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Andy Charpentier

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JEFF MICHEL GRADNER
No. 429

REVISIONS:

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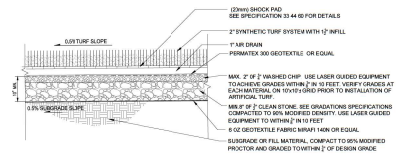
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.:
L-306
SHEET NO. 81 OF 93



NOTE:
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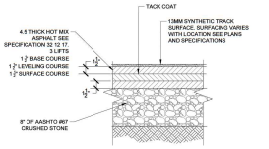
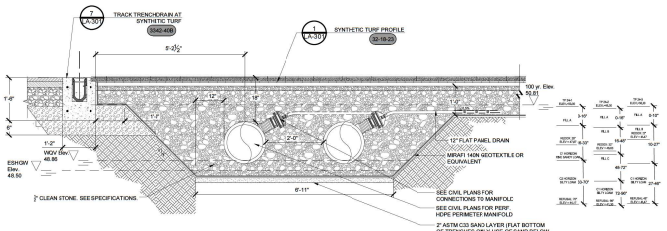
2. CONTRACTOR SHALL PROVIDE STONE SAMPLES FOR LANDSCAPE ARCHITECTS REVIEW AND APPROVAL PRIOR TO STONE BASE INSTALLATION.

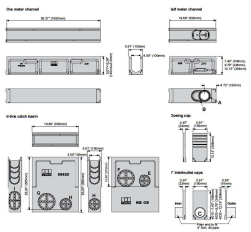
1 SYNTHETIC TURF PROFILE
1" = 1'-0"



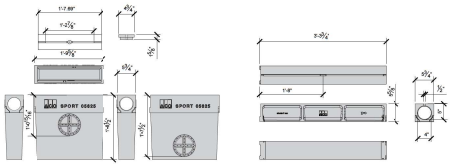
2 TRACK SURFACING PROFILE
1 1/2" = 1'-0"



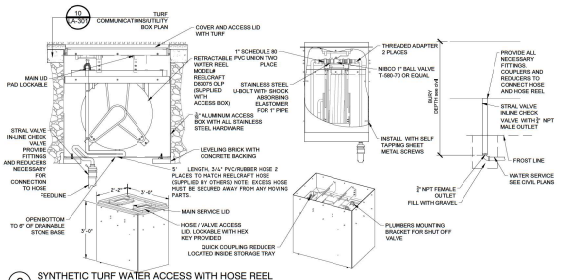
3 TRACK CURB AND PERIMETER DRAINAGE DETAIL
3/4" = 1'-0"



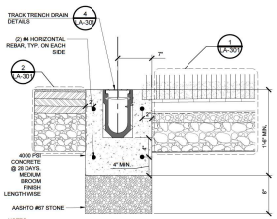
4 TRACK TRENCH DRAIN DETAILS
3/4" = 1'-0"



5 TRACK SLOT DRAIN DETAILS
1" = 1'-0"

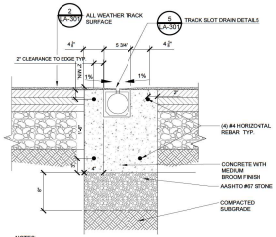


6 SYNTHETIC TURF WATER ACCESS WITH HOSE REEL
1/2" = 1'-0"



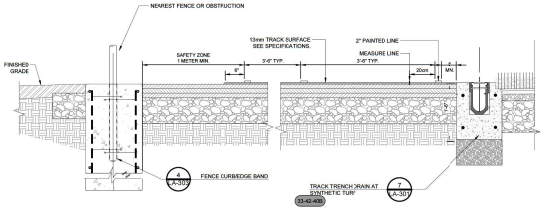
NOTES:
1. PROVIDE SAW CUT JOINT 8" O/ CENTER
2. JOINTS TO BE ON BOTH SIDES OF GRATE

7 TRACK TRENCH DRAIN AT SYNTHETIC TURF
1 1/2" = 1'-0"

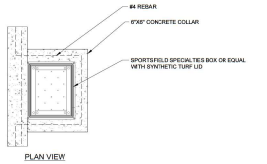


NOTES:
1. CONCRETE BEDDING SHALL HAVE SAW CUT JOINTS AT BOTH ENDS OF DRAIN SEGMENTS.
2. CONCRETE FINISH FOR TRACK SLOT AND TRENCH DRAINS SHALL BE MEDIUM BROOM.

8 TRACK SLOT DRAIN
1 1/2" = 1'-0"

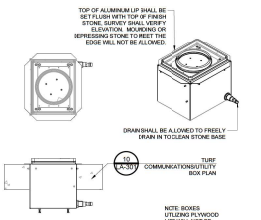


9 TRACK SECTION WITH TRENCH CURB
1" = 1'-0"

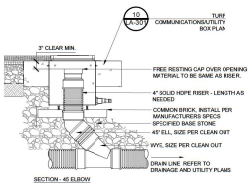


PLAN VIEW

10 TURF COMMUNICATIONS/UTILITY BOX PLAN
1" = 1'-0"

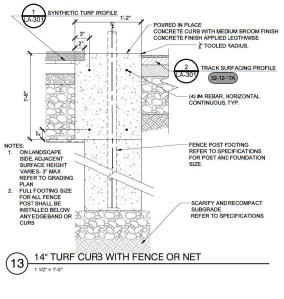


11 ALUMINUM UTILITY BOX WITH INFILL RETAINER
1" = 1'-0"



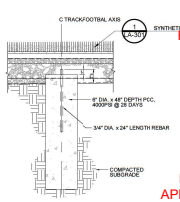
SECTION - 45 ELBOW

12 SYNTHETIC TURF STORM CLEANOUT
1" = 1'-0"



NOTES:
1. ON LANDSCAPE SIDE ADJACENT SURFACE HEIGHT VARIES- 3" MAX REFER TO GRADING PLAN
2. FULL FOOTING SIZE FOR ALL FENCE POST SHALL BE INSTALLED BELOW ANY EDGEBAND OR CURB

13 14" TURF CURB WITH FENCE OR NET
1 1/2" = 1'-0"



14 RADIUS POINT MARKER
3/4" = 1'-0"
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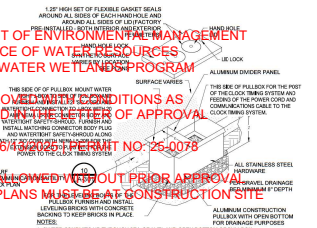

NOTES:
1. SWEEP CONDUITS UP THROUGH PEA GRAVEL AND OPEN BOTTOM OF PULLBOX.
2. PULLBOX DIMENSIONS VARY FROM MANUFACTURE TO MANUFACTURE
3. REFER TO MANUFACTURE OF PULLBOX'S INFORMATION FOR COMPLETE INSTALLATION DETAILS.
4. BOX FURNISHED AND INSTALLED BY ATHLETIC FIELD CONTRACTOR.

15 ATHLETIC COMBOX
1" = 1'-0"

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REGISTERED LANDSCAPE ARCHITECT JOEL MICHAEL BRADNER No. 429 RHODE ISLAND

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DRAWING TITLE:
SITE DETAILS

DRAWING NO.: LA-301
SHEET NO. 82 OF 93

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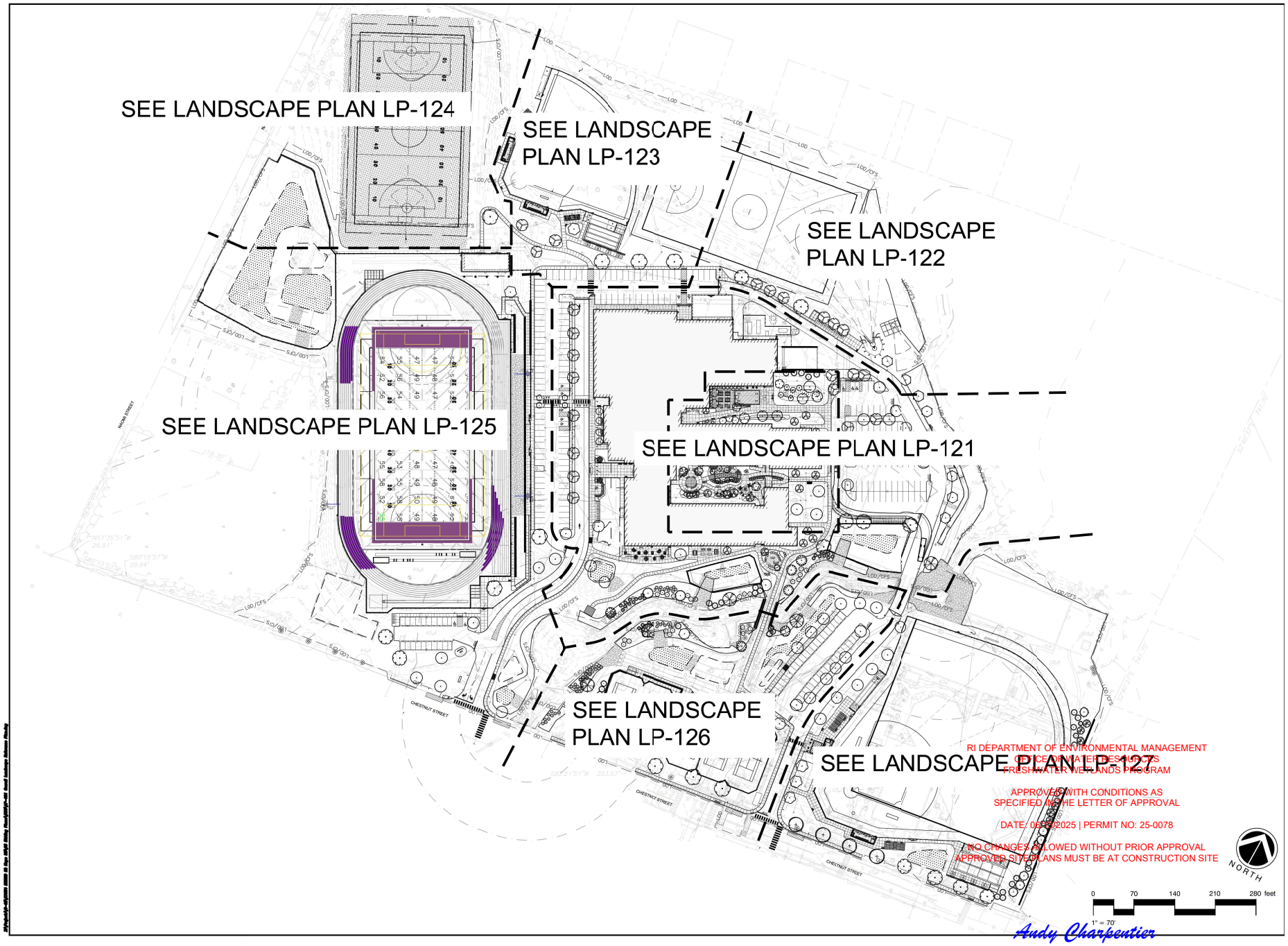

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KIMBERLY M. BRADNER
No. 429

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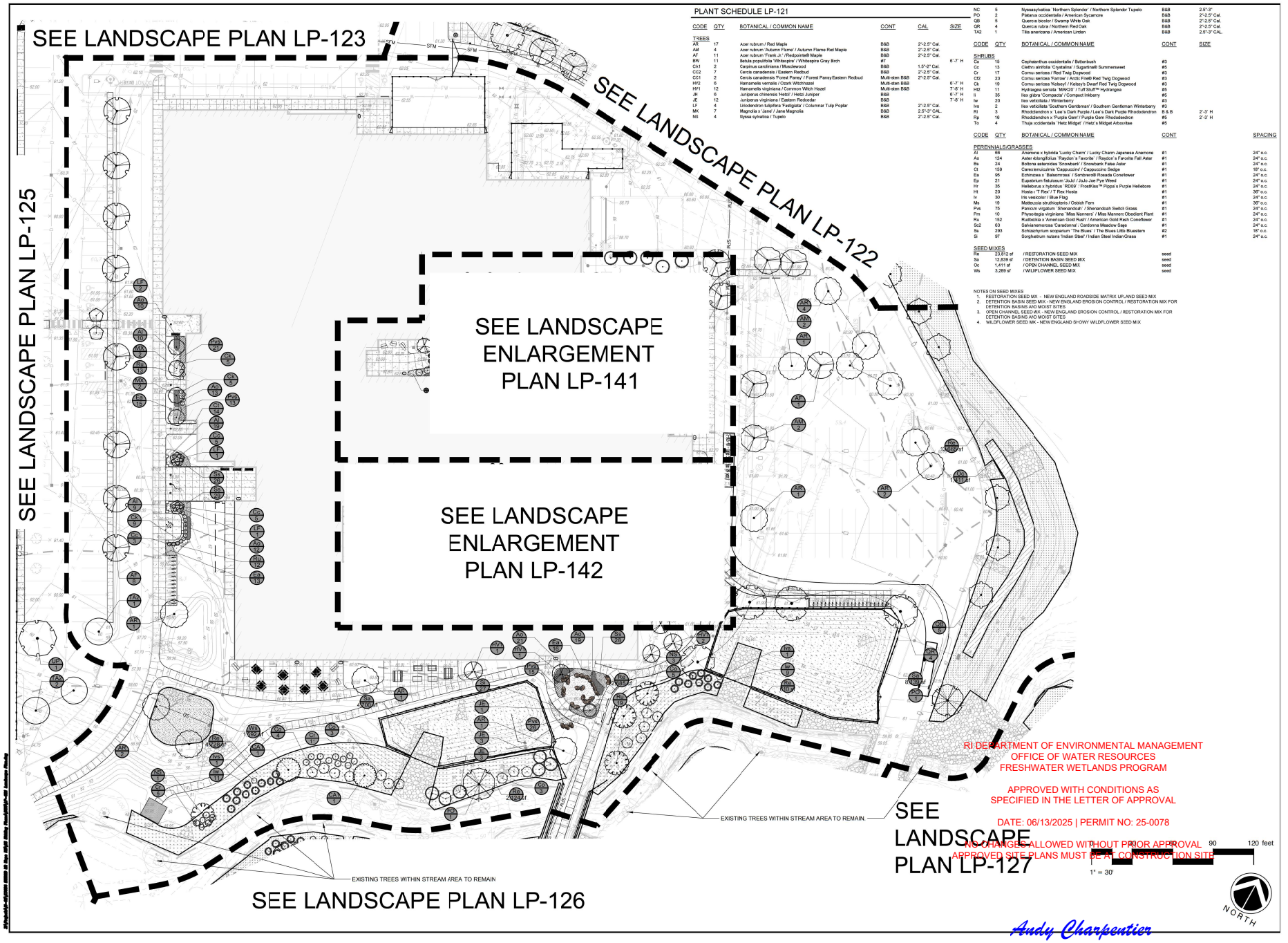
DRAWING TITLE:
OVERALL PLANTING PLAN

DRAWING NO.:
LP-101

SHEET NO. 83 OF 93



PLANT SCHEDULE LP-121

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES					
AR	17	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
AM	4	Acer rubrum 'Autumn Flame' / Autumn Flame Red Maple	B&B	2"-2.5" Cal.	
AF	11	Acer rubrum 'Frank Jr.' / Redpointe® Maple	B&B	2"-2.5" Cal.	
BN	11	Betula populifolia 'Whitespire' / Whitespire Gray Birch	#7		6'-7" H
CA1	2	Carpinus caroliniana / Musclewood	B&B	1.5"-2" Cal.	
CC2	7	Cercis canadensis / Eastern Redbud	B&B	2"-2.5" Cal.	
CC1	2	Cercis canadensis 'Forest Pansy' / Forest Pansy Eastern Redbud	Multi-sten B&B	2"-2.5" Cal.	
HV2	6	Hamamelis vernalis / Ozark Witchhazel	Multi-sten B&B		6'-7" H
HV1	12	Hamamelis virginiana / Common Witch Hazel	Multi-sten B&B		7'-8" H
JH	6	Juniperus chinensis 'Hetzii' / Hetzi Juniper	B&B		6'-7" H
JE	12	Juniperus virginiana / Eastern Redcedar	B&B		7'-8" H
LF	4	Liriodendron tulipifera 'Fastigiata' / Columnar Tulip Poplar	B&B	2"-2.5" Cal.	
MK	7	Magnolia x 'Jane' / Jane Magnolia	B&B	2.5"-3" CAL.	
NS	4	Nyssa sylvatica / Tupelo	B&B	2"-2.5" Cal.	
NC	5	Nyssasylvatica 'Northern Splendor' / Northern Splendor Tupelo	B&B	2.5"-3"	
PO	2	Platanus occidentalis / American Sycamore	B&B	2"-2.5" Cal.	
QB	5	Quercus bicolor / Swamp White Oak	B&B	2"-2.5" Cal.	
QR	4	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.	
TA2		Tilia americana / American Linden	B&B	2.5"-3" CAL.	

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS				
Ce	15	Cephalanthus occidentalis / Buttonbush	#3	
Cc	13	Clethra alnifolia 'Crystalina' / Sugartina® Summersweet	#5	
Cr	17	Cornus sericea / Red Twig Dogwood	#3	
Cf2	23	Cornus sericea 'Farrow' / Arctic Fire® Red Twig Dogwood	#3	
Ck	19	Cornus sericea 'Kelseyi' / Kelsey's Dwarf Red Twig Dogwood	#3	
Hd2	11	Hydrangea serrata 'MAK20' / Tuff Stuff™ Hydrangea	#5	
Ii	35	Ilex glabra 'Compacta' / Compact Inkberry	#5	
Iw	20	Ilex verticillata / Winterberry	#3	
Ivs	2	Ilex verticillata 'Southern Gentleman' / Southern Gentleman Winterberry	#3	
Rl	3	Rhododendron x 'Lee's Dark Purple / Lee's Dark Purple Rhododendron	B & B	2'-3" H
Rp	16	Rhododendron x 'Purple Gem' / Purple Gem Rhododendron	#5	2'-3" H
To	4	Thuja occidentalis 'Hetz Midget' / Hetz's Midget Arborvitae	#5	

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
PERENNIALS/GRASSES				
Al	66	Anemone x hybrida 'Lucky Charm' / Lucky Charm Japanese Anemone	#1	24" o.c.
Ao	124	Aster ebsinifolius 'Raydon's Favorite' / Raydon's Favorite Fall Aster	#1	24" o.c.
Ba	24	Bottona asteroides 'Snowbank' / Snowbank False Aster	#1	24" o.c.
Ci	159	Carex tenuiculmis 'Cappuccino' / Cappuccino Sedge	#1	18" o.c.
Ea	95	Echinacea x 'Balsomrose' / Sambrero® Roseda Conelower	#1	24" o.c.
Ep	21	Eupatrium fistulosum 'JoJo' / JoJo Joe Pye Weed	#1	24" o.c.
Hr	35	Helleborus x hybridus 'RD09' / FrostKiss™ Pippa's Purple Hellebore	#1	24" o.c.
Ht	20	Hosta x 'T Rex' / T Rex Hosta	#1	36" o.c.
Iv	30	Iris veesicolor / Blue Flag	#1	24" o.c.
Ms	19	Matteccia struthiopteris / Ostrich Fern	#1	36" o.c.
Pve	76	Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass	#1	24" o.c.
Pm	10	Physostegia virginiana 'Miss Manners' / Miss Manners Obedient Plant	#1	24" o.c.
Ru	152	Rudbeckia x 'American Gold Rush' / American Gold Rush Coneflower	#1	24" o.c.
Sc2	63	Salvianemorosa 'Caradonna' / Cardonna Meadow Sage	#1	24" o.c.
Ss	293	Schizachyrium scoparium 'The Blues' / The Blues Little Bluestem	#2	18" o.c.
Si	97	Sorghastrum nutans 'Indian Steel' / Indian Steel Indian Grass	#1	24" o.c.

SEED MIXES			
Re	23,812 sf	/ RESTORATION SEED MIX	seed
Sa	12,839 sf	/ DETENTION BASIN SEED MIX	seed
Os	1,411 sf	/ OPEN CHANNEL SEED MIX	seed
Ws	3,289 sf	/ WILDFLOWER SEED MIX	seed

NOTES ON SEED MIXES
1. RESTORATION SEED MX - NEW ENGLAND ROADSIDE MATRIX UPLAND SEED MIX
2. DETENTION BASIN SEED MIX - NEW ENGLAND EROSION CONTROL / RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES
3. OPEN CHANNEL SEED MX - NEW ENGLAND EROSION CONTROL / RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES
4. WILDFLOWER SEED MX - NEW ENGLAND SHOWY WILDFLOWER SEED MIX

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

PARE

OWNER/APPLICANT:
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BRISTOL, RI 02809
401-253-4000

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SCALE ADJUSTMENT GUIDE
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199 Chestnut Street
ASSESSOR'S PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT MICHAEL BRADNER No. 429

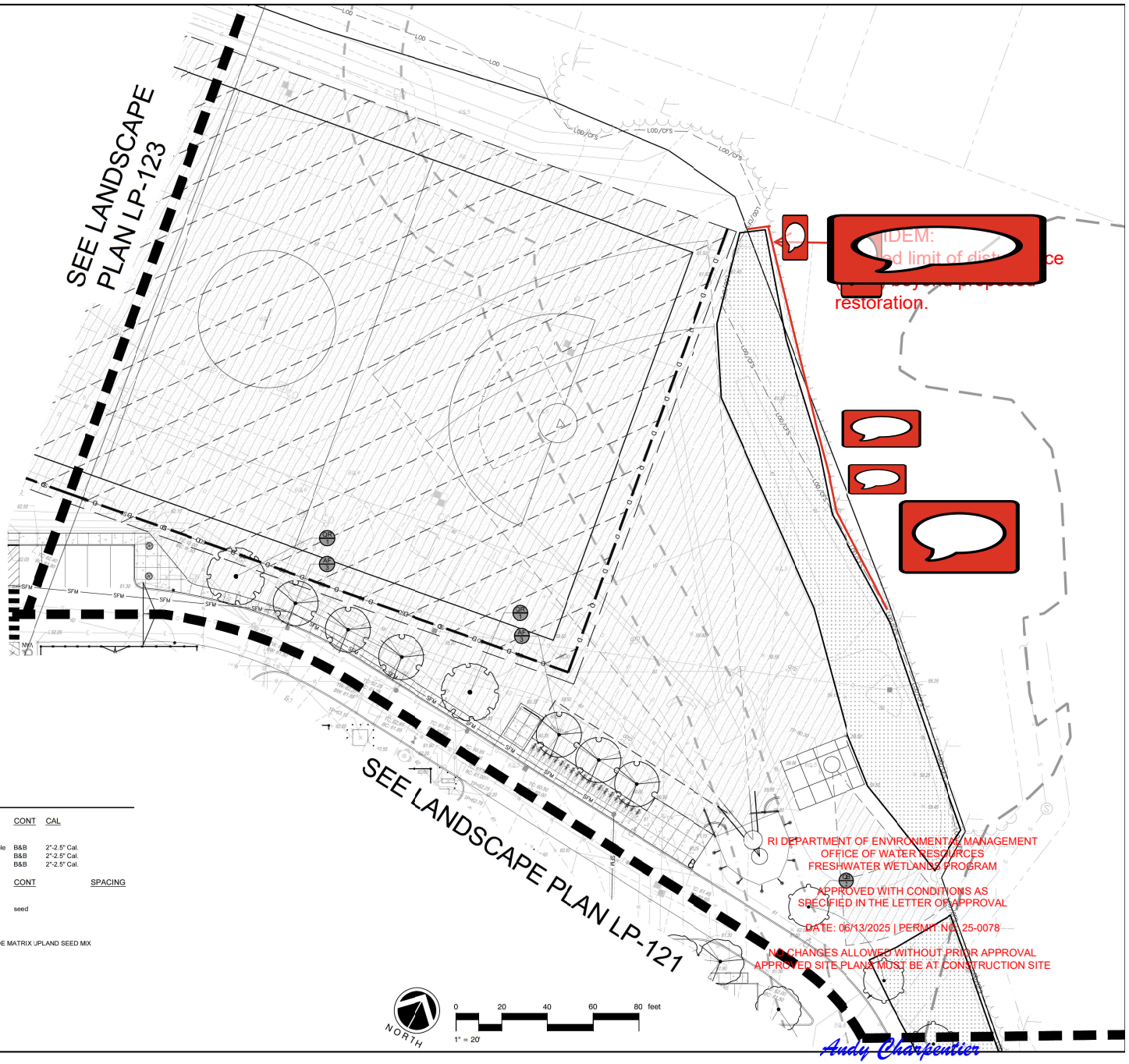
REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE: LANDSCAPE PLAN

DRAWING NO.: LP-121

SHEET NO. 84 OF 93



PLANT SCHEDULE LP-122

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL
TREES				
AF	6	Acer rubum 'Frank Jr.' / Redpointe® Maple	B&B	2"-2.5" Cal.
QB	2	Quercus bicolor / Swamp White Oak	B&B	2"-2.5" Cal.
QR	2	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
SEED MIXES				
Re	7,985 sf	/ RESTORATION SEED MIX	seed	

NOTES ON SEED MIXES
1. RESTORATION SEED MIX - NEW ENGLAND ROADSIDE MATRIX UPLAND SEED MIX

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Andy Charpentier

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REGISTERED LANDSCAPE ARCHITECT MICHELL GARDNER No. 429

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
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APPROVED BY:	KB

DRAWING TITLE:
LANDSCAPE PLAN

DRAWING NO.:
LP-122
SHEET NO. 85 OF 93

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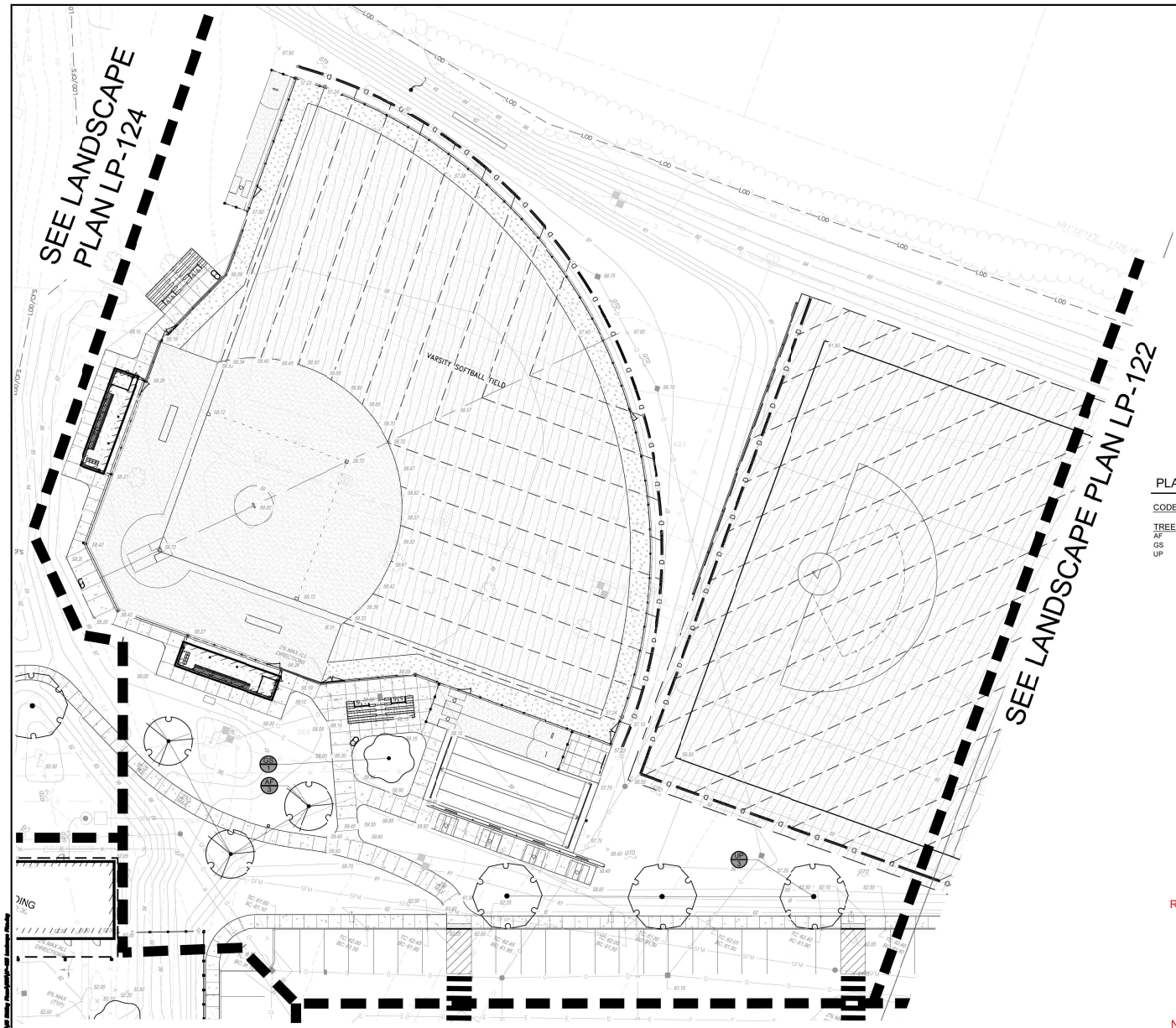

SEE LANDSCAPE PLAN LP-125

SEE LANDSCAPE PLAN LP-121

PLANT SCHEDULE LP-123

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL
TREES				
AF	3	Acer rubrum'Frank Jr.' / Redpointe® Maple	B&B	2"-2.5" Cal.
GS	1	Gleditsia triacanthos inermis 'Shademaster' / Shademaster Honey Locust	B&B	2"-2.5" Cal.
UP	3	Ulmus americana 'Princeton' / Princeton American Elm	B&B	2"-2.5" Cal.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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NORTH

0 20 40 60 80 feet

1" = 20'

Andy Charpentier

PARE

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REGISTERED LANDSCAPE ARCHITECT
JOHN MITCHELL BRADNER
No. 428

REVISIONS:

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DATE:	JUNE 02, 2025
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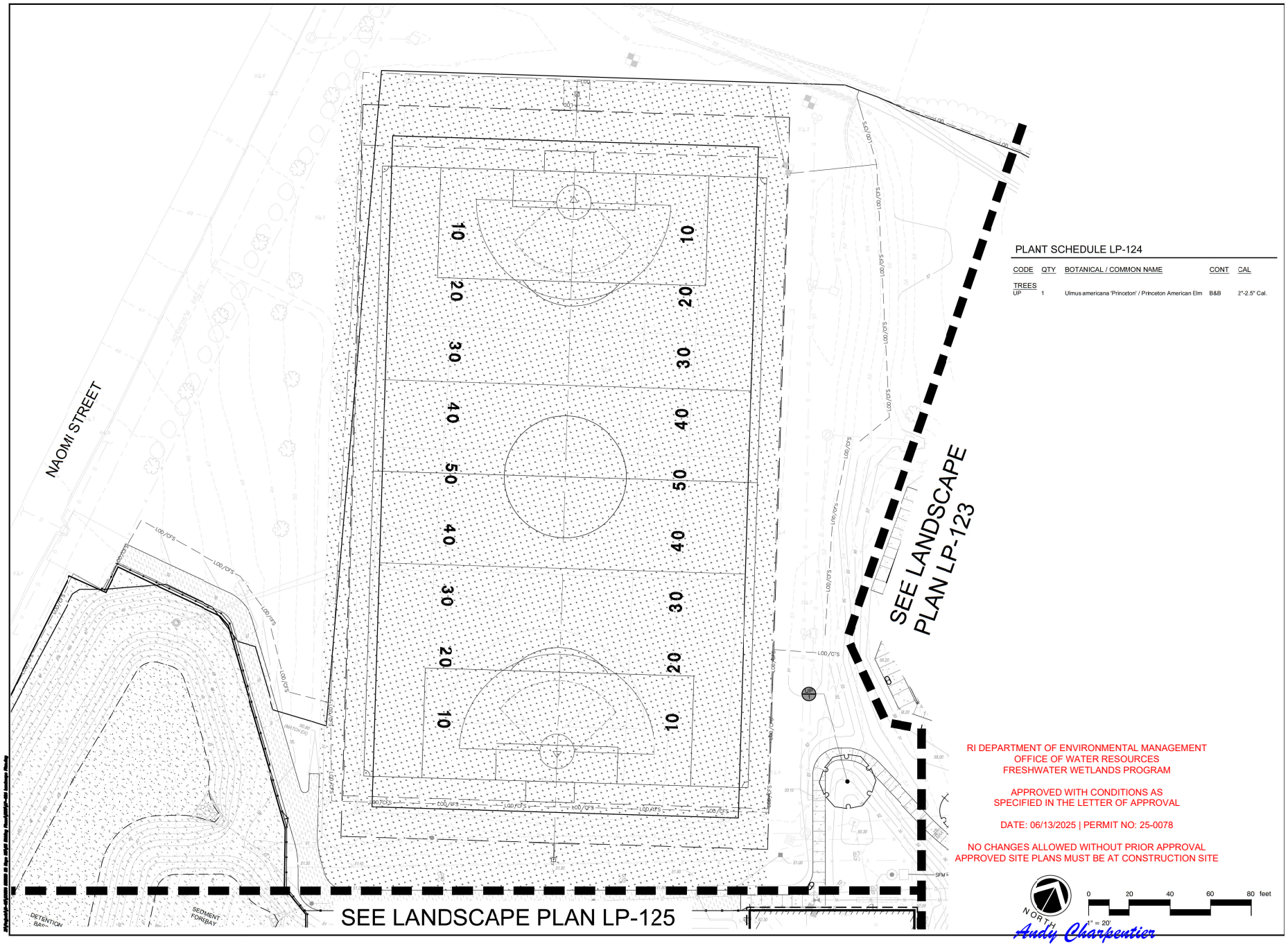
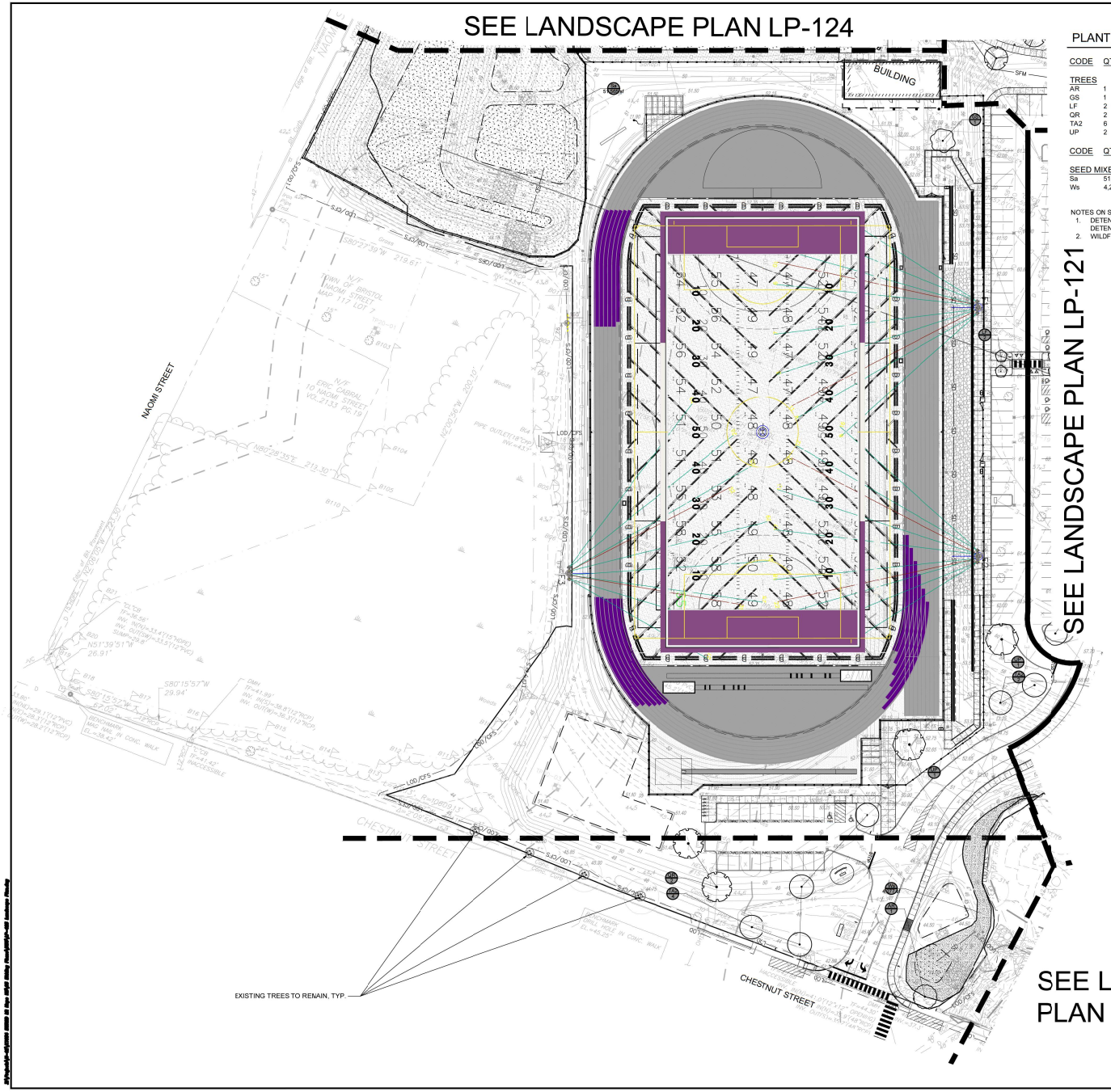
LANDSCAPE PLAN

DRAWING NO.:
LP-123

SHEET NO. 86 OF 93


NAOMI STREET
SEE LANDSCAPE PLAN LP-123
SEE LANDSCAPE PLAN LP-125
DETENTION BASIN
SEDIMENT FOREBAY
10
20
30
40
50
40
30
20
10
LOD/CFS
LOD/CS
LOD/CS
LOD/C

Item C1.



PLANT SCHEDULE LP-125

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL
TREES				
AR	1	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.
GS	1	Gleditsia triacanthos inermis `Shademaster` / Shademaster Honey Locust	B&B	2"-2.5" Cal.
LF	2	Liriodendron tulipifera Fastigiata' / Columnar Tulip Poplar	B&B	2"-2.5" Cal.
QR	2	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.
TA2	6	Tilia americana / American Linden	B&B	2.5"-3" CAL.
UP	2	Ulmus americana 'Princeton' / Princeton American Elm	B&B	2"-2.5" Cal.

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
SEED MIXES				
Sa	51,565 sf	/ DETENTION BASIN SEED MIX	seed	
Ws	4,277 sf	/ WILDFLOWER SEED MIX	seed	

NOTES ON SEED MIXES
1. DETENTION BASIN SEED MIX - NEW ENGLAND EROSION CONTROL / RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES
2. WILDFLOWER SEED MIX - NEW ENGLAND SHOWY WILDFLOWER SEED MIX

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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NORTH

0 40 80 120 160 feet
1" = 40'

Andy Charpentier

PARE

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REGISTERED LANDSCAPE ARCHITECT
KEVIN MICHAEL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
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DRAWING TITLE:
LANDSCAPE PLAN

DRAWING NO.:
LP-125

SHEET NO. 88 OF 93

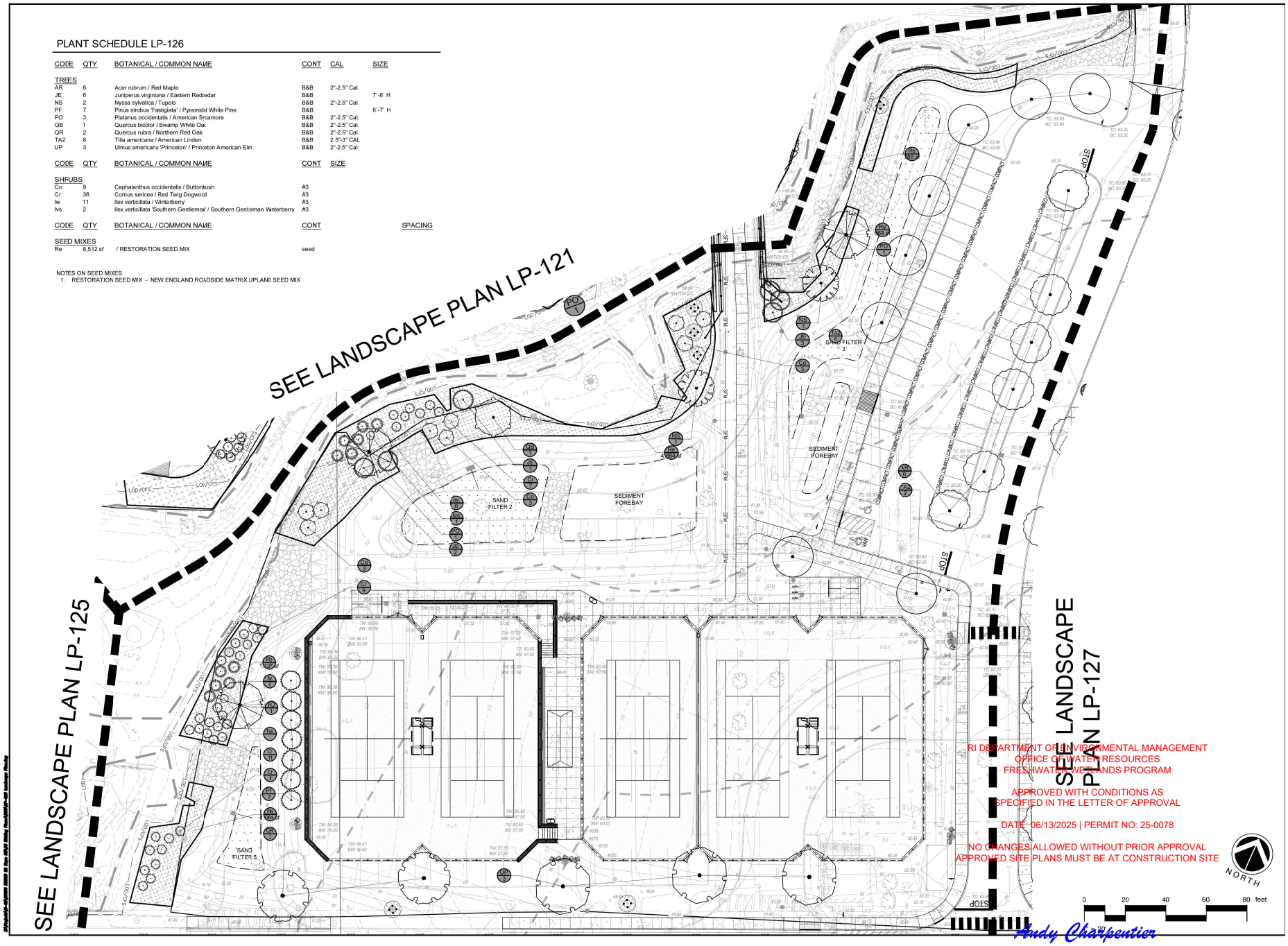
PLANT SCHEDULE LP-126

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES					
AR	6	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
JE	6	Juniperus virginiana / Eastern Redcedar	B&B		7'-8' H
NS	2	Nyssa sylvatica / Tupelo	B&B	2"-2.5" Cal.	
PF	7	Pinus strobus 'Fastigiata' / Pyramidal White Pine	B&B		6'-7' H
PO	3	Platanus occidentalis / American Sycamore	B&B	2"-2.5" Cal.	
QB	1	Quercus bicolor / Swamp White Oak	B&B	2"-2.5" Cal.	
QR	2	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.	
TA2	8	Tilia americana / American Linden	B&B	2.5"-3" CAL.	
UP	3	Ulmus americana 'Princeton' / Princeton American Elm	B&B	2"-2.5" Cal.	

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS				
Co	9	Cephalanthus occidentalis / Buttonbush	#3	
Cr	36	Cornus sericea / Red Twig Dogwood	#3	
Iw	11	Ilex verticillata / Winterberry	#3	
Ivs	2	Ilex verticillata 'Southern Gentleman' / Southern Gentleman Winterberry	#3	

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
SEED MIXES				
Re	8,512 sf	/ RESTORATION SEED MIX	seed	

NOTES ON SEED MIXES
1. RESTORATION SEED MIX - NEW ENGLAND ROADSIDE MATRIX UPLAND SEED MIX



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Andy Charpentier

PARE

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REGISTERED LANDSCAPE ARCHITECT
KRISTOPHER L. BRAGNER
No. 429

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
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LANDSCAPE PLAN

DRAWING NO.:
LP-126
SHEET NO. 89 OF 93

PLANT SCHEDULE LP-127

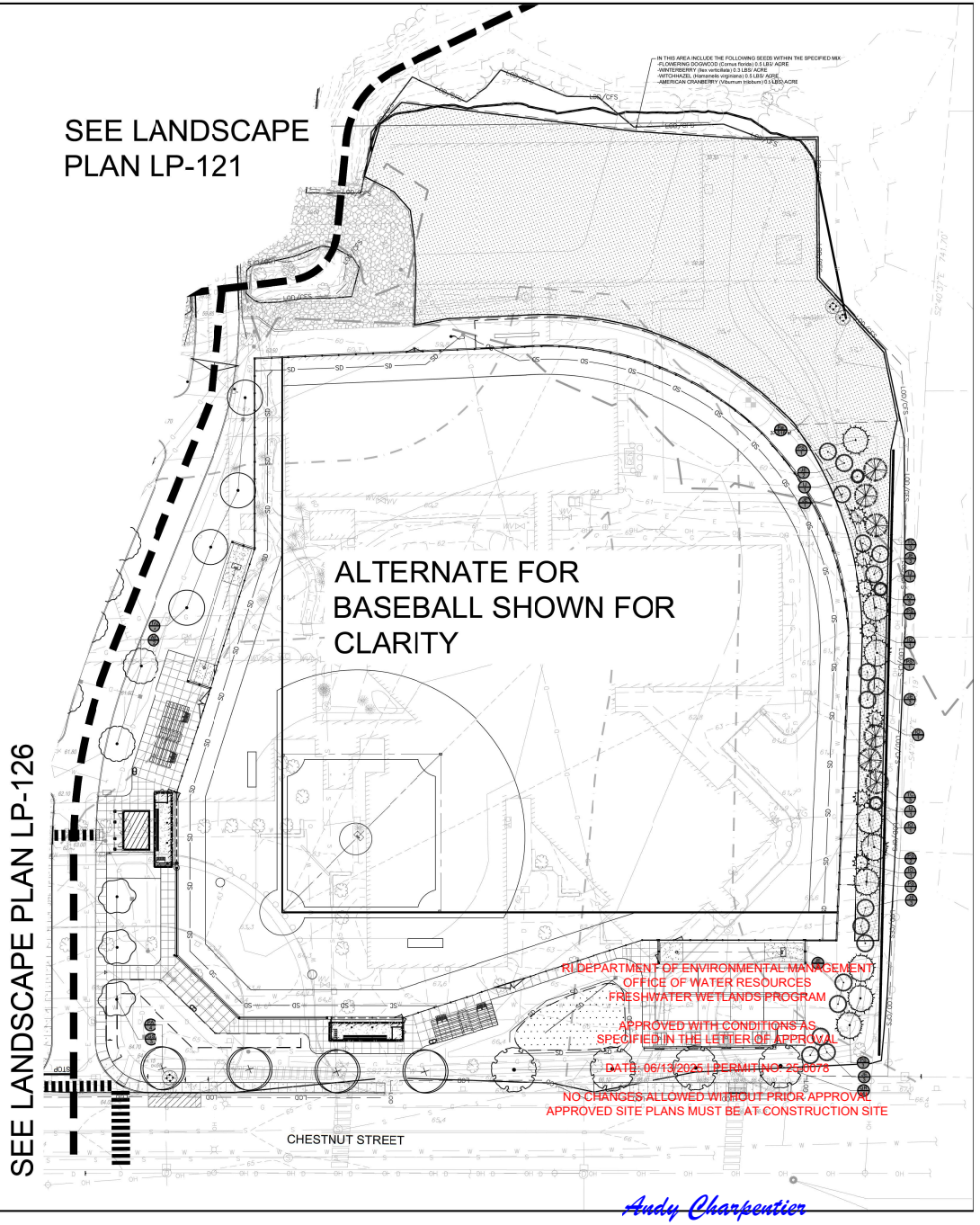
CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL.	SIZE
TREES					
AR	2	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
GS	3	Gleditsia triacanthos inermis 'Shademaster' / Shademaster Honey Locust	B&B	2"-2.5" Cal.	
IO	7	Ilex opaca / American Holly	B&B		5'-6' H
IJ	3	Ilex opaca 'Jersey Knight' / Jersey Knight American Holly	B&B		4'-5' H
JE	17	Juniperus virginiana / Eastern Redcedar	B&B		7'-8' H
PS	9	Pinus strobus / White Pine	B&B		8'-10' H
PA	4	Platanus x acerifolia 'Bloodgood' / Bloodgood London Plane Tree	B&B	2.5"-3" Cal.	
QR	4	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.	
TA2	4	Tilia americana / American Linden	B&B	2.5"-3" CAL.	
TC	6	Tsuga canadensis / Eastern Hemlock	B&B		7'-8' H

CODE	QTY	BOTANICAL / COMMON NAME	CONT
SEED MIXES			
Re	37,518 sf	/ RESTORATION SEED MIX	seed

NOTES ON SEEDMIXES
1. RESTORATON SEED MIX - NEW ENGLAND ROADSIDE MATRIX UPLAND SEED MIX

NORTH

0 30 60 90 120 feet
1" = 30'



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FRESHWATER WETLANDS PROGRAM

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Andy Charpentier

PARE

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SCHOOL DISTRICT
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BRISTOL, RI 02809
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Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KRISTOPHER L. BRADNER
No. 429

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
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DRAWING TITLE:
LANDSCAPE PLAN

DRAWING NO.:
LP-127
SHEET NO. 90 OF 93

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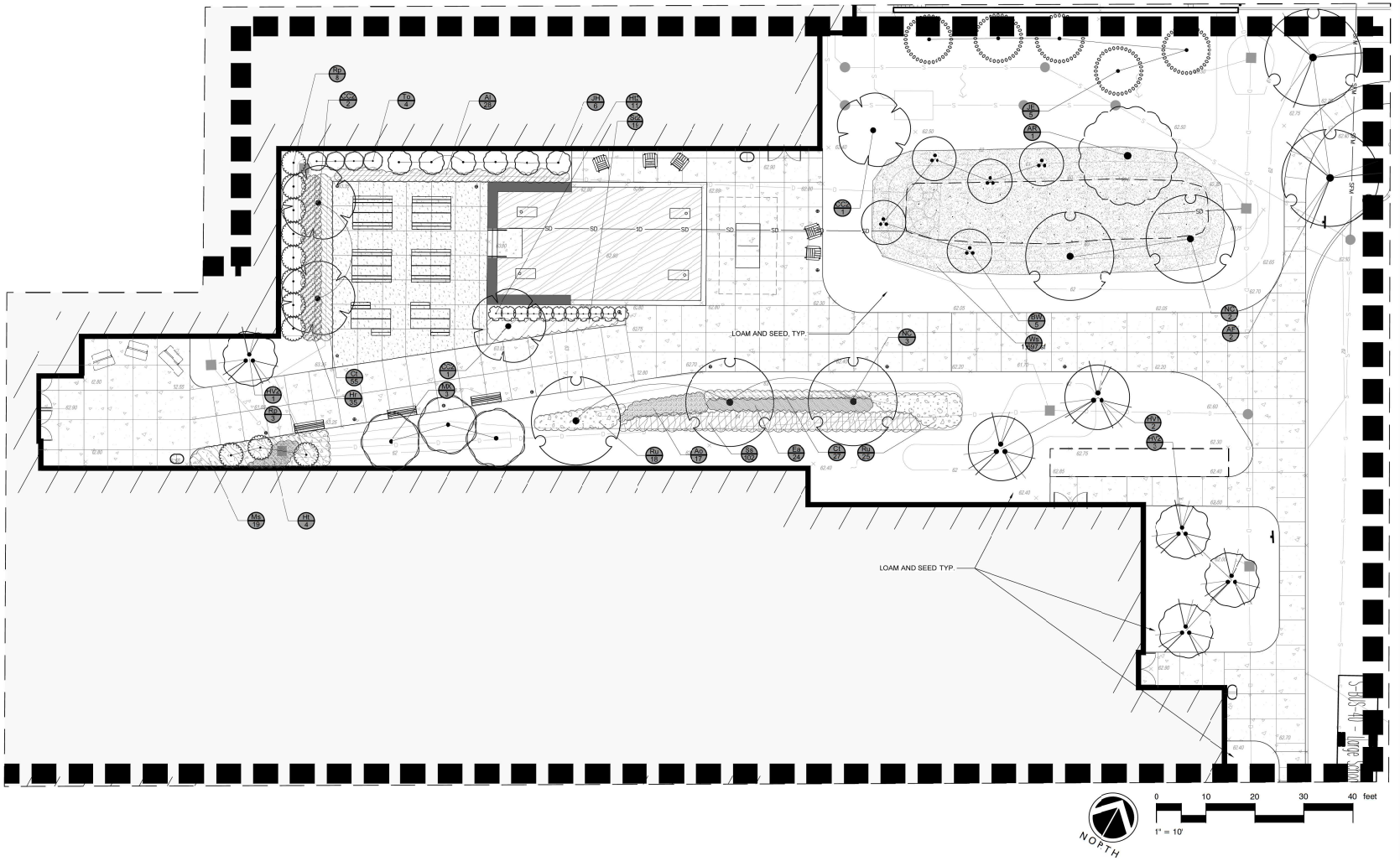

PLANT SCHEDULE LP-141

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES					
AR	1	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
AF	2	Acer rubrum 'Frank Jr.' / Redpointe® Maple	B&B	2"-2.5" Cal.	
BW	5	Betula populifolia 'Whitespire' / Whitespire Gray Birch	#7		6'-7' H
CC2	4	Cercis canadensis / Eastern Redbud	B&B	2"-2.5" Cal.	
HV2	4	Hamamelis vernalis / Ozart Witchhazel	Multi-stem B&B		6'-7' H
HV1	2	Hamamelis virginiana / Common Witch Hazel	Multi-stem B&B		7'-8' H
JH	6	Juniperus chinensis 'Hetzii / Hetzi Juniper	B&B		6'-7' H
JE	5	Juniperus virginiana / Eastern Redcedar	B&B		7'-8' H
MX	3	Magnolia x 'Jane' / Jane Magnolia	B&B	2.5"-3" CAL.	
NC	5	Nyssa sylvatica 'Northern Splendor' / Northern Splendor Tupelo	B&B	2.5"-3"	

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS				
Ht2	11	Hydrangea serrata 'MAK26' / Tuff Stuff™ Hydrangea	#5	
Rp	11	Rhododendron x 'Purple Gem' / Purple Gem Rhododendron	#5	2'-3' H
To	4	Thuja occidentalis 'Hetz Midget' / Hetz's Midget Arborvitae	#5	

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
PERENNIALS/GRASSES				
Al	28	Anemone x hybrida 'Lucky Charm' / Lucky Charm Japanese Anemone	#1	24" o.c.
Ao	17	Aster oblongifolius 'Raydon's Favorite' / Raydon's Favorite Fall Aster	#1	24" o.c.
Ct	82	Carex tenuiculmis 'Cappuccino' / Cappuccino Sedge	#1	18" o.c.
Ea	24	Echinacea x 'Balsomrosa' / Sombrero® Rosada Coneflower	#1	24" o.c.
Hr	35	Helleborus x hybridus 'RD09' / FrostKiss™ Pippa's Purple Helebore	#1	24" o.c.
Ht	4	Hosta x 'T Rex' / T Rex Hosta	#1	36" o.c.
Ms	19	Matteuccia struthiopteris / Ostrich Fern	#1	36" o.c.
Ru	43	Rudbeckia x 'American Gold Rush' / American Gold Rush Coneflower	#1	24" o.c.
Sc2	19	Salvia nemorosa 'Caradonna' / Cardonna Meadow Sage	#1	24" o.c.
Ss	102	Schizachyrium scoparium 'The Blues' / The Blues Little Bluestem	#2	18" o.c.
SEED MIXES				
Ws	1,697 sf	/ WILDFLOWER SEED MIX	seed	

NOTES ON SEED MIXES
1. WILDFLOWER SEED MIX - NEW ENGLAND SHOWY WILDFLOWER SEED MIX

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

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Andy Charpentier

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REGISTERED LANDSCAPE ARCHITECT
JOSE MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
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APPROVED BY:	KB

DRAWING TITLE:
ENLARGEMENT PLAN

DRAWING NO.:
L-141
SHEET NO. 91 OF 93

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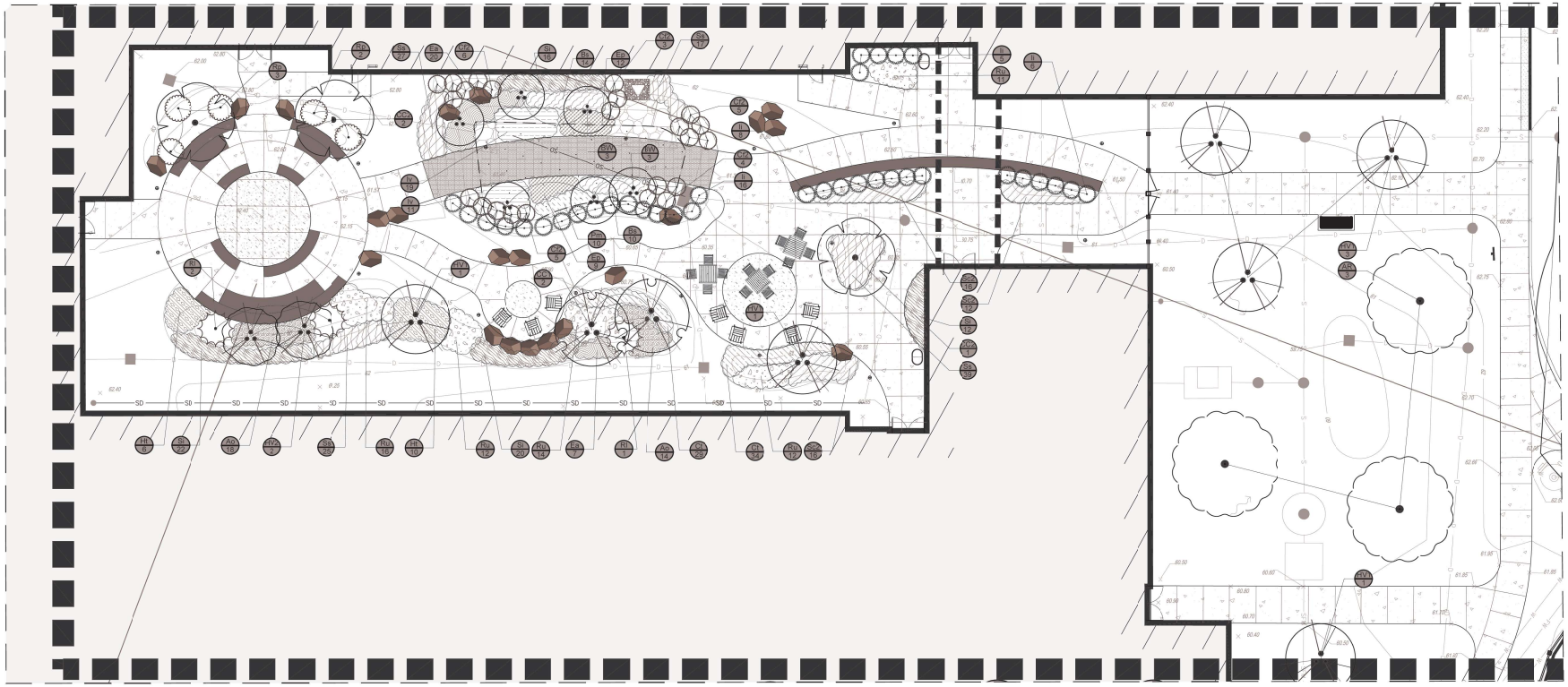

NORTH

0 10 20 30 40 feet

1" = 10'

PLANT SCHEDULE LP-142

CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES					
AR	3	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
BW	6	Betula populifolia 'Whitespire' / Whitespire Gray Birch	#7		6'-7' H
CC2	3	Cercis canadensis / Eastern Redbud	B&B	2"-2.5" Cal.	
CC1	2	Cercis canadensis 'Forest Pansy' / Forest Pansy Eastern Redbud	Multi-stem B&B	2"-2.5" Cal.	
HV2	2	Hamamelis vernalis / Ozark Witchhazel	Multi-stem B&B		6'-7' H
HV1	6	Hamamelis virginiana / Common Witch Hazel	Multi-stem B&B		7'-8' H

CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS				
Cf2	23	Cornus sericea 'Farrow' / Arctic Fire® Red Twig Dogwood	#3	
Ii	35	Ilex glabra 'Compacta' / Compact Inkberry	#5	
Rl	3	Rhododendron x 'Lee's Dark Purple / Lee's Dark Purple Rhododendron	B & B	2'-3' H
Rp	5	Rhododendron x 'Purple Gem' / Purple Gem Rhododendron	#5	2'-3' H

CODE	QTY	BOTANICAL / COMMON NAME	CONT
PERENNIALS/GRASSES			
Ao	32	Aster oblongifolius 'Raydon's Favorite' / Raydon's Favorite Fall Aster	#1
Bs	24	Boltonia asteroides 'Snowbank' / Snowbank False Aster	#1
Ct	63	Carex tenuiculmis 'Cappuccino' / Cappuccino Sedge	#1
Ea	27	Echinacea x 'Balsomrosa' / Sombrero® Rosada Coneflower	#1
Ep	21	Eupatorium fistulosum 'JoJo' / JoJo Joe Pye Weed	#1
Ht	16	Hosta x 'T Rex' / T Rex Hosta	#1
Iv	33	Iris versicolor / Blue Flag	#1
Pm	10	Physostegia virginiana 'Miss Manners' / Miss Manners Obedient Plant	#1
Ru	65	Rudbeckia x 'American Gold Rush' / American Gold Rush Coneflower	#1
Sc2	44	Salvia nemorosa 'Caradonna' / Cardonna Meadow Sage	#1
Ss	108	Schizachyrium scoparium 'The Blues' / The Blues Little Bluestem	#2
Si	70	Sorghastrum nutans 'Indian Steel' / Indian Steel Indian Grass	#1

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

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APPROVED SITE PLANS MUST BE AT CONSTRUCTION SITE

Andy Charpentier

PARE

OWNER/APPLICANT:
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SCHOOL DISTRICT
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BRISTOL, RI 02809
401-253-4000

TRAVERSE
landscape architects
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Providence, RI 02903
401-383-4950
www.traversela.com

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON
ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 112, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

REGISTERED
RICHARD MICHELL BRADNER
No. 428
LANDSCAPE ARCHITECT

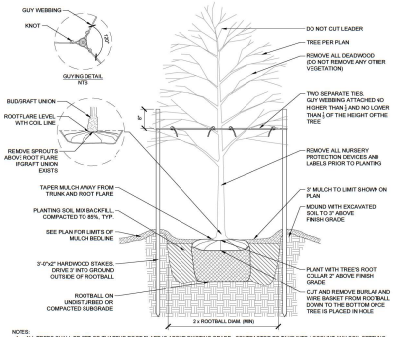
REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
ENLARGEMENT PLAN

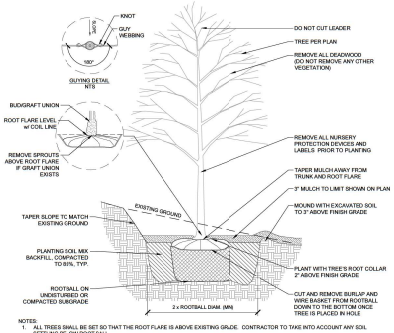
DRAWING NO.:
LP-142
SHEET NO. 92 OF 93

Item C1.



NOTES:
1. ALL TREES SHALL BE SET SO THATTHE ROOT FLARE IS ABOHE EXISTING GRADE. CONTRACTOR TO TAKE INTO ACCOUNT ANY SOIL SETTING BELOW ROOT BALL.
2. AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.
3. ALL TREES NOT LOCATED WITHIN A LARGER MULCHED PLANTING BED SHALL RECEIVE A 5' DIAMETER MULCH BED AROUND THE BASE OF THE TREE. IN NO INSTANCE SHALL MULCH BE PILED UP AROUND THE ROOT FLARE.

1 DECIDUOUS TREE PLANTING AND STAKING
3/4" = 1'-0"



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2. SLOPE PLANTING STAKES SHALL BE PLACED PARALLEL TO SLOPE.
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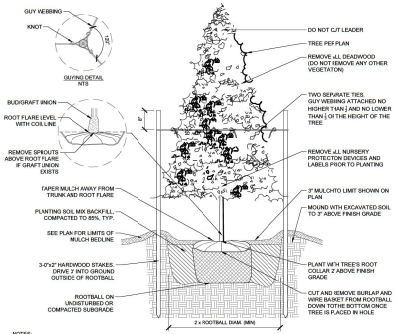
2 DECIDUOUS TREE PLANTING AND STAKING ON SLOPE
3/4" = 1'-0"



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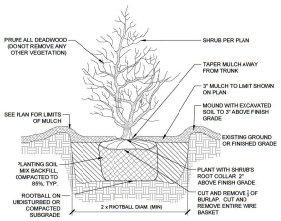
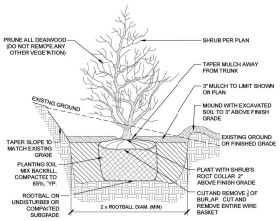
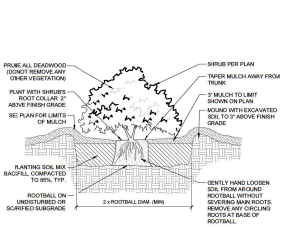
3 EVERGREEN TREE PLANTING AND STAKING
3/4" = 1'-0"



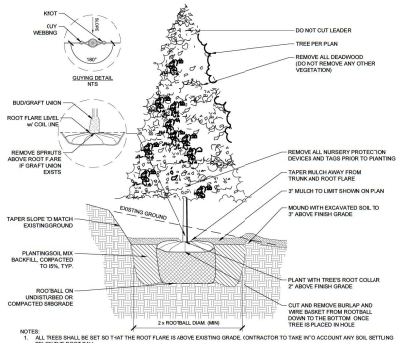
5 SHRUB PLANTING
1" = 1'-0"



6 SHRUB PLANTING ON SLOPE
1" = 1'0"



7 CONTAINER GROWN SHRUB PLANTING
1" = 1'-0"



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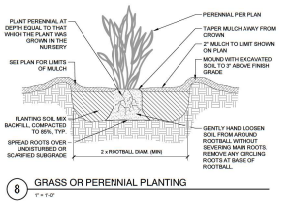
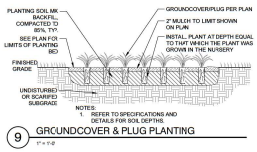
4 EVERGREEN TREE PLANTING AND STAKING CN SLOPE
3/4" = 1'-0"

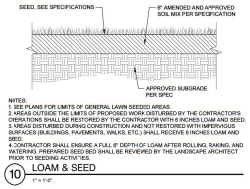


8 GRASS OR PERENNIAL PLANTING
1" = 1'-0"



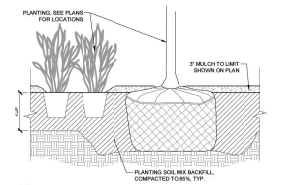
NOTES:
1. REFER TO SPECIFICATIONS AND DETAILS FOR SOIL DEPTHS

9 GRCUNDCOVER & PLUG PLANTING
1" = 1'-0"



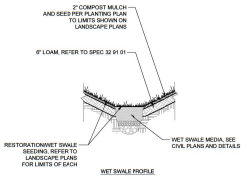
NOTES:
1. SEE PLANS FOR LIMITS OF GENERAL LAWN SEEDED AREAS.
2. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR WITH 6 INCHES LOAM AND SEED.
3. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED.
4. CONTRACTOR SHALL ENSURE A FULL 6" DEPTH OF LOAM AFTER ROLLING, RAKING, AND WATERING. PREPARED SEED BED SHALL BE REVIEWED BY THE LANDSCAPE ARCHITECT PRIOR TO SEEDING ACTIVITIES.

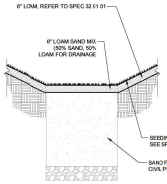
10 LOAM & SEED
1" = 1'-0"

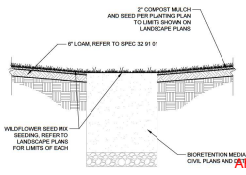


NOTE:
THIS SOIL PROFILE SHALL BE PROVIDED FOR MULCHED PLANTING BEDS.

11 SOIL PROFILE FOR PLANTING BEDS
1" = 1'-0"







12 SAND FILTER, WET SWALE AND BIORETENTION SURFACE PROFILES
3/8" = 1'-0"

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATE: 06/13/2025 | PERMIT NO: 25-0078

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Andy Charpentier

PARE

OWNER/APPLICANT:
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SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT KEVIN MICHAEL BRADNER No. 429

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 02, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	DP
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.: LP301
SHEET NO. 93 OF 93

Drawings and specifications as instruments of service are and shall remain the property of PARE Corporation whether the project for which they are made is executed or not. They are not to be changed or copied in any form or manner whatsoever, nor are they to be assigned to any third party, without first obtaining the expressed written permission and consent of PARE Corporation.

STORMWATER MANAGEMENT REPORT

Pare Project No. 23099.01

Mt. Hope High School
199 Chestnut Street
Bristol, Rhode Island 02809

Assessors Map 117, Lot 3, 4, 5, 6, & 7

Prepared for:

Bristol Warren Regional
School District
235 High Street
Bristol, RI 02809

Prepared by:

Pare Corporation
8 Blackstone Valley Place
Lincoln, RI 02865

JANUARY 2025
SUPPLEMENTAL REVISIONS:
JUNE 2025

PARE CORPORATION
ENGINEERS SCIENTISTS PLANNERS

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Methodology	1
Existing Conditions	2
Proposed Conditions	7
Stormwater Management Standards	12
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FEMA Firmette (see January 2025 report)
Soils Map (see January 2025 report)
FEMA Flood Insurance Study 44001CV000B - Figure 01P (April 2025)
Test Pit Plan and Test Pit Logs (April 2025)

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Hydrologic Calculations- Proposed Conditions
Hydraulic Calculations - Pipe Analysis

Appendix C
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Stormwater Treatment Area Calculation
Recharge Calculation Worksheet
Bioretention Area Calculations
Sand Filter Area Calculations
Infiltration Basin Calculations
Wet Swale Calculations
Channel Protection Calculations
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Appendix D
XBT-1 Existing Hydrology
XBT-2 Proposed Hydrology
Existing Flood Storage Figure 1
Proposed Flood Storage Figure 2

PROJECT DESCRIPTION

Bristol Warren Regional School District is proposing the construction of Mt. Hope High School at their existing high school facility located at 199 Chestnut St. The project area encompasses 29.90 acres and is located on the Bristol Assessor's Plat 117, Lot 3, 4, 5, 6, & 7. The parcel is owned by Bristol Warren Regional School District and is approximately 44.40 acres.

The existing site includes the existing high school building and athletic fields. The site also includes auxiliary buildings, parking lots and drive aisles, wetlands, and a portion of Silver Creek. The proposed project includes a new high school building, athletic fields, parking areas and drive aisles, utility connections, and stormwater management areas. With over 10,000 sf of existing impervious area being altered and less than 40% of the site as existing impervious surfaces, the project qualifies as a new development project per Section 3.2.6 of the RISDISM.

METHODOLOGY

Hydrologic calculations for existing and proposed conditions were performed using HydroCAD Version 10.10 software, which uses TR-55 methodology to calculate runoff and TR-20 methodology for storm routing through the stormwater detention facilities. Site hydrology was evaluated for the 1.2" storm event as well as the 1-year, 2-year, 10-year, 25-year and 100-year frequency storms in accordance with the Rhode Island Stormwater Design and Installation Standards Manual (RISDISM) and the Town of Bristol's Code of Ordinances. Existing and Proposed Watershed Maps, indicating the subwatersheds and associated stormwater flow paths may be found in Appendix D.

The hydraulic design calculations were completed using the Rational Method to calculate the accumulated flows to each structure. The stormwater conveyance system was designed using Manning's Equation. Autodesk Hydraflow Storm Sewer software was used to perform the design calculations. The stormwater conveyance system was designed to handle the runoff generated by a 25-year design storm.

The stormwater drainage design was developed in accordance with the State of Rhode Island Stormwater Design and Installations Standards Manual (RISDISM), which was amended March

2015. The Appendix A Checklist, revised September 2020, is applied to this project and included in Appendix C.

EXISTING CONDITIONS

The project area is bound by residential properties to the north, Naomi Street and residential properties to the west, Chestnut Street and an existing cemetery to the south, and a wetland complex and residential properties to the east. The watershed analyzed for the project has a total area of approximately 47.6 acres. The limit of disturbance for the project is 29.90 acres.

A delineation of freshwater wetlands within the vicinity of proposed building was completed on February 12 & 28, 2024 by LEC Environmental. The delineation was completed in accordance with the Rhode Island Fresh Water Wetlands Act (R.I.G.L. 2-1-18 et. Seq.), and consistent with Appendix 2 of the Rhode Island Department of Environmental Management (RIDEM) Rules and Regulations Governing the Administration and Enforcement of the Rhode Island Freshwater Wetlands Act (the Regulations). The wetland complex contains a stream, and a forested swamp, which receive a 100-foot buffer area and a 200-foot jurisdictional area. Silver Creek East Branch extends from the wetland complex northeast of the existing school, beneath the existing school to a pond. Water from the pond flows over a dam and to a culvert beneath Chestnut Street. There are three dual 48" dia culverts between the pond and northeast wetland. Silver Creek receives a 100-foot buffer zone and a 200-foot jurisdictional area. The wetland areas are depicted on the proposed site plans.

Per available RIDEM mapping, the project site is located within a natural heritage area. Refer to the Freshwater Wetlands Application regarding the natural heritage assessment for the project site.

According to the FEMA Flood Insurance Rate Map for Bristol County, Rhode Island (Community-Panel 44001C0014H, effective date July 7, 2014), Silver Creek and the wetland northeast of the existing school are located within Zone AE. The rest of the site is located within Zone X.

Within the Silver Creek Watershed the project site has contributing drainage areas to both the East Branch and West Branch. The Silver Creek West Branch subwatershed (West subwatershed)

includes runoff that flows to the wetland in the southwest corner of the site. A portion of the stormwater runoff directed to the southwest wetland enters an existing detention basin through a piped drainage system and is discharged through an outlet control structure into the southwest wetland.

The Silver Creek East Branch subwatershed (East subwatershed) includes runoff that flows to Silver Creek and the culvert beneath Chestnut Street. The northeast wetland flows into Silver Creek which flows to an existing pond on campus with a controlled outlet dam and two culverts. Stormwater runoff from the East subwatershed enters the stream through overland flow and a piped drainage system. The effective FIRM established in 2014 is the regulatory floodplain information currently available for the project site. Based on this information, compensatory storage calculations and culvert hydrology were assessed using the available published data.

According to the Soil Survey of Rhode Island (US Department of Agriculture Soil Conservation Service 1981), the soils located at the site are a mix of primarily Udorthents-Urban land complex (UD), Urban Land (Ur) and Stissing silt loam (Se). There are less significant sections of Pittstown silt loam (PmA), and Pittstown silt loam (PmB). The soils on-site are in hydrologic soil group C and D and are generally poorly drained.

Test pit labels represent the year excavated and numbering in that year. For example, TP10-02 would be TP-2 from the 2010 test pits. Refer to the updated test pit plan as part of Appendix A of the stormwater report for the note describing the nomenclature used for labeling the test pit data on site.

Ten test pits were excavated on July 18, 2024 to review below grade conditions at the site. Locations can be found on the plan and test pit logs found in Appendix A. The on-site soils generally consist of fill atop a layer of sandy loam atop a layer of silty loam. Fill material from previous grading and site development operations was observed at depths ranging from 6” to 70” throughout the site. Based upon the classification of soils surrounding the site and soil properties observed during the test pit excavations, the on-site soils are modeled within Hydrologic Group “C” in this analysis. The estimated seasonal high groundwater table varies across the site. Redoximorphic features were observed in all of the test pits with depths ranging from 10” to 38” below grade.

Additional test pits observed by Pare on October 9, 2020 were used as supplemental information for groundwater assessment. A total of six test pits were excavated and observations, including soil strata, redoximorphic features, and groundwater elevations, were logged. Test Pits 20-01, 20-02 and 20-03 have estimated seasonal high ground water tables (ESHGWT) at less than 2 feet below existing grade. Test pits 20-04, 20-05, and 20-06 showed the ESHGWT between 2 feet and 4 feet below existing grade. Additional test pit information was used as supplemental information for groundwater assessment. Historic test pits were completed on November 17, 2008, and February 22, 2010. Based on the test pit data collected to date, the estimated season high ground water table is influenced by the presence of a poorly draining restrictive soil type that consists of loamy sand and silty loam. Refer to Appendix A for test pit logs and the plan set for test pit locations.

The existing topography of the eastern side of the site generally slopes toward the northeast wetland and Silver Creek. The existing topography of the western side of the site generally slopes west toward Naomi Street and a wetland in the southwest corner of the property.

The existing site contains approximately 10.54 acres of impervious area within the limit of disturbance, which consists of the existing high school, parking lots, drive aisles, sidewalks, track and softball infield mix. The remaining portions of the site are grass, woods, and wetlands. The existing surface covers were modeled as-is in the hydrologic analysis.

Stormwater from the existing site ultimately flows to 6 design points: “DP 1.1 Culvert 1”, “DP 1.2 Culvert 2”, “DP 1.3 Culvert 3”, “DP 1.4 Silver Creek East Branch”, “DP 2.1 West Wetland”, “DP 2.2 Silver Creek West Branch”.

Design point “DP 1.1 Culvert 1” is located to the east of the project area northeast of the existing school upstream of the northernmost culvert. Runoff reaches this design point via overland flow.

Design point “DP 1.2 Culvert 2” is located to the east of the project area within the footprint of the existing school building. The design point is located upstream of the second culvert. Runoff reaches this design point via overland flow.

Design point “DP 1.3 Culvert 3” is located to the center of the project area west of the school. The design point is located upstream of the third culvert. Runoff reaches this design point via a piped network and overland flow.

Design point “DP 1.4 Silver Creek East Branch” is located to the south of the project area at the entrance to the culvert beneath Chestnut Street. Runoff reaches this design point via a piped network and overland flow.

Design point “DP 2.1 West Wetland” is located within the wetland west of the project area. Runoff reaches this design point via a piped network and overland flow.

Design point “DP 2.2 Silver Creek West Branch” is located at the southwest corner of the property where the wetland outlets to the public drainage system. Runoff reaches this design point via a pipe network and overland flow.

Under existing conditions, 11 subwatersheds were analyzed, EDA-1.1A, EDA-1.2A, EDA-1.3A, EDA-1.4A, EDA-1.4B, EDA-1.4C, EDA-1.4D, EDA-2.1A, EDA-2.1B, EDA-2.2A, and EDA-2.2B. Sheet XBT-1 included in Appendix D depicts the limits of the existing conditions hydrology.

EDA-1.1A is comprised of grassed and wooded area and a wetland, at the northwest of the property. Runoff flows toward the wetland and Silver Creek. EDA-1.1A contributes to Design Point “DP-1.1 Culvert 1”

EDA-1.2A is comprised of roof cover, grassed area, and a portion of Silver Creek, at the east of the property. Runoff flows north toward the culvert. EDA-1.2A contributes to Design Point “DP-1.2 Culvert 2”

EDA-1.3A is comprised of roof cover, paved parking, grassed area and a portion of Silver Creek, at the center of the property, west of the existing school building. Runoff flows southwest toward the culvert. EDA-1.3A contributes to Design Point “DP-1.3 Culvert 3”

EDA-1.4A is comprised of roof cover, grassed area, and paved parking, at the southeast of the property. Runoff flows toward catch basins where it is piped toward Silver Creek. EDA-1.4A contributes to Design Point "DP-1.4 Silver Creek East Branch"

EDA-1.4 B, C, & D are comprised of roof cover, paved parking, and grass cover, at the center and southern end of the property. Runoff flows overland toward Silver Creek. EDA-1.4 B, C, & D contributes to Design Point "DP-1.4 Silver Creek East Branch"

EDA-2.1A is comprised of grass cover, an asphalt walkway and athletic facilities at the north of the property. Runoff flows are captured in a pipe network or flows overland to an existing detention basin. The detention basin is modeled as Pond1P. The dimensions modeled were based upon recent field survey and the 2015 stormwater report from the "Mt. Hope High School Athletic Fields Drainage Improvement" project, RIDEM application no.10-0119. EDA-2.1A contributes to Design Point "DP-2.1 West Wetland"

EDA-2.1B is comprised of grassed cover and impervious cover from the existing track, at the center of the property. Runoff flows west toward the existing football field where it is captured and piped to the design point. EDA-2.1B contributes to Design Point "DP-2.1 West Wetland"

EDA-2.2A is comprised of grassed area and paved roadway, at the west of the property. Runoff flows overland toward the existing drainage system in the road. EDA-2.2A contributes to Design Point "DP-2.2 Silver Creek West Branch"

EDA-2.2B is comprised of roof cover, paved parking, grassed and wooded area, and an existing wetland, at the southwest of the property. Runoff flows overland toward the design point. EDA-2.2B contributes to Design Point "DP-2.1 West Wetland"

PROPOSED CONDITIONS

The proposed improvements include the construction of a new high school building with a total GFS of approximately 168,364 square feet. Exterior site improvements include parking lots, paved walks, access drives, new athletic fields, utility connections, and stormwater management areas. The proposed condition has approximately 12.55 acres of impervious surface within the limit of disturbance, resulting in a net increase of 2.05 acres of impervious area. These impervious surfaces include the building, parking areas, drive aisles, track, synthetic turf. The project is also proposes softball and athletic fields that include an infield mix, bleacher riprap and warning tracks which is approximately 1.28 acres of compacted material.

The proposed building is located northwest of Silver Creek outside the 100-yr floodplain per the 2014 effective floodplain limits. The building finished floor elevation is set at elevation 62.9 with a small southern section set at elevation 60.9. These elevations are above the flood elevation depicted on available FEMA mapping.

Parking is located north, west, and east of the building. Athletic fields surround the school building to the north, west, and east. To the south of the building is Silver Creek.

The proposed project will require stormwater management systems to handle the increase in stormwater runoff and pollutant loading to the discharge points. Stormwater best management practices are located throughout the site to treat stormwater as close to the source as practicable. All new stormwater collection, storage, and treatment systems are designed in accordance with the Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8), *State of Rhode Island Storm Water Design and Installation Standards Manual* prepared by the Rhode Island Department of Environmental Management (RIDEM) dated December 2010 and amended March 2015. Pre-development runoff rates will be maintained and released into existing drainage paths downstream of proposed improvements. Runoff from proposed impervious areas will be treated prior to leaving the site.

The grading scheme is designed to shed water as in the existing conditions to the maximum extent possible. Grades generally slope away from the building to protect the building from

stormwater runoff. Stormwater management and grading schemes were also designed to minimize impacts to the floodplain to the maximum extents practicable.

The proposed stormwater management system utilizes a combination of low-impact development (LID) design strategies and stormwater best management practices (BMP's) for conveyance, treatment and recharge of stormwater. The stormwater management system captures overland flow with either yard drains, area drains, or catch basins and conveys runoff through a closed drainage network to BMP's. The stormwater best management practices include sediment forebays, bioretention areas, sand filters, a wet swale, an infiltration basin, an underground infiltration system, and detention basins. Where feasible, sidewalks and athletic site features were designed to sheet flow across grassed areas for treatment as a qualifying pervious area (QPA).

Grading within the 100-year floodplain was minimized and includes construction of a stormwater best management practice, removal of an existing building, and establishment of a natural vegetated area, refer to Appendix D for Existing Flood Storage (Figure 1) and the Proposed Flood Storage (Figure 2). The 100-year floodplain was assessed to avoid impacts to the floodplain. Compensatory storage volume calculations are depicted in the table below:

Table 1: Compensatory Storage Volumes (CY)

Stage Elevation	Existing Available Storage Volume	Proposed Available Storage Volume	Delta
58-59	85 CY	87 CY	+2 CY
59-60	1,343 CY	1,343 CY	0 CY
60-61	2,688 CY	3,654 CY	+968 CY

The application does not include work within wetlands or within Silver Creek to minimize impact to resource areas. Existing culverts along Silver Creek are designated to remain. Site features and portions of the existing building above the culverts will be demolished. Walls forming the bank of Silver Creek will remain. Site improvements over the existing culverts include a paved access drive, guardrail, walks, and fencing. These improvements are designed to avoid impacts on Silver Creek.

The existing upstream culvert will remain following removal of the school. The grades will be lowered slightly to reduce the potential to impact upstream areas. Riprap is proposed over this culvert and the channel sides to reduce the potential for erosion during large storm events.

Several 48" diameter reinforced concrete culvert pipes are proposed upstream of the second and third culverts along Silver Creek. The inlet invert of these pipes is set four feet above the invert of the existing 48" culverts (same elevation as the crown of existing 48" culverts). The proposed pipes are not designed to alter or impact flow through Silver Creek under normal conditions. During large storm events where flow within Silver Creek may exceed the capacity of the existing culverts, the proposed piping will provide a route for water to bypass the downstream culverts and Silver Creek and reduce potential for on-site flooding. The bypass pipes discharge to the pond downstream. Flared end sections and riprap level spreaders are provided to promote sheet flow at the outlets and reduce the potential for erosion. The bypass pipes are proposed to minimize impacts and reduce the potential for flooding over the new roadway and the walk proposed over the existing culverts.

Under proposed conditions, the site was divided into a total of 27 subwatersheds: PDA 1.1A, PDA 1.1B, PDA 1.2A, PDA 1.3A, PDA 1.3C, PDA 1.3D, PDA ROOF 1.3, PDA 1.4A, PDA 1.4B, PDA 1.4C, PDA 1.4D, PDA 1.4E, PDA 1.4F, PDA 1.4G, PDA 1.4H, PDA 1.4I, PDA 1.4J, PDA 1.4K, PDA 1.4L, PDA ROOF 1.4, PDA 2.1A, PDA 2.1B, PDA ROOF 2.1, PDA 2.2A, PDA 2.2B, PDA 2.2C.a, and PDA 2.2C.b. The subwatersheds are depicted in XBT-2 which is included in Appendix D.

PDA-1.1A consists of athletic site features, athletic track material, grass area, woods, wetlands, and a portion of Silver Creek. Runoff from this drainage area flows overland to Design Point "DP 1.1 Culvert 1."

PDA-1.1B consists of athletic track material and grass area. Runoff from this drainage area flows overland to Design Point "DP 1.2 Culvert 2."

PDA-1.2A consists of paved parking, grass cover, and a portion of Silver Creek. Runoff from this drainage area flows overland to Design Point "DP 1.3 Culvert 3."

PDA-1.3A consists of grass area and paved parking. Runoff from this drainage area flows overland to the Wet Swale where it is treated, then is piped to Detention Basin 2. PDA-1.3A contributes to Design Point "DP1.4 Silver Creek East Branch". The emergency riprap spillway for the Wet Swale contributes to Design Point "DP 1.1 Culvert 1."

PDA-1.3C & D consists of paved parking and grass area. Runoff from this drainage area flows overland to Bioretention areas 3 & 4 respectively. PDA-1.3C & D contributes to Design Point "DP1.4 Silver Creek East Branch".

PDA-ROOF 1.3 consists of roof cover. Runoff from this drainage area is piped into Bioretention area 3 and contributes to Design Point "DP1.4 Silver Creek East Branch."

PDA-1.4A consists of athletic site features, sidewalks, athletic track material and grass cover. Runoff from this drainage area flows overland to Sand Filter 4 and contributes to Design Point "DP 1.2 Culvert 2."

PDA-1.4B consists of paved parking and grass cover. Runoff from this drainage area is captured and piped to Diversion structure 2 and then to Sand filter 2. PDA-1.4B contributes to Design Point "DP1.4 Silver Creek East Branch."

PDA-1.4C consists of paved parking and grass cover. Runoff from this drainage area flows overland to Bioretention Area 2 and contributes to Design Point "DP1.4 Silver Creek East Branch."

PDA-1.4D consists of paved parking and grass cover. Runoff from this drainage area is captured and piped to Bioretention area 1 and contributes to Design Point "DP1.4 Silver Creek East Branch."

PDA-1.4E consists of paved parking and grass area. Runoff from this drainage area flows overland to Sand Filter 2 and contributes to Design Point "DP1.4 Silver Creek East Branch."

PDA-1F, J, & L consists of paved parking and grass cover. Runoff from this drainage area flows overland to Design Point "DP1.4 Silver Creek East Branch."

PDA-1.4G consists of paved parking and grass. Runoff from this drainage area flows overland to Sand Filter 3 and contributes to Design Point “DP1.4 Silver Creek East Branch.”

PDA-1.4H consists of paved parking and grass cover. Runoff from this drainage area flows overland to Detention Basin 2 and contributes to Design Point “DP1.4 Silver Creek East Branch.”

PDA-1.4I and PDA ROOF 1.4 of paved parking, foor cover, and grass area. Runoff from this drainage area is piped to Infiltration Basin 1 and contributes to Design Point “DP1.4 Silver Creek East Branch.”

PDA-1.4K consists of paved parking and grass area. Runoff from this drainage area flows overland to Sand Filter 5 and contributes to Design Point “DP1.4 Silver Creek East Branch.”

PDA-2.1A & PDA-ROOF 2.1 consists of athletic site features, athletic track materials, paved parking, roof cover, and grass area. Runoff from this drainage area is captured and piped to Sand Filter 1 and overflows toward Detention Basin 1. These PDAs contribute to Design Point “DP2.1 West Wetland.”

PDA-2.1B consists of paved parking and grass cover. Runoff from this drainage area is captured and piped toward Detention Basin 1. PDA -2.1B contributes to Design Point “DP2.1 West Wetland.”

PDA-2.2A consists of paved parking, grass area, and woods. Runoff from this drainage area flows overland to Design Point “DP2.2 Silver Creek West Branch.”

PDA-2.2B consists of paved parking, grass area, and woods. Runoff from this drainage area flows overland to Design Point “DP2.1 West Wetland.”

PDA-2.2C.a & PDA-2.2C.b consists of the synthetic turf athletic field and track. Runoff from this drainage area is captured and piped to UGIS-1 and contributes Design Point “DP2.1 West Wetland.”

STORMWATER MANAGEMENT STANDARDS

The stormwater management system is designed to meet the 11 Minimum Standards of the RISDISM. The Stormwater Checklist has been completed and is included in Appendix C. The following sections describe the approach to meeting the requirements for each Minimum Standard.

Minimum Standard 1: LID Site Planning and Design Strategies

The use of Low Impact Development (LID) techniques to treat, infiltrate, and reduce the stormwater runoff at the site were incorporated wherever possible. Localized small BMPS such as bioretention areas, sand filters, infiltration basins and wet swales are provided along with QPAs at or as close to the source as practicable to provide recharge, filtration, and water quality treatment.

The QPAs are proposed adjacent to the new impervious areas to treat stormwater runoff. The width of the QPA is equivalent to the width of the contributing impervious area and the slope across the QPA is limited to less than 5%. This area is modeled in the hydrologic model as unconnected pavement.

Minimum Standard 2: Groundwater Recharge

Minimum Standard 2 is met by providing QPAs, two bioretention areas, and four sand filters, an infiltration basin and an underground infiltration system that infiltrate runoff. Refer to Recharge Calculation in Appendix C and description in Minimum Standard 3.

Minimum Standard 3: Water Quality

The proposed bioretention areas, sand filters, infiltration basins, underground infiltration system, wet swale, and QPAs are designed to provide water quality treatment to runoff collected from upstream impervious surfaces to the maximum extents practicable while maintaining existing drainage patterns. The stormwater BMP's were designed in accordance with the RISDISM requirements to remove total suspended solids and other pollutants from the stormwater runoff. See Appendix C for calculations for the stormwater facilities.

Bioretention Area with Subdrains

The bioretention areas have been designed in accordance with RIDEM Standards to promote water quality. The bioretention areas include filter media with a mulch upper layer, vegetated side slopes, a raised outlet, and spillway. Stormwater is piped to the sediment forebay, which provides pretreatment, prior to entering the bioretention area. An impermeable liner with a stone layer and perforated subdrain is placed under the filter media to discharge the treated water for Bioretention Area-02 and Bioretention Area-03. The liner is provided because the minimum separation to groundwater is not provided. The raised outlet is elevated to store the water quality volume for 24-hours while it slowly drains through the subdrain system following the storm event. Any excess stormwater that enters the bioretention area will overflow into the catch basin and discharge into the drainage network.

Bioretention Area with Exfiltration

The bioretention areas have been designed in accordance with RIDEM Standards to promote water quality. The bioretention areas include filter media with a mulch upper layer, vegetated side slopes, a raised catch basin, and spillway. Stormwater for Bioretention -01 is piped to the sediment forebay, which provides pretreatment, prior to entering the bioretention area. The outlet is elevated to exfiltrate the entire water quality volume through the surrounding soils for Bioretention Area-01. Stormwater for Bioretention -04 is piped to the bioretention area for treatment. Bioretention -04 provides water quality treatment for non-vehicular traveled sidewalks, therefore no pretreatment was provided. The outlet is elevated to exfiltrate the entire water quality volume through the surrounding soils for Bioretention -04. Excess stormwater that enters Bioretention-04 during larger storm events will overflow into the catch basin and discharge into the drainage network. Bioretention Area-01 is designed offline with diversion structures upstream for larger storm events to bypass the BMP.

Per the RISDISM, exfiltration through the soils observed on-site would be modeled with a Rawls Rate of 1.02 in/hr (C Soils) or 0.27 in/hr (D Soils). In an effort to be conservative, an infiltration rate of 0.27 in/hr was used to model exfiltration from all BMP's that exfiltrate to existing soils.

Sand Filters with Subdrains

The sand filters have been designed in accordance with RIDEM Standards to promote water quality.. The sand filter includes a vegetated bottom, 36" deep layer of ASTM C-33 sand,

vegetated side slopes, a raised catch basin, and spillway. Stormwater is piped to the sediment forebay, which provides pretreatment, prior to entering the sand filter. An impermeable liner with a stone layer and perforated subdrain is placed under the filter media to discharge the treated water for Sand Filter-04. The liner is provided because the minimum separation to groundwater is not provided. The catch basin outlet is elevated to store the water quality volume for 24-hours while it slowly drains through the subdrain system following the storm event. Any excess stormwater that enters Sand Filter-04 will overflow into the catch basin and discharge into the drainage network.

Sand Filters with Exfiltration

The sand filters have been designed in accordance with RIDEM Standards to promote water quality, exfiltration, and recharge. The sand filter includes a vegetated bottom, 36" deep layer of ASTM C-33 sand, vegetated side slopes, a raised catch basin, and spillway. Stormwater is piped to the sediment forebay, which provides pretreatment, prior to entering the sand filter. The catch basin outlet is elevated to exfiltrate the entire water quality volume through the surrounding soils for Sand Filters 1, 2, 3 and 5. Excess stormwater that enters Sand Filter-03, and Sand Filter-05 during larger storm events will overflow into the catch basin and discharge into the drainage network. Sand Filter-01 and Sand Filter-02 are designed offline with diversion structures upstream for larger storm events to bypass the BMP.

Design infiltration rate for ASTM C-33 sand is 8.27 in/hr. Considering the presence of silt loam in the "C" horizon soils, an infiltration rate of 0.27 in/hr was used for conservative measures.

Infiltration Basin

The infiltration basin has been designed in accordance with RIDEM Standards to promote water quality, exfiltration, and recharge. The infiltration basin is sized to infiltrate the water quality volume from upstream impervious areas. The outlet structure is elevated to exfiltrate the entire water quality volume through the surrounding soils. A 10' long auxiliary drain pipe with a closed PVC ball valve is provided within Infiltration Basin-01 for maintenance needs only. The valve will remain closed per section 5.3 of the RISDISM. A riprap spillway is provided for large storm events. The bottom of the infiltration basin is set in native sandy loam soils and a minimum of 36" from the estimated seasonal high groundwater table or limiting layers. With the presence of sandy loam soils, an infiltration rate of 1.02 in/hr a stormwater infiltration practice was designed

to provide ground water recharge to the maximum extents practicable within the Silver Creek Watershed to reduce stormwater volume per the Town of Bristol's regulations for projects within Silver Creek.

Underground Infiltration System

The underground infiltration system (UGIS) has been designed in accordance with RIDEM Standards to promote water quality, and recharge. The UGIS is sized to infiltrate the water quality volume based on upstream impervious areas.

The bottom of the underground infiltration system is set in native soils, and a minimum of 36" from the estimated seasonal high groundwater table. Considering the presence of silt loam, an infiltration rate of 0.27 in/hr was used for conservative measures. A technical justification is requested to permit a stormwater infiltration practice within anticipated 0.27 in/hr soils based on the goal to provide ground water recharge to the maximum extents practicable within the Silver Creek Watershed to reduce stormwater volume per the Town of Bristol's regulations for projects within Silver Creek.

UGIS-01 has been designed to infiltrate the synthetic turf field impervious surface to provide water quality treatment. The synthetic turf field profile includes dual 15" HDPE pipes embedded within crushed stone reservoir to provide storage for the athletic field prior to entering the UGIS system. Larger stormwater events will bypass the UGIS system via a diversion structure upstream of the system. A pretreatment row is not provided for the UGIS system due to the UGIS's design intention to treat only the synthetic turf field with no other contributing drainage areas. Due to the infiltration practice being within 50 feet of a slope greater than 15%, a 40 mil PVC liner is proposed to limit potential for horizontal seepage. The liner will be installed along the southern and western boundaries of the underground system to prevent water seepage against the 3:1 slope.

Wet Swale

The wet swale along the east parking lot has been designed in accordance with the RISDISM to treat runoff for water quality requirements. The wet swale includes a 12" deep bioretention soil bed with a crushed stone sump. Soil media shall meet the specifications outlined for bioretention media to include a well-aged leaf compost per the RISDISM section 5.7.4. This wet swale also

includes a sediment forebay and check dams along the length of the swale to pretreat runoff from the roadway prior to entering the wet swale. Due to the presence of high groundwater within the northeast portions of the site, a modified wet swale is proposed to allow for limited recharge during the dry seasons while still providing water quality treatment through surface water ponding via overflow structure to the maximum extent practicable.

Minimum Standard 4: Conveyance and Natural Channel Protection

The new stormwater conveyance system has been designed to convey the runoff from the 25-year design storm event in accordance with general engineering practice. Refer to Appendix B Hydraulic Design Calculations.

Extended Detention Basin

The extended detention basins include an outlet control structure within the berm and a riprap spillway. Generally, the riprap spillway will direct runoff from the extended detention basins during events greater than the 100-year design storm. The extended detention basins will be vegetated with a grass mix capable of withstanding temporarily wet environments. The proposed detention basin does not discharge to a watershed draining to a cold-water fishery. Detention Basin -02 is within 20ft of a roadway structure, however a technical justification is requested based on the detention basin being designed with adequate maintenance access and protected via the proposed fence limits.

Detention Basin-01 and Detention Basin-02 are designed to retain the water quality volume and release it over a 24-hour period through a low flow orifice where the inflow in the 1-year design storm is greater than 2 cfs per the RISDISM. The low-flow orifice was designed in accordance with the RISDISM. Refer to the Channel Protection Volume calculations included in Appendix C.

Minimum Standard 5: Overbank Flood Protection

The existing and proposed hydrology was evaluated to determine the distribution of stormwater runoff to the design points. Hydrologic calculations were completed to confirm that the post-development runoff conditions are similar to pre-development conditions and that there are no significant changes to runoff directed to the design points. Hydrologic calculations were also completed to evaluate the performance of the bioretention areas, sand filters, infiltration basins,

underground infiltration systems, and wet swales during the design storm events. The hydrologic model shows a decrease in the peak flow rate and volumes discharged to the East and West Branches of the Silver Creek Watersheds for the 1-year, 2-year, 10-year, 25-year and 100-year storms. The table below provides a summary of the peak flow rates for the existing and proposed conditions at each design point.

Table 2: Peak Flow Rate (CFS)

DESIGN POINTS	1-YEAR	2-YEAR	10-YEAR	25-YEAR	100-YEAR
DP1.1 Silver Creek East-Culvert 1 Existing	8.83	12.03	23.08	31.76	50.14
DP1.1 Silver Creek East- Culvert 1 Proposed	7.45	10.49	21.30	29.98	48.60
Change	-1.38	-1.54	-1.78	-1.78	-1.54
DP1.2 Silver Creek East-Culvert 2 Existing	9.87	13.32	25.17	34.45	54.13
DP1.2 Silver Creek East- Culvert 2 Proposed	8.27	11.50	23.04	33.24	54.77
Change	-1.60	-1.82	-2.13	-1.21	0.64
DP1.3 Silver Creek East-Culvert 3 Existing	10.22	13.76	25.92	35.43	55.59
DP1.3 Silver Creek East- Culvert 3 Proposed	8.64	12.00	23.98	34.45	56.88
Change	-1.58	-1.76	-1.94	-0.98	1.29
DP1.4 Silver Creek East-Culvert 4 Existing	25.70	33.34	58.84	78.39	119.32
DP1.4 Silver Creek East- Culvert 4 Proposed	16.36	24.86	50.66	69.28	116.14
Change	-9.34	-8.48	-8.18	-9.11	-3.18
DP2.1 Silver Creek West Branch Existing	6.84	10.01	20.21	28.99	60.35
DP2.1 Silver Creek West Branch Proposed	3.09	7.17	20.15	29.10	60.02
Change	-3.75	-2.84	-0.06	0.11	-0.33
DP2.2 Silver Creek West Branch Existing	10.53	15.28	30.43	43.16	78.59
DP2.2 Silver Creek West Branch Proposed	4.44	8.72	24.67	35.88	71.23
Change	-6.09	-6.56	-5.76	-7.28	-7.36

Table 3: Peak Volumes (CF)

DESIGN POINTS	1-YEAR	10-YEAR
DP1.4 Silver Creek East Branch Total Existing	130,468	300,035
DP1.4 Silver Creek East Branch Total Proposed	91,018	247,294
Change	-39,450	-52,741
DP2.2 Silver Creek West Branch Total Existing	68,970	194,326
DP2.2 Silver Creek West Branch Total Proposed	63,452	194,060
Change	-5,518	-266

Table 4: Total Site Volumes (CF)

Silver Creek Watershed	1-YEAR	10-YEAR
Silver Creek Total Existing	199,438	494,361
Silver Creek Total Proposed	154,470	441,354
Change	-44,968	-53,007
Percent Reduction	23%	11%

While there is a slight increase in the peak flow rates at DP2.1 West Wetland for the 25-yr storm, DP1.2- Silver Creek East -Culvert 2 and DP1.3- Silver Creek East -Culvert 3 for the 100-year storm, the increase in peak flows at this location is negligible due to the upstream and downstream flow rate reductions.

Minimum Standard 6: Redevelopment and Infill Projects

The Water Quality Volume Calculation worksheet provided in Appendix C identifies the project as a new development due to the property being slightly less than 40% for impervious area. Per the RISDISM regulations this project does not qualify as a Redevelopment Project per Section 3.2.6 of the RISDISM. However, the existing condition for the property includes significant impervious surface that is untreated that discharges to the natural resources. This project provides a significant improvement for water quality treatment, ground water recharge and peak flow rate reduction compared to the existing condition while maintaining the existing drainage patterns and providing water quality treatment to the maximum extents practicable for the proposed impervious areas.

Minimum Standard 7: Pollution Prevention

A Long Term Pollution Prevention Plan is included under separate cover.

Minimum Standard 8: Land Uses with a Higher Potential Pollutant Load (LUHPPL)

This minimum standard is not applicable to the project as land use is not considered a LUHPPL.

Minimum Standard 9: Illicit Discharges

There are no illicit discharges proposed to the stormwater management system in accordance with State regulations.

Minimum Standard 10: Construction Erosion and Sedimentation Control

A Soil Erosion and Sediment Control Plan (SESC) plan was prepared to demonstrate which practices will be used to minimize land disturbance and conveyance. This report is included under separate cover.

Minimum Standard 11: Stormwater Management System Operation and Maintenance (O&M)

A Stormwater Management Operation and Maintenance plan was prepared to address routine upkeep tasks for maintaining the stormwater management system per the RISDISM and the Town of Bristol's Code of Ordinances. This report is included under separate cover.

CONCLUSION

In conclusion, the proposed development meets the 11 Minimum Standards as required by RIDEM. The stormwater management system provides reductions in peak runoff rate within the hydrologic analysis area for the design storm events evaluated to improve existing conditions. The stormwater management system has also been designed to provide groundwater recharge and promote total suspended solids removal and to improve the overall water quality to downstream resources and offsite areas.

Impact to areas upstream from the removal of the existing school and installation of the new culverts is minimal. The project increases storage volume within the floodplain upstream of the school, provides bypass piping to route flow during large storm events to the pond below. Impact

to downstream areas is improved through the reduction in stormwater volume and peak flow rate provided by the proposed stormwater management system.

Bristol Warren Regional School District

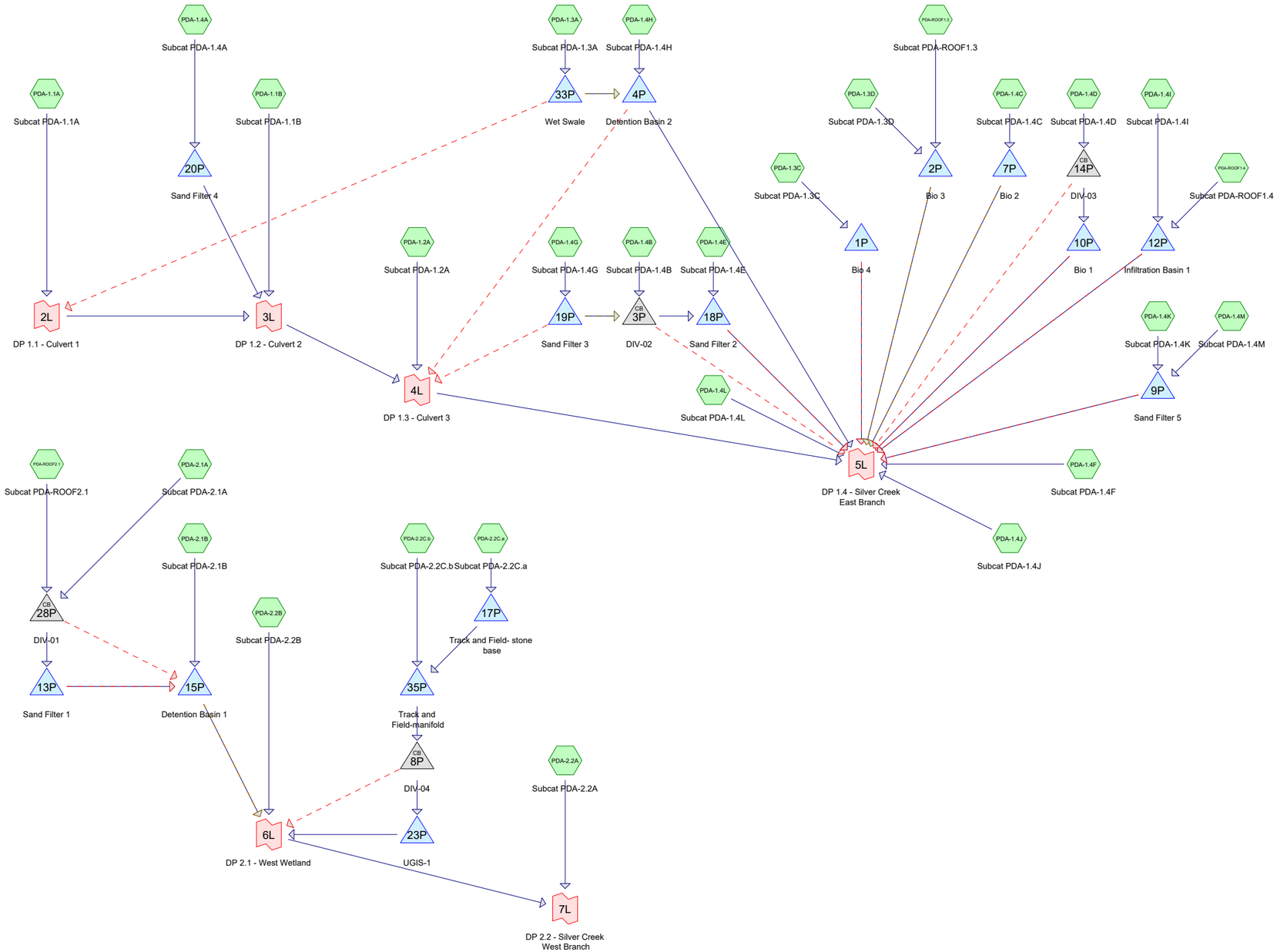
MT. HOPE HIGH SCHOOL

APPENDIX B

Hydrologic Calculations – Existing Conditions

Hydrologic Calculations – Proposed Conditions

Hydraulic Calculations – Pipe Analysis



Routing Diagram for Pro-Hydro

Prepared by Pare Corporation, Printed 6/3/2025

HydroCAD® 10.20-5c s/n 04883 © 2023 HydroCAD Software Solutions LLC

Time span=0.00-240.00 hrs, dt=0.05 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PDA-1.1A: Subcat PDA-1.1A Runoff Area=475,005 sf 1.72% Impervious Runoff Depth=0.93"
Flow Length=451' Slope=0.0100 '/' Tc=21.1 min CN=77 Runoff=7.45 cfs 37,004 cf

Subcatchment PDA-1.1B: Subcat PDA-1.1B Runoff Area=30,333 sf 0.05% Impervious Runoff Depth=0.99"
Flow Length=126' Tc=13.1 min CN=78 Runoff=0.61 cfs 2,499 cf

Subcatchment PDA-1.2A: Subcat PDA-1.2A Runoff Area=25,845 sf 14.60% Impervious Runoff Depth=1.10"
Flow Length=73' Tc=7.3 min UI Adjusted CN=80 Runoff=0.71 cfs 2,374 cf

Subcatchment PDA-1.3A: Subcat PDA-1.3A Runoff Area=57,295 sf 71.89% Impervious Runoff Depth=1.97"
Flow Length=198' Slope=0.0100 '/' Tc=6.5 min CN=92 Runoff=2.89 cfs 9,419 cf

Subcatchment PDA-1.3C: Subcat PDA-1.3C Runoff Area=16,850 sf 41.68% Impervious Runoff Depth=1.35"
Flow Length=49' Tc=6.8 min CN=84 Runoff=0.59 cfs 1,900 cf

Subcatchment PDA-1.3D: Subcat PDA-1.3D Runoff Area=6,850 sf 45.03% Impervious Runoff Depth=1.42"
Tc=6.0 min CN=85 Runoff=0.26 cfs 812 cf

Subcatchment PDA-1.4A: Subcat PDA-1.4A Runoff Area=31,007 sf 23.95% Impervious Runoff Depth=1.29"
Flow Length=144' Tc=13.4 min CN=83 Runoff=0.83 cfs 3,326 cf

Subcatchment PDA-1.4B: Subcat PDA-1.4B Runoff Area=53,181 sf 37.23% Impervious Runoff Depth=1.42"
Flow Length=98' Tc=13.9 min CN=85 Runoff=1.57 cfs 6,301 cf

Subcatchment PDA-1.4C: Subcat PDA-1.4C Runoff Area=26,810 sf 63.81% Impervious Runoff Depth=1.72"
Tc=6.0 min CN=89 Runoff=1.21 cfs 3,843 cf

Subcatchment PDA-1.4D: Subcat PDA-1.4D Runoff Area=42,514 sf 59.10% Impervious Runoff Depth=1.72"
Tc=6.0 min CN=89 Runoff=1.92 cfs 6,094 cf

Subcatchment PDA-1.4E: Subcat PDA-1.4E Runoff Area=39,245 sf 62.30% Impervious Runoff Depth=1.72"
Tc=6.0 min CN=89 Runoff=1.77 cfs 5,625 cf

Subcatchment PDA-1.4F: Subcat PDA-1.4F Runoff Area=73,858 sf 54.96% Impervious Runoff Depth=1.57"
Flow Length=346' Tc=14.5 min CN=87 Runoff=2.37 cfs 9,637 cf

Subcatchment PDA-1.4G: Subcat PDA-1.4G Runoff Area=22,284 sf 61.76% Impervious Runoff Depth=1.72"
Tc=6.0 min CN=89 Runoff=1.01 cfs 3,194 cf

Subcatchment PDA-1.4H: Subcat PDA-1.4H Runoff Area=10,744 sf 5.59% Impervious Runoff Depth=0.83"
Tc=6.0 min CN=75 Runoff=0.22 cfs 745 cf

Subcatchment PDA-1.4I: Subcat PDA-1.4I Runoff Area=9,824 sf 27.06% Impervious Runoff Depth=1.16"
Tc=6.0 min CN=81 Runoff=0.30 cfs 951 cf

Subcatchment PDA-1.4J: Subcat PDA-1.4J Runoff Area=59,466 sf 8.43% Impervious Runoff Depth=1.04"
Tc=6.0 min CN=79 Runoff=1.60 cfs 5,176 cf

Subcatchment PDA-1.4K: Subcat PDA-1.4K Runoff Area=18,876 sf 80.13% Impervious Runoff Depth=2.06"
Tc=6.0 min CN=93 Runoff=1.00 cfs 3,246 cf

Subcatchment PDA-1.4L: Subcat PDA-1.4L Runoff Area=11,978 sf 24.28% Impervious Runoff Depth=1.10"
Flow Length=75' Tc=8.5 min CN=80 Runoff=0.31 cfs 1,100 cf

Subcatchment PDA-1.4M: Subcat PDA-1.4M Runoff Area=4,734 sf 4.20% Impervious Runoff Depth=0.83"
Flow Length=166' Slope=0.0100 '/' Tc=14.3 min CN=75 Runoff=0.08 cfs 328 cf

Subcatchment PDA-2.1A: Subcat Runoff Area=348,138 sf 26.08% Impervious Runoff Depth=1.16"
Flow Length=269' Tc=16.3 min CN=81 Runoff=7.76 cfs 33,704 cf

Subcatchment PDA-2.1B: Subcat PDA-2.1B Runoff Area=151,957 sf 4.77% Impervious Runoff Depth=0.88"
Flow Length=123' Tc=17.0 min CN=76 Runoff=2.42 cfs 11,179 cf

Subcatchment PDA-2.2A: Subcat Runoff Area=156,051 sf 26.13% Impervious Runoff Depth=1.10"
Tc=12.9 min CN=80 Runoff=3.57 cfs 14,332 cf

Subcatchment PDA-2.2B: Subcat PDA-2.2B Runoff Area=152,340 sf 1.56% Impervious Runoff Depth=0.69"
Flow Length=565' Slope=0.0120 '/' Tc=40.0 min CN=72 Runoff=1.23 cfs 8,783 cf

Subcatchment PDA-2.2C.a: Subcat Runoff Area=90,671 sf 100.00% Impervious Runoff Depth=2.57"
Tc=6.0 min CN=98 Runoff=5.50 cfs 19,412 cf

Subcatchment PDA-2.2C.b: Subcat Runoff Area=61,186 sf 99.99% Impervious Runoff Depth=2.57"
Tc=6.0 min CN=98 Runoff=3.71 cfs 13,100 cf

Subcatchment PDA-ROOF1.3: Subcat Runoff Area=9,782 sf 100.00% Impervious Runoff Depth=2.57"
Tc=6.0 min CN=98 Runoff=0.59 cfs 2,094 cf

Subcatchment PDA-ROOF1.4: Subcat Runoff Area=58,210 sf 100.00% Impervious Runoff Depth=2.57"
Tc=6.0 min CN=98 Runoff=3.53 cfs 12,462 cf

Subcatchment PDA-ROOF2.1: Subcat Runoff Area=31,087 sf 100.00% Impervious Runoff Depth=2.57"
Tc=6.0 min CN=98 Runoff=1.89 cfs 6,656 cf

Pond 1P: Bio 4 Peak Elev=60.31' Storage=1,151 cf Inflow=0.59 cfs 1,900 cf
Discarded=0.01 cfs 1,446 cf Primary=0.04 cfs 455 cf Outflow=0.05 cfs 1,900 cf

Pond 2P: Bio 3 Peak Elev=59.78' Storage=1,130 cf Inflow=0.85 cfs 2,906 cf
Primary=0.63 cfs 774 cf Tertiary=0.02 cfs 2,132 cf Outflow=0.65 cfs 2,906 cf

Pond 3P: DIV-02 Peak Elev=56.91' Inflow=1.57 cfs 6,301 cf
Primary=0.87 cfs 5,677 cf Secondary=0.70 cfs 624 cf Outflow=1.57 cfs 6,301 cf

Pond 4P: Detention Basin 2 Peak Elev=56.91' Storage=3,230 cf Inflow=1.44 cfs 5,314 cf
Primary=0.07 cfs 5,310 cf Secondary=0.00 cfs 0 cf Outflow=0.07 cfs 5,310 cf

Pond 7P: Bio 2 Peak Elev=56.51' Storage=2,114 cf Inflow=1.21 cfs 3,843 cf
Primary=0.07 cfs 466 cf Secondary=0.00 cfs 0 cf Tertiary=0.03 cfs 3,377 cf Outflow=0.10 cfs 3,843 cf

Pond 8P: DIV-04 Peak Elev=48.47' Inflow=4.72 cfs 12,676 cf
Primary=4.72 cfs 11,744 cf Secondary=0.35 cfs 932 cf Outflow=4.72 cfs 12,677 cf

Pond 9P: Sand Filter 5 Peak Elev=49.80' Storage=1,425 cf Inflow=1.05 cfs 3,574 cf
Discarded=0.01 cfs 1,753 cf Primary=0.89 cfs 1,821 cf Secondary=0.00 cfs 0 cf Outflow=0.90 cfs 3,574 cf

Pond 10P: Bio 1 Peak Elev=44.55' Storage=1,829 cf Inflow=1.16 cfs 5,700 cf
Discarded=0.01 cfs 2,078 cf Primary=1.00 cfs 3,621 cf Secondary=0.00 cfs 0 cf Outflow=1.01 cfs 5,700 cf

Pond 12P: Infiltration Basin 1 Peak Elev=57.86' Storage=5,813 cf Inflow=3.83 cfs 13,414 cf
Discarded=0.07 cfs 8,817 cf Primary=1.85 cfs 4,596 cf Secondary=0.00 cfs 0 cf Outflow=1.92 cfs 13,414 cf

Pond 13P: Sand Filter 1 Peak Elev=47.00' Storage=12,989 cf Inflow=2.40 cfs 27,570 cf
Discarded=0.03 cfs 12,365 cf Primary=0.53 cfs 15,205 cf Secondary=0.00 cfs 0 cf Outflow=0.56 cfs 27,570 cf

Pond 14P: DIV-03 Peak Elev=44.97' Inflow=1.92 cfs 6,094 cf
Primary=1.16 cfs 5,700 cf Secondary=0.80 cfs 394 cf Outflow=1.92 cfs 6,094 cf

Pond 15P: Detention Basin 1 Peak Elev=44.98' Storage=12,766 cf Inflow=8.70 cfs 39,173 cf
Primary=1.87 cfs 39,110 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=1.87 cfs 39,110 cf

Pond 17P: Track and Field- stone base Peak Elev=50.60' Storage=3,057 cf Inflow=5.50 cfs 19,412 cf
Discarded=0.59 cfs 13,451 cf Primary=3.02 cfs 5,962 cf Outflow=3.62 cfs 19,412 cf

Pond 18P: Sand Filter 2 Peak Elev=55.29' Storage=4,409 cf Inflow=2.60 cfs 11,302 cf
Discarded=0.01 cfs 4,970 cf Primary=1.42 cfs 6,332 cf Secondary=0.00 cfs 0 cf Outflow=1.43 cfs 11,302 cf

Pond 19P: Sand Filter 3 Peak Elev=60.19' Storage=2,500 cf Inflow=1.01 cfs 3,194 cf
Discarded=0.01 cfs 3,194 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.01 cfs 3,194 cf

Pond 20P: Sand Filter 4 Peak Elev=59.87' Storage=512 cf Inflow=0.83 cfs 3,326 cf
Outflow=0.34 cfs 3,326 cf

Pond 23P: UGIS-1 Peak Elev=48.47' Storage=10,125 cf Inflow=4.72 cfs 11,744 cf
Discarded=0.07 cfs 11,449 cf Primary=0.11 cfs 296 cf Outflow=0.19 cfs 11,744 cf

Pond 28P: DIV-01 Peak Elev=47.48' Inflow=8.74 cfs 40,359 cf
Primary=2.40 cfs 27,570 cf Secondary=6.33 cfs 12,790 cf Outflow=8.74 cfs 40,359 cf

Pond 33P: Wet Swale Peak Elev=59.79' Storage=4,443 cf Inflow=2.89 cfs 9,419 cf
Discarded=0.01 cfs 4,851 cf Primary=1.33 cfs 4,568 cf Secondary=0.00 cfs 0 cf Outflow=1.34 cfs 9,419 cf

Pond 35P: Track and Field-manifold Peak Elev=49.31' Storage=2,280 cf Inflow=6.18 cfs 19,061 cf
Discarded=0.47 cfs 6,385 cf Primary=4.72 cfs 12,676 cf Outflow=5.19 cfs 19,061 cf

Link 2L: DP 1.1 - Culvert 1 Inflow=7.45 cfs 37,004 cf
Primary=7.45 cfs 37,004 cf

Link 3L: DP 1.2 - Culvert 2 Inflow=8.27 cfs 42,830 cf
Primary=8.27 cfs 42,830 cf

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Link 4L: DP 1.3 - Culvert 3 Inflow=8.64 cfs 45,203 cf
Primary=8.64 cfs 45,203 cf

Link 5L: DP 1.4 - Silver Creek East Branch Inflow=16.36 cfs 91,018 cf
Primary=16.36 cfs 91,018 cf

Link 6L: DP 2.1 - West Wetland Inflow=3.09 cfs 49,121 cf
Primary=3.09 cfs 49,121 cf

Link 7L: DP 2.2 - Silver Creek West Branch Inflow=4.44 cfs 63,452 cf
Primary=4.44 cfs 63,452 cf

Total Runoff Area = 2,076,121 sf Runoff Volume = 225,296 cf Average Runoff Depth = 1.30"
69.65% Pervious = 1,445,943 sf 30.35% Impervious = 630,178 sf

Summary for Subcatchment PDA-1.1A: Subcat PDA-1.1A

Runoff = 7.45 cfs @ 12.32 hrs, Volume= 37,004 cf, Depth= 0.93"
Routed to Link 2L : DP 1.1 - Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
90,334	74	>75% Grass cover, Good, HSG C
38,424	80	>75% Grass cover, Good, HSG D
4,538	87	Dirt roads, HSG C
1,510	89	Dirt roads, HSG D
1,040	98	Paved parking, HSG D
6,366	98	Unconnected pavement, HSG C
776	98	Unconnected pavement, HSG D
33,631	70	Woods, Good, HSG C
298,387	77	Woods, Good, HSG D
475,005	77	Weighted Average
466,824	76	98.28% Pervious Area
8,181	98	1.72% Impervious Area
7,142		87.29% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
8.4	351	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.1	451	Total			

Hydrograph for Subcatchment PDA-1.1A: Subcat PDA-1.1A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	0.93	0.00
2.50	0.07	0.00	0.00	130.00	2.80	0.93	0.00
5.00	0.16	0.00	0.00	132.50	2.80	0.93	0.00
7.50	0.28	0.00	0.00	135.00	2.80	0.93	0.00
10.00	0.53	0.00	**0.00**	137.50	2.80	0.93	0.00
12.50	1.97	0.43	**5.89**	140.00	2.80	0.93	0.00
15.00	2.39	0.67	0.77	142.50	2.80	0.93	0.00
17.50	2.57	0.79	0.39	145.00	2.80	0.93	0.00
20.00	2.68	0.86	0.27	147.50	2.80	0.93	0.00
22.50	**2.76**	**0.91**	0.22	150.00	2.80	0.93	0.00
25.00	**2.80**	**0.93**	0.00	152.50	2.80	0.93	0.00
27.50	2.80	0.93	0.00	155.00	2.80	0.93	0.00
30.00	2.80	0.93	0.00	157.50	2.80	0.93	0.00
32.50	2.80	0.93	0.00	160.00	2.80	0.93	0.00
35.00	2.80	0.93	0.00	162.50	2.80	0.93	0.00
37.50	2.80	0.93	0.00	165.00	2.80	0.93	0.00
40.00	2.80	0.93	0.00	167.50	2.80	0.93	0.00
42.50	2.80	0.93	0.00	170.00	2.80	0.93	0.00
45.00	2.80	0.93	0.00	172.50	2.80	0.93	0.00
47.50	2.80	0.93	0.00	175.00	2.80	0.93	0.00
50.00	2.80	0.93	0.00	177.50	2.80	0.93	0.00
52.50	2.80	0.93	0.00	180.00	2.80	0.93	0.00
55.00	2.80	0.93	0.00	182.50	2.80	0.93	0.00
57.50	2.80	0.93	0.00	185.00	2.80	0.93	0.00
60.00	2.80	0.93	0.00	187.50	2.80	0.93	0.00
62.50	2.80	0.93	0.00	190.00	2.80	0.93	0.00
65.00	2.80	0.93	0.00	192.50	2.80	0.93	0.00
67.50	2.80	0.93	0.00	195.00	2.80	0.93	0.00
70.00	2.80	0.93	0.00	197.50	2.80	0.93	0.00
72.50	2.80	0.93	0.00	200.00	2.80	0.93	0.00
75.00	2.80	0.93	0.00	202.50	2.80	0.93	0.00
77.50	2.80	0.93	0.00	205.00	2.80	0.93	0.00
80.00	2.80	0.93	0.00	207.50	2.80	0.93	0.00
82.50	2.80	0.93	0.00	210.00	2.80	0.93	0.00
85.00	2.80	0.93	0.00	212.50	2.80	0.93	0.00
87.50	2.80	0.93	0.00	215.00	2.80	0.93	0.00
90.00	2.80	0.93	0.00	217.50	2.80	0.93	0.00
92.50	2.80	0.93	0.00	220.00	2.80	0.93	0.00
95.00	2.80	0.93	0.00	222.50	2.80	0.93	0.00
97.50	2.80	0.93	0.00	225.00	2.80	0.93	0.00
100.00	2.80	0.93	0.00	227.50	2.80	0.93	0.00
102.50	2.80	0.93	0.00	230.00	2.80	0.93	0.00
105.00	2.80	0.93	0.00	232.50	2.80	0.93	0.00
107.50	2.80	0.93	0.00	235.00	2.80	0.93	0.00
110.00	2.80	0.93	0.00	237.50	2.80	0.93	0.00
112.50	2.80	0.93	0.00	240.00	2.80	0.93	0.00
115.00	2.80	0.93	0.00				
117.50	2.80	0.93	0.00				
120.00	2.80	0.93	0.00				
122.50	2.80	0.93	0.00				
125.00	2.80	0.93	0.00				

Summary for Subcatchment PDA-1.1B: Subcat PDA-1.1B

Runoff = 0.61 cfs @ 12.20 hrs, Volume= 2,499 cf, Depth= 0.99"
Routed to Link 3L : DP 1.2 - Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
19,238	74	>75% Grass cover, Good, HSG C
5,415	80	>75% Grass cover, Good, HSG D
5,665	87	Dirt roads, HSG C
8	98	Paved parking, HSG C
7	98	Paved parking, HSG D
30,333	78	Weighted Average
30,318	78	99.95% Pervious Area
15	98	0.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.4	26	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.1	126	Total			

Hydrograph for Subcatchment PDA-1.1B: Subcat PDA-1.1B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	0.99	0.00
2.50	0.07	0.00	0.00	130.00	2.80	0.99	0.00
5.00	0.16	0.00	0.00	132.50	2.80	0.99	0.00
7.50	0.28	0.00	0.00	135.00	2.80	0.99	0.00
10.00	0.53	0.00	**0.00**	137.50	2.80	0.99	0.00
12.50	1.97	0.47	**0.31**	140.00	2.80	0.99	0.00
15.00	2.39	0.72	0.05	142.50	2.80	0.99	0.00
17.50	2.57	0.84	0.03	145.00	2.80	0.99	0.00
20.00	2.68	0.91	0.02	147.50	2.80	0.99	0.00
22.50	**2.76**	**0.96**	0.01	150.00	2.80	0.99	0.00
25.00	**2.80**	**0.99**	0.00	152.50	2.80	0.99	0.00
27.50	2.80	0.99	0.00	155.00	2.80	0.99	0.00
30.00	2.80	0.99	0.00	157.50	2.80	0.99	0.00
32.50	2.80	0.99	0.00	160.00	2.80	0.99	0.00
35.00	2.80	0.99	0.00	162.50	2.80	0.99	0.00
37.50	2.80	0.99	0.00	165.00	2.80	0.99	0.00
40.00	2.80	0.99	0.00	167.50	2.80	0.99	0.00
42.50	2.80	0.99	0.00	170.00	2.80	0.99	0.00
45.00	2.80	0.99	0.00	172.50	2.80	0.99	0.00
47.50	2.80	0.99	0.00	175.00	2.80	0.99	0.00
50.00	2.80	0.99	0.00	177.50	2.80	0.99	0.00
52.50	2.80	0.99	0.00	180.00	2.80	0.99	0.00
55.00	2.80	0.99	0.00	182.50	2.80	0.99	0.00
57.50	2.80	0.99	0.00	185.00	2.80	0.99	0.00
60.00	2.80	0.99	0.00	187.50	2.80	0.99	0.00
62.50	2.80	0.99	0.00	190.00	2.80	0.99	0.00
65.00	2.80	0.99	0.00	192.50	2.80	0.99	0.00
67.50	2.80	0.99	0.00	195.00	2.80	0.99	0.00
70.00	2.80	0.99	0.00	197.50	2.80	0.99	0.00
72.50	2.80	0.99	0.00	200.00	2.80	0.99	0.00
75.00	2.80	0.99	0.00	202.50	2.80	0.99	0.00
77.50	2.80	0.99	0.00	205.00	2.80	0.99	0.00
80.00	2.80	0.99	0.00	207.50	2.80	0.99	0.00
82.50	2.80	0.99	0.00	210.00	2.80	0.99	0.00
85.00	2.80	0.99	0.00	212.50	2.80	0.99	0.00
87.50	2.80	0.99	0.00	215.00	2.80	0.99	0.00
90.00	2.80	0.99	0.00	217.50	2.80	0.99	0.00
92.50	2.80	0.99	0.00	220.00	2.80	0.99	0.00
95.00	2.80	0.99	0.00	222.50	2.80	0.99	0.00
97.50	2.80	0.99	0.00	225.00	2.80	0.99	0.00
100.00	2.80	0.99	0.00	227.50	2.80	0.99	0.00
102.50	2.80	0.99	0.00	230.00	2.80	0.99	0.00
105.00	2.80	0.99	0.00	232.50	2.80	0.99	0.00
107.50	2.80	0.99	0.00	235.00	2.80	0.99	0.00
110.00	2.80	0.99	0.00	237.50	2.80	0.99	0.00
112.50	2.80	0.99	0.00	240.00	2.80	0.99	0.00
115.00	2.80	0.99	0.00				
117.50	2.80	0.99	0.00				
120.00	2.80	0.99	0.00				
122.50	2.80	0.99	0.00				
125.00	2.80	0.99	0.00				

Summary for Subcatchment PDA-1.2A: Subcat PDA-1.2A

Runoff = 0.71 cfs @ 12.11 hrs, Volume= 2,374 cf, Depth= 1.10"
Routed to Link 4L : DP 1.3 - Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Adj	Description
9,020	74		>75% Grass cover, Good, HSG C
13,051	80		>75% Grass cover, Good, HSG D
1,436	98		Paved parking, HSG C
1,771	98		Paved parking, HSG D
0	98		Roofs, HSG C
567	98		Unconnected pavement, HSG C
25,845	81	80	Weighted Average, UI Adjusted
22,071	78	78	85.40% Pervious Area
3,775	98	98	14.60% Impervious Area
567			15.03% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	54	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.3	6	0.3300	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.3	5	0.2000	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.8	8	0.5000	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
7.3	73	Total			

Hydrograph for Subcatchment PDA-1.2A: Subcat PDA-1.2A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	1.10	0.00
2.50	0.07	0.00	0.00	130.00	2.80	1.10	0.00
5.00	0.16	0.00	0.00	132.50	2.80	1.10	0.00
7.50	0.28	0.00	0.00	135.00	2.80	1.10	0.00
10.00	0.53	0.00	**0.00**	137.50	2.80	1.10	0.00
12.50	1.97	0.54	**0.22**	140.00	2.80	1.10	0.00
15.00	2.39	0.81	0.04	142.50	2.80	1.10	0.00
17.50	2.57	0.94	0.02	145.00	2.80	1.10	0.00
20.00	2.68	1.02	0.02	147.50	2.80	1.10	0.00
22.50	**2.76**	**1.07**	0.01	150.00	2.80	1.10	0.00
25.00	**2.80**	**1.10**	0.00	152.50	2.80	1.10	0.00
27.50	2.80	1.10	0.00	155.00	2.80	1.10	0.00
30.00	2.80	1.10	0.00	157.50	2.80	1.10	0.00
32.50	2.80	1.10	0.00	160.00	2.80	1.10	0.00
35.00	2.80	1.10	0.00	162.50	2.80	1.10	0.00
37.50	2.80	1.10	0.00	165.00	2.80	1.10	0.00
40.00	2.80	1.10	0.00	167.50	2.80	1.10	0.00
42.50	2.80	1.10	0.00	170.00	2.80	1.10	0.00
45.00	2.80	1.10	0.00	172.50	2.80	1.10	0.00
47.50	2.80	1.10	0.00	175.00	2.80	1.10	0.00
50.00	2.80	1.10	0.00	177.50	2.80	1.10	0.00
52.50	2.80	1.10	0.00	180.00	2.80	1.10	0.00
55.00	2.80	1.10	0.00	182.50	2.80	1.10	0.00
57.50	2.80	1.10	0.00	185.00	2.80	1.10	0.00
60.00	2.80	1.10	0.00	187.50	2.80	1.10	0.00
62.50	2.80	1.10	0.00	190.00	2.80	1.10	0.00
65.00	2.80	1.10	0.00	192.50	2.80	1.10	0.00
67.50	2.80	1.10	0.00	195.00	2.80	1.10	0.00
70.00	2.80	1.10	0.00	197.50	2.80	1.10	0.00
72.50	2.80	1.10	0.00	200.00	2.80	1.10	0.00
75.00	2.80	1.10	0.00	202.50	2.80	1.10	0.00
77.50	2.80	1.10	0.00	205.00	2.80	1.10	0.00
80.00	2.80	1.10	0.00	207.50	2.80	1.10	0.00
82.50	2.80	1.10	0.00	210.00	2.80	1.10	0.00
85.00	2.80	1.10	0.00	212.50	2.80	1.10	0.00
87.50	2.80	1.10	0.00	215.00	2.80	1.10	0.00
90.00	2.80	1.10	0.00	217.50	2.80	1.10	0.00
92.50	2.80	1.10	0.00	220.00	2.80	1.10	0.00
95.00	2.80	1.10	0.00	222.50	2.80	1.10	0.00
97.50	2.80	1.10	0.00	225.00	2.80	1.10	0.00
100.00	2.80	1.10	0.00	227.50	2.80	1.10	0.00
102.50	2.80	1.10	0.00	230.00	2.80	1.10	0.00
105.00	2.80	1.10	0.00	232.50	2.80	1.10	0.00
107.50	2.80	1.10	0.00	235.00	2.80	1.10	0.00
110.00	2.80	1.10	0.00	237.50	2.80	1.10	0.00
112.50	2.80	1.10	0.00	240.00	2.80	1.10	0.00
115.00	2.80	1.10	0.00				
117.50	2.80	1.10	0.00				
120.00	2.80	1.10	0.00				
122.50	2.80	1.10	0.00				
125.00	2.80	1.10	0.00				

Summary for Subcatchment PDA-1.3A: Subcat PDA-1.3A

Runoff = 2.89 cfs @ 12.10 hrs, Volume= 9,419 cf, Depth= 1.97"
Routed to Pond 33P : Wet Swale

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
10,911	74	>75% Grass cover, Good, HSG C
5,194	80	>75% Grass cover, Good, HSG D
41,056	98	Paved parking, HSG C
40	98	Paved parking, HSG D
0	98	Roofs, HSG C
94	98	Unconnected pavement, HSG C
57,295	92	Weighted Average
16,106	76	28.11% Pervious Area
41,189	98	71.89% Impervious Area
94		0.23% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.5	27	0.0100	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
1.2	73	0.0100	0.99		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.30"
0.8	98	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
6.5	198	Total			

Hydrograph for Subcatchment PDA-1.3A: Subcat PDA-1.3A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	1.97	0.00
2.50	0.07	0.00	0.00	130.00	2.80	1.97	0.00
5.00	0.16	0.00	0.00	132.50	2.80	1.97	0.00
7.50	0.28	0.01	0.02	135.00	2.80	1.97	0.00
10.00	0.53	0.10	**0.09**	137.50	2.80	1.97	0.00
12.50	1.97	1.21	**0.68**	140.00	2.80	1.97	0.00
15.00	2.39	1.59	0.13	142.50	2.80	1.97	0.00
17.50	2.57	1.76	0.07	145.00	2.80	1.97	0.00
20.00	2.68	1.86	0.05	147.50	2.80	1.97	0.00
22.50	**2.76**	**1.94**	0.04	150.00	2.80	1.97	0.00
25.00	**2.80**	**1.97**	0.00	152.50	2.80	1.97	0.00
27.50	2.80	1.97	0.00	155.00	2.80	1.97	0.00
30.00	2.80	1.97	0.00	157.50	2.80	1.97	0.00
32.50	2.80	1.97	0.00	160.00	2.80	1.97	0.00
35.00	2.80	1.97	0.00	162.50	2.80	1.97	0.00
37.50	2.80	1.97	0.00	165.00	2.80	1.97	0.00
40.00	2.80	1.97	0.00	167.50	2.80	1.97	0.00
42.50	2.80	1.97	0.00	170.00	2.80	1.97	0.00
45.00	2.80	1.97	0.00	172.50	2.80	1.97	0.00
47.50	2.80	1.97	0.00	175.00	2.80	1.97	0.00
50.00	2.80	1.97	0.00	177.50	2.80	1.97	0.00
52.50	2.80	1.97	0.00	180.00	2.80	1.97	0.00
55.00	2.80	1.97	0.00	182.50	2.80	1.97	0.00
57.50	2.80	1.97	0.00	185.00	2.80	1.97	0.00
60.00	2.80	1.97	0.00	187.50	2.80	1.97	0.00
62.50	2.80	1.97	0.00	190.00	2.80	1.97	0.00
65.00	2.80	1.97	0.00	192.50	2.80	1.97	0.00
67.50	2.80	1.97	0.00	195.00	2.80	1.97	0.00
70.00	2.80	1.97	0.00	197.50	2.80	1.97	0.00
72.50	2.80	1.97	0.00	200.00	2.80	1.97	0.00
75.00	2.80	1.97	0.00	202.50	2.80	1.97	0.00
77.50	2.80	1.97	0.00	205.00	2.80	1.97	0.00
80.00	2.80	1.97	0.00	207.50	2.80	1.97	0.00
82.50	2.80	1.97	0.00	210.00	2.80	1.97	0.00
85.00	2.80	1.97	0.00	212.50	2.80	1.97	0.00
87.50	2.80	1.97	0.00	215.00	2.80	1.97	0.00
90.00	2.80	1.97	0.00	217.50	2.80	1.97	0.00
92.50	2.80	1.97	0.00	220.00	2.80	1.97	0.00
95.00	2.80	1.97	0.00	222.50	2.80	1.97	0.00
97.50	2.80	1.97	0.00	225.00	2.80	1.97	0.00
100.00	2.80	1.97	0.00	227.50	2.80	1.97	0.00
102.50	2.80	1.97	0.00	230.00	2.80	1.97	0.00
105.00	2.80	1.97	0.00	232.50	2.80	1.97	0.00
107.50	2.80	1.97	0.00	235.00	2.80	1.97	0.00
110.00	2.80	1.97	0.00	237.50	2.80	1.97	0.00
112.50	2.80	1.97	0.00	240.00	2.80	1.97	0.00
115.00	2.80	1.97	0.00				
117.50	2.80	1.97	0.00				
120.00	2.80	1.97	0.00				
122.50	2.80	1.97	0.00				
125.00	2.80	1.97	0.00				

Summary for Subcatchment PDA-1.3C: Subcat PDA-1.3C

Runoff = 0.59 cfs @ 12.10 hrs, Volume= 1,900 cf, Depth= 1.35"
Routed to Pond 1P : Bio 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
9,827	74	>75% Grass cover, Good, HSG C
6,906	98	Paved parking, HSG C
0	98	Roofs, HSG C
117	98	Unconnected pavement, HSG C
16,850	84	Weighted Average
9,827	74	58.32% Pervious Area
7,023	98	41.68% Impervious Area
117		1.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	39	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.8	10	0.1000	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
6.8	49	Total			

Hydrograph for Subcatchment PDA-1.3C: Subcat PDA-1.3C

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	1.35	0.00
2.50	0.07	0.00	0.00	130.00	2.80	1.35	0.00
5.00	0.16	0.00	0.00	132.50	2.80	1.35	0.00
7.50	0.28	0.00	0.00	135.00	2.80	1.35	0.00
10.00	0.53	0.01	**0.01**	137.50	2.80	1.35	0.00
12.50	1.97	0.72	**0.16**	140.00	2.80	1.35	0.00
15.00	2.39	1.03	0.03	142.50	2.80	1.35	0.00
17.50	2.57	1.17	0.02	145.00	2.80	1.35	0.00
20.00	2.68	1.26	0.01	147.50	2.80	1.35	0.00
22.50	**2.76**	**1.32**	0.01	150.00	2.80	1.35	0.00
25.00	**2.80**	**1.35**	0.00	152.50	2.80	1.35	0.00
27.50	2.80	1.35	0.00	155.00	2.80	1.35	0.00
30.00	2.80	1.35	0.00	157.50	2.80	1.35	0.00
32.50	2.80	1.35	0.00	160.00	2.80	1.35	0.00
35.00	2.80	1.35	0.00	162.50	2.80	1.35	0.00
37.50	2.80	1.35	0.00	165.00	2.80	1.35	0.00
40.00	2.80	1.35	0.00	167.50	2.80	1.35	0.00
42.50	2.80	1.35	0.00	170.00	2.80	1.35	0.00
45.00	2.80	1.35	0.00	172.50	2.80	1.35	0.00
47.50	2.80	1.35	0.00	175.00	2.80	1.35	0.00
50.00	2.80	1.35	0.00	177.50	2.80	1.35	0.00
52.50	2.80	1.35	0.00	180.00	2.80	1.35	0.00
55.00	2.80	1.35	0.00	182.50	2.80	1.35	0.00
57.50	2.80	1.35	0.00	185.00	2.80	1.35	0.00
60.00	2.80	1.35	0.00	187.50	2.80	1.35	0.00
62.50	2.80	1.35	0.00	190.00	2.80	1.35	0.00
65.00	2.80	1.35	0.00	192.50	2.80	1.35	0.00
67.50	2.80	1.35	0.00	195.00	2.80	1.35	0.00
70.00	2.80	1.35	0.00	197.50	2.80	1.35	0.00
72.50	2.80	1.35	0.00	200.00	2.80	1.35	0.00
75.00	2.80	1.35	0.00	202.50	2.80	1.35	0.00
77.50	2.80	1.35	0.00	205.00	2.80	1.35	0.00
80.00	2.80	1.35	0.00	207.50	2.80	1.35	0.00
82.50	2.80	1.35	0.00	210.00	2.80	1.35	0.00
85.00	2.80	1.35	0.00	212.50	2.80	1.35	0.00
87.50	2.80	1.35	0.00	215.00	2.80	1.35	0.00
90.00	2.80	1.35	0.00	217.50	2.80	1.35	0.00
92.50	2.80	1.35	0.00	220.00	2.80	1.35	0.00
95.00	2.80	1.35	0.00	222.50	2.80	1.35	0.00
97.50	2.80	1.35	0.00	225.00	2.80	1.35	0.00
100.00	2.80	1.35	0.00	227.50	2.80	1.35	0.00
102.50	2.80	1.35	0.00	230.00	2.80	1.35	0.00
105.00	2.80	1.35	0.00	232.50	2.80	1.35	0.00
107.50	2.80	1.35	0.00	235.00	2.80	1.35	0.00
110.00	2.80	1.35	0.00	237.50	2.80	1.35	0.00
112.50	2.80	1.35	0.00	240.00	2.80	1.35	0.00
115.00	2.80	1.35	0.00				
117.50	2.80	1.35	0.00				
120.00	2.80	1.35	0.00				
122.50	2.80	1.35	0.00				
125.00	2.80	1.35	0.00				

Summary for Subcatchment PDA-1.3D: Subcat PDA-1.3D

Runoff = 0.26 cfs @ 12.09 hrs, Volume= 812 cf, Depth= 1.42"
Routed to Pond 2P : Bio 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
3,766	74	>75% Grass cover, Good, HSG C
3,085	98	Paved parking, HSG C
0	98	Roofs, HSG C
6,850	85	Weighted Average
3,766	74	54.97% Pervious Area
3,085	98	45.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.3D: Subcat PDA-1.3D

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	1.42	0.00
2.50	0.07	0.00	0.00	130.00	2.80	1.42	0.00
5.00	0.16	0.00	0.00	132.50	2.80	1.42	0.00
7.50	0.28	0.00	0.00	135.00	2.80	1.42	0.00
10.00	0.53	0.02	**0.00**	137.50	2.80	1.42	0.00
12.50	1.97	0.77	**0.06**	140.00	2.80	1.42	0.00
15.00	2.39	1.09	0.01	142.50	2.80	1.42	0.00
17.50	2.57	1.24	0.01	145.00	2.80	1.42	0.00
20.00	2.68	1.32	0.00	147.50	2.80	1.42	0.00
22.50	**2.76**	**1.39**	0.00	150.00	2.80	1.42	0.00
25.00	**2.80**	**1.42**	0.00	152.50	2.80	1.42	0.00
27.50	2.80	1.42	0.00	155.00	2.80	1.42	0.00
30.00	2.80	1.42	0.00	157.50	2.80	1.42	0.00
32.50	2.80	1.42	0.00	160.00	2.80	1.42	0.00
35.00	2.80	1.42	0.00	162.50	2.80	1.42	0.00
37.50	2.80	1.42	0.00	165.00	2.80	1.42	0.00
40.00	2.80	1.42	0.00	167.50	2.80	1.42	0.00
42.50	2.80	1.42	0.00	170.00	2.80	1.42	0.00
45.00	2.80	1.42	0.00	172.50	2.80	1.42	0.00
47.50	2.80	1.42	0.00	175.00	2.80	1.42	0.00
50.00	2.80	1.42	0.00	177.50	2.80	1.42	0.00
52.50	2.80	1.42	0.00	180.00	2.80	1.42	0.00
55.00	2.80	1.42	0.00	182.50	2.80	1.42	0.00
57.50	2.80	1.42	0.00	185.00	2.80	1.42	0.00
60.00	2.80	1.42	0.00	187.50	2.80	1.42	0.00
62.50	2.80	1.42	0.00	190.00	2.80	1.42	0.00
65.00	2.80	1.42	0.00	192.50	2.80	1.42	0.00
67.50	2.80	1.42	0.00	195.00	2.80	1.42	0.00
70.00	2.80	1.42	0.00	197.50	2.80	1.42	0.00
72.50	2.80	1.42	0.00	200.00	2.80	1.42	0.00
75.00	2.80	1.42	0.00	202.50	2.80	1.42	0.00
77.50	2.80	1.42	0.00	205.00	2.80	1.42	0.00
80.00	2.80	1.42	0.00	207.50	2.80	1.42	0.00
82.50	2.80	1.42	0.00	210.00	2.80	1.42	0.00
85.00	2.80	1.42	0.00	212.50	2.80	1.42	0.00
87.50	2.80	1.42	0.00	215.00	2.80	1.42	0.00
90.00	2.80	1.42	0.00	217.50	2.80	1.42	0.00
92.50	2.80	1.42	0.00	220.00	2.80	1.42	0.00
95.00	2.80	1.42	0.00	222.50	2.80	1.42	0.00
97.50	2.80	1.42	0.00	225.00	2.80	1.42	0.00
100.00	2.80	1.42	0.00	227.50	2.80	1.42	0.00
102.50	2.80	1.42	0.00	230.00	2.80	1.42	0.00
105.00	2.80	1.42	0.00	232.50	2.80	1.42	0.00
107.50	2.80	1.42	0.00	235.00	2.80	1.42	0.00
110.00	2.80	1.42	0.00	237.50	2.80	1.42	0.00
112.50	2.80	1.42	0.00	240.00	2.80	1.42	0.00
115.00	2.80	1.42	0.00				
117.50	2.80	1.42	0.00				
120.00	2.80	1.42	0.00				
122.50	2.80	1.42	0.00				
125.00	2.80	1.42	0.00				

Summary for Subcatchment PDA-1.4A: Subcat PDA-1.4A

Runoff = 0.83 cfs @ 12.19 hrs, Volume= 3,326 cf, Depth= 1.29"
Routed to Pond 20P : Sand Filter 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
14,884	74	>75% Grass cover, Good, HSG C
2,931	80	>75% Grass cover, Good, HSG D
5,758	87	Dirt roads, HSG C
6	89	Dirt roads, HSG D
2,675	98	Paved parking, HSG C
4,570	98	Paved parking, HSG D
183	98	Unconnected pavement, HSG C
31,007	83	Weighted Average
23,579	78	76.05% Pervious Area
7,428	98	23.95% Impervious Area
183		2.46% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.7	44	0.0250	1.11		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.4	144	Total			

Hydrograph for Subcatchment PDA-1.4A: Subcat PDA-1.4A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	1.29	0.00
2.50	0.07	0.00	0.00	130.00	2.80	1.29	0.00
5.00	0.16	0.00	0.00	132.50	2.80	1.29	0.00
7.50	0.28	0.00	0.00	135.00	2.80	1.29	0.00
10.00	0.53	0.01	**0.01**	137.50	2.80	1.29	0.00
12.50	1.97	0.67	**0.40**	140.00	2.80	1.29	0.00
15.00	2.39	0.97	0.06	142.50	2.80	1.29	0.00
17.50	2.57	1.11	0.03	145.00	2.80	1.29	0.00
20.00	2.68	1.19	0.02	147.50	2.80	1.29	0.00
22.50	**2.76**	**1.26**	0.02	150.00	2.80	1.29	0.00
25.00	**2.80**	**1.29**	0.00	152.50	2.80	1.29	0.00
27.50	2.80	1.29	0.00	155.00	2.80	1.29	0.00
30.00	2.80	1.29	0.00	157.50	2.80	1.29	0.00
32.50	2.80	1.29	0.00	160.00	2.80	1.29	0.00
35.00	2.80	1.29	0.00	162.50	2.80	1.29	0.00
37.50	2.80	1.29	0.00	165.00	2.80	1.29	0.00
40.00	2.80	1.29	0.00	167.50	2.80	1.29	0.00
42.50	2.80	1.29	0.00	170.00	2.80	1.29	0.00
45.00	2.80	1.29	0.00	172.50	2.80	1.29	0.00
47.50	2.80	1.29	0.00	175.00	2.80	1.29	0.00
50.00	2.80	1.29	0.00	177.50	2.80	1.29	0.00
52.50	2.80	1.29	0.00	180.00	2.80	1.29	0.00
55.00	2.80	1.29	0.00	182.50	2.80	1.29	0.00
57.50	2.80	1.29	0.00	185.00	2.80	1.29	0.00
60.00	2.80	1.29	0.00	187.50	2.80	1.29	0.00
62.50	2.80	1.29	0.00	190.00	2.80	1.29	0.00
65.00	2.80	1.29	0.00	192.50	2.80	1.29	0.00
67.50	2.80	1.29	0.00	195.00	2.80	1.29	0.00
70.00	2.80	1.29	0.00	197.50	2.80	1.29	0.00
72.50	2.80	1.29	0.00	200.00	2.80	1.29	0.00
75.00	2.80	1.29	0.00	202.50	2.80	1.29	0.00
77.50	2.80	1.29	0.00	205.00	2.80	1.29	0.00
80.00	2.80	1.29	0.00	207.50	2.80	1.29	0.00
82.50	2.80	1.29	0.00	210.00	2.80	1.29	0.00
85.00	2.80	1.29	0.00	212.50	2.80	1.29	0.00
87.50	2.80	1.29	0.00	215.00	2.80	1.29	0.00
90.00	2.80	1.29	0.00	217.50	2.80	1.29	0.00
92.50	2.80	1.29	0.00	220.00	2.80	1.29	0.00
95.00	2.80	1.29	0.00	222.50	2.80	1.29	0.00
97.50	2.80	1.29	0.00	225.00	2.80	1.29	0.00
100.00	2.80	1.29	0.00	227.50	2.80	1.29	0.00
102.50	2.80	1.29	0.00	230.00	2.80	1.29	0.00
105.00	2.80	1.29	0.00	232.50	2.80	1.29	0.00
107.50	2.80	1.29	0.00	235.00	2.80	1.29	0.00
110.00	2.80	1.29	0.00	237.50	2.80	1.29	0.00
112.50	2.80	1.29	0.00	240.00	2.80	1.29	0.00
115.00	2.80	1.29	0.00				
117.50	2.80	1.29	0.00				
120.00	2.80	1.29	0.00				
122.50	2.80	1.29	0.00				
125.00	2.80	1.29	0.00				

Summary for Subcatchment PDA-1.4B: Subcat PDA-1.4B

Runoff = 1.57 cfs @ 12.20 hrs, Volume= 6,301 cf, Depth= 1.42"
Routed to Pond 3P : DIV-02

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
25,747	74	>75% Grass cover, Good, HSG C
7,636	87	Dirt roads, HSG C
17,354	98	Paved parking, HSG C
2,443	98	Unconnected pavement, HSG C
53,181	85	Weighted Average
33,383	77	62.77% Pervious Area
19,797	98	37.23% Impervious Area
2,443		12.34% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	58	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
5.7	40	0.0120	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
13.9	98	Total			

Hydrograph for Subcatchment PDA-1.4B: Subcat PDA-1.4B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	1.42	0.00
2.50	0.07	0.00	0.00	130.00	2.80	1.42	0.00
5.00	0.16	0.00	0.00	132.50	2.80	1.42	0.00
7.50	0.28	0.00	0.00	135.00	2.80	1.42	0.00
10.00	0.53	0.02	**0.02**	137.50	2.80	1.42	0.00
12.50	1.97	0.77	**0.76**	140.00	2.80	1.42	0.00
15.00	2.39	1.09	0.11	142.50	2.80	1.42	0.00
17.50	2.57	1.24	0.05	145.00	2.80	1.42	0.00
20.00	2.68	1.32	0.04	147.50	2.80	1.42	0.00
22.50	**2.76**	**1.39**	0.03	150.00	2.80	1.42	0.00
25.00	**2.80**	**1.42**	0.00	152.50	2.80	1.42	0.00
27.50	2.80	1.42	0.00	155.00	2.80	1.42	0.00
30.00	2.80	1.42	0.00	157.50	2.80	1.42	0.00
32.50	2.80	1.42	0.00	160.00	2.80	1.42	0.00
35.00	2.80	1.42	0.00	162.50	2.80	1.42	0.00
37.50	2.80	1.42	0.00	165.00	2.80	1.42	0.00
40.00	2.80	1.42	0.00	167.50	2.80	1.42	0.00
42.50	2.80	1.42	0.00	170.00	2.80	1.42	0.00
45.00	2.80	1.42	0.00	172.50	2.80	1.42	0.00
47.50	2.80	1.42	0.00	175.00	2.80	1.42	0.00
50.00	2.80	1.42	0.00	177.50	2.80	1.42	0.00
52.50	2.80	1.42	0.00	180.00	2.80	1.42	0.00
55.00	2.80	1.42	0.00	182.50	2.80	1.42	0.00
57.50	2.80	1.42	0.00	185.00	2.80	1.42	0.00
60.00	2.80	1.42	0.00	187.50	2.80	1.42	0.00
62.50	2.80	1.42	0.00	190.00	2.80	1.42	0.00
65.00	2.80	1.42	0.00	192.50	2.80	1.42	0.00
67.50	2.80	1.42	0.00	195.00	2.80	1.42	0.00
70.00	2.80	1.42	0.00	197.50	2.80	1.42	0.00
72.50	2.80	1.42	0.00	200.00	2.80	1.42	0.00
75.00	2.80	1.42	0.00	202.50	2.80	1.42	0.00
77.50	2.80	1.42	0.00	205.00	2.80	1.42	0.00
80.00	2.80	1.42	0.00	207.50	2.80	1.42	0.00
82.50	2.80	1.42	0.00	210.00	2.80	1.42	0.00
85.00	2.80	1.42	0.00	212.50	2.80	1.42	0.00
87.50	2.80	1.42	0.00	215.00	2.80	1.42	0.00
90.00	2.80	1.42	0.00	217.50	2.80	1.42	0.00
92.50	2.80	1.42	0.00	220.00	2.80	1.42	0.00
95.00	2.80	1.42	0.00	222.50	2.80	1.42	0.00
97.50	2.80	1.42	0.00	225.00	2.80	1.42	0.00
100.00	2.80	1.42	0.00	227.50	2.80	1.42	0.00
102.50	2.80	1.42	0.00	230.00	2.80	1.42	0.00
105.00	2.80	1.42	0.00	232.50	2.80	1.42	0.00
107.50	2.80	1.42	0.00	235.00	2.80	1.42	0.00
110.00	2.80	1.42	0.00	237.50	2.80	1.42	0.00
112.50	2.80	1.42	0.00	240.00	2.80	1.42	0.00
115.00	2.80	1.42	0.00				
117.50	2.80	1.42	0.00				
120.00	2.80	1.42	0.00				
122.50	2.80	1.42	0.00				
125.00	2.80	1.42	0.00				

Summary for Subcatchment PDA-1.4C: Subcat PDA-1.4C

Runoff = 1.21 cfs @ 12.09 hrs, Volume= 3,843 cf, Depth= 1.72"
Routed to Pond 7P : Bio 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
9,701	74	>75% Grass cover, Good, HSG C
17,108	98	Paved parking, HSG C
26,810	89	Weighted Average
9,701	74	36.19% Pervious Area
17,108	98	63.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4C: Subcat PDA-1.4C

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.07	0.00	0.00
5.00	0.16	0.00	0.00
7.50	0.28	0.00	0.00
10.00	0.53	0.05	**0.03**
12.50	1.97	1.00	**0.29**
15.00	2.39	1.36	0.06
17.50	2.57	1.52	0.03
20.00	2.68	1.61	0.02
22.50	**2.76**	**1.69**	0.02
25.00	**2.80**	**1.72**	0.00
27.50	2.80	1.72	0.00
30.00	2.80	1.72	0.00
32.50	2.80	1.72	0.00
35.00	2.80	1.72	0.00
37.50	2.80	1.72	0.00
40.00	2.80	1.72	0.00
42.50	2.80	1.72	0.00
45.00	2.80	1.72	0.00
47.50	2.80	1.72	0.00
50.00	2.80	1.72	0.00
52.50	2.80	1.72	0.00
55.00	2.80	1.72	0.00
57.50	2.80	1.72	0.00
60.00	2.80	1.72	0.00
62.50	2.80	1.72	0.00
65.00	2.80	1.72	0.00
67.50	2.80	1.72	0.00
70.00	2.80	1.72	0.00
72.50	2.80	1.72	0.00
75.00	2.80	1.72	0.00
77.50	2.80	1.72	0.00
80.00	2.80	1.72	0.00
82.50	2.80	1.72	0.00
85.00	2.80	1.72	0.00
87.50	2.80	1.72	0.00
90.00	2.80	1.72	0.00
92.50	2.80	1.72	0.00
95.00	2.80	1.72	0.00
97.50	2.80	1.72	0.00
100.00	2.80	1.72	0.00
102.50	2.80	1.72	0.00
105.00	2.80	1.72	0.00
107.50	2.80	1.72	0.00
110.00	2.80	1.72	0.00
112.50	2.80	1.72	0.00
115.00	2.80	1.72	0.00
117.50	2.80	1.72	0.00
120.00	2.80	1.72	0.00
122.50	2.80	1.72	0.00
125.00	2.80	1.72	0.00
127.50	2.80	1.72	0.00
130.00	2.80	1.72	0.00
132.50	2.80	1.72	0.00
135.00	2.80	1.72	0.00
137.50	2.80	1.72	0.00
140.00	2.80	1.72	0.00
142.50	2.80	1.72	0.00
145.00	2.80	1.72	0.00
147.50	2.80	1.72	0.00
150.00	2.80	1.72	0.00
152.50	2.80	1.72	0.00
155.00	2.80	1.72	0.00
157.50	2.80	1.72	0.00
160.00	2.80	1.72	0.00
162.50	2.80	1.72	0.00
165.00	2.80	1.72	0.00
167.50	2.80	1.72	0.00
170.00	2.80	1.72	0.00
172.50	2.80	1.72	0.00
175.00	2.80	1.72	0.00
177.50	2.80	1.72	0.00
180.00	2.80	1.72	0.00
182.50	2.80	1.72	0.00
185.00	2.80	1.72	0.00
187.50	2.80	1.72	0.00
190.00	2.80	1.72	0.00
192.50	2.80	1.72	0.00
195.00	2.80	1.72	0.00
197.50	2.80	1.72	0.00
200.00	2.80	1.72	0.00
202.50	2.80	1.72	0.00
205.00	2.80	1.72	0.00
207.50	2.80	1.72	0.00
210.00	2.80	1.72	0.00
212.50	2.80	1.72	0.00
215.00	2.80	1.72	0.00
217.50	2.80	1.72	0.00
220.00	2.80	1.72	0.00
222.50	2.80	1.72	0.00
225.00	2.80	1.72	0.00
227.50	2.80	1.72	0.00
230.00	2.80	1.72	0.00
232.50	2.80	1.72	0.00
235.00	2.80	1.72	0.00
237.50	2.80	1.72	0.00
240.00	2.80	1.72	0.00

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Summary for Subcatchment PDA-1.4D: Subcat PDA-1.4D

Runoff = 1.92 cfs @ 12.09 hrs, Volume= 6,094 cf, Depth= 1.72"
Routed to Pond 14P : DIV-03

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
14,109	74	>75% Grass cover, Good, HSG C
2,143	80	>75% Grass cover, Good, HSG D
1,138	96	Gravel surface, HSG C
25,125	98	Paved parking, HSG C
42,514	89	Weighted Average
17,389	76	40.90% Pervious Area
25,125	98	59.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4D: Subcat PDA-1.4D

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	1.72	0.00
2.50	0.07	0.00	0.00	130.00	2.80	1.72	0.00
5.00	0.16	0.00	0.00	132.50	2.80	1.72	0.00
7.50	0.28	0.00	0.00	135.00	2.80	1.72	0.00
10.00	0.53	0.05	**0.04**	137.50	2.80	1.72	0.00
12.50	1.97	1.00	**0.45**	140.00	2.80	1.72	0.00
15.00	2.39	1.36	0.09	142.50	2.80	1.72	0.00
17.50	2.57	1.52	0.05	145.00	2.80	1.72	0.00
20.00	2.68	1.61	0.03	147.50	2.80	1.72	0.00
22.50	**2.76**	**1.69**	0.03	150.00	2.80	1.72	0.00
25.00	**2.80**	**1.72**	0.00	152.50	2.80	1.72	0.00
27.50	2.80	1.72	0.00	155.00	2.80	1.72	0.00
30.00	2.80	1.72	0.00	157.50	2.80	1.72	0.00
32.50	2.80	1.72	0.00	160.00	2.80	1.72	0.00
35.00	2.80	1.72	0.00	162.50	2.80	1.72	0.00
37.50	2.80	1.72	0.00	165.00	2.80	1.72	0.00
40.00	2.80	1.72	0.00	167.50	2.80	1.72	0.00
42.50	2.80	1.72	0.00	170.00	2.80	1.72	0.00
45.00	2.80	1.72	0.00	172.50	2.80	1.72	0.00
47.50	2.80	1.72	0.00	175.00	2.80	1.72	0.00
50.00	2.80	1.72	0.00	177.50	2.80	1.72	0.00
52.50	2.80	1.72	0.00	180.00	2.80	1.72	0.00
55.00	2.80	1.72	0.00	182.50	2.80	1.72	0.00
57.50	2.80	1.72	0.00	185.00	2.80	1.72	0.00
60.00	2.80	1.72	0.00	187.50	2.80	1.72	0.00
62.50	2.80	1.72	0.00	190.00	2.80	1.72	0.00
65.00	2.80	1.72	0.00	192.50	2.80	1.72	0.00
67.50	2.80	1.72	0.00	195.00	2.80	1.72	0.00
70.00	2.80	1.72	0.00	197.50	2.80	1.72	0.00
72.50	2.80	1.72	0.00	200.00	2.80	1.72	0.00
75.00	2.80	1.72	0.00	202.50	2.80	1.72	0.00
77.50	2.80	1.72	0.00	205.00	2.80	1.72	0.00
80.00	2.80	1.72	0.00	207.50	2.80	1.72	0.00
82.50	2.80	1.72	0.00	210.00	2.80	1.72	0.00
85.00	2.80	1.72	0.00	212.50	2.80	1.72	0.00
87.50	2.80	1.72	0.00	215.00	2.80	1.72	0.00
90.00	2.80	1.72	0.00	217.50	2.80	1.72	0.00
92.50	2.80	1.72	0.00	220.00	2.80	1.72	0.00
95.00	2.80	1.72	0.00	222.50	2.80	1.72	0.00
97.50	2.80	1.72	0.00	225.00	2.80	1.72	0.00
100.00	2.80	1.72	0.00	227.50	2.80	1.72	0.00
102.50	2.80	1.72	0.00	230.00	2.80	1.72	0.00
105.00	2.80	1.72	0.00	232.50	2.80	1.72	0.00
107.50	2.80	1.72	0.00	235.00	2.80	1.72	0.00
110.00	2.80	1.72	0.00	237.50	2.80	1.72	0.00
112.50	2.80	1.72	0.00	240.00	2.80	1.72	0.00
115.00	2.80	1.72	0.00				
117.50	2.80	1.72	0.00				
120.00	2.80	1.72	0.00				
122.50	2.80	1.72	0.00				
125.00	2.80	1.72	0.00				

Summary for Subcatchment PDA-1.4E: Subcat PDA-1.4E

Runoff = 1.77 cfs @ 12.09 hrs, Volume= 5,625 cf, Depth= 1.72"
Routed to Pond 18P : Sand Filter 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
14,786	74	>75% Grass cover, Good, HSG C
7	80	>75% Grass cover, Good, HSG D
24,452	98	Paved parking, HSG C
39,245	89	Weighted Average
14,794	74	37.70% Pervious Area
24,452	98	62.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4E: Subcat PDA-1.4E

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	1.72	0.00
2.50	0.07	0.00	0.00	130.00	2.80	1.72	0.00
5.00	0.16	0.00	0.00	132.50	2.80	1.72	0.00
7.50	0.28	0.00	0.00	135.00	2.80	1.72	0.00
10.00	0.53	0.05	**0.04**	137.50	2.80	1.72	0.00
12.50	1.97	1.00	**0.42**	140.00	2.80	1.72	0.00
15.00	2.39	1.36	0.08	142.50	2.80	1.72	0.00
17.50	2.57	1.52	0.04	145.00	2.80	1.72	0.00
20.00	2.68	1.61	0.03	147.50	2.80	1.72	0.00
22.50	**2.76**	**1.69**	0.02	150.00	2.80	1.72	0.00
25.00	**2.80**	**1.72**	0.00	152.50	2.80	1.72	0.00
27.50	2.80	1.72	0.00	155.00	2.80	1.72	0.00
30.00	2.80	1.72	0.00	157.50	2.80	1.72	0.00
32.50	2.80	1.72	0.00	160.00	2.80	1.72	0.00
35.00	2.80	1.72	0.00	162.50	2.80	1.72	0.00
37.50	2.80	1.72	0.00	165.00	2.80	1.72	0.00
40.00	2.80	1.72	0.00	167.50	2.80	1.72	0.00
42.50	2.80	1.72	0.00	170.00	2.80	1.72	0.00
45.00	2.80	1.72	0.00	172.50	2.80	1.72	0.00
47.50	2.80	1.72	0.00	175.00	2.80	1.72	0.00
50.00	2.80	1.72	0.00	177.50	2.80	1.72	0.00
52.50	2.80	1.72	0.00	180.00	2.80	1.72	0.00
55.00	2.80	1.72	0.00	182.50	2.80	1.72	0.00
57.50	2.80	1.72	0.00	185.00	2.80	1.72	0.00
60.00	2.80	1.72	0.00	187.50	2.80	1.72	0.00
62.50	2.80	1.72	0.00	190.00	2.80	1.72	0.00
65.00	2.80	1.72	0.00	192.50	2.80	1.72	0.00
67.50	2.80	1.72	0.00	195.00	2.80	1.72	0.00
70.00	2.80	1.72	0.00	197.50	2.80	1.72	0.00
72.50	2.80	1.72	0.00	200.00	2.80	1.72	0.00
75.00	2.80	1.72	0.00	202.50	2.80	1.72	0.00
77.50	2.80	1.72	0.00	205.00	2.80	1.72	0.00
80.00	2.80	1.72	0.00	207.50	2.80	1.72	0.00
82.50	2.80	1.72	0.00	210.00	2.80	1.72	0.00
85.00	2.80	1.72	0.00	212.50	2.80	1.72	0.00
87.50	2.80	1.72	0.00	215.00	2.80	1.72	0.00
90.00	2.80	1.72	0.00	217.50	2.80	1.72	0.00
92.50	2.80	1.72	0.00	220.00	2.80	1.72	0.00
95.00	2.80	1.72	0.00	222.50	2.80	1.72	0.00
97.50	2.80	1.72	0.00	225.00	2.80	1.72	0.00
100.00	2.80	1.72	0.00	227.50	2.80	1.72	0.00
102.50	2.80	1.72	0.00	230.00	2.80	1.72	0.00
105.00	2.80	1.72	0.00	232.50	2.80	1.72	0.00
107.50	2.80	1.72	0.00	235.00	2.80	1.72	0.00
110.00	2.80	1.72	0.00	237.50	2.80	1.72	0.00
112.50	2.80	1.72	0.00	240.00	2.80	1.72	0.00
115.00	2.80	1.72	0.00				
117.50	2.80	1.72	0.00				
120.00	2.80	1.72	0.00				
122.50	2.80	1.72	0.00				
125.00	2.80	1.72	0.00				

Summary for Subcatchment PDA-1.4F: Subcat PDA-1.4F

Runoff = 2.37 cfs @ 12.20 hrs, Volume= 9,637 cf, Depth= 1.57"
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
33,264	74	>75% Grass cover, Good, HSG C
3	80	>75% Grass cover, Good, HSG D
36,167	98	Paved parking, HSG C
4,425	98	Paved parking, HSG D
73,858	87	Weighted Average
33,267	74	45.04% Pervious Area
40,591	98	54.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	100	0.0105	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.2	42	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.8	204	0.0090	1.93		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
14.5	346	Total			

Hydrograph for Subcatchment PDA-1.4F: Subcat PDA-1.4F

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.07	0.00	0.00
5.00	0.16	0.00	0.00
7.50	0.28	0.00	0.00
10.00	0.53	0.03	**0.05**
12.50	1.97	0.88	**1.18**
15.00	2.39	1.22	0.16
17.50	2.57	1.37	0.08
20.00	2.68	1.46	0.05
22.50	**2.76**	**1.53**	0.04
25.00	**2.80**	**1.57**	0.00
27.50	2.80	1.57	0.00
30.00	2.80	1.57	0.00
32.50	2.80	1.57	0.00
35.00	2.80	1.57	0.00
37.50	2.80	1.57	0.00
40.00	2.80	1.57	0.00
42.50	2.80	1.57	0.00
45.00	2.80	1.57	0.00
47.50	2.80	1.57	0.00
50.00	2.80	1.57	0.00
52.50	2.80	1.57	0.00
55.00	2.80	1.57	0.00
57.50	2.80	1.57	0.00
60.00	2.80	1.57	0.00
62.50	2.80	1.57	0.00
65.00	2.80	1.57	0.00
67.50	2.80	1.57	0.00
70.00	2.80	1.57	0.00
72.50	2.80	1.57	0.00
75.00	2.80	1.57	0.00
77.50	2.80	1.57	0.00
80.00	2.80	1.57	0.00
82.50	2.80	1.57	0.00
85.00	2.80	1.57	0.00
87.50	2.80	1.57	0.00
90.00	2.80	1.57	0.00
92.50	2.80	1.57	0.00
95.00	2.80	1.57	0.00
97.50	2.80	1.57	0.00
100.00	2.80	1.57	0.00
102.50	2.80	1.57	0.00
105.00	2.80	1.57	0.00
107.50	2.80	1.57	0.00
110.00	2.80	1.57	0.00
112.50	2.80	1.57	0.00
115.00	2.80	1.57	0.00
117.50	2.80	1.57	0.00
120.00	2.80	1.57	0.00
122.50	2.80	1.57	0.00
125.00	2.80	1.57	0.00
127.50	2.80	1.57	0.00
130.00	2.80	1.57	0.00
132.50	2.80	1.57	0.00
135.00	2.80	1.57	0.00
137.50	2.80	1.57	0.00
140.00	2.80	1.57	0.00
142.50	2.80	1.57	0.00
145.00	2.80	1.57	0.00
147.50	2.80	1.57	0.00
150.00	2.80	1.57	0.00
152.50	2.80	1.57	0.00
155.00	2.80	1.57	0.00
157.50	2.80	1.57	0.00
160.00	2.80	1.57	0.00
162.50	2.80	1.57	0.00
165.00	2.80	1.57	0.00
167.50	2.80	1.57	0.00
170.00	2.80	1.57	0.00
172.50	2.80	1.57	0.00
175.00	2.80	1.57	0.00
177.50	2.80	1.57	0.00
180.00	2.80	1.57	0.00
182.50	2.80	1.57	0.00
185.00	2.80	1.57	0.00
187.50	2.80	1.57	0.00
190.00	2.80	1.57	0.00
192.50	2.80	1.57	0.00
195.00	2.80	1.57	0.00
197.50	2.80	1.57	0.00
200.00	2.80	1.57	0.00
202.50	2.80	1.57	0.00
205.00	2.80	1.57	0.00
207.50	2.80	1.57	0.00
210.00	2.80	1.57	0.00
212.50	2.80	1.57	0.00
215.00	2.80	1.57	0.00
217.50	2.80	1.57	0.00
220.00	2.80	1.57	0.00
222.50	2.80	1.57	0.00
225.00	2.80	1.57	0.00
227.50	2.80	1.57	0.00
230.00	2.80	1.57	0.00
232.50	2.80	1.57	0.00
235.00	2.80	1.57	0.00
237.50	2.80	1.57	0.00
240.00	2.80	1.57	0.00

Summary for Subcatchment PDA-1.4G: Subcat PDA-1.4G

Runoff = 1.01 cfs @ 12.09 hrs, Volume= 3,194 cf, Depth= 1.72"
Routed to Pond 19P : Sand Filter 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
8,361	74	>75% Grass cover, Good, HSG C
160	80	>75% Grass cover, Good, HSG D
13,763	98	Paved parking, HSG C
22,284	89	Weighted Average
8,521	74	38.24% Pervious Area
13,763	98	61.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4G: Subcat PDA-1.4G

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.07	0.00	0.00
5.00	0.16	0.00	0.00
7.50	0.28	0.00	0.00
10.00	0.53	0.05	**0.02**
12.50	1.97	1.00	**0.24**
15.00	2.39	1.36	0.05
17.50	2.57	1.52	0.02
20.00	2.68	1.61	0.02
22.50	**2.76**	**1.69**	0.01
25.00	**2.80**	**1.72**	0.00
27.50	2.80	1.72	0.00
30.00	2.80	1.72	0.00
32.50	2.80	1.72	0.00
35.00	2.80	1.72	0.00
37.50	2.80	1.72	0.00
40.00	2.80	1.72	0.00
42.50	2.80	1.72	0.00
45.00	2.80	1.72	0.00
47.50	2.80	1.72	0.00
50.00	2.80	1.72	0.00
52.50	2.80	1.72	0.00
55.00	2.80	1.72	0.00
57.50	2.80	1.72	0.00
60.00	2.80	1.72	0.00
62.50	2.80	1.72	0.00
65.00	2.80	1.72	0.00
67.50	2.80	1.72	0.00
70.00	2.80	1.72	0.00
72.50	2.80	1.72	0.00
75.00	2.80	1.72	0.00
77.50	2.80	1.72	0.00
80.00	2.80	1.72	0.00
82.50	2.80	1.72	0.00
85.00	2.80	1.72	0.00
87.50	2.80	1.72	0.00
90.00	2.80	1.72	0.00
92.50	2.80	1.72	0.00
95.00	2.80	1.72	0.00
97.50	2.80	1.72	0.00
100.00	2.80	1.72	0.00
102.50	2.80	1.72	0.00
105.00	2.80	1.72	0.00
107.50	2.80	1.72	0.00
110.00	2.80	1.72	0.00
112.50	2.80	1.72	0.00
115.00	2.80	1.72	0.00
117.50	2.80	1.72	0.00
120.00	2.80	1.72	0.00
122.50	2.80	1.72	0.00
125.00	2.80	1.72	0.00
127.50	2.80	1.72	0.00
130.00	2.80	1.72	0.00
132.50	2.80	1.72	0.00
135.00	2.80	1.72	0.00
137.50	2.80	1.72	0.00
140.00	2.80	1.72	0.00
142.50	2.80	1.72	0.00
145.00	2.80	1.72	0.00
147.50	2.80	1.72	0.00
150.00	2.80	1.72	0.00
152.50	2.80	1.72	0.00
155.00	2.80	1.72	0.00
157.50	2.80	1.72	0.00
160.00	2.80	1.72	0.00
162.50	2.80	1.72	0.00
165.00	2.80	1.72	0.00
167.50	2.80	1.72	0.00
170.00	2.80	1.72	0.00
172.50	2.80	1.72	0.00
175.00	2.80	1.72	0.00
177.50	2.80	1.72	0.00
180.00	2.80	1.72	0.00
182.50	2.80	1.72	0.00
185.00	2.80	1.72	0.00
187.50	2.80	1.72	0.00
190.00	2.80	1.72	0.00
192.50	2.80	1.72	0.00
195.00	2.80	1.72	0.00
197.50	2.80	1.72	0.00
200.00	2.80	1.72	0.00
202.50	2.80	1.72	0.00
205.00	2.80	1.72	0.00
207.50	2.80	1.72	0.00
210.00	2.80	1.72	0.00
212.50	2.80	1.72	0.00
215.00	2.80	1.72	0.00
217.50	2.80	1.72	0.00
220.00	2.80	1.72	0.00
222.50	2.80	1.72	0.00
225.00	2.80	1.72	0.00
227.50	2.80	1.72	0.00
230.00	2.80	1.72	0.00
232.50	2.80	1.72	0.00
235.00	2.80	1.72	0.00
237.50	2.80	1.72	0.00
240.00	2.80	1.72	0.00

Summary for Subcatchment PDA-1.4H: Subcat PDA-1.4H

Runoff = 0.22 cfs @ 12.10 hrs, Volume= 745 cf, Depth= 0.83"
Routed to Pond 4P : Detention Basin 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
9,974	74	>75% Grass cover, Good, HSG C
169	80	>75% Grass cover, Good, HSG D
600	98	Paved parking, HSG C
10,744	75	Weighted Average
10,143	74	94.41% Pervious Area
600	98	5.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4H: Subcat PDA-1.4H

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	0.83	0.00
2.50	0.07	0.00	0.00	130.00	2.80	0.83	0.00
5.00	0.16	0.00	0.00	132.50	2.80	0.83	0.00
7.50	0.28	0.00	0.00	135.00	2.80	0.83	0.00
10.00	0.53	0.00	**0.00**	137.50	2.80	0.83	0.00
12.50	1.97	0.36	**0.07**	140.00	2.80	0.83	0.00
15.00	2.39	0.59	0.02	142.50	2.80	0.83	0.00
17.50	2.57	0.69	0.01	145.00	2.80	0.83	0.00
20.00	2.68	0.76	0.01	147.50	2.80	0.83	0.00
22.50	**2.76**	**0.81**	0.00	150.00	2.80	0.83	0.00
25.00	**2.80**	**0.83**	0.00	152.50	2.80	0.83	0.00
27.50	2.80	0.83	0.00	155.00	2.80	0.83	0.00
30.00	2.80	0.83	0.00	157.50	2.80	0.83	0.00
32.50	2.80	0.83	0.00	160.00	2.80	0.83	0.00
35.00	2.80	0.83	0.00	162.50	2.80	0.83	0.00
37.50	2.80	0.83	0.00	165.00	2.80	0.83	0.00
40.00	2.80	0.83	0.00	167.50	2.80	0.83	0.00
42.50	2.80	0.83	0.00	170.00	2.80	0.83	0.00
45.00	2.80	0.83	0.00	172.50	2.80	0.83	0.00
47.50	2.80	0.83	0.00	175.00	2.80	0.83	0.00
50.00	2.80	0.83	0.00	177.50	2.80	0.83	0.00
52.50	2.80	0.83	0.00	180.00	2.80	0.83	0.00
55.00	2.80	0.83	0.00	182.50	2.80	0.83	0.00
57.50	2.80	0.83	0.00	185.00	2.80	0.83	0.00
60.00	2.80	0.83	0.00	187.50	2.80	0.83	0.00
62.50	2.80	0.83	0.00	190.00	2.80	0.83	0.00
65.00	2.80	0.83	0.00	192.50	2.80	0.83	0.00
67.50	2.80	0.83	0.00	195.00	2.80	0.83	0.00
70.00	2.80	0.83	0.00	197.50	2.80	0.83	0.00
72.50	2.80	0.83	0.00	200.00	2.80	0.83	0.00
75.00	2.80	0.83	0.00	202.50	2.80	0.83	0.00
77.50	2.80	0.83	0.00	205.00	2.80	0.83	0.00
80.00	2.80	0.83	0.00	207.50	2.80	0.83	0.00
82.50	2.80	0.83	0.00	210.00	2.80	0.83	0.00
85.00	2.80	0.83	0.00	212.50	2.80	0.83	0.00
87.50	2.80	0.83	0.00	215.00	2.80	0.83	0.00
90.00	2.80	0.83	0.00	217.50	2.80	0.83	0.00
92.50	2.80	0.83	0.00	220.00	2.80	0.83	0.00
95.00	2.80	0.83	0.00	222.50	2.80	0.83	0.00
97.50	2.80	0.83	0.00	225.00	2.80	0.83	0.00
100.00	2.80	0.83	0.00	227.50	2.80	0.83	0.00
102.50	2.80	0.83	0.00	230.00	2.80	0.83	0.00
105.00	2.80	0.83	0.00	232.50	2.80	0.83	0.00
107.50	2.80	0.83	0.00	235.00	2.80	0.83	0.00
110.00	2.80	0.83	0.00	237.50	2.80	0.83	0.00
112.50	2.80	0.83	0.00	240.00	2.80	0.83	0.00
115.00	2.80	0.83	0.00				
117.50	2.80	0.83	0.00				
120.00	2.80	0.83	0.00				
122.50	2.80	0.83	0.00				
125.00	2.80	0.83	0.00				

Summary for Subcatchment PDA-1.4I: Subcat PDA-1.4I

Runoff = 0.30 cfs @ 12.10 hrs, Volume= 951 cf, Depth= 1.16"
Routed to Pond 12P : Infiltration Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
6,972	74	>75% Grass cover, Good, HSG C
194	80	>75% Grass cover, Good, HSG D
2,658	98	Paved parking, HSG C
0	98	Roofs, HSG C
9,824	81	Weighted Average
7,166	74	72.94% Pervious Area
2,658	98	27.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4I: Subcat PDA-1.4I

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.07	0.00	0.00
5.00	0.16	0.00	0.00
7.50	0.28	0.00	0.00
10.00	0.53	0.00	**0.00**
12.50	1.97	0.58	**0.08**
15.00	2.39	0.87	0.02
17.50	2.57	1.00	0.01
20.00	2.68	1.07	0.01
22.50	**2.76**	**1.13**	0.00
25.00	**2.80**	**1.16**	0.00
27.50	2.80	1.16	0.00
30.00	2.80	1.16	0.00
32.50	2.80	1.16	0.00
35.00	2.80	1.16	0.00
37.50	2.80	1.16	0.00
40.00	2.80	1.16	0.00
42.50	2.80	1.16	0.00
45.00	2.80	1.16	0.00
47.50	2.80	1.16	0.00
50.00	2.80	1.16	0.00
52.50	2.80	1.16	0.00
55.00	2.80	1.16	0.00
57.50	2.80	1.16	0.00
60.00	2.80	1.16	0.00
62.50	2.80	1.16	0.00
65.00	2.80	1.16	0.00
67.50	2.80	1.16	0.00
70.00	2.80	1.16	0.00
72.50	2.80	1.16	0.00
75.00	2.80	1.16	0.00
77.50	2.80	1.16	0.00
80.00	2.80	1.16	0.00
82.50	2.80	1.16	0.00
85.00	2.80	1.16	0.00
87.50	2.80	1.16	0.00
90.00	2.80	1.16	0.00
92.50	2.80	1.16	0.00
95.00	2.80	1.16	0.00
97.50	2.80	1.16	0.00
100.00	2.80	1.16	0.00
102.50	2.80	1.16	0.00
105.00	2.80	1.16	0.00
107.50	2.80	1.16	0.00
110.00	2.80	1.16	0.00
112.50	2.80	1.16	0.00
115.00	2.80	1.16	0.00
117.50	2.80	1.16	0.00
120.00	2.80	1.16	0.00
122.50	2.80	1.16	0.00
125.00	2.80	1.16	0.00
127.50	2.80	1.16	0.00
130.00	2.80	1.16	0.00
132.50	2.80	1.16	0.00
135.00	2.80	1.16	0.00
137.50	2.80	1.16	0.00
140.00	2.80	1.16	0.00
142.50	2.80	1.16	0.00
145.00	2.80	1.16	0.00
147.50	2.80	1.16	0.00
150.00	2.80	1.16	0.00
152.50	2.80	1.16	0.00
155.00	2.80	1.16	0.00
157.50	2.80	1.16	0.00
160.00	2.80	1.16	0.00
162.50	2.80	1.16	0.00
165.00	2.80	1.16	0.00
167.50	2.80	1.16	0.00
170.00	2.80	1.16	0.00
172.50	2.80	1.16	0.00
175.00	2.80	1.16	0.00
177.50	2.80	1.16	0.00
180.00	2.80	1.16	0.00
182.50	2.80	1.16	0.00
185.00	2.80	1.16	0.00
187.50	2.80	1.16	0.00
190.00	2.80	1.16	0.00
192.50	2.80	1.16	0.00
195.00	2.80	1.16	0.00
197.50	2.80	1.16	0.00
200.00	2.80	1.16	0.00
202.50	2.80	1.16	0.00
205.00	2.80	1.16	0.00
207.50	2.80	1.16	0.00
210.00	2.80	1.16	0.00
212.50	2.80	1.16	0.00
215.00	2.80	1.16	0.00
217.50	2.80	1.16	0.00
220.00	2.80	1.16	0.00
222.50	2.80	1.16	0.00
225.00	2.80	1.16	0.00
227.50	2.80	1.16	0.00
230.00	2.80	1.16	0.00
232.50	2.80	1.16	0.00
235.00	2.80	1.16	0.00
237.50	2.80	1.16	0.00
240.00	2.80	1.16	0.00

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Summary for Subcatchment PDA-1.4J: Subcat PDA-1.4J

Runoff = 1.60 cfs @ 12.10 hrs, Volume= 5,176 cf, Depth= 1.04"
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
22,085	74	>75% Grass cover, Good, HSG C
32,367	80	>75% Grass cover, Good, HSG D
4,308	98	Paved parking, HSG C
392	98	Paved parking, HSG D
314	98	Unconnected pavement, HSG D
59,466	79	Weighted Average
54,452	78	91.57% Pervious Area
5,014	98	8.43% Impervious Area
314		6.27% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4J: Subcat PDA-1.4J

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.07	0.00	0.00
5.00	0.16	0.00	0.00
7.50	0.28	0.00	0.00
10.00	0.53	0.00	**0.00**
12.50	1.97	0.50	**0.44**
15.00	2.39	0.77	0.10
17.50	2.57	0.89	0.05
20.00	2.68	0.96	0.04
22.50	**2.76**	**1.02**	0.03
25.00	**2.80**	**1.04**	0.00
27.50	2.80	1.04	0.00
30.00	2.80	1.04	0.00
32.50	2.80	1.04	0.00
35.00	2.80	1.04	0.00
37.50	2.80	1.04	0.00
40.00	2.80	1.04	0.00
42.50	2.80	1.04	0.00
45.00	2.80	1.04	0.00
47.50	2.80	1.04	0.00
50.00	2.80	1.04	0.00
52.50	2.80	1.04	0.00
55.00	2.80	1.04	0.00
57.50	2.80	1.04	0.00
60.00	2.80	1.04	0.00
62.50	2.80	1.04	0.00
65.00	2.80	1.04	0.00
67.50	2.80	1.04	0.00
70.00	2.80	1.04	0.00
72.50	2.80	1.04	0.00
75.00	2.80	1.04	0.00
77.50	2.80	1.04	0.00
80.00	2.80	1.04	0.00
82.50	2.80	1.04	0.00
85.00	2.80	1.04	0.00
87.50	2.80	1.04	0.00
90.00	2.80	1.04	0.00
92.50	2.80	1.04	0.00
95.00	2.80	1.04	0.00
97.50	2.80	1.04	0.00
100.00	2.80	1.04	0.00
102.50	2.80	1.04	0.00
105.00	2.80	1.04	0.00
107.50	2.80	1.04	0.00
110.00	2.80	1.04	0.00
112.50	2.80	1.04	0.00
115.00	2.80	1.04	0.00
117.50	2.80	1.04	0.00
120.00	2.80	1.04	0.00
122.50	2.80	1.04	0.00
125.00	2.80	1.04	0.00
127.50	2.80	1.04	0.00
130.00	2.80	1.04	0.00
132.50	2.80	1.04	0.00
135.00	2.80	1.04	0.00
137.50	2.80	1.04	0.00
140.00	2.80	1.04	0.00
142.50	2.80	1.04	0.00
145.00	2.80	1.04	0.00
147.50	2.80	1.04	0.00
150.00	2.80	1.04	0.00
152.50	2.80	1.04	0.00
155.00	2.80	1.04	0.00
157.50	2.80	1.04	0.00
160.00	2.80	1.04	0.00
162.50	2.80	1.04	0.00
165.00	2.80	1.04	0.00
167.50	2.80	1.04	0.00
170.00	2.80	1.04	0.00
172.50	2.80	1.04	0.00
175.00	2.80	1.04	0.00
177.50	2.80	1.04	0.00
180.00	2.80	1.04	0.00
182.50	2.80	1.04	0.00
185.00	2.80	1.04	0.00
187.50	2.80	1.04	0.00
190.00	2.80	1.04	0.00
192.50	2.80	1.04	0.00
195.00	2.80	1.04	0.00
197.50	2.80	1.04	0.00
200.00	2.80	1.04	0.00
202.50	2.80	1.04	0.00
205.00	2.80	1.04	0.00
207.50	2.80	1.04	0.00
210.00	2.80	1.04	0.00
212.50	2.80	1.04	0.00
215.00	2.80	1.04	0.00
217.50	2.80	1.04	0.00
220.00	2.80	1.04	0.00
222.50	2.80	1.04	0.00
225.00	2.80	1.04	0.00
227.50	2.80	1.04	0.00
230.00	2.80	1.04	0.00
232.50	2.80	1.04	0.00
235.00	2.80	1.04	0.00
237.50	2.80	1.04	0.00
240.00	2.80	1.04	0.00

Summary for Subcatchment PDA-1.4K: Subcat PDA-1.4K

Runoff = 1.00 cfs @ 12.09 hrs, Volume= 3,246 cf, Depth= 2.06"
Routed to Pond 9P : Sand Filter 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
3,577	74	>75% Grass cover, Good, HSG C
173	80	>75% Grass cover, Good, HSG D
15,126	98	Paved parking, HSG C
18,876	93	Weighted Average
3,751	74	19.87% Pervious Area
15,126	98	80.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4K: Subcat PDA-1.4K

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	2.06	0.00
2.50	0.07	0.00	0.00	130.00	2.80	2.06	0.00
5.00	0.16	0.00	0.00	132.50	2.80	2.06	0.00
7.50	0.28	0.02	0.01	135.00	2.80	2.06	0.00
10.00	0.53	0.13	**0.03**	137.50	2.80	2.06	0.00
12.50	1.97	1.28	**0.22**	140.00	2.80	2.06	0.00
15.00	2.39	1.68	0.04	142.50	2.80	2.06	0.00
17.50	2.57	1.85	0.02	145.00	2.80	2.06	0.00
20.00	2.68	1.95	0.02	147.50	2.80	2.06	0.00
22.50	**2.76**	**2.03**	0.01	150.00	2.80	2.06	0.00
25.00	**2.80**	**2.06**	0.00	152.50	2.80	2.06	0.00
27.50	2.80	2.06	0.00	155.00	2.80	2.06	0.00
30.00	2.80	2.06	0.00	157.50	2.80	2.06	0.00
32.50	2.80	2.06	0.00	160.00	2.80	2.06	0.00
35.00	2.80	2.06	0.00	162.50	2.80	2.06	0.00
37.50	2.80	2.06	0.00	165.00	2.80	2.06	0.00
40.00	2.80	2.06	0.00	167.50	2.80	2.06	0.00
42.50	2.80	2.06	0.00	170.00	2.80	2.06	0.00
45.00	2.80	2.06	0.00	172.50	2.80	2.06	0.00
47.50	2.80	2.06	0.00	175.00	2.80	2.06	0.00
50.00	2.80	2.06	0.00	177.50	2.80	2.06	0.00
52.50	2.80	2.06	0.00	180.00	2.80	2.06	0.00
55.00	2.80	2.06	0.00	182.50	2.80	2.06	0.00
57.50	2.80	2.06	0.00	185.00	2.80	2.06	0.00
60.00	2.80	2.06	0.00	187.50	2.80	2.06	0.00
62.50	2.80	2.06	0.00	190.00	2.80	2.06	0.00
65.00	2.80	2.06	0.00	192.50	2.80	2.06	0.00
67.50	2.80	2.06	0.00	195.00	2.80	2.06	0.00
70.00	2.80	2.06	0.00	197.50	2.80	2.06	0.00
72.50	2.80	2.06	0.00	200.00	2.80	2.06	0.00
75.00	2.80	2.06	0.00	202.50	2.80	2.06	0.00
77.50	2.80	2.06	0.00	205.00	2.80	2.06	0.00
80.00	2.80	2.06	0.00	207.50	2.80	2.06	0.00
82.50	2.80	2.06	0.00	210.00	2.80	2.06	0.00
85.00	2.80	2.06	0.00	212.50	2.80	2.06	0.00
87.50	2.80	2.06	0.00	215.00	2.80	2.06	0.00
90.00	2.80	2.06	0.00	217.50	2.80	2.06	0.00
92.50	2.80	2.06	0.00	220.00	2.80	2.06	0.00
95.00	2.80	2.06	0.00	222.50	2.80	2.06	0.00
97.50	2.80	2.06	0.00	225.00	2.80	2.06	0.00
100.00	2.80	2.06	0.00	227.50	2.80	2.06	0.00
102.50	2.80	2.06	0.00	230.00	2.80	2.06	0.00
105.00	2.80	2.06	0.00	232.50	2.80	2.06	0.00
107.50	2.80	2.06	0.00	235.00	2.80	2.06	0.00
110.00	2.80	2.06	0.00	237.50	2.80	2.06	0.00
112.50	2.80	2.06	0.00	240.00	2.80	2.06	0.00
115.00	2.80	2.06	0.00				
117.50	2.80	2.06	0.00				
120.00	2.80	2.06	0.00				
122.50	2.80	2.06	0.00				
125.00	2.80	2.06	0.00				

Summary for Subcatchment PDA-1.4L: Subcat PDA-1.4L

Runoff = 0.31 cfs @ 12.13 hrs, Volume= 1,100 cf, Depth= 1.10"
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
9,069	74	>75% Grass cover, Good, HSG C
2,908	98	Paved parking, HSG C
1	98	Roofs, HSG C
11,978	80	Weighted Average
9,069	74	75.72% Pervious Area
2,909	98	24.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	32	0.0120	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
3.7	43	0.0400	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
8.5	75	Total			

Hydrograph for Subcatchment PDA-1.4L: Subcat PDA-1.4L

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	1.10	0.00
2.50	0.07	0.00	0.00	130.00	2.80	1.10	0.00
5.00	0.16	0.00	0.00	132.50	2.80	1.10	0.00
7.50	0.28	0.00	0.00	135.00	2.80	1.10	0.00
10.00	0.53	0.00	**0.00**	137.50	2.80	1.10	0.00
12.50	1.97	0.54	**0.11**	140.00	2.80	1.10	0.00
15.00	2.39	0.81	0.02	142.50	2.80	1.10	0.00
17.50	2.57	0.94	0.01	145.00	2.80	1.10	0.00
20.00	2.68	1.02	0.01	147.50	2.80	1.10	0.00
22.50	**2.76**	**1.07**	0.01	150.00	2.80	1.10	0.00
25.00	**2.80**	**1.10**	0.00	152.50	2.80	1.10	0.00
27.50	2.80	1.10	0.00	155.00	2.80	1.10	0.00
30.00	2.80	1.10	0.00	157.50	2.80	1.10	0.00
32.50	2.80	1.10	0.00	160.00	2.80	1.10	0.00
35.00	2.80	1.10	0.00	162.50	2.80	1.10	0.00
37.50	2.80	1.10	0.00	165.00	2.80	1.10	0.00
40.00	2.80	1.10	0.00	167.50	2.80	1.10	0.00
42.50	2.80	1.10	0.00	170.00	2.80	1.10	0.00
45.00	2.80	1.10	0.00	172.50	2.80	1.10	0.00
47.50	2.80	1.10	0.00	175.00	2.80	1.10	0.00
50.00	2.80	1.10	0.00	177.50	2.80	1.10	0.00
52.50	2.80	1.10	0.00	180.00	2.80	1.10	0.00
55.00	2.80	1.10	0.00	182.50	2.80	1.10	0.00
57.50	2.80	1.10	0.00	185.00	2.80	1.10	0.00
60.00	2.80	1.10	0.00	187.50	2.80	1.10	0.00
62.50	2.80	1.10	0.00	190.00	2.80	1.10	0.00
65.00	2.80	1.10	0.00	192.50	2.80	1.10	0.00
67.50	2.80	1.10	0.00	195.00	2.80	1.10	0.00
70.00	2.80	1.10	0.00	197.50	2.80	1.10	0.00
72.50	2.80	1.10	0.00	200.00	2.80	1.10	0.00
75.00	2.80	1.10	0.00	202.50	2.80	1.10	0.00
77.50	2.80	1.10	0.00	205.00	2.80	1.10	0.00
80.00	2.80	1.10	0.00	207.50	2.80	1.10	0.00
82.50	2.80	1.10	0.00	210.00	2.80	1.10	0.00
85.00	2.80	1.10	0.00	212.50	2.80	1.10	0.00
87.50	2.80	1.10	0.00	215.00	2.80	1.10	0.00
90.00	2.80	1.10	0.00	217.50	2.80	1.10	0.00
92.50	2.80	1.10	0.00	220.00	2.80	1.10	0.00
95.00	2.80	1.10	0.00	222.50	2.80	1.10	0.00
97.50	2.80	1.10	0.00	225.00	2.80	1.10	0.00
100.00	2.80	1.10	0.00	227.50	2.80	1.10	0.00
102.50	2.80	1.10	0.00	230.00	2.80	1.10	0.00
105.00	2.80	1.10	0.00	232.50	2.80	1.10	0.00
107.50	2.80	1.10	0.00	235.00	2.80	1.10	0.00
110.00	2.80	1.10	0.00	237.50	2.80	1.10	0.00
112.50	2.80	1.10	0.00	240.00	2.80	1.10	0.00
115.00	2.80	1.10	0.00				
117.50	2.80	1.10	0.00				
120.00	2.80	1.10	0.00				
122.50	2.80	1.10	0.00				
125.00	2.80	1.10	0.00				

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Summary for Subcatchment PDA-1.4M: Subcat PDA-1.4M

Runoff = 0.08 cfs @ 12.22 hrs, Volume= 328 cf, Depth= 0.83"
Routed to Pond 9P : Sand Filter 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
4,536	74	>75% Grass cover, Good, HSG C
199	98	Paved parking, HSG C
4,734	75	Weighted Average
4,536	74	95.80% Pervious Area
199	98	4.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
1.6	66	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.3	166	Total			

Hydrograph for Subcatchment PDA-1.4M: Subcat PDA-1.4M

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	0.83	0.00
2.50	0.07	0.00	0.00	130.00	2.80	0.83	0.00
5.00	0.16	0.00	0.00	132.50	2.80	0.83	0.00
7.50	0.28	0.00	0.00	135.00	2.80	0.83	0.00
10.00	0.53	0.00	**0.00**	137.50	2.80	0.83	0.00
12.50	1.97	0.36	**0.04**	140.00	2.80	0.83	0.00
15.00	2.39	0.59	0.01	142.50	2.80	0.83	0.00
17.50	2.57	0.69	0.00	145.00	2.80	0.83	0.00
20.00	2.68	0.76	0.00	147.50	2.80	0.83	0.00
22.50	**2.76**	**0.81**	0.00	150.00	2.80	0.83	0.00
25.00	**2.80**	**0.83**	0.00	152.50	2.80	0.83	0.00
27.50	2.80	0.83	0.00	155.00	2.80	0.83	0.00
30.00	2.80	0.83	0.00	157.50	2.80	0.83	0.00
32.50	2.80	0.83	0.00	160.00	2.80	0.83	0.00
35.00	2.80	0.83	0.00	162.50	2.80	0.83	0.00
37.50	2.80	0.83	0.00	165.00	2.80	0.83	0.00
40.00	2.80	0.83	0.00	167.50	2.80	0.83	0.00
42.50	2.80	0.83	0.00	170.00	2.80	0.83	0.00
45.00	2.80	0.83	0.00	172.50	2.80	0.83	0.00
47.50	2.80	0.83	0.00	175.00	2.80	0.83	0.00
50.00	2.80	0.83	0.00	177.50	2.80	0.83	0.00
52.50	2.80	0.83	0.00	180.00	2.80	0.83	0.00
55.00	2.80	0.83	0.00	182.50	2.80	0.83	0.00
57.50	2.80	0.83	0.00	185.00	2.80	0.83	0.00
60.00	2.80	0.83	0.00	187.50	2.80	0.83	0.00
62.50	2.80	0.83	0.00	190.00	2.80	0.83	0.00
65.00	2.80	0.83	0.00	192.50	2.80	0.83	0.00
67.50	2.80	0.83	0.00	195.00	2.80	0.83	0.00
70.00	2.80	0.83	0.00	197.50	2.80	0.83	0.00
72.50	2.80	0.83	0.00	200.00	2.80	0.83	0.00
75.00	2.80	0.83	0.00	202.50	2.80	0.83	0.00
77.50	2.80	0.83	0.00	205.00	2.80	0.83	0.00
80.00	2.80	0.83	0.00	207.50	2.80	0.83	0.00
82.50	2.80	0.83	0.00	210.00	2.80	0.83	0.00
85.00	2.80	0.83	0.00	212.50	2.80	0.83	0.00
87.50	2.80	0.83	0.00	215.00	2.80	0.83	0.00
90.00	2.80	0.83	0.00	217.50	2.80	0.83	0.00
92.50	2.80	0.83	0.00	220.00	2.80	0.83	0.00
95.00	2.80	0.83	0.00	222.50	2.80	0.83	0.00
97.50	2.80	0.83	0.00	225.00	2.80	0.83	0.00
100.00	2.80	0.83	0.00	227.50	2.80	0.83	0.00
102.50	2.80	0.83	0.00	230.00	2.80	0.83	0.00
105.00	2.80	0.83	0.00	232.50	2.80	0.83	0.00
107.50	2.80	0.83	0.00	235.00	2.80	0.83	0.00
110.00	2.80	0.83	0.00	237.50	2.80	0.83	0.00
112.50	2.80	0.83	0.00	240.00	2.80	0.83	0.00
115.00	2.80	0.83	0.00				
117.50	2.80	0.83	0.00				
120.00	2.80	0.83	0.00				
122.50	2.80	0.83	0.00				
125.00	2.80	0.83	0.00				

Summary for Subcatchment PDA-2.1A: Subcat PDA-2.1A

Runoff = 7.76 cfs @ 12.24 hrs, Volume= 33,704 cf, Depth= 1.16"
Routed to Pond 28P : DIV-01

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
244,846	74	>75% Grass cover, Good, HSG C
65	80	>75% Grass cover, Good, HSG D
7,583	87	Dirt roads, HSG C
4,725	96	Gravel surface, HSG C
86,246	98	Paved parking, HSG C
4,565	98	Unconnected pavement, HSG C
107	70	Woods, Good, HSG C
348,138	81	Weighted Average
257,327	75	73.92% Pervious Area
90,810	98	26.08% Impervious Area
4,565		5.03% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
2.5	103	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	66	0.0189	0.96		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.3	269	Total			

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Hydrograph for Subcatchment PDA-2.1A: Subcat PDA-2.1A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.07	0.00	0.00
5.00	0.16	0.00	0.00
7.50	0.28	0.00	0.00
10.00	0.53	0.00	**0.02**
12.50	1.97	0.58	**4.65**
15.00	2.39	0.87	0.63
17.50	2.57	1.00	0.32
20.00	2.68	1.07	0.22
22.50	**2.76**	**1.13**	0.18
25.00	**2.80**	**1.16**	0.00
27.50	2.80	1.16	0.00
30.00	2.80	1.16	0.00
32.50	2.80	1.16	0.00
35.00	2.80	1.16	0.00
37.50	2.80	1.16	0.00
40.00	2.80	1.16	0.00
42.50	2.80	1.16	0.00
45.00	2.80	1.16	0.00
47.50	2.80	1.16	0.00
50.00	2.80	1.16	0.00
52.50	2.80	1.16	0.00
55.00	2.80	1.16	0.00
57.50	2.80	1.16	0.00
60.00	2.80	1.16	0.00
62.50	2.80	1.16	0.00
65.00	2.80	1.16	0.00
67.50	2.80	1.16	0.00
70.00	2.80	1.16	0.00
72.50	2.80	1.16	0.00
75.00	2.80	1.16	0.00
77.50	2.80	1.16	0.00
80.00	2.80	1.16	0.00
82.50	2.80	1.16	0.00
85.00	2.80	1.16	0.00
87.50	2.80	1.16	0.00
90.00	2.80	1.16	0.00
92.50	2.80	1.16	0.00
95.00	2.80	1.16	0.00
97.50	2.80	1.16	0.00
100.00	2.80	1.16	0.00
102.50	2.80	1.16	0.00
105.00	2.80	1.16	0.00
107.50	2.80	1.16	0.00
110.00	2.80	1.16	0.00
112.50	2.80	1.16	0.00
115.00	2.80	1.16	0.00
117.50	2.80	1.16	0.00
120.00	2.80	1.16	0.00
122.50	2.80	1.16	0.00
125.00	2.80	1.16	0.00
127.50	2.80	1.16	0.00
130.00	2.80	1.16	0.00
132.50	2.80	1.16	0.00
135.00	2.80	1.16	0.00
137.50	2.80	1.16	0.00
140.00	2.80	1.16	0.00
142.50	2.80	1.16	0.00
145.00	2.80	1.16	0.00
147.50	2.80	1.16	0.00
150.00	2.80	1.16	0.00
152.50	2.80	1.16	0.00
155.00	2.80	1.16	0.00
157.50	2.80	1.16	0.00
160.00	2.80	1.16	0.00
162.50	2.80	1.16	0.00
165.00	2.80	1.16	0.00
167.50	2.80	1.16	0.00
170.00	2.80	1.16	0.00
172.50	2.80	1.16	0.00
175.00	2.80	1.16	0.00
177.50	2.80	1.16	0.00
180.00	2.80	1.16	0.00
182.50	2.80	1.16	0.00
185.00	2.80	1.16	0.00
187.50	2.80	1.16	0.00
190.00	2.80	1.16	0.00
192.50	2.80	1.16	0.00
195.00	2.80	1.16	0.00
197.50	2.80	1.16	0.00
200.00	2.80	1.16	0.00
202.50	2.80	1.16	0.00
205.00	2.80	1.16	0.00
207.50	2.80	1.16	0.00
210.00	2.80	1.16	0.00
212.50	2.80	1.16	0.00
215.00	2.80	1.16	0.00
217.50	2.80	1.16	0.00
220.00	2.80	1.16	0.00
222.50	2.80	1.16	0.00
225.00	2.80	1.16	0.00
227.50	2.80	1.16	0.00
230.00	2.80	1.16	0.00
232.50	2.80	1.16	0.00
235.00	2.80	1.16	0.00
237.50	2.80	1.16	0.00
240.00	2.80	1.16	0.00

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Summary for Subcatchment PDA-2.1B: Subcat PDA-2.1B

Runoff = 2.42 cfs @ 12.26 hrs, Volume= 11,179 cf, Depth= 0.88"
Routed to Pond 15P : Detention Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
135,152	74	>75% Grass cover, Good, HSG C
9,554	87	Dirt roads, HSG C
4,830	98	Paved parking, HSG C
2,421	98	Unconnected pavement, HSG C
151,957	76	Weighted Average
144,706	75	95.23% Pervious Area
7,251	98	4.77% Impervious Area
2,421		33.39% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.2	23	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.0	123	Total			

Hydrograph for Subcatchment PDA-2.1B: Subcat PDA-2.1B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.07	0.00	0.00
5.00	0.16	0.00	0.00
7.50	0.28	0.00	0.00
10.00	0.53	0.00	**0.00**
12.50	1.97	0.40	**1.61**
15.00	2.39	0.63	0.23
17.50	2.57	0.74	0.12
20.00	2.68	0.81	0.08
22.50	**2.76**	**0.86**	0.07
25.00	**2.80**	**0.88**	0.00
27.50	2.80	0.88	0.00
30.00	2.80	0.88	0.00
32.50	2.80	0.88	0.00
35.00	2.80	0.88	0.00
37.50	2.80	0.88	0.00
40.00	2.80	0.88	0.00
42.50	2.80	0.88	0.00
45.00	2.80	0.88	0.00
47.50	2.80	0.88	0.00
50.00	2.80	0.88	0.00
52.50	2.80	0.88	0.00
55.00	2.80	0.88	0.00
57.50	2.80	0.88	0.00
60.00	2.80	0.88	0.00
62.50	2.80	0.88	0.00
65.00	2.80	0.88	0.00
67.50	2.80	0.88	0.00
70.00	2.80	0.88	0.00
72.50	2.80	0.88	0.00
75.00	2.80	0.88	0.00
77.50	2.80	0.88	0.00
80.00	2.80	0.88	0.00
82.50	2.80	0.88	0.00
85.00	2.80	0.88	0.00
87.50	2.80	0.88	0.00
90.00	2.80	0.88	0.00
92.50	2.80	0.88	0.00
95.00	2.80	0.88	0.00
97.50	2.80	0.88	0.00
100.00	2.80	0.88	0.00
102.50	2.80	0.88	0.00
105.00	2.80	0.88	0.00
107.50	2.80	0.88	0.00
110.00	2.80	0.88	0.00
112.50	2.80	0.88	0.00
115.00	2.80	0.88	0.00
117.50	2.80	0.88	0.00
120.00	2.80	0.88	0.00
122.50	2.80	0.88	0.00
125.00	2.80	0.88	0.00
127.50	2.80	0.88	0.00
130.00	2.80	0.88	0.00
132.50	2.80	0.88	0.00
135.00	2.80	0.88	0.00
137.50	2.80	0.88	0.00
140.00	2.80	0.88	0.00
142.50	2.80	0.88	0.00
145.00	2.80	0.88	0.00
147.50	2.80	0.88	0.00
150.00	2.80	0.88	0.00
152.50	2.80	0.88	0.00
155.00	2.80	0.88	0.00
157.50	2.80	0.88	0.00
160.00	2.80	0.88	0.00
162.50	2.80	0.88	0.00
165.00	2.80	0.88	0.00
167.50	2.80	0.88	0.00
170.00	2.80	0.88	0.00
172.50	2.80	0.88	0.00
175.00	2.80	0.88	0.00
177.50	2.80	0.88	0.00
180.00	2.80	0.88	0.00
182.50	2.80	0.88	0.00
185.00	2.80	0.88	0.00
187.50	2.80	0.88	0.00
190.00	2.80	0.88	0.00
192.50	2.80	0.88	0.00
195.00	2.80	0.88	0.00
197.50	2.80	0.88	0.00
200.00	2.80	0.88	0.00
202.50	2.80	0.88	0.00
205.00	2.80	0.88	0.00
207.50	2.80	0.88	0.00
210.00	2.80	0.88	0.00
212.50	2.80	0.88	0.00
215.00	2.80	0.88	0.00
217.50	2.80	0.88	0.00
220.00	2.80	0.88	0.00
222.50	2.80	0.88	0.00
225.00	2.80	0.88	0.00
227.50	2.80	0.88	0.00
230.00	2.80	0.88	0.00
232.50	2.80	0.88	0.00
235.00	2.80	0.88	0.00
237.50	2.80	0.88	0.00
240.00	2.80	0.88	0.00

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Summary for Subcatchment PDA-2.2A: Subcat PDA-2.2A

Runoff = 3.57 cfs @ 12.19 hrs, Volume= 14,332 cf, Depth= 1.10"
Routed to Link 7L : DP 2.2 - Silver Creek West Branch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
115,003	74	>75% Grass cover, Good, HSG C
36,719	98	Paved parking, HSG C
4,050	98	Unconnected pavement, HSG C
279	70	Woods, Good, HSG C
156,051	80	Weighted Average
115,282	74	73.87% Pervious Area
40,769	98	26.13% Impervious Area
4,050		9.93% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.9					**Direct Entry, PER EDA-2.2A**

Hydrograph for Subcatchment PDA-2.2A: Subcat PDA-2.2A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.07	0.00	0.00
5.00	0.16	0.00	0.00
7.50	0.28	0.00	0.00
10.00	0.53	0.00	**0.00**
12.50	1.97	0.54	**1.74**
15.00	2.39	0.81	0.27
17.50	2.57	0.94	0.14
20.00	2.68	1.02	0.10
22.50	**2.76**	**1.07**	0.08
25.00	**2.80**	**1.10**	0.00
27.50	2.80	1.10	0.00
30.00	2.80	1.10	0.00
32.50	2.80	1.10	0.00
35.00	2.80	1.10	0.00
37.50	2.80	1.10	0.00
40.00	2.80	1.10	0.00
42.50	2.80	1.10	0.00
45.00	2.80	1.10	0.00
47.50	2.80	1.10	0.00
50.00	2.80	1.10	0.00
52.50	2.80	1.10	0.00
55.00	2.80	1.10	0.00
57.50	2.80	1.10	0.00
60.00	2.80	1.10	0.00
62.50	2.80	1.10	0.00
65.00	2.80	1.10	0.00
67.50	2.80	1.10	0.00
70.00	2.80	1.10	0.00
72.50	2.80	1.10	0.00
75.00	2.80	1.10	0.00
77.50	2.80	1.10	0.00
80.00	2.80	1.10	0.00
82.50	2.80	1.10	0.00
85.00	2.80	1.10	0.00
87.50	2.80	1.10	0.00
90.00	2.80	1.10	0.00
92.50	2.80	1.10	0.00
95.00	2.80	1.10	0.00
97.50	2.80	1.10	0.00
100.00	2.80	1.10	0.00
102.50	2.80	1.10	0.00
105.00	2.80	1.10	0.00
107.50	2.80	1.10	0.00
110.00	2.80	1.10	0.00
112.50	2.80	1.10	0.00
115.00	2.80	1.10	0.00
117.50	2.80	1.10	0.00
120.00	2.80	1.10	0.00
122.50	2.80	1.10	0.00
125.00	2.80	1.10	0.00
127.50	2.80	1.10	0.00
130.00	2.80	1.10	0.00
132.50	2.80	1.10	0.00
135.00	2.80	1.10	0.00
137.50	2.80	1.10	0.00
140.00	2.80	1.10	0.00
142.50	2.80	1.10	0.00
145.00	2.80	1.10	0.00
147.50	2.80	1.10	0.00
150.00	2.80	1.10	0.00
152.50	2.80	1.10	0.00
155.00	2.80	1.10	0.00
157.50	2.80	1.10	0.00
160.00	2.80	1.10	0.00
162.50	2.80	1.10	0.00
165.00	2.80	1.10	0.00
167.50	2.80	1.10	0.00
170.00	2.80	1.10	0.00
172.50	2.80	1.10	0.00
175.00	2.80	1.10	0.00
177.50	2.80	1.10	0.00
180.00	2.80	1.10	0.00
182.50	2.80	1.10	0.00
185.00	2.80	1.10	0.00
187.50	2.80	1.10	0.00
190.00	2.80	1.10	0.00
192.50	2.80	1.10	0.00
195.00	2.80	1.10	0.00
197.50	2.80	1.10	0.00
200.00	2.80	1.10	0.00
202.50	2.80	1.10	0.00
205.00	2.80	1.10	0.00
207.50	2.80	1.10	0.00
210.00	2.80	1.10	0.00
212.50	2.80	1.10	0.00
215.00	2.80	1.10	0.00
217.50	2.80	1.10	0.00
220.00	2.80	1.10	0.00
222.50	2.80	1.10	0.00
225.00	2.80	1.10	0.00
227.50	2.80	1.10	0.00
230.00	2.80	1.10	0.00
232.50	2.80	1.10	0.00
235.00	2.80	1.10	0.00
237.50	2.80	1.10	0.00
240.00	2.80	1.10	0.00

Summary for Subcatchment PDA-2.2B: Subcat PDA-2.2B

Runoff = 1.23 cfs @ 12.63 hrs, Volume= 8,783 cf, Depth= 0.69"
Routed to Link 6L : DP 2.1 - West Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
51,518	74	>75% Grass cover, Good, HSG C
2,379	98	Paved parking, HSG C
98,443	70	Woods, Good, HSG C
152,340	72	Weighted Average
149,961	71	98.44% Pervious Area
2,379	98	1.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.9	100	0.0120	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
14.1	465	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.0	565	Total			

Hydrograph for Subcatchment PDA-2.2B: Subcat PDA-2.2B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	0.69	0.00
2.50	0.07	0.00	0.00	130.00	2.80	0.69	0.00
5.00	0.16	0.00	0.00	132.50	2.80	0.69	0.00
7.50	0.28	0.00	0.00	135.00	2.80	0.69	0.00
10.00	0.53	0.00	0.00	137.50	2.80	0.69	0.00
12.50	1.97	0.28	**1.14**	140.00	2.80	0.69	0.00
15.00	2.39	0.47	**0.22**	142.50	2.80	0.69	0.00
17.50	2.57	0.57	0.11	145.00	2.80	0.69	0.00
20.00	2.68	0.62	0.07	147.50	2.80	0.69	0.00
22.50	**2.76**	**0.67**	0.06	150.00	2.80	0.69	0.00
25.00	**2.80**	**0.69**	0.00	152.50	2.80	0.69	0.00
27.50	2.80	0.69	0.00	155.00	2.80	0.69	0.00
30.00	2.80	0.69	0.00	157.50	2.80	0.69	0.00
32.50	2.80	0.69	0.00	160.00	2.80	0.69	0.00
35.00	2.80	0.69	0.00	162.50	2.80	0.69	0.00
37.50	2.80	0.69	0.00	165.00	2.80	0.69	0.00
40.00	2.80	0.69	0.00	167.50	2.80	0.69	0.00
42.50	2.80	0.69	0.00	170.00	2.80	0.69	0.00
45.00	2.80	0.69	0.00	172.50	2.80	0.69	0.00
47.50	2.80	0.69	0.00	175.00	2.80	0.69	0.00
50.00	2.80	0.69	0.00	177.50	2.80	0.69	0.00
52.50	2.80	0.69	0.00	180.00	2.80	0.69	0.00
55.00	2.80	0.69	0.00	182.50	2.80	0.69	0.00
57.50	2.80	0.69	0.00	185.00	2.80	0.69	0.00
60.00	2.80	0.69	0.00	187.50	2.80	0.69	0.00
62.50	2.80	0.69	0.00	190.00	2.80	0.69	0.00
65.00	2.80	0.69	0.00	192.50	2.80	0.69	0.00
67.50	2.80	0.69	0.00	195.00	2.80	0.69	0.00
70.00	2.80	0.69	0.00	197.50	2.80	0.69	0.00
72.50	2.80	0.69	0.00	200.00	2.80	0.69	0.00
75.00	2.80	0.69	0.00	202.50	2.80	0.69	0.00
77.50	2.80	0.69	0.00	205.00	2.80	0.69	0.00
80.00	2.80	0.69	0.00	207.50	2.80	0.69	0.00
82.50	2.80	0.69	0.00	210.00	2.80	0.69	0.00
85.00	2.80	0.69	0.00	212.50	2.80	0.69	0.00
87.50	2.80	0.69	0.00	215.00	2.80	0.69	0.00
90.00	2.80	0.69	0.00	217.50	2.80	0.69	0.00
92.50	2.80	0.69	0.00	220.00	2.80	0.69	0.00
95.00	2.80	0.69	0.00	222.50	2.80	0.69	0.00
97.50	2.80	0.69	0.00	225.00	2.80	0.69	0.00
100.00	2.80	0.69	0.00	227.50	2.80	0.69	0.00
102.50	2.80	0.69	0.00	230.00	2.80	0.69	0.00
105.00	2.80	0.69	0.00	232.50	2.80	0.69	0.00
107.50	2.80	0.69	0.00	235.00	2.80	0.69	0.00
110.00	2.80	0.69	0.00	237.50	2.80	0.69	0.00
112.50	2.80	0.69	0.00	240.00	2.80	0.69	0.00
115.00	2.80	0.69	0.00				
117.50	2.80	0.69	0.00				
120.00	2.80	0.69	0.00				
122.50	2.80	0.69	0.00				
125.00	2.80	0.69	0.00				

Summary for Subcatchment PDA-2.2C.a: Subcat PDA-2.2C.a

Runoff = 5.50 cfs @ 12.09 hrs, Volume= 19,412 cf, Depth= 2.57"
Routed to Pond 17P : Track and Field- stone base

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
90,671	98	Paved parking, HSG C
90,671	98	Weighted Average
0	74	0.00% Pervious Area
90,671	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-2.2C.a: Subcat PDA-2.2C.a

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	2.57	0.00
2.50	0.07	0.00	0.01	130.00	2.80	2.57	0.00
5.00	0.16	0.04	0.05	132.50	2.80	2.57	0.00
7.50	0.28	0.13	0.11	135.00	2.80	2.57	0.00
10.00	0.53	0.34	**0.26**	137.50	2.80	2.57	0.00
12.50	1.97	1.74	**1.17**	140.00	2.80	2.57	0.00
15.00	2.39	2.16	0.23	142.50	2.80	2.57	0.00
17.50	2.57	2.34	0.11	145.00	2.80	2.57	0.00
20.00	2.68	2.45	0.08	147.50	2.80	2.57	0.00
22.50	**2.76**	**2.53**	0.06	150.00	2.80	2.57	0.00
25.00	**2.80**	**2.57**	0.00	152.50	2.80	2.57	0.00
27.50	2.80	2.57	0.00	155.00	2.80	2.57	0.00
30.00	2.80	2.57	0.00	157.50	2.80	2.57	0.00
32.50	2.80	2.57	0.00	160.00	2.80	2.57	0.00
35.00	2.80	2.57	0.00	162.50	2.80	2.57	0.00
37.50	2.80	2.57	0.00	165.00	2.80	2.57	0.00
40.00	2.80	2.57	0.00	167.50	2.80	2.57	0.00
42.50	2.80	2.57	0.00	170.00	2.80	2.57	0.00
45.00	2.80	2.57	0.00	172.50	2.80	2.57	0.00
47.50	2.80	2.57	0.00	175.00	2.80	2.57	0.00
50.00	2.80	2.57	0.00	177.50	2.80	2.57	0.00
52.50	2.80	2.57	0.00	180.00	2.80	2.57	0.00
55.00	2.80	2.57	0.00	182.50	2.80	2.57	0.00
57.50	2.80	2.57	0.00	185.00	2.80	2.57	0.00
60.00	2.80	2.57	0.00	187.50	2.80	2.57	0.00
62.50	2.80	2.57	0.00	190.00	2.80	2.57	0.00
65.00	2.80	2.57	0.00	192.50	2.80	2.57	0.00
67.50	2.80	2.57	0.00	195.00	2.80	2.57	0.00
70.00	2.80	2.57	0.00	197.50	2.80	2.57	0.00
72.50	2.80	2.57	0.00	200.00	2.80	2.57	0.00
75.00	2.80	2.57	0.00	202.50	2.80	2.57	0.00
77.50	2.80	2.57	0.00	205.00	2.80	2.57	0.00
80.00	2.80	2.57	0.00	207.50	2.80	2.57	0.00
82.50	2.80	2.57	0.00	210.00	2.80	2.57	0.00
85.00	2.80	2.57	0.00	212.50	2.80	2.57	0.00
87.50	2.80	2.57	0.00	215.00	2.80	2.57	0.00
90.00	2.80	2.57	0.00	217.50	2.80	2.57	0.00
92.50	2.80	2.57	0.00	220.00	2.80	2.57	0.00
95.00	2.80	2.57	0.00	222.50	2.80	2.57	0.00
97.50	2.80	2.57	0.00	225.00	2.80	2.57	0.00
100.00	2.80	2.57	0.00	227.50	2.80	2.57	0.00
102.50	2.80	2.57	0.00	230.00	2.80	2.57	0.00
105.00	2.80	2.57	0.00	232.50	2.80	2.57	0.00
107.50	2.80	2.57	0.00	235.00	2.80	2.57	0.00
110.00	2.80	2.57	0.00	237.50	2.80	2.57	0.00
112.50	2.80	2.57	0.00	240.00	2.80	2.57	0.00
115.00	2.80	2.57	0.00				
117.50	2.80	2.57	0.00				
120.00	2.80	2.57	0.00				
122.50	2.80	2.57	0.00				
125.00	2.80	2.57	0.00				

Summary for Subcatchment PDA-2.2C.b: Subcat PDA-2.2C.b

Runoff = 3.71 cfs @ 12.09 hrs, Volume= 13,100 cf, Depth= 2.57"
Routed to Pond 35P : Track and Field-manifold

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
4	74	>75% Grass cover, Good, HSG C
61,181	98	Paved parking, HSG C
61,186	98	Weighted Average
4	74	0.01% Pervious Area
61,181	98	99.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-2.2C.b: Subcat PDA-2.2C.b

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	2.57	0.00
2.50	0.07	0.00	0.01	130.00	2.80	2.57	0.00
5.00	0.16	0.04	0.03	132.50	2.80	2.57	0.00
7.50	0.28	0.13	0.07	135.00	2.80	2.57	0.00
10.00	0.53	0.34	**0.17**	137.50	2.80	2.57	0.00
12.50	1.97	1.74	**0.79**	140.00	2.80	2.57	0.00
15.00	2.39	2.16	0.15	142.50	2.80	2.57	0.00
17.50	2.57	2.34	0.07	145.00	2.80	2.57	0.00
20.00	2.68	2.45	0.05	147.50	2.80	2.57	0.00
22.50	**2.76**	**2.53**	0.04	150.00	2.80	2.57	0.00
25.00	**2.80**	**2.57**	0.00	152.50	2.80	2.57	0.00
27.50	2.80	2.57	0.00	155.00	2.80	2.57	0.00
30.00	2.80	2.57	0.00	157.50	2.80	2.57	0.00
32.50	2.80	2.57	0.00	160.00	2.80	2.57	0.00
35.00	2.80	2.57	0.00	162.50	2.80	2.57	0.00
37.50	2.80	2.57	0.00	165.00	2.80	2.57	0.00
40.00	2.80	2.57	0.00	167.50	2.80	2.57	0.00
42.50	2.80	2.57	0.00	170.00	2.80	2.57	0.00
45.00	2.80	2.57	0.00	172.50	2.80	2.57	0.00
47.50	2.80	2.57	0.00	175.00	2.80	2.57	0.00
50.00	2.80	2.57	0.00	177.50	2.80	2.57	0.00
52.50	2.80	2.57	0.00	180.00	2.80	2.57	0.00
55.00	2.80	2.57	0.00	182.50	2.80	2.57	0.00
57.50	2.80	2.57	0.00	185.00	2.80	2.57	0.00
60.00	2.80	2.57	0.00	187.50	2.80	2.57	0.00
62.50	2.80	2.57	0.00	190.00	2.80	2.57	0.00
65.00	2.80	2.57	0.00	192.50	2.80	2.57	0.00
67.50	2.80	2.57	0.00	195.00	2.80	2.57	0.00
70.00	2.80	2.57	0.00	197.50	2.80	2.57	0.00
72.50	2.80	2.57	0.00	200.00	2.80	2.57	0.00
75.00	2.80	2.57	0.00	202.50	2.80	2.57	0.00
77.50	2.80	2.57	0.00	205.00	2.80	2.57	0.00
80.00	2.80	2.57	0.00	207.50	2.80	2.57	0.00
82.50	2.80	2.57	0.00	210.00	2.80	2.57	0.00
85.00	2.80	2.57	0.00	212.50	2.80	2.57	0.00
87.50	2.80	2.57	0.00	215.00	2.80	2.57	0.00
90.00	2.80	2.57	0.00	217.50	2.80	2.57	0.00
92.50	2.80	2.57	0.00	220.00	2.80	2.57	0.00
95.00	2.80	2.57	0.00	222.50	2.80	2.57	0.00
97.50	2.80	2.57	0.00	225.00	2.80	2.57	0.00
100.00	2.80	2.57	0.00	227.50	2.80	2.57	0.00
102.50	2.80	2.57	0.00	230.00	2.80	2.57	0.00
105.00	2.80	2.57	0.00	232.50	2.80	2.57	0.00
107.50	2.80	2.57	0.00	235.00	2.80	2.57	0.00
110.00	2.80	2.57	0.00	237.50	2.80	2.57	0.00
112.50	2.80	2.57	0.00	240.00	2.80	2.57	0.00
115.00	2.80	2.57	0.00				
117.50	2.80	2.57	0.00				
120.00	2.80	2.57	0.00				
122.50	2.80	2.57	0.00				
125.00	2.80	2.57	0.00				

Summary for Subcatchment PDA-ROOF1.3: Subcat PDA-ROOF1.3

Runoff = 0.59 cfs @ 12.09 hrs, Volume= 2,094 cf, Depth= 2.57"
Routed to Pond 2P : Bio 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
0	98	Paved parking, HSG C
9,782	98	Roofs, HSG C
9,782	98	Weighted Average
0	74	0.00% Pervious Area
9,782	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-ROOF1.3: Subcat PDA-ROOF1.3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	2.57	0.00
2.50	0.07	0.00	0.00	130.00	2.80	2.57	0.00
5.00	0.16	0.04	0.01	132.50	2.80	2.57	0.00
7.50	0.28	0.13	0.01	135.00	2.80	2.57	0.00
10.00	0.53	0.34	**0.03**	137.50	2.80	2.57	0.00
12.50	1.97	1.74	**0.13**	140.00	2.80	2.57	0.00
15.00	2.39	2.16	0.02	142.50	2.80	2.57	0.00
17.50	2.57	2.34	0.01	145.00	2.80	2.57	0.00
20.00	2.68	2.45	0.01	147.50	2.80	2.57	0.00
22.50	**2.76**	**2.53**	0.01	150.00	2.80	2.57	0.00
25.00	**2.80**	**2.57**	0.00	152.50	2.80	2.57	0.00
27.50	2.80	2.57	0.00	155.00	2.80	2.57	0.00
30.00	2.80	2.57	0.00	157.50	2.80	2.57	0.00
32.50	2.80	2.57	0.00	160.00	2.80	2.57	0.00
35.00	2.80	2.57	0.00	162.50	2.80	2.57	0.00
37.50	2.80	2.57	0.00	165.00	2.80	2.57	0.00
40.00	2.80	2.57	0.00	167.50	2.80	2.57	0.00
42.50	2.80	2.57	0.00	170.00	2.80	2.57	0.00
45.00	2.80	2.57	0.00	172.50	2.80	2.57	0.00
47.50	2.80	2.57	0.00	175.00	2.80	2.57	0.00
50.00	2.80	2.57	0.00	177.50	2.80	2.57	0.00
52.50	2.80	2.57	0.00	180.00	2.80	2.57	0.00
55.00	2.80	2.57	0.00	182.50	2.80	2.57	0.00
57.50	2.80	2.57	0.00	185.00	2.80	2.57	0.00
60.00	2.80	2.57	0.00	187.50	2.80	2.57	0.00
62.50	2.80	2.57	0.00	190.00	2.80	2.57	0.00
65.00	2.80	2.57	0.00	192.50	2.80	2.57	0.00
67.50	2.80	2.57	0.00	195.00	2.80	2.57	0.00
70.00	2.80	2.57	0.00	197.50	2.80	2.57	0.00
72.50	2.80	2.57	0.00	200.00	2.80	2.57	0.00
75.00	2.80	2.57	0.00	202.50	2.80	2.57	0.00
77.50	2.80	2.57	0.00	205.00	2.80	2.57	0.00
80.00	2.80	2.57	0.00	207.50	2.80	2.57	0.00
82.50	2.80	2.57	0.00	210.00	2.80	2.57	0.00
85.00	2.80	2.57	0.00	212.50	2.80	2.57	0.00
87.50	2.80	2.57	0.00	215.00	2.80	2.57	0.00
90.00	2.80	2.57	0.00	217.50	2.80	2.57	0.00
92.50	2.80	2.57	0.00	220.00	2.80	2.57	0.00
95.00	2.80	2.57	0.00	222.50	2.80	2.57	0.00
97.50	2.80	2.57	0.00	225.00	2.80	2.57	0.00
100.00	2.80	2.57	0.00	227.50	2.80	2.57	0.00
102.50	2.80	2.57	0.00	230.00	2.80	2.57	0.00
105.00	2.80	2.57	0.00	232.50	2.80	2.57	0.00
107.50	2.80	2.57	0.00	235.00	2.80	2.57	0.00
110.00	2.80	2.57	0.00	237.50	2.80	2.57	0.00
112.50	2.80	2.57	0.00	240.00	2.80	2.57	0.00
115.00	2.80	2.57	0.00				
117.50	2.80	2.57	0.00				
120.00	2.80	2.57	0.00				
122.50	2.80	2.57	0.00				
125.00	2.80	2.57	0.00				

Summary for Subcatchment PDA-ROOF1.4: Subcat PDA-ROOF1.4

Runoff = 3.53 cfs @ 12.09 hrs, Volume= 12,462 cf, Depth= 2.57"
Routed to Pond 12P : Infiltration Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
1	98	Paved parking, HSG C
58,209	98	Roofs, HSG C
58,210	98	Weighted Average
0	74	0.00% Pervious Area
58,210	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-ROOF1.4: Subcat PDA-ROOF1.4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	2.80	2.57	0.00
2.50	0.07	0.00	0.01	130.00	2.80	2.57	0.00
5.00	0.16	0.04	0.03	132.50	2.80	2.57	0.00
7.50	0.28	0.13	0.07	135.00	2.80	2.57	0.00
10.00	0.53	0.34	**0.16**	137.50	2.80	2.57	0.00
12.50	1.97	1.74	**0.75**	140.00	2.80	2.57	0.00
15.00	2.39	2.16	0.14	142.50	2.80	2.57	0.00
17.50	2.57	2.34	0.07	145.00	2.80	2.57	0.00
20.00	2.68	2.45	0.05	147.50	2.80	2.57	0.00
22.50	**2.76**	**2.53**	0.04	150.00	2.80	2.57	0.00
25.00	**2.80**	**2.57**	0.00	152.50	2.80	2.57	0.00
27.50	2.80	2.57	0.00	155.00	2.80	2.57	0.00
30.00	2.80	2.57	0.00	157.50	2.80	2.57	0.00
32.50	2.80	2.57	0.00	160.00	2.80	2.57	0.00
35.00	2.80	2.57	0.00	162.50	2.80	2.57	0.00
37.50	2.80	2.57	0.00	165.00	2.80	2.57	0.00
40.00	2.80	2.57	0.00	167.50	2.80	2.57	0.00
42.50	2.80	2.57	0.00	170.00	2.80	2.57	0.00
45.00	2.80	2.57	0.00	172.50	2.80	2.57	0.00
47.50	2.80	2.57	0.00	175.00	2.80	2.57	0.00
50.00	2.80	2.57	0.00	177.50	2.80	2.57	0.00
52.50	2.80	2.57	0.00	180.00	2.80	2.57	0.00
55.00	2.80	2.57	0.00	182.50	2.80	2.57	0.00
57.50	2.80	2.57	0.00	185.00	2.80	2.57	0.00
60.00	2.80	2.57	0.00	187.50	2.80	2.57	0.00
62.50	2.80	2.57	0.00	190.00	2.80	2.57	0.00
65.00	2.80	2.57	0.00	192.50	2.80	2.57	0.00
67.50	2.80	2.57	0.00	195.00	2.80	2.57	0.00
70.00	2.80	2.57	0.00	197.50	2.80	2.57	0.00
72.50	2.80	2.57	0.00	200.00	2.80	2.57	0.00
75.00	2.80	2.57	0.00	202.50	2.80	2.57	0.00
77.50	2.80	2.57	0.00	205.00	2.80	2.57	0.00
80.00	2.80	2.57	0.00	207.50	2.80	2.57	0.00
82.50	2.80	2.57	0.00	210.00	2.80	2.57	0.00
85.00	2.80	2.57	0.00	212.50	2.80	2.57	0.00
87.50	2.80	2.57	0.00	215.00	2.80	2.57	0.00
90.00	2.80	2.57	0.00	217.50	2.80	2.57	0.00
92.50	2.80	2.57	0.00	220.00	2.80	2.57	0.00
95.00	2.80	2.57	0.00	222.50	2.80	2.57	0.00
97.50	2.80	2.57	0.00	225.00	2.80	2.57	0.00
100.00	2.80	2.57	0.00	227.50	2.80	2.57	0.00
102.50	2.80	2.57	0.00	230.00	2.80	2.57	0.00
105.00	2.80	2.57	0.00	232.50	2.80	2.57	0.00
107.50	2.80	2.57	0.00	235.00	2.80	2.57	0.00
110.00	2.80	2.57	0.00	237.50	2.80	2.57	0.00
112.50	2.80	2.57	0.00	240.00	2.80	2.57	0.00
115.00	2.80	2.57	0.00				
117.50	2.80	2.57	0.00				
120.00	2.80	2.57	0.00				
122.50	2.80	2.57	0.00				
125.00	2.80	2.57	0.00				

Summary for Subcatchment PDA-ROOF2.1: Subcat PDA-ROOF2.1

Runoff = 1.89 cfs @ 12.09 hrs, Volume= 6,656 cf, Depth= 2.57"
Routed to Pond 28P : DIV-01

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.80"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
31,087	98	Roofs, HSG C
31,087	98	Weighted Average
0	74	0.00% Pervious Area
31,087	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

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Hydrograph for Subcatchment PDA-ROOF2.1: Subcat PDA-ROOF2.1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.07	0.00	0.00
5.00	0.16	0.04	0.02
7.50	0.28	0.13	0.04
10.00	0.53	0.34	**0.09**
12.50	1.97	1.74	**0.40**
15.00	2.39	2.16	0.08
17.50	2.57	2.34	0.04
20.00	2.68	2.45	0.03
22.50	**2.76**	**2.53**	0.02
25.00	**2.80**	**2.57**	0.00
27.50	2.80	2.57	0.00
30.00	2.80	2.57	0.00
32.50	2.80	2.57	0.00
35.00	2.80	2.57	0.00
37.50	2.80	2.57	0.00
40.00	2.80	2.57	0.00
42.50	2.80	2.57	0.00
45.00	2.80	2.57	0.00
47.50	2.80	2.57	0.00
50.00	2.80	2.57	0.00
52.50	2.80	2.57	0.00
55.00	2.80	2.57	0.00
57.50	2.80	2.57	0.00
60.00	2.80	2.57	0.00
62.50	2.80	2.57	0.00
65.00	2.80	2.57	0.00
67.50	2.80	2.57	0.00
70.00	2.80	2.57	0.00
72.50	2.80	2.57	0.00
75.00	2.80	2.57	0.00
77.50	2.80	2.57	0.00
80.00	2.80	2.57	0.00
82.50	2.80	2.57	0.00
85.00	2.80	2.57	0.00
87.50	2.80	2.57	0.00
90.00	2.80	2.57	0.00
92.50	2.80	2.57	0.00
95.00	2.80	2.57	0.00
97.50	2.80	2.57	0.00
100.00	2.80	2.57	0.00
102.50	2.80	2.57	0.00
105.00	2.80	2.57	0.00
107.50	2.80	2.57	0.00
110.00	2.80	2.57	0.00
112.50	2.80	2.57	0.00
115.00	2.80	2.57	0.00
117.50	2.80	2.57	0.00
120.00	2.80	2.57	0.00
122.50	2.80	2.57	0.00
125.00	2.80	2.57	0.00
127.50	2.80	2.57	0.00
130.00	2.80	2.57	0.00
132.50	2.80	2.57	0.00
135.00	2.80	2.57	0.00
137.50	2.80	2.57	0.00
140.00	2.80	2.57	0.00
142.50	2.80	2.57	0.00
145.00	2.80	2.57	0.00
147.50	2.80	2.57	0.00
150.00	2.80	2.57	0.00
152.50	2.80	2.57	0.00
155.00	2.80	2.57	0.00
157.50	2.80	2.57	0.00
160.00	2.80	2.57	0.00
162.50	2.80	2.57	0.00
165.00	2.80	2.57	0.00
167.50	2.80	2.57	0.00
170.00	2.80	2.57	0.00
172.50	2.80	2.57	0.00
175.00	2.80	2.57	0.00
177.50	2.80	2.57	0.00
180.00	2.80	2.57	0.00
182.50	2.80	2.57	0.00
185.00	2.80	2.57	0.00
187.50	2.80	2.57	0.00
190.00	2.80	2.57	0.00
192.50	2.80	2.57	0.00
195.00	2.80	2.57	0.00
197.50	2.80	2.57	0.00
200.00	2.80	2.57	0.00
202.50	2.80	2.57	0.00
205.00	2.80	2.57	0.00
207.50	2.80	2.57	0.00
210.00	2.80	2.57	0.00
212.50	2.80	2.57	0.00
215.00	2.80	2.57	0.00
217.50	2.80	2.57	0.00
220.00	2.80	2.57	0.00
222.50	2.80	2.57	0.00
225.00	2.80	2.57	0.00
227.50	2.80	2.57	0.00
230.00	2.80	2.57	0.00
232.50	2.80	2.57	0.00
235.00	2.80	2.57	0.00
237.50	2.80	2.57	0.00
240.00	2.80	2.57	0.00

Summary for Pond 1P: Bio 4

Inflow Area = 16,850 sf, 41.68% Impervious, Inflow Depth = 1.35" for 1-year event
Inflow = 0.59 cfs @ 12.10 hrs, Volume= 1,900 cf
Outflow = 0.05 cfs @ 13.55 hrs, Volume= 1,900 cf, Atten= 92%, Lag= 86.8 min
Discarded = 0.01 cfs @ 13.55 hrs, Volume= 1,446 cf
Primary = 0.04 cfs @ 13.55 hrs, Volume= 455 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 60.31' @ 13.55 hrs Surf.Area= 974 sf Storage= 1,151 cf

Plug-Flow detention time= 1,588.1 min calculated for 1,900 cf (100% of inflow)
Center-of-Mass det. time= 1,588.6 min (2,425.2 - 836.6)

Volume	Invert	Avail.Storage	Storage Description
#1	56.79'	3,573 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.79	724	0.0	0	0
56.80	724	33.0	2	2
59.79	724	33.0	714	717
59.80	724	100.0	7	724
60.00	809	100.0	153	877
61.00	1,346	100.0	1,078	1,955
62.00	1,891	100.0	1,619	3,573

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.79'	**0.270 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#2	Primary	60.30'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 13.55 hrs HW=60.31' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.04 cfs @ 13.55 hrs HW=60.31' TW=0.00' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Weir Controls 0.04 cfs @ 0.27 fps)

Hydrograph for Pond 1P: Bio 4

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	56.79	0.00	0.00	0.00
5.00	0.00	0	56.79	0.00	0.00	0.00
10.00	**0.01**	**5**	**56.81**	**0.00**	**0.00**	**0.00**
15.00	**0.03**	**1,149**	**60.30**	**0.03**	**0.01**	**0.03**
20.00	0.01	1,146	60.30	0.01	0.01	0.01
25.00	0.00	1,126	60.28	0.01	0.01	0.00
30.00	0.00	1,021	60.17	0.01	0.01	0.00
35.00	0.00	923	60.06	0.01	0.01	0.00
40.00	0.00	832	59.94	0.00	0.00	0.00
45.00	0.00	746	59.83	0.00	0.00	0.00
50.00	0.00	665	59.57	0.00	0.00	0.00
55.00	0.00	583	59.23	0.00	0.00	0.00
60.00	0.00	502	58.89	0.00	0.00	0.00
65.00	0.00	420	58.55	0.00	0.00	0.00
70.00	0.00	339	58.21	0.00	0.00	0.00
75.00	0.00	258	57.87	0.00	0.00	0.00
80.00	0.00	176	57.53	0.00	0.00	0.00
85.00	0.00	95	57.19	0.00	0.00	0.00
90.00	0.00	13	56.85	0.00	0.00	0.00
95.00	0.00	0	56.79	0.00	0.00	0.00
100.00	0.00	0	56.79	0.00	0.00	0.00
105.00	0.00	0	56.79	0.00	0.00	0.00
110.00	0.00	0	56.79	0.00	0.00	0.00
115.00	0.00	0	56.79	0.00	0.00	0.00
120.00	0.00	0	56.79	0.00	0.00	0.00
125.00	0.00	0	56.79	0.00	0.00	0.00
130.00	0.00	0	56.79	0.00	0.00	0.00
135.00	0.00	0	56.79	0.00	0.00	0.00
140.00	0.00	0	56.79	0.00	0.00	0.00
145.00	0.00	0	56.79	0.00	0.00	0.00
150.00	0.00	0	56.79	0.00	0.00	0.00
155.00	0.00	0	56.79	0.00	0.00	0.00
160.00	0.00	0	56.79	0.00	0.00	0.00
165.00	0.00	0	56.79	0.00	0.00	0.00
170.00	0.00	0	56.79	0.00	0.00	0.00
175.00	0.00	0	56.79	0.00	0.00	0.00
180.00	0.00	0	56.79	0.00	0.00	0.00
185.00	0.00	0	56.79	0.00	0.00	0.00
190.00	0.00	0	56.79	0.00	0.00	0.00
195.00	0.00	0	56.79	0.00	0.00	0.00
200.00	0.00	0	56.79	0.00	0.00	0.00
205.00	0.00	0	56.79	0.00	0.00	0.00
210.00	0.00	0	56.79	0.00	0.00	0.00
215.00	0.00	0	56.79	0.00	0.00	0.00
220.00	0.00	0	56.79	0.00	0.00	0.00
225.00	0.00	0	56.79	0.00	0.00	0.00
230.00	0.00	0	56.79	0.00	0.00	0.00
235.00	0.00	0	56.79	0.00	0.00	0.00
240.00	0.00	0	56.79	0.00	0.00	0.00

Stage-Discharge for Pond 1P: Bio 4

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
56.79	0.00	0.00	0.00
56.89	0.00	0.00	0.00
56.99	0.00	0.00	0.00
57.09	0.00	0.00	0.00
57.19	0.00	0.00	0.00
57.29	0.00	0.00	0.00
57.39	0.00	0.00	0.00
57.49	0.00	0.00	0.00
57.59	0.00	0.00	0.00
57.69	0.00	0.00	0.00
57.79	0.00	0.00	0.00
57.89	0.00	0.00	0.00
57.99	0.00	0.00	0.00
58.09	0.00	0.00	0.00
58.19	0.00	0.00	0.00
58.29	0.00	0.00	0.00
58.39	0.00	0.00	0.00
58.49	0.00	0.00	0.00
58.59	0.00	0.00	0.00
58.69	0.00	0.00	0.00
58.79	0.00	0.00	0.00
58.89	0.00	0.00	0.00
58.99	0.00	0.00	0.00
59.09	0.00	0.00	0.00
59.19	0.00	0.00	0.00
59.29	0.00	0.00	0.00
59.39	0.00	0.00	0.00
59.49	0.00	0.00	0.00
59.59	0.00	0.00	0.00
59.69	0.00	0.00	0.00
59.79	0.00	0.00	0.00
59.89	0.00	0.00	0.00
59.99	0.01	0.01	0.00
60.09	0.01	0.01	0.00
60.19	0.01	0.01	0.00
60.29	0.01	0.01	0.00
60.39	1.45	0.01	1.44
60.49	2.11	0.01	2.10
60.59	2.60	0.01	2.59
60.69	3.01	0.01	3.01
60.79	3.38	0.01	3.37
60.89	3.71	0.01	3.70
60.99	4.01	0.01	4.00
61.09	4.29	0.01	4.28
61.19	4.55	0.01	4.54
61.29	4.80	0.01	4.79
61.39	5.04	0.01	5.03
61.49	5.26	0.01	5.25
61.59	5.48	0.01	5.47
61.69	5.69	0.01	5.68
61.79	5.89	0.01	5.88
61.89	6.08	0.01	6.07
61.99	**6.27**	**0.01**	**6.26**

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Stage-Area-Storage for Pond 1P: Bio 4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.79	724	0
56.89	724	24
56.99	724	48
57.09	724	72
57.19	724	96
57.29	724	119
57.39	724	143
57.49	724	167
57.59	724	191
57.69	724	215
57.79	724	239
57.89	724	263
57.99	724	287
58.09	724	311
58.19	724	334
58.29	724	358
58.39	724	382
58.49	724	406
58.59	724	430
58.69	724	454
58.79	724	478
58.89	724	502
58.99	724	526
59.09	724	550
59.19	724	573
59.29	724	597
59.39	724	621
59.49	724	645
59.59	724	669
59.69	724	693
59.79	724	717
59.89	762	791
59.99	805	869
60.09	857	952
60.19	911	1,041
60.29	965	1,134
60.39	1,018	1,234
60.49	1,072	1,338
60.59	1,126	1,448
60.69	1,180	1,563
60.79	1,233	1,684
60.89	1,287	1,810
60.99	1,341	1,941
61.09	1,395	2,078
61.19	1,450	2,220
61.29	1,504	2,368
61.39	1,559	2,521
61.49	1,613	2,680
61.59	1,668	2,844
61.69	1,722	3,013
61.79	1,777	3,188
61.89	1,831	3,369
61.99	**1,886**	**3,554**

Summary for Pond 2P: Bio 3

Inflow Area = 16,632 sf, 77.36% Impervious, Inflow Depth = 2.10" for 1-year event
Inflow = 0.85 cfs @ 12.09 hrs, Volume= 2,906 cf
Outflow = 0.65 cfs @ 12.25 hrs, Volume= 2,906 cf, Atten= 24%, Lag= 9.9 min
Primary = 0.63 cfs @ 12.25 hrs, Volume= 774 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Tertiary = 0.02 cfs @ 12.26 hrs, Volume= 2,132 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 59.78' @ 12.26 hrs Surf.Area= 874 sf Storage= 1,130 cf

Plug-Flow detention time= 432.9 min calculated for 2,905 cf (100% of inflow)
Center-of-Mass det. time= 433.0 min (1,212.7 - 779.7)

Volume	Invert	Avail.Storage	Storage Description
#1	56.24'	3,220 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.24	606	0.0	0	0
56.25	606	33.0	2	2
58.99	606	33.0	548	550
59.00	606	100.0	6	556
60.00	951	100.0	779	1,335
61.00	1,354	100.0	1,153	2,487
61.50	1,576	100.0	733	3,220

Device	Routing	Invert	Outlet Devices
#1	Device 3	56.24'	**1.020 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#2	Primary	59.75'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Tertiary	55.50'	**6.0" Round 6" SUBDRAIN** L= 35.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.50' / 55.20' S= 0.0086 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.58 cfs @ 12.25 hrs HW=59.77' TW=0.00' (Dynamic Tailwater)
└**2=Orifice/Grate** (Weir Controls 0.58 cfs @ 0.51 fps)

Tertiary OutFlow Max=0.02 cfs @ 12.26 hrs HW=59.77' TW=0.00' (Dynamic Tailwater)
└**3=6" SUBDRAIN** (Passes 0.02 cfs of 1.50 cfs potential flow)
└**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Hydrograph for Pond 2P: Bio 3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Tertiary (cfs)
0.00	0.00	0	56.24	0.00	0.00	0.00
5.00	0.01	1	56.25	0.01	0.00	0.01
10.00	**0.03**	**54**	**56.51**	**0.01**	**0.00**	**0.01**
15.00	**0.04**	**1,110**	**59.75**	**0.04**	**0.02**	**0.02**
20.00	0.01	1,061	59.70	0.02	0.00	0.02
25.00	0.00	873	59.46	0.02	0.00	0.02
30.00	0.00	579	59.04	0.01	0.00	0.01
35.00	0.00	321	57.85	0.01	0.00	0.01
40.00	0.00	64	56.56	0.01	0.00	0.01
45.00	0.00	0	56.24	0.00	0.00	0.00
50.00	0.00	0	56.24	0.00	0.00	0.00
55.00	0.00	0	56.24	0.00	0.00	0.00
60.00	0.00	0	56.24	0.00	0.00	0.00
65.00	0.00	0	56.24	0.00	0.00	0.00
70.00	0.00	0	56.24	0.00	0.00	0.00
75.00	0.00	0	56.24	0.00	0.00	0.00
80.00	0.00	0	56.24	0.00	0.00	0.00
85.00	0.00	0	56.24	0.00	0.00	0.00
90.00	0.00	0	56.24	0.00	0.00	0.00
95.00	0.00	0	56.24	0.00	0.00	0.00
100.00	0.00	0	56.24	0.00	0.00	0.00
105.00	0.00	0	56.24	0.00	0.00	0.00
110.00	0.00	0	56.24	0.00	0.00	0.00
115.00	0.00	0	56.24	0.00	0.00	0.00
120.00	0.00	0	56.24	0.00	0.00	0.00
125.00	0.00	0	56.24	0.00	0.00	0.00
130.00	0.00	0	56.24	0.00	0.00	0.00
135.00	0.00	0	56.24	0.00	0.00	0.00
140.00	0.00	0	56.24	0.00	0.00	0.00
145.00	0.00	0	56.24	0.00	0.00	0.00
150.00	0.00	0	56.24	0.00	0.00	0.00
155.00	0.00	0	56.24	0.00	0.00	0.00
160.00	0.00	0	56.24	0.00	0.00	0.00
165.00	0.00	0	56.24	0.00	0.00	0.00
170.00	0.00	0	56.24	0.00	0.00	0.00
175.00	0.00	0	56.24	0.00	0.00	0.00
180.00	0.00	0	56.24	0.00	0.00	0.00
185.00	0.00	0	56.24	0.00	0.00	0.00
190.00	0.00	0	56.24	0.00	0.00	0.00
195.00	0.00	0	56.24	0.00	0.00	0.00
200.00	0.00	0	56.24	0.00	0.00	0.00
205.00	0.00	0	56.24	0.00	0.00	0.00
210.00	0.00	0	56.24	0.00	0.00	0.00
215.00	0.00	0	56.24	0.00	0.00	0.00
220.00	0.00	0	56.24	0.00	0.00	0.00
225.00	0.00	0	56.24	0.00	0.00	0.00
230.00	0.00	0	56.24	0.00	0.00	0.00
235.00	0.00	0	56.24	0.00	0.00	0.00
240.00	0.00	0	56.24	0.00	0.00	0.00

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Stage-Discharge for Pond 2P: Bio 3

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Tertiary (cfs)
56.24	0.00	0.00	0.00
56.34	0.01	0.00	0.01
56.44	0.01	0.00	0.01
56.54	0.01	0.00	0.01
56.64	0.01	0.00	0.01
56.74	0.01	0.00	0.01
56.84	0.01	0.00	0.01
56.94	0.01	0.00	0.01
57.04	0.01	0.00	0.01
57.14	0.01	0.00	0.01
57.24	0.01	0.00	0.01
57.34	0.01	0.00	0.01
57.44	0.01	0.00	0.01
57.54	0.01	0.00	0.01
57.64	0.01	0.00	0.01
57.74	0.01	0.00	0.01
57.84	0.01	0.00	0.01
57.94	0.01	0.00	0.01
58.04	0.01	0.00	0.01
58.14	0.01	0.00	0.01
58.24	0.01	0.00	0.01
58.34	0.01	0.00	0.01
58.44	0.01	0.00	0.01
58.54	0.01	0.00	0.01
58.64	0.01	0.00	0.01
58.74	0.01	0.00	0.01
58.84	0.01	0.00	0.01
58.94	0.01	0.00	0.01
59.04	0.01	0.00	0.01
59.14	0.02	0.00	0.02
59.24	0.02	0.00	0.02
59.34	0.02	0.00	0.02
59.44	0.02	0.00	0.02
59.54	0.02	0.00	0.02
59.64	0.02	0.00	0.02
59.74	0.02	0.00	0.02
59.84	2.91	2.89	0.02
59.94	4.22	4.20	0.02
60.04	5.21	5.19	0.02
60.14	6.04	6.01	0.02
60.24	6.77	6.74	0.02
60.34	7.42	7.40	0.03
60.44	8.03	8.00	0.03
60.54	8.59	8.56	0.03
60.64	9.11	9.08	0.03
60.74	9.61	9.58	0.03
60.84	10.08	10.05	0.03
60.94	10.54	10.51	0.03
61.04	10.97	10.94	0.03
61.14	11.39	11.35	0.03
61.24	11.79	11.75	0.03
61.34	12.18	12.14	0.04
61.44	**12.56**	**12.52**	**0.04**

Stage-Area-Storage for Pond 2P: Bio 3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.24	606	0
56.34	606	20
56.44	606	40
56.54	606	60
56.64	606	80
56.74	606	100
56.84	606	120
56.94	606	140
57.04	606	160
57.14	606	180
57.24	606	200
57.34	606	220
57.44	606	240
57.54	606	260
57.64	606	280
57.74	606	300
57.84	606	320
57.94	606	340
58.04	606	360
58.14	606	380
58.24	606	400
58.34	606	420
58.44	606	440
58.54	606	460
58.64	606	480
58.74	606	500
58.84	606	520
58.94	606	540
59.04	620	581
59.14	654	644
59.24	689	711
59.34	723	782
59.44	758	856
59.54	792	934
59.64	827	1,015
59.74	861	1,099
59.84	896	1,187
59.94	930	1,278
60.04	967	1,373
60.14	1,007	1,472
60.24	1,048	1,574
60.34	1,088	1,681
60.44	1,128	1,792
60.54	1,169	1,907
60.64	1,209	2,026
60.74	1,249	2,149
60.84	1,290	2,276
60.94	1,330	2,406
61.04	1,372	2,542
61.14	1,416	2,681
61.24	1,461	2,825
61.34	1,505	2,973
61.44	**1,549**	**3,126**

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Summary for Pond 3P: DIV-02

Inflow Area = 75,465 sf, 44.47% Impervious, Inflow Depth = 1.00" for 1-year event
Inflow = 1.57 cfs @ 12.20 hrs, Volume= 6,301 cf
Outflow = 1.57 cfs @ 12.20 hrs, Volume= 6,301 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.87 cfs @ 12.20 hrs, Volume= 5,677 cf
Routed to Pond 18P : Sand Filter 2
Secondary = 0.70 cfs @ 12.20 hrs, Volume= 624 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 56.91' @ 12.20 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.15'	**8.0" Round Culvert** L= 13.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.15' / 54.85' S= 0.1000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.35 sf
#2	Device 3	56.80'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	56.15'	**15.0" Round Culvert** L= 19.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.15' / 55.00' S= 0.0605 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=0.87 cfs @ 12.20 hrs HW=56.91' TW=55.15' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.87 cfs @ 2.48 fps)

Secondary OutFlow Max=0.70 cfs @ 12.20 hrs HW=56.91' TW=0.00' (Dynamic Tailwater)
↑—**3=Culvert** (Passes 0.70 cfs of 1.83 cfs potential flow)
↑—**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.70 cfs @ 1.08 fps)

Hydrograph for Pond 3P: DIV-02

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	56.15	0.00	0.00	0.00
5.00	0.00	56.15	0.00	0.00	0.00
10.00	**0.02**	**56.24**	**0.02**	**0.02**	**0.00**
15.00	**0.11**	**56.35**	**0.11**	**0.11**	**0.00**
20.00	0.04	56.27	0.04	0.04	0.00
25.00	0.00	56.15	0.00	0.00	0.00
30.00	0.00	56.15	0.00	0.00	0.00
35.00	0.00	56.15	0.00	0.00	0.00
40.00	0.00	56.15	0.00	0.00	0.00
45.00	0.00	56.15	0.00	0.00	0.00
50.00	0.00	56.15	0.00	0.00	0.00
55.00	0.00	56.15	0.00	0.00	0.00
60.00	0.00	56.15	0.00	0.00	0.00
65.00	0.00	56.15	0.00	0.00	0.00
70.00	0.00	56.15	0.00	0.00	0.00
75.00	0.00	56.15	0.00	0.00	0.00
80.00	0.00	56.15	0.00	0.00	0.00
85.00	0.00	56.15	0.00	0.00	0.00
90.00	0.00	56.15	0.00	0.00	0.00
95.00	0.00	56.15	0.00	0.00	0.00
100.00	0.00	56.15	0.00	0.00	0.00
105.00	0.00	56.15	0.00	0.00	0.00
110.00	0.00	56.15	0.00	0.00	0.00
115.00	0.00	56.15	0.00	0.00	0.00
120.00	0.00	56.15	0.00	0.00	0.00
125.00	0.00	56.15	0.00	0.00	0.00
130.00	0.00	56.15	0.00	0.00	0.00
135.00	0.00	56.15	0.00	0.00	0.00
140.00	0.00	56.15	0.00	0.00	0.00
145.00	0.00	56.15	0.00	0.00	0.00
150.00	0.00	56.15	0.00	0.00	0.00
155.00	0.00	56.15	0.00	0.00	0.00
160.00	0.00	56.15	0.00	0.00	0.00
165.00	0.00	56.15	0.00	0.00	0.00
170.00	0.00	56.15	0.00	0.00	0.00
175.00	0.00	56.15	0.00	0.00	0.00
180.00	0.00	56.15	0.00	0.00	0.00
185.00	0.00	56.15	0.00	0.00	0.00
190.00	0.00	56.15	0.00	0.00	0.00
195.00	0.00	56.15	0.00	0.00	0.00
200.00	0.00	56.15	0.00	0.00	0.00
205.00	0.00	56.15	0.00	0.00	0.00
210.00	0.00	56.15	0.00	0.00	0.00
215.00	0.00	56.15	0.00	0.00	0.00
220.00	0.00	56.15	0.00	0.00	0.00
225.00	0.00	56.15	0.00	0.00	0.00
230.00	0.00	56.15	0.00	0.00	0.00
235.00	0.00	56.15	0.00	0.00	0.00
240.00	0.00	56.15	0.00	0.00	0.00

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Stage-Discharge for Pond 3P: DIV-02

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
56.15	0.00	0.00	0.00
56.17	0.00	0.00	0.00
56.19	0.00	0.00	0.00
56.21	0.01	0.01	0.00
56.23	0.02	0.02	0.00
56.25	0.03	0.03	0.00
56.27	0.04	0.04	0.00
56.29	0.05	0.05	0.00
56.31	0.07	0.07	0.00
56.33	0.09	0.09	0.00
56.35	0.11	0.11	0.00
56.37	0.13	0.13	0.00
56.39	0.15	0.15	0.00
56.41	0.17	0.17	0.00
56.43	0.20	0.20	0.00
56.45	0.22	0.22	0.00
56.47	0.25	0.25	0.00
56.49	0.28	0.28	0.00
56.51	0.31	0.31	0.00
56.53	0.34	0.34	0.00
56.55	0.37	0.37	0.00
56.57	0.40	0.40	0.00
56.59	0.44	0.44	0.00
56.61	0.47	0.47	0.00
56.63	0.50	0.50	0.00
56.65	0.53	0.53	0.00
56.67	0.57	0.57	0.00
56.69	0.60	0.60	0.00
56.71	0.63	0.63	0.00
56.73	0.66	0.66	0.00
56.75	0.69	0.69	0.00
56.77	0.72	0.72	0.00
56.79	0.74	0.74	0.00
56.81	0.78	0.76	0.02
56.83	0.88	0.78	0.10
56.85	1.02	0.80	0.22
56.87	1.19	0.83	0.36
56.89	1.37	0.85	0.53
56.91	1.58	0.87	0.71
56.93	1.80	0.89	0.92
56.95	2.04	0.91	1.13
56.97	2.29	0.93	1.37
56.99	2.56	0.94	1.61
57.01	2.84	0.96	1.87
57.03	3.13	0.98	2.15
57.05	3.41	1.00	2.41
57.07	3.51	1.02	2.50
57.09	3.61	1.03	2.58
57.11	3.71	1.05	2.66
57.13	3.81	1.07	2.75
57.15	3.91	1.08	2.83
57.17	4.01	1.10	2.91
57.19	4.11	1.12	2.99
57.21	4.20	1.13	3.07
57.23	4.29	1.15	3.15
57.25	4.39	1.16	3.22
57.27	4.48	1.18	3.30
57.29	4.56	1.19	3.37
57.31	4.65	1.21	3.44
57.33	4.72	1.22	3.50
57.35	4.80	1.24	3.56
57.37	4.87	1.25	3.62
57.39	**4.93**	**1.26**	**3.67**

Stage-Area-Storage for Pond 3P: DIV-02

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
56.15	**0**	56.66	0	57.17	0
56.16	0	56.67	0	57.18	0
56.17	0	56.68	0	57.19	0
56.18	0	56.69	0	57.20	0
56.19	0	56.70	0	57.21	0
56.20	0	56.71	0	57.22	0
56.21	0	56.72	0	57.23	0
56.22	0	56.73	0	57.24	0
56.23	0	56.74	0	57.25	0
56.24	0	56.75	0	57.26	0
56.25	0	56.76	0	57.27	0
56.26	0	56.77	0	57.28	0
56.27	0	56.78	0	57.29	0
56.28	0	56.79	0	57.30	0
56.29	0	56.80	0	57.31	0
56.30	0	56.81	0	57.32	0
56.31	0	56.82	0	57.33	0
56.32	0	56.83	0	57.34	0
56.33	0	56.84	0	57.35	0
56.34	0	56.85	0	57.36	0
56.35	0	56.86	0	57.37	0
56.36	0	56.87	0	57.38	0
56.37	0	56.88	0	57.39	0
56.38	0	56.89	0	57.40	0
56.39	0	56.90	0		
56.40	0	56.91	0		
56.41	0	56.92	0		
56.42	0	56.93	0		
56.43	0	56.94	0		
56.44	0	56.95	0		
56.45	0	56.96	0		
56.46	0	56.97	0		
56.47	0	56.98	0		
56.48	0	56.99	0		
56.49	0	57.00	0		
56.50	0	57.01	0		
56.51	0	57.02	0		
56.52	0	57.03	0		
56.53	0	57.04	0		
56.54	0	57.05	0		
56.55	0	57.06	0		
56.56	0	57.07	0		
56.57	0	57.08	0		
56.58	0	57.09	0		
56.59	0	57.10	0		
56.60	0	57.11	0		
56.61	0	57.12	0		
56.62	0	57.13	0		
56.63	0	57.14	0		
56.64	0	57.15	0		
56.65	0	57.16	0		

Summary for Pond 4P: Detention Basin 2

Inflow Area = 68,038 sf, 61.42% Impervious, Inflow Depth = 0.94" for 1-year event
Inflow = 1.44 cfs @ 12.32 hrs, Volume= 5,314 cf
Outflow = 0.07 cfs @ 17.47 hrs, Volume= 5,310 cf, Atten= 95%, Lag= 308.9 min
Primary = 0.07 cfs @ 17.47 hrs, Volume= 5,310 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 4L : DP 1.3 - Culvert 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 56.91' @ 17.47 hrs Surf.Area= 2,957 sf Storage= 3,230 cf

Plug-Flow detention time= 648.3 min calculated for 5,310 cf (100% of inflow)
Center-of-Mass det. time= 647.9 min (1,538.0 - 890.1)

Volume	Invert	Avail.Storage	Storage Description
#1	55.60'	26,026 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.60	1,952	0	0
56.00	2,295	849	849
57.00	3,025	2,660	3,509
58.00	3,843	3,434	6,943
59.00	4,717	4,280	11,223
60.00	5,662	5,190	16,413
61.50	7,155	9,613	26,026

Device	Routing	Invert	Outlet Devices
#1	Primary	55.60'	**24.0" Round Culvert** L= 12.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.60' / 52.60' S= 0.2500 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	55.60'	**1.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	57.50'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	58.25'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#5	Secondary	60.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.07 cfs @ 17.47 hrs HW=56.91' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.07 cfs of 6.68 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.07 cfs @ 5.37 fps)
  ├─**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.60' TW=0.00' (Dynamic Tailwater)
└─**5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 4P: Detention Basin 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	55.60	0.00	0.00	**0.00**
5.00	0.00	0	55.60	0.00	0.00	0.00
10.00	**0.00**	0	55.60	0.00	0.00	0.00
15.00	**0.14**	**2,959**	**56.81**	**0.06**	**0.06**	0.00
20.00	0.04	**3,096**	**56.86**	**0.06**	**0.06**	0.00
25.00	0.00	2,471	56.64	0.06	0.06	0.00
30.00	0.00	1,524	56.28	0.05	0.05	0.00
35.00	0.00	804	55.98	0.03	0.03	0.00
40.00	0.00	333	55.76	0.02	0.02	0.00
45.00	0.00	126	55.66	0.01	0.01	0.00
50.00	0.00	69	55.64	0.00	0.00	0.00
55.00	0.00	47	55.62	0.00	0.00	0.00
60.00	0.00	35	55.62	0.00	0.00	0.00
65.00	0.00	28	55.61	0.00	0.00	0.00
70.00	0.00	23	55.61	0.00	0.00	0.00
75.00	0.00	20	55.61	0.00	0.00	0.00
80.00	0.00	17	55.61	0.00	0.00	0.00
85.00	0.00	15	55.61	0.00	0.00	0.00
90.00	0.00	14	55.61	0.00	0.00	0.00
95.00	0.00	12	55.61	0.00	0.00	0.00
100.00	0.00	11	55.61	0.00	0.00	0.00
105.00	0.00	11	55.61	0.00	0.00	0.00
110.00	0.00	10	55.60	0.00	0.00	0.00
115.00	0.00	9	55.60	0.00	0.00	0.00
120.00	0.00	9	55.60	0.00	0.00	0.00
125.00	0.00	8	55.60	0.00	0.00	0.00
130.00	0.00	8	55.60	0.00	0.00	0.00
135.00	0.00	7	55.60	0.00	0.00	0.00
140.00	0.00	7	55.60	0.00	0.00	0.00
145.00	0.00	6	55.60	0.00	0.00	0.00
150.00	0.00	6	55.60	0.00	0.00	0.00
155.00	0.00	6	55.60	0.00	0.00	0.00
160.00	0.00	6	55.60	0.00	0.00	0.00
165.00	0.00	5	55.60	0.00	0.00	0.00
170.00	0.00	5	55.60	0.00	0.00	0.00
175.00	0.00	5	55.60	0.00	0.00	0.00
180.00	0.00	5	55.60	0.00	0.00	0.00
185.00	0.00	5	55.60	0.00	0.00	0.00
190.00	0.00	4	55.60	0.00	0.00	0.00
195.00	0.00	4	55.60	0.00	0.00	0.00
200.00	0.00	4	55.60	0.00	0.00	0.00
205.00	0.00	4	55.60	0.00	0.00	0.00
210.00	0.00	4	55.60	0.00	0.00	0.00
215.00	0.00	4	55.60	0.00	0.00	0.00
220.00	0.00	4	55.60	0.00	0.00	0.00
225.00	0.00	4	55.60	0.00	0.00	0.00
230.00	0.00	4	55.60	0.00	0.00	0.00
235.00	0.00	3	55.60	0.00	0.00	0.00
240.00	0.00	3	55.60	0.00	0.00	0.00

Stage-Discharge for Pond 4P: Detention Basin 2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
55.60	0.00	0.00	0.00
55.70	0.01	0.01	0.00
55.80	0.02	0.02	0.00
55.90	0.03	0.03	0.00
56.00	0.03	0.03	0.00
56.10	0.04	0.04	0.00
56.20	0.04	0.04	0.00
56.30	0.05	0.05	0.00
56.40	0.05	0.05	0.00
56.50	0.05	0.05	0.00
56.60	0.06	0.06	0.00
56.70	0.06	0.06	0.00
56.80	0.06	0.06	0.00
56.90	0.07	0.07	0.00
57.00	0.07	0.07	0.00
57.10	0.07	0.07	0.00
57.20	0.07	0.07	0.00
57.30	0.08	0.08	0.00
57.40	0.08	0.08	0.00
57.50	0.08	0.08	0.00
57.60	0.18	0.18	0.00
57.70	0.37	0.37	0.00
57.80	0.59	0.59	0.00
57.90	0.85	0.85	0.00
58.00	1.13	1.13	0.00
58.10	1.43	1.43	0.00
58.20	1.74	1.74	0.00
58.30	2.24	2.24	0.00
58.40	3.33	3.33	0.00
58.50	4.74	4.74	0.00
58.60	6.38	6.38	0.00
58.70	8.22	8.22	0.00
58.80	10.21	10.21	0.00
58.90	12.35	12.35	0.00
59.00	14.61	14.61	0.00
59.10	16.99	16.99	0.00
59.20	19.26	19.26	0.00
59.30	19.62	19.62	0.00
59.40	19.98	19.98	0.00
59.50	20.34	20.34	0.00
59.60	20.68	20.68	0.00
59.70	21.03	21.03	0.00
59.80	21.36	21.36	0.00
59.90	21.69	21.69	0.00
60.00	22.02	22.02	0.00
60.10	22.34	22.34	0.00
60.20	23.69	22.66	1.03
60.30	25.88	22.97	2.91
60.40	28.62	23.28	5.34
60.50	31.79	23.58	8.21
60.60	35.33	23.88	11.45
60.70	39.20	24.18	15.02
60.80	43.36	24.47	18.88
60.90	47.79	24.76	23.02
61.00	52.47	25.05	27.42
61.10	57.38	25.33	32.05
61.20	62.51	25.61	36.90
61.30	67.84	25.89	41.95
61.40	73.37	26.16	47.21
61.50	**79.09**	**26.44**	**52.65**

Stage-Area-Storage for Pond 4P: Detention Basin 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
55.60	1,952	0
55.70	2,038	199
55.80	2,124	408
55.90	2,209	624
56.00	2,295	849
56.10	2,368	1,083
56.20	2,441	1,323
56.30	2,514	1,571
56.40	2,587	1,826
56.50	2,660	2,088
56.60	2,733	2,358
56.70	2,806	2,635
56.80	2,879	2,919
56.90	2,952	3,211
57.00	3,025	3,509
57.10	3,107	3,816
57.20	3,189	4,131
57.30	3,270	4,454
57.40	3,352	4,785
57.50	3,434	5,124
57.60	3,516	5,472
57.70	3,598	5,827
57.80	3,679	6,191
57.90	3,761	6,563
58.00	3,843	6,943
58.10	3,930	7,332
58.20	4,018	7,729
58.30	4,105	8,136
58.40	4,193	8,551
58.50	4,280	8,974
58.60	4,367	9,407
58.70	4,455	9,848
58.80	4,542	10,297
58.90	4,630	10,756
59.00	4,717	11,223
59.10	4,812	11,700
59.20	4,906	12,186
59.30	5,001	12,681
59.40	5,095	13,186
59.50	5,190	13,700
59.60	5,284	14,224
59.70	5,379	14,757
59.80	5,473	15,299
59.90	5,567	15,851
60.00	5,662	16,413
60.10	5,762	16,984
60.20	5,861	17,565
60.30	5,961	18,156
60.40	6,060	18,757
60.50	6,160	19,368
60.60	6,259	19,989
60.70	6,359	20,620
60.80	6,458	21,261
60.90	6,558	21,912
61.00	6,657	22,573
61.10	6,757	23,243
61.20	6,856	23,924
61.30	6,956	24,615
61.40	7,055	25,315
61.50	**7,155**	**26,026**

Summary for Pond 7P: Bio 2

Inflow Area = 26,810 sf, 63.81% Impervious, Inflow Depth = 1.72" for 1-year event
Inflow = 1.21 cfs @ 12.09 hrs, Volume= 3,843 cf
Outflow = 0.10 cfs @ 13.31 hrs, Volume= 3,843 cf, Atten= 92%, Lag= 73.0 min
Primary = 0.07 cfs @ 13.31 hrs, Volume= 466 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Tertiary = 0.03 cfs @ 10.55 hrs, Volume= 3,377 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 56.51' @ 13.31 hrs Surf.Area= 2,144 sf Storage= 2,114 cf

Plug-Flow detention time= 689.0 min calculated for 3,842 cf (100% of inflow)
Center-of-Mass det. time= 689.1 min (1,505.7 - 816.5)

Volume	Invert	Avail.Storage	Storage Description
#1	52.99'	8,230 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
52.99	1,128	0.0	0	0
53.00	1,128	33.0	4	4
55.99	1,128	33.0	1,113	1,117
56.00	1,742	100.0	14	1,131
57.00	2,537	100.0	2,140	3,271
58.00	3,569	100.0	3,053	6,324
58.50	4,058	100.0	1,907	8,230

Device	Routing	Invert	Outlet Devices
#1	Primary	56.50'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#2	Device 3	52.99'	**1.020 in/hr Exfiltration over Surface area from 52.98' - 55.99'** Excluded Surface area = 0 sf Phase-In= 0.02'
#3	Tertiary	52.25'	**6.0" Vert. subdrain** C= 0.600 Limited to weir flow at low heads
#4	Secondary	57.50'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.07 cfs @ 13.31 hrs HW=56.51' TW=0.00' (Dynamic Tailwater)
└**1=Orifice/Grate** (Weir Controls 0.07 cfs @ 0.25 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=52.99' TW=0.00' (Dynamic Tailwater)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.03 cfs @ 10.55 hrs HW=53.05' TW=0.00' (Dynamic Tailwater)
└**3=subdrain** (Passes 0.03 cfs of 0.70 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Hydrograph for Pond 7P: Bio 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
0.00	0.00	0	52.99	0.00	0.00	**0.00**	0.00
5.00	0.00	0	52.99	0.00	0.00	0.00	0.00
10.00	**0.03**	**7**	**53.01**	**0.03**	**0.00**	0.00	**0.03**
15.00	**0.06**	**2,109**	**56.50**	**0.06**	**0.03**	0.00	**0.03**
20.00	0.02	2,072	56.49	0.03	0.00	0.00	0.03
25.00	0.00	1,838	56.37	0.03	0.00	0.00	0.03
30.00	0.00	1,359	56.13	0.03	0.00	0.00	0.03
35.00	0.00	880	55.35	0.03	0.00	0.00	0.03
40.00	0.00	400	54.06	0.03	0.00	0.00	0.03
45.00	0.00	0	52.99	0.00	0.00	0.00	0.00
50.00	0.00	0	52.99	0.00	0.00	0.00	0.00
55.00	0.00	0	52.99	0.00	0.00	0.00	0.00
60.00	0.00	0	52.99	0.00	0.00	0.00	0.00
65.00	0.00	0	52.99	0.00	0.00	0.00	0.00
70.00	0.00	0	52.99	0.00	0.00	0.00	0.00
75.00	0.00	0	52.99	0.00	0.00	0.00	0.00
80.00	0.00	0	52.99	0.00	0.00	0.00	0.00
85.00	0.00	0	52.99	0.00	0.00	0.00	0.00
90.00	0.00	0	52.99	0.00	0.00	0.00	0.00
95.00	0.00	0	52.99	0.00	0.00	0.00	0.00
100.00	0.00	0	52.99	0.00	0.00	0.00	0.00
105.00	0.00	0	52.99	0.00	0.00	0.00	0.00
110.00	0.00	0	52.99	0.00	0.00	0.00	0.00
115.00	0.00	0	52.99	0.00	0.00	0.00	0.00
120.00	0.00	0	52.99	0.00	0.00	0.00	0.00
125.00	0.00	0	52.99	0.00	0.00	0.00	0.00
130.00	0.00	0	52.99	0.00	0.00	0.00	0.00
135.00	0.00	0	52.99	0.00	0.00	0.00	0.00
140.00	0.00	0	52.99	0.00	0.00	0.00	0.00
145.00	0.00	0	52.99	0.00	0.00	0.00	0.00
150.00	0.00	0	52.99	0.00	0.00	0.00	0.00
155.00	0.00	0	52.99	0.00	0.00	0.00	0.00
160.00	0.00	0	52.99	0.00	0.00	0.00	0.00
165.00	0.00	0	52.99	0.00	0.00	0.00	0.00
170.00	0.00	0	52.99	0.00	0.00	0.00	0.00
175.00	0.00	0	52.99	0.00	0.00	0.00	0.00
180.00	0.00	0	52.99	0.00	0.00	0.00	0.00
185.00	0.00	0	52.99	0.00	0.00	0.00	0.00
190.00	0.00	0	52.99	0.00	0.00	0.00	0.00
195.00	0.00	0	52.99	0.00	0.00	0.00	0.00
200.00	0.00	0	52.99	0.00	0.00	0.00	0.00
205.00	0.00	0	52.99	0.00	0.00	0.00	0.00
210.00	0.00	0	52.99	0.00	0.00	0.00	0.00
215.00	0.00	0	52.99	0.00	0.00	0.00	0.00
220.00	0.00	0	52.99	0.00	0.00	0.00	0.00
225.00	0.00	0	52.99	0.00	0.00	0.00	0.00
230.00	0.00	0	52.99	0.00	0.00	0.00	0.00
235.00	0.00	0	52.99	0.00	0.00	0.00	0.00
240.00	0.00	0	52.99	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 7P: Bio 2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
52.99	0.00	0.00	0.00	**0.00**
53.19	0.03	0.00	0.00	**0.03**
53.39	0.03	0.00	0.00	0.03
53.59	0.03	0.00	0.00	0.03
53.79	0.03	0.00	0.00	0.03
53.99	0.03	0.00	0.00	0.03
54.19	0.03	0.00	0.00	0.03
54.39	0.03	0.00	0.00	0.03
54.59	0.03	0.00	0.00	0.03
54.79	0.03	0.00	0.00	0.03
54.99	0.03	0.00	0.00	0.03
55.19	0.03	0.00	0.00	0.03
55.39	0.03	0.00	0.00	0.03
55.59	0.03	0.00	0.00	0.03
55.79	0.03	0.00	0.00	0.03
55.99	0.03	0.00	0.00	0.03
56.19	0.03	0.00	0.00	0.03
56.39	0.03	0.00	0.00	0.03
56.59	2.92	2.89	0.00	0.03
56.79	5.21	5.19	0.00	0.03
56.99	6.77	6.74	0.00	0.03
57.19	8.03	8.00	0.00	0.03
57.39	9.11	9.08	0.00	0.03
57.59	10.96	10.05	0.88	0.03
57.79	16.04	10.94	5.08	0.03
57.99	22.89	11.75	11.11	0.03
58.19	31.03	12.52	18.48	0.03
58.39	**40.23**	**13.24**	**26.97**	0.03

Pro-Hydro
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Stage-Area-Storage for Pond 7P: Bio 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
52.99	1,128	0
53.09	1,128	37
53.19	1,128	74
53.29	1,128	112
53.39	1,128	149
53.49	1,128	186
53.59	1,128	223
53.69	1,128	261
53.79	1,128	298
53.89	1,128	335
53.99	1,128	372
54.09	1,128	409
54.19	1,128	447
54.29	1,128	484
54.39	1,128	521
54.49	1,128	558
54.59	1,128	596
54.69	1,128	633
54.79	1,128	670
54.89	1,128	707
54.99	1,128	744
55.09	1,128	782
55.19	1,128	819
55.29	1,128	856
55.39	1,128	893
55.49	1,128	931
55.59	1,128	968
55.69	1,128	1,005
55.79	1,128	1,042
55.89	1,128	1,079
55.99	1,128	1,117
56.09	1,814	1,291
56.19	1,893	1,476
56.29	1,973	1,670
56.39	2,052	1,871
56.49	2,132	2,080
56.59	2,211	2,297
56.69	2,291	2,522
56.79	2,370	2,755
56.89	2,450	2,996
56.99	2,529	3,245
57.09	2,630	3,503
57.19	2,733	3,771
57.29	2,836	4,050
57.39	2,939	4,338
57.49	3,043	4,638
57.59	3,146	4,947
57.69	3,249	5,267
57.79	3,352	5,597
57.89	3,455	5,937
57.99	3,559	6,288
58.09	3,657	6,649
58.19	3,755	7,019
58.29	3,853	7,400
58.39	3,950	7,790
58.49	**4,048**	**8,190**

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Summary for Pond 8P: DIV-04

Inflow Area = 151,857 sf,100.00% Impervious, Inflow Depth = 1.00" for 1-year event
Inflow = 4.72 cfs @ 12.21 hrs, Volume= 12,676 cf
Outflow = 4.72 cfs @ 12.21 hrs, Volume= 12,677 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.72 cfs @ 12.21 hrs, Volume= 11,744 cf
Routed to Pond 23P : UGIS-1
Secondary = 0.35 cfs @ 13.02 hrs, Volume= 932 cf
Routed to Link 6L : DP 2.1 - West Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 48.47' @ 13.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.90'	**18.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.90' / 46.80' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 3	48.40'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	46.90'	**24.0" Round Culvert** L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.90' / 46.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=4.70 cfs @ 12.21 hrs HW=48.25' TW=47.31' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 4.70 cfs @ 3.71 fps)

Secondary OutFlow Max=0.35 cfs @ 13.02 hrs HW=48.47' TW=0.00' (Dynamic Tailwater)
└**3=Culvert** (Passes 0.35 cfs of 7.94 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.35 cfs @ 0.85 fps)

Hydrograph for Pond 8P: DIV-04

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	46.90	0.00	0.00	0.00
5.00	0.00	46.92	0.00	0.00	0.00
10.00	**0.06**	**47.02**	**0.06**	**0.06**	**0.00**
15.00	**0.06**	**48.40**	**0.06**	**0.06**	**0.01**
20.00	0.00	48.20	0.00	0.00	0.00
25.00	0.00	47.96	0.00	0.00	0.00
30.00	0.00	47.74	0.00	0.00	0.00
35.00	0.00	47.54	0.00	0.00	0.00
40.00	0.00	47.36	0.00	0.00	0.00
45.00	0.00	47.18	0.00	0.00	0.00
50.00	0.00	47.02	0.00	0.00	0.00
55.00	0.00	46.90	0.00	0.00	0.00
60.00	0.00	46.90	0.00	0.00	0.00
65.00	0.00	46.90	0.00	0.00	0.00
70.00	0.00	46.90	0.00	0.00	0.00
75.00	0.00	46.90	0.00	0.00	0.00
80.00	0.00	46.90	0.00	0.00	0.00
85.00	0.00	46.90	0.00	0.00	0.00
90.00	0.00	46.90	0.00	0.00	0.00
95.00	0.00	46.90	0.00	0.00	0.00
100.00	0.00	46.90	0.00	0.00	0.00
105.00	0.00	46.90	0.00	0.00	0.00
110.00	0.00	46.90	0.00	0.00	0.00
115.00	0.00	46.90	0.00	0.00	0.00
120.00	0.00	46.90	0.00	0.00	0.00
125.00	0.00	46.90	0.00	0.00	0.00
130.00	0.00	46.90	0.00	0.00	0.00
135.00	0.00	46.90	0.00	0.00	0.00
140.00	0.00	46.90	0.00	0.00	0.00
145.00	0.00	46.90	0.00	0.00	0.00
150.00	0.00	46.90	0.00	0.00	0.00
155.00	0.00	46.90	0.00	0.00	0.00
160.00	0.00	46.90	0.00	0.00	0.00
165.00	0.00	46.90	0.00	0.00	0.00
170.00	0.00	46.90	0.00	0.00	0.00
175.00	0.00	46.90	0.00	0.00	0.00
180.00	0.00	46.90	0.00	0.00	0.00
185.00	0.00	46.90	0.00	0.00	0.00
190.00	0.00	46.90	0.00	0.00	0.00
195.00	0.00	46.90	0.00	0.00	0.00
200.00	0.00	46.90	0.00	0.00	0.00
205.00	0.00	46.90	0.00	0.00	0.00
210.00	0.00	46.90	0.00	0.00	0.00
215.00	0.00	46.90	0.00	0.00	0.00
220.00	0.00	46.90	0.00	0.00	0.00
225.00	0.00	46.90	0.00	0.00	0.00
230.00	0.00	46.90	0.00	0.00	0.00
235.00	0.00	46.90	0.00	0.00	0.00
240.00	0.00	46.90	0.00	0.00	0.00

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Stage-Discharge for Pond 8P: DIV-04

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
46.90	0.00	0.00	0.00
46.92	0.00	0.00	0.00
46.94	0.01	0.01	0.00
46.96	0.02	0.02	0.00
46.98	0.03	0.03	0.00
47.00	0.04	0.04	0.00
47.02	0.06	0.06	0.00
47.04	0.08	0.08	0.00
47.06	0.11	0.11	0.00
47.08	0.13	0.13	0.00
47.10	0.16	0.16	0.00
47.12	0.20	0.20	0.00
47.14	0.23	0.23	0.00
47.16	0.27	0.27	0.00
47.18	0.31	0.31	0.00
47.20	0.35	0.35	0.00
47.22	0.39	0.39	0.00
47.24	0.44	0.44	0.00
47.26	0.48	0.48	0.00
47.28	0.53	0.53	0.00
47.30	0.58	0.58	0.00
47.32	0.64	0.64	0.00
47.34	0.69	0.69	0.00
47.36	0.75	0.75	0.00
47.38	0.81	0.81	0.00
47.40	0.87	0.87	0.00
47.42	0.94	0.94	0.00
47.44	1.00	1.00	0.00
47.46	1.07	1.07	0.00
47.48	1.14	1.14	0.00
47.50	1.21	1.21	0.00
47.52	1.28	1.28	0.00
47.54	1.35	1.35	0.00
47.56	1.42	1.42	0.00
47.58	1.50	1.50	0.00
47.60	1.58	1.58	0.00
47.62	1.66	1.66	0.00
47.64	1.74	1.74	0.00
47.66	1.82	1.82	0.00
47.68	1.91	1.91	0.00
47.70	1.99	1.99	0.00
47.72	2.08	2.08	0.00
47.74	2.16	2.16	0.00
47.76	2.25	2.25	0.00
47.78	2.34	2.34	0.00
47.80	2.43	2.43	0.00
47.82	2.53	2.53	0.00
47.84	2.62	2.62	0.00
47.86	2.71	2.71	0.00
47.88	2.81	2.81	0.00
47.90	2.91	2.91	0.00
47.92	3.00	3.00	0.00
47.94	3.10	3.10	0.00
47.96	3.20	3.20	0.00
47.98	3.30	3.30	0.00
48.00	3.40	3.40	0.00
48.02	3.50	3.50	0.00
48.04	3.61	3.61	0.00
48.06	3.71	3.71	0.00
48.08	3.81	3.81	0.00
48.10	3.92	3.92	0.00
48.12	4.02	4.02	0.00
48.14	4.12	4.12	0.00
48.16	4.23	4.23	0.00
48.18	4.34	4.34	0.00
48.20	4.44	4.44	0.00
48.22	4.55	4.55	0.00
48.24	4.65	4.65	0.00
48.26	4.76	4.76	0.00
48.28	4.87	4.87	0.00
48.30	4.97	4.97	0.00
48.32	5.08	5.08	0.00
48.34	5.19	5.19	0.00
48.36	5.29	5.29	0.00
48.38	5.40	5.40	0.00
48.40	5.50	5.50	0.00
48.42	5.66	5.61	0.06
48.44	5.87	5.71	0.16
48.46	6.10	5.81	0.29
48.48	6.36	5.92	0.44
48.50	6.64	6.02	0.62
48.52	6.93	6.12	0.81
48.54	7.24	6.22	1.02
48.56	7.57	6.32	1.25
48.58	7.91	6.42	1.49
48.60	8.26	6.52	1.74
48.62	8.62	6.61	2.01
48.64	8.97	6.68	2.29
48.66	9.33	6.75	2.58
48.68	9.70	6.82	2.88
48.70	10.07	6.88	3.19
48.72	10.46	6.95	3.51
48.74	10.86	7.01	3.85
48.76	11.26	7.08	4.19
48.78	11.68	7.14	4.54
48.80	12.10	7.20	4.90
48.82	12.53	7.27	5.27
48.84	12.97	7.33	5.64
48.86	13.42	7.39	6.03
48.88	13.87	7.45	6.42
48.90	**14.33**	**7.51**	**6.82**

Stage-Area-Storage for Pond 8P: DIV-04

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
46.90	**0**	47.92	0
46.92	0	47.94	0
46.94	0	47.96	0
46.96	0	47.98	0
46.98	0	48.00	0
47.00	0	48.02	0
47.02	0	48.04	0
47.04	0	48.06	0
47.06	0	48.08	0
47.08	0	48.10	0
47.10	0	48.12	0
47.12	0	48.14	0
47.14	0	48.16	0
47.16	0	48.18	0
47.18	0	48.20	0
47.20	0	48.22	0
47.22	0	48.24	0
47.24	0	48.26	0
47.26	0	48.28	0
47.28	0	48.30	0
47.30	0	48.32	0
47.32	0	48.34	0
47.34	0	48.36	0
47.36	0	48.38	0
47.38	0	48.40	0
47.40	0	48.42	0
47.42	0	48.44	0
47.44	0	48.46	0
47.46	0	48.48	0
47.48	0	48.50	0
47.50	0	48.52	0
47.52	0	48.54	0
47.54	0	48.56	0
47.56	0	48.58	0
47.58	0	48.60	0
47.60	0	48.62	0
47.62	0	48.64	0
47.64	0	48.66	0
47.66	0	48.68	0
47.68	0	48.70	0
47.70	0	48.72	0
47.72	0	48.74	0
47.74	0	48.76	0
47.76	0	48.78	0
47.78	0	48.80	0
47.80	0	48.82	0
47.82	0	48.84	0
47.84	0	48.86	0
47.86	0	48.88	0
47.88	0	48.90	0
47.90	0		

Summary for Pond 9P: Sand Filter 5

Inflow Area = 23,611 sf, 64.90% Impervious, Inflow Depth = 1.82" for 1-year event
Inflow = 1.05 cfs @ 12.09 hrs, Volume= 3,574 cf
Outflow = 0.90 cfs @ 12.21 hrs, Volume= 3,574 cf, Atten= 14%, Lag= 7.1 min
Discarded = 0.01 cfs @ 12.21 hrs, Volume= 1,753 cf
Primary = 0.89 cfs @ 12.21 hrs, Volume= 1,821 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 49.80' @ 12.21 hrs Surf.Area= 1,089 sf Storage= 1,425 cf

Plug-Flow detention time= 1,124.0 min calculated for 3,574 cf (100% of inflow)
Center-of-Mass det. time= 1,124.0 min (1,928.5 - 804.5)

Volume	Invert	Avail.Storage	Storage Description
#1	45.99'	4,039 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.99	705	0.0	0	0
46.00	705	33.0	2	2
48.99	705	33.0	696	698
49.00	705	100.0	7	705
50.00	1,184	100.0	945	1,649
51.00	1,725	100.0	1,455	3,104
51.50	2,016	100.0	935	4,039

Device	Routing	Invert	Outlet Devices
#1	Discarded	45.99'	**0.270 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#2	Primary	49.75'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Secondary	50.20'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 12.21 hrs HW=49.80' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.79 cfs @ 12.21 hrs HW=49.80' TW=0.00' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Weir Controls 0.79 cfs @ 0.71 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=45.99' TW=0.00' (Dynamic Tailwater)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 9P: Sand Filter 5

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	45.99	0.00	0.00	0.00	**0.00**
5.00	0.00	0	45.99	0.00	0.00	0.00	0.00
10.00	**0.03**	**128**	**46.54**	**0.00**	**0.00**	**0.00**	0.00
15.00	**0.05**	**1,376**	**49.76**	**0.05**	**0.01**	**0.04**	0.00
20.00	0.02	1,371	49.75	0.02	0.01	0.01	0.00
25.00	0.00	1,349	49.73	0.01	0.01	0.00	0.00
30.00	0.00	1,233	49.62	0.01	0.01	0.00	0.00
35.00	0.00	1,124	49.51	0.01	0.01	0.00	0.00
40.00	0.00	1,020	49.39	0.01	0.01	0.00	0.00
45.00	0.00	923	49.28	0.01	0.01	0.00	0.00
50.00	0.00	831	49.17	0.00	0.00	0.00	0.00
55.00	0.00	746	49.06	0.00	0.00	0.00	0.00
60.00	0.00	666	48.85	0.00	0.00	0.00	0.00
65.00	0.00	586	48.51	0.00	0.00	0.00	0.00
70.00	0.00	507	48.17	0.00	0.00	0.00	0.00
75.00	0.00	428	47.83	0.00	0.00	0.00	0.00
80.00	0.00	348	47.49	0.00	0.00	0.00	0.00
85.00	0.00	269	47.15	0.00	0.00	0.00	0.00
90.00	0.00	190	46.81	0.00	0.00	0.00	0.00
95.00	0.00	111	46.47	0.00	0.00	0.00	0.00
100.00	0.00	31	46.12	0.00	0.00	0.00	0.00
105.00	0.00	0	45.99	0.00	0.00	0.00	0.00
110.00	0.00	0	45.99	0.00	0.00	0.00	0.00
115.00	0.00	0	45.99	0.00	0.00	0.00	0.00
120.00	0.00	0	45.99	0.00	0.00	0.00	0.00
125.00	0.00	0	45.99	0.00	0.00	0.00	0.00
130.00	0.00	0	45.99	0.00	0.00	0.00	0.00
135.00	0.00	0	45.99	0.00	0.00	0.00	0.00
140.00	0.00	0	45.99	0.00	0.00	0.00	0.00
145.00	0.00	0	45.99	0.00	0.00	0.00	0.00
150.00	0.00	0	45.99	0.00	0.00	0.00	0.00
155.00	0.00	0	45.99	0.00	0.00	0.00	0.00
160.00	0.00	0	45.99	0.00	0.00	0.00	0.00
165.00	0.00	0	45.99	0.00	0.00	0.00	0.00
170.00	0.00	0	45.99	0.00	0.00	0.00	0.00
175.00	0.00	0	45.99	0.00	0.00	0.00	0.00
180.00	0.00	0	45.99	0.00	0.00	0.00	0.00
185.00	0.00	0	45.99	0.00	0.00	0.00	0.00
190.00	0.00	0	45.99	0.00	0.00	0.00	0.00
195.00	0.00	0	45.99	0.00	0.00	0.00	0.00
200.00	0.00	0	45.99	0.00	0.00	0.00	0.00
205.00	0.00	0	45.99	0.00	0.00	0.00	0.00
210.00	0.00	0	45.99	0.00	0.00	0.00	0.00
215.00	0.00	0	45.99	0.00	0.00	0.00	0.00
220.00	0.00	0	45.99	0.00	0.00	0.00	0.00
225.00	0.00	0	45.99	0.00	0.00	0.00	0.00
230.00	0.00	0	45.99	0.00	0.00	0.00	0.00
235.00	0.00	0	45.99	0.00	0.00	0.00	0.00
240.00	0.00	0	45.99	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 9P: Sand Filter 5

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
45.99	0.00	0.00	0.00	0.00
46.19	0.00	0.00	0.00	0.00
46.39	0.00	0.00	0.00	0.00
46.59	0.00	0.00	0.00	0.00
46.79	0.00	0.00	0.00	0.00
46.99	0.00	0.00	0.00	0.00
47.19	0.00	0.00	0.00	0.00
47.39	0.00	0.00	0.00	0.00
47.59	0.00	0.00	0.00	0.00
47.79	0.00	0.00	0.00	0.00
47.99	0.00	0.00	0.00	0.00
48.19	0.00	0.00	0.00	0.00
48.39	0.00	0.00	0.00	0.00
48.59	0.00	0.00	0.00	0.00
48.79	0.00	0.00	0.00	0.00
48.99	0.00	0.00	0.00	0.00
49.19	0.00	0.00	0.00	0.00
49.39	0.01	0.01	0.00	0.00
49.59	0.01	0.01	0.00	0.00
49.79	0.63	0.01	0.63	0.00
49.99	2.37	0.01	2.36	0.00
50.19	3.20	0.01	3.19	0.00
50.39	6.56	0.01	3.85	2.70
50.59	12.32	0.01	4.41	7.90
50.79	19.56	0.01	4.91	14.64
50.99	27.97	0.01	5.36	22.60
51.19	37.36	0.01	5.78	31.57
51.39	**47.62**	**0.01**	**6.17**	**41.44**

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Stage-Area-Storage for Pond 9P: Sand Filter 5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
45.99	705	0
46.09	705	23
46.19	705	47
46.29	705	70
46.39	705	93
46.49	705	116
46.59	705	140
46.69	705	163
46.79	705	186
46.89	705	209
46.99	705	233
47.09	705	256
47.19	705	279
47.29	705	302
47.39	705	326
47.49	705	349
47.59	705	372
47.69	705	396
47.79	705	419
47.89	705	442
47.99	705	465
48.09	705	489
48.19	705	512
48.29	705	535
48.39	705	558
48.49	705	582
48.59	705	605
48.69	705	628
48.79	705	651
48.89	705	675
48.99	705	698
49.09	748	770
49.19	796	848
49.29	844	930
49.39	892	1,016
49.49	940	1,108
49.59	988	1,204
49.69	1,036	1,305
49.79	1,083	1,411
49.89	1,131	1,522
49.99	1,179	1,638
50.09	1,233	1,758
50.19	1,287	1,884
50.29	1,341	2,016
50.39	1,395	2,152
50.49	1,449	2,295
50.59	1,503	2,442
50.69	1,557	2,595
50.79	1,611	2,754
50.89	1,665	2,918
50.99	1,720	3,087
51.09	1,777	3,262
51.19	1,836	3,442
51.29	1,894	3,629
51.39	1,952	3,821
51.49	**2,010**	**4,019**

Summary for Pond 10P: Bio 1

Inflow Area = 42,514 sf, 59.10% Impervious, Inflow Depth = 1.61" for 1-year event
Inflow = 1.16 cfs @ 12.06 hrs, Volume= 5,700 cf
Outflow = 1.01 cfs @ 12.20 hrs, Volume= 5,700 cf, Atten= 13%, Lag= 8.2 min
Discarded = 0.01 cfs @ 11.40 hrs, Volume= 2,078 cf
Primary = 1.00 cfs @ 12.20 hrs, Volume= 3,621 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 44.55' @ 12.20 hrs Surf.Area= 2,718 sf Storage= 1,829 cf

Plug-Flow detention time= 834.9 min calculated for 5,698 cf (100% of inflow)
Center-of-Mass det. time= 835.7 min (1,658.4 - 822.8)

Volume	Invert	Avail.Storage	Storage Description
#1	41.99'	6,655 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.99	725	0.0	0	0
42.00	725	33.0	2	2
43.99	725	33.0	476	479
44.00	1,147	33.0	3	482
44.01	2,171	100.0	17	498
45.00	3,166	100.0	2,642	3,140
46.00	3,865	100.0	3,516	6,655

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#2	Discarded	41.99'	**0.270 in/hr Exfiltration over Surface area from 41.98' - 44.00'** Excluded Surface area = 0 sf Phase-In= 0.02'
#3	Secondary	45.00'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 11.40 hrs HW=44.01' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=1.00 cfs @ 12.20 hrs HW=44.55' TW=0.00' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Weir Controls 1.00 cfs @ 0.76 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=41.99' TW=0.00' (Dynamic Tailwater)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 10P: Bio 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	41.99	0.00	0.00	0.00	**0.00**
5.00	0.00	0	41.99	0.00	0.00	0.00	0.00
10.00	**0.04**	**132**	**42.54**	**0.00**	**0.00**	**0.00**	0.00
15.00	**0.09**	**1,711**	**44.51**	**0.09**	**0.01**	**0.09**	0.00
20.00	0.03	1,695	44.50	0.03	0.01	0.03	0.00
25.00	0.00	1,665	44.49	0.01	0.01	0.00	0.00
30.00	0.00	1,536	44.44	0.01	0.01	0.00	0.00
35.00	0.00	1,407	44.39	0.01	0.01	0.00	0.00
40.00	0.00	1,278	44.34	0.01	0.01	0.00	0.00
45.00	0.00	1,149	44.29	0.01	0.01	0.00	0.00
50.00	0.00	1,020	44.24	0.01	0.01	0.00	0.00
55.00	0.00	891	44.18	0.01	0.01	0.00	0.00
60.00	0.00	762	44.13	0.01	0.01	0.00	0.00
65.00	0.00	632	44.07	0.01	0.01	0.00	0.00
70.00	0.00	503	44.01	0.01	0.01	0.00	0.00
75.00	0.00	413	43.72	0.00	0.00	0.00	0.00
80.00	0.00	332	43.38	0.00	0.00	0.00	0.00
85.00	0.00	250	43.03	0.00	0.00	0.00	0.00
90.00	0.00	168	42.69	0.00	0.00	0.00	0.00
95.00	0.00	87	42.35	0.00	0.00	0.00	0.00
100.00	0.00	5	42.01	0.00	0.00	0.00	0.00
105.00	0.00	0	41.99	0.00	0.00	0.00	0.00
110.00	0.00	0	41.99	0.00	0.00	0.00	0.00
115.00	0.00	0	41.99	0.00	0.00	0.00	0.00
120.00	0.00	0	41.99	0.00	0.00	0.00	0.00
125.00	0.00	0	41.99	0.00	0.00	0.00	0.00
130.00	0.00	0	41.99	0.00	0.00	0.00	0.00
135.00	0.00	0	41.99	0.00	0.00	0.00	0.00
140.00	0.00	0	41.99	0.00	0.00	0.00	0.00
145.00	0.00	0	41.99	0.00	0.00	0.00	0.00
150.00	0.00	0	41.99	0.00	0.00	0.00	0.00
155.00	0.00	0	41.99	0.00	0.00	0.00	0.00
160.00	0.00	0	41.99	0.00	0.00	0.00	0.00
165.00	0.00	0	41.99	0.00	0.00	0.00	0.00
170.00	0.00	0	41.99	0.00	0.00	0.00	0.00
175.00	0.00	0	41.99	0.00	0.00	0.00	0.00
180.00	0.00	0	41.99	0.00	0.00	0.00	0.00
185.00	0.00	0	41.99	0.00	0.00	0.00	0.00
190.00	0.00	0	41.99	0.00	0.00	0.00	0.00
195.00	0.00	0	41.99	0.00	0.00	0.00	0.00
200.00	0.00	0	41.99	0.00	0.00	0.00	0.00
205.00	0.00	0	41.99	0.00	0.00	0.00	0.00
210.00	0.00	0	41.99	0.00	0.00	0.00	0.00
215.00	0.00	0	41.99	0.00	0.00	0.00	0.00
220.00	0.00	0	41.99	0.00	0.00	0.00	0.00
225.00	0.00	0	41.99	0.00	0.00	0.00	0.00
230.00	0.00	0	41.99	0.00	0.00	0.00	0.00
235.00	0.00	0	41.99	0.00	0.00	0.00	0.00
240.00	0.00	0	41.99	0.00	0.00	0.00	0.00

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Stage-Discharge for Pond 10P: Bio 1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
41.99	0.00	0.00	0.00	0.00
42.09	0.00	0.00	0.00	0.00
42.19	0.00	0.00	0.00	0.00
42.29	0.00	0.00	0.00	0.00
42.39	0.00	0.00	0.00	0.00
42.49	0.00	0.00	0.00	0.00
42.59	0.00	0.00	0.00	0.00
42.69	0.00	0.00	0.00	0.00
42.79	0.00	0.00	0.00	0.00
42.89	0.00	0.00	0.00	0.00
42.99	0.00	0.00	0.00	0.00
43.09	0.00	0.00	0.00	0.00
43.19	0.00	0.00	0.00	0.00
43.29	0.00	0.00	0.00	0.00
43.39	0.00	0.00	0.00	0.00
43.49	0.00	0.00	0.00	0.00
43.59	0.00	0.00	0.00	0.00
43.69	0.00	0.00	0.00	0.00
43.79	0.00	0.00	0.00	0.00
43.89	0.00	0.00	0.00	0.00
43.99	0.00	**0.00**	0.00	0.00
44.09	0.01	**0.01**	0.00	0.00
44.19	0.01	0.01	0.00	0.00
44.29	0.01	0.01	0.00	0.00
44.39	0.01	0.01	0.00	0.00
44.49	0.01	0.01	0.00	0.00
44.59	1.45	0.01	1.44	0.00
44.69	2.11	0.01	2.10	0.00
44.79	2.60	0.01	2.59	0.00
44.89	3.01	0.01	3.01	0.00
44.99	3.38	0.01	3.37	0.00
45.09	4.59	0.01	3.70	0.88
45.19	6.70	0.01	4.00	2.70
45.29	9.36	0.01	4.28	5.08
45.39	12.45	0.01	4.54	7.90
45.49	15.90	0.01	4.79	11.11
45.59	19.68	0.01	5.03	14.64
45.69	23.74	0.01	5.25	18.48
45.79	28.07	0.01	5.47	22.60
45.89	32.65	0.01	5.68	26.97
45.99	**37.46**	0.01	**5.88**	**31.57**

Stage-Area-Storage for Pond 10P: Bio 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
41.99	725	0
42.04	725	12
42.09	725	24
42.14	725	36
42.19	725	48
42.24	725	60
42.29	725	72
42.34	725	84
42.39	725	96
42.44	725	108
42.49	725	120
42.54	725	132
42.59	725	144
42.64	725	156
42.69	725	167
42.74	725	179
42.79	725	191
42.84	725	203
42.89	725	215
42.94	725	227
42.99	725	239
43.04	725	251
43.09	725	263
43.14	725	275
43.19	725	287
43.24	725	299
43.29	725	311
43.34	725	323
43.39	725	335
43.44	725	347
43.49	725	359
43.54	725	371
43.59	725	383
43.64	725	395
43.69	725	407
43.74	725	419
43.79	725	431
43.84	725	443
43.89	725	455
43.94	725	467
43.99	725	479
44.04	2,201	564
44.09	2,251	675
44.14	2,302	789
44.19	2,352	905
44.24	2,402	1,024
44.29	2,452	1,145
44.34	2,503	1,269
44.39	2,553	1,396
44.44	2,603	1,525
44.49	2,653	1,656
44.54	2,704	1,790
44.59	2,754	1,926
44.64	2,804	2,065
44.69	2,854	2,207
44.74	2,905	2,351
44.79	2,955	2,497
44.84	3,005	2,646
44.89	3,055	2,798
44.94	3,106	2,952
44.99	3,156	3,108
45.04	3,194	3,267
45.09	3,229	3,428
45.14	3,264	3,590
45.19	3,299	3,754
45.24	3,334	3,920
45.29	3,369	4,088
45.34	3,404	4,257
45.39	3,439	4,428
45.44	3,474	4,601
45.49	3,509	4,775
45.54	3,543	4,952
45.59	3,578	5,130
45.64	3,613	5,309
45.69	3,648	5,491
45.74	3,683	5,674
45.79	3,718	5,859
45.84	3,753	6,046
45.89	3,788	6,235
45.94	3,823	6,425
45.99	**3,858**	**6,617**

Summary for Pond 12P: Infiltration Basin 1

Inflow Area = 68,033 sf, 89.47% Impervious, Inflow Depth = 2.37" for 1-year event
Inflow = 3.83 cfs @ 12.09 hrs, Volume= 13,414 cf
Outflow = 1.92 cfs @ 12.25 hrs, Volume= 13,414 cf, Atten= 50%, Lag= 9.8 min
Discarded = 0.07 cfs @ 12.25 hrs, Volume= 8,817 cf
Primary = 1.85 cfs @ 12.25 hrs, Volume= 4,596 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 57.86' @ 12.25 hrs Surf.Area= 3,003 sf Storage= 5,813 cf

Plug-Flow detention time= 580.8 min calculated for 13,414 cf (100% of inflow)
Center-of-Mass det. time= 580.8 min (1,346.2 - 765.5)

Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	10,931 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.00	1,125	0	0
56.00	1,739	1,432	1,432
57.00	2,393	2,066	3,498
58.00	3,104	2,749	6,247
59.00	3,870	3,487	9,734
59.30	4,111	1,197	10,931

Device	Routing	Invert	Outlet Devices
#1	Primary	51.75'	**24.0" Round Culvert** L= 9.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.75' / 51.55' S= 0.0222 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Discarded	55.00'	**1.020 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#3	Secondary	58.40'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	57.65'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.07 cfs @ 12.25 hrs HW=57.86' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=1.85 cfs @ 12.25 hrs HW=57.86' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 1.85 cfs of 26.99 cfs potential flow)
└**4=Sharp-Crested Rectangular Weir** (Weir Controls 1.85 cfs @ 1.49 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.00' TW=0.00' (Dynamic Tailwater)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 12P: Infiltration Basin 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	55.00	0.00	0.00	0.00	**0.00**
5.00	0.03	27	55.02	0.03	0.03	0.00	0.00
10.00	**0.17**	**906**	**55.68**	**0.04**	**0.04**	**0.00**	0.00
15.00	**0.16**	**5,289**	**57.68**	**0.17**	**0.07**	**0.10**	0.00
20.00	0.06	5,170	57.64	0.07	0.07	0.00	0.00
25.00	0.00	4,652	57.45	0.06	0.06	0.00	0.00
30.00	0.00	3,563	57.03	0.06	0.06	0.00	0.00
35.00	0.00	2,597	56.60	0.05	0.05	0.00	0.00
40.00	0.00	1,750	56.18	0.04	0.04	0.00	0.00
45.00	0.00	1,020	55.75	0.04	0.04	0.00	0.00
50.00	0.00	401	55.33	0.03	0.03	0.00	0.00
55.00	0.00	0	55.00	0.00	0.00	0.00	0.00
60.00	0.00	0	55.00	0.00	0.00	0.00	0.00
65.00	0.00	0	55.00	0.00	0.00	0.00	0.00
70.00	0.00	0	55.00	0.00	0.00	0.00	0.00
75.00	0.00	0	55.00	0.00	0.00	0.00	0.00
80.00	0.00	0	55.00	0.00	0.00	0.00	0.00
85.00	0.00	0	55.00	0.00	0.00	0.00	0.00
90.00	0.00	0	55.00	0.00	0.00	0.00	0.00
95.00	0.00	0	55.00	0.00	0.00	0.00	0.00
100.00	0.00	0	55.00	0.00	0.00	0.00	0.00
105.00	0.00	0	55.00	0.00	0.00	0.00	0.00
110.00	0.00	0	55.00	0.00	0.00	0.00	0.00
115.00	0.00	0	55.00	0.00	0.00	0.00	0.00
120.00	0.00	0	55.00	0.00	0.00	0.00	0.00
125.00	0.00	0	55.00	0.00	0.00	0.00	0.00
130.00	0.00	0	55.00	0.00	0.00	0.00	0.00
135.00	0.00	0	55.00	0.00	0.00	0.00	0.00
140.00	0.00	0	55.00	0.00	0.00	0.00	0.00
145.00	0.00	0	55.00	0.00	0.00	0.00	0.00
150.00	0.00	0	55.00	0.00	0.00	0.00	0.00
155.00	0.00	0	55.00	0.00	0.00	0.00	0.00
160.00	0.00	0	55.00	0.00	0.00	0.00	0.00
165.00	0.00	0	55.00	0.00	0.00	0.00	0.00
170.00	0.00	0	55.00	0.00	0.00	0.00	0.00
175.00	0.00	0	55.00	0.00	0.00	0.00	0.00
180.00	0.00	0	55.00	0.00	0.00	0.00	0.00
185.00	0.00	0	55.00	0.00	0.00	0.00	0.00
190.00	0.00	0	55.00	0.00	0.00	0.00	0.00
195.00	0.00	0	55.00	0.00	0.00	0.00	0.00
200.00	0.00	0	55.00	0.00	0.00	0.00	0.00
205.00	0.00	0	55.00	0.00	0.00	0.00	0.00
210.00	0.00	0	55.00	0.00	0.00	0.00	0.00
215.00	0.00	0	55.00	0.00	0.00	0.00	0.00
220.00	0.00	0	55.00	0.00	0.00	0.00	0.00
225.00	0.00	0	55.00	0.00	0.00	0.00	0.00
230.00	0.00	0	55.00	0.00	0.00	0.00	0.00
235.00	0.00	0	55.00	0.00	0.00	0.00	0.00
240.00	0.00	0	55.00	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 12P: Infiltration Basin 1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
55.00	0.00	0.00	0.00	0.00
55.10	0.03	0.03	0.00	0.00
55.20	0.03	0.03	0.00	0.00
55.30	0.03	0.03	0.00	0.00
55.40	0.03	0.03	0.00	0.00
55.50	0.03	0.03	0.00	0.00
55.60	0.04	0.04	0.00	0.00
55.70	0.04	0.04	0.00	0.00
55.80	0.04	0.04	0.00	0.00
55.90	0.04	0.04	0.00	0.00
56.00	0.04	0.04	0.00	0.00
56.10	0.04	0.04	0.00	0.00
56.20	0.04	0.04	0.00	0.00
56.30	0.05	0.05	0.00	0.00
56.40	0.05	0.05	0.00	0.00
56.50	0.05	0.05	0.00	0.00
56.60	0.05	0.05	0.00	0.00
56.70	0.05	0.05	0.00	0.00
56.80	0.05	0.05	0.00	0.00
56.90	0.05	0.05	0.00	0.00
57.00	0.06	0.06	0.00	0.00
57.10	0.06	0.06	0.00	0.00
57.20	0.06	0.06	0.00	0.00
57.30	0.06	0.06	0.00	0.00
57.40	0.06	0.06	0.00	0.00
57.50	0.06	0.06	0.00	0.00
57.60	0.07	0.07	0.00	0.00
57.70	0.29	0.07	0.22	0.00
57.80	1.20	0.07	1.13	0.00
57.90	2.50	0.07	2.43	0.00
58.00	4.09	0.07	4.02	0.00
58.10	5.91	0.08	5.83	0.00
58.20	7.93	0.08	7.86	0.00
58.30	10.14	0.08	10.06	0.00
58.40	12.51	0.08	12.42	0.00
58.50	16.05	0.08	14.94	1.03
58.60	20.59	0.08	17.59	2.91
58.70	25.80	0.09	20.37	5.34
58.80	31.56	0.09	23.27	8.21
58.90	37.81	0.09	26.28	11.45
59.00	44.50	0.09	29.39	15.02
59.10	49.07	0.09	30.09	18.88
59.20	53.45	0.10	30.33	23.02
59.30	**58.08**	**0.10**	**30.56**	**27.42**

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Stage-Area-Storage for Pond 12P: Infiltration Basin 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
55.00	1,125	0
55.05	1,156	57
55.10	1,186	116
55.15	1,217	176
55.20	1,248	237
55.25	1,279	300
55.30	1,309	365
55.35	1,340	431
55.40	1,371	499
55.45	1,401	568
55.50	1,432	639
55.55	1,463	712
55.60	1,493	786
55.65	1,524	861
55.70	1,555	938
55.75	1,586	1,016
55.80	1,616	1,096
55.85	1,647	1,178
55.90	1,678	1,261
55.95	1,708	1,346
56.00	1,739	1,432
56.05	1,772	1,520
56.10	1,804	1,609
56.15	1,837	1,700
56.20	1,870	1,793
56.25	1,903	1,887
56.30	1,935	1,983
56.35	1,968	2,081
56.40	2,001	2,180
56.45	2,033	2,281
56.50	2,066	2,383
56.55	2,099	2,487
56.60	2,131	2,593
56.65	2,164	2,701
56.70	2,197	2,810
56.75	2,230	2,920
56.80	2,262	3,032
56.85	2,295	3,146
56.90	2,328	3,262
56.95	2,360	3,379
57.00	2,393	3,498
57.05	2,429	3,619
57.10	2,464	3,741
57.15	2,500	3,865
57.20	2,535	3,991
57.25	2,571	4,118
57.30	2,606	4,248
57.35	2,642	4,379
57.40	2,677	4,512
57.45	2,713	4,647
57.50	2,749	4,783
57.55	2,784	4,922
57.60	2,820	5,062
57.65	2,855	5,204
57.70	2,891	5,347
57.75	2,926	5,493
57.80	2,962	5,640
57.85	2,997	5,789
57.90	3,033	5,940
57.95	3,068	6,092
58.00	3,104	6,247
58.05	3,142	6,403
58.10	3,181	6,561
58.15	3,219	6,721
58.20	3,257	6,883
58.25	3,296	7,046
58.30	3,334	7,212
58.35	3,372	7,380
58.40	3,410	7,549
58.45	3,449	7,721
58.50	3,487	7,894
58.55	3,525	8,070
58.60	3,564	8,247
58.65	3,602	8,426
58.70	3,640	8,607
58.75	3,679	8,790
58.80	3,717	8,975
58.85	3,755	9,162
58.90	3,793	9,350
58.95	3,832	9,541
59.00	3,870	9,734
59.05	3,910	9,928
59.10	3,950	10,125
59.15	3,991	10,323
59.20	4,031	10,524
59.25	4,071	10,726
59.30	**4,111**	**10,931**

Summary for Pond 13P: Sand Filter 1

Inflow Area = 379,224 sf, 32.14% Impervious, Inflow Depth = 0.87" for 1-year event
Inflow = 2.40 cfs @ 12.22 hrs, Volume= 27,570 cf
Outflow = 0.56 cfs @ 14.79 hrs, Volume= 27,570 cf, Atten= 77%, Lag= 154.0 min
Discarded = 0.03 cfs @ 8.65 hrs, Volume= 12,365 cf
Primary = 0.53 cfs @ 14.79 hrs, Volume= 15,205 cf
Routed to Pond 15P : Detention Basin 1
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond 15P : Detention Basin 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 47.00' @ 14.79 hrs Surf.Area= 8,330 sf Storage= 12,989 cf

Plug-Flow detention time= 1,424.0 min calculated for 27,564 cf (100% of inflow)
Center-of-Mass det. time= 1,424.9 min (2,304.1 - 879.1)

Volume	Invert	Avail.Storage	Storage Description
#1	42.49'	32,650 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.49	4,630	0.0	0	0
42.50	4,630	33.0	15	15
45.99	4,630	33.0	5,332	5,348
46.00	6,904	100.0	58	5,405
47.00	8,336	100.0	7,620	13,025
48.00	9,925	100.0	9,131	22,156
49.00	11,063	100.0	10,494	32,650

Device	Routing	Invert	Outlet Devices
#1	Discarded	42.49'	**0.270 in/hr Exfiltration over Surface area from 42.48' - 45.99'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Secondary	48.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	46.65'	**1.5" x 1.5" Horiz. Orifice/Grate X 4.00 columns** X 3 rows C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.03 cfs @ 8.65 hrs HW=42.56' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.53 cfs @ 14.79 hrs HW=47.00' TW=44.81' (Dynamic Tailwater)
↑—**3=Orifice/Grate** (Orifice Controls 0.53 cfs @ 2.83 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=42.49' TW=44.00' (Dynamic Tailwater)
↑—**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 13P: Sand Filter 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	42.49	0.00	0.00	0.00	**0.00**
5.00	0.02	17	42.50	0.02	**0.02**	0.00	0.00
10.00	**0.11**	**321**	**42.70**	**0.03**	**0.03**	**0.00**	0.00
15.00	**0.54**	**12,983**	**46.99**	**0.56**	0.03	**0.53**	0.00
20.00	0.25	11,145	46.77	0.34	0.03	0.31	0.00
25.00	0.00	10,259	46.66	0.04	0.03	0.01	0.00
30.00	0.00	9,728	46.59	0.03	0.03	0.00	0.00
35.00	0.00	9,208	46.52	0.03	0.03	0.00	0.00
40.00	0.00	8,687	46.45	0.03	0.03	0.00	0.00
45.00	0.00	8,166	46.38	0.03	0.03	0.00	0.00
50.00	0.00	7,645	46.31	0.03	0.03	0.00	0.00
55.00	0.00	7,124	46.24	0.03	0.03	0.00	0.00
60.00	0.00	6,603	46.17	0.03	0.03	0.00	0.00
65.00	0.00	6,082	46.10	0.03	0.03	0.00	0.00
70.00	0.00	5,561	46.02	0.03	0.03	0.00	0.00
75.00	0.00	5,041	45.79	0.03	0.03	0.00	0.00
80.00	0.00	4,520	45.45	0.03	0.03	0.00	0.00
85.00	0.00	3,999	45.11	0.03	0.03	0.00	0.00
90.00	0.00	3,478	44.77	0.03	0.03	0.00	0.00
95.00	0.00	2,957	44.43	0.03	0.03	0.00	0.00
100.00	0.00	2,436	44.08	0.03	0.03	0.00	0.00
105.00	0.00	1,915	43.74	0.03	0.03	0.00	0.00
110.00	0.00	1,394	43.40	0.03	0.03	0.00	0.00
115.00	0.00	874	43.06	0.03	0.03	0.00	0.00
120.00	0.00	353	42.72	0.03	0.03	0.00	0.00
125.00	0.00	0	42.49	0.00	0.00	0.00	0.00
130.00	0.00	0	42.49	0.00	0.00	0.00	0.00
135.00	0.00	0	42.49	0.00	0.00	0.00	0.00
140.00	0.00	0	42.49	0.00	0.00	0.00	0.00
145.00	0.00	0	42.49	0.00	0.00	0.00	0.00
150.00	0.00	0	42.49	0.00	0.00	0.00	0.00
155.00	0.00	0	42.49	0.00	0.00	0.00	0.00
160.00	0.00	0	42.49	0.00	0.00	0.00	0.00
165.00	0.00	0	42.49	0.00	0.00	0.00	0.00
170.00	0.00	0	42.49	0.00	0.00	0.00	0.00
175.00	0.00	0	42.49	0.00	0.00	0.00	0.00
180.00	0.00	0	42.49	0.00	0.00	0.00	0.00
185.00	0.00	0	42.49	0.00	0.00	0.00	0.00
190.00	0.00	0	42.49	0.00	0.00	0.00	0.00
195.00	0.00	0	42.49	0.00	0.00	0.00	0.00
200.00	0.00	0	42.49	0.00	0.00	0.00	0.00
205.00	0.00	0	42.49	0.00	0.00	0.00	0.00
210.00	0.00	0	42.49	0.00	0.00	0.00	0.00
215.00	0.00	0	42.49	0.00	0.00	0.00	0.00
220.00	0.00	0	42.49	0.00	0.00	0.00	0.00
225.00	0.00	0	42.49	0.00	0.00	0.00	0.00
230.00	0.00	0	42.49	0.00	0.00	0.00	0.00
235.00	0.00	0	42.49	0.00	0.00	0.00	0.00
240.00	0.00	0	42.49	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 13P: Sand Filter 1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
42.49	0.00	**0.00**	0.00	0.00
42.69	0.03	**0.03**	0.00	0.00
42.89	0.03	0.03	0.00	0.00
43.09	0.03	0.03	0.00	0.00
43.29	0.03	0.03	0.00	0.00
43.49	0.03	0.03	0.00	0.00
43.69	0.03	0.03	0.00	0.00
43.89	0.03	0.03	0.00	0.00
44.09	0.03	0.03	0.00	0.00
44.29	0.03	0.03	0.00	0.00
44.49	0.03	0.03	0.00	0.00
44.69	0.03	0.03	0.00	0.00
44.89	0.03	0.03	0.00	0.00
45.09	0.03	0.03	0.00	0.00
45.29	0.03	0.03	0.00	0.00
45.49	0.03	0.03	0.00	0.00
45.69	0.03	0.03	0.00	0.00
45.89	0.03	0.03	0.00	0.00
46.09	0.03	0.03	0.00	0.00
46.29	0.03	0.03	0.00	0.00
46.49	0.03	0.03	0.00	0.00
46.69	0.19	0.03	0.16	0.00
46.89	0.47	0.03	0.44	0.00
47.09	0.63	0.03	0.60	0.00
47.29	0.75	0.03	0.72	0.00
47.49	0.86	0.03	0.83	0.00
47.69	0.95	0.03	0.92	0.00
47.89	1.03	0.03	1.01	0.00
48.09	1.11	0.03	1.08	0.00
48.29	3.88	0.03	1.16	2.70
48.49	9.16	0.03	1.22	7.90
48.69	15.96	0.03	1.29	14.64
48.89	**23.98**	0.03	**1.35**	**22.60**

Stage-Area-Storage for Pond 13P: Sand Filter 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
42.49	4,630	0
42.59	4,630	153
42.69	4,630	306
42.79	4,630	458
42.89	4,630	611
42.99	4,630	764
43.09	4,630	917
43.19	4,630	1,070
43.29	4,630	1,222
43.39	4,630	1,375
43.49	4,630	1,528
43.59	4,630	1,681
43.69	4,630	1,833
43.79	4,630	1,986
43.89	4,630	2,139
43.99	4,630	2,292
44.09	4,630	2,445
44.19	4,630	2,597
44.29	4,630	2,750
44.39	4,630	2,903
44.49	4,630	3,056
44.59	4,630	3,209
44.69	4,630	3,361
44.79	4,630	3,514
44.89	4,630	3,667
44.99	4,630	3,820
45.09	4,630	3,973
45.19	4,630	4,125
45.29	4,630	4,278
45.39	4,630	4,431
45.49	4,630	4,584
45.59	4,630	4,736
45.69	4,630	4,889
45.79	4,630	5,042
45.89	4,630	5,195
45.99	4,630	5,348
46.09	7,033	6,032
46.19	7,176	6,743
46.29	7,319	7,468
46.39	7,462	8,207
46.49	7,606	8,960
46.59	7,749	9,728
46.69	7,892	10,510
46.79	8,035	11,306
46.89	8,178	12,117
46.99	8,322	12,942
47.09	8,479	13,782
47.19	8,638	14,638
47.29	8,797	15,510
47.39	8,956	16,397
47.49	9,115	17,301
47.59	9,274	18,220
47.69	9,432	19,155
47.79	9,591	20,107
47.89	9,750	21,074
47.99	9,909	22,057
48.09	10,027	23,054
48.19	10,141	24,062
48.29	10,255	25,082
48.39	10,369	26,113
48.49	10,483	27,156
48.59	10,596	28,210
48.69	10,710	29,275
48.79	10,824	30,352
48.89	10,938	31,440
48.99	**11,052**	**32,539**

Summary for Pond 14P: DIV-03

Inflow Area = 42,514 sf, 59.10% Impervious, Inflow Depth = 1.72" for 1-year event
Inflow = 1.92 cfs @ 12.09 hrs, Volume= 6,094 cf
Outflow = 1.92 cfs @ 12.09 hrs, Volume= 6,094 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.16 cfs @ 12.06 hrs, Volume= 5,700 cf
Routed to Pond 10P : Bio 1
Secondary = 0.80 cfs @ 12.10 hrs, Volume= 394 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 44.97' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.10'	**9.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.10' / 44.00' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.44 sf
#2	Device 3	44.85'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	44.10'	**15.0" Round Culvert** L= 55.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.10' / 42.25' S= 0.0336 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.16 cfs @ 12.06 hrs HW=44.95' TW=44.47' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.16 cfs @ 2.62 fps)

Secondary OutFlow Max=0.78 cfs @ 12.10 hrs HW=44.97' TW=0.00' (Dynamic Tailwater)
└**3=Culvert** (Passes 0.78 cfs of 2.27 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.78 cfs @ 1.12 fps)

Hydrograph for Pond 14P: DIV-03

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	44.10	0.00	0.00	0.00
5.00	0.00	44.10	0.00	0.00	0.00
10.00	**0.04**	**44.22**	**0.04**	**0.04**	**0.00**
15.00	**0.09**	**44.52**	**0.09**	**0.09**	**0.00**
20.00	0.03	44.51	0.03	0.03	0.00
25.00	0.00	44.40	0.00	0.00	0.00
30.00	0.00	44.44	0.00	0.00	0.00
35.00	0.00	44.39	0.00	0.00	0.00
40.00	0.00	44.34	0.00	0.00	0.00
45.00	0.00	44.29	0.00	0.00	0.00
50.00	0.00	44.24	0.00	0.00	0.00
55.00	0.00	44.18	0.00	0.00	0.00
60.00	0.00	44.13	0.00	0.00	0.00
65.00	0.00	44.10	0.00	0.00	0.00
70.00	0.00	44.10	0.00	0.00	0.00
75.00	0.00	44.10	0.00	0.00	0.00
80.00	0.00	44.10	0.00	0.00	0.00
85.00	0.00	44.10	0.00	0.00	0.00
90.00	0.00	44.10	0.00	0.00	0.00
95.00	0.00	44.10	0.00	0.00	0.00
100.00	0.00	44.10	0.00	0.00	0.00
105.00	0.00	44.10	0.00	0.00	0.00
110.00	0.00	44.10	0.00	0.00	0.00
115.00	0.00	44.10	0.00	0.00	0.00
120.00	0.00	44.10	0.00	0.00	0.00
125.00	0.00	44.10	0.00	0.00	0.00
130.00	0.00	44.10	0.00	0.00	0.00
135.00	0.00	44.10	0.00	0.00	0.00
140.00	0.00	44.10	0.00	0.00	0.00
145.00	0.00	44.10	0.00	0.00	0.00
150.00	0.00	44.10	0.00	0.00	0.00
155.00	0.00	44.10	0.00	0.00	0.00
160.00	0.00	44.10	0.00	0.00	0.00
165.00	0.00	44.10	0.00	0.00	0.00
170.00	0.00	44.10	0.00	0.00	0.00
175.00	0.00	44.10	0.00	0.00	0.00
180.00	0.00	44.10	0.00	0.00	0.00
185.00	0.00	44.10	0.00	0.00	0.00
190.00	0.00	44.10	0.00	0.00	0.00
195.00	0.00	44.10	0.00	0.00	0.00
200.00	0.00	44.10	0.00	0.00	0.00
205.00	0.00	44.10	0.00	0.00	0.00
210.00	0.00	44.10	0.00	0.00	0.00
215.00	0.00	44.10	0.00	0.00	0.00
220.00	0.00	44.10	0.00	0.00	0.00
225.00	0.00	44.10	0.00	0.00	0.00
230.00	0.00	44.10	0.00	0.00	0.00
235.00	0.00	44.10	0.00	0.00	0.00
240.00	0.00	44.10	0.00	0.00	0.00

Pro-Hydro
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Stage-Discharge for Pond 14P: DIV-03

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
44.10	0.00	0.00	0.00
44.12	0.00	0.00	0.00
44.14	0.00	0.00	0.00
44.16	0.01	0.01	0.00
44.18	0.02	0.02	0.00
44.20	0.03	0.03	0.00
44.22	0.04	0.04	0.00
44.24	0.06	0.06	0.00
44.26	0.07	0.07	0.00
44.28	0.09	0.09	0.00
44.30	0.11	0.11	0.00
44.32	0.13	0.13	0.00
44.34	0.15	0.15	0.00
44.36	0.18	0.18	0.00
44.38	0.20	0.20	0.00
44.40	0.23	0.23	0.00
44.42	0.26	0.26	0.00
44.44	0.29	0.29	0.00
44.46	0.31	0.31	0.00
44.48	0.35	0.35	0.00
44.50	0.38	0.38	0.00
44.52	0.41	0.41	0.00
44.54	0.44	0.44	0.00
44.56	0.48	0.48	0.00
44.58	0.51	0.51	0.00
44.60	0.55	0.55	0.00
44.62	0.58	0.58	0.00
44.64	0.62	0.62	0.00
44.66	0.66	0.66	0.00
44.68	0.69	0.69	0.00
44.70	0.73	0.73	0.00
44.72	0.77	0.77	0.00
44.74	0.81	0.81	0.00
44.76	0.85	0.85	0.00
44.78	0.88	0.88	0.00
44.80	0.92	0.92	0.00
44.82	0.96	0.96	0.00
44.84	1.00	1.00	0.00
44.86	1.06	1.04	0.02
44.88	1.17	1.07	0.10
44.90	1.31	1.09	0.22
44.92	1.48	1.12	0.36
44.94	1.67	1.15	0.53
44.96	1.88	1.17	0.71
44.98	2.11	1.19	0.92
45.00	2.35	1.22	1.13
45.02	2.61	1.24	1.37
45.04	2.88	1.26	1.61
45.06	3.16	1.28	1.87
45.08	3.45	1.31	2.15
45.10	3.76	1.33	2.43
45.12	4.08	1.35	2.73
45.14	4.36	1.37	2.99
45.16	4.46	1.39	3.07
45.18	4.56	1.41	3.15
45.20	4.65	1.43	3.22
45.22	4.75	1.45	3.30
45.24	4.84	1.47	3.37
45.26	4.93	1.49	3.44
45.28	5.01	1.51	3.50
45.30	5.09	1.53	3.56
45.32	5.16	1.54	3.62
45.34	**5.23**	**1.56**	**3.67**

Stage-Area-Storage for Pond 14P: DIV-03

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
44.10	**0**	44.61	0	45.12	0
44.11	0	44.62	0	45.13	0
44.12	0	44.63	0	45.14	0
44.13	0	44.64	0	45.15	0
44.14	0	44.65	0	45.16	0
44.15	0	44.66	0	45.17	0
44.16	0	44.67	0	45.18	0
44.17	0	44.68	0	45.19	0
44.18	0	44.69	0	45.20	0
44.19	0	44.70	0	45.21	0
44.20	0	44.71	0	45.22	0
44.21	0	44.72	0	45.23	0
44.22	0	44.73	0	45.24	0
44.23	0	44.74	0	45.25	0
44.24	0	44.75	0	45.26	0
44.25	0	44.76	0	45.27	0
44.26	0	44.77	0	45.28	0
44.27	0	44.78	0	45.29	0
44.28	0	44.79	0	45.30	0
44.29	0	44.80	0	45.31	0
44.30	0	44.81	0	45.32	0
44.31	0	44.82	0	45.33	0
44.32	0	44.83	0	45.34	0
44.33	0	44.84	0	45.35	0
44.34	0	44.85	0		
44.35	0	44.86	0		
44.36	0	44.87	0		
44.37	0	44.88	0		
44.38	0	44.89	0		
44.39	0	44.90	0		
44.40	0	44.91	0		
44.41	0	44.92	0		
44.42	0	44.93	0		
44.43	0	44.94	0		
44.44	0	44.95	0		
44.45	0	44.96	0		
44.46	0	44.97	0		
44.47	0	44.98	0		
44.48	0	44.99	0		
44.49	0	45.00	0		
44.50	0	45.01	0		
44.51	0	45.02	0		
44.52	0	45.03	0		
44.53	0	45.04	0		
44.54	0	45.05	0		
44.55	0	45.06	0		
44.56	0	45.07	0		
44.57	0	45.08	0		
44.58	0	45.09	0		
44.59	0	45.10	0		
44.60	0	45.11	0		

Summary for Pond 15P: Detention Basin 1

Inflow Area = 531,182 sf, 24.31% Impervious, Inflow Depth = 0.88" for 1-year event
Inflow = 8.70 cfs @ 12.23 hrs, Volume= 39,173 cf
Outflow = 1.87 cfs @ 12.70 hrs, Volume= 39,110 cf, Atten= 79%, Lag= 28.1 min
Primary = 1.87 cfs @ 12.70 hrs, Volume= 39,110 cf
Routed to Link 6L : DP 2.1 - West Wetland
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 6L : DP 2.1 - West Wetland
Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 6L : DP 2.1 - West Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 44.98' @ 12.70 hrs Surf.Area= 14,208 sf Storage= 12,766 cf

Plug-Flow detention time= 247.7 min calculated for 39,102 cf (100% of inflow)
Center-of-Mass det. time= 249.2 min (1,154.3 - 905.1)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	89,712 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	11,920	0	0
45.00	14,261	13,091	13,091
46.00	16,659	15,460	28,551
47.00	19,113	17,886	46,437
48.00	21,623	20,368	66,805
49.00	24,191	22,907	89,712

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	**24.0" Round Culvert** L= 15.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.00' / 43.40' S= 0.0400 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	44.00'	**5.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	44.55'	**1.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	47.20'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#5	Tertiary	48.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	45.00'	**24.0" Round Culvert** L= 212.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 45.00' / 43.70' S= 0.0061 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#7	Device 6	47.15'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

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Primary OutFlow Max=1.87 cfs @ 12.70 hrs HW=44.98' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.87 cfs of 4.05 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.58 cfs @ 4.22 fps)
  ├─**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.29 cfs @ 2.14 fps)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=44.00' TW=0.00' (Dynamic Tailwater)
└─**6=Culvert** (Controls 0.00 cfs)
  └─**7=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=44.00' TW=0.00' (Dynamic Tailwater)
└─**5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 15P: Detention Basin 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
0.00	0.00	0	44.00	0.00	0.00	**0.00**	**0.00**
5.00	0.00	0	44.00	0.00	0.00	0.00	0.00
10.00	**0.00**	**0**	**44.00**	**0.00**	**0.00**	0.00	0.00
15.00	**0.93**	**10,246**	**44.80**	**1.09**	**1.09**	0.00	0.00
20.00	0.40	7,771	44.61	0.50	0.50	0.00	0.00
25.00	0.01	5,261	44.42	0.30	0.30	0.00	0.00
30.00	0.00	2,181	44.18	0.08	0.08	0.00	0.00
35.00	0.00	1,279	44.11	0.03	0.03	0.00	0.00
40.00	0.00	891	44.07	0.02	0.02	0.00	0.00
45.00	0.00	680	44.06	0.01	0.01	0.00	0.00
50.00	0.00	548	44.05	0.01	0.01	0.00	0.00
55.00	0.00	458	44.04	0.00	0.00	0.00	0.00
60.00	0.00	394	44.03	0.00	0.00	0.00	0.00
65.00	0.00	345	44.03	0.00	0.00	0.00	0.00
70.00	0.00	306	44.03	0.00	0.00	0.00	0.00
75.00	0.00	276	44.02	0.00	0.00	0.00	0.00
80.00	0.00	251	44.02	0.00	0.00	0.00	0.00
85.00	0.00	230	44.02	0.00	0.00	0.00	0.00
90.00	0.00	212	44.02	0.00	0.00	0.00	0.00
95.00	0.00	197	44.02	0.00	0.00	0.00	0.00
100.00	0.00	183	44.02	0.00	0.00	0.00	0.00
105.00	0.00	172	44.01	0.00	0.00	0.00	0.00
110.00	0.00	162	44.01	0.00	0.00	0.00	0.00
115.00	0.00	153	44.01	0.00	0.00	0.00	0.00
120.00	0.00	145	44.01	0.00	0.00	0.00	0.00
125.00	0.00	137	44.01	0.00	0.00	0.00	0.00
130.00	0.00	131	44.01	0.00	0.00	0.00	0.00
135.00	0.00	125	44.01	0.00	0.00	0.00	0.00
140.00	0.00	119	44.01	0.00	0.00	0.00	0.00
145.00	0.00	114	44.01	0.00	0.00	0.00	0.00
150.00	0.00	110	44.01	0.00	0.00	0.00	0.00
155.00	0.00	105	44.01	0.00	0.00	0.00	0.00
160.00	0.00	101	44.01	0.00	0.00	0.00	0.00
165.00	0.00	98	44.01	0.00	0.00	0.00	0.00
170.00	0.00	94	44.01	0.00	0.00	0.00	0.00
175.00	0.00	91	44.01	0.00	0.00	0.00	0.00
180.00	0.00	88	44.01	0.00	0.00	0.00	0.00
185.00	0.00	85	44.01	0.00	0.00	0.00	0.00
190.00	0.00	83	44.01	0.00	0.00	0.00	0.00
195.00	0.00	80	44.01	0.00	0.00	0.00	0.00
200.00	0.00	78	44.01	0.00	0.00	0.00	0.00
205.00	0.00	76	44.01	0.00	0.00	0.00	0.00
210.00	0.00	74	44.01	0.00	0.00	0.00	0.00
215.00	0.00	72	44.01	0.00	0.00	0.00	0.00
220.00	0.00	70	44.01	0.00	0.00	0.00	0.00
225.00	0.00	68	44.01	0.00	0.00	0.00	0.00
230.00	0.00	67	44.01	0.00	0.00	0.00	0.00
235.00	0.00	65	44.01	0.00	0.00	0.00	0.00
240.00	0.00	63	44.01	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 15P: Detention Basin 1

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
44.00	0.00	0.00	0.00	0.00
44.10	0.03	0.03	0.00	0.00
44.20	0.10	0.10	0.00	0.00
44.30	0.20	0.20	0.00	0.00
44.40	0.29	0.29	0.00	0.00
44.50	0.35	0.35	0.00	0.00
44.60	0.47	0.47	0.00	0.00
44.70	0.74	0.74	0.00	0.00
44.80	1.10	1.10	0.00	0.00
44.90	1.51	1.51	0.00	0.00
45.00	1.98	1.98	0.00	0.00
45.10	2.47	2.47	0.00	0.00
45.20	3.00	3.00	0.00	0.00
45.30	3.55	3.55	0.00	0.00
45.40	4.12	4.12	0.00	0.00
45.50	4.71	4.71	0.00	0.00
45.60	5.31	5.31	0.00	0.00
45.70	5.92	5.92	0.00	0.00
45.80	6.54	6.54	0.00	0.00
45.90	7.16	7.16	0.00	0.00
46.00	7.79	7.79	0.00	0.00
46.10	8.41	8.41	0.00	0.00
46.20	9.04	9.04	0.00	0.00
46.30	9.66	9.66	0.00	0.00
46.40	10.27	10.27	0.00	0.00
46.50	10.88	10.88	0.00	0.00
46.60	11.48	11.48	0.00	0.00
46.70	12.07	12.07	0.00	0.00
46.80	12.65	12.65	0.00	0.00
46.90	13.21	13.21	0.00	0.00
47.00	13.76	13.76	0.00	0.00
47.10	14.30	14.30	0.00	0.00
47.20	15.04	14.82	0.22	0.00
47.30	17.07	15.94	1.13	0.00
47.40	19.98	17.55	2.43	0.00
47.50	22.90	18.88	4.02	0.00
47.60	25.09	19.26	5.83	0.00
47.70	27.48	19.62	7.86	0.00
47.80	30.04	19.98	10.06	0.00
47.90	32.76	20.34	12.42	0.00
48.00	35.62	20.68	14.94	0.00
48.10	38.33	21.03	17.31	0.00
48.20	40.11	21.36	17.71	1.03
48.30	42.72	21.69	18.11	2.91
48.40	45.86	22.02	18.50	5.34
48.50	49.43	22.34	18.88	8.21
48.60	53.36	22.66	19.26	11.45
48.70	57.61	22.97	19.62	15.02
48.80	62.15	23.28	19.98	18.88
48.90	66.94	23.58	20.34	23.02
49.00	**71.99**	**23.88**	**20.68**	**27.42**

Stage-Area-Storage for Pond 15P: Detention Basin 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
44.00	11,920	0
44.05	12,037	599
44.10	12,154	1,204
44.15	12,271	1,814
44.20	12,388	2,431
44.25	12,505	3,053
44.30	12,622	3,681
44.35	12,739	4,315
44.40	12,856	4,955
44.45	12,973	5,601
44.50	13,091	6,253
44.55	13,208	6,910
44.60	13,325	7,573
44.65	13,442	8,243
44.70	13,559	8,918
44.75	13,676	9,598
44.80	13,793	10,285
44.85	13,910	10,978
44.90	14,027	11,676
44.95	14,144	12,380
45.00	14,261	13,091
45.05	14,381	13,807
45.10	14,501	14,529
45.15	14,621	15,257
45.20	14,741	15,991
45.25	14,861	16,731
45.30	14,980	17,477
45.35	15,100	18,229
45.40	15,220	18,987
45.45	15,340	19,751
45.50	15,460	20,521
45.55	15,580	21,297
45.60	15,700	22,079
45.65	15,820	22,867
45.70	15,940	23,661
45.75	16,060	24,461
45.80	16,179	25,267
45.85	16,299	26,079
45.90	16,419	26,897
45.95	16,539	27,721
46.00	16,659	28,551
46.05	16,782	29,387
46.10	16,904	30,229
46.15	17,027	31,077
46.20	17,150	31,931
46.25	17,273	32,792
46.30	17,395	33,659
46.35	17,518	34,531
46.40	17,641	35,410
46.45	17,763	36,296
46.50	17,886	37,187
46.55	18,009	38,084
46.60	18,131	38,988
46.65	18,254	39,897
46.70	18,377	40,813
46.75	18,500	41,735
46.80	18,622	42,663
46.85	18,745	43,597
46.90	18,868	44,537
46.95	18,990	45,484
47.00	19,113	46,437
47.05	19,238	47,395
47.10	19,364	48,360
47.15	19,489	49,332
47.20	19,615	50,309
47.25	19,741	51,293
47.30	19,866	52,283
47.35	19,992	53,280
47.40	20,117	54,282
47.45	20,243	55,291
47.50	20,368	56,307
47.55	20,493	57,328
47.60	20,619	58,356
47.65	20,744	59,390
47.70	20,870	60,431
47.75	20,996	61,477
47.80	21,121	62,530
47.85	21,247	63,589
47.90	21,372	64,655
47.95	21,498	65,726
48.00	21,623	66,805
48.05	21,751	67,889
48.10	21,880	68,980
48.15	22,008	70,077
48.20	22,137	71,180
48.25	22,265	72,291
48.30	22,393	73,407
48.35	22,522	74,530
48.40	22,650	75,659
48.45	22,779	76,795
48.50	22,907	77,937
48.55	23,035	79,086
48.60	23,164	80,241
48.65	23,292	81,402
48.70	23,421	82,570
48.75	23,549	83,744
48.80	23,677	84,925
48.85	23,806	86,112
48.90	23,934	87,305
48.95	24,063	88,505
49.00	**24,191**	**89,712**

Summary for Pond 17P: Track and Field- stone base

Inflow Area = 90,671 sf,100.00% Impervious, Inflow Depth = 2.57" for 1-year event
Inflow = 5.50 cfs @ 12.09 hrs, Volume= 19,412 cf
Outflow = 3.62 cfs @ 12.18 hrs, Volume= 19,412 cf, Atten= 34%, Lag= 5.9 min
Discarded = 0.59 cfs @ 12.18 hrs, Volume= 13,451 cf
Primary = 3.02 cfs @ 12.18 hrs, Volume= 5,962 cf
Routed to Pond 35P : Track and Field-manifold

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 50.60' @ 12.18 hrs Surf.Area= 90,671 sf Storage= 3,057 cf

Plug-Flow detention time= 17.4 min calculated for 19,412 cf (100% of inflow)
Center-of-Mass det. time= 17.4 min (776.7 - 759.3)

Volume	Invert	Avail.Storage	Storage Description
#1	50.50'	37,271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 113,339 cf Overall - 397 cf Embedded = 112,942 cf x 33.0% Voids
#2	50.52'	274 cf	**12.0" W x 1.0" H Ellipse 1" flat drains** x 44 Inside #1 L= 95.2' 397 cf Overall - 0.2" Wall Thickness = 274 cf
		37,545 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.50	90,671	0	0
51.58	90,671	97,925	97,925
51.59	90,671	907	98,831
51.75	90,671	14,507	113,339

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.50'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 48.40' Phase-In= 0.02'
#2	Primary	50.52'	**12.0" W x 1.0" H Vert. Orifice/Grate X 44.00** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.59 cfs @ 12.18 hrs HW=50.60' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.59 cfs)

Primary OutFlow Max=2.99 cfs @ 12.18 hrs HW=50.60' TW=49.30' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 2.99 cfs @ 0.89 fps)

Hydrograph for Pond 17P: Track and Field- stone base

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	50.50	0.00	0.00	0.00
5.00	0.05	48	50.50	0.05	0.05	0.00
10.00	**0.26**	**246**	**50.51**	**0.24**	**0.24**	**0.00**
15.00	**0.23**	**256**	**50.51**	**0.25**	**0.25**	**0.00**
20.00	0.08	84	50.50	0.08	0.08	0.00
25.00	0.00	2	50.50	0.00	0.00	0.00
30.00	0.00	0	50.50	0.00	0.00	0.00
35.00	0.00	0	50.50	0.00	0.00	0.00
40.00	0.00	0	50.50	0.00	0.00	0.00
45.00	0.00	0	50.50	0.00	0.00	0.00
50.00	0.00	0	50.50	0.00	0.00	0.00
55.00	0.00	0	50.50	0.00	0.00	0.00
60.00	0.00	0	50.50	0.00	0.00	0.00
65.00	0.00	0	50.50	0.00	0.00	0.00
70.00	0.00	0	50.50	0.00	0.00	0.00
75.00	0.00	0	50.50	0.00	0.00	0.00
80.00	0.00	0	50.50	0.00	0.00	0.00
85.00	0.00	0	50.50	0.00	0.00	0.00
90.00	0.00	0	50.50	0.00	0.00	0.00
95.00	0.00	0	50.50	0.00	0.00	0.00
100.00	0.00	0	50.50	0.00	0.00	0.00
105.00	0.00	0	50.50	0.00	0.00	0.00
110.00	0.00	0	50.50	0.00	0.00	0.00
115.00	0.00	0	50.50	0.00	0.00	0.00
120.00	0.00	0	50.50	0.00	0.00	0.00
125.00	0.00	0	50.50	0.00	0.00	0.00
130.00	0.00	0	50.50	0.00	0.00	0.00
135.00	0.00	0	50.50	0.00	0.00	0.00
140.00	0.00	0	50.50	0.00	0.00	0.00
145.00	0.00	0	50.50	0.00	0.00	0.00
150.00	0.00	0	50.50	0.00	0.00	0.00
155.00	0.00	0	50.50	0.00	0.00	0.00
160.00	0.00	0	50.50	0.00	0.00	0.00
165.00	0.00	0	50.50	0.00	0.00	0.00
170.00	0.00	0	50.50	0.00	0.00	0.00
175.00	0.00	0	50.50	0.00	0.00	0.00
180.00	0.00	0	50.50	0.00	0.00	0.00
185.00	0.00	0	50.50	0.00	0.00	0.00
190.00	0.00	0	50.50	0.00	0.00	0.00
195.00	0.00	0	50.50	0.00	0.00	0.00
200.00	0.00	0	50.50	0.00	0.00	0.00
205.00	0.00	0	50.50	0.00	0.00	0.00
210.00	0.00	0	50.50	0.00	0.00	0.00
215.00	0.00	0	50.50	0.00	0.00	0.00
220.00	0.00	0	50.50	0.00	0.00	0.00
225.00	0.00	0	50.50	0.00	0.00	0.00
230.00	0.00	0	50.50	0.00	0.00	0.00
235.00	0.00	0	50.50	0.00	0.00	0.00
240.00	0.00	0	50.50	0.00	0.00	0.00

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Stage-Discharge for Pond 17P: Track and Field- stone base

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
50.50	0.00	0.00	0.00
50.52	0.57	0.57	0.00
50.54	0.98	0.58	0.40
50.56	1.71	0.58	1.13
50.58	2.66	0.59	2.08
50.60	3.79	0.59	3.20
50.62	4.76	0.60	4.16
50.64	5.48	0.60	4.88
50.66	6.10	0.61	5.49
50.68	6.66	0.62	6.04
50.70	7.16	0.62	6.54
50.72	7.63	0.63	7.00
50.74	8.07	0.63	7.44
50.76	8.48	0.64	7.85
50.78	8.88	0.64	8.24
50.80	9.26	0.65	8.61
50.82	9.62	0.65	8.96
50.84	9.96	0.66	9.31
50.86	10.30	0.66	9.64
50.88	10.62	0.67	9.95
50.90	10.94	0.67	10.26
50.92	11.24	0.68	10.56
50.94	11.54	0.69	10.85
50.96	11.83	0.69	11.14
50.98	12.11	0.70	11.41
51.00	12.39	0.70	11.68
51.02	12.66	0.71	11.95
51.04	12.92	0.71	12.21
51.06	13.18	0.72	12.46
51.08	13.43	0.72	12.71
51.10	13.68	0.73	12.95
51.12	13.92	0.73	13.19
51.14	14.16	0.74	13.42
51.16	14.40	0.74	13.65
51.18	14.63	0.75	13.88
51.20	14.86	0.76	14.10
51.22	15.08	0.76	14.32
51.24	15.30	0.77	14.54
51.26	15.52	0.77	14.75
51.28	15.74	0.78	14.96
51.30	15.95	0.78	15.17
51.32	16.16	0.79	15.37
51.34	16.37	0.79	15.57
51.36	16.57	0.80	15.77
51.38	16.77	0.80	15.97
51.40	16.97	0.81	16.16
51.42	17.17	0.81	16.36
51.44	17.36	0.82	16.54
51.46	17.56	0.83	16.73
51.48	17.75	0.83	16.92
51.50	17.94	0.84	17.10
51.52	18.12	0.84	17.28
51.54	18.31	0.85	17.46
51.56	18.49	0.85	17.64
51.58	18.67	0.86	17.81
51.60	18.85	0.86	17.99
51.62	19.03	0.87	18.16
51.64	19.21	0.87	18.33
51.66	19.38	0.88	18.50
51.68	19.55	0.89	18.67
51.70	19.73	0.89	18.84
51.72	19.90	0.90	19.00
51.74	**20.06**	**0.90**	**19.16**

Stage-Area-Storage for Pond 17P: Track and Field- stone base

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
50.50	**90,671**	0
50.52	90,671	587
50.54	90,671	1,212
50.56	90,671	1,862
50.58	90,671	2,514
50.60	90,671	3,147
50.62	90,671	3,734
50.64	90,671	4,332
50.66	90,671	4,931
50.68	90,671	5,529
50.70	90,671	6,128
50.72	90,671	6,726
50.74	90,671	7,324
50.76	90,671	7,923
50.78	90,671	8,521
50.80	90,671	9,120
50.82	90,671	9,718
50.84	90,671	10,317
50.86	90,671	10,915
50.88	90,671	11,513
50.90	90,671	12,112
50.92	90,671	12,710
50.94	90,671	13,309
50.96	90,671	13,907
50.98	90,671	14,506
51.00	90,671	15,104
51.02	90,671	15,702
51.04	90,671	16,301
51.06	90,671	16,899
51.08	90,671	17,498
51.10	90,671	18,096
51.12	90,671	18,695
51.14	90,671	19,293
51.16	90,671	19,891
51.18	90,671	20,490
51.20	90,671	21,088
51.22	90,671	21,687
51.24	90,671	22,285
51.26	90,671	22,884
51.28	90,671	23,482
51.30	90,671	24,080
51.32	90,671	24,679
51.34	90,671	25,277
51.36	90,671	25,876
51.38	90,671	26,474
51.40	90,671	27,073
51.42	90,671	27,671
51.44	90,671	28,269
51.46	90,671	28,868
51.48	90,671	29,466
51.50	90,671	30,065
51.52	90,671	30,663
51.54	90,671	31,262
51.56	90,671	31,860
51.58	90,671	32,458
51.60	90,671	33,057
51.62	90,671	33,655
51.64	90,671	34,254
51.66	90,671	34,852
51.68	90,671	35,451
51.70	90,671	36,049
51.72	90,671	36,647
51.74	90,671	**37,246**

Summary for Pond 18P: Sand Filter 2

Inflow Area = 114,710 sf, 50.57% Impervious, Inflow Depth = 1.18" for 1-year event
Inflow = 2.60 cfs @ 12.10 hrs, Volume= 11,302 cf
Outflow = 1.43 cfs @ 12.41 hrs, Volume= 11,302 cf, Atten= 45%, Lag= 18.7 min
Discarded = 0.01 cfs @ 9.35 hrs, Volume= 4,970 cf
Primary = 1.42 cfs @ 12.41 hrs, Volume= 6,332 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 55.29' @ 12.41 hrs Surf.Area= 5,351 sf Storage= 4,409 cf

Plug-Flow detention time= 1,231.2 min calculated for 11,300 cf (100% of inflow)
Center-of-Mass det. time= 1,232.1 min (2,066.0 - 833.9)

Volume	Invert	Avail.Storage	Storage Description
#1	51.84'	15,389 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.84	2,171	0.0	0	0
51.85	2,171	33.0	7	7
54.84	2,171	33.0	2,142	2,149
54.85	4,561	100.0	34	2,183
55.00	4,959	100.0	714	2,897
56.00	6,294	100.0	5,627	8,523
57.00	7,438	100.0	6,866	15,389

Device	Routing	Invert	Outlet Devices
#1	Discarded	51.84'	**0.270 in/hr Exfiltration over Surface area from 51.83' - 54.84'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Primary	55.25'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Secondary	56.00'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 9.35 hrs HW=51.89' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=1.41 cfs @ 12.41 hrs HW=55.29' TW=0.00' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Weir Controls 1.41 cfs @ 0.68 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=51.84' TW=0.00' (Dynamic Tailwater)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 18P: Sand Filter 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	51.84	0.00	0.00	0.00	**0.00**
5.00	0.00	0	51.84	0.00	**0.00**	0.00	0.00
10.00	**0.06**	**121**	**52.01**	**0.01**	**0.01**	**0.00**	0.00
15.00	**0.19**	**4,237**	**55.26**	**0.20**	0.01	**0.18**	0.00
20.00	0.07	4,204	55.25	0.07	0.01	0.05	0.00
25.00	0.00	4,150	55.24	0.01	0.01	0.00	0.00
30.00	0.00	3,906	55.20	0.01	0.01	0.00	0.00
35.00	0.00	3,662	55.15	0.01	0.01	0.00	0.00
40.00	0.00	3,418	55.10	0.01	0.01	0.00	0.00
45.00	0.00	3,173	55.06	0.01	0.01	0.00	0.00
50.00	0.00	2,929	55.01	0.01	0.01	0.00	0.00
55.00	0.00	2,685	54.96	0.01	0.01	0.00	0.00
60.00	0.00	2,441	54.91	0.01	0.01	0.00	0.00
65.00	0.00	2,196	54.85	0.01	0.01	0.00	0.00
70.00	0.00	1,952	54.56	0.01	0.01	0.00	0.00
75.00	0.00	1,708	54.22	0.01	0.01	0.00	0.00
80.00	0.00	1,464	53.88	0.01	0.01	0.00	0.00
85.00	0.00	1,219	53.54	0.01	0.01	0.00	0.00
90.00	0.00	975	53.20	0.01	0.01	0.00	0.00
95.00	0.00	731	52.86	0.01	0.01	0.00	0.00
100.00	0.00	487	52.52	0.01	0.01	0.00	0.00
105.00	0.00	242	52.18	0.01	0.01	0.00	0.00
110.00	0.00	5	51.85	0.00	0.00	0.00	0.00
115.00	0.00	0	51.84	0.00	0.00	0.00	0.00
120.00	0.00	0	51.84	0.00	0.00	0.00	0.00
125.00	0.00	0	51.84	0.00	0.00	0.00	0.00
130.00	0.00	0	51.84	0.00	0.00	0.00	0.00
135.00	0.00	0	51.84	0.00	0.00	0.00	0.00
140.00	0.00	0	51.84	0.00	0.00	0.00	0.00
145.00	0.00	0	51.84	0.00	0.00	0.00	0.00
150.00	0.00	0	51.84	0.00	0.00	0.00	0.00
155.00	0.00	0	51.84	0.00	0.00	0.00	0.00
160.00	0.00	0	51.84	0.00	0.00	0.00	0.00
165.00	0.00	0	51.84	0.00	0.00	0.00	0.00
170.00	0.00	0	51.84	0.00	0.00	0.00	0.00
175.00	0.00	0	51.84	0.00	0.00	0.00	0.00
180.00	0.00	0	51.84	0.00	0.00	0.00	0.00
185.00	0.00	0	51.84	0.00	0.00	0.00	0.00
190.00	0.00	0	51.84	0.00	0.00	0.00	0.00
195.00	0.00	0	51.84	0.00	0.00	0.00	0.00
200.00	0.00	0	51.84	0.00	0.00	0.00	0.00
205.00	0.00	0	51.84	0.00	0.00	0.00	0.00
210.00	0.00	0	51.84	0.00	0.00	0.00	0.00
215.00	0.00	0	51.84	0.00	0.00	0.00	0.00
220.00	0.00	0	51.84	0.00	0.00	0.00	0.00
225.00	0.00	0	51.84	0.00	0.00	0.00	0.00
230.00	0.00	0	51.84	0.00	0.00	0.00	0.00
235.00	0.00	0	51.84	0.00	0.00	0.00	0.00
240.00	0.00	0	51.84	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 18P: Sand Filter 2

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
51.84	0.00	**0.00**	0.00	0.00
52.04	0.01	**0.01**	0.00	0.00
52.24	0.01	0.01	0.00	0.00
52.44	0.01	0.01	0.00	0.00
52.64	0.01	0.01	0.00	0.00
52.84	0.01	0.01	0.00	0.00
53.04	0.01	0.01	0.00	0.00
53.24	0.01	0.01	0.00	0.00
53.44	0.01	0.01	0.00	0.00
53.64	0.01	0.01	0.00	0.00
53.84	0.01	0.01	0.00	0.00
54.04	0.01	0.01	0.00	0.00
54.24	0.01	0.01	0.00	0.00
54.44	0.01	0.01	0.00	0.00
54.64	0.01	0.01	0.00	0.00
54.84	0.01	0.01	0.00	0.00
55.04	0.01	0.01	0.00	0.00
55.24	0.01	0.01	0.00	0.00
55.44	4.21	0.01	4.20	0.00
55.64	6.03	0.01	6.01	0.00
55.84	7.41	0.01	7.40	0.00
56.04	8.83	0.01	8.56	0.26
56.24	13.42	0.01	9.58	3.83
56.44	19.98	0.01	10.51	9.46
56.64	27.90	0.01	11.35	16.53
56.84	**36.91**	0.01	**12.14**	**24.75**

Stage-Area-Storage for Pond 18P: Sand Filter 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
51.84	2,171	0
51.94	2,171	72
52.04	2,171	143
52.14	2,171	215
52.24	2,171	287
52.34	2,171	358
52.44	2,171	430
52.54	2,171	502
52.64	2,171	573
52.74	2,171	645
52.84	2,171	716
52.94	2,171	788
53.04	2,171	860
53.14	2,171	931
53.24	2,171	1,003
53.34	2,171	1,075
53.44	2,171	1,146
53.54	2,171	1,218
53.64	2,171	1,290
53.74	2,171	1,361
53.84	2,171	1,433
53.94	2,171	1,505
54.04	2,171	1,576
54.14	2,171	1,648
54.24	2,171	1,719
54.34	2,171	1,791
54.44	2,171	1,863
54.54	2,171	1,934
54.64	2,171	2,006
54.74	2,171	2,078
54.84	2,171	2,149
54.94	4,800	2,604
55.04	5,012	3,096
55.14	5,146	3,604
55.24	5,279	4,126
55.34	5,413	4,660
55.44	5,546	5,208
55.54	5,680	5,769
55.64	5,813	6,344
55.74	5,947	6,932
55.84	6,080	7,533
55.94	6,214	8,148
56.04	6,340	8,776
56.14	6,454	9,416
56.24	6,569	10,067
56.34	6,683	10,730
56.44	6,797	11,404
56.54	6,912	12,089
56.64	7,026	12,786
56.74	7,141	13,494
56.84	7,255	14,214
56.94	**7,369**	**14,945**

Summary for Pond 19P: Sand Filter 3

Inflow Area = 22,284 sf, 61.76% Impervious, Inflow Depth = 1.72" for 1-year event
Inflow = 1.01 cfs @ 12.09 hrs, Volume= 3,194 cf
Outflow = 0.01 cfs @ 10.20 hrs, Volume= 3,194 cf, Atten= 99%, Lag= 0.0 min
Discarded = 0.01 cfs @ 10.20 hrs, Volume= 3,194 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond 3P : DIV-02
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 4L : DP 1.3 - Culvert 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 60.19' @ 23.03 hrs Surf.Area= 2,773 sf Storage= 2,500 cf

Plug-Flow detention time= 1,828.9 min calculated for 3,193 cf (100% of inflow)
Center-of-Mass det. time= 1,829.2 min (2,645.7 - 816.5)

Volume	Invert	Avail.Storage	Storage Description
#1	56.99'	10,312 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.99	1,999	0.0	0	0
57.00	1,999	33.0	7	7
59.99	1,999	33.0	1,972	1,979
60.00	2,449	100.0	22	2,001
61.00	4,147	100.0	3,298	5,299
62.00	5,878	100.0	5,013	10,312

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.99'	**0.270 in/hr Exfiltration over Surface area from 56.98' - 59.99'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Primary	60.65'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Secondary	61.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 10.20 hrs HW=57.04' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.99' TW=56.15' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.99' TW=0.00' (Dynamic Tailwater)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 19P: Sand Filter 3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	56.99	0.00	0.00	**0.00**	**0.00**
5.00	0.00	0	56.99	0.00	0.00	0.00	0.00
10.00	**0.02**	26	57.03	**0.01**	**0.01**	0.00	0.00
15.00	**0.05**	2,222	60.09	**0.01**	**0.01**	0.00	0.00
20.00	0.02	**2,476**	**60.18**	0.01	0.01	0.00	0.00
25.00	0.00	**2,456**	**60.18**	0.01	0.01	0.00	0.00
30.00	0.00	2,231	60.09	0.01	0.01	0.00	0.00
35.00	0.00	2,006	60.00	0.01	0.01	0.00	0.00
40.00	0.00	1,781	59.69	0.01	0.01	0.00	0.00
45.00	0.00	1,556	59.35	0.01	0.01	0.00	0.00
50.00	0.00	1,332	59.01	0.01	0.01	0.00	0.00
55.00	0.00	1,107	58.67	0.01	0.01	0.00	0.00
60.00	0.00	882	58.33	0.01	0.01	0.00	0.00
65.00	0.00	657	57.99	0.01	0.01	0.00	0.00
70.00	0.00	432	57.64	0.01	0.01	0.00	0.00
75.00	0.00	207	57.30	0.01	0.01	0.00	0.00
80.00	0.00	1	56.99	0.00	0.00	0.00	0.00
85.00	0.00	0	56.99	0.00	0.00	0.00	0.00
90.00	0.00	0	56.99	0.00	0.00	0.00	0.00
95.00	0.00	0	56.99	0.00	0.00	0.00	0.00
100.00	0.00	0	56.99	0.00	0.00	0.00	0.00
105.00	0.00	0	56.99	0.00	0.00	0.00	0.00
110.00	0.00	0	56.99	0.00	0.00	0.00	0.00
115.00	0.00	0	56.99	0.00	0.00	0.00	0.00
120.00	0.00	0	56.99	0.00	0.00	0.00	0.00
125.00	0.00	0	56.99	0.00	0.00	0.00	0.00
130.00	0.00	0	56.99	0.00	0.00	0.00	0.00
135.00	0.00	0	56.99	0.00	0.00	0.00	0.00
140.00	0.00	0	56.99	0.00	0.00	0.00	0.00
145.00	0.00	0	56.99	0.00	0.00	0.00	0.00
150.00	0.00	0	56.99	0.00	0.00	0.00	0.00
155.00	0.00	0	56.99	0.00	0.00	0.00	0.00
160.00	0.00	0	56.99	0.00	0.00	0.00	0.00
165.00	0.00	0	56.99	0.00	0.00	0.00	0.00
170.00	0.00	0	56.99	0.00	0.00	0.00	0.00
175.00	0.00	0	56.99	0.00	0.00	0.00	0.00
180.00	0.00	0	56.99	0.00	0.00	0.00	0.00
185.00	0.00	0	56.99	0.00	0.00	0.00	0.00
190.00	0.00	0	56.99	0.00	0.00	0.00	0.00
195.00	0.00	0	56.99	0.00	0.00	0.00	0.00
200.00	0.00	0	56.99	0.00	0.00	0.00	0.00
205.00	0.00	0	56.99	0.00	0.00	0.00	0.00
210.00	0.00	0	56.99	0.00	0.00	0.00	0.00
215.00	0.00	0	56.99	0.00	0.00	0.00	0.00
220.00	0.00	0	56.99	0.00	0.00	0.00	0.00
225.00	0.00	0	56.99	0.00	0.00	0.00	0.00
230.00	0.00	0	56.99	0.00	0.00	0.00	0.00
235.00	0.00	0	56.99	0.00	0.00	0.00	0.00
240.00	0.00	0	56.99	0.00	0.00	0.00	0.00

Pro-Hydro
Prepared by Pare Corporation
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Stage-Discharge for Pond 19P: Sand Filter 3

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
56.99	0.00	**0.00**	0.00	0.00
57.09	0.01	**0.01**	0.00	0.00
57.19	0.01	0.01	0.00	0.00
57.29	0.01	0.01	0.00	0.00
57.39	0.01	0.01	0.00	0.00
57.49	0.01	0.01	0.00	0.00
57.59	0.01	0.01	0.00	0.00
57.69	0.01	0.01	0.00	0.00
57.79	0.01	0.01	0.00	0.00
57.89	0.01	0.01	0.00	0.00
57.99	0.01	0.01	0.00	0.00
58.09	0.01	0.01	0.00	0.00
58.19	0.01	0.01	0.00	0.00
58.29	0.01	0.01	0.00	0.00
58.39	0.01	0.01	0.00	0.00
58.49	0.01	0.01	0.00	0.00
58.59	0.01	0.01	0.00	0.00
58.69	0.01	0.01	0.00	0.00
58.79	0.01	0.01	0.00	0.00
58.89	0.01	0.01	0.00	0.00
58.99	0.01	0.01	0.00	0.00
59.09	0.01	0.01	0.00	0.00
59.19	0.01	0.01	0.00	0.00
59.29	0.01	0.01	0.00	0.00
59.39	0.01	0.01	0.00	0.00
59.49	0.01	0.01	0.00	0.00
59.59	0.01	0.01	0.00	0.00
59.69	0.01	0.01	0.00	0.00
59.79	0.01	0.01	0.00	0.00
59.89	0.01	0.01	0.00	0.00
59.99	0.01	0.01	0.00	0.00
60.09	0.01	0.01	0.00	0.00
60.19	0.01	0.01	0.00	0.00
60.29	0.01	0.01	0.00	0.00
60.39	0.01	0.01	0.00	0.00
60.49	0.01	0.01	0.00	0.00
60.59	0.01	0.01	0.00	0.00
60.69	0.64	0.01	0.63	0.00
60.79	1.81	0.01	1.80	0.00
60.89	2.37	0.01	2.36	0.00
60.99	2.82	0.01	2.81	0.00
61.09	3.21	0.01	3.19	0.00
61.19	4.43	0.01	3.54	0.88
61.29	6.56	0.01	3.85	2.70
61.39	9.23	0.01	4.14	5.08
61.49	12.33	0.01	4.41	7.90
61.59	15.79	0.01	4.67	11.11
61.69	19.57	0.01	4.91	14.64
61.79	23.64	0.01	5.14	18.48
61.89	27.97	0.01	5.36	22.60
61.99	**32.55**	0.01	**5.57**	**26.97**

Pro-Hydro
Prepared by Pare Corporation
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Stage-Area-Storage for Pond 19P: Sand Filter 3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.99	1,999	0
57.04	1,999	33
57.09	1,999	66
57.14	1,999	99
57.19	1,999	132
57.24	1,999	165
57.29	1,999	198
57.34	1,999	231
57.39	1,999	264
57.44	1,999	297
57.49	1,999	330
57.54	1,999	363
57.59	1,999	396
57.64	1,999	429
57.69	1,999	462
57.74	1,999	495
57.79	1,999	528
57.84	1,999	561
57.89	1,999	594
57.94	1,999	627
57.99	1,999	660
58.04	1,999	693
58.09	1,999	726
58.14	1,999	759
58.19	1,999	792
58.24	1,999	825
58.29	1,999	858
58.34	1,999	891
58.39	1,999	924
58.44	1,999	957
58.49	1,999	990
58.54	1,999	1,022
58.59	1,999	1,055
58.64	1,999	1,088
58.69	1,999	1,121
58.74	1,999	1,154
58.79	1,999	1,187
58.84	1,999	1,220
58.89	1,999	1,253
58.94	1,999	1,286
58.99	1,999	1,319
59.04	1,999	1,352
59.09	1,999	1,385
59.14	1,999	1,418
59.19	1,999	1,451
59.24	1,999	1,484
59.29	1,999	1,517
59.34	1,999	1,550
59.39	1,999	1,583
59.44	1,999	1,616
59.49	1,999	1,649
59.54	1,999	1,682
59.59	1,999	1,715
59.64	1,999	1,748
59.69	1,999	1,781
59.74	1,999	1,814
59.79	1,999	1,847
59.84	1,999	1,880
59.89	1,999	1,913
59.94	1,999	1,946
59.99	1,999	1,979
60.04	2,517	2,101
60.09	2,602	2,229
60.14	2,687	2,361
60.19	2,772	2,497
60.24	2,857	2,638
60.29	2,941	2,783
60.34	3,026	2,932
60.39	3,111	3,085
60.44	3,196	3,243
60.49	3,281	3,405
60.54	3,366	3,571
60.59	3,451	3,742
60.64	3,536	3,916
60.69	3,621	4,095
60.74	3,706	4,278
60.79	3,790	4,466
60.84	3,875	4,657
60.89	3,960	4,853
60.94	4,045	5,053
60.99	4,130	5,258
61.04	4,216	5,467
61.09	4,303	5,679
61.14	4,389	5,897
61.19	4,476	6,118
61.24	4,562	6,344
61.29	4,649	6,575
61.34	4,736	6,809
61.39	4,822	7,048
61.44	4,909	7,291
61.49	4,995	7,539
61.54	5,082	7,791
61.59	5,168	8,047
61.64	5,255	8,308
61.69	5,341	8,573
61.74	5,428	8,842
61.79	5,514	9,116
61.84	5,601	9,393
61.89	5,688	9,676
61.94	5,774	9,962
61.99	**5,861**	**10,253**

Summary for Pond 20P: Sand Filter 4

Inflow Area = 31,007 sf, 23.95% Impervious, Inflow Depth = 1.29" for 1-year event
Inflow = 0.83 cfs @ 12.19 hrs, Volume= 3,326 cf
Outflow = 0.34 cfs @ 12.05 hrs, Volume= 3,326 cf, Atten= 59%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.05 hrs, Volume= 3,326 cf
Routed to Link 3L : DP 1.2 - Culvert 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 59.87' @ 12.56 hrs Surf.Area= 1,767 sf Storage= 512 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 7.5 min (853.8 - 846.3)

Volume	Invert	Avail.Storage	Storage Description
#1	58.99'	3,660 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.99	1,767	0.0	0	0
59.00	1,767	33.0	6	6
60.99	1,767	33.0	1,160	1,166
61.00	1,767	100.0	18	1,184
62.00	3,186	100.0	2,477	3,660

Device	Routing	Invert	Outlet Devices
#1	Primary	61.50'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#2	Device 3	58.99'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#3	Primary	58.25'	**6.0" Round subdrain** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.25' / 56.90' S= 0.0270 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.34 cfs @ 12.05 hrs HW=59.03' TW=0.00' (Dynamic Tailwater)
└─**1=Orifice/Grate** (Controls 0.00 cfs)
└─**3=subdrain** (Passes 0.34 cfs of 0.54 cfs potential flow)
└─**2=Exfiltration** (Exfiltration Controls 0.34 cfs)

Hydrograph for Pond 20P: Sand Filter 4

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	58.99	0.00
5.00	0.00	0	58.99	0.00
10.00	**0.01**	**0**	**58.99**	**0.01**
15.00	**0.06**	**2**	**58.99**	**0.06**
20.00	0.02	1	58.99	0.02
25.00	0.00	0	58.99	0.00
30.00	0.00	0	58.99	0.00
35.00	0.00	0	58.99	0.00
40.00	0.00	0	58.99	0.00
45.00	0.00	0	58.99	0.00
50.00	0.00	0	58.99	0.00
55.00	0.00	0	58.99	0.00
60.00	0.00	0	58.99	0.00
65.00	0.00	0	58.99	0.00
70.00	0.00	0	58.99	0.00
75.00	0.00	0	58.99	0.00
80.00	0.00	0	58.99	0.00
85.00	0.00	0	58.99	0.00
90.00	0.00	0	58.99	0.00
95.00	0.00	0	58.99	0.00
100.00	0.00	0	58.99	0.00
105.00	0.00	0	58.99	0.00
110.00	0.00	0	58.99	0.00
115.00	0.00	0	58.99	0.00
120.00	0.00	0	58.99	0.00
125.00	0.00	0	58.99	0.00
130.00	0.00	0	58.99	0.00
135.00	0.00	0	58.99	0.00
140.00	0.00	0	58.99	0.00
145.00	0.00	0	58.99	0.00
150.00	0.00	0	58.99	0.00
155.00	0.00	0	58.99	0.00
160.00	0.00	0	58.99	0.00
165.00	0.00	0	58.99	0.00
170.00	0.00	0	58.99	0.00
175.00	0.00	0	58.99	0.00
180.00	0.00	0	58.99	0.00
185.00	0.00	0	58.99	0.00
190.00	0.00	0	58.99	0.00
195.00	0.00	0	58.99	0.00
200.00	0.00	0	58.99	0.00
205.00	0.00	0	58.99	0.00
210.00	0.00	0	58.99	0.00
215.00	0.00	0	58.99	0.00
220.00	0.00	0	58.99	0.00
225.00	0.00	0	58.99	0.00
230.00	0.00	0	58.99	0.00
235.00	0.00	0	58.99	0.00
240.00	0.00	0	58.99	0.00

Stage-Discharge for Pond 20P: Sand Filter 4

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
58.99	0.00	60.01	0.34	61.03	0.35
59.01	0.34	60.03	0.34	61.05	0.35
59.03	0.34	60.05	0.34	61.07	0.36
59.05	0.34	60.07	0.34	61.09	0.36
59.07	0.34	60.09	0.34	61.11	0.37
59.09	0.34	60.11	0.34	61.13	0.37
59.11	0.34	60.13	0.34	61.15	0.38
59.13	0.34	60.15	0.34	61.17	0.38
59.15	0.34	60.17	0.34	61.19	0.39
59.17	0.34	60.19	0.34	61.21	0.40
59.19	0.34	60.21	0.34	61.23	0.40
59.21	0.34	60.23	0.34	61.25	0.41
59.23	0.34	60.25	0.34	61.27	0.41
59.25	0.34	60.27	0.34	61.29	0.42
59.27	0.34	60.29	0.34	61.31	0.42
59.29	0.34	60.31	0.34	61.33	0.43
59.31	0.34	60.33	0.34	61.35	0.43
59.33	0.34	60.35	0.34	61.37	0.44
59.35	0.34	60.37	0.34	61.39	0.44
59.37	0.34	60.39	0.34	61.41	0.45
59.39	0.34	60.41	0.34	61.43	0.46
59.41	0.34	60.43	0.34	61.45	0.46
59.43	0.34	60.45	0.34	61.47	0.47
59.45	0.34	60.47	0.34	61.49	0.47
59.47	0.34	60.49	0.34	61.51	0.56
59.49	0.34	60.51	0.34	61.53	0.89
59.51	0.34	60.53	0.34	61.55	1.37
59.53	0.34	60.55	0.34	61.57	1.77
59.55	0.34	60.57	0.34	61.59	1.94
59.57	0.34	60.59	0.34	61.61	2.10
59.59	0.34	60.61	0.34	61.63	2.25
59.61	0.34	60.63	0.34	61.65	2.38
59.63	0.34	60.65	0.34	61.67	2.51
59.65	0.34	60.67	0.34	61.69	2.62
59.67	0.34	60.69	0.34	61.71	2.74
59.69	0.34	60.71	0.34	61.73	2.85
59.71	0.34	60.73	0.34	61.75	2.95
59.73	0.34	60.75	0.34	61.77	3.05
59.75	0.34	60.77	0.34	61.79	3.15
59.77	0.34	60.79	0.34	61.81	3.24
59.79	0.34	60.81	0.34	61.83	3.33
59.81	0.34	60.83	0.34	61.85	3.42
59.83	0.34	60.85	0.34	61.87	3.50
59.85	0.34	60.87	0.34	61.89	3.59
59.87	0.34	60.89	0.34	61.91	3.67
59.89	0.34	60.91	0.34	61.93	3.75
59.91	0.34	60.93	0.34	61.95	3.83
59.93	0.34	60.95	0.34	61.97	3.90
59.95	0.34	60.97	0.34	61.99	**3.98**
59.97	0.34	60.99	0.34		
59.99	0.34	61.01	0.34		

Stage-Area-Storage for Pond 20P: Sand Filter 4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
58.99	1,767	0
59.04	1,767	29
59.09	1,767	58
59.14	1,767	87
59.19	1,767	117
59.24	1,767	146
59.29	1,767	175
59.34	1,767	204
59.39	1,767	233
59.44	1,767	262
59.49	1,767	292
59.54	1,767	321
59.59	1,767	350
59.64	1,767	379
59.69	1,767	408
59.74	1,767	437
59.79	1,767	466
59.84	1,767	496
59.89	1,767	525
59.94	1,767	554
59.99	1,767	583
60.04	1,767	612
60.09	1,767	641
60.14	1,767	671
60.19	1,767	700
60.24	1,767	729
60.29	1,767	758
60.34	1,767	787
60.39	1,767	816
60.44	1,767	846
60.49	1,767	875
60.54	1,767	904
60.59	1,767	933
60.64	1,767	962
60.69	1,767	991
60.74	1,767	1,020
60.79	1,767	1,050
60.84	1,767	1,079
60.89	1,767	1,108
60.94	1,767	1,137
60.99	1,767	1,166
61.04	1,824	1,256
61.09	1,895	1,349
61.14	1,966	1,445
61.19	2,037	1,545
61.24	2,108	1,649
61.29	2,179	1,756
61.34	2,249	1,867
61.39	2,320	1,981
61.44	2,391	2,099
61.49	2,462	2,220
61.54	2,533	2,345
61.59	2,604	2,473
61.64	2,675	2,605
61.69	2,746	2,741
61.74	2,817	2,880
61.79	2,888	3,023
61.84	2,959	3,169
61.89	3,030	3,319
61.94	3,101	3,472
61.99	**3,172**	**3,629**

Summary for Pond 23P: UGIS-1

Inflow Area = 151,857 sf,100.00% Impervious, Inflow Depth = 0.93" for 1-year event
Inflow = 4.72 cfs @ 12.21 hrs, Volume= 11,744 cf
Outflow = 0.19 cfs @ 13.04 hrs, Volume= 11,744 cf, Atten= 96%, Lag= 50.0 min
Discarded = 0.07 cfs @ 13.04 hrs, Volume= 11,449 cf
Primary = 0.11 cfs @ 13.04 hrs, Volume= 296 cf
Routed to Link 6L : DP 2.1 - West Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 48.47' @ 13.04 hrs Surf.Area= 6,719 sf Storage= 10,125 cf

Plug-Flow detention time= 1,323.9 min calculated for 11,742 cf (100% of inflow)
Center-of-Mass det. time= 1,324.1 min (2,066.1 - 742.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.30'	3,295 cf	**66.58'W x 80.00'L x 3.21'H Field A** 17,090 cf Overall - 7,104 cf Embedded = 9,986 cf x 33.0% Voids
#2A	46.80'	7,104 cf	**Cultec R-280HD** x 165 Inside #1 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap Row Length Adjustment= +1.00' x 6.07 sf x 15 rows
#3B	46.30'	893 cf	**44.92'W x 31.00'L x 3.21'H Field B** 4,467 cf Overall - 1,761 cf Embedded = 2,707 cf x 33.0% Voids
#4B	46.80'	1,761 cf	**Cultec R-280HD** x 40 Inside #3 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap Row Length Adjustment= +1.00' x 6.07 sf x 10 rows
		13,053 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	46.80'	**24.0" Round Culvert** L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.80' / 43.50' S= 0.0550 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Primary	48.40'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	49.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Discarded	46.30'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 43.30' Phase-In= 0.02'

Discarded OutFlow Max=0.07 cfs @ 13.04 hrs HW=48.47' (Free Discharge)
└**4=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.11 cfs @ 13.04 hrs HW=48.47' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.00 cfs of 9.71 cfs potential flow)
└**3=Sharp-Crested Rectangular Weir**(Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir**(Weir Controls 0.11 cfs @ 0.85 fps)

Pond 23P: UGIS-1 - Chamber Wizard Field A

Chamber Model = Cultec R-280HD (Cultec Recharger®280HD)
Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf
Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
Row Length Adjustment= +1.00' x 6.07 sf x 15 rows

47.0" Wide + 5.0" Spacing = 52.0" C-C Row Spacing

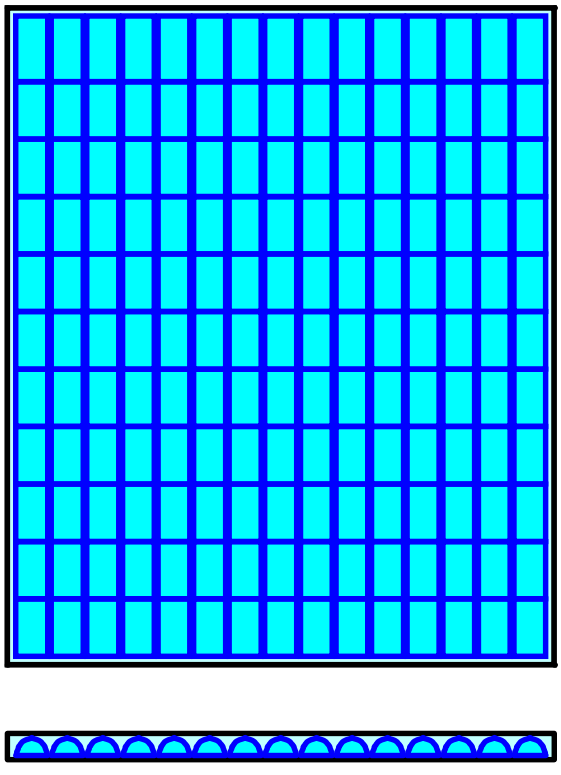
11 Chambers/Row x 7.00' Long +1.00' Row Adjustment = 78.00' Row Length +12.0" End Stone x 2 = 80.00' Base Length
15 Rows x 47.0" Wide + 5.0" Spacing x 14 + 12.0" Side Stone x 2 = 66.58' Base Width
6.0" Stone Base + 26.5" Chamber Height + 6.0" Stone Cover = 3.21' Field Height

165 Chambers x 42.5 cf +1.00' Row Adjustment x 6.07 sf x 15 Rows = 7,103.9 cf Chamber Storage

17,089.7 cf Field - 7,103.9 cf Chambers = 9,985.8 cf Stone x 33.0% Voids = 3,295.3 cf Stone Storage

Chamber Storage + Stone Storage = 10,399.3 cf = 0.239 af
Overall Storage Efficiency = 60.9%
Overall System Size = 80.00' x 66.58' x 3.21'

165 Chambers
633.0 cy Field
369.8 cy Stone



Pond 23P: UGIS-1 - Chamber Wizard Field B

Chamber Model = Cultec R-280HD (Cultec Recharger®280HD)
Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf
Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
Row Length Adjustment= +1.00' x 6.07 sf x 10 rows

47.0" Wide + 5.0" Spacing = 52.0" C-C Row Spacing

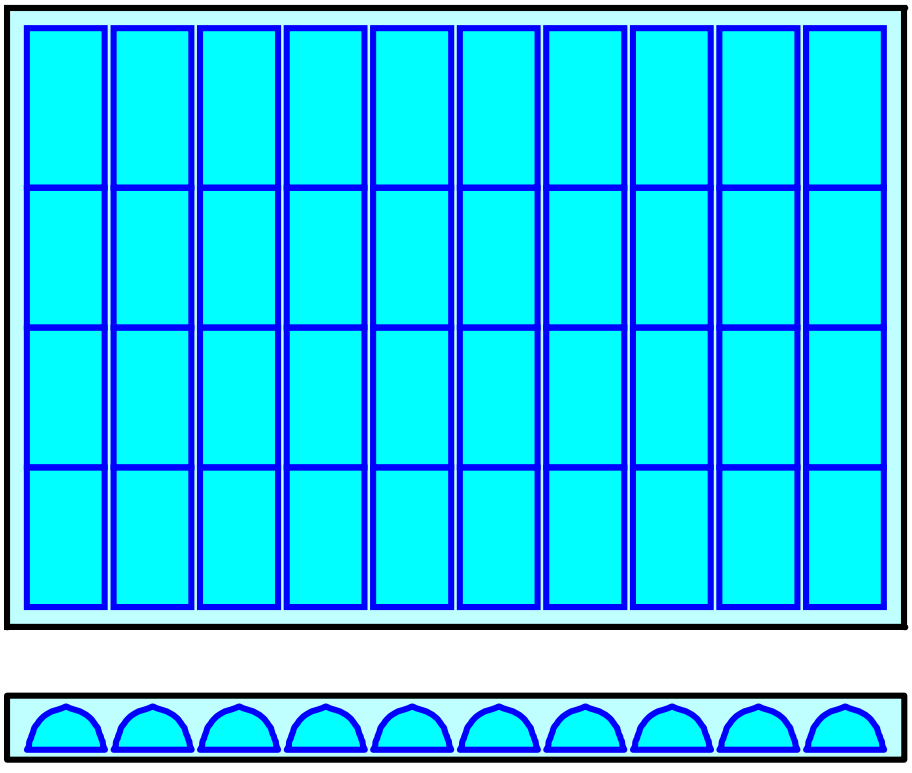
4 Chambers/Row x 7.00' Long +1.00' Row Adjustment = 29.00' Row Length +12.0" End Stone x 2 = 31.00' Base Length
10 Rows x 47.0" Wide + 5.0" Spacing x 9 + 12.0" Side Stone x 2 = 44.92' Base Width
6.0" Stone Base + 26.5" Chamber Height + 6.0" Stone Cover = 3.21' Field Height

40 Chambers x 42.5 cf +1.00' Row Adjustment x 6.07 sf x 10 Rows = 1,760.8 cf Chamber Storage

4,467.3 cf Field - 1,760.8 cf Chambers = 2,706.5 cf Stone x 33.0% Voids = 893.2 cf Stone Storage

Chamber Storage + Stone Storage = 2,654.0 cf = 0.061 af
Overall Storage Efficiency = 59.4%
Overall System Size = 31.00' x 44.92' x 3.21'

40 Chambers
165.5 cy Field
100.2 cy Stone



Hydrograph for Pond 23P: UGIS-1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	46.30	0.00	0.00	0.00
5.00	0.00	1	46.30	0.00	0.00	0.00
10.00	**0.06**	**51**	**46.32**	**0.04**	**0.04**	**0.00**
15.00	**0.06**	**9,846**	**48.40**	**0.07**	**0.07**	**0.00**
20.00	0.00	8,927	48.21	0.07	0.07	0.00
25.00	0.00	7,744	47.98	0.07	0.07	0.00
30.00	0.00	6,593	47.76	0.06	0.06	0.00
35.00	0.00	5,495	47.56	0.06	0.06	0.00
40.00	0.00	4,446	47.37	0.06	0.06	0.00
45.00	0.00	3,443	47.20	0.05	0.05	0.00
50.00	0.00	2,482	47.03	0.05	0.05	0.00
55.00	0.00	1,561	46.88	0.05	0.05	0.00
60.00	0.00	687	46.61	0.05	0.05	0.00
65.00	0.00	2	46.30	0.00	0.00	0.00
70.00	0.00	0	46.30	0.00	0.00	0.00
75.00	0.00	0	46.30	0.00	0.00	0.00
80.00	0.00	0	46.30	0.00	0.00	0.00
85.00	0.00	0	46.30	0.00	0.00	0.00
90.00	0.00	0	46.30	0.00	0.00	0.00
95.00	0.00	0	46.30	0.00	0.00	0.00
100.00	0.00	0	46.30	0.00	0.00	0.00
105.00	0.00	0	46.30	0.00	0.00	0.00
110.00	0.00	0	46.30	0.00	0.00	0.00
115.00	0.00	0	46.30	0.00	0.00	0.00
120.00	0.00	0	46.30	0.00	0.00	0.00
125.00	0.00	0	46.30	0.00	0.00	0.00
130.00	0.00	0	46.30	0.00	0.00	0.00
135.00	0.00	0	46.30	0.00	0.00	0.00
140.00	0.00	0	46.30	0.00	0.00	0.00
145.00	0.00	0	46.30	0.00	0.00	0.00
150.00	0.00	0	46.30	0.00	0.00	0.00
155.00	0.00	0	46.30	0.00	0.00	0.00
160.00	0.00	0	46.30	0.00	0.00	0.00
165.00	0.00	0	46.30	0.00	0.00	0.00
170.00	0.00	0	46.30	0.00	0.00	0.00
175.00	0.00	0	46.30	0.00	0.00	0.00
180.00	0.00	0	46.30	0.00	0.00	0.00
185.00	0.00	0	46.30	0.00	0.00	0.00
190.00	0.00	0	46.30	0.00	0.00	0.00
195.00	0.00	0	46.30	0.00	0.00	0.00
200.00	0.00	0	46.30	0.00	0.00	0.00
205.00	0.00	0	46.30	0.00	0.00	0.00
210.00	0.00	0	46.30	0.00	0.00	0.00
215.00	0.00	0	46.30	0.00	0.00	0.00
220.00	0.00	0	46.30	0.00	0.00	0.00
225.00	0.00	0	46.30	0.00	0.00	0.00
230.00	0.00	0	46.30	0.00	0.00	0.00
235.00	0.00	0	46.30	0.00	0.00	0.00
240.00	0.00	0	46.30	0.00	0.00	0.00

Stage-Discharge for Pond 23P: UGIS-1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
46.30	0.00	0.00	0.00
46.35	0.04	0.04	0.00
46.40	0.04	0.04	0.00
46.45	0.04	0.04	0.00
46.50	0.04	0.04	0.00
46.55	0.05	0.05	0.00
46.60	0.05	0.05	0.00
46.65	0.05	0.05	0.00
46.70	0.05	0.05	0.00
46.75	0.05	0.05	0.00
46.80	0.05	0.05	0.00
46.85	0.05	0.05	0.00
46.90	0.05	0.05	0.00
46.95	0.05	0.05	0.00
47.00	0.05	0.05	0.00
47.05	0.05	0.05	0.00
47.10	0.05	0.05	0.00
47.15	0.05	0.05	0.00
47.20	0.05	0.05	0.00
47.25	0.06	0.06	0.00
47.30	0.06	0.06	0.00
47.35	0.06	0.06	0.00
47.40	0.06	0.06	0.00
47.45	0.06	0.06	0.00
47.50	0.06	0.06	0.00
47.55	0.06	0.06	0.00
47.60	0.06	0.06	0.00
47.65	0.06	0.06	0.00
47.70	0.06	0.06	0.00
47.75	0.06	0.06	0.00
47.80	0.06	0.06	0.00
47.85	0.06	0.06	0.00
47.90	0.06	0.06	0.00
47.95	0.07	0.07	0.00
48.00	0.07	0.07	0.00
48.05	0.07	0.07	0.00
48.10	0.07	0.07	0.00
48.15	0.07	0.07	0.00
48.20	0.07	0.07	0.00
48.25	0.07	0.07	0.00
48.30	0.07	0.07	0.00
48.35	0.07	0.07	0.00
48.40	0.07	0.07	0.00
48.45	0.14	0.07	0.07
48.50	0.28	0.07	0.20
48.55	0.45	0.07	0.37
48.60	0.65	0.07	0.57
48.65	0.87	0.07	0.80
48.70	1.12	0.08	1.04
48.75	1.38	0.08	1.31
48.80	1.67	0.08	1.59
48.85	1.96	0.08	1.89
48.90	2.28	0.08	2.20
48.95	2.60	0.08	2.52
49.00	2.94	0.08	2.86
49.05	3.43	0.08	3.35
49.10	4.05	0.08	3.97
49.15	4.77	0.08	4.68
49.20	5.55	0.08	5.46
49.25	6.39	0.08	6.30
49.30	7.28	0.08	7.20
49.35	8.23	0.08	8.14
49.40	9.21	0.09	9.13
49.45	10.24	0.09	10.16
49.50	**11.31**	**0.09**	**11.22**

Stage-Area-Storage for Pond 23P: UGIS-1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
46.30	**6,719**	0
46.35	6,719	111
46.40	6,719	222
46.45	6,719	333
46.50	6,719	443
46.55	6,719	554
46.60	6,719	665
46.65	6,719	776
46.70	6,719	887
46.75	6,719	998
46.80	6,719	1,109
46.85	6,719	1,410
46.90	6,719	1,708
46.95	6,719	2,004
47.00	6,719	2,297
47.05	6,719	2,590
47.10	6,719	2,882
47.15	6,719	3,173
47.20	6,719	3,463
47.25	6,719	3,753
47.30	6,719	4,041
47.35	6,719	4,326
47.40	6,719	4,610
47.45	6,719	4,891
47.50	6,719	5,172
47.55	6,719	5,450
47.60	6,719	5,726
47.65	6,719	6,000
47.70	6,719	6,272
47.75	6,719	6,543
47.80	6,719	6,812
47.85	6,719	7,080
47.90	6,719	7,347
47.95	6,719	7,611
48.00	6,719	7,871
48.05	6,719	8,128
48.10	6,719	8,381
48.15	6,719	8,631
48.20	6,719	8,878
48.25	6,719	9,121
48.30	6,719	9,360
48.35	6,719	9,595
48.40	6,719	9,825
48.45	6,719	10,050
48.50	6,719	10,269
48.55	6,719	10,482
48.60	6,719	10,689
48.65	6,719	10,887
48.70	6,719	11,075
48.75	6,719	11,252
48.80	6,719	11,413
48.85	6,719	11,560
48.90	6,719	11,693
48.95	6,719	11,814
49.00	6,719	11,926
49.05	6,719	12,037
49.10	6,719	12,148
49.15	6,719	12,259
49.20	6,719	12,370
49.25	6,719	12,480
49.30	6,719	12,591
49.35	6,719	12,702
49.40	6,719	12,813
49.45	6,719	12,924
49.50	6,719	**13,035**

Summary for Pond 28P: DIV-01

Inflow Area = 379,224 sf, 32.14% Impervious, Inflow Depth = 1.28" for 1-year event
Inflow = 8.74 cfs @ 12.22 hrs, Volume= 40,359 cf
Outflow = 8.74 cfs @ 12.22 hrs, Volume= 40,359 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.40 cfs @ 12.22 hrs, Volume= 27,570 cf
Routed to Pond 13P : Sand Filter 1
Secondary = 6.33 cfs @ 12.22 hrs, Volume= 12,790 cf
Routed to Pond 15P : Detention Basin 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 47.48' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.10'	**11.0" Round Culvert** L= 14.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.10' / 46.00' S= 0.0071 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.66 sf
#2	Device 3	47.00'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	46.10'	**36.0" Round Culvert** L= 56.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.10' / 44.00' S= 0.0375 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=2.40 cfs @ 12.22 hrs HW=47.47' TW=46.08' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 2.40 cfs @ 3.63 fps)

Secondary OutFlow Max=6.26 cfs @ 12.22 hrs HW=47.47' TW=44.47' (Dynamic Tailwater)
└**3=Culvert** (Passes 6.26 cfs of 9.92 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 6.26 cfs @ 2.25 fps)

Pro-Hydro
Prepared by Pare Corporation
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Hydrograph for Pond 28P: DIV-01

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	46.10	0.00	0.00	0.00
5.00	0.02	46.18	0.02	0.02	0.00
10.00	**0.11**	**46.30**	**0.11**	**0.11**	**0.00**
15.00	**0.71**	**47.04**	**0.71**	**0.54**	**0.17**
20.00	0.25	46.79	0.25	0.25	0.00
25.00	0.00	46.16	0.00	0.00	0.00
30.00	0.00	46.58	0.00	0.00	0.00
35.00	0.00	46.52	0.00	0.00	0.00
40.00	0.00	46.43	0.00	0.00	0.00
45.00	0.00	46.37	0.00	0.00	0.00
50.00	0.00	46.31	0.00	0.00	0.00
55.00	0.00	46.22	0.00	0.00	0.00
60.00	0.00	46.16	0.00	0.00	0.00
65.00	0.00	46.10	0.00	0.00	0.00
70.00	0.00	46.10	0.00	0.00	0.00
75.00	0.00	46.10	0.00	0.00	0.00
80.00	0.00	46.10	0.00	0.00	0.00
85.00	0.00	46.10	0.00	0.00	0.00
90.00	0.00	46.10	0.00	0.00	0.00
95.00	0.00	46.10	0.00	0.00	0.00
100.00	0.00	46.10	0.00	0.00	0.00
105.00	0.00	46.10	0.00	0.00	0.00
110.00	0.00	46.10	0.00	0.00	0.00
115.00	0.00	46.10	0.00	0.00	0.00
120.00	0.00	46.10	0.00	0.00	0.00
125.00	0.00	46.10	0.00	0.00	0.00
130.00	0.00	46.10	0.00	0.00	0.00
135.00	0.00	46.10	0.00	0.00	0.00
140.00	0.00	46.10	0.00	0.00	0.00
145.00	0.00	46.10	0.00	0.00	0.00
150.00	0.00	46.10	0.00	0.00	0.00
155.00	0.00	46.10	0.00	0.00	0.00
160.00	0.00	46.10	0.00	0.00	0.00
165.00	0.00	46.10	0.00	0.00	0.00
170.00	0.00	46.10	0.00	0.00	0.00
175.00	0.00	46.10	0.00	0.00	0.00
180.00	0.00	46.10	0.00	0.00	0.00
185.00	0.00	46.10	0.00	0.00	0.00
190.00	0.00	46.10	0.00	0.00	0.00
195.00	0.00	46.10	0.00	0.00	0.00
200.00	0.00	46.10	0.00	0.00	0.00
205.00	0.00	46.10	0.00	0.00	0.00
210.00	0.00	46.10	0.00	0.00	0.00
215.00	0.00	46.10	0.00	0.00	0.00
220.00	0.00	46.10	0.00	0.00	0.00
225.00	0.00	46.10	0.00	0.00	0.00
230.00	0.00	46.10	0.00	0.00	0.00
235.00	0.00	46.10	0.00	0.00	0.00
240.00	0.00	46.10	0.00	0.00	0.00

Stage-Discharge for Pond 28P: DIV-01

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
46.10	0.00	0.00	0.00
46.15	0.01	0.01	0.00
46.20	0.03	0.03	0.00
46.25	0.07	0.07	0.00
46.30	0.12	0.12	0.00
46.35	0.18	0.18	0.00
46.40	0.25	0.25	0.00
46.45	0.33	0.33	0.00
46.50	0.41	0.41	0.00
46.55	0.51	0.51	0.00
46.60	0.61	0.61	0.00
46.65	0.72	0.72	0.00
46.70	0.83	0.83	0.00
46.75	0.95	0.95	0.00
46.80	1.07	1.07	0.00
46.85	1.20	1.20	0.00
46.90	1.32	1.32	0.00
46.95	1.45	1.45	0.00
47.00	1.58	1.58	0.00
47.05	1.92	1.70	0.22
47.10	2.44	1.82	0.62
47.15	3.06	1.93	1.13
47.20	3.75	2.01	1.74
47.25	4.52	2.09	2.43
47.30	5.35	2.16	3.19
47.35	6.25	2.23	4.02
47.40	7.20	2.30	4.90
47.45	8.20	2.37	5.83
47.50	9.26	2.43	6.82
47.55	10.35	2.50	7.86
47.60	11.50	2.56	8.94
47.65	12.68	2.62	10.06
47.70	13.90	2.68	11.22
47.75	15.16	2.74	12.42
47.80	16.46	2.80	13.66
47.85	17.79	2.85	14.94
47.90	18.88	2.91	15.97
47.95	19.68	2.96	16.72
48.00	20.50	3.01	17.49
48.05	21.32	3.06	18.26
48.10	22.14	3.11	19.03
48.15	22.97	3.16	19.81
48.20	23.80	3.21	20.59
48.25	24.63	3.26	21.37
48.30	25.46	3.31	22.15
48.35	26.29	3.36	22.93
48.40	27.11	3.40	23.70
48.45	27.93	3.45	24.48
48.50	28.74	3.50	25.24
48.55	29.54	3.54	26.00
48.60	30.33	3.58	26.75
48.65	31.11	3.63	27.49
48.70	31.88	3.67	28.21
48.75	32.63	3.71	28.91
48.80	33.35	3.76	29.60
48.85	34.05	3.80	30.25
48.90	34.72	3.84	30.88
48.95	35.36	3.88	31.48
49.00	35.94	3.92	32.02
49.05	36.47	3.96	32.51
49.10	**36.91**	**4.00**	**32.91**

Stage-Area-Storage for Pond 28P: DIV-01

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
46.10	**0**	47.12	0	48.14	0
46.12	0	47.14	0	48.16	0
46.14	0	47.16	0	48.18	0
46.16	0	47.18	0	48.20	0
46.18	0	47.20	0	48.22	0
46.20	0	47.22	0	48.24	0
46.22	0	47.24	0	48.26	0
46.24	0	47.26	0	48.28	0
46.26	0	47.28	0	48.30	0
46.28	0	47.30	0	48.32	0
46.30	0	47.32	0	48.34	0
46.32	0	47.34	0	48.36	0
46.34	0	47.36	0	48.38	0
46.36	0	47.38	0	48.40	0
46.38	0	47.40	0	48.42	0
46.40	0	47.42	0	48.44	0
46.42	0	47.44	0	48.46	0
46.44	0	47.46	0	48.48	0
46.46	0	47.48	0	48.50	0
46.48	0	47.50	0	48.52	0
46.50	0	47.52	0	48.54	0
46.52	0	47.54	0	48.56	0
46.54	0	47.56	0	48.58	0
46.56	0	47.58	0	48.60	0
46.58	0	47.60	0	48.62	0
46.60	0	47.62	0	48.64	0
46.62	0	47.64	0	48.66	0
46.64	0	47.66	0	48.68	0
46.66	0	47.68	0	48.70	0
46.68	0	47.70	0	48.72	0
46.70	0	47.72	0	48.74	0
46.72	0	47.74	0	48.76	0
46.74	0	47.76	0	48.78	0
46.76	0	47.78	0	48.80	0
46.78	0	47.80	0	48.82	0
46.80	0	47.82	0	48.84	0
46.82	0	47.84	0	48.86	0
46.84	0	47.86	0	48.88	0
46.86	0	47.88	0	48.90	0
46.88	0	47.90	0	48.92	0
46.90	0	47.92	0	48.94	0
46.92	0	47.94	0	48.96	0
46.94	0	47.96	0	48.98	0
46.96	0	47.98	0	49.00	0
46.98	0	48.00	0	49.02	0
47.00	0	48.02	0	49.04	0
47.02	0	48.04	0	49.06	0
47.04	0	48.06	0	49.08	0
47.06	0	48.08	0	49.10	0
47.08	0	48.10	0		
47.10	0	48.12	0		

Summary for Pond 33P: Wet Swale

Inflow Area = 57,295 sf, 71.89% Impervious, Inflow Depth = 1.97" for 1-year event
Inflow = 2.89 cfs @ 12.10 hrs, Volume= 9,419 cf
Outflow = 1.34 cfs @ 12.32 hrs, Volume= 9,419 cf, Atten= 54%, Lag= 13.5 min
Discarded = 0.01 cfs @ 7.45 hrs, Volume= 4,851 cf
Primary = 1.33 cfs @ 12.32 hrs, Volume= 4,568 cf
Routed to Pond 4P : Detention Basin 2
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 2L : DP 1.1 - Culvert 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 59.79' @ 12.32 hrs Surf.Area= 4,809 sf Storage= 4,443 cf

Plug-Flow detention time= 2,033.6 min calculated for 9,417 cf (100% of inflow)
Center-of-Mass det. time= 2,034.7 min (2,837.8 - 803.1)

Volume	Invert	Avail.Storage	Storage Description
#1	57.69'	11,649 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.69	1,511	0.0	0	0
57.70	1,511	33.0	5	5
58.69	1,511	33.0	494	499
58.70	1,801	100.0	17	515
59.00	3,213	100.0	752	1,267
60.00	5,228	100.0	4,221	5,488
61.00	7,094	100.0	6,161	11,649

Device	Routing	Invert	Outlet Devices
#1	Discarded	57.69'	**0.270 in/hr Exfiltration over Surface area from 57.68' - 58.69'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Primary	56.20'	**18.0" Round Culvert** L= 62.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.20' / 55.60' S= 0.0097 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#3	Device 2	59.75'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#4	Secondary	60.50'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 7.45 hrs HW=57.72' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=1.24 cfs @ 12.32 hrs HW=59.79' TW=55.86' (Dynamic Tailwater)
└**2=Culvert** (Passes 1.24 cfs of 11.32 cfs potential flow)
└**3=Orifice/Grate** (Weir Controls 1.24 cfs @ 0.65 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=57.69' TW=0.00' (Dynamic Tailwater)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 33P: Wet Swale

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	57.69	0.00	0.00	0.00	**0.00**
5.00	0.00	0	57.69	0.00	**0.00**	0.00	0.00
10.00	**0.09**	**340**	**58.37**	**0.01**	**0.01**	**0.00**	0.00
15.00	**0.13**	**4,284**	**59.76**	**0.13**	0.01	**0.12**	0.00
20.00	0.05	4,262	59.75	0.05	0.01	0.04	0.00
25.00	0.00	4,221	59.75	0.01	0.01	0.00	0.00
30.00	0.00	4,051	59.71	0.01	0.01	0.00	0.00
35.00	0.00	3,881	59.67	0.01	0.01	0.00	0.00
40.00	0.00	3,711	59.63	0.01	0.01	0.00	0.00
45.00	0.00	3,541	59.60	0.01	0.01	0.00	0.00
50.00	0.00	3,371	59.56	0.01	0.01	0.00	0.00
55.00	0.00	3,201	59.52	0.01	0.01	0.00	0.00
60.00	0.00	3,031	59.48	0.01	0.01	0.00	0.00
65.00	0.00	2,861	59.44	0.01	0.01	0.00	0.00
70.00	0.00	2,691	59.39	0.01	0.01	0.00	0.00
75.00	0.00	2,521	59.35	0.01	0.01	0.00	0.00
80.00	0.00	2,351	59.31	0.01	0.01	0.00	0.00
85.00	0.00	2,181	59.26	0.01	0.01	0.00	0.00
90.00	0.00	2,011	59.22	0.01	0.01	0.00	0.00
95.00	0.00	1,841	59.17	0.01	0.01	0.00	0.00
100.00	0.00	1,671	59.12	0.01	0.01	0.00	0.00
105.00	0.00	1,501	59.07	0.01	0.01	0.00	0.00
110.00	0.00	1,331	59.02	0.01	0.01	0.00	0.00
115.00	0.00	1,161	58.97	0.01	0.01	0.00	0.00
120.00	0.00	991	58.91	0.01	0.01	0.00	0.00
125.00	0.00	821	58.84	0.01	0.01	0.00	0.00
130.00	0.00	651	58.77	0.01	0.01	0.00	0.00
135.00	0.00	481	58.66	0.01	0.01	0.00	0.00
140.00	0.00	311	58.31	0.01	0.01	0.00	0.00
145.00	0.00	141	57.97	0.01	0.01	0.00	0.00
150.00	0.00	0	57.69	0.00	0.00	0.00	0.00
155.00	0.00	0	57.69	0.00	0.00	0.00	0.00
160.00	0.00	0	57.69	0.00	0.00	0.00	0.00
165.00	0.00	0	57.69	0.00	0.00	0.00	0.00
170.00	0.00	0	57.69	0.00	0.00	0.00	0.00
175.00	0.00	0	57.69	0.00	0.00	0.00	0.00
180.00	0.00	0	57.69	0.00	0.00	0.00	0.00
185.00	0.00	0	57.69	0.00	0.00	0.00	0.00
190.00	0.00	0	57.69	0.00	0.00	0.00	0.00
195.00	0.00	0	57.69	0.00	0.00	0.00	0.00
200.00	0.00	0	57.69	0.00	0.00	0.00	0.00
205.00	0.00	0	57.69	0.00	0.00	0.00	0.00
210.00	0.00	0	57.69	0.00	0.00	0.00	0.00
215.00	0.00	0	57.69	0.00	0.00	0.00	0.00
220.00	0.00	0	57.69	0.00	0.00	0.00	0.00
225.00	0.00	0	57.69	0.00	0.00	0.00	0.00
230.00	0.00	0	57.69	0.00	0.00	0.00	0.00
235.00	0.00	0	57.69	0.00	0.00	0.00	0.00
240.00	0.00	0	57.69	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 33P: Wet Swale

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
57.69	0.00	**0.00**	0.00	0.00
57.79	0.01	**0.01**	0.00	0.00
57.89	0.01	0.01	0.00	0.00
57.99	0.01	0.01	0.00	0.00
58.09	0.01	0.01	0.00	0.00
58.19	0.01	0.01	0.00	0.00
58.29	0.01	0.01	0.00	0.00
58.39	0.01	0.01	0.00	0.00
58.49	0.01	0.01	0.00	0.00
58.59	0.01	0.01	0.00	0.00
58.69	0.01	0.01	0.00	0.00
58.79	0.01	0.01	0.00	0.00
58.89	0.01	0.01	0.00	0.00
58.99	0.01	0.01	0.00	0.00
59.09	0.01	0.01	0.00	0.00
59.19	0.01	0.01	0.00	0.00
59.29	0.01	0.01	0.00	0.00
59.39	0.01	0.01	0.00	0.00
59.49	0.01	0.01	0.00	0.00
59.59	0.01	0.01	0.00	0.00
59.69	0.01	0.01	0.00	0.00
59.79	1.27	0.01	1.26	0.00
59.89	3.61	0.01	3.60	0.00
59.99	4.73	0.01	4.72	0.00
60.09	5.62	0.01	5.62	0.00
60.19	6.40	0.01	6.39	0.00
60.29	7.09	0.01	7.08	0.00
60.39	7.71	0.01	7.70	0.00
60.49	8.29	0.01	8.28	0.00
60.59	9.72	0.01	8.83	0.88
60.69	12.04	0.01	9.34	2.70
60.79	14.91	0.01	9.82	5.08
60.89	18.19	0.01	10.28	7.90
60.99	**21.84**	0.01	**10.72**	**11.11**

Stage-Area-Storage for Pond 33P: Wet Swale

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
57.69	1,511	0
57.74	1,511	25
57.79	1,511	50
57.84	1,511	75
57.89	1,511	100
57.94	1,511	125
57.99	1,511	150
58.04	1,511	175
58.09	1,511	199
58.14	1,511	224
58.19	1,511	249
58.24	1,511	274
58.29	1,511	299
58.34	1,511	324
58.39	1,511	349
58.44	1,511	374
58.49	1,511	399
58.54	1,511	424
58.59	1,511	449
58.64	1,511	474
58.69	1,511	499
58.74	1,989	591
58.79	2,225	696
58.84	2,460	813
58.89	2,695	942
58.94	2,931	1,083
58.99	3,166	1,235
59.04	3,294	1,397
59.09	3,394	1,565
59.14	3,495	1,737
59.19	3,596	1,914
59.24	3,697	2,096
59.29	3,797	2,284
59.34	3,898	2,476
59.39	3,999	2,674
59.44	4,100	2,876
59.49	4,200	3,084
59.54	4,301	3,296
59.59	4,402	3,514
59.64	4,503	3,736
59.69	4,603	3,964
59.74	4,704	4,197
59.79	4,805	4,434
59.84	4,906	4,677
59.89	5,006	4,925
59.94	5,107	5,178
59.99	5,208	5,436
60.04	5,303	5,698
60.09	5,396	5,966
60.14	5,489	6,238
60.19	5,583	6,515
60.24	5,676	6,796
60.29	5,769	7,082
60.34	5,862	7,373
60.39	5,956	7,669
60.44	6,049	7,969
60.49	6,142	8,274
60.54	6,236	8,583
60.59	6,329	8,897
60.64	6,422	9,216
60.69	6,516	9,539
60.74	6,609	9,867
60.79	6,702	10,200
60.84	6,795	10,538
60.89	6,889	10,880
60.94	6,982	11,227
60.99	**7,075**	**11,578**

Summary for Pond 35P: Track and Field-manifold

Inflow Area = 151,857 sf,100.00% Impervious, Inflow Depth = 1.51" for 1-year event
Inflow = 6.18 cfs @ 12.11 hrs, Volume= 19,061 cf
Outflow = 5.19 cfs @ 12.21 hrs, Volume= 19,061 cf, Atten= 16%, Lag= 5.4 min
Discarded = 0.47 cfs @ 12.21 hrs, Volume= 6,385 cf
Primary = 4.72 cfs @ 12.21 hrs, Volume= 12,676 cf
Routed to Pond 8P : DIV-04

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 49.31' @ 12.21 hrs Surf.Area= 8,273 sf Storage= 2,280 cf

Plug-Flow detention time= 14.2 min calculated for 19,057 cf (100% of inflow)
Center-of-Mass det. time= 14.2 min (767.4 - 753.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	48.50'	4,898 cf	**7.00'W x 1,182.00'L x 2.25'H Field A** 18,608 cf Overall - 3,767 cf Embedded = 14,841 cf x 33.0% Voids
#2A	49.00'	2,832 cf	**ADS N-12 15"** x 118 Inside #1 Inside= 14.8"W x 14.8"H => 1.20 sf x 20.00'L = 24.0 cf Outside= 18.0"W x 18.0"H => 1.60 sf x 20.00'L = 31.9 cf 118 Chambers in 2 Rows
		7,730 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	48.50'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 48.40' Phase-In= 0.02'
#2	Primary	48.50'	**18.0" Round Culvert X 2.00** L= 54.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 48.50' / 46.80' S= 0.0315 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Discarded OutFlow Max=0.47 cfs @ 12.21 hrs HW=49.31' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.47 cfs)

Primary OutFlow Max=4.70 cfs @ 12.21 hrs HW=49.31' TW=48.25' (Dynamic Tailwater)
↑—**2=Culvert** (Inlet Controls 4.70 cfs @ 2.42 fps)

Pond 35P: Track and Field-manifold - Chamber Wizard Field A

Chamber Model = ADS N-12 15" (ADS N-12® Pipe)
Inside= 14.8"W x 14.8"H => 1.20 sf x 20.00'L = 24.0 cf
Outside= 18.0"W x 18.0"H => 1.60 sf x 20.00'L = 31.9 cf

18.0" Wide + 24.0" Spacing = 42.0" C-C Row Spacing

59 Chambers/Row x 20.00' Long = 1,180.00' Row Length +12.0" End Stone x 2 = 1,182.00' Base Length
2 Rows x 18.0" Wide + 24.0" Spacing x 1 + 12.0" Side Stone x 2 = 7.00' Base Width
6.0" Stone Base + 18.0" Chamber Height + 3.0" Stone Cover = 2.25' Field Height

118 Chambers x 24.0 cf = 2,832.0 cf Chamber Storage
118 Chambers x 31.9 cf = 3,767.1 cf Displacement

18,608.5 cf Field - 3,767.1 cf Chambers = 14,841.3 cf Stone x 33.0% Voids = 4,897.6 cf Stone Storage

Chamber Storage + Stone Storage = 7,729.6 cf = 0.177 af
Overall Storage Efficiency = 41.5%
Overall System Size = 1,182.00' x 7.00' x 2.25'

118 Chambers
689.2 cy Field
549.7 cy Stone

Hydrograph for Pond 35P: Track and Field-manifold

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	48.50	0.00	0.00	0.00
5.00	0.03	29	48.51	0.03	0.03	0.00
10.00	**0.17**	**224**	**48.58**	**0.15**	**0.09**	**0.06**
15.00	**0.15**	**289**	**48.61**	**0.17**	**0.11**	**0.06**
20.00	0.05	46	48.52	0.05	0.05	0.00
25.00	0.00	1	48.50	0.00	0.00	0.00
30.00	0.00	0	48.50	0.00	0.00	0.00
35.00	0.00	0	48.50	0.00	0.00	0.00
40.00	0.00	0	48.50	0.00	0.00	0.00
45.00	0.00	0	48.50	0.00	0.00	0.00
50.00	0.00	0	48.50	0.00	0.00	0.00
55.00	0.00	0	48.50	0.00	0.00	0.00
60.00	0.00	0	48.50	0.00	0.00	0.00
65.00	0.00	0	48.50	0.00	0.00	0.00
70.00	0.00	0	48.50	0.00	0.00	0.00
75.00	0.00	0	48.50	0.00	0.00	0.00
80.00	0.00	0	48.50	0.00	0.00	0.00
85.00	0.00	0	48.50	0.00	0.00	0.00
90.00	0.00	0	48.50	0.00	0.00	0.00
95.00	0.00	0	48.50	0.00	0.00	0.00
100.00	0.00	0	48.50	0.00	0.00	0.00
105.00	0.00	0	48.50	0.00	0.00	0.00
110.00	0.00	0	48.50	0.00	0.00	0.00
115.00	0.00	0	48.50	0.00	0.00	0.00
120.00	0.00	0	48.50	0.00	0.00	0.00
125.00	0.00	0	48.50	0.00	0.00	0.00
130.00	0.00	0	48.50	0.00	0.00	0.00
135.00	0.00	0	48.50	0.00	0.00	0.00
140.00	0.00	0	48.50	0.00	0.00	0.00
145.00	0.00	0	48.50	0.00	0.00	0.00
150.00	0.00	0	48.50	0.00	0.00	0.00
155.00	0.00	0	48.50	0.00	0.00	0.00
160.00	0.00	0	48.50	0.00	0.00	0.00
165.00	0.00	0	48.50	0.00	0.00	0.00
170.00	0.00	0	48.50	0.00	0.00	0.00
175.00	0.00	0	48.50	0.00	0.00	0.00
180.00	0.00	0	48.50	0.00	0.00	0.00
185.00	0.00	0	48.50	0.00	0.00	0.00
190.00	0.00	0	48.50	0.00	0.00	0.00
195.00	0.00	0	48.50	0.00	0.00	0.00
200.00	0.00	0	48.50	0.00	0.00	0.00
205.00	0.00	0	48.50	0.00	0.00	0.00
210.00	0.00	0	48.50	0.00	0.00	0.00
215.00	0.00	0	48.50	0.00	0.00	0.00
220.00	0.00	0	48.50	0.00	0.00	0.00
225.00	0.00	0	48.50	0.00	0.00	0.00
230.00	0.00	0	48.50	0.00	0.00	0.00
235.00	0.00	0	48.50	0.00	0.00	0.00
240.00	0.00	0	48.50	0.00	0.00	0.00

Stage-Discharge for Pond 35P: Track and Field-manifold

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
48.50	0.00	0.00	0.00
48.55	0.10	0.08	0.02
48.60	0.19	0.10	0.09
48.65	0.32	0.13	0.19
48.70	0.49	0.16	0.34
48.75	0.70	0.18	0.52
48.80	0.95	0.21	0.74
48.85	1.23	0.23	1.00
48.90	1.54	0.26	1.29
48.95	1.89	0.28	1.61
49.00	2.27	0.31	1.96
49.05	2.68	0.34	2.34
49.10	3.11	0.36	2.75
49.15	3.57	0.39	3.18
49.20	4.05	0.41	3.64
49.25	4.55	0.44	4.11
49.30	5.07	0.47	4.61
49.35	5.61	0.49	5.12
49.40	6.16	0.52	5.65
49.45	6.73	0.54	6.18
49.50	7.30	0.57	6.73
49.55	7.87	0.59	7.28
49.60	8.45	0.62	7.83
49.65	9.03	0.65	8.38
49.70	9.60	0.67	8.92
49.75	10.16	0.70	9.46
49.80	10.70	0.72	9.97
49.85	11.21	0.75	10.46
49.90	11.69	0.78	10.92
49.95	12.12	0.80	11.32
50.00	12.46	0.83	11.63
50.05	12.87	0.85	12.02
50.10	13.27	0.88	12.39
50.15	13.65	0.90	12.75
50.20	14.03	0.93	13.09
50.25	14.39	0.96	13.43
50.30	14.75	0.98	13.77
50.35	15.10	1.01	14.09
50.40	15.44	1.03	14.41
50.45	15.78	1.06	14.72
50.50	16.11	1.09	15.02
50.55	16.43	1.11	15.32
50.60	16.75	1.14	15.61
50.65	17.06	1.16	15.90
50.70	17.37	1.19	16.18
50.75	**17.67**	**1.22**	**16.45**

Stage-Area-Storage for Pond 35P: Track and Field-manifold

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
48.50	**8,273**	0
48.55	8,273	136
48.60	8,273	273
48.65	8,273	409
48.70	8,273	546
48.75	8,273	682
48.80	8,273	819
48.85	8,273	955
48.90	8,273	1,092
48.95	8,273	1,228
49.00	8,273	1,365
49.05	8,273	1,489
49.10	8,273	1,602
49.15	8,273	1,718
49.20	8,273	1,874
49.25	8,273	2,049
49.30	8,273	2,238
49.35	8,273	2,437
49.40	8,273	2,644
49.45	8,273	2,857
49.50	8,273	3,075
49.55	8,273	3,297
49.60	8,273	3,522
49.65	8,273	3,749
49.70	8,273	3,978
49.75	8,273	4,207
49.80	8,273	4,437
49.85	8,273	4,666
49.90	8,273	4,893
49.95	8,273	5,118
50.00	8,273	5,340
50.05	8,273	5,558
50.10	8,273	5,771
50.15	8,273	5,977
50.20	8,273	6,176
50.25	8,273	6,365
50.30	8,273	6,540
50.35	8,273	6,695
50.40	8,273	6,811
50.45	8,273	6,925
50.50	8,273	7,049
50.55	8,273	7,185
50.60	8,273	7,322
50.65	8,273	7,458
50.70	8,273	7,595
50.75	8,273	**7,730**

Summary for Link 2L: DP 1.1 - Culvert 1

Inflow Area = 475,005 sf, 1.72% Impervious, Inflow Depth = 0.93" for 1-year event
Inflow = 7.45 cfs @ 12.32 hrs, Volume= 37,004 cf
Primary = 7.45 cfs @ 12.32 hrs, Volume= 37,004 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DP 1.2 - Culvert 2

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 2L: DP 1.1 - Culvert 1

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	**0.00**	0.00	**0.00**	137.50	0.00	0.00	0.00
12.50	**5.89**	0.00	**5.89**	140.00	0.00	0.00	0.00
15.00	0.77	0.00	0.77	142.50	0.00	0.00	0.00
17.50	0.39	0.00	0.39	145.00	0.00	0.00	0.00
20.00	0.27	0.00	0.27	147.50	0.00	0.00	0.00
22.50	0.22	0.00	0.22	150.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	152.50	0.00	0.00	0.00
27.50	0.00	0.00	0.00	155.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	157.50	0.00	0.00	0.00
32.50	0.00	0.00	0.00	160.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 3L: DP 1.2 - Culvert 2

Inflow Area = 536,345 sf, 2.91% Impervious, Inflow Depth = 0.96" for 1-year event
Inflow = 8.27 cfs @ 12.31 hrs, Volume= 42,830 cf
Primary = 8.27 cfs @ 12.31 hrs, Volume= 42,830 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DP 1.3 - Culvert 3

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 3L: DP 1.2 - Culvert 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	**0.01**	0.00	**0.01**	137.50	0.00	0.00	0.00
12.50	**6.54**	0.00	**6.54**	140.00	0.00	0.00	0.00
15.00	0.88	0.00	0.88	142.50	0.00	0.00	0.00
17.50	0.45	0.00	0.45	145.00	0.00	0.00	0.00
20.00	0.31	0.00	0.31	147.50	0.00	0.00	0.00
22.50	0.25	0.00	0.25	150.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	152.50	0.00	0.00	0.00
27.50	0.00	0.00	0.00	155.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	157.50	0.00	0.00	0.00
32.50	0.00	0.00	0.00	160.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 4L: DP 1.3 - Culvert 3

Inflow Area = 562,190 sf, 3.45% Impervious, Inflow Depth = 0.96" for 1-year event
Inflow = 8.64 cfs @ 12.30 hrs, Volume= 45,203 cf
Primary = 8.64 cfs @ 12.30 hrs, Volume= 45,203 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 4L: DP 1.3 - Culvert 3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	**0.01**	0.00	**0.01**	137.50	0.00	0.00	0.00
12.50	**6.75**	0.00	**6.75**	140.00	0.00	0.00	0.00
15.00	0.92	0.00	0.92	142.50	0.00	0.00	0.00
17.50	0.47	0.00	0.47	145.00	0.00	0.00	0.00
20.00	0.32	0.00	0.32	147.50	0.00	0.00	0.00
22.50	0.26	0.00	0.26	150.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	152.50	0.00	0.00	0.00
27.50	0.00	0.00	0.00	155.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	157.50	0.00	0.00	0.00
32.50	0.00	0.00	0.00	160.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 5L: DP 1.4 - Silver Creek East Branch

Inflow Area = 1,084,691 sf, 28.21% Impervious, Inflow Depth = 1.01" for 1-year event
Inflow = 16.36 cfs @ 12.25 hrs, Volume= 91,018 cf
Primary = 16.36 cfs @ 12.25 hrs, Volume= 91,018 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 5L: DP 1.4 - Silver Creek East Branch

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.01	0.00	0.01	132.50	0.00	0.00	0.00
7.50	0.01	0.00	0.01	135.00	0.00	0.00	0.00
10.00	**0.10**	0.00	**0.10**	137.50	0.00	0.00	0.00
12.50	**11.77**	0.00	**11.77**	140.00	0.00	0.00	0.00
15.00	1.80	0.00	1.80	142.50	0.00	0.00	0.00
17.50	0.90	0.00	0.90	145.00	0.00	0.00	0.00
20.00	0.63	0.00	0.63	147.50	0.00	0.00	0.00
22.50	0.51	0.00	0.51	150.00	0.00	0.00	0.00
25.00	0.10	0.00	0.10	152.50	0.00	0.00	0.00
27.50	0.10	0.00	0.10	155.00	0.00	0.00	0.00
30.00	0.09	0.00	0.09	157.50	0.00	0.00	0.00
32.50	0.08	0.00	0.08	160.00	0.00	0.00	0.00
35.00	0.07	0.00	0.07	162.50	0.00	0.00	0.00
37.50	0.07	0.00	0.07	165.00	0.00	0.00	0.00
40.00	0.06	0.00	0.06	167.50	0.00	0.00	0.00
42.50	0.04	0.00	0.04	170.00	0.00	0.00	0.00
45.00	0.01	0.00	0.01	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 6L: DP 2.1 - West Wetland

Inflow Area = 835,379 sf, 33.92% Impervious, Inflow Depth = 0.71" for 1-year event
Inflow = 3.09 cfs @ 12.66 hrs, Volume= 49,121 cf
Primary = 3.09 cfs @ 12.66 hrs, Volume= 49,121 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : DP 2.2 - Silver Creek West Branch

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 6L: DP 2.1 - West Wetland

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	137.50	0.00	0.00	0.00
12.50	**2.70**	0.00	**2.70**	140.00	0.00	0.00	0.00
15.00	**1.31**	0.00	**1.31**	142.50	0.00	0.00	0.00
17.50	0.82	0.00	0.82	145.00	0.00	0.00	0.00
20.00	0.57	0.00	0.57	147.50	0.00	0.00	0.00
22.50	0.44	0.00	0.44	150.00	0.00	0.00	0.00
25.00	0.31	0.00	0.31	152.50	0.00	0.00	0.00
27.50	0.16	0.00	0.16	155.00	0.00	0.00	0.00
30.00	0.08	0.00	0.08	157.50	0.00	0.00	0.00
32.50	0.05	0.00	0.05	160.00	0.00	0.00	0.00
35.00	0.03	0.00	0.03	162.50	0.00	0.00	0.00
37.50	0.02	0.00	0.02	165.00	0.00	0.00	0.00
40.00	0.02	0.00	0.02	167.50	0.00	0.00	0.00
42.50	0.01	0.00	0.01	170.00	0.00	0.00	0.00
45.00	0.01	0.00	0.01	172.50	0.00	0.00	0.00
47.50	0.01	0.00	0.01	175.00	0.00	0.00	0.00
50.00	0.01	0.00	0.01	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 7L: DP 2.2 - Silver Creek West Branch

Inflow Area = 991,430 sf, 32.70% Impervious, Inflow Depth = 0.77" for 1-year event
Inflow = 4.44 cfs @ 12.50 hrs, Volume= 63,452 cf
Primary = 4.44 cfs @ 12.50 hrs, Volume= 63,452 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 7L: DP 2.2 - Silver Creek West Branch

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	137.50	0.00	0.00	0.00
12.50	**4.44**	0.00	**4.44**	140.00	0.00	0.00	0.00
15.00	1.58	0.00	1.58	142.50	0.00	0.00	0.00
17.50	0.95	0.00	0.95	145.00	0.00	0.00	0.00
20.00	0.67	0.00	0.67	147.50	0.00	0.00	0.00
22.50	0.52	0.00	0.52	150.00	0.00	0.00	0.00
25.00	0.31	0.00	0.31	152.50	0.00	0.00	0.00
27.50	0.16	0.00	0.16	155.00	0.00	0.00	0.00
30.00	0.08	0.00	0.08	157.50	0.00	0.00	0.00
32.50	0.05	0.00	0.05	160.00	0.00	0.00	0.00
35.00	0.03	0.00	0.03	162.50	0.00	0.00	0.00
37.50	0.02	0.00	0.02	165.00	0.00	0.00	0.00
40.00	0.02	0.00	0.02	167.50	0.00	0.00	0.00
42.50	0.01	0.00	0.01	170.00	0.00	0.00	0.00
45.00	0.01	0.00	0.01	172.50	0.00	0.00	0.00
47.50	0.01	0.00	0.01	175.00	0.00	0.00	0.00
50.00	0.01	0.00	0.01	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Pro-Hydro
Prepared by Pare Corporation
HydroCAD® 10.20-5c s/n 04883 © 2023 HydroCAD Software Solutions LLC

Time span=0.00-240.00 hrs, dt=0.05 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PDA-1.1A: Subcat PDA-1.1A Runoff Area=475,005 sf 0.22% Impervious Runoff Depth=0.10"
Flow Length=451' Slope=0.0100 '/' Tc=21.1 min CN=77/98 Runoff=0.41 cfs 4,081 cf

Subcatchment PDA-1.1B: Subcat PDA-1.1B Runoff Area=30,333 sf 0.05% Impervious Runoff Depth=0.12"
Flow Length=126' Tc=13.1 min CN=78/98 Runoff=0.04 cfs 297 cf

Subcatchment PDA-1.2A: Subcat PDA-1.2A Runoff Area=25,845 sf 12.41% Impervious Runoff Depth=0.22"
Flow Length=73' Tc=7.3 min CN=78/98 Runoff=0.09 cfs 484 cf

Subcatchment PDA-1.3A: Subcat PDA-1.3A Runoff Area=57,295 sf 71.73% Impervious Runoff Depth=0.73"
Flow Length=198' Slope=0.0100 '/' Tc=6.5 min CN=76/98 Runoff=1.00 cfs 3,493 cf

Subcatchment PDA-1.3C: Subcat PDA-1.3C Runoff Area=16,850 sf 40.99% Impervious Runoff Depth=0.44"
Flow Length=49' Tc=6.8 min CN=74/98 Runoff=0.17 cfs 618 cf

Subcatchment PDA-1.3D: Subcat PDA-1.3D Runoff Area=6,850 sf 45.03% Impervious Runoff Depth=0.48"
Tc=6.0 min CN=74/98 Runoff=0.08 cfs 273 cf

Subcatchment PDA-1.4A: Subcat PDA-1.4A Runoff Area=31,007 sf 23.36% Impervious Runoff Depth=0.32"
Flow Length=144' Tc=13.4 min CN=78/98 Runoff=0.16 cfs 827 cf

Subcatchment PDA-1.4B: Subcat PDA-1.4B Runoff Area=53,181 sf 32.63% Impervious Runoff Depth=0.40"
Flow Length=98' Tc=13.9 min CN=78/98 Runoff=0.36 cfs 1,775 cf

Subcatchment PDA-1.4C: Subcat PDA-1.4C Runoff Area=26,810 sf 63.81% Impervious Runoff Depth=0.65"
Tc=6.0 min CN=74/98 Runoff=0.42 cfs 1,455 cf

Subcatchment PDA-1.4D: Subcat PDA-1.4D Runoff Area=42,514 sf 59.10% Impervious Runoff Depth=0.62"
Tc=6.0 min CN=76/98 Runoff=0.62 cfs 2,189 cf

Subcatchment PDA-1.4E: Subcat PDA-1.4E Runoff Area=39,245 sf 62.30% Impervious Runoff Depth=0.64"
Tc=6.0 min CN=74/98 Runoff=0.60 cfs 2,084 cf

Subcatchment PDA-1.4F: Subcat PDA-1.4F Runoff Area=73,858 sf 54.96% Impervious Runoff Depth=0.57"
Flow Length=346' Tc=14.5 min CN=74/98 Runoff=0.78 cfs 3,505 cf

Subcatchment PDA-1.4G: Subcat PDA-1.4G Runoff Area=22,284 sf 61.76% Impervious Runoff Depth=0.63"
Tc=6.0 min CN=74/98 Runoff=0.34 cfs 1,174 cf

Subcatchment PDA-1.4H: Subcat PDA-1.4H Runoff Area=10,744 sf 5.59% Impervious Runoff Depth=0.11"
Tc=6.0 min CN=74/98 Runoff=0.01 cfs 101 cf

Subcatchment PDA-1.4I: Subcat PDA-1.4I Runoff Area=9,824 sf 27.06% Impervious Runoff Depth=0.31"
Tc=6.0 min CN=74/98 Runoff=0.07 cfs 255 cf

Subcatchment PDA-1.4J: Subcat PDA-1.4J Runoff Area=59,466 sf 7.90% Impervious Runoff Depth=0.19"
Tc=6.0 min CN=78/98 Runoff=0.17 cfs 920 cf

Subcatchment PDA-1.4K: Subcat PDA-1.4K Runoff Area=18,876 sf 80.13% Impervious Runoff Depth=0.80"
Tc=6.0 min CN=74/98 Runoff=0.37 cfs 1,262 cf

Subcatchment PDA-1.4L: Subcat PDA-1.4L Runoff Area=11,978 sf 24.28% Impervious Runoff Depth=0.29"
Flow Length=75' Tc=8.5 min CN=74/98 Runoff=0.07 cfs 286 cf

Subcatchment PDA-1.4M: Subcat PDA-1.4M Runoff Area=4,734 sf 4.20% Impervious Runoff Depth=0.10"
Flow Length=166' Slope=0.0100 '/' Tc=14.3 min CN=74/98 Runoff=0.00 cfs 40 cf

Subcatchment PDA-2.1A: Subcat Runoff Area=348,138 sf 24.77% Impervious Runoff Depth=0.30"
Flow Length=269' Tc=16.3 min CN=75/98 Runoff=1.61 cfs 8,689 cf

Subcatchment PDA-2.1B: Subcat PDA-2.1B Runoff Area=151,957 sf 3.18% Impervious Runoff Depth=0.10"
Flow Length=123' Tc=17.0 min CN=75/98 Runoff=0.12 cfs 1,299 cf

Subcatchment PDA-2.2A: Subcat Runoff Area=156,051 sf 23.53% Impervious Runoff Depth=0.29"
Tc=12.9 min CN=75/98 Runoff=0.74 cfs 3,748 cf

Subcatchment PDA-2.2B: Subcat PDA-2.2B Runoff Area=152,340 sf 1.56% Impervious Runoff Depth=0.05"
Flow Length=565' Slope=0.0120 '/' Tc=40.0 min CN=71/98 Runoff=0.03 cfs 606 cf

Subcatchment PDA-2.2C.a: Subcat Runoff Area=90,671 sf 100.00% Impervious Runoff Depth=0.99"
Tc=6.0 min CN=74/98 Runoff=2.23 cfs 7,448 cf

Subcatchment PDA-2.2C.b: Subcat Runoff Area=61,186 sf 99.99% Impervious Runoff Depth=0.99"
Tc=6.0 min CN=74/98 Runoff=1.50 cfs 5,025 cf

Subcatchment PDA-ROOF1.3: Subcat Runoff Area=9,782 sf 100.00% Impervious Runoff Depth=0.99"
Tc=6.0 min CN=74/98 Runoff=0.24 cfs 803 cf

Subcatchment PDA-ROOF1.4: Subcat Runoff Area=58,210 sf 100.00% Impervious Runoff Depth=0.99"
Tc=6.0 min CN=74/98 Runoff=1.43 cfs 4,781 cf

Subcatchment PDA-ROOF2.1: Subcat Runoff Area=31,087 sf 100.00% Impervious Runoff Depth=0.99"
Tc=6.0 min CN=74/98 Runoff=0.76 cfs 2,553 cf

Pond 1P: Bio 4 Peak Elev=58.39' Storage=382 cf Inflow=0.17 cfs 618 cf
Discarded=0.00 cfs 618 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 618 cf

Pond 2P: Bio 3 Peak Elev=58.91' Storage=535 cf Inflow=0.32 cfs 1,076 cf
Primary=0.00 cfs 0 cf Tertiary=0.01 cfs 1,076 cf Outflow=0.01 cfs 1,076 cf

Pond 3P: DIV-02 Peak Elev=56.55' Inflow=0.36 cfs 1,775 cf
Primary=0.36 cfs 1,775 cf Secondary=0.00 cfs 0 cf Outflow=0.36 cfs 1,775 cf

Pond 4P: Detention Basin 2 Peak Elev=55.63' Storage=59 cf Inflow=0.01 cfs 101 cf
Primary=0.00 cfs 99 cf Secondary=0.00 cfs 0 cf Outflow=0.00 cfs 99 cf

Pond 7P: Bio 2 Peak Elev=54.66' Storage=620 cf Inflow=0.42 cfs 1,455 cf
Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Tertiary=0.03 cfs 1,455 cf Outflow=0.03 cfs 1,455 cf

Pond 8P: DIV-04 Peak Elev=47.46' Inflow=1.08 cfs 2,788 cf
Primary=1.08 cfs 2,788 cf Secondary=0.00 cfs 0 cf Outflow=1.08 cfs 2,788 cf

Pond 9P: Sand Filter 5 Peak Elev=49.35' Storage=985 cf Inflow=0.37 cfs 1,301 cf
Discarded=0.01 cfs 1,301 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.01 cfs 1,301 cf

Pond 10P: Bio 1 Peak Elev=44.50' Storage=1,688 cf Inflow=0.62 cfs 2,189 cf
Discarded=0.01 cfs 2,105 cf Primary=0.01 cfs 85 cf Secondary=0.00 cfs 0 cf Outflow=0.02 cfs 2,189 cf

Pond 12P: Infiltration Basin 1 Peak Elev=56.81' Storage=3,047 cf Inflow=1.50 cfs 5,036 cf
Discarded=0.05 cfs 5,036 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.05 cfs 5,036 cf

Pond 13P: Sand Filter 1 Peak Elev=46.51' Storage=9,104 cf Inflow=1.73 cfs 11,021 cf
Discarded=0.03 cfs 11,021 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.03 cfs 11,021 cf

Pond 14P: DIV-03 Peak Elev=44.64' Inflow=0.62 cfs 2,189 cf
Primary=0.62 cfs 2,189 cf Secondary=0.00 cfs 0 cf Outflow=0.62 cfs 2,189 cf

Pond 15P: Detention Basin 1 Peak Elev=44.08' Storage=947 cf Inflow=0.41 cfs 1,521 cf
Primary=0.02 cfs 1,462 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=0.02 cfs 1,462 cf

Pond 17P: Track and Field- stone base Peak Elev=50.55' Storage=1,383 cf Inflow=2.23 cfs 7,448 cf
Discarded=0.58 cfs 6,543 cf Primary=0.57 cfs 904 cf Outflow=1.15 cfs 7,448 cf

Pond 18P: Sand Filter 2 Peak Elev=55.02' Storage=2,986 cf Inflow=0.88 cfs 3,859 cf
Discarded=0.01 cfs 3,859 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.01 cfs 3,859 cf

Pond 19P: Sand Filter 3 Peak Elev=57.97' Storage=644 cf Inflow=0.34 cfs 1,174 cf
Discarded=0.01 cfs 1,174 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.01 cfs 1,174 cf

Pond 20P: Sand Filter 4 Peak Elev=59.00' Storage=6 cf Inflow=0.16 cfs 827 cf
Outflow=0.16 cfs 827 cf

Pond 23P: UGIS-1 Peak Elev=46.99' Storage=2,250 cf Inflow=1.08 cfs 2,788 cf
Discarded=0.05 cfs 2,788 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 2,788 cf

Pond 28P: DIV-01 Peak Elev=47.06' Inflow=2.06 cfs 11,243 cf
Primary=1.73 cfs 11,021 cf Secondary=0.32 cfs 222 cf Outflow=2.06 cfs 11,243 cf

Pond 33P: Wet Swale Peak Elev=59.44' Storage=2,866 cf Inflow=1.00 cfs 3,493 cf
Discarded=0.01 cfs 3,493 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.01 cfs 3,493 cf

Pond 35P: Track and Field-manifold Peak Elev=48.86' Storage=995 cf Inflow=1.81 cfs 5,929 cf
Discarded=0.24 cfs 3,142 cf Primary=1.08 cfs 2,788 cf Outflow=1.32 cfs 5,929 cf

Link 2L: DP 1.1 - Culvert 1 Inflow=0.41 cfs 4,081 cf
Primary=0.41 cfs 4,081 cf

Link 3L: DP 1.2 - Culvert 2 Inflow=0.53 cfs 5,204 cf
Primary=0.53 cfs 5,204 cf

Link 4L: DP 1.3 - Culvert 3 Inflow=0.57 cfs 5,689 cf
Primary=0.57 cfs 5,689 cf

Link 5L: DP 1.4 - Silver Creek East Branch Inflow=1.36 cfs 13,114 cf
Primary=1.36 cfs 13,114 cf

Link 6L: DP 2.1 - West Wetland Inflow=0.03 cfs 2,068 cf
Primary=0.03 cfs 2,068 cf

Link 7L: DP 2.2 - Silver Creek West Branch Inflow=0.76 cfs 5,815 cf
Primary=0.76 cfs 5,815 cf

Total Runoff Area = 2,076,121 sf Runoff Volume = 60,071 cf Average Runoff Depth = 0.35"
70.70% Pervious = 1,467,838 sf 29.30% Impervious = 608,283 sf

Summary for Subcatchment PDA-1.1A: Subcat PDA-1.1A

Runoff = 0.41 cfs @ 12.54 hrs, Volume= 4,081 cf, Depth= 0.10"
Routed to Link 2L : DP 1.1 - Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
90,334	74	>75% Grass cover, Good, HSG C
38,424	80	>75% Grass cover, Good, HSG D
4,538	87	Dirt roads, HSG C
1,510	89	Dirt roads, HSG D
1,040	98	Paved parking, HSG D
6,366	98	Unconnected pavement, HSG C
776	98	Unconnected pavement, HSG D
33,631	70	Woods, Good, HSG C
298,387	77	Woods, Good, HSG D
475,005	77	Weighted Average
473,965	77	99.78% Pervious Area
1,040	98	0.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
8.4	351	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.1	451	Total			

Hydrograph for Subcatchment PDA-1.1A: Subcat PDA-1.1A

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.00**
15.00	1.03	0.05	0.82	**0.12**
20.00	**1.15**	**0.09**	**0.94**	0.05
25.00	**1.20**	**0.10**	**0.99**	0.00
30.00	1.20	0.10	0.99	0.00
35.00	1.20	0.10	0.99	0.00
40.00	1.20	0.10	0.99	0.00
45.00	1.20	0.10	0.99	0.00
50.00	1.20	0.10	0.99	0.00
55.00	1.20	0.10	0.99	0.00
60.00	1.20	0.10	0.99	0.00
65.00	1.20	0.10	0.99	0.00
70.00	1.20	0.10	0.99	0.00
75.00	1.20	0.10	0.99	0.00
80.00	1.20	0.10	0.99	0.00
85.00	1.20	0.10	0.99	0.00
90.00	1.20	0.10	0.99	0.00
95.00	1.20	0.10	0.99	0.00
100.00	1.20	0.10	0.99	0.00
105.00	1.20	0.10	0.99	0.00
110.00	1.20	0.10	0.99	0.00
115.00	1.20	0.10	0.99	0.00
120.00	1.20	0.10	0.99	0.00
125.00	1.20	0.10	0.99	0.00
130.00	1.20	0.10	0.99	0.00
135.00	1.20	0.10	0.99	0.00
140.00	1.20	0.10	0.99	0.00
145.00	1.20	0.10	0.99	0.00
150.00	1.20	0.10	0.99	0.00
155.00	1.20	0.10	0.99	0.00
160.00	1.20	0.10	0.99	0.00
165.00	1.20	0.10	0.99	0.00
170.00	1.20	0.10	0.99	0.00
175.00	1.20	0.10	0.99	0.00
180.00	1.20	0.10	0.99	0.00
185.00	1.20	0.10	0.99	0.00
190.00	1.20	0.10	0.99	0.00
195.00	1.20	0.10	0.99	0.00
200.00	1.20	0.10	0.99	0.00
205.00	1.20	0.10	0.99	0.00
210.00	1.20	0.10	0.99	0.00
215.00	1.20	0.10	0.99	0.00
220.00	1.20	0.10	0.99	0.00
225.00	1.20	0.10	0.99	0.00
230.00	1.20	0.10	0.99	0.00
235.00	1.20	0.10	0.99	0.00
240.00	1.20	0.10	0.99	0.00

Summary for Subcatchment PDA-1.1B: Subcat PDA-1.1B

Runoff = 0.04 cfs @ 12.39 hrs, Volume= 297 cf, Depth= 0.12"
Routed to Link 3L : DP 1.2 - Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
19,238	74	>75% Grass cover, Good, HSG C
5,415	80	>75% Grass cover, Good, HSG D
5,665	87	Dirt roads, HSG C
8	98	Paved parking, HSG C
7	98	Paved parking, HSG D
30,333	78	Weighted Average
30,318	78	99.95% Pervious Area
15	98	0.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.4	26	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.1	126	Total			

Hydrograph for Subcatchment PDA-1.1B: Subcat PDA-1.1B

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.00**
15.00	1.03	0.06	0.82	**0.01**
20.00	**1.15**	**0.10**	**0.94**	0.00
25.00	**1.20**	**0.12**	**0.99**	0.00
30.00	1.20	0.12	0.99	0.00
35.00	1.20	0.12	0.99	0.00
40.00	1.20	0.12	0.99	0.00
45.00	1.20	0.12	0.99	0.00
50.00	1.20	0.12	0.99	0.00
55.00	1.20	0.12	0.99	0.00
60.00	1.20	0.12	0.99	0.00
65.00	1.20	0.12	0.99	0.00
70.00	1.20	0.12	0.99	0.00
75.00	1.20	0.12	0.99	0.00
80.00	1.20	0.12	0.99	0.00
85.00	1.20	0.12	0.99	0.00
90.00	1.20	0.12	0.99	0.00
95.00	1.20	0.12	0.99	0.00
100.00	1.20	0.12	0.99	0.00
105.00	1.20	0.12	0.99	0.00
110.00	1.20	0.12	0.99	0.00
115.00	1.20	0.12	0.99	0.00
120.00	1.20	0.12	0.99	0.00
125.00	1.20	0.12	0.99	0.00
130.00	1.20	0.12	0.99	0.00
135.00	1.20	0.12	0.99	0.00
140.00	1.20	0.12	0.99	0.00
145.00	1.20	0.12	0.99	0.00
150.00	1.20	0.12	0.99	0.00
155.00	1.20	0.12	0.99	0.00
160.00	1.20	0.12	0.99	0.00
165.00	1.20	0.12	0.99	0.00
170.00	1.20	0.12	0.99	0.00
175.00	1.20	0.12	0.99	0.00
180.00	1.20	0.12	0.99	0.00
185.00	1.20	0.12	0.99	0.00
190.00	1.20	0.12	0.99	0.00
195.00	1.20	0.12	0.99	0.00
200.00	1.20	0.12	0.99	0.00
205.00	1.20	0.12	0.99	0.00
210.00	1.20	0.12	0.99	0.00
215.00	1.20	0.12	0.99	0.00
220.00	1.20	0.12	0.99	0.00
225.00	1.20	0.12	0.99	0.00
230.00	1.20	0.12	0.99	0.00
235.00	1.20	0.12	0.99	0.00
240.00	1.20	0.12	0.99	0.00

Summary for Subcatchment PDA-1.2A: Subcat PDA-1.2A

Runoff = 0.09 cfs @ 12.13 hrs, Volume= 484 cf, Depth= 0.22"
Routed to Link 4L : DP 1.3 - Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
9,020	74	>75% Grass cover, Good, HSG C
13,051	80	>75% Grass cover, Good, HSG D
1,436	98	Paved parking, HSG C
1,771	98	Paved parking, HSG D
0	98	Roofs, HSG C
567	98	Unconnected pavement, HSG C
25,845	81	Weighted Average
22,638	78	87.59% Pervious Area
3,207	98	12.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	54	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.3	6	0.3300	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.3	5	0.2000	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.8	8	0.5000	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
7.3	73	Total			

Hydrograph for Subcatchment PDA-1.2A: Subcat PDA-1.2A

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.00**
15.00	1.03	0.06	0.82	**0.01**
20.00	**1.15**	**0.10**	**0.94**	0.00
25.00	**1.20**	**0.12**	**0.99**	0.00
30.00	1.20	0.12	0.99	0.00
35.00	1.20	0.12	0.99	0.00
40.00	1.20	0.12	0.99	0.00
45.00	1.20	0.12	0.99	0.00
50.00	1.20	0.12	0.99	0.00
55.00	1.20	0.12	0.99	0.00
60.00	1.20	0.12	0.99	0.00
65.00	1.20	0.12	0.99	0.00
70.00	1.20	0.12	0.99	0.00
75.00	1.20	0.12	0.99	0.00
80.00	1.20	0.12	0.99	0.00
85.00	1.20	0.12	0.99	0.00
90.00	1.20	0.12	0.99	0.00
95.00	1.20	0.12	0.99	0.00
100.00	1.20	0.12	0.99	0.00
105.00	1.20	0.12	0.99	0.00
110.00	1.20	0.12	0.99	0.00
115.00	1.20	0.12	0.99	0.00
120.00	1.20	0.12	0.99	0.00
125.00	1.20	0.12	0.99	0.00
130.00	1.20	0.12	0.99	0.00
135.00	1.20	0.12	0.99	0.00
140.00	1.20	0.12	0.99	0.00
145.00	1.20	0.12	0.99	0.00
150.00	1.20	0.12	0.99	0.00
155.00	1.20	0.12	0.99	0.00
160.00	1.20	0.12	0.99	0.00
165.00	1.20	0.12	0.99	0.00
170.00	1.20	0.12	0.99	0.00
175.00	1.20	0.12	0.99	0.00
180.00	1.20	0.12	0.99	0.00
185.00	1.20	0.12	0.99	0.00
190.00	1.20	0.12	0.99	0.00
195.00	1.20	0.12	0.99	0.00
200.00	1.20	0.12	0.99	0.00
205.00	1.20	0.12	0.99	0.00
210.00	1.20	0.12	0.99	0.00
215.00	1.20	0.12	0.99	0.00
220.00	1.20	0.12	0.99	0.00
225.00	1.20	0.12	0.99	0.00
230.00	1.20	0.12	0.99	0.00
235.00	1.20	0.12	0.99	0.00
240.00	1.20	0.12	0.99	0.00

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Summary for Subcatchment PDA-1.3A: Subcat PDA-1.3A

Runoff = 1.00 cfs @ 12.09 hrs, Volume= 3,493 cf, Depth= 0.73"
Routed to Pond 33P : Wet Swale

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
10,911	74	>75% Grass cover, Good, HSG C
5,194	80	>75% Grass cover, Good, HSG D
41,056	98	Paved parking, HSG C
40	98	Paved parking, HSG D
0	98	Roofs, HSG C
94	98	Unconnected pavement, HSG C
57,295	92	Weighted Average
16,199	76	28.27% Pervious Area
41,096	98	71.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.5	27	0.0100	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
1.2	73	0.0100	0.99		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.30"
0.8	98	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
6.5	198	Total			

Hydrograph for Subcatchment PDA-1.3A: Subcat PDA-1.3A

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.04**
15.00	1.03	0.04	0.82	**0.05**
20.00	**1.15**	**0.07**	**0.94**	0.02
25.00	**1.20**	**0.09**	**0.99**	0.00
30.00	1.20	0.09	0.99	0.00
35.00	1.20	0.09	0.99	0.00
40.00	1.20	0.09	0.99	0.00
45.00	1.20	0.09	0.99	0.00
50.00	1.20	0.09	0.99	0.00
55.00	1.20	0.09	0.99	0.00
60.00	1.20	0.09	0.99	0.00
65.00	1.20	0.09	0.99	0.00
70.00	1.20	0.09	0.99	0.00
75.00	1.20	0.09	0.99	0.00
80.00	1.20	0.09	0.99	0.00
85.00	1.20	0.09	0.99	0.00
90.00	1.20	0.09	0.99	0.00
95.00	1.20	0.09	0.99	0.00
100.00	1.20	0.09	0.99	0.00
105.00	1.20	0.09	0.99	0.00
110.00	1.20	0.09	0.99	0.00
115.00	1.20	0.09	0.99	0.00
120.00	1.20	0.09	0.99	0.00
125.00	1.20	0.09	0.99	0.00
130.00	1.20	0.09	0.99	0.00
135.00	1.20	0.09	0.99	0.00
140.00	1.20	0.09	0.99	0.00
145.00	1.20	0.09	0.99	0.00
150.00	1.20	0.09	0.99	0.00
155.00	1.20	0.09	0.99	0.00
160.00	1.20	0.09	0.99	0.00
165.00	1.20	0.09	0.99	0.00
170.00	1.20	0.09	0.99	0.00
175.00	1.20	0.09	0.99	0.00
180.00	1.20	0.09	0.99	0.00
185.00	1.20	0.09	0.99	0.00
190.00	1.20	0.09	0.99	0.00
195.00	1.20	0.09	0.99	0.00
200.00	1.20	0.09	0.99	0.00
205.00	1.20	0.09	0.99	0.00
210.00	1.20	0.09	0.99	0.00
215.00	1.20	0.09	0.99	0.00
220.00	1.20	0.09	0.99	0.00
225.00	1.20	0.09	0.99	0.00
230.00	1.20	0.09	0.99	0.00
235.00	1.20	0.09	0.99	0.00
240.00	1.20	0.09	0.99	0.00

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Summary for Subcatchment PDA-1.3C: Subcat PDA-1.3C

Runoff = 0.17 cfs @ 12.10 hrs, Volume= 618 cf, Depth= 0.44"
Routed to Pond 1P : Bio 4

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
9,827	74	>75% Grass cover, Good, HSG C
6,906	98	Paved parking, HSG C
0	98	Roofs, HSG C
117	98	Unconnected pavement, HSG C
16,850	84	Weighted Average
9,944	74	59.01% Pervious Area
6,907	98	40.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	39	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.8	10	0.1000	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
6.8	49	Total			

Hydrograph for Subcatchment PDA-1.3C: Subcat PDA-1.3C

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.01**
15.00	1.03	0.03	0.82	**0.01**
20.00	**1.15**	**0.05**	**0.94**	0.00
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

Summary for Subcatchment PDA-1.3D: Subcat PDA-1.3D

Runoff = 0.08 cfs @ 12.09 hrs, Volume= 273 cf, Depth= 0.48"
Routed to Pond 2P : Bio 3

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
3,766	74	>75% Grass cover, Good, HSG C
3,085	98	Paved parking, HSG C
0	98	Roofs, HSG C
6,850	85	Weighted Average
3,766	74	54.97% Pervious Area
3,085	98	45.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.3D: Subcat PDA-1.3D

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.00**
15.00	1.03	0.03	0.82	**0.00**
20.00	**1.15**	**0.05**	**0.94**	0.00
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

Summary for Subcatchment PDA-1.4A: Subcat PDA-1.4A

Runoff = 0.16 cfs @ 12.20 hrs, Volume= 827 cf, Depth= 0.32"
Routed to Pond 20P : Sand Filter 4

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
14,884	74	>75% Grass cover, Good, HSG C
2,931	80	>75% Grass cover, Good, HSG D
5,758	87	Dirt roads, HSG C
6	89	Dirt roads, HSG D
2,675	98	Paved parking, HSG C
4,570	98	Paved parking, HSG D
183	98	Unconnected pavement, HSG C
31,007	83	Weighted Average
23,762	78	76.64% Pervious Area
7,245	98	23.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.7	44	0.0250	1.11		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.4	144	Total			

Hydrograph for Subcatchment PDA-1.4A: Subcat PDA-1.4A

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.01**
15.00	1.03	0.06	0.82	**0.01**
20.00	**1.15**	**0.10**	**0.94**	0.01
25.00	**1.20**	**0.12**	**0.99**	0.00
30.00	1.20	0.12	0.99	0.00
35.00	1.20	0.12	0.99	0.00
40.00	1.20	0.12	0.99	0.00
45.00	1.20	0.12	0.99	0.00
50.00	1.20	0.12	0.99	0.00
55.00	1.20	0.12	0.99	0.00
60.00	1.20	0.12	0.99	0.00
65.00	1.20	0.12	0.99	0.00
70.00	1.20	0.12	0.99	0.00
75.00	1.20	0.12	0.99	0.00
80.00	1.20	0.12	0.99	0.00
85.00	1.20	0.12	0.99	0.00
90.00	1.20	0.12	0.99	0.00
95.00	1.20	0.12	0.99	0.00
100.00	1.20	0.12	0.99	0.00
105.00	1.20	0.12	0.99	0.00
110.00	1.20	0.12	0.99	0.00
115.00	1.20	0.12	0.99	0.00
120.00	1.20	0.12	0.99	0.00
125.00	1.20	0.12	0.99	0.00
130.00	1.20	0.12	0.99	0.00
135.00	1.20	0.12	0.99	0.00
140.00	1.20	0.12	0.99	0.00
145.00	1.20	0.12	0.99	0.00
150.00	1.20	0.12	0.99	0.00
155.00	1.20	0.12	0.99	0.00
160.00	1.20	0.12	0.99	0.00
165.00	1.20	0.12	0.99	0.00
170.00	1.20	0.12	0.99	0.00
175.00	1.20	0.12	0.99	0.00
180.00	1.20	0.12	0.99	0.00
185.00	1.20	0.12	0.99	0.00
190.00	1.20	0.12	0.99	0.00
195.00	1.20	0.12	0.99	0.00
200.00	1.20	0.12	0.99	0.00
205.00	1.20	0.12	0.99	0.00
210.00	1.20	0.12	0.99	0.00
215.00	1.20	0.12	0.99	0.00
220.00	1.20	0.12	0.99	0.00
225.00	1.20	0.12	0.99	0.00
230.00	1.20	0.12	0.99	0.00
235.00	1.20	0.12	0.99	0.00
240.00	1.20	0.12	0.99	0.00

Summary for Subcatchment PDA-1.4B: Subcat PDA-1.4B

Runoff = 0.36 cfs @ 12.20 hrs, Volume= 1,775 cf, Depth= 0.40"
Routed to Pond 3P : DIV-02

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
25,747	74	>75% Grass cover, Good, HSG C
7,636	87	Dirt roads, HSG C
17,354	98	Paved parking, HSG C
2,443	98	Unconnected pavement, HSG C
53,181	85	Weighted Average
35,826	78	67.37% Pervious Area
17,354	98	32.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	58	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
5.7	40	0.0120	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
13.9	98	Total			

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Hydrograph for Subcatchment PDA-1.4B: Subcat PDA-1.4B

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.02**
15.00	1.03	0.06	0.82	**0.03**
20.00	**1.15**	**0.10**	**0.94**	0.01
25.00	**1.20**	**0.12**	**0.99**	0.00
30.00	1.20	0.12	0.99	0.00
35.00	1.20	0.12	0.99	0.00
40.00	1.20	0.12	0.99	0.00
45.00	1.20	0.12	0.99	0.00
50.00	1.20	0.12	0.99	0.00
55.00	1.20	0.12	0.99	0.00
60.00	1.20	0.12	0.99	0.00
65.00	1.20	0.12	0.99	0.00
70.00	1.20	0.12	0.99	0.00
75.00	1.20	0.12	0.99	0.00
80.00	1.20	0.12	0.99	0.00
85.00	1.20	0.12	0.99	0.00
90.00	1.20	0.12	0.99	0.00
95.00	1.20	0.12	0.99	0.00
100.00	1.20	0.12	0.99	0.00
105.00	1.20	0.12	0.99	0.00
110.00	1.20	0.12	0.99	0.00
115.00	1.20	0.12	0.99	0.00
120.00	1.20	0.12	0.99	0.00
125.00	1.20	0.12	0.99	0.00
130.00	1.20	0.12	0.99	0.00
135.00	1.20	0.12	0.99	0.00
140.00	1.20	0.12	0.99	0.00
145.00	1.20	0.12	0.99	0.00
150.00	1.20	0.12	0.99	0.00
155.00	1.20	0.12	0.99	0.00
160.00	1.20	0.12	0.99	0.00
165.00	1.20	0.12	0.99	0.00
170.00	1.20	0.12	0.99	0.00
175.00	1.20	0.12	0.99	0.00
180.00	1.20	0.12	0.99	0.00
185.00	1.20	0.12	0.99	0.00
190.00	1.20	0.12	0.99	0.00
195.00	1.20	0.12	0.99	0.00
200.00	1.20	0.12	0.99	0.00
205.00	1.20	0.12	0.99	0.00
210.00	1.20	0.12	0.99	0.00
215.00	1.20	0.12	0.99	0.00
220.00	1.20	0.12	0.99	0.00
225.00	1.20	0.12	0.99	0.00
230.00	1.20	0.12	0.99	0.00
235.00	1.20	0.12	0.99	0.00
240.00	1.20	0.12	0.99	0.00

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Summary for Subcatchment PDA-1.4C: Subcat PDA-1.4C

Runoff = 0.42 cfs @ 12.09 hrs, Volume= 1,455 cf, Depth= 0.65"
Routed to Pond 7P : Bio 2

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
9,701	74	>75% Grass cover, Good, HSG C
17,108	98	Paved parking, HSG C
26,810	89	Weighted Average
9,701	74	36.19% Pervious Area
17,108	98	63.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4C: Subcat PDA-1.4C

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.02**
15.00	1.03	0.03	0.82	**0.02**
20.00	**1.15**	**0.05**	**0.94**	0.01
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

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Summary for Subcatchment PDA-1.4D: Subcat PDA-1.4D

Runoff = 0.62 cfs @ 12.09 hrs, Volume= 2,189 cf, Depth= 0.62"
Routed to Pond 14P : DIV-03

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
14,109	74	>75% Grass cover, Good, HSG C
2,143	80	>75% Grass cover, Good, HSG D
1,138	96	Gravel surface, HSG C
25,125	98	Paved parking, HSG C
42,514	89	Weighted Average
17,389	76	40.90% Pervious Area
25,125	98	59.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4D: Subcat PDA-1.4D

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.02**
15.00	1.03	0.04	0.82	**0.03**
20.00	**1.15**	**0.07**	**0.94**	0.01
25.00	**1.20**	**0.09**	**0.99**	0.00
30.00	1.20	0.09	0.99	0.00
35.00	1.20	0.09	0.99	0.00
40.00	1.20	0.09	0.99	0.00
45.00	1.20	0.09	0.99	0.00
50.00	1.20	0.09	0.99	0.00
55.00	1.20	0.09	0.99	0.00
60.00	1.20	0.09	0.99	0.00
65.00	1.20	0.09	0.99	0.00
70.00	1.20	0.09	0.99	0.00
75.00	1.20	0.09	0.99	0.00
80.00	1.20	0.09	0.99	0.00
85.00	1.20	0.09	0.99	0.00
90.00	1.20	0.09	0.99	0.00
95.00	1.20	0.09	0.99	0.00
100.00	1.20	0.09	0.99	0.00
105.00	1.20	0.09	0.99	0.00
110.00	1.20	0.09	0.99	0.00
115.00	1.20	0.09	0.99	0.00
120.00	1.20	0.09	0.99	0.00
125.00	1.20	0.09	0.99	0.00
130.00	1.20	0.09	0.99	0.00
135.00	1.20	0.09	0.99	0.00
140.00	1.20	0.09	0.99	0.00
145.00	1.20	0.09	0.99	0.00
150.00	1.20	0.09	0.99	0.00
155.00	1.20	0.09	0.99	0.00
160.00	1.20	0.09	0.99	0.00
165.00	1.20	0.09	0.99	0.00
170.00	1.20	0.09	0.99	0.00
175.00	1.20	0.09	0.99	0.00
180.00	1.20	0.09	0.99	0.00
185.00	1.20	0.09	0.99	0.00
190.00	1.20	0.09	0.99	0.00
195.00	1.20	0.09	0.99	0.00
200.00	1.20	0.09	0.99	0.00
205.00	1.20	0.09	0.99	0.00
210.00	1.20	0.09	0.99	0.00
215.00	1.20	0.09	0.99	0.00
220.00	1.20	0.09	0.99	0.00
225.00	1.20	0.09	0.99	0.00
230.00	1.20	0.09	0.99	0.00
235.00	1.20	0.09	0.99	0.00
240.00	1.20	0.09	0.99	0.00

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Summary for Subcatchment PDA-1.4E: Subcat PDA-1.4E

Runoff = 0.60 cfs @ 12.09 hrs, Volume= 2,084 cf, Depth= 0.64"
Routed to Pond 18P : Sand Filter 2

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
14,786	74	>75% Grass cover, Good, HSG C
7	80	>75% Grass cover, Good, HSG D
24,452	98	Paved parking, HSG C
39,245	89	Weighted Average
14,794	74	37.70% Pervious Area
24,452	98	62.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4E: Subcat PDA-1.4E

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.02**
15.00	1.03	0.03	0.82	**0.03**
20.00	**1.15**	**0.05**	**0.94**	0.01
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

Summary for Subcatchment PDA-1.4F: Subcat PDA-1.4F

Runoff = 0.78 cfs @ 12.19 hrs, Volume= 3,505 cf, Depth= 0.57"
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
33,264	74	>75% Grass cover, Good, HSG C
3	80	>75% Grass cover, Good, HSG D
36,167	98	Paved parking, HSG C
4,425	98	Paved parking, HSG D
73,858	87	Weighted Average
33,267	74	45.04% Pervious Area
40,591	98	54.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	100	0.0105	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.2	42	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.8	204	0.0090	1.93		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
14.5	346	Total			

Hydrograph for Subcatchment PDA-1.4F: Subcat PDA-1.4F

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.04**
15.00	1.03	0.03	0.82	**0.05**
20.00	**1.15**	**0.05**	**0.94**	0.02
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

Summary for Subcatchment PDA-1.4G: Subcat PDA-1.4G

Runoff = 0.34 cfs @ 12.09 hrs, Volume= 1,174 cf, Depth= 0.63"
Routed to Pond 19P : Sand Filter 3

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
8,361	74	>75% Grass cover, Good, HSG C
160	80	>75% Grass cover, Good, HSG D
13,763	98	Paved parking, HSG C
22,284	89	Weighted Average
8,521	74	38.24% Pervious Area
13,763	98	61.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4G: Subcat PDA-1.4G

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.01**
15.00	1.03	0.03	0.82	**0.02**
20.00	**1.15**	**0.05**	**0.94**	0.01
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

Summary for Subcatchment PDA-1.4H: Subcat PDA-1.4H

Runoff = 0.01 cfs @ 12.09 hrs, Volume= 101 cf, Depth= 0.11"
Routed to Pond 4P : Detention Basin 2

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
9,974	74	>75% Grass cover, Good, HSG C
169	80	>75% Grass cover, Good, HSG D
600	98	Paved parking, HSG C
10,744	75	Weighted Average
10,143	74	94.41% Pervious Area
600	98	5.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4H: Subcat PDA-1.4H

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.00**
15.00	1.03	0.03	0.82	**0.00**
20.00	**1.15**	**0.05**	**0.94**	0.00
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

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Summary for Subcatchment PDA-1.4I: Subcat PDA-1.4I

Runoff = 0.07 cfs @ 12.09 hrs, Volume= 255 cf, Depth= 0.31"
Routed to Pond 12P : Infiltration Basin 1

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
6,972	74	>75% Grass cover, Good, HSG C
194	80	>75% Grass cover, Good, HSG D
2,658	98	Paved parking, HSG C
0	98	Roofs, HSG C
9,824	81	Weighted Average
7,166	74	72.94% Pervious Area
2,658	98	27.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4I: Subcat PDA-1.4I

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.00**
15.00	1.03	0.03	0.82	**0.00**
20.00	**1.15**	**0.05**	**0.94**	0.00
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

Summary for Subcatchment PDA-1.4J: Subcat PDA-1.4J

Runoff = 0.17 cfs @ 12.12 hrs, Volume= 920 cf, Depth= 0.19"
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
22,085	74	>75% Grass cover, Good, HSG C
32,367	80	>75% Grass cover, Good, HSG D
4,308	98	Paved parking, HSG C
392	98	Paved parking, HSG D
314	98	Unconnected pavement, HSG D
59,466	79	Weighted Average
54,766	78	92.10% Pervious Area
4,700	98	7.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4J: Subcat PDA-1.4J

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.00**
15.00	1.03	0.06	0.82	**0.02**
20.00	**1.15**	**0.10**	**0.94**	0.01
25.00	**1.20**	**0.12**	**0.99**	0.00
30.00	1.20	0.12	0.99	0.00
35.00	1.20	0.12	0.99	0.00
40.00	1.20	0.12	0.99	0.00
45.00	1.20	0.12	0.99	0.00
50.00	1.20	0.12	0.99	0.00
55.00	1.20	0.12	0.99	0.00
60.00	1.20	0.12	0.99	0.00
65.00	1.20	0.12	0.99	0.00
70.00	1.20	0.12	0.99	0.00
75.00	1.20	0.12	0.99	0.00
80.00	1.20	0.12	0.99	0.00
85.00	1.20	0.12	0.99	0.00
90.00	1.20	0.12	0.99	0.00
95.00	1.20	0.12	0.99	0.00
100.00	1.20	0.12	0.99	0.00
105.00	1.20	0.12	0.99	0.00
110.00	1.20	0.12	0.99	0.00
115.00	1.20	0.12	0.99	0.00
120.00	1.20	0.12	0.99	0.00
125.00	1.20	0.12	0.99	0.00
130.00	1.20	0.12	0.99	0.00
135.00	1.20	0.12	0.99	0.00
140.00	1.20	0.12	0.99	0.00
145.00	1.20	0.12	0.99	0.00
150.00	1.20	0.12	0.99	0.00
155.00	1.20	0.12	0.99	0.00
160.00	1.20	0.12	0.99	0.00
165.00	1.20	0.12	0.99	0.00
170.00	1.20	0.12	0.99	0.00
175.00	1.20	0.12	0.99	0.00
180.00	1.20	0.12	0.99	0.00
185.00	1.20	0.12	0.99	0.00
190.00	1.20	0.12	0.99	0.00
195.00	1.20	0.12	0.99	0.00
200.00	1.20	0.12	0.99	0.00
205.00	1.20	0.12	0.99	0.00
210.00	1.20	0.12	0.99	0.00
215.00	1.20	0.12	0.99	0.00
220.00	1.20	0.12	0.99	0.00
225.00	1.20	0.12	0.99	0.00
230.00	1.20	0.12	0.99	0.00
235.00	1.20	0.12	0.99	0.00
240.00	1.20	0.12	0.99	0.00

Summary for Subcatchment PDA-1.4K: Subcat PDA-1.4K

Runoff = 0.37 cfs @ 12.09 hrs, Volume= 1,262 cf, Depth= 0.80"
Routed to Pond 9P : Sand Filter 5

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
3,577	74	>75% Grass cover, Good, HSG C
173	80	>75% Grass cover, Good, HSG D
15,126	98	Paved parking, HSG C
18,876	93	Weighted Average
3,751	74	19.87% Pervious Area
15,126	98	80.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4K: Subcat PDA-1.4K

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.01**
15.00	1.03	0.03	0.82	**0.02**
20.00	**1.15**	**0.05**	**0.94**	0.01
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

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Summary for Subcatchment PDA-1.4L: Subcat PDA-1.4L

Runoff = 0.07 cfs @ 12.12 hrs, Volume= 286 cf, Depth= 0.29"
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
9,069	74	>75% Grass cover, Good, HSG C
2,908	98	Paved parking, HSG C
1	98	Roofs, HSG C
11,978	80	Weighted Average
9,069	74	75.72% Pervious Area
2,909	98	24.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	32	0.0120	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
3.7	43	0.0400	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
8.5	75	Total			

Hydrograph for Subcatchment PDA-1.4L: Subcat PDA-1.4L

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.00**
15.00	1.03	0.03	0.82	**0.00**
20.00	**1.15**	**0.05**	**0.94**	0.00
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

Summary for Subcatchment PDA-1.4M: Subcat PDA-1.4M

Runoff = 0.00 cfs @ 12.20 hrs, Volume= 40 cf, Depth= 0.10"
Routed to Pond 9P : Sand Filter 5

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
4,536	74	>75% Grass cover, Good, HSG C
199	98	Paved parking, HSG C
4,734	75	Weighted Average
4,536	74	95.80% Pervious Area
199	98	4.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
1.6	66	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.3	166	Total			

Hydrograph for Subcatchment PDA-1.4M: Subcat PDA-1.4M

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.00**
15.00	1.03	0.03	0.82	**0.00**
20.00	**1.15**	**0.05**	**0.94**	0.00
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

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Summary for Subcatchment PDA-2.1A: Subcat PDA-2.1A

Runoff = 1.61 cfs @ 12.22 hrs, Volume= 8,689 cf, Depth= 0.30"
Routed to Pond 28P : DIV-01

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
244,846	74	>75% Grass cover, Good, HSG C
65	80	>75% Grass cover, Good, HSG D
7,583	87	Dirt roads, HSG C
4,725	96	Gravel surface, HSG C
86,246	98	Paved parking, HSG C
4,565	98	Unconnected pavement, HSG C
107	70	Woods, Good, HSG C
348,138	81	Weighted Average
261,892	75	75.23% Pervious Area
86,246	98	24.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
2.5	103	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	66	0.0189	0.96		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.3	269	Total			

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Hydrograph for Subcatchment PDA-2.1A: Subcat PDA-2.1A

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.01
10.00	0.23	0.00	0.09	**0.08**
15.00	1.03	0.03	0.82	**0.15**
20.00	**1.15**	**0.06**	**0.94**	0.05
25.00	**1.20**	**0.07**	**0.99**	0.00
30.00	1.20	0.07	0.99	0.00
35.00	1.20	0.07	0.99	0.00
40.00	1.20	0.07	0.99	0.00
45.00	1.20	0.07	0.99	0.00
50.00	1.20	0.07	0.99	0.00
55.00	1.20	0.07	0.99	0.00
60.00	1.20	0.07	0.99	0.00
65.00	1.20	0.07	0.99	0.00
70.00	1.20	0.07	0.99	0.00
75.00	1.20	0.07	0.99	0.00
80.00	1.20	0.07	0.99	0.00
85.00	1.20	0.07	0.99	0.00
90.00	1.20	0.07	0.99	0.00
95.00	1.20	0.07	0.99	0.00
100.00	1.20	0.07	0.99	0.00
105.00	1.20	0.07	0.99	0.00
110.00	1.20	0.07	0.99	0.00
115.00	1.20	0.07	0.99	0.00
120.00	1.20	0.07	0.99	0.00
125.00	1.20	0.07	0.99	0.00
130.00	1.20	0.07	0.99	0.00
135.00	1.20	0.07	0.99	0.00
140.00	1.20	0.07	0.99	0.00
145.00	1.20	0.07	0.99	0.00
150.00	1.20	0.07	0.99	0.00
155.00	1.20	0.07	0.99	0.00
160.00	1.20	0.07	0.99	0.00
165.00	1.20	0.07	0.99	0.00
170.00	1.20	0.07	0.99	0.00
175.00	1.20	0.07	0.99	0.00
180.00	1.20	0.07	0.99	0.00
185.00	1.20	0.07	0.99	0.00
190.00	1.20	0.07	0.99	0.00
195.00	1.20	0.07	0.99	0.00
200.00	1.20	0.07	0.99	0.00
205.00	1.20	0.07	0.99	0.00
210.00	1.20	0.07	0.99	0.00
215.00	1.20	0.07	0.99	0.00
220.00	1.20	0.07	0.99	0.00
225.00	1.20	0.07	0.99	0.00
230.00	1.20	0.07	0.99	0.00
235.00	1.20	0.07	0.99	0.00
240.00	1.20	0.07	0.99	0.00

Summary for Subcatchment PDA-2.1B: Subcat PDA-2.1B

Runoff = 0.12 cfs @ 12.47 hrs, Volume= 1,299 cf, Depth= 0.10"
Routed to Pond 15P : Detention Basin 1

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
135,152	74	>75% Grass cover, Good, HSG C
9,554	87	Dirt roads, HSG C
4,830	98	Paved parking, HSG C
2,421	98	Unconnected pavement, HSG C
151,957	76	Weighted Average
147,127	75	96.82% Pervious Area
4,830	98	3.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.2	23	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.0	123	Total			

Hydrograph for Subcatchment PDA-2.1B: Subcat PDA-2.1B

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.00**
15.00	1.03	0.03	0.82	**0.03**
20.00	**1.15**	**0.06**	**0.94**	0.01
25.00	**1.20**	**0.07**	**0.99**	0.00
30.00	1.20	0.07	0.99	0.00
35.00	1.20	0.07	0.99	0.00
40.00	1.20	0.07	0.99	0.00
45.00	1.20	0.07	0.99	0.00
50.00	1.20	0.07	0.99	0.00
55.00	1.20	0.07	0.99	0.00
60.00	1.20	0.07	0.99	0.00
65.00	1.20	0.07	0.99	0.00
70.00	1.20	0.07	0.99	0.00
75.00	1.20	0.07	0.99	0.00
80.00	1.20	0.07	0.99	0.00
85.00	1.20	0.07	0.99	0.00
90.00	1.20	0.07	0.99	0.00
95.00	1.20	0.07	0.99	0.00
100.00	1.20	0.07	0.99	0.00
105.00	1.20	0.07	0.99	0.00
110.00	1.20	0.07	0.99	0.00
115.00	1.20	0.07	0.99	0.00
120.00	1.20	0.07	0.99	0.00
125.00	1.20	0.07	0.99	0.00
130.00	1.20	0.07	0.99	0.00
135.00	1.20	0.07	0.99	0.00
140.00	1.20	0.07	0.99	0.00
145.00	1.20	0.07	0.99	0.00
150.00	1.20	0.07	0.99	0.00
155.00	1.20	0.07	0.99	0.00
160.00	1.20	0.07	0.99	0.00
165.00	1.20	0.07	0.99	0.00
170.00	1.20	0.07	0.99	0.00
175.00	1.20	0.07	0.99	0.00
180.00	1.20	0.07	0.99	0.00
185.00	1.20	0.07	0.99	0.00
190.00	1.20	0.07	0.99	0.00
195.00	1.20	0.07	0.99	0.00
200.00	1.20	0.07	0.99	0.00
205.00	1.20	0.07	0.99	0.00
210.00	1.20	0.07	0.99	0.00
215.00	1.20	0.07	0.99	0.00
220.00	1.20	0.07	0.99	0.00
225.00	1.20	0.07	0.99	0.00
230.00	1.20	0.07	0.99	0.00
235.00	1.20	0.07	0.99	0.00
240.00	1.20	0.07	0.99	0.00

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Summary for Subcatchment PDA-2.2A: Subcat PDA-2.2A

Runoff = 0.74 cfs @ 12.17 hrs, Volume= 3,748 cf, Depth= 0.29"
Routed to Link 7L : DP 2.2 - Silver Creek West Branch

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
115,003	74	>75% Grass cover, Good, HSG C
36,719	98	Paved parking, HSG C
4,050	98	Unconnected pavement, HSG C
279	70	Woods, Good, HSG C
156,051	80	Weighted Average
119,332	75	76.47% Pervious Area
36,719	98	23.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.9					**Direct Entry, PER EDA-2.2A**

Hydrograph for Subcatchment PDA-2.2A: Subcat PDA-2.2A

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.03**
15.00	1.03	0.03	0.82	**0.06**
20.00	**1.15**	**0.06**	**0.94**	0.02
25.00	**1.20**	**0.07**	**0.99**	0.00
30.00	1.20	0.07	0.99	0.00
35.00	1.20	0.07	0.99	0.00
40.00	1.20	0.07	0.99	0.00
45.00	1.20	0.07	0.99	0.00
50.00	1.20	0.07	0.99	0.00
55.00	1.20	0.07	0.99	0.00
60.00	1.20	0.07	0.99	0.00
65.00	1.20	0.07	0.99	0.00
70.00	1.20	0.07	0.99	0.00
75.00	1.20	0.07	0.99	0.00
80.00	1.20	0.07	0.99	0.00
85.00	1.20	0.07	0.99	0.00
90.00	1.20	0.07	0.99	0.00
95.00	1.20	0.07	0.99	0.00
100.00	1.20	0.07	0.99	0.00
105.00	1.20	0.07	0.99	0.00
110.00	1.20	0.07	0.99	0.00
115.00	1.20	0.07	0.99	0.00
120.00	1.20	0.07	0.99	0.00
125.00	1.20	0.07	0.99	0.00
130.00	1.20	0.07	0.99	0.00
135.00	1.20	0.07	0.99	0.00
140.00	1.20	0.07	0.99	0.00
145.00	1.20	0.07	0.99	0.00
150.00	1.20	0.07	0.99	0.00
155.00	1.20	0.07	0.99	0.00
160.00	1.20	0.07	0.99	0.00
165.00	1.20	0.07	0.99	0.00
170.00	1.20	0.07	0.99	0.00
175.00	1.20	0.07	0.99	0.00
180.00	1.20	0.07	0.99	0.00
185.00	1.20	0.07	0.99	0.00
190.00	1.20	0.07	0.99	0.00
195.00	1.20	0.07	0.99	0.00
200.00	1.20	0.07	0.99	0.00
205.00	1.20	0.07	0.99	0.00
210.00	1.20	0.07	0.99	0.00
215.00	1.20	0.07	0.99	0.00
220.00	1.20	0.07	0.99	0.00
225.00	1.20	0.07	0.99	0.00
230.00	1.20	0.07	0.99	0.00
235.00	1.20	0.07	0.99	0.00
240.00	1.20	0.07	0.99	0.00

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Summary for Subcatchment PDA-2.2B: Subcat PDA-2.2B

Runoff = 0.03 cfs @ 12.53 hrs, Volume= 606 cf, Depth= 0.05"
Routed to Link 6L : DP 2.1 - West Wetland

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
51,518	74	>75% Grass cover, Good, HSG C
2,379	98	Paved parking, HSG C
98,443	70	Woods, Good, HSG C
152,340	72	Weighted Average
149,961	71	98.44% Pervious Area
2,379	98	1.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.9	100	0.0120	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
14.1	465	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.0	565	Total			

Hydrograph for Subcatchment PDA-2.2B: Subcat PDA-2.2B

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.00**
15.00	1.03	0.01	0.82	**0.02**
20.00	**1.15**	**0.02**	**0.94**	0.01
25.00	**1.20**	**0.03**	**0.99**	0.00
30.00	1.20	0.03	0.99	0.00
35.00	1.20	0.03	0.99	0.00
40.00	1.20	0.03	0.99	0.00
45.00	1.20	0.03	0.99	0.00
50.00	1.20	0.03	0.99	0.00
55.00	1.20	0.03	0.99	0.00
60.00	1.20	0.03	0.99	0.00
65.00	1.20	0.03	0.99	0.00
70.00	1.20	0.03	0.99	0.00
75.00	1.20	0.03	0.99	0.00
80.00	1.20	0.03	0.99	0.00
85.00	1.20	0.03	0.99	0.00
90.00	1.20	0.03	0.99	0.00
95.00	1.20	0.03	0.99	0.00
100.00	1.20	0.03	0.99	0.00
105.00	1.20	0.03	0.99	0.00
110.00	1.20	0.03	0.99	0.00
115.00	1.20	0.03	0.99	0.00
120.00	1.20	0.03	0.99	0.00
125.00	1.20	0.03	0.99	0.00
130.00	1.20	0.03	0.99	0.00
135.00	1.20	0.03	0.99	0.00
140.00	1.20	0.03	0.99	0.00
145.00	1.20	0.03	0.99	0.00
150.00	1.20	0.03	0.99	0.00
155.00	1.20	0.03	0.99	0.00
160.00	1.20	0.03	0.99	0.00
165.00	1.20	0.03	0.99	0.00
170.00	1.20	0.03	0.99	0.00
175.00	1.20	0.03	0.99	0.00
180.00	1.20	0.03	0.99	0.00
185.00	1.20	0.03	0.99	0.00
190.00	1.20	0.03	0.99	0.00
195.00	1.20	0.03	0.99	0.00
200.00	1.20	0.03	0.99	0.00
205.00	1.20	0.03	0.99	0.00
210.00	1.20	0.03	0.99	0.00
215.00	1.20	0.03	0.99	0.00
220.00	1.20	0.03	0.99	0.00
225.00	1.20	0.03	0.99	0.00
230.00	1.20	0.03	0.99	0.00
235.00	1.20	0.03	0.99	0.00
240.00	1.20	0.03	0.99	0.00

Summary for Subcatchment PDA-2.2C.a: Subcat PDA-2.2C.a

Runoff = 2.23 cfs @ 12.09 hrs, Volume= 7,448 cf, Depth= 0.99"
Routed to Pond 17P : Track and Field- stone base

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
90,671	98	Paved parking, HSG C
90,671	98	Weighted Average
0	74	0.00% Pervious Area
90,671	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-2.2C.a: Subcat PDA-2.2C.a

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.01
10.00	0.23	0.00	0.09	**0.09**
15.00	1.03	0.03	0.82	**0.09**
20.00	**1.15**	**0.05**	**0.94**	0.03
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

Summary for Subcatchment PDA-2.2C.b: Subcat PDA-2.2C.b

Runoff = 1.50 cfs @ 12.09 hrs, Volume= 5,025 cf, Depth= 0.99"
Routed to Pond 35P : Track and Field-manifold

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
4	74	>75% Grass cover, Good, HSG C
61,181	98	Paved parking, HSG C
61,186	98	Weighted Average
4	74	0.01% Pervious Area
61,181	98	99.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-2.2C.b: Subcat PDA-2.2C.b

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.01
10.00	0.23	0.00	0.09	**0.06**
15.00	1.03	0.03	0.82	**0.06**
20.00	**1.15**	**0.05**	**0.94**	0.02
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

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Summary for Subcatchment PDA-ROOF1.3: Subcat PDA-ROOF1.3

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 803 cf, Depth= 0.99"
Routed to Pond 2P : Bio 3

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
0	98	Paved parking, HSG C
9,782	98	Roofs, HSG C
9,782	98	Weighted Average
0	74	0.00% Pervious Area
9,782	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-ROOF1.3: Subcat PDA-ROOF1.3

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.01**
15.00	1.03	0.03	0.82	**0.01**
20.00	**1.15**	**0.05**	**0.94**	0.00
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

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Summary for Subcatchment PDA-ROOF1.4: Subcat PDA-ROOF1.4

Runoff = 1.43 cfs @ 12.09 hrs, Volume= 4,781 cf, Depth= 0.99"
Routed to Pond 12P : Infiltration Basin 1

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
1	98	Paved parking, HSG C
58,209	98	Roofs, HSG C
58,210	98	Weighted Average
0	74	0.00% Pervious Area
58,210	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-ROOF1.4: Subcat PDA-ROOF1.4

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.06**
15.00	1.03	0.03	0.82	**0.06**
20.00	**1.15**	**0.05**	**0.94**	0.02
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

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Summary for Subcatchment PDA-ROOF2.1: Subcat PDA-ROOF2.1

Runoff = 0.76 cfs @ 12.09 hrs, Volume= 2,553 cf, Depth= 0.99"
Routed to Pond 28P : DIV-01

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-240.00 hrs, dt= 0.05
Type III 24-hr WQv Rainfall=1.20"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
31,087	98	Roofs, HSG C
31,087	98	Weighted Average
0	74	0.00% Pervious Area
31,087	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-ROOF2.1: Subcat PDA-ROOF2.1

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
5.00	0.07	0.00	0.00	0.00
10.00	0.23	0.00	0.09	**0.03**
15.00	1.03	0.03	0.82	**0.03**
20.00	**1.15**	**0.05**	**0.94**	0.01
25.00	**1.20**	**0.06**	**0.99**	0.00
30.00	1.20	0.06	0.99	0.00
35.00	1.20	0.06	0.99	0.00
40.00	1.20	0.06	0.99	0.00
45.00	1.20	0.06	0.99	0.00
50.00	1.20	0.06	0.99	0.00
55.00	1.20	0.06	0.99	0.00
60.00	1.20	0.06	0.99	0.00
65.00	1.20	0.06	0.99	0.00
70.00	1.20	0.06	0.99	0.00
75.00	1.20	0.06	0.99	0.00
80.00	1.20	0.06	0.99	0.00
85.00	1.20	0.06	0.99	0.00
90.00	1.20	0.06	0.99	0.00
95.00	1.20	0.06	0.99	0.00
100.00	1.20	0.06	0.99	0.00
105.00	1.20	0.06	0.99	0.00
110.00	1.20	0.06	0.99	0.00
115.00	1.20	0.06	0.99	0.00
120.00	1.20	0.06	0.99	0.00
125.00	1.20	0.06	0.99	0.00
130.00	1.20	0.06	0.99	0.00
135.00	1.20	0.06	0.99	0.00
140.00	1.20	0.06	0.99	0.00
145.00	1.20	0.06	0.99	0.00
150.00	1.20	0.06	0.99	0.00
155.00	1.20	0.06	0.99	0.00
160.00	1.20	0.06	0.99	0.00
165.00	1.20	0.06	0.99	0.00
170.00	1.20	0.06	0.99	0.00
175.00	1.20	0.06	0.99	0.00
180.00	1.20	0.06	0.99	0.00
185.00	1.20	0.06	0.99	0.00
190.00	1.20	0.06	0.99	0.00
195.00	1.20	0.06	0.99	0.00
200.00	1.20	0.06	0.99	0.00
205.00	1.20	0.06	0.99	0.00
210.00	1.20	0.06	0.99	0.00
215.00	1.20	0.06	0.99	0.00
220.00	1.20	0.06	0.99	0.00
225.00	1.20	0.06	0.99	0.00
230.00	1.20	0.06	0.99	0.00
235.00	1.20	0.06	0.99	0.00
240.00	1.20	0.06	0.99	0.00

Summary for Pond 1P: Bio 4

Inflow Area = 16,850 sf, 40.99% Impervious, Inflow Depth = 0.44" for WQv event
Inflow = 0.17 cfs @ 12.10 hrs, Volume= 618 cf
Outflow = 0.00 cfs @ 10.50 hrs, Volume= 618 cf, Atten= 97%, Lag= 0.0 min
Discarded = 0.00 cfs @ 10.50 hrs, Volume= 618 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 58.39' @ 17.54 hrs Surf.Area= 724 sf Storage= 382 cf

Plug-Flow detention time= 787.0 min calculated for 618 cf (100% of inflow)
Center-of-Mass det. time= 787.2 min (1,587.0 - 799.9)

Volume	Invert	Avail.Storage	Storage Description
#1	56.79'	3,573 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.79	724	0.0	0	0
56.80	724	33.0	2	2
59.79	724	33.0	714	717
59.80	724	100.0	7	724
60.00	809	100.0	153	877
61.00	1,346	100.0	1,078	1,955
62.00	1,891	100.0	1,619	3,573

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.79'	**0.270 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#2	Primary	60.30'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 10.50 hrs HW=56.84' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.79' TW=0.00' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

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Hydrograph for Pond 1P: Bio 4

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	56.79	0.00	0.00	**0.00**
5.00	0.00	0	56.79	0.00	0.00	0.00
10.00	**0.01**	8	56.82	**0.00**	**0.00**	0.00
15.00	**0.01**	**366**	**58.32**	**0.00**	**0.00**	0.00
20.00	0.00	**375**	**58.36**	0.00	0.00	0.00
25.00	0.00	333	58.19	0.00	0.00	0.00
30.00	0.00	252	57.84	0.00	0.00	0.00
35.00	0.00	170	57.50	0.00	0.00	0.00
40.00	0.00	89	57.16	0.00	0.00	0.00
45.00	0.00	8	56.82	0.00	0.00	0.00
50.00	0.00	0	56.79	0.00	0.00	0.00
55.00	0.00	0	56.79	0.00	0.00	0.00
60.00	0.00	0	56.79	0.00	0.00	0.00
65.00	0.00	0	56.79	0.00	0.00	0.00
70.00	0.00	0	56.79	0.00	0.00	0.00
75.00	0.00	0	56.79	0.00	0.00	0.00
80.00	0.00	0	56.79	0.00	0.00	0.00
85.00	0.00	0	56.79	0.00	0.00	0.00
90.00	0.00	0	56.79	0.00	0.00	0.00
95.00	0.00	0	56.79	0.00	0.00	0.00
100.00	0.00	0	56.79	0.00	0.00	0.00
105.00	0.00	0	56.79	0.00	0.00	0.00
110.00	0.00	0	56.79	0.00	0.00	0.00
115.00	0.00	0	56.79	0.00	0.00	0.00
120.00	0.00	0	56.79	0.00	0.00	0.00
125.00	0.00	0	56.79	0.00	0.00	0.00
130.00	0.00	0	56.79	0.00	0.00	0.00
135.00	0.00	0	56.79	0.00	0.00	0.00
140.00	0.00	0	56.79	0.00	0.00	0.00
145.00	0.00	0	56.79	0.00	0.00	0.00
150.00	0.00	0	56.79	0.00	0.00	0.00
155.00	0.00	0	56.79	0.00	0.00	0.00
160.00	0.00	0	56.79	0.00	0.00	0.00
165.00	0.00	0	56.79	0.00	0.00	0.00
170.00	0.00	0	56.79	0.00	0.00	0.00
175.00	0.00	0	56.79	0.00	0.00	0.00
180.00	0.00	0	56.79	0.00	0.00	0.00
185.00	0.00	0	56.79	0.00	0.00	0.00
190.00	0.00	0	56.79	0.00	0.00	0.00
195.00	0.00	0	56.79	0.00	0.00	0.00
200.00	0.00	0	56.79	0.00	0.00	0.00
205.00	0.00	0	56.79	0.00	0.00	0.00
210.00	0.00	0	56.79	0.00	0.00	0.00
215.00	0.00	0	56.79	0.00	0.00	0.00
220.00	0.00	0	56.79	0.00	0.00	0.00
225.00	0.00	0	56.79	0.00	0.00	0.00
230.00	0.00	0	56.79	0.00	0.00	0.00
235.00	0.00	0	56.79	0.00	0.00	0.00
240.00	0.00	0	56.79	0.00	0.00	0.00

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Stage-Discharge for Pond 1P: Bio 4

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
56.79	0.00	0.00	0.00
56.89	0.00	0.00	0.00
56.99	0.00	0.00	0.00
57.09	0.00	0.00	0.00
57.19	0.00	0.00	0.00
57.29	0.00	0.00	0.00
57.39	0.00	0.00	0.00
57.49	0.00	0.00	0.00
57.59	0.00	0.00	0.00
57.69	0.00	0.00	0.00
57.79	0.00	0.00	0.00
57.89	0.00	0.00	0.00
57.99	0.00	0.00	0.00
58.09	0.00	0.00	0.00
58.19	0.00	0.00	0.00
58.29	0.00	0.00	0.00
58.39	0.00	0.00	0.00
58.49	0.00	0.00	0.00
58.59	0.00	0.00	0.00
58.69	0.00	0.00	0.00
58.79	0.00	0.00	0.00
58.89	0.00	0.00	0.00
58.99	0.00	0.00	0.00
59.09	0.00	0.00	0.00
59.19	0.00	0.00	0.00
59.29	0.00	0.00	0.00
59.39	0.00	0.00	0.00
59.49	0.00	0.00	0.00
59.59	0.00	0.00	0.00
59.69	0.00	0.00	0.00
59.79	0.00	0.00	0.00
59.89	0.00	0.00	0.00
59.99	0.01	0.01	0.00
60.09	0.01	0.01	0.00
60.19	0.01	0.01	0.00
60.29	0.01	0.01	0.00
60.39	1.45	0.01	1.44
60.49	2.11	0.01	2.10
60.59	2.60	0.01	2.59
60.69	3.01	0.01	3.01
60.79	3.38	0.01	3.37
60.89	3.71	0.01	3.70
60.99	4.01	0.01	4.00
61.09	4.29	0.01	4.28
61.19	4.55	0.01	4.54
61.29	4.80	0.01	4.79
61.39	5.04	0.01	5.03
61.49	5.26	0.01	5.25
61.59	5.48	0.01	5.47
61.69	5.69	0.01	5.68
61.79	5.89	0.01	5.88
61.89	6.08	0.01	6.07
61.99	**6.27**	**0.01**	**6.26**

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Stage-Area-Storage for Pond 1P: Bio 4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.79	724	0
56.89	724	24
56.99	724	48
57.09	724	72
57.19	724	96
57.29	724	119
57.39	724	143
57.49	724	167
57.59	724	191
57.69	724	215
57.79	724	239
57.89	724	263
57.99	724	287
58.09	724	311
58.19	724	334
58.29	724	358
58.39	724	382
58.49	724	406
58.59	724	430
58.69	724	454
58.79	724	478
58.89	724	502
58.99	724	526
59.09	724	550
59.19	724	573
59.29	724	597
59.39	724	621
59.49	724	645
59.59	724	669
59.69	724	693
59.79	724	717
59.89	762	791
59.99	805	869
60.09	857	952
60.19	911	1,041
60.29	965	1,134
60.39	1,018	1,234
60.49	1,072	1,338
60.59	1,126	1,448
60.69	1,180	1,563
60.79	1,233	1,684
60.89	1,287	1,810
60.99	1,341	1,941
61.09	1,395	2,078
61.19	1,450	2,220
61.29	1,504	2,368
61.39	1,559	2,521
61.49	1,613	2,680
61.59	1,668	2,844
61.69	1,722	3,013
61.79	1,777	3,188
61.89	1,831	3,369
61.99	**1,886**	**3,554**

Summary for Pond 2P: Bio 3

Inflow Area = 16,632 sf, 77.36% Impervious, Inflow Depth = 0.78" for WQv event
Inflow = 0.32 cfs @ 12.09 hrs, Volume= 1,076 cf
Outflow = 0.01 cfs @ 11.00 hrs, Volume= 1,076 cf, Atten= 95%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Tertiary = 0.01 cfs @ 11.00 hrs, Volume= 1,076 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 58.91' @ 14.93 hrs Surf.Area= 606 sf Storage= 535 cf

Plug-Flow detention time= 336.7 min calculated for 1,076 cf (100% of inflow)
Center-of-Mass det. time= 336.7 min (1,122.5 - 785.7)

Volume	Invert	Avail.Storage	Storage Description
#1	56.24'	3,220 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.24	606	0.0	0	0
56.25	606	33.0	2	2
58.99	606	33.0	548	550
59.00	606	100.0	6	556
60.00	951	100.0	779	1,335
61.00	1,354	100.0	1,153	2,487
61.50	1,576	100.0	733	3,220

Device	Routing	Invert	Outlet Devices
#1	Device 3	56.24'	**1.020 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#2	Primary	59.75'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Tertiary	55.50'	**6.0" Round 6" SUBDRAIN** L= 35.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.50' / 55.20' S= 0.0086 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.24' TW=0.00' (Dynamic Tailwater)
└─**2=Orifice/Grate** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.01 cfs @ 11.00 hrs HW=56.30' TW=0.00' (Dynamic Tailwater)
└─**3=6" SUBDRAIN** (Passes 0.01 cfs of 0.55 cfs potential flow)
└─**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

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Hydrograph for Pond 2P: Bio 3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Tertiary (cfs)
0.00	0.00	0	56.24	0.00	**0.00**	0.00
5.00	0.00	0	56.24	0.00	0.00	0.00
10.00	**0.01**	**3**	**56.26**	**0.01**	0.00	**0.01**
15.00	**0.01**	**535**	**58.91**	**0.01**	0.00	**0.01**
20.00	0.00	416	58.32	0.01	0.00	0.01
25.00	0.00	218	57.33	0.01	0.00	0.01
30.00	0.00	0	56.24	0.00	0.00	0.00
35.00	0.00	0	56.24	0.00	0.00	0.00
40.00	0.00	0	56.24	0.00	0.00	0.00
45.00	0.00	0	56.24	0.00	0.00	0.00
50.00	0.00	0	56.24	0.00	0.00	0.00
55.00	0.00	0	56.24	0.00	0.00	0.00
60.00	0.00	0	56.24	0.00	0.00	0.00
65.00	0.00	0	56.24	0.00	0.00	0.00
70.00	0.00	0	56.24	0.00	0.00	0.00
75.00	0.00	0	56.24	0.00	0.00	0.00
80.00	0.00	0	56.24	0.00	0.00	0.00
85.00	0.00	0	56.24	0.00	0.00	0.00
90.00	0.00	0	56.24	0.00	0.00	0.00
95.00	0.00	0	56.24	0.00	0.00	0.00
100.00	0.00	0	56.24	0.00	0.00	0.00
105.00	0.00	0	56.24	0.00	0.00	0.00
110.00	0.00	0	56.24	0.00	0.00	0.00
115.00	0.00	0	56.24	0.00	0.00	0.00
120.00	0.00	0	56.24	0.00	0.00	0.00
125.00	0.00	0	56.24	0.00	0.00	0.00
130.00	0.00	0	56.24	0.00	0.00	0.00
135.00	0.00	0	56.24	0.00	0.00	0.00
140.00	0.00	0	56.24	0.00	0.00	0.00
145.00	0.00	0	56.24	0.00	0.00	0.00
150.00	0.00	0	56.24	0.00	0.00	0.00
155.00	0.00	0	56.24	0.00	0.00	0.00
160.00	0.00	0	56.24	0.00	0.00	0.00
165.00	0.00	0	56.24	0.00	0.00	0.00
170.00	0.00	0	56.24	0.00	0.00	0.00
175.00	0.00	0	56.24	0.00	0.00	0.00
180.00	0.00	0	56.24	0.00	0.00	0.00
185.00	0.00	0	56.24	0.00	0.00	0.00
190.00	0.00	0	56.24	0.00	0.00	0.00
195.00	0.00	0	56.24	0.00	0.00	0.00
200.00	0.00	0	56.24	0.00	0.00	0.00
205.00	0.00	0	56.24	0.00	0.00	0.00
210.00	0.00	0	56.24	0.00	0.00	0.00
215.00	0.00	0	56.24	0.00	0.00	0.00
220.00	0.00	0	56.24	0.00	0.00	0.00
225.00	0.00	0	56.24	0.00	0.00	0.00
230.00	0.00	0	56.24	0.00	0.00	0.00
235.00	0.00	0	56.24	0.00	0.00	0.00
240.00	0.00	0	56.24	0.00	0.00	0.00

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Stage-Discharge for Pond 2P: Bio 3

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Tertiary (cfs)
56.24	0.00	0.00	0.00
56.34	0.01	0.00	0.01
56.44	0.01	0.00	0.01
56.54	0.01	0.00	0.01
56.64	0.01	0.00	0.01
56.74	0.01	0.00	0.01
56.84	0.01	0.00	0.01
56.94	0.01	0.00	0.01
57.04	0.01	0.00	0.01
57.14	0.01	0.00	0.01
57.24	0.01	0.00	0.01
57.34	0.01	0.00	0.01
57.44	0.01	0.00	0.01
57.54	0.01	0.00	0.01
57.64	0.01	0.00	0.01
57.74	0.01	0.00	0.01
57.84	0.01	0.00	0.01
57.94	0.01	0.00	0.01
58.04	0.01	0.00	0.01
58.14	0.01	0.00	0.01
58.24	0.01	0.00	0.01
58.34	0.01	0.00	0.01
58.44	0.01	0.00	0.01
58.54	0.01	0.00	0.01
58.64	0.01	0.00	0.01
58.74	0.01	0.00	0.01
58.84	0.01	0.00	0.01
58.94	0.01	0.00	0.01
59.04	0.01	0.00	0.01
59.14	0.02	0.00	0.02
59.24	0.02	0.00	0.02
59.34	0.02	0.00	0.02
59.44	0.02	0.00	0.02
59.54	0.02	0.00	0.02
59.64	0.02	0.00	0.02
59.74	0.02	0.00	0.02
59.84	2.91	2.89	0.02
59.94	4.22	4.20	0.02
60.04	5.21	5.19	0.02
60.14	6.04	6.01	0.02
60.24	6.77	6.74	0.02
60.34	7.42	7.40	0.03
60.44	8.03	8.00	0.03
60.54	8.59	8.56	0.03
60.64	9.11	9.08	0.03
60.74	9.61	9.58	0.03
60.84	10.08	10.05	0.03
60.94	10.54	10.51	0.03
61.04	10.97	10.94	0.03
61.14	11.39	11.35	0.03
61.24	11.79	11.75	0.03
61.34	12.18	12.14	0.04
61.44	**12.56**	**12.52**	**0.04**

Stage-Area-Storage for Pond 2P: Bio 3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.24	606	0
56.34	606	20
56.44	606	40
56.54	606	60
56.64	606	80
56.74	606	100
56.84	606	120
56.94	606	140
57.04	606	160
57.14	606	180
57.24	606	200
57.34	606	220
57.44	606	240
57.54	606	260
57.64	606	280
57.74	606	300
57.84	606	320
57.94	606	340
58.04	606	360
58.14	606	380
58.24	606	400
58.34	606	420
58.44	606	440
58.54	606	460
58.64	606	480
58.74	606	500
58.84	606	520
58.94	606	540
59.04	620	581
59.14	654	644
59.24	689	711
59.34	723	782
59.44	758	856
59.54	792	934
59.64	827	1,015
59.74	861	1,099
59.84	896	1,187
59.94	930	1,278
60.04	967	1,373
60.14	1,007	1,472
60.24	1,048	1,574
60.34	1,088	1,681
60.44	1,128	1,792
60.54	1,169	1,907
60.64	1,209	2,026
60.74	1,249	2,149
60.84	1,290	2,276
60.94	1,330	2,406
61.04	1,372	2,542
61.14	1,416	2,681
61.24	1,461	2,825
61.34	1,505	2,973
61.44	**1,549**	**3,126**

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Summary for Pond 3P: DIV-02

Inflow Area = 75,465 sf, 41.23% Impervious, Inflow Depth = 0.28" for WQv event
Inflow = 0.36 cfs @ 12.20 hrs, Volume= 1,775 cf
Outflow = 0.36 cfs @ 12.20 hrs, Volume= 1,775 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.36 cfs @ 12.20 hrs, Volume= 1,775 cf
Routed to Pond 18P : Sand Filter 2
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 56.55' @ 12.20 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.15'	**8.0" Round Culvert** L= 13.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.15' / 54.85' S= 0.1000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.35 sf
#2	Device 3	56.80'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	56.15'	**15.0" Round Culvert** L= 19.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.15' / 55.00' S= 0.0605 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=0.36 cfs @ 12.20 hrs HW=56.54' TW=53.69' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.36 cfs @ 1.69 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.15' TW=0.00' (Dynamic Tailwater)
└**3=Culvert** (Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 3P: DIV-02

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	56.15	0.00	0.00	**0.00**
5.00	0.00	56.17	0.00	0.00	0.00
10.00	**0.02**	**56.22**	**0.02**	**0.02**	0.00
15.00	**0.03**	**56.25**	**0.03**	**0.03**	0.00
20.00	0.01	56.21	0.01	0.01	0.00
25.00	0.00	56.15	0.00	0.00	0.00
30.00	0.00	56.15	0.00	0.00	0.00
35.00	0.00	56.15	0.00	0.00	0.00
40.00	0.00	56.15	0.00	0.00	0.00
45.00	0.00	56.15	0.00	0.00	0.00
50.00	0.00	56.15	0.00	0.00	0.00
55.00	0.00	56.15	0.00	0.00	0.00
60.00	0.00	56.15	0.00	0.00	0.00
65.00	0.00	56.15	0.00	0.00	0.00
70.00	0.00	56.15	0.00	0.00	0.00
75.00	0.00	56.15	0.00	0.00	0.00
80.00	0.00	56.15	0.00	0.00	0.00
85.00	0.00	56.15	0.00	0.00	0.00
90.00	0.00	56.15	0.00	0.00	0.00
95.00	0.00	56.15	0.00	0.00	0.00
100.00	0.00	56.15	0.00	0.00	0.00
105.00	0.00	56.15	0.00	0.00	0.00
110.00	0.00	56.15	0.00	0.00	0.00
115.00	0.00	56.15	0.00	0.00	0.00
120.00	0.00	56.15	0.00	0.00	0.00
125.00	0.00	56.15	0.00	0.00	0.00
130.00	0.00	56.15	0.00	0.00	0.00
135.00	0.00	56.15	0.00	0.00	0.00
140.00	0.00	56.15	0.00	0.00	0.00
145.00	0.00	56.15	0.00	0.00	0.00
150.00	0.00	56.15	0.00	0.00	0.00
155.00	0.00	56.15	0.00	0.00	0.00
160.00	0.00	56.15	0.00	0.00	0.00
165.00	0.00	56.15	0.00	0.00	0.00
170.00	0.00	56.15	0.00	0.00	0.00
175.00	0.00	56.15	0.00	0.00	0.00
180.00	0.00	56.15	0.00	0.00	0.00
185.00	0.00	56.15	0.00	0.00	0.00
190.00	0.00	56.15	0.00	0.00	0.00
195.00	0.00	56.15	0.00	0.00	0.00
200.00	0.00	56.15	0.00	0.00	0.00
205.00	0.00	56.15	0.00	0.00	0.00
210.00	0.00	56.15	0.00	0.00	0.00
215.00	0.00	56.15	0.00	0.00	0.00
220.00	0.00	56.15	0.00	0.00	0.00
225.00	0.00	56.15	0.00	0.00	0.00
230.00	0.00	56.15	0.00	0.00	0.00
235.00	0.00	56.15	0.00	0.00	0.00
240.00	0.00	56.15	0.00	0.00	0.00

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Stage-Discharge for Pond 3P: DIV-02

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
56.15	0.00	0.00	0.00
56.17	0.00	0.00	0.00
56.19	0.00	0.00	0.00
56.21	0.01	0.01	0.00
56.23	0.02	0.02	0.00
56.25	0.03	0.03	0.00
56.27	0.04	0.04	0.00
56.29	0.05	0.05	0.00
56.31	0.07	0.07	0.00
56.33	0.09	0.09	0.00
56.35	0.11	0.11	0.00
56.37	0.13	0.13	0.00
56.39	0.15	0.15	0.00
56.41	0.17	0.17	0.00
56.43	0.20	0.20	0.00
56.45	0.22	0.22	0.00
56.47	0.25	0.25	0.00
56.49	0.28	0.28	0.00
56.51	0.31	0.31	0.00
56.53	0.34	0.34	0.00
56.55	0.37	0.37	0.00
56.57	0.40	0.40	0.00
56.59	0.44	0.44	0.00
56.61	0.47	0.47	0.00
56.63	0.50	0.50	0.00
56.65	0.53	0.53	0.00
56.67	0.57	0.57	0.00
56.69	0.60	0.60	0.00
56.71	0.63	0.63	0.00
56.73	0.66	0.66	0.00
56.75	0.69	0.69	0.00
56.77	0.72	0.72	0.00
56.79	0.74	0.74	0.00
56.81	0.78	0.76	0.02
56.83	0.88	0.78	0.10
56.85	1.02	0.80	0.22
56.87	1.19	0.83	0.36
56.89	1.37	0.85	0.53
56.91	1.58	0.87	0.71
56.93	1.80	0.89	0.92
56.95	2.04	0.91	1.13
56.97	2.29	0.93	1.37
56.99	2.56	0.94	1.61
57.01	2.84	0.96	1.87
57.03	3.13	0.98	2.15
57.05	3.41	1.00	2.41
57.07	3.51	1.02	2.50
57.09	3.61	1.03	2.58
57.11	3.71	1.05	2.66
57.13	3.81	1.07	2.75
57.15	3.91	1.08	2.83
57.17	4.01	1.10	2.91
57.19	4.11	1.12	2.99
57.21	4.20	1.13	3.07
57.23	4.29	1.15	3.15
57.25	4.39	1.16	3.22
57.27	4.48	1.18	3.30
57.29	4.56	1.19	3.37
57.31	4.65	1.21	3.44
57.33	4.72	1.22	3.50
57.35	4.80	1.24	3.56
57.37	4.87	1.25	3.62
57.39	**4.93**	**1.26**	**3.67**

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Stage-Area-Storage for Pond 3P: DIV-02

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
56.15	**0**	56.66	0	57.17	0
56.16	0	56.67	0	57.18	0
56.17	0	56.68	0	57.19	0
56.18	0	56.69	0	57.20	0
56.19	0	56.70	0	57.21	0
56.20	0	56.71	0	57.22	0
56.21	0	56.72	0	57.23	0
56.22	0	56.73	0	57.24	0
56.23	0	56.74	0	57.25	0
56.24	0	56.75	0	57.26	0
56.25	0	56.76	0	57.27	0
56.26	0	56.77	0	57.28	0
56.27	0	56.78	0	57.29	0
56.28	0	56.79	0	57.30	0
56.29	0	56.80	0	57.31	0
56.30	0	56.81	0	57.32	0
56.31	0	56.82	0	57.33	0
56.32	0	56.83	0	57.34	0
56.33	0	56.84	0	57.35	0
56.34	0	56.85	0	57.36	0
56.35	0	56.86	0	57.37	0
56.36	0	56.87	0	57.38	0
56.37	0	56.88	0	57.39	0
56.38	0	56.89	0	57.40	0
56.39	0	56.90	0		
56.40	0	56.91	0		
56.41	0	56.92	0		
56.42	0	56.93	0		
56.43	0	56.94	0		
56.44	0	56.95	0		
56.45	0	56.96	0		
56.46	0	56.97	0		
56.47	0	56.98	0		
56.48	0	56.99	0		
56.49	0	57.00	0		
56.50	0	57.01	0		
56.51	0	57.02	0		
56.52	0	57.03	0		
56.53	0	57.04	0		
56.54	0	57.05	0		
56.55	0	57.06	0		
56.56	0	57.07	0		
56.57	0	57.08	0		
56.58	0	57.09	0		
56.59	0	57.10	0		
56.60	0	57.11	0		
56.61	0	57.12	0		
56.62	0	57.13	0		
56.63	0	57.14	0		
56.64	0	57.15	0		
56.65	0	57.16	0		

Summary for Pond 4P: Detention Basin 2

Inflow Area = 68,038 sf, 61.28% Impervious, Inflow Depth = 0.02" for WQv event
Inflow = 0.01 cfs @ 12.09 hrs, Volume= 101 cf
Outflow = 0.00 cfs @ 17.53 hrs, Volume= 99 cf, Atten= 91%, Lag= 326.3 min
Primary = 0.00 cfs @ 17.53 hrs, Volume= 99 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 4L : DP 1.3 - Culvert 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 55.63' @ 17.53 hrs Surf.Area= 1,978 sf Storage= 59 cf

Plug-Flow detention time= 1,208.5 min calculated for 98 cf (97% of inflow)
Center-of-Mass det. time= 1,195.4 min (2,083.8 - 888.4)

Volume	Invert	Avail.Storage	Storage Description
#1	55.60'	26,026 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.60	1,952	0	0
56.00	2,295	849	849
57.00	3,025	2,660	3,509
58.00	3,843	3,434	6,943
59.00	4,717	4,280	11,223
60.00	5,662	5,190	16,413
61.50	7,155	9,613	26,026

Device	Routing	Invert	Outlet Devices
#1	Primary	55.60'	**24.0" Round Culvert** L= 12.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.60' / 52.60' S= 0.2500 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	55.60'	**1.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	57.50'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	58.25'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#5	Secondary	60.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.00 cfs @ 17.53 hrs HW=55.63' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.00 cfs of 0.00 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.59 fps)
  ├─**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.60' TW=0.00' (Dynamic Tailwater)
└─**5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 4P: Detention Basin 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	55.60	0.00	0.00	**0.00**
5.00	0.00	0	55.60	0.00	0.00	0.00
10.00	**0.00**	4	55.60	0.00	0.00	0.00
15.00	**0.00**	**54**	**55.63**	**0.00**	**0.00**	0.00
20.00	0.00	**57**	**55.63**	**0.00**	**0.00**	0.00
25.00	0.00	49	55.63	0.00	0.00	0.00
30.00	0.00	36	55.62	0.00	0.00	0.00
35.00	0.00	29	55.61	0.00	0.00	0.00
40.00	0.00	24	55.61	0.00	0.00	0.00
45.00	0.00	20	55.61	0.00	0.00	0.00
50.00	0.00	18	55.61	0.00	0.00	0.00
55.00	0.00	16	55.61	0.00	0.00	0.00
60.00	0.00	14	55.61	0.00	0.00	0.00
65.00	0.00	13	55.61	0.00	0.00	0.00
70.00	0.00	12	55.61	0.00	0.00	0.00
75.00	0.00	11	55.61	0.00	0.00	0.00
80.00	0.00	10	55.61	0.00	0.00	0.00
85.00	0.00	9	55.60	0.00	0.00	0.00
90.00	0.00	9	55.60	0.00	0.00	0.00
95.00	0.00	8	55.60	0.00	0.00	0.00
100.00	0.00	8	55.60	0.00	0.00	0.00
105.00	0.00	7	55.60	0.00	0.00	0.00
110.00	0.00	7	55.60	0.00	0.00	0.00
115.00	0.00	7	55.60	0.00	0.00	0.00
120.00	0.00	6	55.60	0.00	0.00	0.00
125.00	0.00	6	55.60	0.00	0.00	0.00
130.00	0.00	6	55.60	0.00	0.00	0.00
135.00	0.00	5	55.60	0.00	0.00	0.00
140.00	0.00	5	55.60	0.00	0.00	0.00
145.00	0.00	5	55.60	0.00	0.00	0.00
150.00	0.00	5	55.60	0.00	0.00	0.00
155.00	0.00	5	55.60	0.00	0.00	0.00
160.00	0.00	5	55.60	0.00	0.00	0.00
165.00	0.00	4	55.60	0.00	0.00	0.00
170.00	0.00	4	55.60	0.00	0.00	0.00
175.00	0.00	4	55.60	0.00	0.00	0.00
180.00	0.00	4	55.60	0.00	0.00	0.00
185.00	0.00	4	55.60	0.00	0.00	0.00
190.00	0.00	4	55.60	0.00	0.00	0.00
195.00	0.00	4	55.60	0.00	0.00	0.00
200.00	0.00	4	55.60	0.00	0.00	0.00
205.00	0.00	3	55.60	0.00	0.00	0.00
210.00	0.00	3	55.60	0.00	0.00	0.00
215.00	0.00	3	55.60	0.00	0.00	0.00
220.00	0.00	3	55.60	0.00	0.00	0.00
225.00	0.00	3	55.60	0.00	0.00	0.00
230.00	0.00	3	55.60	0.00	0.00	0.00
235.00	0.00	3	55.60	0.00	0.00	0.00
240.00	0.00	3	55.60	0.00	0.00	0.00

Stage-Discharge for Pond 4P: Detention Basin 2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
55.60	0.00	0.00	0.00
55.70	0.01	0.01	0.00
55.80	0.02	0.02	0.00
55.90	0.03	0.03	0.00
56.00	0.03	0.03	0.00
56.10	0.04	0.04	0.00
56.20	0.04	0.04	0.00
56.30	0.05	0.05	0.00
56.40	0.05	0.05	0.00
56.50	0.05	0.05	0.00
56.60	0.06	0.06	0.00
56.70	0.06	0.06	0.00
56.80	0.06	0.06	0.00
56.90	0.07	0.07	0.00
57.00	0.07	0.07	0.00
57.10	0.07	0.07	0.00
57.20	0.07	0.07	0.00
57.30	0.08	0.08	0.00
57.40	0.08	0.08	0.00
57.50	0.08	0.08	0.00
57.60	0.18	0.18	0.00
57.70	0.37	0.37	0.00
57.80	0.59	0.59	0.00
57.90	0.85	0.85	0.00
58.00	1.13	1.13	0.00
58.10	1.43	1.43	0.00
58.20	1.74	1.74	0.00
58.30	2.24	2.24	0.00
58.40	3.33	3.33	0.00
58.50	4.74	4.74	0.00
58.60	6.38	6.38	0.00
58.70	8.22	8.22	0.00
58.80	10.21	10.21	0.00
58.90	12.35	12.35	0.00
59.00	14.61	14.61	0.00
59.10	16.99	16.99	0.00
59.20	19.26	19.26	0.00
59.30	19.62	19.62	0.00
59.40	19.98	19.98	0.00
59.50	20.34	20.34	0.00
59.60	20.68	20.68	0.00
59.70	21.03	21.03	0.00
59.80	21.36	21.36	0.00
59.90	21.69	21.69	0.00
60.00	22.02	22.02	0.00
60.10	22.34	22.34	0.00
60.20	23.69	22.66	1.03
60.30	25.88	22.97	2.91
60.40	28.62	23.28	5.34
60.50	31.79	23.58	8.21
60.60	35.33	23.88	11.45
60.70	39.20	24.18	15.02
60.80	43.36	24.47	18.88
60.90	47.79	24.76	23.02
61.00	52.47	25.05	27.42
61.10	57.38	25.33	32.05
61.20	62.51	25.61	36.90
61.30	67.84	25.89	41.95
61.40	73.37	26.16	47.21
61.50	**79.09**	**26.44**	**52.65**

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Stage-Area-Storage for Pond 4P: Detention Basin 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
55.60	1,952	0
55.70	2,038	199
55.80	2,124	408
55.90	2,209	624
56.00	2,295	849
56.10	2,368	1,083
56.20	2,441	1,323
56.30	2,514	1,571
56.40	2,587	1,826
56.50	2,660	2,088
56.60	2,733	2,358
56.70	2,806	2,635
56.80	2,879	2,919
56.90	2,952	3,211
57.00	3,025	3,509
57.10	3,107	3,816
57.20	3,189	4,131
57.30	3,270	4,454
57.40	3,352	4,785
57.50	3,434	5,124
57.60	3,516	5,472
57.70	3,598	5,827
57.80	3,679	6,191
57.90	3,761	6,563
58.00	3,843	6,943
58.10	3,930	7,332
58.20	4,018	7,729
58.30	4,105	8,136
58.40	4,193	8,551
58.50	4,280	8,974
58.60	4,367	9,407
58.70	4,455	9,848
58.80	4,542	10,297
58.90	4,630	10,756
59.00	4,717	11,223
59.10	4,812	11,700
59.20	4,906	12,186
59.30	5,001	12,681
59.40	5,095	13,186
59.50	5,190	13,700
59.60	5,284	14,224
59.70	5,379	14,757
59.80	5,473	15,299
59.90	5,567	15,851
60.00	5,662	16,413
60.10	5,762	16,984
60.20	5,861	17,565
60.30	5,961	18,156
60.40	6,060	18,757
60.50	6,160	19,368
60.60	6,259	19,989
60.70	6,359	20,620
60.80	6,458	21,261
60.90	6,558	21,912
61.00	6,657	22,573
61.10	6,757	23,243
61.20	6,856	23,924
61.30	6,956	24,615
61.40	7,055	25,315
61.50	**7,155**	**26,026**

Summary for Pond 7P: Bio 2

Inflow Area = 26,810 sf, 63.81% Impervious, Inflow Depth = 0.65" for WQv event
Inflow = 0.42 cfs @ 12.09 hrs, Volume= 1,455 cf
Outflow = 0.03 cfs @ 11.50 hrs, Volume= 1,455 cf, Atten= 94%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Tertiary = 0.03 cfs @ 11.50 hrs, Volume= 1,455 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 54.66' @ 13.89 hrs Surf.Area= 1,128 sf Storage= 620 cf

Plug-Flow detention time= 200.5 min calculated for 1,455 cf (100% of inflow)
Center-of-Mass det. time= 200.5 min (989.6 - 789.1)

Volume	Invert	Avail.Storage	Storage Description
#1	52.99'	8,230 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
52.99	1,128	0.0	0	0
53.00	1,128	33.0	4	4
55.99	1,128	33.0	1,113	1,117
56.00	1,742	100.0	14	1,131
57.00	2,537	100.0	2,140	3,271
58.00	3,569	100.0	3,053	6,324
58.50	4,058	100.0	1,907	8,230

Device	Routing	Invert	Outlet Devices
#1	Primary	56.50'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#2	Device 3	52.99'	**1.020 in/hr Exfiltration over Surface area from 52.98' - 55.99'** Excluded Surface area = 0 sf Phase-In= 0.02'
#3	Tertiary	52.25'	**6.0" Vert. subdrain** C= 0.600 Limited to weir flow at low heads
#4	Secondary	57.50'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=52.99' TW=0.00' (Dynamic Tailwater)
└**1=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=52.99' TW=0.00' (Dynamic Tailwater)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.03 cfs @ 11.50 hrs HW=53.05' TW=0.00' (Dynamic Tailwater)
└**3=subdrain** (Passes 0.03 cfs of 0.70 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Hydrograph for Pond 7P: Bio 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
0.00	0.00	0	52.99	0.00	**0.00**	**0.00**	0.00
5.00	0.00	0	52.99	0.00	0.00	0.00	0.00
10.00	**0.02**	**4**	**53.00**	**0.02**	0.00	0.00	**0.02**
15.00	**0.02**	**604**	**54.61**	**0.03**	0.00	0.00	**0.03**
20.00	0.01	318	53.85	0.03	0.00	0.00	0.03
25.00	0.00	0	52.99	0.00	0.00	0.00	0.00
30.00	0.00	0	52.99	0.00	0.00	0.00	0.00
35.00	0.00	0	52.99	0.00	0.00	0.00	0.00
40.00	0.00	0	52.99	0.00	0.00	0.00	0.00
45.00	0.00	0	52.99	0.00	0.00	0.00	0.00
50.00	0.00	0	52.99	0.00	0.00	0.00	0.00
55.00	0.00	0	52.99	0.00	0.00	0.00	0.00
60.00	0.00	0	52.99	0.00	0.00	0.00	0.00
65.00	0.00	0	52.99	0.00	0.00	0.00	0.00
70.00	0.00	0	52.99	0.00	0.00	0.00	0.00
75.00	0.00	0	52.99	0.00	0.00	0.00	0.00
80.00	0.00	0	52.99	0.00	0.00	0.00	0.00
85.00	0.00	0	52.99	0.00	0.00	0.00	0.00
90.00	0.00	0	52.99	0.00	0.00	0.00	0.00
95.00	0.00	0	52.99	0.00	0.00	0.00	0.00
100.00	0.00	0	52.99	0.00	0.00	0.00	0.00
105.00	0.00	0	52.99	0.00	0.00	0.00	0.00
110.00	0.00	0	52.99	0.00	0.00	0.00	0.00
115.00	0.00	0	52.99	0.00	0.00	0.00	0.00
120.00	0.00	0	52.99	0.00	0.00	0.00	0.00
125.00	0.00	0	52.99	0.00	0.00	0.00	0.00
130.00	0.00	0	52.99	0.00	0.00	0.00	0.00
135.00	0.00	0	52.99	0.00	0.00	0.00	0.00
140.00	0.00	0	52.99	0.00	0.00	0.00	0.00
145.00	0.00	0	52.99	0.00	0.00	0.00	0.00
150.00	0.00	0	52.99	0.00	0.00	0.00	0.00
155.00	0.00	0	52.99	0.00	0.00	0.00	0.00
160.00	0.00	0	52.99	0.00	0.00	0.00	0.00
165.00	0.00	0	52.99	0.00	0.00	0.00	0.00
170.00	0.00	0	52.99	0.00	0.00	0.00	0.00
175.00	0.00	0	52.99	0.00	0.00	0.00	0.00
180.00	0.00	0	52.99	0.00	0.00	0.00	0.00
185.00	0.00	0	52.99	0.00	0.00	0.00	0.00
190.00	0.00	0	52.99	0.00	0.00	0.00	0.00
195.00	0.00	0	52.99	0.00	0.00	0.00	0.00
200.00	0.00	0	52.99	0.00	0.00	0.00	0.00
205.00	0.00	0	52.99	0.00	0.00	0.00	0.00
210.00	0.00	0	52.99	0.00	0.00	0.00	0.00
215.00	0.00	0	52.99	0.00	0.00	0.00	0.00
220.00	0.00	0	52.99	0.00	0.00	0.00	0.00
225.00	0.00	0	52.99	0.00	0.00	0.00	0.00
230.00	0.00	0	52.99	0.00	0.00	0.00	0.00
235.00	0.00	0	52.99	0.00	0.00	0.00	0.00
240.00	0.00	0	52.99	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 7P: Bio 2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
52.99	0.00	0.00	0.00	**0.00**
53.19	0.03	0.00	0.00	**0.03**
53.39	0.03	0.00	0.00	0.03
53.59	0.03	0.00	0.00	0.03
53.79	0.03	0.00	0.00	0.03
53.99	0.03	0.00	0.00	0.03
54.19	0.03	0.00	0.00	0.03
54.39	0.03	0.00	0.00	0.03
54.59	0.03	0.00	0.00	0.03
54.79	0.03	0.00	0.00	0.03
54.99	0.03	0.00	0.00	0.03
55.19	0.03	0.00	0.00	0.03
55.39	0.03	0.00	0.00	0.03
55.59	0.03	0.00	0.00	0.03
55.79	0.03	0.00	0.00	0.03
55.99	0.03	0.00	0.00	0.03
56.19	0.03	0.00	0.00	0.03
56.39	0.03	0.00	0.00	0.03
56.59	2.92	2.89	0.00	0.03
56.79	5.21	5.19	0.00	0.03
56.99	6.77	6.74	0.00	0.03
57.19	8.03	8.00	0.00	0.03
57.39	9.11	9.08	0.00	0.03
57.59	10.96	10.05	0.88	0.03
57.79	16.04	10.94	5.08	0.03
57.99	22.89	11.75	11.11	0.03
58.19	31.03	12.52	18.48	0.03
58.39	**40.23**	**13.24**	**26.97**	0.03

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Stage-Area-Storage for Pond 7P: Bio 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
52.99	1,128	0
53.09	1,128	37
53.19	1,128	74
53.29	1,128	112
53.39	1,128	149
53.49	1,128	186
53.59	1,128	223
53.69	1,128	261
53.79	1,128	298
53.89	1,128	335
53.99	1,128	372
54.09	1,128	409
54.19	1,128	447
54.29	1,128	484
54.39	1,128	521
54.49	1,128	558
54.59	1,128	596
54.69	1,128	633
54.79	1,128	670
54.89	1,128	707
54.99	1,128	744
55.09	1,128	782
55.19	1,128	819
55.29	1,128	856
55.39	1,128	893
55.49	1,128	931
55.59	1,128	968
55.69	1,128	1,005
55.79	1,128	1,042
55.89	1,128	1,079
55.99	1,128	1,117
56.09	1,814	1,291
56.19	1,893	1,476
56.29	1,973	1,670
56.39	2,052	1,871
56.49	2,132	2,080
56.59	2,211	2,297
56.69	2,291	2,522
56.79	2,370	2,755
56.89	2,450	2,996
56.99	2,529	3,245
57.09	2,630	3,503
57.19	2,733	3,771
57.29	2,836	4,050
57.39	2,939	4,338
57.49	3,043	4,638
57.59	3,146	4,947
57.69	3,249	5,267
57.79	3,352	5,597
57.89	3,455	5,937
57.99	3,559	6,288
58.09	3,657	6,649
58.19	3,755	7,019
58.29	3,853	7,400
58.39	3,950	7,790
58.49	**4,048**	**8,190**

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Summary for Pond 8P: DIV-04

Inflow Area = 151,857 sf,100.00% Impervious, Inflow Depth = 0.22" for WQv event
Inflow = 1.08 cfs @ 12.24 hrs, Volume= 2,788 cf
Outflow = 1.08 cfs @ 12.24 hrs, Volume= 2,788 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.08 cfs @ 12.24 hrs, Volume= 2,788 cf
Routed to Pond 23P : UGIS-1
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 6L : DP 2.1 - West Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 47.46' @ 12.24 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.90'	**18.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.90' / 46.80' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 3	48.40'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	46.90'	**24.0" Round Culvert** L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.90' / 46.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=1.07 cfs @ 12.24 hrs HW=47.46' TW=46.65' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 1.07 cfs @ 2.64 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=46.90' TW=0.00' (Dynamic Tailwater)
└**3=Culvert** (Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 8P: DIV-04

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	46.90	0.00	0.00	**0.00**
5.00	0.00	46.90	0.00	0.00	0.00
10.00	**0.00**	**46.93**	**0.00**	**0.00**	0.00
15.00	**0.01**	**46.98**	**0.01**	**0.01**	0.00
20.00	0.00	46.91	0.00	0.00	0.00
25.00	0.00	46.90	0.00	0.00	0.00
30.00	0.00	46.90	0.00	0.00	0.00
35.00	0.00	46.90	0.00	0.00	0.00
40.00	0.00	46.90	0.00	0.00	0.00
45.00	0.00	46.90	0.00	0.00	0.00
50.00	0.00	46.90	0.00	0.00	0.00
55.00	0.00	46.90	0.00	0.00	0.00
60.00	0.00	46.90	0.00	0.00	0.00
65.00	0.00	46.90	0.00	0.00	0.00
70.00	0.00	46.90	0.00	0.00	0.00
75.00	0.00	46.90	0.00	0.00	0.00
80.00	0.00	46.90	0.00	0.00	0.00
85.00	0.00	46.90	0.00	0.00	0.00
90.00	0.00	46.90	0.00	0.00	0.00
95.00	0.00	46.90	0.00	0.00	0.00
100.00	0.00	46.90	0.00	0.00	0.00
105.00	0.00	46.90	0.00	0.00	0.00
110.00	0.00	46.90	0.00	0.00	0.00
115.00	0.00	46.90	0.00	0.00	0.00
120.00	0.00	46.90	0.00	0.00	0.00
125.00	0.00	46.90	0.00	0.00	0.00
130.00	0.00	46.90	0.00	0.00	0.00
135.00	0.00	46.90	0.00	0.00	0.00
140.00	0.00	46.90	0.00	0.00	0.00
145.00	0.00	46.90	0.00	0.00	0.00
150.00	0.00	46.90	0.00	0.00	0.00
155.00	0.00	46.90	0.00	0.00	0.00
160.00	0.00	46.90	0.00	0.00	0.00
165.00	0.00	46.90	0.00	0.00	0.00
170.00	0.00	46.90	0.00	0.00	0.00
175.00	0.00	46.90	0.00	0.00	0.00
180.00	0.00	46.90	0.00	0.00	0.00
185.00	0.00	46.90	0.00	0.00	0.00
190.00	0.00	46.90	0.00	0.00	0.00
195.00	0.00	46.90	0.00	0.00	0.00
200.00	0.00	46.90	0.00	0.00	0.00
205.00	0.00	46.90	0.00	0.00	0.00
210.00	0.00	46.90	0.00	0.00	0.00
215.00	0.00	46.90	0.00	0.00	0.00
220.00	0.00	46.90	0.00	0.00	0.00
225.00	0.00	46.90	0.00	0.00	0.00
230.00	0.00	46.90	0.00	0.00	0.00
235.00	0.00	46.90	0.00	0.00	0.00
240.00	0.00	46.90	0.00	0.00	0.00

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Stage-Discharge for Pond 8P: DIV-04

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
46.90	0.00	0.00	0.00
46.92	0.00	0.00	0.00
46.94	0.01	0.01	0.00
46.96	0.02	0.02	0.00
46.98	0.03	0.03	0.00
47.00	0.04	0.04	0.00
47.02	0.06	0.06	0.00
47.04	0.08	0.08	0.00
47.06	0.11	0.11	0.00
47.08	0.13	0.13	0.00
47.10	0.16	0.16	0.00
47.12	0.20	0.20	0.00
47.14	0.23	0.23	0.00
47.16	0.27	0.27	0.00
47.18	0.31	0.31	0.00
47.20	0.35	0.35	0.00
47.22	0.39	0.39	0.00
47.24	0.44	0.44	0.00
47.26	0.48	0.48	0.00
47.28	0.53	0.53	0.00
47.30	0.58	0.58	0.00
47.32	0.64	0.64	0.00
47.34	0.69	0.69	0.00
47.36	0.75	0.75	0.00
47.38	0.81	0.81	0.00
47.40	0.87	0.87	0.00
47.42	0.94	0.94	0.00
47.44	1.00	1.00	0.00
47.46	1.07	1.07	0.00
47.48	1.14	1.14	0.00
47.50	1.21	1.21	0.00
47.52	1.28	1.28	0.00
47.54	1.35	1.35	0.00
47.56	1.42	1.42	0.00
47.58	1.50	1.50	0.00
47.60	1.58	1.58	0.00
47.62	1.66	1.66	0.00
47.64	1.74	1.74	0.00
47.66	1.82	1.82	0.00
47.68	1.91	1.91	0.00
47.70	1.99	1.99	0.00
47.72	2.08	2.08	0.00
47.74	2.16	2.16	0.00
47.76	2.25	2.25	0.00
47.78	2.34	2.34	0.00
47.80	2.43	2.43	0.00
47.82	2.53	2.53	0.00
47.84	2.62	2.62	0.00
47.86	2.71	2.71	0.00
47.88	2.81	2.81	0.00
47.90	2.91	2.91	0.00
47.92	3.00	3.00	0.00
47.94	3.10	3.10	0.00
47.96	3.20	3.20	0.00
47.98	3.30	3.30	0.00
48.00	3.40	3.40	0.00
48.02	3.50	3.50	0.00
48.04	3.61	3.61	0.00
48.06	3.71	3.71	0.00
48.08	3.81	3.81	0.00
48.10	3.92	3.92	0.00
48.12	4.02	4.02	0.00
48.14	4.12	4.12	0.00
48.16	4.23	4.23	0.00
48.18	4.34	4.34	0.00
48.20	4.44	4.44	0.00
48.22	4.55	4.55	0.00
48.24	4.65	4.65	0.00
48.26	4.76	4.76	0.00
48.28	4.87	4.87	0.00
48.30	4.97	4.97	0.00
48.32	5.08	5.08	0.00
48.34	5.19	5.19	0.00
48.36	5.29	5.29	0.00
48.38	5.40	5.40	0.00
48.40	5.50	5.50	0.00
48.42	5.66	5.61	0.06
48.44	5.87	5.71	0.16
48.46	6.10	5.81	0.29
48.48	6.36	5.92	0.44
48.50	6.64	6.02	0.62
48.52	6.93	6.12	0.81
48.54	7.24	6.22	1.02
48.56	7.57	6.32	1.25
48.58	7.91	6.42	1.49
48.60	8.26	6.52	1.74
48.62	8.62	6.61	2.01
48.64	8.97	6.68	2.29
48.66	9.33	6.75	2.58
48.68	9.70	6.82	2.88
48.70	10.07	6.88	3.19
48.72	10.46	6.95	3.51
48.74	10.86	7.01	3.85
48.76	11.26	7.08	4.19
48.78	11.68	7.14	4.54
48.80	12.10	7.20	4.90
48.82	12.53	7.27	5.27
48.84	12.97	7.33	5.64
48.86	13.42	7.39	6.03
48.88	13.87	7.45	6.42
48.90	**14.33**	**7.51**	**6.82**

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Stage-Area-Storage for Pond 8P: DIV-04

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
46.90	**0**	47.92	0
46.92	0	47.94	0
46.94	0	47.96	0
46.96	0	47.98	0
46.98	0	48.00	0
47.00	0	48.02	0
47.02	0	48.04	0
47.04	0	48.06	0
47.06	0	48.08	0
47.08	0	48.10	0
47.10	0	48.12	0
47.12	0	48.14	0
47.14	0	48.16	0
47.16	0	48.18	0
47.18	0	48.20	0
47.20	0	48.22	0
47.22	0	48.24	0
47.24	0	48.26	0
47.26	0	48.28	0
47.28	0	48.30	0
47.30	0	48.32	0
47.32	0	48.34	0
47.34	0	48.36	0
47.36	0	48.38	0
47.38	0	48.40	0
47.40	0	48.42	0
47.42	0	48.44	0
47.44	0	48.46	0
47.46	0	48.48	0
47.48	0	48.50	0
47.50	0	48.52	0
47.52	0	48.54	0
47.54	0	48.56	0
47.56	0	48.58	0
47.58	0	48.60	0
47.60	0	48.62	0
47.62	0	48.64	0
47.64	0	48.66	0
47.66	0	48.68	0
47.68	0	48.70	0
47.70	0	48.72	0
47.72	0	48.74	0
47.74	0	48.76	0
47.76	0	48.78	0
47.78	0	48.80	0
47.80	0	48.82	0
47.82	0	48.84	0
47.84	0	48.86	0
47.86	0	48.88	0
47.88	0	48.90	0
47.90	0		

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Summary for Pond 9P: Sand Filter 5

Inflow Area = 23,611 sf, 64.90% Impervious, Inflow Depth = 0.66" for WQv event
Inflow = 0.37 cfs @ 12.09 hrs, Volume= 1,301 cf
Outflow = 0.01 cfs @ 21.23 hrs, Volume= 1,301 cf, Atten= 99%, Lag= 548.6 min
Discarded = 0.01 cfs @ 21.23 hrs, Volume= 1,301 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 49.35' @ 21.23 hrs Surf.Area= 875 sf Storage= 985 cf

Plug-Flow detention time= 1,842.1 min calculated for 1,301 cf (100% of inflow)
Center-of-Mass det. time= 1,842.5 min (2,631.5 - 789.0)

Volume	Invert	Avail.Storage	Storage Description
#1	45.99'	4,039 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.99	705	0.0	0	0
46.00	705	33.0	2	2
48.99	705	33.0	696	698
49.00	705	100.0	7	705
50.00	1,184	100.0	945	1,649
51.00	1,725	100.0	1,455	3,104
51.50	2,016	100.0	935	4,039

Device	Routing	Invert	Outlet Devices
#1	Discarded	45.99'	**0.270 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#2	Primary	49.75'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Secondary	50.20'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 21.23 hrs HW=49.35' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=45.99' TW=0.00' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=45.99' TW=0.00' (Dynamic Tailwater)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 9P: Sand Filter 5

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	45.99	0.00	0.00	**0.00**	**0.00**
5.00	0.00	1	45.99	0.00	0.00	0.00	0.00
10.00	**0.01**	45	46.18	0.00	0.00	0.00	0.00
15.00	**0.02**	907	49.26	0.01	0.01	0.00	0.00
20.00	0.01	**983**	**49.35**	**0.01**	**0.01**	0.00	0.00
25.00	0.00	**960**	**49.33**	**0.01**	**0.01**	0.00	0.00
30.00	0.00	866	49.21	0.01	0.01	0.00	0.00
35.00	0.00	778	49.10	0.00	0.00	0.00	0.00
40.00	0.00	696	48.98	0.00	0.00	0.00	0.00
45.00	0.00	617	48.64	0.00	0.00	0.00	0.00
50.00	0.00	538	48.30	0.00	0.00	0.00	0.00
55.00	0.00	458	47.96	0.00	0.00	0.00	0.00
60.00	0.00	379	47.62	0.00	0.00	0.00	0.00
65.00	0.00	300	47.28	0.00	0.00	0.00	0.00
70.00	0.00	220	46.94	0.00	0.00	0.00	0.00
75.00	0.00	141	46.60	0.00	0.00	0.00	0.00
80.00	0.00	62	46.26	0.00	0.00	0.00	0.00
85.00	0.00	0	45.99	0.00	0.00	0.00	0.00
90.00	0.00	0	45.99	0.00	0.00	0.00	0.00
95.00	0.00	0	45.99	0.00	0.00	0.00	0.00
100.00	0.00	0	45.99	0.00	0.00	0.00	0.00
105.00	0.00	0	45.99	0.00	0.00	0.00	0.00
110.00	0.00	0	45.99	0.00	0.00	0.00	0.00
115.00	0.00	0	45.99	0.00	0.00	0.00	0.00
120.00	0.00	0	45.99	0.00	0.00	0.00	0.00
125.00	0.00	0	45.99	0.00	0.00	0.00	0.00
130.00	0.00	0	45.99	0.00	0.00	0.00	0.00
135.00	0.00	0	45.99	0.00	0.00	0.00	0.00
140.00	0.00	0	45.99	0.00	0.00	0.00	0.00
145.00	0.00	0	45.99	0.00	0.00	0.00	0.00
150.00	0.00	0	45.99	0.00	0.00	0.00	0.00
155.00	0.00	0	45.99	0.00	0.00	0.00	0.00
160.00	0.00	0	45.99	0.00	0.00	0.00	0.00
165.00	0.00	0	45.99	0.00	0.00	0.00	0.00
170.00	0.00	0	45.99	0.00	0.00	0.00	0.00
175.00	0.00	0	45.99	0.00	0.00	0.00	0.00
180.00	0.00	0	45.99	0.00	0.00	0.00	0.00
185.00	0.00	0	45.99	0.00	0.00	0.00	0.00
190.00	0.00	0	45.99	0.00	0.00	0.00	0.00
195.00	0.00	0	45.99	0.00	0.00	0.00	0.00
200.00	0.00	0	45.99	0.00	0.00	0.00	0.00
205.00	0.00	0	45.99	0.00	0.00	0.00	0.00
210.00	0.00	0	45.99	0.00	0.00	0.00	0.00
215.00	0.00	0	45.99	0.00	0.00	0.00	0.00
220.00	0.00	0	45.99	0.00	0.00	0.00	0.00
225.00	0.00	0	45.99	0.00	0.00	0.00	0.00
230.00	0.00	0	45.99	0.00	0.00	0.00	0.00
235.00	0.00	0	45.99	0.00	0.00	0.00	0.00
240.00	0.00	0	45.99	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 9P: Sand Filter 5

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
45.99	0.00	0.00	0.00	0.00
46.19	0.00	0.00	0.00	0.00
46.39	0.00	0.00	0.00	0.00
46.59	0.00	0.00	0.00	0.00
46.79	0.00	0.00	0.00	0.00
46.99	0.00	0.00	0.00	0.00
47.19	0.00	0.00	0.00	0.00
47.39	0.00	0.00	0.00	0.00
47.59	0.00	0.00	0.00	0.00
47.79	0.00	0.00	0.00	0.00
47.99	0.00	0.00	0.00	0.00
48.19	0.00	0.00	0.00	0.00
48.39	0.00	0.00	0.00	0.00
48.59	0.00	0.00	0.00	0.00
48.79	0.00	0.00	0.00	0.00
48.99	0.00	0.00	0.00	0.00
49.19	0.00	0.00	0.00	0.00
49.39	0.01	0.01	0.00	0.00
49.59	0.01	0.01	0.00	0.00
49.79	0.63	0.01	0.63	0.00
49.99	2.37	0.01	2.36	0.00
50.19	3.20	0.01	3.19	0.00
50.39	6.56	0.01	3.85	2.70
50.59	12.32	0.01	4.41	7.90
50.79	19.56	0.01	4.91	14.64
50.99	27.97	0.01	5.36	22.60
51.19	37.36	0.01	5.78	31.57
51.39	**47.62**	**0.01**	**6.17**	**41.44**

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Stage-Area-Storage for Pond 9P: Sand Filter 5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
45.99	705	0
46.09	705	23
46.19	705	47
46.29	705	70
46.39	705	93
46.49	705	116
46.59	705	140
46.69	705	163
46.79	705	186
46.89	705	209
46.99	705	233
47.09	705	256
47.19	705	279
47.29	705	302
47.39	705	326
47.49	705	349
47.59	705	372
47.69	705	396
47.79	705	419
47.89	705	442
47.99	705	465
48.09	705	489
48.19	705	512
48.29	705	535
48.39	705	558
48.49	705	582
48.59	705	605
48.69	705	628
48.79	705	651
48.89	705	675
48.99	705	698
49.09	748	770
49.19	796	848
49.29	844	930
49.39	892	1,016
49.49	940	1,108
49.59	988	1,204
49.69	1,036	1,305
49.79	1,083	1,411
49.89	1,131	1,522
49.99	1,179	1,638
50.09	1,233	1,758
50.19	1,287	1,884
50.29	1,341	2,016
50.39	1,395	2,152
50.49	1,449	2,295
50.59	1,503	2,442
50.69	1,557	2,595
50.79	1,611	2,754
50.89	1,665	2,918
50.99	1,720	3,087
51.09	1,777	3,262
51.19	1,836	3,442
51.29	1,894	3,629
51.39	1,952	3,821
51.49	**2,010**	**4,019**

Summary for Pond 10P: Bio 1

Inflow Area = 42,514 sf, 59.10% Impervious, Inflow Depth = 0.62" for WQv event
Inflow = 0.62 cfs @ 12.09 hrs, Volume= 2,189 cf
Outflow = 0.02 cfs @ 17.48 hrs, Volume= 2,189 cf, Atten= 98%, Lag= 323.6 min
Discarded = 0.01 cfs @ 11.95 hrs, Volume= 2,105 cf
Primary = 0.01 cfs @ 17.48 hrs, Volume= 85 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 44.50' @ 17.48 hrs Surf.Area= 2,666 sf Storage= 1,688 cf

Plug-Flow detention time= 2,118.6 min calculated for 2,189 cf (100% of inflow)
Center-of-Mass det. time= 2,119.1 min (2,911.5 - 792.3)

Volume	Invert	Avail.Storage	Storage Description
#1	41.99'	6,655 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.99	725	0.0	0	0
42.00	725	33.0	2	2
43.99	725	33.0	476	479
44.00	1,147	33.0	3	482
44.01	2,171	100.0	17	498
45.00	3,166	100.0	2,642	3,140
46.00	3,865	100.0	3,516	6,655

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#2	Discarded	41.99'	**0.270 in/hr Exfiltration over Surface area from 41.98' - 44.00'** Excluded Surface area = 0 sf Phase-In= 0.02'
#3	Secondary	45.00'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 11.95 hrs HW=44.02' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.01 cfs @ 17.48 hrs HW=44.50' TW=0.00' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Weir Controls 0.01 cfs @ 0.15 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=41.99' TW=0.00' (Dynamic Tailwater)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

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Hydrograph for Pond 10P: Bio 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	41.99	0.00	0.00	0.00	**0.00**
5.00	0.00	2	42.00	0.00	0.00	0.00	0.00
10.00	**0.02**	101	42.41	0.00	**0.00**	0.00	0.00
15.00	**0.03**	**1,573**	**44.46**	**0.01**	**0.01**	**0.00**	0.00
20.00	0.01	**1,686**	**44.50**	**0.01**	0.01	**0.00**	0.00
25.00	0.00	1,660	44.49	0.01	0.01	0.00	0.00
30.00	0.00	1,531	44.44	0.01	0.01	0.00	0.00
35.00	0.00	1,402	44.39	0.01	0.01	0.00	0.00
40.00	0.00	1,272	44.34	0.01	0.01	0.00	0.00
45.00	0.00	1,143	44.29	0.01	0.01	0.00	0.00
50.00	0.00	1,014	44.24	0.01	0.01	0.00	0.00
55.00	0.00	885	44.18	0.01	0.01	0.00	0.00
60.00	0.00	756	44.13	0.01	0.01	0.00	0.00
65.00	0.00	627	44.07	0.01	0.01	0.00	0.00
70.00	0.00	498	44.01	0.01	0.01	0.00	0.00
75.00	0.00	410	43.70	0.00	0.00	0.00	0.00
80.00	0.00	328	43.36	0.00	0.00	0.00	0.00
85.00	0.00	247	43.02	0.00	0.00	0.00	0.00
90.00	0.00	165	42.68	0.00	0.00	0.00	0.00
95.00	0.00	84	42.34	0.00	0.00	0.00	0.00
100.00	0.00	3	42.00	0.00	0.00	0.00	0.00
105.00	0.00	0	41.99	0.00	0.00	0.00	0.00
110.00	0.00	0	41.99	0.00	0.00	0.00	0.00
115.00	0.00	0	41.99	0.00	0.00	0.00	0.00
120.00	0.00	0	41.99	0.00	0.00	0.00	0.00
125.00	0.00	0	41.99	0.00	0.00	0.00	0.00
130.00	0.00	0	41.99	0.00	0.00	0.00	0.00
135.00	0.00	0	41.99	0.00	0.00	0.00	0.00
140.00	0.00	0	41.99	0.00	0.00	0.00	0.00
145.00	0.00	0	41.99	0.00	0.00	0.00	0.00
150.00	0.00	0	41.99	0.00	0.00	0.00	0.00
155.00	0.00	0	41.99	0.00	0.00	0.00	0.00
160.00	0.00	0	41.99	0.00	0.00	0.00	0.00
165.00	0.00	0	41.99	0.00	0.00	0.00	0.00
170.00	0.00	0	41.99	0.00	0.00	0.00	0.00
175.00	0.00	0	41.99	0.00	0.00	0.00	0.00
180.00	0.00	0	41.99	0.00	0.00	0.00	0.00
185.00	0.00	0	41.99	0.00	0.00	0.00	0.00
190.00	0.00	0	41.99	0.00	0.00	0.00	0.00
195.00	0.00	0	41.99	0.00	0.00	0.00	0.00
200.00	0.00	0	41.99	0.00	0.00	0.00	0.00
205.00	0.00	0	41.99	0.00	0.00	0.00	0.00
210.00	0.00	0	41.99	0.00	0.00	0.00	0.00
215.00	0.00	0	41.99	0.00	0.00	0.00	0.00
220.00	0.00	0	41.99	0.00	0.00	0.00	0.00
225.00	0.00	0	41.99	0.00	0.00	0.00	0.00
230.00	0.00	0	41.99	0.00	0.00	0.00	0.00
235.00	0.00	0	41.99	0.00	0.00	0.00	0.00
240.00	0.00	0	41.99	0.00	0.00	0.00	0.00

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Stage-Discharge for Pond 10P: Bio 1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
41.99	0.00	0.00	0.00	0.00
42.09	0.00	0.00	0.00	0.00
42.19	0.00	0.00	0.00	0.00
42.29	0.00	0.00	0.00	0.00
42.39	0.00	0.00	0.00	0.00
42.49	0.00	0.00	0.00	0.00
42.59	0.00	0.00	0.00	0.00
42.69	0.00	0.00	0.00	0.00
42.79	0.00	0.00	0.00	0.00
42.89	0.00	0.00	0.00	0.00
42.99	0.00	0.00	0.00	0.00
43.09	0.00	0.00	0.00	0.00
43.19	0.00	0.00	0.00	0.00
43.29	0.00	0.00	0.00	0.00
43.39	0.00	0.00	0.00	0.00
43.49	0.00	0.00	0.00	0.00
43.59	0.00	0.00	0.00	0.00
43.69	0.00	0.00	0.00	0.00
43.79	0.00	0.00	0.00	0.00
43.89	0.00	0.00	0.00	0.00
43.99	0.00	**0.00**	0.00	0.00
44.09	0.01	**0.01**	0.00	0.00
44.19	0.01	0.01	0.00	0.00
44.29	0.01	0.01	0.00	0.00
44.39	0.01	0.01	0.00	0.00
44.49	0.01	0.01	0.00	0.00
44.59	1.45	0.01	1.44	0.00
44.69	2.11	0.01	2.10	0.00
44.79	2.60	0.01	2.59	0.00
44.89	3.01	0.01	3.01	0.00
44.99	3.38	0.01	3.37	0.00
45.09	4.59	0.01	3.70	0.88
45.19	6.70	0.01	4.00	2.70
45.29	9.36	0.01	4.28	5.08
45.39	12.45	0.01	4.54	7.90
45.49	15.90	0.01	4.79	11.11
45.59	19.68	0.01	5.03	14.64
45.69	23.74	0.01	5.25	18.48
45.79	28.07	0.01	5.47	22.60
45.89	32.65	0.01	5.68	26.97
45.99	**37.46**	0.01	**5.88**	**31.57**

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Stage-Area-Storage for Pond 10P: Bio 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
41.99	725	0
42.04	725	12
42.09	725	24
42.14	725	36
42.19	725	48
42.24	725	60
42.29	725	72
42.34	725	84
42.39	725	96
42.44	725	108
42.49	725	120
42.54	725	132
42.59	725	144
42.64	725	156
42.69	725	167
42.74	725	179
42.79	725	191
42.84	725	203
42.89	725	215
42.94	725	227
42.99	725	239
43.04	725	251
43.09	725	263
43.14	725	275
43.19	725	287
43.24	725	299
43.29	725	311
43.34	725	323
43.39	725	335
43.44	725	347
43.49	725	359
43.54	725	371
43.59	725	383
43.64	725	395
43.69	725	407
43.74	725	419
43.79	725	431
43.84	725	443
43.89	725	455
43.94	725	467
43.99	725	479
44.04	2,201	564
44.09	2,251	675
44.14	2,302	789
44.19	2,352	905
44.24	2,402	1,024
44.29	2,452	1,145
44.34	2,503	1,269
44.39	2,553	1,396
44.44	2,603	1,525
44.49	2,653	1,656
44.54	2,704	1,790
44.59	2,754	1,926
44.64	2,804	2,065
44.69	2,854	2,207
44.74	2,905	2,351
44.79	2,955	2,497
44.84	3,005	2,646
44.89	3,055	2,798
44.94	3,106	2,952
44.99	3,156	3,108
45.04	3,194	3,267
45.09	3,229	3,428
45.14	3,264	3,590
45.19	3,299	3,754
45.24	3,334	3,920
45.29	3,369	4,088
45.34	3,404	4,257
45.39	3,439	4,428
45.44	3,474	4,601
45.49	3,509	4,775
45.54	3,543	4,952
45.59	3,578	5,130
45.64	3,613	5,309
45.69	3,648	5,491
45.74	3,683	5,674
45.79	3,718	5,859
45.84	3,753	6,046
45.89	3,788	6,235
45.94	3,823	6,425
45.99	**3,858**	**6,617**

Summary for Pond 12P: Infiltration Basin 1

Inflow Area = 68,033 sf, 89.47% Impervious, Inflow Depth = 0.89" for WQv event
Inflow = 1.50 cfs @ 12.09 hrs, Volume= 5,036 cf
Outflow = 0.05 cfs @ 15.58 hrs, Volume= 5,036 cf, Atten= 96%, Lag= 209.4 min
Discarded = 0.05 cfs @ 15.58 hrs, Volume= 5,036 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 56.81' @ 15.58 hrs Surf.Area= 2,266 sf Storage= 3,047 cf

Plug-Flow detention time= 610.8 min calculated for 5,035 cf (100% of inflow)
Center-of-Mass det. time= 610.9 min (1,394.4 - 783.5)

Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	10,931 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.00	1,125	0	0
56.00	1,739	1,432	1,432
57.00	2,393	2,066	3,498
58.00	3,104	2,749	6,247
59.00	3,870	3,487	9,734
59.30	4,111	1,197	10,931

Device	Routing	Invert	Outlet Devices
#1	Primary	51.75'	**24.0" Round Culvert** L= 9.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.75' / 51.55' S= 0.0222 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Discarded	55.00'	**1.020 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#3	Secondary	58.40'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	57.65'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.05 cfs @ 15.58 hrs HW=56.81' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.00' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.00 cfs of 17.91 cfs potential flow)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.00' TW=0.00' (Dynamic Tailwater)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 12P: Infiltration Basin 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	55.00	0.00	0.00	**0.00**	**0.00**
5.00	0.01	4	55.00	0.00	0.00	0.00	0.00
10.00	**0.06**	110	55.10	0.03	0.03	0.00	0.00
15.00	**0.06**	**3,036**	**56.80**	**0.05**	**0.05**	0.00	0.00
20.00	0.02	**2,723**	**56.66**	**0.05**	**0.05**	0.00	0.00
25.00	0.00	2,107	56.36	0.05	0.05	0.00	0.00
30.00	0.00	1,326	55.94	0.04	0.04	0.00	0.00
35.00	0.00	659	55.51	0.03	0.03	0.00	0.00
40.00	0.00	102	55.09	0.03	0.03	0.00	0.00
45.00	0.00	0	55.00	0.00	0.00	0.00	0.00
50.00	0.00	0	55.00	0.00	0.00	0.00	0.00
55.00	0.00	0	55.00	0.00	0.00	0.00	0.00
60.00	0.00	0	55.00	0.00	0.00	0.00	0.00
65.00	0.00	0	55.00	0.00	0.00	0.00	0.00
70.00	0.00	0	55.00	0.00	0.00	0.00	0.00
75.00	0.00	0	55.00	0.00	0.00	0.00	0.00
80.00	0.00	0	55.00	0.00	0.00	0.00	0.00
85.00	0.00	0	55.00	0.00	0.00	0.00	0.00
90.00	0.00	0	55.00	0.00	0.00	0.00	0.00
95.00	0.00	0	55.00	0.00	0.00	0.00	0.00
100.00	0.00	0	55.00	0.00	0.00	0.00	0.00
105.00	0.00	0	55.00	0.00	0.00	0.00	0.00
110.00	0.00	0	55.00	0.00	0.00	0.00	0.00
115.00	0.00	0	55.00	0.00	0.00	0.00	0.00
120.00	0.00	0	55.00	0.00	0.00	0.00	0.00
125.00	0.00	0	55.00	0.00	0.00	0.00	0.00
130.00	0.00	0	55.00	0.00	0.00	0.00	0.00
135.00	0.00	0	55.00	0.00	0.00	0.00	0.00
140.00	0.00	0	55.00	0.00	0.00	0.00	0.00
145.00	0.00	0	55.00	0.00	0.00	0.00	0.00
150.00	0.00	0	55.00	0.00	0.00	0.00	0.00
155.00	0.00	0	55.00	0.00	0.00	0.00	0.00
160.00	0.00	0	55.00	0.00	0.00	0.00	0.00
165.00	0.00	0	55.00	0.00	0.00	0.00	0.00
170.00	0.00	0	55.00	0.00	0.00	0.00	0.00
175.00	0.00	0	55.00	0.00	0.00	0.00	0.00
180.00	0.00	0	55.00	0.00	0.00	0.00	0.00
185.00	0.00	0	55.00	0.00	0.00	0.00	0.00
190.00	0.00	0	55.00	0.00	0.00	0.00	0.00
195.00	0.00	0	55.00	0.00	0.00	0.00	0.00
200.00	0.00	0	55.00	0.00	0.00	0.00	0.00
205.00	0.00	0	55.00	0.00	0.00	0.00	0.00
210.00	0.00	0	55.00	0.00	0.00	0.00	0.00
215.00	0.00	0	55.00	0.00	0.00	0.00	0.00
220.00	0.00	0	55.00	0.00	0.00	0.00	0.00
225.00	0.00	0	55.00	0.00	0.00	0.00	0.00
230.00	0.00	0	55.00	0.00	0.00	0.00	0.00
235.00	0.00	0	55.00	0.00	0.00	0.00	0.00
240.00	0.00	0	55.00	0.00	0.00	0.00	0.00

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Stage-Discharge for Pond 12P: Infiltration Basin 1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
55.00	0.00	0.00	0.00	0.00
55.10	0.03	0.03	0.00	0.00
55.20	0.03	0.03	0.00	0.00
55.30	0.03	0.03	0.00	0.00
55.40	0.03	0.03	0.00	0.00
55.50	0.03	0.03	0.00	0.00
55.60	0.04	0.04	0.00	0.00
55.70	0.04	0.04	0.00	0.00
55.80	0.04	0.04	0.00	0.00
55.90	0.04	0.04	0.00	0.00
56.00	0.04	0.04	0.00	0.00
56.10	0.04	0.04	0.00	0.00
56.20	0.04	0.04	0.00	0.00
56.30	0.05	0.05	0.00	0.00
56.40	0.05	0.05	0.00	0.00
56.50	0.05	0.05	0.00	0.00
56.60	0.05	0.05	0.00	0.00
56.70	0.05	0.05	0.00	0.00
56.80	0.05	0.05	0.00	0.00
56.90	0.05	0.05	0.00	0.00
57.00	0.06	0.06	0.00	0.00
57.10	0.06	0.06	0.00	0.00
57.20	0.06	0.06	0.00	0.00
57.30	0.06	0.06	0.00	0.00
57.40	0.06	0.06	0.00	0.00
57.50	0.06	0.06	0.00	0.00
57.60	0.07	0.07	0.00	0.00
57.70	0.29	0.07	0.22	0.00
57.80	1.20	0.07	1.13	0.00
57.90	2.50	0.07	2.43	0.00
58.00	4.09	0.07	4.02	0.00
58.10	5.91	0.08	5.83	0.00
58.20	7.93	0.08	7.86	0.00
58.30	10.14	0.08	10.06	0.00
58.40	12.51	0.08	12.42	0.00
58.50	16.05	0.08	14.94	1.03
58.60	20.59	0.08	17.59	2.91
58.70	25.80	0.09	20.37	5.34
58.80	31.56	0.09	23.27	8.21
58.90	37.81	0.09	26.28	11.45
59.00	44.50	0.09	29.39	15.02
59.10	49.07	0.09	30.09	18.88
59.20	53.45	0.10	30.33	23.02
59.30	**58.08**	**0.10**	**30.56**	**27.42**

Stage-Area-Storage for Pond 12P: Infiltration Basin 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
55.00	1,125	0
55.05	1,156	57
55.10	1,186	116
55.15	1,217	176
55.20	1,248	237
55.25	1,279	300
55.30	1,309	365
55.35	1,340	431
55.40	1,371	499
55.45	1,401	568
55.50	1,432	639
55.55	1,463	712
55.60	1,493	786
55.65	1,524	861
55.70	1,555	938
55.75	1,586	1,016
55.80	1,616	1,096
55.85	1,647	1,178
55.90	1,678	1,261
55.95	1,708	1,346
56.00	1,739	1,432
56.05	1,772	1,520
56.10	1,804	1,609
56.15	1,837	1,700
56.20	1,870	1,793
56.25	1,903	1,887
56.30	1,935	1,983
56.35	1,968	2,081
56.40	2,001	2,180
56.45	2,033	2,281
56.50	2,066	2,383
56.55	2,099	2,487
56.60	2,131	2,593
56.65	2,164	2,701
56.70	2,197	2,810
56.75	2,230	2,920
56.80	2,262	3,032
56.85	2,295	3,146
56.90	2,328	3,262
56.95	2,360	3,379
57.00	2,393	3,498
57.05	2,429	3,619
57.10	2,464	3,741
57.15	2,500	3,865
57.20	2,535	3,991
57.25	2,571	4,118
57.30	2,606	4,248
57.35	2,642	4,379
57.40	2,677	4,512
57.45	2,713	4,647
57.50	2,749	4,783
57.55	2,784	4,922
57.60	2,820	5,062
57.65	2,855	5,204
57.70	2,891	5,347
57.75	2,926	5,493
57.80	2,962	5,640
57.85	2,997	5,789
57.90	3,033	5,940
57.95	3,068	6,092
58.00	3,104	6,247
58.05	3,142	6,403
58.10	3,181	6,561
58.15	3,219	6,721
58.20	3,257	6,883
58.25	3,296	7,046
58.30	3,334	7,212
58.35	3,372	7,380
58.40	3,410	7,549
58.45	3,449	7,721
58.50	3,487	7,894
58.55	3,525	8,070
58.60	3,564	8,247
58.65	3,602	8,426
58.70	3,640	8,607
58.75	3,679	8,790
58.80	3,717	8,975
58.85	3,755	9,162
58.90	3,793	9,350
58.95	3,832	9,541
59.00	3,870	9,734
59.05	3,910	9,928
59.10	3,950	10,125
59.15	3,991	10,323
59.20	4,031	10,524
59.25	4,071	10,726
59.30	**4,111**	**10,931**

Summary for Pond 13P: Sand Filter 1

Inflow Area = 379,224 sf, 30.94% Impervious, Inflow Depth = 0.35" for WQv event
Inflow = 1.73 cfs @ 12.17 hrs, Volume= 11,021 cf
Outflow = 0.03 cfs @ 8.70 hrs, Volume= 11,021 cf, Atten= 98%, Lag= 0.0 min
Discarded = 0.03 cfs @ 8.70 hrs, Volume= 11,021 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond 15P : Detention Basin 1
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond 15P : Detention Basin 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 46.51' @ 24.16 hrs Surf.Area= 7,633 sf Storage= 9,104 cf

Plug-Flow detention time= 2,707.9 min calculated for 11,018 cf (100% of inflow)
Center-of-Mass det. time= 2,708.4 min (3,527.1 - 818.6)

Volume	Invert	Avail.Storage	Storage Description
#1	42.49'	32,650 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.49	4,630	0.0	0	0
42.50	4,630	33.0	15	15
45.99	4,630	33.0	5,332	5,348
46.00	6,904	100.0	58	5,405
47.00	8,336	100.0	7,620	13,025
48.00	9,925	100.0	9,131	22,156
49.00	11,063	100.0	10,494	32,650

Device	Routing	Invert	Outlet Devices
#1	Discarded	42.49'	**0.270 in/hr Exfiltration over Surface area from 42.48' - 45.99'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Secondary	48.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	46.65'	**1.5" x 1.5" Horiz. Orifice/Grate X 4.00 columns** X 3 rows C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.03 cfs @ 8.70 hrs HW=42.56' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=42.49' TW=44.00' (Dynamic Tailwater)
↑**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=42.49' TW=44.00' (Dynamic Tailwater)
↑**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 13P: Sand Filter 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	42.49	0.00	0.00	**0.00**	**0.00**
5.00	0.01	8	42.50	**0.01**	**0.01**	0.00	0.00
10.00	**0.11**	356	42.72	**0.03**	**0.03**	0.00	0.00
15.00	**0.18**	7,419	46.28	0.03	0.03	0.00	0.00
20.00	0.07	**8,728**	**46.46**	0.03	0.03	0.00	0.00
25.00	0.00	**9,030**	**46.50**	0.03	0.03	0.00	0.00
30.00	0.00	8,510	46.43	0.03	0.03	0.00	0.00
35.00	0.00	7,989	46.36	0.03	0.03	0.00	0.00
40.00	0.00	7,468	46.29	0.03	0.03	0.00	0.00
45.00	0.00	6,947	46.22	0.03	0.03	0.00	0.00
50.00	0.00	6,426	46.15	0.03	0.03	0.00	0.00
55.00	0.00	5,905	46.07	0.03	0.03	0.00	0.00
60.00	0.00	5,384	46.00	0.03	0.03	0.00	0.00
65.00	0.00	4,863	45.67	0.03	0.03	0.00	0.00
70.00	0.00	4,343	45.33	0.03	0.03	0.00	0.00
75.00	0.00	3,822	44.99	0.03	0.03	0.00	0.00
80.00	0.00	3,301	44.65	0.03	0.03	0.00	0.00
85.00	0.00	2,780	44.31	0.03	0.03	0.00	0.00
90.00	0.00	2,259	43.97	0.03	0.03	0.00	0.00
95.00	0.00	1,738	43.63	0.03	0.03	0.00	0.00
100.00	0.00	1,217	43.29	0.03	0.03	0.00	0.00
105.00	0.00	696	42.95	0.03	0.03	0.00	0.00
110.00	0.00	176	42.60	0.03	0.03	0.00	0.00
115.00	0.00	0	42.49	0.00	0.00	0.00	0.00
120.00	0.00	0	42.49	0.00	0.00	0.00	0.00
125.00	0.00	0	42.49	0.00	0.00	0.00	0.00
130.00	0.00	0	42.49	0.00	0.00	0.00	0.00
135.00	0.00	0	42.49	0.00	0.00	0.00	0.00
140.00	0.00	0	42.49	0.00	0.00	0.00	0.00
145.00	0.00	0	42.49	0.00	0.00	0.00	0.00
150.00	0.00	0	42.49	0.00	0.00	0.00	0.00
155.00	0.00	0	42.49	0.00	0.00	0.00	0.00
160.00	0.00	0	42.49	0.00	0.00	0.00	0.00
165.00	0.00	0	42.49	0.00	0.00	0.00	0.00
170.00	0.00	0	42.49	0.00	0.00	0.00	0.00
175.00	0.00	0	42.49	0.00	0.00	0.00	0.00
180.00	0.00	0	42.49	0.00	0.00	0.00	0.00
185.00	0.00	0	42.49	0.00	0.00	0.00	0.00
190.00	0.00	0	42.49	0.00	0.00	0.00	0.00
195.00	0.00	0	42.49	0.00	0.00	0.00	0.00
200.00	0.00	0	42.49	0.00	0.00	0.00	0.00
205.00	0.00	0	42.49	0.00	0.00	0.00	0.00
210.00	0.00	0	42.49	0.00	0.00	0.00	0.00
215.00	0.00	0	42.49	0.00	0.00	0.00	0.00
220.00	0.00	0	42.49	0.00	0.00	0.00	0.00
225.00	0.00	0	42.49	0.00	0.00	0.00	0.00
230.00	0.00	0	42.49	0.00	0.00	0.00	0.00
235.00	0.00	0	42.49	0.00	0.00	0.00	0.00
240.00	0.00	0	42.49	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 13P: Sand Filter 1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
42.49	0.00	**0.00**	0.00	0.00
42.69	0.03	**0.03**	0.00	0.00
42.89	0.03	0.03	0.00	0.00
43.09	0.03	0.03	0.00	0.00
43.29	0.03	0.03	0.00	0.00
43.49	0.03	0.03	0.00	0.00
43.69	0.03	0.03	0.00	0.00
43.89	0.03	0.03	0.00	0.00
44.09	0.03	0.03	0.00	0.00
44.29	0.03	0.03	0.00	0.00
44.49	0.03	0.03	0.00	0.00
44.69	0.03	0.03	0.00	0.00
44.89	0.03	0.03	0.00	0.00
45.09	0.03	0.03	0.00	0.00
45.29	0.03	0.03	0.00	0.00
45.49	0.03	0.03	0.00	0.00
45.69	0.03	0.03	0.00	0.00
45.89	0.03	0.03	0.00	0.00
46.09	0.03	0.03	0.00	0.00
46.29	0.03	0.03	0.00	0.00
46.49	0.03	0.03	0.00	0.00
46.69	0.19	0.03	0.16	0.00
46.89	0.47	0.03	0.44	0.00
47.09	0.63	0.03	0.60	0.00
47.29	0.75	0.03	0.72	0.00
47.49	0.86	0.03	0.83	0.00
47.69	0.95	0.03	0.92	0.00
47.89	1.03	0.03	1.01	0.00
48.09	1.11	0.03	1.08	0.00
48.29	3.88	0.03	1.16	2.70
48.49	9.16	0.03	1.22	7.90
48.69	15.96	0.03	1.29	14.64
48.89	**23.98**	0.03	**1.35**	**22.60**

Stage-Area-Storage for Pond 13P: Sand Filter 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
42.49	4,630	0
42.59	4,630	153
42.69	4,630	306
42.79	4,630	458
42.89	4,630	611
42.99	4,630	764
43.09	4,630	917
43.19	4,630	1,070
43.29	4,630	1,222
43.39	4,630	1,375
43.49	4,630	1,528
43.59	4,630	1,681
43.69	4,630	1,833
43.79	4,630	1,986
43.89	4,630	2,139
43.99	4,630	2,292
44.09	4,630	2,445
44.19	4,630	2,597
44.29	4,630	2,750
44.39	4,630	2,903
44.49	4,630	3,056
44.59	4,630	3,209
44.69	4,630	3,361
44.79	4,630	3,514
44.89	4,630	3,667
44.99	4,630	3,820
45.09	4,630	3,973
45.19	4,630	4,125
45.29	4,630	4,278
45.39	4,630	4,431
45.49	4,630	4,584
45.59	4,630	4,736
45.69	4,630	4,889
45.79	4,630	5,042
45.89	4,630	5,195
45.99	4,630	5,348
46.09	7,033	6,032
46.19	7,176	6,743
46.29	7,319	7,468
46.39	7,462	8,207
46.49	7,606	8,960
46.59	7,749	9,728
46.69	7,892	10,510
46.79	8,035	11,306
46.89	8,178	12,117
46.99	8,322	12,942
47.09	8,479	13,782
47.19	8,638	14,638
47.29	8,797	15,510
47.39	8,956	16,397
47.49	9,115	17,301
47.59	9,274	18,220
47.69	9,432	19,155
47.79	9,591	20,107
47.89	9,750	21,074
47.99	9,909	22,057
48.09	10,027	23,054
48.19	10,141	24,062
48.29	10,255	25,082
48.39	10,369	26,113
48.49	10,483	27,156
48.59	10,596	28,210
48.69	10,710	29,275
48.79	10,824	30,352
48.89	10,938	31,440
48.99	**11,052**	**32,539**

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Summary for Pond 14P: DIV-03

Inflow Area = 42,514 sf, 59.10% Impervious, Inflow Depth = 0.62" for WQv event
Inflow = 0.62 cfs @ 12.09 hrs, Volume= 2,189 cf
Outflow = 0.62 cfs @ 12.09 hrs, Volume= 2,189 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.62 cfs @ 12.09 hrs, Volume= 2,189 cf
Routed to Pond 10P : Bio 1
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 44.64' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.10'	**9.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.10' / 44.00' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.44 sf
#2	Device 3	44.85'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	44.10'	**15.0" Round Culvert** L= 55.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.10' / 42.25' S= 0.0336 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.60 cfs @ 12.09 hrs HW=44.63' TW=44.12' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 0.60 cfs @ 2.53 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=44.10' TW=0.00' (Dynamic Tailwater)
└**3=Culvert** (Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 14P: DIV-03

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	44.10	0.00	0.00	**0.00**
5.00	0.00	44.13	0.00	0.00	0.00
10.00	**0.02**	**44.19**	**0.02**	**0.02**	0.00
15.00	**0.03**	**44.46**	**0.03**	**0.03**	0.00
20.00	0.01	44.50	0.01	0.01	0.00
25.00	0.00	44.38	0.00	0.00	0.00
30.00	0.00	44.44	0.00	0.00	0.00
35.00	0.00	44.39	0.00	0.00	0.00
40.00	0.00	44.34	0.00	0.00	0.00
45.00	0.00	44.29	0.00	0.00	0.00
50.00	0.00	44.23	0.00	0.00	0.00
55.00	0.00	44.18	0.00	0.00	0.00
60.00	0.00	44.13	0.00	0.00	0.00
65.00	0.00	44.10	0.00	0.00	0.00
70.00	0.00	44.10	0.00	0.00	0.00
75.00	0.00	44.10	0.00	0.00	0.00
80.00	0.00	44.10	0.00	0.00	0.00
85.00	0.00	44.10	0.00	0.00	0.00
90.00	0.00	44.10	0.00	0.00	0.00
95.00	0.00	44.10	0.00	0.00	0.00
100.00	0.00	44.10	0.00	0.00	0.00
105.00	0.00	44.10	0.00	0.00	0.00
110.00	0.00	44.10	0.00	0.00	0.00
115.00	0.00	44.10	0.00	0.00	0.00
120.00	0.00	44.10	0.00	0.00	0.00
125.00	0.00	44.10	0.00	0.00	0.00
130.00	0.00	44.10	0.00	0.00	0.00
135.00	0.00	44.10	0.00	0.00	0.00
140.00	0.00	44.10	0.00	0.00	0.00
145.00	0.00	44.10	0.00	0.00	0.00
150.00	0.00	44.10	0.00	0.00	0.00
155.00	0.00	44.10	0.00	0.00	0.00
160.00	0.00	44.10	0.00	0.00	0.00
165.00	0.00	44.10	0.00	0.00	0.00
170.00	0.00	44.10	0.00	0.00	0.00
175.00	0.00	44.10	0.00	0.00	0.00
180.00	0.00	44.10	0.00	0.00	0.00
185.00	0.00	44.10	0.00	0.00	0.00
190.00	0.00	44.10	0.00	0.00	0.00
195.00	0.00	44.10	0.00	0.00	0.00
200.00	0.00	44.10	0.00	0.00	0.00
205.00	0.00	44.10	0.00	0.00	0.00
210.00	0.00	44.10	0.00	0.00	0.00
215.00	0.00	44.10	0.00	0.00	0.00
220.00	0.00	44.10	0.00	0.00	0.00
225.00	0.00	44.10	0.00	0.00	0.00
230.00	0.00	44.10	0.00	0.00	0.00
235.00	0.00	44.10	0.00	0.00	0.00
240.00	0.00	44.10	0.00	0.00	0.00

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Stage-Discharge for Pond 14P: DIV-03

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
44.10	0.00	0.00	0.00
44.12	0.00	0.00	0.00
44.14	0.00	0.00	0.00
44.16	0.01	0.01	0.00
44.18	0.02	0.02	0.00
44.20	0.03	0.03	0.00
44.22	0.04	0.04	0.00
44.24	0.06	0.06	0.00
44.26	0.07	0.07	0.00
44.28	0.09	0.09	0.00
44.30	0.11	0.11	0.00
44.32	0.13	0.13	0.00
44.34	0.15	0.15	0.00
44.36	0.18	0.18	0.00
44.38	0.20	0.20	0.00
44.40	0.23	0.23	0.00
44.42	0.26	0.26	0.00
44.44	0.29	0.29	0.00
44.46	0.31	0.31	0.00
44.48	0.35	0.35	0.00
44.50	0.38	0.38	0.00
44.52	0.41	0.41	0.00
44.54	0.44	0.44	0.00
44.56	0.48	0.48	0.00
44.58	0.51	0.51	0.00
44.60	0.55	0.55	0.00
44.62	0.58	0.58	0.00
44.64	0.62	0.62	0.00
44.66	0.66	0.66	0.00
44.68	0.69	0.69	0.00
44.70	0.73	0.73	0.00
44.72	0.77	0.77	0.00
44.74	0.81	0.81	0.00
44.76	0.85	0.85	0.00
44.78	0.88	0.88	0.00
44.80	0.92	0.92	0.00
44.82	0.96	0.96	0.00
44.84	1.00	1.00	0.00
44.86	1.06	1.04	0.02
44.88	1.17	1.07	0.10
44.90	1.31	1.09	0.22
44.92	1.48	1.12	0.36
44.94	1.67	1.15	0.53
44.96	1.88	1.17	0.71
44.98	2.11	1.19	0.92
45.00	2.35	1.22	1.13
45.02	2.61	1.24	1.37
45.04	2.88	1.26	1.61
45.06	3.16	1.28	1.87
45.08	3.45	1.31	2.15
45.10	3.76	1.33	2.43
45.12	4.08	1.35	2.73
45.14	4.36	1.37	2.99
45.16	4.46	1.39	3.07
45.18	4.56	1.41	3.15
45.20	4.65	1.43	3.22
45.22	4.75	1.45	3.30
45.24	4.84	1.47	3.37
45.26	4.93	1.49	3.44
45.28	5.01	1.51	3.50
45.30	5.09	1.53	3.56
45.32	5.16	1.54	3.62
45.34	**5.23**	**1.56**	**3.67**

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Stage-Area-Storage for Pond 14P: DIV-03

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
44.10	**0**	44.61	0	45.12	0
44.11	0	44.62	0	45.13	0
44.12	0	44.63	0	45.14	0
44.13	0	44.64	0	45.15	0
44.14	0	44.65	0	45.16	0
44.15	0	44.66	0	45.17	0
44.16	0	44.67	0	45.18	0
44.17	0	44.68	0	45.19	0
44.18	0	44.69	0	45.20	0
44.19	0	44.70	0	45.21	0
44.20	0	44.71	0	45.22	0
44.21	0	44.72	0	45.23	0
44.22	0	44.73	0	45.24	0
44.23	0	44.74	0	45.25	0
44.24	0	44.75	0	45.26	0
44.25	0	44.76	0	45.27	0
44.26	0	44.77	0	45.28	0
44.27	0	44.78	0	45.29	0
44.28	0	44.79	0	45.30	0
44.29	0	44.80	0	45.31	0
44.30	0	44.81	0	45.32	0
44.31	0	44.82	0	45.33	0
44.32	0	44.83	0	45.34	0
44.33	0	44.84	0	45.35	0
44.34	0	44.85	0		
44.35	0	44.86	0		
44.36	0	44.87	0		
44.37	0	44.88	0		
44.38	0	44.89	0		
44.39	0	44.90	0		
44.40	0	44.91	0		
44.41	0	44.92	0		
44.42	0	44.93	0		
44.43	0	44.94	0		
44.44	0	44.95	0		
44.45	0	44.96	0		
44.46	0	44.97	0		
44.47	0	44.98	0		
44.48	0	44.99	0		
44.49	0	45.00	0		
44.50	0	45.01	0		
44.51	0	45.02	0		
44.52	0	45.03	0		
44.53	0	45.04	0		
44.54	0	45.05	0		
44.55	0	45.06	0		
44.56	0	45.07	0		
44.57	0	45.08	0		
44.58	0	45.09	0		
44.59	0	45.10	0		
44.60	0	45.11	0		

Summary for Pond 15P: Detention Basin 1

Inflow Area = 531,182 sf, 23.00% Impervious, Inflow Depth = 0.03" for WQv event
Inflow = 0.41 cfs @ 12.18 hrs, Volume= 1,521 cf
Outflow = 0.02 cfs @ 18.16 hrs, Volume= 1,462 cf, Atten= 96%, Lag= 358.7 min
Primary = 0.02 cfs @ 18.16 hrs, Volume= 1,462 cf
Routed to Link 6L : DP 2.1 - West Wetland
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 6L : DP 2.1 - West Wetland
Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 6L : DP 2.1 - West Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 44.08' @ 18.16 hrs Surf.Area= 12,105 sf Storage= 947 cf

Plug-Flow detention time= 1,441.4 min calculated for 1,461 cf (96% of inflow)
Center-of-Mass det. time= 1,423.1 min (2,320.7 - 897.5)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	89,712 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	11,920	0	0
45.00	14,261	13,091	13,091
46.00	16,659	15,460	28,551
47.00	19,113	17,886	46,437
48.00	21,623	20,368	66,805
49.00	24,191	22,907	89,712

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	**24.0" Round Culvert** L= 15.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.00' / 43.40' S= 0.0400 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	44.00'	**5.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	44.55'	**1.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	47.20'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#5	Tertiary	48.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	45.00'	**24.0" Round Culvert** L= 212.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 45.00' / 43.70' S= 0.0061 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#7	Device 6	47.15'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.02 cfs @ 18.16 hrs HW=44.08' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.02 cfs of 0.03 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.02 cfs @ 0.96 fps)
  ├─**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=44.00' TW=0.00' (Dynamic Tailwater)
└─**6=Culvert** (Controls 0.00 cfs)
  └─**7=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=44.00' TW=0.00' (Dynamic Tailwater)
└─**5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 15P: Detention Basin 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
0.00	0.00	0	44.00	0.00	0.00	**0.00**	**0.00**
5.00	0.00	1	44.00	0.00	0.00	0.00	0.00
10.00	**0.00**	31	44.00	0.00	0.00	0.00	0.00
15.00	**0.03**	**849**	**44.07**	**0.01**	**0.01**	0.00	0.00
20.00	0.01	**939**	**44.08**	**0.02**	**0.02**	0.00	0.00
25.00	0.00	845	44.07	0.01	0.01	0.00	0.00
30.00	0.00	652	44.05	0.01	0.01	0.00	0.00
35.00	0.00	530	44.04	0.01	0.01	0.00	0.00
40.00	0.00	445	44.04	0.00	0.00	0.00	0.00
45.00	0.00	384	44.03	0.00	0.00	0.00	0.00
50.00	0.00	337	44.03	0.00	0.00	0.00	0.00
55.00	0.00	301	44.03	0.00	0.00	0.00	0.00
60.00	0.00	271	44.02	0.00	0.00	0.00	0.00
65.00	0.00	247	44.02	0.00	0.00	0.00	0.00
70.00	0.00	226	44.02	0.00	0.00	0.00	0.00
75.00	0.00	209	44.02	0.00	0.00	0.00	0.00
80.00	0.00	194	44.02	0.00	0.00	0.00	0.00
85.00	0.00	181	44.02	0.00	0.00	0.00	0.00
90.00	0.00	170	44.01	0.00	0.00	0.00	0.00
95.00	0.00	160	44.01	0.00	0.00	0.00	0.00
100.00	0.00	151	44.01	0.00	0.00	0.00	0.00
105.00	0.00	143	44.01	0.00	0.00	0.00	0.00
110.00	0.00	136	44.01	0.00	0.00	0.00	0.00
115.00	0.00	130	44.01	0.00	0.00	0.00	0.00
120.00	0.00	124	44.01	0.00	0.00	0.00	0.00
125.00	0.00	118	44.01	0.00	0.00	0.00	0.00
130.00	0.00	113	44.01	0.00	0.00	0.00	0.00
135.00	0.00	109	44.01	0.00	0.00	0.00	0.00
140.00	0.00	105	44.01	0.00	0.00	0.00	0.00
145.00	0.00	101	44.01	0.00	0.00	0.00	0.00
150.00	0.00	97	44.01	0.00	0.00	0.00	0.00
155.00	0.00	94	44.01	0.00	0.00	0.00	0.00
160.00	0.00	91	44.01	0.00	0.00	0.00	0.00
165.00	0.00	88	44.01	0.00	0.00	0.00	0.00
170.00	0.00	85	44.01	0.00	0.00	0.00	0.00
175.00	0.00	82	44.01	0.00	0.00	0.00	0.00
180.00	0.00	80	44.01	0.00	0.00	0.00	0.00
185.00	0.00	78	44.01	0.00	0.00	0.00	0.00
190.00	0.00	76	44.01	0.00	0.00	0.00	0.00
195.00	0.00	73	44.01	0.00	0.00	0.00	0.00
200.00	0.00	72	44.01	0.00	0.00	0.00	0.00
205.00	0.00	70	44.01	0.00	0.00	0.00	0.00
210.00	0.00	68	44.01	0.00	0.00	0.00	0.00
215.00	0.00	66	44.01	0.00	0.00	0.00	0.00
220.00	0.00	65	44.01	0.00	0.00	0.00	0.00
225.00	0.00	63	44.01	0.00	0.00	0.00	0.00
230.00	0.00	62	44.01	0.00	0.00	0.00	0.00
235.00	0.00	60	44.01	0.00	0.00	0.00	0.00
240.00	0.00	59	44.00	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 15P: Detention Basin 1

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
44.00	0.00	0.00	0.00	0.00
44.10	0.03	0.03	0.00	0.00
44.20	0.10	0.10	0.00	0.00
44.30	0.20	0.20	0.00	0.00
44.40	0.29	0.29	0.00	0.00
44.50	0.35	0.35	0.00	0.00
44.60	0.47	0.47	0.00	0.00
44.70	0.74	0.74	0.00	0.00
44.80	1.10	1.10	0.00	0.00
44.90	1.51	1.51	0.00	0.00
45.00	1.98	1.98	0.00	0.00
45.10	2.47	2.47	0.00	0.00
45.20	3.00	3.00	0.00	0.00
45.30	3.55	3.55	0.00	0.00
45.40	4.12	4.12	0.00	0.00
45.50	4.71	4.71	0.00	0.00
45.60	5.31	5.31	0.00	0.00
45.70	5.92	5.92	0.00	0.00
45.80	6.54	6.54	0.00	0.00
45.90	7.16	7.16	0.00	0.00
46.00	7.79	7.79	0.00	0.00
46.10	8.41	8.41	0.00	0.00
46.20	9.04	9.04	0.00	0.00
46.30	9.66	9.66	0.00	0.00
46.40	10.27	10.27	0.00	0.00
46.50	10.88	10.88	0.00	0.00
46.60	11.48	11.48	0.00	0.00
46.70	12.07	12.07	0.00	0.00
46.80	12.65	12.65	0.00	0.00
46.90	13.21	13.21	0.00	0.00
47.00	13.76	13.76	0.00	0.00
47.10	14.30	14.30	0.00	0.00
47.20	15.04	14.82	0.22	0.00
47.30	17.07	15.94	1.13	0.00
47.40	19.98	17.55	2.43	0.00
47.50	22.90	18.88	4.02	0.00
47.60	25.09	19.26	5.83	0.00
47.70	27.48	19.62	7.86	0.00
47.80	30.04	19.98	10.06	0.00
47.90	32.76	20.34	12.42	0.00
48.00	35.62	20.68	14.94	0.00
48.10	38.33	21.03	17.31	0.00
48.20	40.11	21.36	17.71	1.03
48.30	42.72	21.69	18.11	2.91
48.40	45.86	22.02	18.50	5.34
48.50	49.43	22.34	18.88	8.21
48.60	53.36	22.66	19.26	11.45
48.70	57.61	22.97	19.62	15.02
48.80	62.15	23.28	19.98	18.88
48.90	66.94	23.58	20.34	23.02
49.00	**71.99**	**23.88**	**20.68**	**27.42**

Stage-Area-Storage for Pond 15P: Detention Basin 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
44.00	11,920	0
44.05	12,037	599
44.10	12,154	1,204
44.15	12,271	1,814
44.20	12,388	2,431
44.25	12,505	3,053
44.30	12,622	3,681
44.35	12,739	4,315
44.40	12,856	4,955
44.45	12,973	5,601
44.50	13,091	6,253
44.55	13,208	6,910
44.60	13,325	7,573
44.65	13,442	8,243
44.70	13,559	8,918
44.75	13,676	9,598
44.80	13,793	10,285
44.85	13,910	10,978
44.90	14,027	11,676
44.95	14,144	12,380
45.00	14,261	13,091
45.05	14,381	13,807
45.10	14,501	14,529
45.15	14,621	15,257
45.20	14,741	15,991
45.25	14,861	16,731
45.30	14,980	17,477
45.35	15,100	18,229
45.40	15,220	18,987
45.45	15,340	19,751
45.50	15,460	20,521
45.55	15,580	21,297
45.60	15,700	22,079
45.65	15,820	22,867
45.70	15,940	23,661
45.75	16,060	24,461
45.80	16,179	25,267
45.85	16,299	26,079
45.90	16,419	26,897
45.95	16,539	27,721
46.00	16,659	28,551
46.05	16,782	29,387
46.10	16,904	30,229
46.15	17,027	31,077
46.20	17,150	31,931
46.25	17,273	32,792
46.30	17,395	33,659
46.35	17,518	34,531
46.40	17,641	35,410
46.45	17,763	36,296
46.50	17,886	37,187
46.55	18,009	38,084
46.60	18,131	38,988
46.65	18,254	39,897
46.70	18,377	40,813
46.75	18,500	41,735
46.80	18,622	42,663
46.85	18,745	43,597
46.90	18,868	44,537
46.95	18,990	45,484
47.00	19,113	46,437
47.05	19,238	47,395
47.10	19,364	48,360
47.15	19,489	49,332
47.20	19,615	50,309
47.25	19,741	51,293
47.30	19,866	52,283
47.35	19,992	53,280
47.40	20,117	54,282
47.45	20,243	55,291
47.50	20,368	56,307
47.55	20,493	57,328
47.60	20,619	58,356
47.65	20,744	59,390
47.70	20,870	60,431
47.75	20,996	61,477
47.80	21,121	62,530
47.85	21,247	63,589
47.90	21,372	64,655
47.95	21,498	65,726
48.00	21,623	66,805
48.05	21,751	67,889
48.10	21,880	68,980
48.15	22,008	70,077
48.20	22,137	71,180
48.25	22,265	72,291
48.30	22,393	73,407
48.35	22,522	74,530
48.40	22,650	75,659
48.45	22,779	76,795
48.50	22,907	77,937
48.55	23,035	79,086
48.60	23,164	80,241
48.65	23,292	81,402
48.70	23,421	82,570
48.75	23,549	83,744
48.80	23,677	84,925
48.85	23,806	86,112
48.90	23,934	87,305
48.95	24,063	88,505
49.00	**24,191**	**89,712**

Summary for Pond 17P: Track and Field- stone base

Inflow Area = 90,671 sf,100.00% Impervious, Inflow Depth = 0.99" for WQv event
Inflow = 2.23 cfs @ 12.09 hrs, Volume= 7,448 cf
Outflow = 1.15 cfs @ 12.23 hrs, Volume= 7,448 cf, Atten= 49%, Lag= 8.8 min
Discarded = 0.58 cfs @ 12.23 hrs, Volume= 6,543 cf
Primary = 0.57 cfs @ 12.23 hrs, Volume= 904 cf
Routed to Pond 35P : Track and Field-manifold

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 50.55' @ 12.23 hrs Surf.Area= 90,671 sf Storage= 1,383 cf

Plug-Flow detention time= 18.6 min calculated for 7,448 cf (100% of inflow)
Center-of-Mass det. time= 18.5 min (800.5 - 782.0)

Volume	Invert	Avail.Storage	Storage Description
#1	50.50'	37,271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 113,339 cf Overall - 397 cf Embedded = 112,942 cf x 33.0% Voids
#2	50.52'	274 cf	**12.0" W x 1.0" H Ellipse 1" flat drains** x 44 Inside #1 L= 95.2' 397 cf Overall - 0.2" Wall Thickness = 274 cf
		37,545 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.50	90,671	0	0
51.58	90,671	97,925	97,925
51.59	90,671	907	98,831
51.75	90,671	14,507	113,339

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.50'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 48.40' Phase-In= 0.02'
#2	Primary	50.52'	**12.0" W x 1.0" H Vert. Orifice/Grate X 44.00** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.58 cfs @ 12.23 hrs HW=50.55' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.58 cfs)

Primary OutFlow Max=0.56 cfs @ 12.23 hrs HW=50.55' TW=48.86' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 0.56 cfs @ 0.51 fps)

Hydrograph for Pond 17P: Track and Field- stone base

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	50.50	0.00	0.00	0.00
5.00	0.01	7	50.50	0.01	0.01	0.00
10.00	**0.09**	**82**	**50.50**	**0.08**	**0.08**	**0.00**
15.00	**0.09**	**108**	**50.50**	**0.10**	**0.10**	**0.00**
20.00	0.03	35	50.50	0.03	0.03	0.00
25.00	0.00	1	50.50	0.00	0.00	0.00
30.00	0.00	0	50.50	0.00	0.00	0.00
35.00	0.00	0	50.50	0.00	0.00	0.00
40.00	0.00	0	50.50	0.00	0.00	0.00
45.00	0.00	0	50.50	0.00	0.00	0.00
50.00	0.00	0	50.50	0.00	0.00	0.00
55.00	0.00	0	50.50	0.00	0.00	0.00
60.00	0.00	0	50.50	0.00	0.00	0.00
65.00	0.00	0	50.50	0.00	0.00	0.00
70.00	0.00	0	50.50	0.00	0.00	0.00
75.00	0.00	0	50.50	0.00	0.00	0.00
80.00	0.00	0	50.50	0.00	0.00	0.00
85.00	0.00	0	50.50	0.00	0.00	0.00
90.00	0.00	0	50.50	0.00	0.00	0.00
95.00	0.00	0	50.50	0.00	0.00	0.00
100.00	0.00	0	50.50	0.00	0.00	0.00
105.00	0.00	0	50.50	0.00	0.00	0.00
110.00	0.00	0	50.50	0.00	0.00	0.00
115.00	0.00	0	50.50	0.00	0.00	0.00
120.00	0.00	0	50.50	0.00	0.00	0.00
125.00	0.00	0	50.50	0.00	0.00	0.00
130.00	0.00	0	50.50	0.00	0.00	0.00
135.00	0.00	0	50.50	0.00	0.00	0.00
140.00	0.00	0	50.50	0.00	0.00	0.00
145.00	0.00	0	50.50	0.00	0.00	0.00
150.00	0.00	0	50.50	0.00	0.00	0.00
155.00	0.00	0	50.50	0.00	0.00	0.00
160.00	0.00	0	50.50	0.00	0.00	0.00
165.00	0.00	0	50.50	0.00	0.00	0.00
170.00	0.00	0	50.50	0.00	0.00	0.00
175.00	0.00	0	50.50	0.00	0.00	0.00
180.00	0.00	0	50.50	0.00	0.00	0.00
185.00	0.00	0	50.50	0.00	0.00	0.00
190.00	0.00	0	50.50	0.00	0.00	0.00
195.00	0.00	0	50.50	0.00	0.00	0.00
200.00	0.00	0	50.50	0.00	0.00	0.00
205.00	0.00	0	50.50	0.00	0.00	0.00
210.00	0.00	0	50.50	0.00	0.00	0.00
215.00	0.00	0	50.50	0.00	0.00	0.00
220.00	0.00	0	50.50	0.00	0.00	0.00
225.00	0.00	0	50.50	0.00	0.00	0.00
230.00	0.00	0	50.50	0.00	0.00	0.00
235.00	0.00	0	50.50	0.00	0.00	0.00
240.00	0.00	0	50.50	0.00	0.00	0.00

Stage-Discharge for Pond 17P: Track and Field- stone base

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
50.50	0.00	0.00	0.00
50.52	0.57	0.57	0.00
50.54	0.98	0.58	0.40
50.56	1.71	0.58	1.13
50.58	2.66	0.59	2.08
50.60	3.79	0.59	3.20
50.62	4.76	0.60	4.16
50.64	5.48	0.60	4.88
50.66	6.10	0.61	5.49
50.68	6.66	0.62	6.04
50.70	7.16	0.62	6.54
50.72	7.63	0.63	7.00
50.74	8.07	0.63	7.44
50.76	8.48	0.64	7.85
50.78	8.88	0.64	8.24
50.80	9.26	0.65	8.61
50.82	9.62	0.65	8.96
50.84	9.96	0.66	9.31
50.86	10.30	0.66	9.64
50.88	10.62	0.67	9.95
50.90	10.94	0.67	10.26
50.92	11.24	0.68	10.56
50.94	11.54	0.69	10.85
50.96	11.83	0.69	11.14
50.98	12.11	0.70	11.41
51.00	12.39	0.70	11.68
51.02	12.66	0.71	11.95
51.04	12.92	0.71	12.21
51.06	13.18	0.72	12.46
51.08	13.43	0.72	12.71
51.10	13.68	0.73	12.95
51.12	13.92	0.73	13.19
51.14	14.16	0.74	13.42
51.16	14.40	0.74	13.65
51.18	14.63	0.75	13.88
51.20	14.86	0.76	14.10
51.22	15.08	0.76	14.32
51.24	15.30	0.77	14.54
51.26	15.52	0.77	14.75
51.28	15.74	0.78	14.96
51.30	15.95	0.78	15.17
51.32	16.16	0.79	15.37
51.34	16.37	0.79	15.57
51.36	16.57	0.80	15.77
51.38	16.77	0.80	15.97
51.40	16.97	0.81	16.16
51.42	17.17	0.81	16.36
51.44	17.36	0.82	16.54
51.46	17.56	0.83	16.73
51.48	17.75	0.83	16.92
51.50	17.94	0.84	17.10
51.52	18.12	0.84	17.28
51.54	18.31	0.85	17.46
51.56	18.49	0.85	17.64
51.58	18.67	0.86	17.81
51.60	18.85	0.86	17.99
51.62	19.03	0.87	18.16
51.64	19.21	0.87	18.33
51.66	19.38	0.88	18.50
51.68	19.55	0.89	18.67
51.70	19.73	0.89	18.84
51.72	19.90	0.90	19.00
51.74	**20.06**	**0.90**	**19.16**

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Stage-Area-Storage for Pond 17P: Track and Field- stone base

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
50.50	**90,671**	0
50.52	90,671	587
50.54	90,671	1,212
50.56	90,671	1,862
50.58	90,671	2,514
50.60	90,671	3,147
50.62	90,671	3,734
50.64	90,671	4,332
50.66	90,671	4,931
50.68	90,671	5,529
50.70	90,671	6,128
50.72	90,671	6,726
50.74	90,671	7,324
50.76	90,671	7,923
50.78	90,671	8,521
50.80	90,671	9,120
50.82	90,671	9,718
50.84	90,671	10,317
50.86	90,671	10,915
50.88	90,671	11,513
50.90	90,671	12,112
50.92	90,671	12,710
50.94	90,671	13,309
50.96	90,671	13,907
50.98	90,671	14,506
51.00	90,671	15,104
51.02	90,671	15,702
51.04	90,671	16,301
51.06	90,671	16,899
51.08	90,671	17,498
51.10	90,671	18,096
51.12	90,671	18,695
51.14	90,671	19,293
51.16	90,671	19,891
51.18	90,671	20,490
51.20	90,671	21,088
51.22	90,671	21,687
51.24	90,671	22,285
51.26	90,671	22,884
51.28	90,671	23,482
51.30	90,671	24,080
51.32	90,671	24,679
51.34	90,671	25,277
51.36	90,671	25,876
51.38	90,671	26,474
51.40	90,671	27,073
51.42	90,671	27,671
51.44	90,671	28,269
51.46	90,671	28,868
51.48	90,671	29,466
51.50	90,671	30,065
51.52	90,671	30,663
51.54	90,671	31,262
51.56	90,671	31,860
51.58	90,671	32,458
51.60	90,671	33,057
51.62	90,671	33,655
51.64	90,671	34,254
51.66	90,671	34,852
51.68	90,671	35,451
51.70	90,671	36,049
51.72	90,671	36,647
51.74	90,671	**37,246**

Summary for Pond 18P: Sand Filter 2

Inflow Area = 114,710 sf, 48.44% Impervious, Inflow Depth = 0.40" for WQv event
Inflow = 0.88 cfs @ 12.11 hrs, Volume= 3,859 cf
Outflow = 0.01 cfs @ 9.00 hrs, Volume= 3,859 cf, Atten= 98%, Lag= 0.0 min
Discarded = 0.01 cfs @ 9.00 hrs, Volume= 3,859 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 55.02' @ 24.00 hrs Surf.Area= 4,983 sf Storage= 2,986 cf

Plug-Flow detention time= 1,942.2 min calculated for 3,859 cf (100% of inflow)
Center-of-Mass det. time= 1,942.2 min (2,745.9 - 803.7)

Volume	Invert	Avail.Storage	Storage Description
#1	51.84'	15,389 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.84	2,171	0.0	0	0
51.85	2,171	33.0	7	7
54.84	2,171	33.0	2,142	2,149
54.85	4,561	100.0	34	2,183
55.00	4,959	100.0	714	2,897
56.00	6,294	100.0	5,627	8,523
57.00	7,438	100.0	6,866	15,389

Device	Routing	Invert	Outlet Devices
#1	Discarded	51.84'	**0.270 in/hr Exfiltration over Surface area from 51.83' - 54.84'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Primary	55.25'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Secondary	56.00'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 9.00 hrs HW=51.89' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=51.84' TW=0.00' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=51.84' TW=0.00' (Dynamic Tailwater)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 18P: Sand Filter 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	51.84	0.00	0.00	**0.00**	**0.00**
5.00	0.00	3	51.84	**0.00**	**0.00**	0.00	0.00
10.00	**0.04**	106	51.99	**0.01**	**0.01**	0.00	0.00
15.00	**0.06**	2,609	54.94	0.01	0.01	0.00	0.00
20.00	0.02	**2,938**	**55.01**	0.01	0.01	0.00	0.00
25.00	0.00	**2,944**	**55.01**	0.01	0.01	0.00	0.00
30.00	0.00	2,700	54.96	0.01	0.01	0.00	0.00
35.00	0.00	2,456	54.91	0.01	0.01	0.00	0.00
40.00	0.00	2,212	54.86	0.01	0.01	0.00	0.00
45.00	0.00	1,967	54.59	0.01	0.01	0.00	0.00
50.00	0.00	1,723	54.25	0.01	0.01	0.00	0.00
55.00	0.00	1,479	53.90	0.01	0.01	0.00	0.00
60.00	0.00	1,235	53.56	0.01	0.01	0.00	0.00
65.00	0.00	990	53.22	0.01	0.01	0.00	0.00
70.00	0.00	746	52.88	0.01	0.01	0.00	0.00
75.00	0.00	502	52.54	0.01	0.01	0.00	0.00
80.00	0.00	258	52.20	0.01	0.01	0.00	0.00
85.00	0.00	14	51.86	0.01	0.01	0.00	0.00
90.00	0.00	0	51.84	0.00	0.00	0.00	0.00
95.00	0.00	0	51.84	0.00	0.00	0.00	0.00
100.00	0.00	0	51.84	0.00	0.00	0.00	0.00
105.00	0.00	0	51.84	0.00	0.00	0.00	0.00
110.00	0.00	0	51.84	0.00	0.00	0.00	0.00
115.00	0.00	0	51.84	0.00	0.00	0.00	0.00
120.00	0.00	0	51.84	0.00	0.00	0.00	0.00
125.00	0.00	0	51.84	0.00	0.00	0.00	0.00
130.00	0.00	0	51.84	0.00	0.00	0.00	0.00
135.00	0.00	0	51.84	0.00	0.00	0.00	0.00
140.00	0.00	0	51.84	0.00	0.00	0.00	0.00
145.00	0.00	0	51.84	0.00	0.00	0.00	0.00
150.00	0.00	0	51.84	0.00	0.00	0.00	0.00
155.00	0.00	0	51.84	0.00	0.00	0.00	0.00
160.00	0.00	0	51.84	0.00	0.00	0.00	0.00
165.00	0.00	0	51.84	0.00	0.00	0.00	0.00
170.00	0.00	0	51.84	0.00	0.00	0.00	0.00
175.00	0.00	0	51.84	0.00	0.00	0.00	0.00
180.00	0.00	0	51.84	0.00	0.00	0.00	0.00
185.00	0.00	0	51.84	0.00	0.00	0.00	0.00
190.00	0.00	0	51.84	0.00	0.00	0.00	0.00
195.00	0.00	0	51.84	0.00	0.00	0.00	0.00
200.00	0.00	0	51.84	0.00	0.00	0.00	0.00
205.00	0.00	0	51.84	0.00	0.00	0.00	0.00
210.00	0.00	0	51.84	0.00	0.00	0.00	0.00
215.00	0.00	0	51.84	0.00	0.00	0.00	0.00
220.00	0.00	0	51.84	0.00	0.00	0.00	0.00
225.00	0.00	0	51.84	0.00	0.00	0.00	0.00
230.00	0.00	0	51.84	0.00	0.00	0.00	0.00
235.00	0.00	0	51.84	0.00	0.00	0.00	0.00
240.00	0.00	0	51.84	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 18P: Sand Filter 2

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
51.84	0.00	**0.00**	0.00	0.00
52.04	0.01	**0.01**	0.00	0.00
52.24	0.01	0.01	0.00	0.00
52.44	0.01	0.01	0.00	0.00
52.64	0.01	0.01	0.00	0.00
52.84	0.01	0.01	0.00	0.00
53.04	0.01	0.01	0.00	0.00
53.24	0.01	0.01	0.00	0.00
53.44	0.01	0.01	0.00	0.00
53.64	0.01	0.01	0.00	0.00
53.84	0.01	0.01	0.00	0.00
54.04	0.01	0.01	0.00	0.00
54.24	0.01	0.01	0.00	0.00
54.44	0.01	0.01	0.00	0.00
54.64	0.01	0.01	0.00	0.00
54.84	0.01	0.01	0.00	0.00
55.04	0.01	0.01	0.00	0.00
55.24	0.01	0.01	0.00	0.00
55.44	4.21	0.01	4.20	0.00
55.64	6.03	0.01	6.01	0.00
55.84	7.41	0.01	7.40	0.00
56.04	8.83	0.01	8.56	0.26
56.24	13.42	0.01	9.58	3.83
56.44	19.98	0.01	10.51	9.46
56.64	27.90	0.01	11.35	16.53
56.84	**36.91**	0.01	**12.14**	**24.75**

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Stage-Area-Storage for Pond 18P: Sand Filter 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
51.84	2,171	0
51.94	2,171	72
52.04	2,171	143
52.14	2,171	215
52.24	2,171	287
52.34	2,171	358
52.44	2,171	430
52.54	2,171	502
52.64	2,171	573
52.74	2,171	645
52.84	2,171	716
52.94	2,171	788
53.04	2,171	860
53.14	2,171	931
53.24	2,171	1,003
53.34	2,171	1,075
53.44	2,171	1,146
53.54	2,171	1,218
53.64	2,171	1,290
53.74	2,171	1,361
53.84	2,171	1,433
53.94	2,171	1,505
54.04	2,171	1,576
54.14	2,171	1,648
54.24	2,171	1,719
54.34	2,171	1,791
54.44	2,171	1,863
54.54	2,171	1,934
54.64	2,171	2,006
54.74	2,171	2,078
54.84	2,171	2,149
54.94	4,800	2,604
55.04	5,012	3,096
55.14	5,146	3,604
55.24	5,279	4,126
55.34	5,413	4,660
55.44	5,546	5,208
55.54	5,680	5,769
55.64	5,813	6,344
55.74	5,947	6,932
55.84	6,080	7,533
55.94	6,214	8,148
56.04	6,340	8,776
56.14	6,454	9,416
56.24	6,569	10,067
56.34	6,683	10,730
56.44	6,797	11,404
56.54	6,912	12,089
56.64	7,026	12,786
56.74	7,141	13,494
56.84	7,255	14,214
56.94	**7,369**	**14,945**

Summary for Pond 19P: Sand Filter 3

Inflow Area = 22,284 sf, 61.76% Impervious, Inflow Depth = 0.63" for WQv event
Inflow = 0.34 cfs @ 12.09 hrs, Volume= 1,174 cf
Outflow = 0.01 cfs @ 11.15 hrs, Volume= 1,174 cf, Atten= 96%, Lag= 0.0 min
Discarded = 0.01 cfs @ 11.15 hrs, Volume= 1,174 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond 3P : DIV-02
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 4L : DP 1.3 - Culvert 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 57.97' @ 15.72 hrs Surf.Area= 1,999 sf Storage= 644 cf

Plug-Flow detention time= 477.6 min calculated for 1,174 cf (100% of inflow)
Center-of-Mass det. time= 477.6 min (1,267.3 - 789.7)

Volume	Invert	Avail.Storage	Storage Description
#1	56.99'	10,312 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.99	1,999	0.0	0	0
57.00	1,999	33.0	7	7
59.99	1,999	33.0	1,972	1,979
60.00	2,449	100.0	22	2,001
61.00	4,147	100.0	3,298	5,299
62.00	5,878	100.0	5,013	10,312

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.99'	**0.270 in/hr Exfiltration over Surface area from 56.98' - 59.99'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Primary	60.65'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Secondary	61.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 11.15 hrs HW=57.04' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.99' TW=56.15' (Dynamic Tailwater)
↑**2=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.99' TW=0.00' (Dynamic Tailwater)
↑**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 19P: Sand Filter 3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	56.99	0.00	0.00	**0.00**	**0.00**
5.00	0.00	1	56.99	0.00	0.00	0.00	0.00
10.00	**0.01**	12	57.01	**0.01**	**0.01**	0.00	0.00
15.00	**0.02**	**640**	**57.96**	**0.01**	**0.01**	0.00	0.00
20.00	0.01	**572**	**57.86**	0.01	0.01	0.00	0.00
25.00	0.00	415	57.62	0.01	0.01	0.00	0.00
30.00	0.00	190	57.28	0.01	0.01	0.00	0.00
35.00	0.00	0	56.99	0.00	0.00	0.00	0.00
40.00	0.00	0	56.99	0.00	0.00	0.00	0.00
45.00	0.00	0	56.99	0.00	0.00	0.00	0.00
50.00	0.00	0	56.99	0.00	0.00	0.00	0.00
55.00	0.00	0	56.99	0.00	0.00	0.00	0.00
60.00	0.00	0	56.99	0.00	0.00	0.00	0.00
65.00	0.00	0	56.99	0.00	0.00	0.00	0.00
70.00	0.00	0	56.99	0.00	0.00	0.00	0.00
75.00	0.00	0	56.99	0.00	0.00	0.00	0.00
80.00	0.00	0	56.99	0.00	0.00	0.00	0.00
85.00	0.00	0	56.99	0.00	0.00	0.00	0.00
90.00	0.00	0	56.99	0.00	0.00	0.00	0.00
95.00	0.00	0	56.99	0.00	0.00	0.00	0.00
100.00	0.00	0	56.99	0.00	0.00	0.00	0.00
105.00	0.00	0	56.99	0.00	0.00	0.00	0.00
110.00	0.00	0	56.99	0.00	0.00	0.00	0.00
115.00	0.00	0	56.99	0.00	0.00	0.00	0.00
120.00	0.00	0	56.99	0.00	0.00	0.00	0.00
125.00	0.00	0	56.99	0.00	0.00	0.00	0.00
130.00	0.00	0	56.99	0.00	0.00	0.00	0.00
135.00	0.00	0	56.99	0.00	0.00	0.00	0.00
140.00	0.00	0	56.99	0.00	0.00	0.00	0.00
145.00	0.00	0	56.99	0.00	0.00	0.00	0.00
150.00	0.00	0	56.99	0.00	0.00	0.00	0.00
155.00	0.00	0	56.99	0.00	0.00	0.00	0.00
160.00	0.00	0	56.99	0.00	0.00	0.00	0.00
165.00	0.00	0	56.99	0.00	0.00	0.00	0.00
170.00	0.00	0	56.99	0.00	0.00	0.00	0.00
175.00	0.00	0	56.99	0.00	0.00	0.00	0.00
180.00	0.00	0	56.99	0.00	0.00	0.00	0.00
185.00	0.00	0	56.99	0.00	0.00	0.00	0.00
190.00	0.00	0	56.99	0.00	0.00	0.00	0.00
195.00	0.00	0	56.99	0.00	0.00	0.00	0.00
200.00	0.00	0	56.99	0.00	0.00	0.00	0.00
205.00	0.00	0	56.99	0.00	0.00	0.00	0.00
210.00	0.00	0	56.99	0.00	0.00	0.00	0.00
215.00	0.00	0	56.99	0.00	0.00	0.00	0.00
220.00	0.00	0	56.99	0.00	0.00	0.00	0.00
225.00	0.00	0	56.99	0.00	0.00	0.00	0.00
230.00	0.00	0	56.99	0.00	0.00	0.00	0.00
235.00	0.00	0	56.99	0.00	0.00	0.00	0.00
240.00	0.00	0	56.99	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 19P: Sand Filter 3

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
56.99	0.00	**0.00**	0.00	0.00
57.09	0.01	**0.01**	0.00	0.00
57.19	0.01	0.01	0.00	0.00
57.29	0.01	0.01	0.00	0.00
57.39	0.01	0.01	0.00	0.00
57.49	0.01	0.01	0.00	0.00
57.59	0.01	0.01	0.00	0.00
57.69	0.01	0.01	0.00	0.00
57.79	0.01	0.01	0.00	0.00
57.89	0.01	0.01	0.00	0.00
57.99	0.01	0.01	0.00	0.00
58.09	0.01	0.01	0.00	0.00
58.19	0.01	0.01	0.00	0.00
58.29	0.01	0.01	0.00	0.00
58.39	0.01	0.01	0.00	0.00
58.49	0.01	0.01	0.00	0.00
58.59	0.01	0.01	0.00	0.00
58.69	0.01	0.01	0.00	0.00
58.79	0.01	0.01	0.00	0.00
58.89	0.01	0.01	0.00	0.00
58.99	0.01	0.01	0.00	0.00
59.09	0.01	0.01	0.00	0.00
59.19	0.01	0.01	0.00	0.00
59.29	0.01	0.01	0.00	0.00
59.39	0.01	0.01	0.00	0.00
59.49	0.01	0.01	0.00	0.00
59.59	0.01	0.01	0.00	0.00
59.69	0.01	0.01	0.00	0.00
59.79	0.01	0.01	0.00	0.00
59.89	0.01	0.01	0.00	0.00
59.99	0.01	0.01	0.00	0.00
60.09	0.01	0.01	0.00	0.00
60.19	0.01	0.01	0.00	0.00
60.29	0.01	0.01	0.00	0.00
60.39	0.01	0.01	0.00	0.00
60.49	0.01	0.01	0.00	0.00
60.59	0.01	0.01	0.00	0.00
60.69	0.64	0.01	0.63	0.00
60.79	1.81	0.01	1.80	0.00
60.89	2.37	0.01	2.36	0.00
60.99	2.82	0.01	2.81	0.00
61.09	3.21	0.01	3.19	0.00
61.19	4.43	0.01	3.54	0.88
61.29	6.56	0.01	3.85	2.70
61.39	9.23	0.01	4.14	5.08
61.49	12.33	0.01	4.41	7.90
61.59	15.79	0.01	4.67	11.11
61.69	19.57	0.01	4.91	14.64
61.79	23.64	0.01	5.14	18.48
61.89	27.97	0.01	5.36	22.60
61.99	**32.55**	0.01	**5.57**	**26.97**

Stage-Area-Storage for Pond 19P: Sand Filter 3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.99	1,999	0	59.54	1,999	1,682
57.04	1,999	33	59.59	1,999	1,715
57.09	1,999	66	59.64	1,999	1,748
57.14	1,999	99	59.69	1,999	1,781
57.19	1,999	132	59.74	1,999	1,814
57.24	1,999	165	59.79	1,999	1,847
57.29	1,999	198	59.84	1,999	1,880
57.34	1,999	231	59.89	1,999	1,913
57.39	1,999	264	59.94	1,999	1,946
57.44	1,999	297	59.99	1,999	1,979
57.49	1,999	330	60.04	2,517	2,101
57.54	1,999	363	60.09	2,602	2,229
57.59	1,999	396	60.14	2,687	2,361
57.64	1,999	429	60.19	2,772	2,497
57.69	1,999	462	60.24	2,857	2,638
57.74	1,999	495	60.29	2,941	2,783
57.79	1,999	528	60.34	3,026	2,932
57.84	1,999	561	60.39	3,111	3,085
57.89	1,999	594	60.44	3,196	3,243
57.94	1,999	627	60.49	3,281	3,405
57.99	1,999	660	60.54	3,366	3,571
58.04	1,999	693	60.59	3,451	3,742
58.09	1,999	726	60.64	3,536	3,916
58.14	1,999	759	60.69	3,621	4,095
58.19	1,999	792	60.74	3,706	4,278
58.24	1,999	825	60.79	3,790	4,466
58.29	1,999	858	60.84	3,875	4,657
58.34	1,999	891	60.89	3,960	4,853
58.39	1,999	924	60.94	4,045	5,053
58.44	1,999	957	60.99	4,130	5,258
58.49	1,999	990	61.04	4,216	5,467
58.54	1,999	1,022	61.09	4,303	5,679
58.59	1,999	1,055	61.14	4,389	5,897
58.64	1,999	1,088	61.19	4,476	6,118
58.69	1,999	1,121	61.24	4,562	6,344
58.74	1,999	1,154	61.29	4,649	6,575
58.79	1,999	1,187	61.34	4,736	6,809
58.84	1,999	1,220	61.39	4,822	7,048
58.89	1,999	1,253	61.44	4,909	7,291
58.94	1,999	1,286	61.49	4,995	7,539
58.99	1,999	1,319	61.54	5,082	7,791
59.04	1,999	1,352	61.59	5,168	8,047
59.09	1,999	1,385	61.64	5,255	8,308
59.14	1,999	1,418	61.69	5,341	8,573
59.19	1,999	1,451	61.74	5,428	8,842
59.24	1,999	1,484	61.79	5,514	9,116
59.29	1,999	1,517	61.84	5,601	9,393
59.34	1,999	1,550	61.89	5,688	9,676
59.39	1,999	1,583	61.94	5,774	9,962
59.44	1,999	1,616	61.99	**5,861**	**10,253**
59.49	1,999	1,649			

Summary for Pond 20P: Sand Filter 4

Inflow Area = 31,007 sf, 23.36% Impervious, Inflow Depth = 0.32" for WQv event
Inflow = 0.16 cfs @ 12.20 hrs, Volume= 827 cf
Outflow = 0.16 cfs @ 12.21 hrs, Volume= 827 cf, Atten= 0%, Lag= 0.6 min
Primary = 0.16 cfs @ 12.21 hrs, Volume= 827 cf
Routed to Link 3L : DP 1.2 - Culvert 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 59.00' @ 12.21 hrs Surf.Area= 1,767 sf Storage= 6 cf

Plug-Flow detention time= 0.6 min calculated for 827 cf (100% of inflow)
Center-of-Mass det. time= 0.6 min (833.5 - 832.9)

Volume	Invert	Avail.Storage	Storage Description
#1	58.99'	3,660 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.99	1,767	0.0	0	0
59.00	1,767	33.0	6	6
60.99	1,767	33.0	1,160	1,166
61.00	1,767	100.0	18	1,184
62.00	3,186	100.0	2,477	3,660

Device	Routing	Invert	Outlet Devices
#1	Primary	61.50'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#2	Device 3	58.99'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#3	Primary	58.25'	**6.0" Round subdrain** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.25' / 56.90' S= 0.0270 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.16 cfs @ 12.21 hrs HW=59.00' TW=0.00' (Dynamic Tailwater)
└─**1=Orifice/Grate** (Controls 0.00 cfs)
└─**3=subdrain** (Passes 0.16 cfs of 0.53 cfs potential flow)
└─**2=Exfiltration** (Exfiltration Controls 0.16 cfs)

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Hydrograph for Pond 20P: Sand Filter 4

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	58.99	0.00
5.00	0.00	0	58.99	0.00
10.00	**0.01**	**0**	**58.99**	**0.01**
15.00	**0.01**	**1**	**58.99**	**0.01**
20.00	0.01	0	58.99	0.01
25.00	0.00	0	58.99	0.00
30.00	0.00	0	58.99	0.00
35.00	0.00	0	58.99	0.00
40.00	0.00	0	58.99	0.00
45.00	0.00	0	58.99	0.00
50.00	0.00	0	58.99	0.00
55.00	0.00	0	58.99	0.00
60.00	0.00	0	58.99	0.00
65.00	0.00	0	58.99	0.00
70.00	0.00	0	58.99	0.00
75.00	0.00	0	58.99	0.00
80.00	0.00	0	58.99	0.00
85.00	0.00	0	58.99	0.00
90.00	0.00	0	58.99	0.00
95.00	0.00	0	58.99	0.00
100.00	0.00	0	58.99	0.00
105.00	0.00	0	58.99	0.00
110.00	0.00	0	58.99	0.00
115.00	0.00	0	58.99	0.00
120.00	0.00	0	58.99	0.00
125.00	0.00	0	58.99	0.00
130.00	0.00	0	58.99	0.00
135.00	0.00	0	58.99	0.00
140.00	0.00	0	58.99	0.00
145.00	0.00	0	58.99	0.00
150.00	0.00	0	58.99	0.00
155.00	0.00	0	58.99	0.00
160.00	0.00	0	58.99	0.00
165.00	0.00	0	58.99	0.00
170.00	0.00	0	58.99	0.00
175.00	0.00	0	58.99	0.00
180.00	0.00	0	58.99	0.00
185.00	0.00	0	58.99	0.00
190.00	0.00	0	58.99	0.00
195.00	0.00	0	58.99	0.00
200.00	0.00	0	58.99	0.00
205.00	0.00	0	58.99	0.00
210.00	0.00	0	58.99	0.00
215.00	0.00	0	58.99	0.00
220.00	0.00	0	58.99	0.00
225.00	0.00	0	58.99	0.00
230.00	0.00	0	58.99	0.00
235.00	0.00	0	58.99	0.00
240.00	0.00	0	58.99	0.00

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Stage-Discharge for Pond 20P: Sand Filter 4

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
58.99	0.00	60.01	0.34	61.03	0.35
59.01	0.34	60.03	0.34	61.05	0.35
59.03	0.34	60.05	0.34	61.07	0.36
59.05	0.34	60.07	0.34	61.09	0.36
59.07	0.34	60.09	0.34	61.11	0.37
59.09	0.34	60.11	0.34	61.13	0.37
59.11	0.34	60.13	0.34	61.15	0.38
59.13	0.34	60.15	0.34	61.17	0.38
59.15	0.34	60.17	0.34	61.19	0.39
59.17	0.34	60.19	0.34	61.21	0.40
59.19	0.34	60.21	0.34	61.23	0.40
59.21	0.34	60.23	0.34	61.25	0.41
59.23	0.34	60.25	0.34	61.27	0.41
59.25	0.34	60.27	0.34	61.29	0.42
59.27	0.34	60.29	0.34	61.31	0.42
59.29	0.34	60.31	0.34	61.33	0.43
59.31	0.34	60.33	0.34	61.35	0.43
59.33	0.34	60.35	0.34	61.37	0.44
59.35	0.34	60.37	0.34	61.39	0.44
59.37	0.34	60.39	0.34	61.41	0.45
59.39	0.34	60.41	0.34	61.43	0.46
59.41	0.34	60.43	0.34	61.45	0.46
59.43	0.34	60.45	0.34	61.47	0.47
59.45	0.34	60.47	0.34	61.49	0.47
59.47	0.34	60.49	0.34	61.51	0.56
59.49	0.34	60.51	0.34	61.53	0.89
59.51	0.34	60.53	0.34	61.55	1.37
59.53	0.34	60.55	0.34	61.57	1.77
59.55	0.34	60.57	0.34	61.59	1.94
59.57	0.34	60.59	0.34	61.61	2.10
59.59	0.34	60.61	0.34	61.63	2.25
59.61	0.34	60.63	0.34	61.65	2.38
59.63	0.34	60.65	0.34	61.67	2.51
59.65	0.34	60.67	0.34	61.69	2.62
59.67	0.34	60.69	0.34	61.71	2.74
59.69	0.34	60.71	0.34	61.73	2.85
59.71	0.34	60.73	0.34	61.75	2.95
59.73	0.34	60.75	0.34	61.77	3.05
59.75	0.34	60.77	0.34	61.79	3.15
59.77	0.34	60.79	0.34	61.81	3.24
59.79	0.34	60.81	0.34	61.83	3.33
59.81	0.34	60.83	0.34	61.85	3.42
59.83	0.34	60.85	0.34	61.87	3.50
59.85	0.34	60.87	0.34	61.89	3.59
59.87	0.34	60.89	0.34	61.91	3.67
59.89	0.34	60.91	0.34	61.93	3.75
59.91	0.34	60.93	0.34	61.95	3.83
59.93	0.34	60.95	0.34	61.97	3.90
59.95	0.34	60.97	0.34	61.99	**3.98**
59.97	0.34	60.99	0.34		
59.99	0.34	61.01	0.34		

Stage-Area-Storage for Pond 20P: Sand Filter 4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
58.99	1,767	0
59.04	1,767	29
59.09	1,767	58
59.14	1,767	87
59.19	1,767	117
59.24	1,767	146
59.29	1,767	175
59.34	1,767	204
59.39	1,767	233
59.44	1,767	262
59.49	1,767	292
59.54	1,767	321
59.59	1,767	350
59.64	1,767	379
59.69	1,767	408
59.74	1,767	437
59.79	1,767	466
59.84	1,767	496
59.89	1,767	525
59.94	1,767	554
59.99	1,767	583
60.04	1,767	612
60.09	1,767	641
60.14	1,767	671
60.19	1,767	700
60.24	1,767	729
60.29	1,767	758
60.34	1,767	787
60.39	1,767	816
60.44	1,767	846
60.49	1,767	875
60.54	1,767	904
60.59	1,767	933
60.64	1,767	962
60.69	1,767	991
60.74	1,767	1,020
60.79	1,767	1,050
60.84	1,767	1,079
60.89	1,767	1,108
60.94	1,767	1,137
60.99	1,767	1,166
61.04	1,824	1,256
61.09	1,895	1,349
61.14	1,966	1,445
61.19	2,037	1,545
61.24	2,108	1,649
61.29	2,179	1,756
61.34	2,249	1,867
61.39	2,320	1,981
61.44	2,391	2,099
61.49	2,462	2,220
61.54	2,533	2,345
61.59	2,604	2,473
61.64	2,675	2,605
61.69	2,746	2,741
61.74	2,817	2,880
61.79	2,888	3,023
61.84	2,959	3,169
61.89	3,030	3,319
61.94	3,101	3,472
61.99	**3,172**	**3,629**

Summary for Pond 23P: UGIS-1

Inflow Area = 151,857 sf,100.00% Impervious, Inflow Depth = 0.22" for WQv event
Inflow = 1.08 cfs @ 12.24 hrs, Volume= 2,788 cf
Outflow = 0.05 cfs @ 13.55 hrs, Volume= 2,788 cf, Atten= 95%, Lag= 78.3 min
Discarded = 0.05 cfs @ 13.55 hrs, Volume= 2,788 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 6L : DP 2.1 - West Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 46.99' @ 13.55 hrs Surf.Area= 6,719 sf Storage= 2,250 cf

Plug-Flow detention time= 403.6 min calculated for 2,787 cf (100% of inflow)
Center-of-Mass det. time= 403.6 min (1,154.7 - 751.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.30'	3,295 cf	**66.58'W x 80.00'L x 3.21'H Field A** 17,090 cf Overall - 7,104 cf Embedded = 9,986 cf x 33.0% Voids
#2A	46.80'	7,104 cf	**Cultec R-280HD** x 165 Inside #1 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap Row Length Adjustment= +1.00' x 6.07 sf x 15 rows
#3B	46.30'	893 cf	**44.92'W x 31.00'L x 3.21'H Field B** 4,467 cf Overall - 1,761 cf Embedded = 2,707 cf x 33.0% Voids
#4B	46.80'	1,761 cf	**Cultec R-280HD** x 40 Inside #3 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap Row Length Adjustment= +1.00' x 6.07 sf x 10 rows
		13,053 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	46.80'	**24.0" Round Culvert** L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.80' / 43.50' S= 0.0550 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Primary	48.40'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	49.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Discarded	46.30'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 43.30' Phase-In= 0.02'

Discarded OutFlow Max=0.05 cfs @ 13.55 hrs HW=46.99' (Free Discharge)
└**4=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=46.30' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.00 cfs)
└**3=Sharp-Crested Rectangular Weir**(Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir**(Controls 0.00 cfs)

Pond 23P: UGIS-1 - Chamber Wizard Field A

Chamber Model = Cultec R-280HD (Cultec Recharger®280HD)
Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf
Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
Row Length Adjustment= +1.00' x 6.07 sf x 15 rows

47.0" Wide + 5.0" Spacing = 52.0" C-C Row Spacing

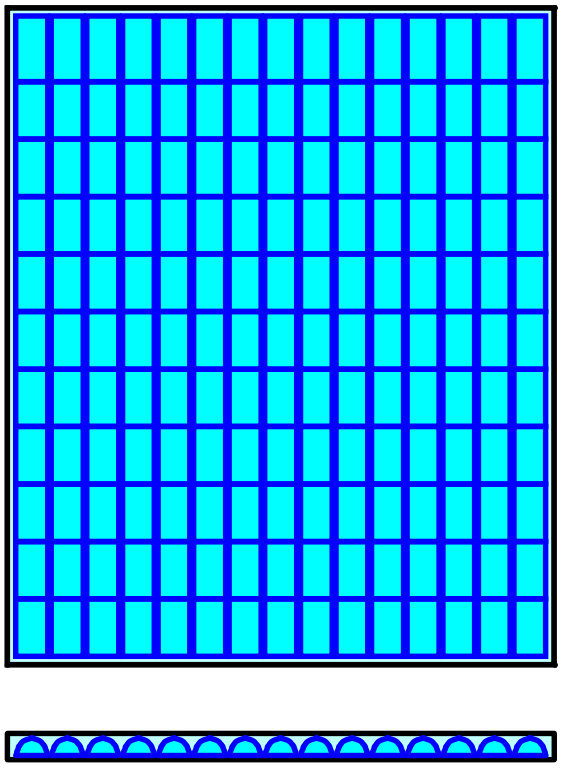
11 Chambers/Row x 7.00' Long +1.00' Row Adjustment = 78.00' Row Length +12.0" End Stone x 2 = 80.00' Base Length
15 Rows x 47.0" Wide + 5.0" Spacing x 14 + 12.0" Side Stone x 2 = 66.58' Base Width
6.0" Stone Base + 26.5" Chamber Height + 6.0" Stone Cover = 3.21' Field Height

165 Chambers x 42.5 cf +1.00' Row Adjustment x 6.07 sf x 15 Rows = 7,103.9 cf Chamber Storage

17,089.7 cf Field - 7,103.9 cf Chambers = 9,985.8 cf Stone x 33.0% Voids = 3,295.3 cf Stone Storage

Chamber Storage + Stone Storage = 10,399.3 cf = 0.239 af
Overall Storage Efficiency = 60.9%
Overall System Size = 80.00' x 66.58' x 3.21'

165 Chambers
633.0 cy Field
369.8 cy Stone



Pond 23P: UGIS-1 - Chamber Wizard Field B

Chamber Model = Cultec R-280HD (Cultec Recharger®280HD)
Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf
Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
Row Length Adjustment= +1.00' x 6.07 sf x 10 rows

47.0" Wide + 5.0" Spacing = 52.0" C-C Row Spacing

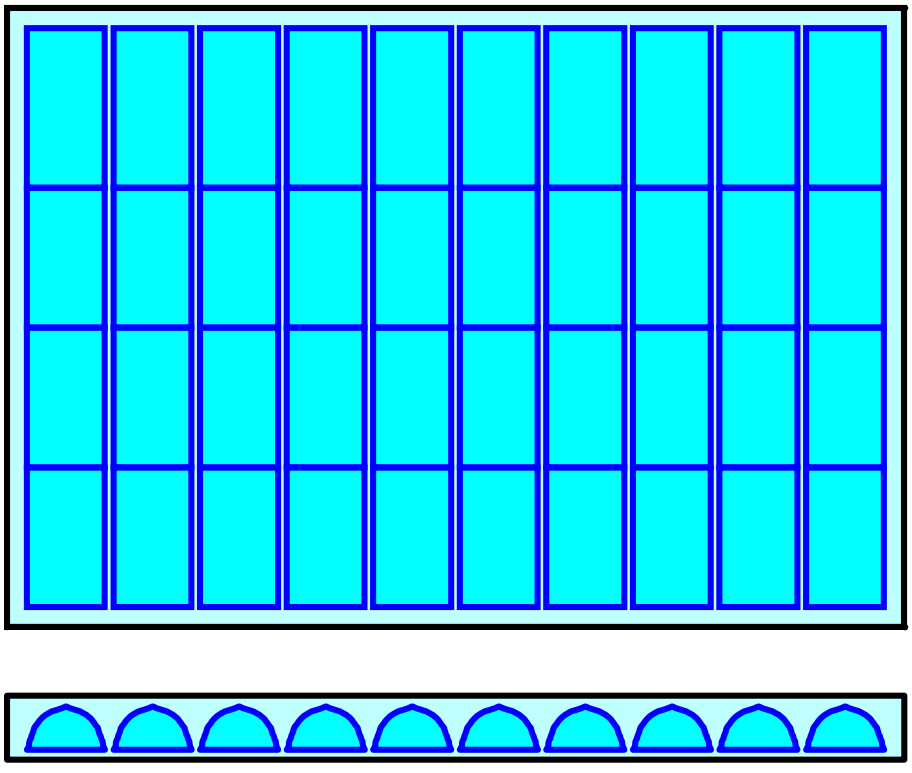
4 Chambers/Row x 7.00' Long +1.00' Row Adjustment = 29.00' Row Length +12.0" End Stone x 2 = 31.00' Base Length
10 Rows x 47.0" Wide + 5.0" Spacing x 9 + 12.0" Side Stone x 2 = 44.92' Base Width
6.0" Stone Base + 26.5" Chamber Height + 6.0" Stone Cover = 3.21' Field Height

40 Chambers x 42.5 cf +1.00' Row Adjustment x 6.07 sf x 10 Rows = 1,760.8 cf Chamber Storage

4,467.3 cf Field - 1,760.8 cf Chambers = 2,706.5 cf Stone x 33.0% Voids = 893.2 cf Stone Storage

Chamber Storage + Stone Storage = 2,654.0 cf = 0.061 af
Overall Storage Efficiency = 59.4%
Overall System Size = 31.00' x 44.92' x 3.21'

40 Chambers
165.5 cy Field
100.2 cy Stone



Pro-Hydro
Prepared by Pare Corporation
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Hydrograph for Pond 23P: UGIS-1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	46.30	0.00	0.00	**0.00**
5.00	0.00	0	46.30	0.00	0.00	0.00
10.00	**0.00**	**2**	**46.30**	**0.00**	**0.00**	0.00
15.00	**0.01**	**2,107**	**46.97**	**0.05**	**0.05**	0.00
20.00	0.00	1,234	46.82	0.05	0.05	0.00
25.00	0.00	393	46.48	0.04	0.04	0.00
30.00	0.00	0	46.30	0.00	0.00	0.00
35.00	0.00	0	46.30	0.00	0.00	0.00
40.00	0.00	0	46.30	0.00	0.00	0.00
45.00	0.00	0	46.30	0.00	0.00	0.00
50.00	0.00	0	46.30	0.00	0.00	0.00
55.00	0.00	0	46.30	0.00	0.00	0.00
60.00	0.00	0	46.30	0.00	0.00	0.00
65.00	0.00	0	46.30	0.00	0.00	0.00
70.00	0.00	0	46.30	0.00	0.00	0.00
75.00	0.00	0	46.30	0.00	0.00	0.00
80.00	0.00	0	46.30	0.00	0.00	0.00
85.00	0.00	0	46.30	0.00	0.00	0.00
90.00	0.00	0	46.30	0.00	0.00	0.00
95.00	0.00	0	46.30	0.00	0.00	0.00
100.00	0.00	0	46.30	0.00	0.00	0.00
105.00	0.00	0	46.30	0.00	0.00	0.00
110.00	0.00	0	46.30	0.00	0.00	0.00
115.00	0.00	0	46.30	0.00	0.00	0.00
120.00	0.00	0	46.30	0.00	0.00	0.00
125.00	0.00	0	46.30	0.00	0.00	0.00
130.00	0.00	0	46.30	0.00	0.00	0.00
135.00	0.00	0	46.30	0.00	0.00	0.00
140.00	0.00	0	46.30	0.00	0.00	0.00
145.00	0.00	0	46.30	0.00	0.00	0.00
150.00	0.00	0	46.30	0.00	0.00	0.00
155.00	0.00	0	46.30	0.00	0.00	0.00
160.00	0.00	0	46.30	0.00	0.00	0.00
165.00	0.00	0	46.30	0.00	0.00	0.00
170.00	0.00	0	46.30	0.00	0.00	0.00
175.00	0.00	0	46.30	0.00	0.00	0.00
180.00	0.00	0	46.30	0.00	0.00	0.00
185.00	0.00	0	46.30	0.00	0.00	0.00
190.00	0.00	0	46.30	0.00	0.00	0.00
195.00	0.00	0	46.30	0.00	0.00	0.00
200.00	0.00	0	46.30	0.00	0.00	0.00
205.00	0.00	0	46.30	0.00	0.00	0.00
210.00	0.00	0	46.30	0.00	0.00	0.00
215.00	0.00	0	46.30	0.00	0.00	0.00
220.00	0.00	0	46.30	0.00	0.00	0.00
225.00	0.00	0	46.30	0.00	0.00	0.00
230.00	0.00	0	46.30	0.00	0.00	0.00
235.00	0.00	0	46.30	0.00	0.00	0.00
240.00	0.00	0	46.30	0.00	0.00	0.00

Stage-Discharge for Pond 23P: UGIS-1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
46.30	0.00	0.00	0.00
46.35	0.04	0.04	0.00
46.40	0.04	0.04	0.00
46.45	0.04	0.04	0.00
46.50	0.04	0.04	0.00
46.55	0.05	0.05	0.00
46.60	0.05	0.05	0.00
46.65	0.05	0.05	0.00
46.70	0.05	0.05	0.00
46.75	0.05	0.05	0.00
46.80	0.05	0.05	0.00
46.85	0.05	0.05	0.00
46.90	0.05	0.05	0.00
46.95	0.05	0.05	0.00
47.00	0.05	0.05	0.00
47.05	0.05	0.05	0.00
47.10	0.05	0.05	0.00
47.15	0.05	0.05	0.00
47.20	0.05	0.05	0.00
47.25	0.06	0.06	0.00
47.30	0.06	0.06	0.00
47.35	0.06	0.06	0.00
47.40	0.06	0.06	0.00
47.45	0.06	0.06	0.00
47.50	0.06	0.06	0.00
47.55	0.06	0.06	0.00
47.60	0.06	0.06	0.00
47.65	0.06	0.06	0.00
47.70	0.06	0.06	0.00
47.75	0.06	0.06	0.00
47.80	0.06	0.06	0.00
47.85	0.06	0.06	0.00
47.90	0.06	0.06	0.00
47.95	0.07	0.07	0.00
48.00	0.07	0.07	0.00
48.05	0.07	0.07	0.00
48.10	0.07	0.07	0.00
48.15	0.07	0.07	0.00
48.20	0.07	0.07	0.00
48.25	0.07	0.07	0.00
48.30	0.07	0.07	0.00
48.35	0.07	0.07	0.00
48.40	0.07	0.07	0.00
48.45	0.14	0.07	0.07
48.50	0.28	0.07	0.20
48.55	0.45	0.07	0.37
48.60	0.65	0.07	0.57
48.65	0.87	0.07	0.80
48.70	1.12	0.08	1.04
48.75	1.38	0.08	1.31
48.80	1.67	0.08	1.59
48.85	1.96	0.08	1.89
48.90	2.28	0.08	2.20
48.95	2.60	0.08	2.52
49.00	2.94	0.08	2.86
49.05	3.43	0.08	3.35
49.10	4.05	0.08	3.97
49.15	4.77	0.08	4.68
49.20	5.55	0.08	5.46
49.25	6.39	0.08	6.30
49.30	7.28	0.08	7.20
49.35	8.23	0.08	8.14
49.40	9.21	0.09	9.13
49.45	10.24	0.09	10.16
49.50	**11.31**	**0.09**	**11.22**

Stage-Area-Storage for Pond 23P: UGIS-1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
46.30	**6,719**	0
46.35	6,719	111
46.40	6,719	222
46.45	6,719	333
46.50	6,719	443
46.55	6,719	554
46.60	6,719	665
46.65	6,719	776
46.70	6,719	887
46.75	6,719	998
46.80	6,719	1,109
46.85	6,719	1,410
46.90	6,719	1,708
46.95	6,719	2,004
47.00	6,719	2,297
47.05	6,719	2,590
47.10	6,719	2,882
47.15	6,719	3,173
47.20	6,719	3,463
47.25	6,719	3,753
47.30	6,719	4,041
47.35	6,719	4,326
47.40	6,719	4,610
47.45	6,719	4,891
47.50	6,719	5,172
47.55	6,719	5,450
47.60	6,719	5,726
47.65	6,719	6,000
47.70	6,719	6,272
47.75	6,719	6,543
47.80	6,719	6,812
47.85	6,719	7,080
47.90	6,719	7,347
47.95	6,719	7,611
48.00	6,719	7,871
48.05	6,719	8,128
48.10	6,719	8,381
48.15	6,719	8,631
48.20	6,719	8,878
48.25	6,719	9,121
48.30	6,719	9,360
48.35	6,719	9,595
48.40	6,719	9,825
48.45	6,719	10,050
48.50	6,719	10,269
48.55	6,719	10,482
48.60	6,719	10,689
48.65	6,719	10,887
48.70	6,719	11,075
48.75	6,719	11,252
48.80	6,719	11,413
48.85	6,719	11,560
48.90	6,719	11,693
48.95	6,719	11,814
49.00	6,719	11,926
49.05	6,719	12,037
49.10	6,719	12,148
49.15	6,719	12,259
49.20	6,719	12,370
49.25	6,719	12,480
49.30	6,719	12,591
49.35	6,719	12,702
49.40	6,719	12,813
49.45	6,719	12,924
49.50	6,719	**13,035**

Pro-Hydro
Prepared by Pare Corporation
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Summary for Pond 28P: DIV-01

Inflow Area = 379,224 sf, 30.94% Impervious, Inflow Depth = 0.36" for WQv event
Inflow = 2.06 cfs @ 12.17 hrs, Volume= 11,243 cf
Outflow = 2.06 cfs @ 12.17 hrs, Volume= 11,243 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.73 cfs @ 12.17 hrs, Volume= 11,021 cf
Routed to Pond 13P : Sand Filter 1
Secondary = 0.32 cfs @ 12.17 hrs, Volume= 222 cf
Routed to Pond 15P : Detention Basin 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 47.06' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.10'	**11.0" Round Culvert** L= 14.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.10' / 46.00' S= 0.0071 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.66 sf
#2	Device 3	47.00'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	46.10'	**36.0" Round Culvert** L= 56.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.10' / 44.00' S= 0.0375 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=1.73 cfs @ 12.17 hrs HW=47.06' TW=44.49' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 1.73 cfs @ 3.10 fps)

Secondary OutFlow Max=0.31 cfs @ 12.17 hrs HW=47.06' TW=44.02' (Dynamic Tailwater)
└─**3=Culvert** (Passes 0.31 cfs of 5.17 cfs potential flow)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.31 cfs @ 0.82 fps)

Hydrograph for Pond 28P: DIV-01

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	46.10	0.00	0.00	0.00
5.00	0.01	46.16	0.01	0.01	0.00
10.00	**0.11**	**46.29**	**0.11**	**0.11**	**0.00**
15.00	**0.18**	**46.39**	**0.18**	**0.18**	**0.00**
20.00	0.07	46.47	0.07	0.07	0.00
25.00	0.00	46.10	0.00	0.00	0.00
30.00	0.00	46.43	0.00	0.00	0.00
35.00	0.00	46.34	0.00	0.00	0.00
40.00	0.00	46.28	0.00	0.00	0.00
45.00	0.00	46.19	0.00	0.00	0.00
50.00	0.00	46.13	0.00	0.00	0.00
55.00	0.00	46.10	0.00	0.00	0.00
60.00	0.00	46.10	0.00	0.00	0.00
65.00	0.00	46.10	0.00	0.00	0.00
70.00	0.00	46.10	0.00	0.00	0.00
75.00	0.00	46.10	0.00	0.00	0.00
80.00	0.00	46.10	0.00	0.00	0.00
85.00	0.00	46.10	0.00	0.00	0.00
90.00	0.00	46.10	0.00	0.00	0.00
95.00	0.00	46.10	0.00	0.00	0.00
100.00	0.00	46.10	0.00	0.00	0.00
105.00	0.00	46.10	0.00	0.00	0.00
110.00	0.00	46.10	0.00	0.00	0.00
115.00	0.00	46.10	0.00	0.00	0.00
120.00	0.00	46.10	0.00	0.00	0.00
125.00	0.00	46.10	0.00	0.00	0.00
130.00	0.00	46.10	0.00	0.00	0.00
135.00	0.00	46.10	0.00	0.00	0.00
140.00	0.00	46.10	0.00	0.00	0.00
145.00	0.00	46.10	0.00	0.00	0.00
150.00	0.00	46.10	0.00	0.00	0.00
155.00	0.00	46.10	0.00	0.00	0.00
160.00	0.00	46.10	0.00	0.00	0.00
165.00	0.00	46.10	0.00	0.00	0.00
170.00	0.00	46.10	0.00	0.00	0.00
175.00	0.00	46.10	0.00	0.00	0.00
180.00	0.00	46.10	0.00	0.00	0.00
185.00	0.00	46.10	0.00	0.00	0.00
190.00	0.00	46.10	0.00	0.00	0.00
195.00	0.00	46.10	0.00	0.00	0.00
200.00	0.00	46.10	0.00	0.00	0.00
205.00	0.00	46.10	0.00	0.00	0.00
210.00	0.00	46.10	0.00	0.00	0.00
215.00	0.00	46.10	0.00	0.00	0.00
220.00	0.00	46.10	0.00	0.00	0.00
225.00	0.00	46.10	0.00	0.00	0.00
230.00	0.00	46.10	0.00	0.00	0.00
235.00	0.00	46.10	0.00	0.00	0.00
240.00	0.00	46.10	0.00	0.00	0.00

Stage-Discharge for Pond 28P: DIV-01

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
46.10	0.00	0.00	0.00
46.15	0.01	0.01	0.00
46.20	0.03	0.03	0.00
46.25	0.07	0.07	0.00
46.30	0.12	0.12	0.00
46.35	0.18	0.18	0.00
46.40	0.25	0.25	0.00
46.45	0.33	0.33	0.00
46.50	0.41	0.41	0.00
46.55	0.51	0.51	0.00
46.60	0.61	0.61	0.00
46.65	0.72	0.72	0.00
46.70	0.83	0.83	0.00
46.75	0.95	0.95	0.00
46.80	1.07	1.07	0.00
46.85	1.20	1.20	0.00
46.90	1.32	1.32	0.00
46.95	1.45	1.45	0.00
47.00	1.58	1.58	0.00
47.05	1.92	1.70	0.22
47.10	2.44	1.82	0.62
47.15	3.06	1.93	1.13
47.20	3.75	2.01	1.74
47.25	4.52	2.09	2.43
47.30	5.35	2.16	3.19
47.35	6.25	2.23	4.02
47.40	7.20	2.30	4.90
47.45	8.20	2.37	5.83
47.50	9.26	2.43	6.82
47.55	10.35	2.50	7.86
47.60	11.50	2.56	8.94
47.65	12.68	2.62	10.06
47.70	13.90	2.68	11.22
47.75	15.16	2.74	12.42
47.80	16.46	2.80	13.66
47.85	17.79	2.85	14.94
47.90	18.88	2.91	15.97
47.95	19.68	2.96	16.72
48.00	20.50	3.01	17.49
48.05	21.32	3.06	18.26
48.10	22.14	3.11	19.03
48.15	22.97	3.16	19.81
48.20	23.80	3.21	20.59
48.25	24.63	3.26	21.37
48.30	25.46	3.31	22.15
48.35	26.29	3.36	22.93
48.40	27.11	3.40	23.70
48.45	27.93	3.45	24.48
48.50	28.74	3.50	25.24
48.55	29.54	3.54	26.00
48.60	30.33	3.58	26.75
48.65	31.11	3.63	27.49
48.70	31.88	3.67	28.21
48.75	32.63	3.71	28.91
48.80	33.35	3.76	29.60
48.85	34.05	3.80	30.25
48.90	34.72	3.84	30.88
48.95	35.36	3.88	31.48
49.00	35.94	3.92	32.02
49.05	36.47	3.96	32.51
49.10	**36.91**	**4.00**	**32.91**

Stage-Area-Storage for Pond 28P: DIV-01

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
46.10	**0**	47.12	0	48.14	0
46.12	0	47.14	0	48.16	0
46.14	0	47.16	0	48.18	0
46.16	0	47.18	0	48.20	0
46.18	0	47.20	0	48.22	0
46.20	0	47.22	0	48.24	0
46.22	0	47.24	0	48.26	0
46.24	0	47.26	0	48.28	0
46.26	0	47.28	0	48.30	0
46.28	0	47.30	0	48.32	0
46.30	0	47.32	0	48.34	0
46.32	0	47.34	0	48.36	0
46.34	0	47.36	0	48.38	0
46.36	0	47.38	0	48.40	0
46.38	0	47.40	0	48.42	0
46.40	0	47.42	0	48.44	0
46.42	0	47.44	0	48.46	0
46.44	0	47.46	0	48.48	0
46.46	0	47.48	0	48.50	0
46.48	0	47.50	0	48.52	0
46.50	0	47.52	0	48.54	0
46.52	0	47.54	0	48.56	0
46.54	0	47.56	0	48.58	0
46.56	0	47.58	0	48.60	0
46.58	0	47.60	0	48.62	0
46.60	0	47.62	0	48.64	0
46.62	0	47.64	0	48.66	0
46.64	0	47.66	0	48.68	0
46.66	0	47.68	0	48.70	0
46.68	0	47.70	0	48.72	0
46.70	0	47.72	0	48.74	0
46.72	0	47.74	0	48.76	0
46.74	0	47.76	0	48.78	0
46.76	0	47.78	0	48.80	0
46.78	0	47.80	0	48.82	0
46.80	0	47.82	0	48.84	0
46.82	0	47.84	0	48.86	0
46.84	0	47.86	0	48.88	0
46.86	0	47.88	0	48.90	0
46.88	0	47.90	0	48.92	0
46.90	0	47.92	0	48.94	0
46.92	0	47.94	0	48.96	0
46.94	0	47.96	0	48.98	0
46.96	0	47.98	0	49.00	0
46.98	0	48.00	0	49.02	0
47.00	0	48.02	0	49.04	0
47.02	0	48.04	0	49.06	0
47.04	0	48.06	0	49.08	0
47.06	0	48.08	0	49.10	0
47.08	0	48.10	0		
47.10	0	48.12	0		

Summary for Pond 33P: Wet Swale

Inflow Area = 57,295 sf, 71.73% Impervious, Inflow Depth = 0.73" for WQv event
Inflow = 1.00 cfs @ 12.09 hrs, Volume= 3,493 cf
Outflow = 0.01 cfs @ 7.80 hrs, Volume= 3,493 cf, Atten= 99%, Lag= 0.0 min
Discarded = 0.01 cfs @ 7.80 hrs, Volume= 3,493 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond 4P : Detention Basin 2
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 2L : DP 1.1 - Culvert 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 59.44' @ 24.03 hrs Surf.Area= 4,095 sf Storage= 2,866 cf

Plug-Flow detention time= 2,633.5 min calculated for 3,492 cf (100% of inflow)
Center-of-Mass det. time= 2,634.0 min (3,422.5 - 788.5)

Volume	Invert	Avail.Storage	Storage Description
#1	57.69'	11,649 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.69	1,511	0.0	0	0
57.70	1,511	33.0	5	5
58.69	1,511	33.0	494	499
58.70	1,801	100.0	17	515
59.00	3,213	100.0	752	1,267
60.00	5,228	100.0	4,221	5,488
61.00	7,094	100.0	6,161	11,649

Device	Routing	Invert	Outlet Devices
#1	Discarded	57.69'	**0.270 in/hr Exfiltration over Surface area from 57.68' - 58.69'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Primary	56.20'	**18.0" Round Culvert** L= 62.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.20' / 55.60' S= 0.0097 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#3	Device 2	59.75'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#4	Secondary	60.50'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 7.80 hrs HW=57.72' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=57.69' TW=55.60' (Dynamic Tailwater)
└**2=Culvert** (Passes 0.00 cfs of 5.79 cfs potential flow)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=57.69' TW=0.00' (Dynamic Tailwater)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 33P: Wet Swale

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	57.69	0.00	0.00	**0.00**	**0.00**
5.00	0.00	3	57.70	**0.00**	**0.00**	0.00	0.00
10.00	**0.04**	143	57.98	**0.01**	**0.01**	0.00	0.00
15.00	**0.05**	2,517	59.35	0.01	0.01	0.00	0.00
20.00	0.02	**2,808**	**59.42**	0.01	0.01	0.00	0.00
25.00	0.00	**2,836**	**59.43**	0.01	0.01	0.00	0.00
30.00	0.00	2,666	59.39	0.01	0.01	0.00	0.00
35.00	0.00	2,496	59.35	0.01	0.01	0.00	0.00
40.00	0.00	2,326	59.30	0.01	0.01	0.00	0.00
45.00	0.00	2,156	59.26	0.01	0.01	0.00	0.00
50.00	0.00	1,986	59.21	0.01	0.01	0.00	0.00
55.00	0.00	1,816	59.16	0.01	0.01	0.00	0.00
60.00	0.00	1,646	59.11	0.01	0.01	0.00	0.00
65.00	0.00	1,476	59.06	0.01	0.01	0.00	0.00
70.00	0.00	1,306	59.01	0.01	0.01	0.00	0.00
75.00	0.00	1,136	58.96	0.01	0.01	0.00	0.00
80.00	0.00	966	58.90	0.01	0.01	0.00	0.00
85.00	0.00	796	58.83	0.01	0.01	0.00	0.00
90.00	0.00	626	58.76	0.01	0.01	0.00	0.00
95.00	0.00	456	58.60	0.01	0.01	0.00	0.00
100.00	0.00	286	58.26	0.01	0.01	0.00	0.00
105.00	0.00	116	57.92	0.01	0.01	0.00	0.00
110.00	0.00	0	57.69	0.00	0.00	0.00	0.00
115.00	0.00	0	57.69	0.00	0.00	0.00	0.00
120.00	0.00	0	57.69	0.00	0.00	0.00	0.00
125.00	0.00	0	57.69	0.00	0.00	0.00	0.00
130.00	0.00	0	57.69	0.00	0.00	0.00	0.00
135.00	0.00	0	57.69	0.00	0.00	0.00	0.00
140.00	0.00	0	57.69	0.00	0.00	0.00	0.00
145.00	0.00	0	57.69	0.00	0.00	0.00	0.00
150.00	0.00	0	57.69	0.00	0.00	0.00	0.00
155.00	0.00	0	57.69	0.00	0.00	0.00	0.00
160.00	0.00	0	57.69	0.00	0.00	0.00	0.00
165.00	0.00	0	57.69	0.00	0.00	0.00	0.00
170.00	0.00	0	57.69	0.00	0.00	0.00	0.00
175.00	0.00	0	57.69	0.00	0.00	0.00	0.00
180.00	0.00	0	57.69	0.00	0.00	0.00	0.00
185.00	0.00	0	57.69	0.00	0.00	0.00	0.00
190.00	0.00	0	57.69	0.00	0.00	0.00	0.00
195.00	0.00	0	57.69	0.00	0.00	0.00	0.00
200.00	0.00	0	57.69	0.00	0.00	0.00	0.00
205.00	0.00	0	57.69	0.00	0.00	0.00	0.00
210.00	0.00	0	57.69	0.00	0.00	0.00	0.00
215.00	0.00	0	57.69	0.00	0.00	0.00	0.00
220.00	0.00	0	57.69	0.00	0.00	0.00	0.00
225.00	0.00	0	57.69	0.00	0.00	0.00	0.00
230.00	0.00	0	57.69	0.00	0.00	0.00	0.00
235.00	0.00	0	57.69	0.00	0.00	0.00	0.00
240.00	0.00	0	57.69	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 33P: Wet Swale

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
57.69	0.00	**0.00**	0.00	0.00
57.79	0.01	**0.01**	0.00	0.00
57.89	0.01	0.01	0.00	0.00
57.99	0.01	0.01	0.00	0.00
58.09	0.01	0.01	0.00	0.00
58.19	0.01	0.01	0.00	0.00
58.29	0.01	0.01	0.00	0.00
58.39	0.01	0.01	0.00	0.00
58.49	0.01	0.01	0.00	0.00
58.59	0.01	0.01	0.00	0.00
58.69	0.01	0.01	0.00	0.00
58.79	0.01	0.01	0.00	0.00
58.89	0.01	0.01	0.00	0.00
58.99	0.01	0.01	0.00	0.00
59.09	0.01	0.01	0.00	0.00
59.19	0.01	0.01	0.00	0.00
59.29	0.01	0.01	0.00	0.00
59.39	0.01	0.01	0.00	0.00
59.49	0.01	0.01	0.00	0.00
59.59	0.01	0.01	0.00	0.00
59.69	0.01	0.01	0.00	0.00
59.79	1.27	0.01	1.26	0.00
59.89	3.61	0.01	3.60	0.00
59.99	4.73	0.01	4.72	0.00
60.09	5.62	0.01	5.62	0.00
60.19	6.40	0.01	6.39	0.00
60.29	7.09	0.01	7.08	0.00
60.39	7.71	0.01	7.70	0.00
60.49	8.29	0.01	8.28	0.00
60.59	9.72	0.01	8.83	0.88
60.69	12.04	0.01	9.34	2.70
60.79	14.91	0.01	9.82	5.08
60.89	18.19	0.01	10.28	7.90
60.99	**21.84**	0.01	**10.72**	**11.11**

Stage-Area-Storage for Pond 33P: Wet Swale

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
57.69	1,511	0
57.74	1,511	25
57.79	1,511	50
57.84	1,511	75
57.89	1,511	100
57.94	1,511	125
57.99	1,511	150
58.04	1,511	175
58.09	1,511	199
58.14	1,511	224
58.19	1,511	249
58.24	1,511	274
58.29	1,511	299
58.34	1,511	324
58.39	1,511	349
58.44	1,511	374
58.49	1,511	399
58.54	1,511	424
58.59	1,511	449
58.64	1,511	474
58.69	1,511	499
58.74	1,989	591
58.79	2,225	696
58.84	2,460	813
58.89	2,695	942
58.94	2,931	1,083
58.99	3,166	1,235
59.04	3,294	1,397
59.09	3,394	1,565
59.14	3,495	1,737
59.19	3,596	1,914
59.24	3,697	2,096
59.29	3,797	2,284
59.34	3,898	2,476
59.39	3,999	2,674
59.44	4,100	2,876
59.49	4,200	3,084
59.54	4,301	3,296
59.59	4,402	3,514
59.64	4,503	3,736
59.69	4,603	3,964
59.74	4,704	4,197
59.79	4,805	4,434
59.84	4,906	4,677
59.89	5,006	4,925
59.94	5,107	5,178
59.99	5,208	5,436
60.04	5,303	5,698
60.09	5,396	5,966
60.14	5,489	6,238
60.19	5,583	6,515
60.24	5,676	6,796
60.29	5,769	7,082
60.34	5,862	7,373
60.39	5,956	7,669
60.44	6,049	7,969
60.49	6,142	8,274
60.54	6,236	8,583
60.59	6,329	8,897
60.64	6,422	9,216
60.69	6,516	9,539
60.74	6,609	9,867
60.79	6,702	10,200
60.84	6,795	10,538
60.89	6,889	10,880
60.94	6,982	11,227
60.99	**7,075**	**11,578**

Summary for Pond 35P: Track and Field-manifold

Inflow Area = 151,857 sf,100.00% Impervious, Inflow Depth = 0.47" for WQv event
Inflow = 1.81 cfs @ 12.11 hrs, Volume= 5,929 cf
Outflow = 1.32 cfs @ 12.24 hrs, Volume= 5,929 cf, Atten= 27%, Lag= 8.2 min
Discarded = 0.24 cfs @ 12.24 hrs, Volume= 3,142 cf
Primary = 1.08 cfs @ 12.24 hrs, Volume= 2,788 cf
Routed to Pond 8P : DIV-04

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 48.86' @ 12.24 hrs Surf.Area= 8,273 sf Storage= 995 cf

Plug-Flow detention time= 17.1 min calculated for 5,929 cf (100% of inflow)
Center-of-Mass det. time= 17.0 min (792.6 - 775.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	48.50'	4,898 cf	**7.00'W x 1,182.00'L x 2.25'H Field A** 18,608 cf Overall - 3,767 cf Embedded = 14,841 cf x 33.0% Voids
#2A	49.00'	2,832 cf	**ADS N-12 15"** x 118 Inside #1 Inside= 14.8"W x 14.8"H => 1.20 sf x 20.00'L = 24.0 cf Outside= 18.0"W x 18.0"H => 1.60 sf x 20.00'L = 31.9 cf 118 Chambers in 2 Rows
		7,730 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	48.50'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 48.40' Phase-In= 0.02'
#2	Primary	48.50'	**18.0" Round Culvert X 2.00** L= 54.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 48.50' / 46.80' S= 0.0315 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Discarded OutFlow Max=0.24 cfs @ 12.24 hrs HW=48.86' (Free Discharge)
1=Exfiltration (Controls 0.24 cfs)

Primary OutFlow Max=1.07 cfs @ 12.24 hrs HW=48.86' TW=47.46' (Dynamic Tailwater)
2=Culvert (Inlet Controls 1.07 cfs @ 1.62 fps)

Pond 35P: Track and Field-manifold - Chamber Wizard Field A

Chamber Model = ADS N-12 15" (ADS N-12® Pipe)
Inside= 14.8"W x 14.8"H => 1.20 sf x 20.00'L = 24.0 cf
Outside= 18.0"W x 18.0"H => 1.60 sf x 20.00'L = 31.9 cf

18.0" Wide + 24.0" Spacing = 42.0" C-C Row Spacing

59 Chambers/Row x 20.00' Long = 1,180.00' Row Length +12.0" End Stone x 2 = 1,182.00' Base Length
2 Rows x 18.0" Wide + 24.0" Spacing x 1 + 12.0" Side Stone x 2 = 7.00' Base Width
6.0" Stone Base + 18.0" Chamber Height + 3.0" Stone Cover = 2.25' Field Height

118 Chambers x 24.0 cf = 2,832.0 cf Chamber Storage
118 Chambers x 31.9 cf = 3,767.1 cf Displacement

18,608.5 cf Field - 3,767.1 cf Chambers = 14,841.3 cf Stone x 33.0% Voids = 4,897.6 cf Stone Storage

Chamber Storage + Stone Storage = 7,729.6 cf = 0.177 af
Overall Storage Efficiency = 41.5%
Overall System Size = 1,182.00' x 7.00' x 2.25'

118 Chambers
689.2 cy Field
549.7 cy Stone

Hydrograph for Pond 35P: Track and Field-manifold

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	48.50	0.00	0.00	0.00
5.00	0.01	4	48.50	0.00	0.00	0.00
10.00	**0.06**	**47**	**48.52**	**0.05**	**0.05**	**0.00**
15.00	**0.06**	**90**	**48.53**	**0.08**	**0.07**	**0.01**
20.00	0.02	21	48.51	0.02	0.02	0.00
25.00	0.00	1	48.50	0.00	0.00	0.00
30.00	0.00	0	48.50	0.00	0.00	0.00
35.00	0.00	0	48.50	0.00	0.00	0.00
40.00	0.00	0	48.50	0.00	0.00	0.00
45.00	0.00	0	48.50	0.00	0.00	0.00
50.00	0.00	0	48.50	0.00	0.00	0.00
55.00	0.00	0	48.50	0.00	0.00	0.00
60.00	0.00	0	48.50	0.00	0.00	0.00
65.00	0.00	0	48.50	0.00	0.00	0.00
70.00	0.00	0	48.50	0.00	0.00	0.00
75.00	0.00	0	48.50	0.00	0.00	0.00
80.00	0.00	0	48.50	0.00	0.00	0.00
85.00	0.00	0	48.50	0.00	0.00	0.00
90.00	0.00	0	48.50	0.00	0.00	0.00
95.00	0.00	0	48.50	0.00	0.00	0.00
100.00	0.00	0	48.50	0.00	0.00	0.00
105.00	0.00	0	48.50	0.00	0.00	0.00
110.00	0.00	0	48.50	0.00	0.00	0.00
115.00	0.00	0	48.50	0.00	0.00	0.00
120.00	0.00	0	48.50	0.00	0.00	0.00
125.00	0.00	0	48.50	0.00	0.00	0.00
130.00	0.00	0	48.50	0.00	0.00	0.00
135.00	0.00	0	48.50	0.00	0.00	0.00
140.00	0.00	0	48.50	0.00	0.00	0.00
145.00	0.00	0	48.50	0.00	0.00	0.00
150.00	0.00	0	48.50	0.00	0.00	0.00
155.00	0.00	0	48.50	0.00	0.00	0.00
160.00	0.00	0	48.50	0.00	0.00	0.00
165.00	0.00	0	48.50	0.00	0.00	0.00
170.00	0.00	0	48.50	0.00	0.00	0.00
175.00	0.00	0	48.50	0.00	0.00	0.00
180.00	0.00	0	48.50	0.00	0.00	0.00
185.00	0.00	0	48.50	0.00	0.00	0.00
190.00	0.00	0	48.50	0.00	0.00	0.00
195.00	0.00	0	48.50	0.00	0.00	0.00
200.00	0.00	0	48.50	0.00	0.00	0.00
205.00	0.00	0	48.50	0.00	0.00	0.00
210.00	0.00	0	48.50	0.00	0.00	0.00
215.00	0.00	0	48.50	0.00	0.00	0.00
220.00	0.00	0	48.50	0.00	0.00	0.00
225.00	0.00	0	48.50	0.00	0.00	0.00
230.00	0.00	0	48.50	0.00	0.00	0.00
235.00	0.00	0	48.50	0.00	0.00	0.00
240.00	0.00	0	48.50	0.00	0.00	0.00

Stage-Discharge for Pond 35P: Track and Field-manifold

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
48.50	0.00	0.00	0.00
48.55	0.10	0.08	0.02
48.60	0.19	0.10	0.09
48.65	0.32	0.13	0.19
48.70	0.49	0.16	0.34
48.75	0.70	0.18	0.52
48.80	0.95	0.21	0.74
48.85	1.23	0.23	1.00
48.90	1.54	0.26	1.29
48.95	1.89	0.28	1.61
49.00	2.27	0.31	1.96
49.05	2.68	0.34	2.34
49.10	3.11	0.36	2.75
49.15	3.57	0.39	3.18
49.20	4.05	0.41	3.64
49.25	4.55	0.44	4.11
49.30	5.07	0.47	4.61
49.35	5.61	0.49	5.12
49.40	6.16	0.52	5.65
49.45	6.73	0.54	6.18
49.50	7.30	0.57	6.73
49.55	7.87	0.59	7.28
49.60	8.45	0.62	7.83
49.65	9.03	0.65	8.38
49.70	9.60	0.67	8.92
49.75	10.16	0.70	9.46
49.80	10.70	0.72	9.97
49.85	11.21	0.75	10.46
49.90	11.69	0.78	10.92
49.95	12.12	0.80	11.32
50.00	12.46	0.83	11.63
50.05	12.87	0.85	12.02
50.10	13.27	0.88	12.39
50.15	13.65	0.90	12.75
50.20	14.03	0.93	13.09
50.25	14.39	0.96	13.43
50.30	14.75	0.98	13.77
50.35	15.10	1.01	14.09
50.40	15.44	1.03	14.41
50.45	15.78	1.06	14.72
50.50	16.11	1.09	15.02
50.55	16.43	1.11	15.32
50.60	16.75	1.14	15.61
50.65	17.06	1.16	15.90
50.70	17.37	1.19	16.18
50.75	**17.67**	**1.22**	**16.45**

Stage-Area-Storage for Pond 35P: Track and Field-manifold

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
48.50	**8,273**	0
48.55	8,273	136
48.60	8,273	273
48.65	8,273	409
48.70	8,273	546
48.75	8,273	682
48.80	8,273	819
48.85	8,273	955
48.90	8,273	1,092
48.95	8,273	1,228
49.00	8,273	1,365
49.05	8,273	1,489
49.10	8,273	1,602
49.15	8,273	1,718
49.20	8,273	1,874
49.25	8,273	2,049
49.30	8,273	2,238
49.35	8,273	2,437
49.40	8,273	2,644
49.45	8,273	2,857
49.50	8,273	3,075
49.55	8,273	3,297
49.60	8,273	3,522
49.65	8,273	3,749
49.70	8,273	3,978
49.75	8,273	4,207
49.80	8,273	4,437
49.85	8,273	4,666
49.90	8,273	4,893
49.95	8,273	5,118
50.00	8,273	5,340
50.05	8,273	5,558
50.10	8,273	5,771
50.15	8,273	5,977
50.20	8,273	6,176
50.25	8,273	6,365
50.30	8,273	6,540
50.35	8,273	6,695
50.40	8,273	6,811
50.45	8,273	6,925
50.50	8,273	7,049
50.55	8,273	7,185
50.60	8,273	7,322
50.65	8,273	7,458
50.70	8,273	7,595
50.75	8,273	**7,730**

Summary for Link 2L: DP 1.1 - Culvert 1

Inflow Area = 475,005 sf, 0.22% Impervious, Inflow Depth = 0.10" for WQv event
Inflow = 0.41 cfs @ 12.54 hrs, Volume= 4,081 cf
Primary = 0.41 cfs @ 12.54 hrs, Volume= 4,081 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DP 1.2 - Culvert 2

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 2L: DP 1.1 - Culvert 1

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	137.50	0.00	0.00	0.00
12.50	**0.40**	0.00	**0.40**	140.00	0.00	0.00	0.00
15.00	**0.12**	0.00	**0.12**	142.50	0.00	0.00	0.00
17.50	0.07	0.00	0.07	145.00	0.00	0.00	0.00
20.00	0.05	0.00	0.05	147.50	0.00	0.00	0.00
22.50	0.04	0.00	0.04	150.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	152.50	0.00	0.00	0.00
27.50	0.00	0.00	0.00	155.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	157.50	0.00	0.00	0.00
32.50	0.00	0.00	0.00	160.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 3L: DP 1.2 - Culvert 2

Inflow Area = 536,345 sf, 1.55% Impervious, Inflow Depth = 0.12" for WQv event
Inflow = 0.53 cfs @ 12.50 hrs, Volume= 5,204 cf
Primary = 0.53 cfs @ 12.50 hrs, Volume= 5,204 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DP 1.3 - Culvert 3

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 3L: DP 1.2 - Culvert 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	0.01	0.00	0.01	137.50	0.00	0.00	0.00
12.50	**0.53**	0.00	**0.53**	140.00	0.00	0.00	0.00
15.00	0.15	0.00	0.15	142.50	0.00	0.00	0.00
17.50	0.08	0.00	0.08	145.00	0.00	0.00	0.00
20.00	0.06	0.00	0.06	147.50	0.00	0.00	0.00
22.50	0.05	0.00	0.05	150.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	152.50	0.00	0.00	0.00
27.50	0.00	0.00	0.00	155.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	157.50	0.00	0.00	0.00
32.50	0.00	0.00	0.00	160.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 4L: DP 1.3 - Culvert 3

Inflow Area = 562,190 sf, 2.05% Impervious, Inflow Depth = 0.12" for WQv event
Inflow = 0.57 cfs @ 12.48 hrs, Volume= 5,689 cf
Primary = 0.57 cfs @ 12.48 hrs, Volume= 5,689 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 4L: DP 1.3 - Culvert 3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	0.01	0.00	0.01	137.50	0.00	0.00	0.00
12.50	**0.57**	0.00	**0.57**	140.00	0.00	0.00	0.00
15.00	0.16	0.00	0.16	142.50	0.00	0.00	0.00
17.50	0.09	0.00	0.09	145.00	0.00	0.00	0.00
20.00	0.06	0.00	0.06	147.50	0.00	0.00	0.00
22.50	0.05	0.00	0.05	150.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	152.50	0.00	0.00	0.00
27.50	0.00	0.00	0.00	155.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	157.50	0.00	0.00	0.00
32.50	0.00	0.00	0.00	160.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 5L: DP 1.4 - Silver Creek East Branch

Inflow Area = 1,084,691 sf, 27.21% Impervious, Inflow Depth = 0.15" for WQv event
Inflow = 1.36 cfs @ 12.21 hrs, Volume= 13,114 cf
Primary = 1.36 cfs @ 12.21 hrs, Volume= 13,114 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 5L: DP 1.4 - Silver Creek East Branch

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.01	0.00	0.01	132.50	0.00	0.00	0.00
7.50	0.03	0.00	0.03	135.00	0.00	0.00	0.00
10.00	**0.08**	0.00	**0.08**	137.50	0.00	0.00	0.00
12.50	**1.07**	0.00	**1.07**	140.00	0.00	0.00	0.00
15.00	0.27	0.00	0.27	142.50	0.00	0.00	0.00
17.50	0.18	0.00	0.18	145.00	0.00	0.00	0.00
20.00	0.14	0.00	0.14	147.50	0.00	0.00	0.00
22.50	0.12	0.00	0.12	150.00	0.00	0.00	0.00
25.00	0.02	0.00	0.02	152.50	0.00	0.00	0.00
27.50	0.02	0.00	0.02	155.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	157.50	0.00	0.00	0.00
32.50	0.00	0.00	0.00	160.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 6L: DP 2.1 - West Wetland

Inflow Area = 835,379 sf, 33.09% Impervious, Inflow Depth > 0.03" for WQv event
Inflow = 0.03 cfs @ 12.57 hrs, Volume= 2,068 cf
Primary = 0.03 cfs @ 12.57 hrs, Volume= 2,068 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : DP 2.2 - Silver Creek West Branch

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 6L: DP 2.1 - West Wetland

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00	137.50	0.00	0.00	0.00
12.50	**0.03**	0.00	**0.03**	140.00	0.00	0.00	0.00
15.00	**0.03**	0.00	**0.03**	142.50	0.00	0.00	0.00
17.50	0.03	0.00	0.03	145.00	0.00	0.00	0.00
20.00	0.03	0.00	0.03	147.50	0.00	0.00	0.00
22.50	0.02	0.00	0.02	150.00	0.00	0.00	0.00
25.00	0.01	0.00	0.01	152.50	0.00	0.00	0.00
27.50	0.01	0.00	0.01	155.00	0.00	0.00	0.00
30.00	0.01	0.00	0.01	157.50	0.00	0.00	0.00
32.50	0.01	0.00	0.01	160.00	0.00	0.00	0.00
35.00	0.01	0.00	0.01	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Pro-Hydro
Prepared by Pare Corporation
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Summary for Link 7L: DP 2.2 - Silver Creek West Branch

Inflow Area = 991,430 sf, 31.58% Impervious, Inflow Depth = 0.07" for WQv event
Inflow = 0.76 cfs @ 12.18 hrs, Volume= 5,815 cf
Primary = 0.76 cfs @ 12.18 hrs, Volume= 5,815 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 7L: DP 2.2 - Silver Creek West Branch

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.01	0.00	0.01	135.00	0.00	0.00	0.00
10.00	**0.04**	0.00	**0.04**	137.50	0.00	0.00	0.00
12.50	**0.39**	0.00	**0.39**	140.00	0.00	0.00	0.00
15.00	0.10	0.00	0.10	142.50	0.00	0.00	0.00
17.50	0.06	0.00	0.06	145.00	0.00	0.00	0.00
20.00	0.05	0.00	0.05	147.50	0.00	0.00	0.00
22.50	0.04	0.00	0.04	150.00	0.00	0.00	0.00
25.00	0.01	0.00	0.01	152.50	0.00	0.00	0.00
27.50	0.01	0.00	0.01	155.00	0.00	0.00	0.00
30.00	0.01	0.00	0.01	157.50	0.00	0.00	0.00
32.50	0.01	0.00	0.01	160.00	0.00	0.00	0.00
35.00	0.01	0.00	0.01	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Time span=0.00-240.00 hrs, dt=0.05 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PDA-1.1A: Subcat PDA-1.1A Runoff Area=475,005 sf 1.72% Impervious Runoff Depth=1.28"
Flow Length=451' Slope=0.0100 '/' Tc=21.1 min CN=77 Runoff=10.49 cfs 50,816 cf

Subcatchment PDA-1.1B: Subcat PDA-1.1B Runoff Area=30,333 sf 0.05% Impervious Runoff Depth=1.35"
Flow Length=126' Tc=13.1 min CN=78 Runoff=0.85 cfs 3,405 cf

Subcatchment PDA-1.2A: Subcat PDA-1.2A Runoff Area=25,845 sf 14.60% Impervious Runoff Depth=1.48"
Flow Length=73' Tc=7.3 min UI Adjusted CN=80 Runoff=0.96 cfs 3,186 cf

Subcatchment PDA-1.3A: Subcat PDA-1.3A Runoff Area=57,295 sf 71.89% Impervious Runoff Depth=2.45"
Flow Length=198' Slope=0.0100 '/' Tc=6.5 min CN=92 Runoff=3.55 cfs 11,677 cf

Subcatchment PDA-1.3C: Subcat PDA-1.3C Runoff Area=16,850 sf 41.68% Impervious Runoff Depth=1.77"
Flow Length=49' Tc=6.8 min CN=84 Runoff=0.77 cfs 2,480 cf

Subcatchment PDA-1.3D: Subcat PDA-1.3D Runoff Area=6,850 sf 45.03% Impervious Runoff Depth=1.84"
Tc=6.0 min CN=85 Runoff=0.33 cfs 1,052 cf

Subcatchment PDA-1.4A: Subcat PDA-1.4A Runoff Area=31,007 sf 23.95% Impervious Runoff Depth=1.69"
Flow Length=144' Tc=13.4 min CN=83 Runoff=1.10 cfs 4,371 cf

Subcatchment PDA-1.4B: Subcat PDA-1.4B Runoff Area=53,181 sf 37.23% Impervious Runoff Depth=1.84"
Flow Length=98' Tc=13.9 min CN=85 Runoff=2.04 cfs 8,169 cf

Subcatchment PDA-1.4C: Subcat PDA-1.4C Runoff Area=26,810 sf 63.81% Impervious Runoff Depth=2.17"
Tc=6.0 min CN=89 Runoff=1.52 cfs 4,855 cf

Subcatchment PDA-1.4D: Subcat PDA-1.4D Runoff Area=42,514 sf 59.10% Impervious Runoff Depth=2.17"
Tc=6.0 min CN=89 Runoff=2.41 cfs 7,699 cf

Subcatchment PDA-1.4E: Subcat PDA-1.4E Runoff Area=39,245 sf 62.30% Impervious Runoff Depth=2.17"
Tc=6.0 min CN=89 Runoff=2.23 cfs 7,107 cf

Subcatchment PDA-1.4F: Subcat PDA-1.4F Runoff Area=73,858 sf 54.96% Impervious Runoff Depth=2.00"
Flow Length=346' Tc=14.5 min CN=87 Runoff=3.03 cfs 12,332 cf

Subcatchment PDA-1.4G: Subcat PDA-1.4G Runoff Area=22,284 sf 61.76% Impervious Runoff Depth=2.17"
Tc=6.0 min CN=89 Runoff=1.27 cfs 4,035 cf

Subcatchment PDA-1.4H: Subcat PDA-1.4H Runoff Area=10,744 sf 5.59% Impervious Runoff Depth=1.16"
Tc=6.0 min CN=75 Runoff=0.32 cfs 1,041 cf

Subcatchment PDA-1.4I: Subcat PDA-1.4I Runoff Area=9,824 sf 27.06% Impervious Runoff Depth=1.55"
Tc=6.0 min CN=81 Runoff=0.40 cfs 1,267 cf

Subcatchment PDA-1.4J: Subcat PDA-1.4J Runoff Area=59,466 sf 8.43% Impervious Runoff Depth=1.41"
Tc=6.0 min CN=79 Runoff=2.19 cfs 6,998 cf

Subcatchment PDA-1.4K: Subcat PDA-1.4K Runoff Area=18,876 sf 80.13% Impervious Runoff Depth=2.54"
Tc=6.0 min CN=93 Runoff=1.22 cfs 3,999 cf

Subcatchment PDA-1.4L: Subcat PDA-1.4L Runoff Area=11,978 sf 24.28% Impervious Runoff Depth=1.48"
Flow Length=75' Tc=8.5 min CN=80 Runoff=0.42 cfs 1,476 cf

Subcatchment PDA-1.4M: Subcat PDA-1.4M Runoff Area=4,734 sf 4.20% Impervious Runoff Depth=1.16"
Flow Length=166' Slope=0.0100 '/' Tc=14.3 min CN=75 Runoff=0.11 cfs 459 cf

Subcatchment PDA-2.1A: Subcat Runoff Area=348,138 sf 26.08% Impervious Runoff Depth=1.55"
Flow Length=269' Tc=16.3 min CN=81 Runoff=10.47 cfs 44,913 cf

Subcatchment PDA-2.1B: Subcat PDA-2.1B Runoff Area=151,957 sf 4.77% Impervious Runoff Depth=1.22"
Flow Length=123' Tc=17.0 min CN=76 Runoff=3.46 cfs 15,476 cf

Subcatchment PDA-2.2A: Subcat Runoff Area=156,051 sf 26.13% Impervious Runoff Depth=1.48"
Tc=12.9 min CN=80 Runoff=4.87 cfs 19,237 cf

Subcatchment PDA-2.2B: Subcat PDA-2.2B Runoff Area=152,340 sf 1.56% Impervious Runoff Depth=0.99"
Flow Length=565' Slope=0.0120 '/' Tc=40.0 min CN=72 Runoff=1.86 cfs 12,597 cf

Subcatchment PDA-2.2C.a: Subcat Runoff Area=90,671 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=6.52 cfs 23,175 cf

Subcatchment PDA-2.2C.b: Subcat Runoff Area=61,186 sf 99.99% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=4.40 cfs 15,639 cf

Subcatchment PDA-ROOF1.3: Subcat Runoff Area=9,782 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.70 cfs 2,500 cf

Subcatchment PDA-ROOF1.4: Subcat Runoff Area=58,210 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=4.18 cfs 14,878 cf

Subcatchment PDA-ROOF2.1: Subcat Runoff Area=31,087 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=2.23 cfs 7,946 cf

Pond 1P: Bio 4 Peak Elev=60.32' Storage=1,168 cf Inflow=0.77 cfs 2,480 cf
Discarded=0.01 cfs 1,459 cf Primary=0.29 cfs 1,021 cf Outflow=0.30 cfs 2,480 cf

Pond 2P: Bio 3 Peak Elev=59.79' Storage=1,143 cf Inflow=1.04 cfs 3,552 cf
Primary=1.30 cfs 1,323 cf Tertiary=0.02 cfs 2,229 cf Outflow=1.32 cfs 3,552 cf

Pond 3P: DIV-02 Peak Elev=56.95' Inflow=2.04 cfs 8,169 cf
Primary=0.91 cfs 6,968 cf Secondary=1.13 cfs 1,201 cf Outflow=2.04 cfs 8,169 cf

Pond 4P: Detention Basin 2 Peak Elev=57.52' Storage=5,180 cf Inflow=3.16 cfs 7,842 cf
Primary=0.09 cfs 7,838 cf Secondary=0.00 cfs 0 cf Outflow=0.09 cfs 7,838 cf

Pond 7P: Bio 2 Peak Elev=56.52' Storage=2,151 cf Inflow=1.52 cfs 4,855 cf
Primary=0.55 cfs 1,338 cf Secondary=0.00 cfs 0 cf Tertiary=0.03 cfs 3,517 cf Outflow=0.58 cfs 4,855 cf

Pond 8P: DIV-04 Peak Elev=48.56' Inflow=5.82 cfs 16,217 cf
Primary=5.69 cfs 12,617 cf Secondary=1.27 cfs 3,598 cf Outflow=5.82 cfs 16,215 cf

Pond 9P: Sand Filter 5 Peak Elev=49.83' Storage=1,453 cf Inflow=1.29 cfs 4,457 cf
Discarded=0.01 cfs 1,766 cf Primary=1.39 cfs 2,691 cf Secondary=0.00 cfs 0 cf Outflow=1.40 cfs 4,457 cf

Pond 10P: Bio 1 Peak Elev=44.56' Storage=1,841 cf Inflow=1.13 cfs 6,912 cf
Discarded=0.01 cfs 2,095 cf Primary=1.12 cfs 4,817 cf Secondary=0.00 cfs 0 cf Outflow=1.12 cfs 6,912 cf

Pond 12P: Infiltration Basin 1 Peak Elev=57.97' Storage=6,147 cf Inflow=4.58 cfs 16,145 cf
Discarded=0.07 cfs 9,101 cf Primary=3.47 cfs 7,045 cf Secondary=0.00 cfs 0 cf Outflow=3.54 cfs 16,145 cf

Pond 13P: Sand Filter 1 Peak Elev=47.03' Storage=13,298 cf Inflow=2.57 cfs 30,484 cf
Discarded=0.03 cfs 12,457 cf Primary=0.56 cfs 18,027 cf Secondary=0.00 cfs 0 cf Outflow=0.59 cfs 30,484 cf

Pond 14P: DIV-03 Peak Elev=45.01' Inflow=2.41 cfs 7,699 cf
Primary=1.13 cfs 6,912 cf Secondary=1.28 cfs 787 cf Outflow=2.41 cfs 7,699 cf

Pond 15P: Detention Basin 1 Peak Elev=45.33' Storage=17,890 cf Inflow=12.47 cfs 55,877 cf
Primary=3.71 cfs 55,813 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=3.71 cfs 55,813 cf

Pond 17P: Track and Field- stone base Peak Elev=50.61' Storage=3,486 cf Inflow=6.52 cfs 23,175 cf
Discarded=0.60 cfs 15,388 cf Primary=3.81 cfs 7,787 cf Outflow=4.41 cfs 23,175 cf

Pond 18P: Sand Filter 2 Peak Elev=55.31' Storage=4,512 cf Inflow=3.09 cfs 14,075 cf
Discarded=0.01 cfs 5,005 cf Primary=2.42 cfs 9,070 cf Secondary=0.00 cfs 0 cf Outflow=2.43 cfs 14,075 cf

Pond 19P: Sand Filter 3 Peak Elev=60.46' Storage=3,309 cf Inflow=1.27 cfs 4,035 cf
Discarded=0.01 cfs 4,035 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.01 cfs 4,035 cf

Pond 20P: Sand Filter 4 Peak Elev=60.56' Storage=914 cf Inflow=1.10 cfs 4,371 cf
Outflow=0.34 cfs 4,371 cf

Pond 23P: UGIS-1 Peak Elev=48.55' Storage=10,490 cf Inflow=5.69 cfs 12,617 cf
Discarded=0.07 cfs 11,703 cf Primary=0.38 cfs 914 cf Outflow=0.45 cfs 12,617 cf

Pond 28P: DIV-01 Peak Elev=47.61' Inflow=11.65 cfs 52,858 cf
Primary=2.57 cfs 30,484 cf Secondary=9.08 cfs 22,374 cf Outflow=11.65 cfs 52,858 cf

Pond 33P: Wet Swale Peak Elev=59.83' Storage=4,637 cf Inflow=3.55 cfs 11,677 cf
Discarded=0.01 cfs 4,876 cf Primary=2.92 cfs 6,801 cf Secondary=0.00 cfs 0 cf Outflow=2.93 cfs 11,677 cf

Pond 35P: Track and Field-manifold Peak Elev=49.42' Storage=2,712 cf Inflow=7.64 cfs 23,426 cf
Discarded=0.53 cfs 7,208 cf Primary=5.82 cfs 16,217 cf Outflow=6.34 cfs 23,426 cf

Link 2L: DP 1.1 - Culvert 1 Inflow=10.49 cfs 50,816 cf
Primary=10.49 cfs 50,816 cf

Link 3L: DP 1.2 - Culvert 2 Inflow=11.50 cfs 58,592 cf
Primary=11.50 cfs 58,592 cf

Link 4L: DP 1.3 - Culvert 3
Inflow=12.00 cfs 61,778 cf
Primary=12.00 cfs 61,778 cf

Link 5L: DP 1.4 - Silver Creek East Branch
Inflow=24.86 cfs 125,461 cf
Primary=24.86 cfs 125,461 cf

Link 6L: DP 2.1 - West Wetland
Inflow=7.17 cfs 72,922 cf
Primary=7.17 cfs 72,922 cf

Link 7L: DP 2.2 - Silver Creek West Branch
Inflow=8.72 cfs 92,158 cf
Primary=8.72 cfs 92,158 cf

Total Runoff Area = 2,076,121 sf Runoff Volume = 292,784 cf Average Runoff Depth = 1.69"
69.65% Pervious = 1,445,943 sf 30.35% Impervious = 630,178 sf

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Time span=0.00-240.00 hrs, dt=0.05 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PDA-1.1A: Subcat PDA-1.1A Runoff Area=475,005 sf 1.72% Impervious Runoff Depth=2.54"
Flow Length=451' Slope=0.0100 '/' Tc=21.1 min CN=77 Runoff=21.30 cfs 100,525 cf

Subcatchment PDA-1.1B: Subcat PDA-1.1B Runoff Area=30,333 sf 0.05% Impervious Runoff Depth=2.63"
Flow Length=126' Tc=13.1 min CN=78 Runoff=1.69 cfs 6,640 cf

Subcatchment PDA-1.2A: Subcat PDA-1.2A Runoff Area=25,845 sf 14.60% Impervious Runoff Depth=2.81"
Flow Length=73' Tc=7.3 min UI Adjusted CN=80 Runoff=1.84 cfs 6,043 cf

Subcatchment PDA-1.3A: Subcat PDA-1.3A Runoff Area=57,295 sf 71.89% Impervious Runoff Depth=3.99"
Flow Length=198' Slope=0.0100 '/' Tc=6.5 min CN=92 Runoff=5.65 cfs 19,058 cf

Subcatchment PDA-1.3C: Subcat PDA-1.3C Runoff Area=16,850 sf 41.68% Impervious Runoff Depth=3.18"
Flow Length=49' Tc=6.8 min CN=84 Runoff=1.37 cfs 4,464 cf

Subcatchment PDA-1.3D: Subcat PDA-1.3D Runoff Area=6,850 sf 45.03% Impervious Runoff Depth=3.28"
Tc=6.0 min CN=85 Runoff=0.59 cfs 1,870 cf

Subcatchment PDA-1.4A: Subcat PDA-1.4A Runoff Area=31,007 sf 23.95% Impervious Runoff Depth=3.08"
Flow Length=144' Tc=13.4 min CN=83 Runoff=2.01 cfs 7,968 cf

Subcatchment PDA-1.4B: Subcat PDA-1.4B Runoff Area=53,181 sf 37.23% Impervious Runoff Depth=3.28"
Flow Length=98' Tc=13.9 min CN=85 Runoff=3.60 cfs 14,517 cf

Subcatchment PDA-1.4C: Subcat PDA-1.4C Runoff Area=26,810 sf 63.81% Impervious Runoff Depth=3.68"
Tc=6.0 min CN=89 Runoff=2.52 cfs 8,213 cf

Subcatchment PDA-1.4D: Subcat PDA-1.4D Runoff Area=42,514 sf 59.10% Impervious Runoff Depth=3.68"
Tc=6.0 min CN=89 Runoff=4.00 cfs 13,024 cf

Subcatchment PDA-1.4E: Subcat PDA-1.4E Runoff Area=39,245 sf 62.30% Impervious Runoff Depth=3.68"
Tc=6.0 min CN=89 Runoff=3.69 cfs 12,023 cf

Subcatchment PDA-1.4F: Subcat PDA-1.4F Runoff Area=73,858 sf 54.96% Impervious Runoff Depth=3.47"
Flow Length=346' Tc=14.5 min CN=87 Runoff=5.19 cfs 21,377 cf

Subcatchment PDA-1.4G: Subcat PDA-1.4G Runoff Area=22,284 sf 61.76% Impervious Runoff Depth=3.68"
Tc=6.0 min CN=89 Runoff=2.10 cfs 6,827 cf

Subcatchment PDA-1.4H: Subcat PDA-1.4H Runoff Area=10,744 sf 5.59% Impervious Runoff Depth=2.37"
Tc=6.0 min CN=75 Runoff=0.67 cfs 2,120 cf

Subcatchment PDA-1.4I: Subcat PDA-1.4I Runoff Area=9,824 sf 27.06% Impervious Runoff Depth=2.90"
Tc=6.0 min CN=81 Runoff=0.75 cfs 2,372 cf

Subcatchment PDA-1.4J: Subcat PDA-1.4J Runoff Area=59,466 sf 8.43% Impervious Runoff Depth=2.72"
Tc=6.0 min CN=79 Runoff=4.26 cfs 13,458 cf

Subcatchment PDA-1.4K: Subcat PDA-1.4K Runoff Area=18,876 sf 80.13% Impervious Runoff Depth=4.10"
Tc=6.0 min CN=93 Runoff=1.92 cfs 6,449 cf

Subcatchment PDA-1.4L: Subcat PDA-1.4L Runoff Area=11,978 sf 24.28% Impervious Runoff Depth=2.81"
Flow Length=75' Tc=8.5 min CN=80 Runoff=0.82 cfs 2,801 cf

Subcatchment PDA-1.4M: Subcat PDA-1.4M Runoff Area=4,734 sf 4.20% Impervious Runoff Depth=2.37"
Flow Length=166' Slope=0.0100 '/' Tc=14.3 min CN=75 Runoff=0.23 cfs 934 cf

Subcatchment PDA-2.1A: Subcat Runoff Area=348,138 sf 26.08% Impervious Runoff Depth=2.90"
Flow Length=269' Tc=16.3 min CN=81 Runoff=19.82 cfs 84,050 cf

Subcatchment PDA-2.1B: Subcat PDA-2.1B Runoff Area=151,957 sf 4.77% Impervious Runoff Depth=2.45"
Flow Length=123' Tc=17.0 min CN=76 Runoff=7.16 cfs 31,067 cf

Subcatchment PDA-2.2A: Subcat Runoff Area=156,051 sf 26.13% Impervious Runoff Depth=2.81"
Tc=12.9 min CN=80 Runoff=9.33 cfs 36,487 cf

Subcatchment PDA-2.2B: Subcat PDA-2.2B Runoff Area=152,340 sf 1.56% Impervious Runoff Depth=2.12"
Flow Length=565' Slope=0.0120 '/' Tc=40.0 min CN=72 Runoff=4.22 cfs 26,928 cf

Subcatchment PDA-2.2C.a: Subcat Runoff Area=90,671 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=9.74 cfs 35,236 cf

Subcatchment PDA-2.2C.b: Subcat Runoff Area=61,186 sf 99.99% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=6.57 cfs 23,777 cf

Subcatchment PDA-ROOF1.3: Subcat Runoff Area=9,782 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=1.05 cfs 3,801 cf

Subcatchment PDA-ROOF1.4: Subcat Runoff Area=58,210 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=6.25 cfs 22,621 cf

Subcatchment PDA-ROOF2.1: Subcat Runoff Area=31,087 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=3.34 cfs 12,081 cf

Pond 1P: Bio 4 Peak Elev=60.40' Storage=1,240 cf Inflow=1.37 cfs 4,464 cf
Discarded=0.01 cfs 1,489 cf Primary=1.56 cfs 2,975 cf Outflow=1.57 cfs 4,464 cf

Pond 2P: Bio 3 Peak Elev=59.80' Storage=1,149 cf Inflow=1.64 cfs 5,671 cf
Primary=1.64 cfs 3,230 cf Tertiary=0.02 cfs 2,441 cf Outflow=1.66 cfs 5,671 cf

Pond 3P: DIV-02 Peak Elev=57.09' Inflow=3.60 cfs 16,583 cf
Primary=1.03 cfs 12,875 cf Secondary=2.57 cfs 3,708 cf Outflow=3.60 cfs 16,583 cf

Pond 4P: Detention Basin 2 Peak Elev=58.09' Storage=7,295 cf Inflow=4.97 cfs 16,248 cf
Primary=1.40 cfs 16,244 cf Secondary=0.00 cfs 0 cf Outflow=1.40 cfs 16,244 cf

Pond 7P: Bio 2 Peak Elev=56.58' Storage=2,269 cf Inflow=2.52 cfs 8,213 cf
Primary=2.73 cfs 4,447 cf Secondary=0.00 cfs 0 cf Tertiary=0.03 cfs 3,766 cf Outflow=2.75 cfs 8,213 cf

Pond 8P: DIV-04 Peak Elev=48.81' Inflow=8.84 cfs 28,730 cf
Primary=5.84 cfs 15,464 cf Secondary=5.06 cfs 13,262 cf Outflow=8.84 cfs 28,726 cf

Pond 9P: Sand Filter 5 Peak Elev=49.90' Storage=1,538 cf Inflow=2.08 cfs 7,383 cf
Discarded=0.01 cfs 1,798 cf Primary=1.89 cfs 5,586 cf Secondary=0.00 cfs 0 cf Outflow=1.90 cfs 7,383 cf

Pond 10P: Bio 1 Peak Elev=44.56' Storage=1,855 cf Inflow=1.25 cfs 10,551 cf
Discarded=0.01 cfs 2,138 cf Primary=1.22 cfs 8,413 cf Secondary=0.00 cfs 0 cf Outflow=1.23 cfs 10,551 cf

Pond 12P: Infiltration Basin 1 Peak Elev=58.12' Storage=6,624 cf Inflow=7.00 cfs 24,993 cf
Discarded=0.08 cfs 9,601 cf Primary=6.22 cfs 15,392 cf Secondary=0.00 cfs 0 cf Outflow=6.29 cfs 24,993 cf

Pond 13P: Sand Filter 1 Peak Elev=47.26' Storage=15,279 cf Inflow=2.60 cfs 37,812 cf
Discarded=0.03 cfs 12,703 cf Primary=0.71 cfs 25,109 cf Secondary=0.00 cfs 0 cf Outflow=0.74 cfs 37,812 cf

Pond 14P: DIV-03 Peak Elev=45.12' Inflow=4.00 cfs 13,024 cf
Primary=1.25 cfs 10,551 cf Secondary=2.74 cfs 2,473 cf Outflow=4.00 cfs 13,024 cf

Pond 15P: Detention Basin 1 Peak Elev=46.46' Storage=36,424 cf Inflow=26.67 cfs 114,495 cf
Primary=10.62 cfs 114,430 cf Secondary=0.00 cfs 0 cf Tertiary=0.00 cfs 0 cf Outflow=10.62 cfs 114,430 cf

Pond 17P: Track and Field- stone base Peak Elev=50.66' Storage=5,025 cf Inflow=9.74 cfs 35,236 cf
Discarded=0.61 cfs 20,879 cf Primary=5.58 cfs 14,357 cf Outflow=6.19 cfs 35,236 cf

Pond 18P: Sand Filter 2 Peak Elev=55.41' Storage=5,031 cf Inflow=4.65 cfs 24,898 cf
Discarded=0.01 cfs 5,092 cf Primary=3.83 cfs 19,806 cf Secondary=0.00 cfs 0 cf Outflow=3.84 cfs 24,898 cf

Pond 19P: Sand Filter 3 Peak Elev=60.67' Storage=4,025 cf Inflow=2.10 cfs 6,827 cf
Discarded=0.01 cfs 4,761 cf Primary=0.23 cfs 2,066 cf Secondary=0.00 cfs 0 cf Outflow=0.24 cfs 6,827 cf

Pond 20P: Sand Filter 4 Peak Elev=61.51' Storage=2,281 cf Inflow=2.01 cfs 7,968 cf
Outflow=0.61 cfs 7,968 cf

Pond 23P: UGIS-1 Peak Elev=48.74' Storage=11,219 cf Inflow=5.84 cfs 15,464 cf
Discarded=0.08 cfs 12,512 cf Primary=1.25 cfs 2,952 cf Outflow=1.33 cfs 15,464 cf

Pond 28P: DIV-01 Peak Elev=48.10' Inflow=21.56 cfs 96,131 cf
Primary=2.60 cfs 37,812 cf Secondary=18.97 cfs 58,319 cf Outflow=21.56 cfs 96,131 cf

Pond 33P: Wet Swale Peak Elev=59.96' Storage=5,292 cf Inflow=5.65 cfs 19,058 cf
Discarded=0.01 cfs 4,931 cf Primary=4.44 cfs 14,127 cf Secondary=0.00 cfs 0 cf Outflow=4.45 cfs 19,058 cf

Pond 35P: Track and Field-manifold Peak Elev=49.69' Storage=3,941 cf Inflow=11.52 cfs 38,134 cf
Discarded=0.67 cfs 9,404 cf Primary=8.84 cfs 28,730 cf Outflow=9.51 cfs 38,134 cf

Link 2L: DP 1.1 - Culvert 1 Inflow=21.30 cfs 100,525 cf
Primary=21.30 cfs 100,525 cf

Link 3L: DP 1.2 - Culvert 2 Inflow=23.04 cfs 115,134 cf
Primary=23.04 cfs 115,134 cf

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Link 4L: DP 1.3 - Culvert 3
Inflow=23.98 cfs 121,177 cf
Primary=23.98 cfs 121,177 cf

Link 5L: DP 1.4 - Silver Creek East Branch
Inflow=50.66 cfs 247,294 cf
Primary=50.66 cfs 247,294 cf

Link 6L: DP 2.1 - West Wetland
Inflow=20.15 cfs 157,573 cf
Primary=20.15 cfs 157,573 cf

Link 7L: DP 2.2 - Silver Creek West Branch
Inflow=24.67 cfs 194,060 cf
Primary=24.67 cfs 194,060 cf

Total Runoff Area = 2,076,121 sf Runoff Volume = 526,734 cf Average Runoff Depth = 3.04"
69.65% Pervious = 1,445,943 sf 30.35% Impervious = 630,178 sf

Summary for Subcatchment PDA-1.1A: Subcat PDA-1.1A

Runoff = 21.30 cfs @ 12.30 hrs, Volume= 100,525 cf, Depth= 2.54"
Routed to Link 2L : DP 1.1 - Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
90,334	74	>75% Grass cover, Good, HSG C
38,424	80	>75% Grass cover, Good, HSG D
4,538	87	Dirt roads, HSG C
1,510	89	Dirt roads, HSG D
1,040	98	Paved parking, HSG D
6,366	98	Unconnected pavement, HSG C
776	98	Unconnected pavement, HSG D
33,631	70	Woods, Good, HSG C
298,387	77	Woods, Good, HSG D
475,005	77	Weighted Average
466,824	76	98.28% Pervious Area
8,181	98	1.72% Impervious Area
7,142		87.29% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
8.4	351	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.1	451	Total			

Hydrograph for Subcatchment PDA-1.1A: Subcat PDA-1.1A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.00	0.00
10.00	0.93	0.03	**0.37**
12.50	3.44	1.39	**15.63**
15.00	4.19	1.96	1.75
17.50	4.50	2.21	0.88
20.00	4.69	2.37	0.60
22.50	**4.83**	**2.48**	0.47
25.00	**4.90**	**2.54**	0.00
27.50	4.90	2.54	0.00
30.00	4.90	2.54	0.00
32.50	4.90	2.54	0.00
35.00	4.90	2.54	0.00
37.50	4.90	2.54	0.00
40.00	4.90	2.54	0.00
42.50	4.90	2.54	0.00
45.00	4.90	2.54	0.00
47.50	4.90	2.54	0.00
50.00	4.90	2.54	0.00
52.50	4.90	2.54	0.00
55.00	4.90	2.54	0.00
57.50	4.90	2.54	0.00
60.00	4.90	2.54	0.00
62.50	4.90	2.54	0.00
65.00	4.90	2.54	0.00
67.50	4.90	2.54	0.00
70.00	4.90	2.54	0.00
72.50	4.90	2.54	0.00
75.00	4.90	2.54	0.00
77.50	4.90	2.54	0.00
80.00	4.90	2.54	0.00
82.50	4.90	2.54	0.00
85.00	4.90	2.54	0.00
87.50	4.90	2.54	0.00
90.00	4.90	2.54	0.00
92.50	4.90	2.54	0.00
95.00	4.90	2.54	0.00
97.50	4.90	2.54	0.00
100.00	4.90	2.54	0.00
102.50	4.90	2.54	0.00
105.00	4.90	2.54	0.00
107.50	4.90	2.54	0.00
110.00	4.90	2.54	0.00
112.50	4.90	2.54	0.00
115.00	4.90	2.54	0.00
117.50	4.90	2.54	0.00
120.00	4.90	2.54	0.00
122.50	4.90	2.54	0.00
125.00	4.90	2.54	0.00
127.50	4.90	2.54	0.00
130.00	4.90	2.54	0.00
132.50	4.90	2.54	0.00
135.00	4.90	2.54	0.00
137.50	4.90	2.54	0.00
140.00	4.90	2.54	0.00
142.50	4.90	2.54	0.00
145.00	4.90	2.54	0.00
147.50	4.90	2.54	0.00
150.00	4.90	2.54	0.00
152.50	4.90	2.54	0.00
155.00	4.90	2.54	0.00
157.50	4.90	2.54	0.00
160.00	4.90	2.54	0.00
162.50	4.90	2.54	0.00
165.00	4.90	2.54	0.00
167.50	4.90	2.54	0.00
170.00	4.90	2.54	0.00
172.50	4.90	2.54	0.00
175.00	4.90	2.54	0.00
177.50	4.90	2.54	0.00
180.00	4.90	2.54	0.00
182.50	4.90	2.54	0.00
185.00	4.90	2.54	0.00
187.50	4.90	2.54	0.00
190.00	4.90	2.54	0.00
192.50	4.90	2.54	0.00
195.00	4.90	2.54	0.00
197.50	4.90	2.54	0.00
200.00	4.90	2.54	0.00
202.50	4.90	2.54	0.00
205.00	4.90	2.54	0.00
207.50	4.90	2.54	0.00
210.00	4.90	2.54	0.00
212.50	4.90	2.54	0.00
215.00	4.90	2.54	0.00
217.50	4.90	2.54	0.00
220.00	4.90	2.54	0.00
222.50	4.90	2.54	0.00
225.00	4.90	2.54	0.00
227.50	4.90	2.54	0.00
230.00	4.90	2.54	0.00
232.50	4.90	2.54	0.00
235.00	4.90	2.54	0.00
237.50	4.90	2.54	0.00
240.00	4.90	2.54	0.00

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Summary for Subcatchment PDA-1.1B: Subcat PDA-1.1B

Runoff = 1.69 cfs @ 12.19 hrs, Volume= 6,640 cf, Depth= 2.63"
Routed to Link 3L : DP 1.2 - Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
19,238	74	>75% Grass cover, Good, HSG C
5,415	80	>75% Grass cover, Good, HSG D
5,665	87	Dirt roads, HSG C
8	98	Paved parking, HSG C
7	98	Paved parking, HSG D
30,333	78	Weighted Average
30,318	78	99.95% Pervious Area
15	98	0.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.4	26	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.1	126	Total			

Hydrograph for Subcatchment PDA-1.1B: Subcat PDA-1.1B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	4.90	2.63	0.00
2.50	0.12	0.00	0.00	130.00	4.90	2.63	0.00
5.00	0.28	0.00	0.00	132.50	4.90	2.63	0.00
7.50	0.50	0.00	0.00	135.00	4.90	2.63	0.00
10.00	0.93	0.04	**0.03**	137.50	4.90	2.63	0.00
12.50	3.44	1.45	**0.77**	140.00	4.90	2.63	0.00
15.00	4.19	2.04	0.11	142.50	4.90	2.63	0.00
17.50	4.50	2.30	0.06	145.00	4.90	2.63	0.00
20.00	4.69	2.45	0.04	147.50	4.90	2.63	0.00
22.50	**4.83**	**2.57**	0.03	150.00	4.90	2.63	0.00
25.00	**4.90**	**2.63**	0.00	152.50	4.90	2.63	0.00
27.50	4.90	2.63	0.00	155.00	4.90	2.63	0.00
30.00	4.90	2.63	0.00	157.50	4.90	2.63	0.00
32.50	4.90	2.63	0.00	160.00	4.90	2.63	0.00
35.00	4.90	2.63	0.00	162.50	4.90	2.63	0.00
37.50	4.90	2.63	0.00	165.00	4.90	2.63	0.00
40.00	4.90	2.63	0.00	167.50	4.90	2.63	0.00
42.50	4.90	2.63	0.00	170.00	4.90	2.63	0.00
45.00	4.90	2.63	0.00	172.50	4.90	2.63	0.00
47.50	4.90	2.63	0.00	175.00	4.90	2.63	0.00
50.00	4.90	2.63	0.00	177.50	4.90	2.63	0.00
52.50	4.90	2.63	0.00	180.00	4.90	2.63	0.00
55.00	4.90	2.63	0.00	182.50	4.90	2.63	0.00
57.50	4.90	2.63	0.00	185.00	4.90	2.63	0.00
60.00	4.90	2.63	0.00	187.50	4.90	2.63	0.00
62.50	4.90	2.63	0.00	190.00	4.90	2.63	0.00
65.00	4.90	2.63	0.00	192.50	4.90	2.63	0.00
67.50	4.90	2.63	0.00	195.00	4.90	2.63	0.00
70.00	4.90	2.63	0.00	197.50	4.90	2.63	0.00
72.50	4.90	2.63	0.00	200.00	4.90	2.63	0.00
75.00	4.90	2.63	0.00	202.50	4.90	2.63	0.00
77.50	4.90	2.63	0.00	205.00	4.90	2.63	0.00
80.00	4.90	2.63	0.00	207.50	4.90	2.63	0.00
82.50	4.90	2.63	0.00	210.00	4.90	2.63	0.00
85.00	4.90	2.63	0.00	212.50	4.90	2.63	0.00
87.50	4.90	2.63	0.00	215.00	4.90	2.63	0.00
90.00	4.90	2.63	0.00	217.50	4.90	2.63	0.00
92.50	4.90	2.63	0.00	220.00	4.90	2.63	0.00
95.00	4.90	2.63	0.00	222.50	4.90	2.63	0.00
97.50	4.90	2.63	0.00	225.00	4.90	2.63	0.00
100.00	4.90	2.63	0.00	227.50	4.90	2.63	0.00
102.50	4.90	2.63	0.00	230.00	4.90	2.63	0.00
105.00	4.90	2.63	0.00	232.50	4.90	2.63	0.00
107.50	4.90	2.63	0.00	235.00	4.90	2.63	0.00
110.00	4.90	2.63	0.00	237.50	4.90	2.63	0.00
112.50	4.90	2.63	0.00	240.00	4.90	2.63	0.00
115.00	4.90	2.63	0.00				
117.50	4.90	2.63	0.00				
120.00	4.90	2.63	0.00				
122.50	4.90	2.63	0.00				
125.00	4.90	2.63	0.00				

Pro-Hydro
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Summary for Subcatchment PDA-1.2A: Subcat PDA-1.2A

Runoff = 1.84 cfs @ 12.11 hrs, Volume= 6,043 cf, Depth= 2.81"
Routed to Link 4L : DP 1.3 - Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Adj	Description
9,020	74		>75% Grass cover, Good, HSG C
13,051	80		>75% Grass cover, Good, HSG D
1,436	98		Paved parking, HSG C
1,771	98		Paved parking, HSG D
0	98		Roofs, HSG C
567	98		Unconnected pavement, HSG C
25,845	81	80	Weighted Average, UI Adjusted
22,071	78	78	85.40% Pervious Area
3,775	98	98	14.60% Impervious Area
567			15.03% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	54	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.3	6	0.3300	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.3	5	0.2000	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.8	8	0.5000	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
7.3	73	Total			

Hydrograph for Subcatchment PDA-1.2A: Subcat PDA-1.2A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.00	0.00
10.00	0.93	0.06	**0.04**
12.50	3.44	1.59	**0.50**
15.00	4.19	2.20	0.10
17.50	4.50	2.47	0.05
20.00	4.69	2.62	0.03
22.50	**4.83**	**2.75**	0.03
25.00	**4.90**	**2.81**	0.00
27.50	4.90	2.81	0.00
30.00	4.90	2.81	0.00
32.50	4.90	2.81	0.00
35.00	4.90	2.81	0.00
37.50	4.90	2.81	0.00
40.00	4.90	2.81	0.00
42.50	4.90	2.81	0.00
45.00	4.90	2.81	0.00
47.50	4.90	2.81	0.00
50.00	4.90	2.81	0.00
52.50	4.90	2.81	0.00
55.00	4.90	2.81	0.00
57.50	4.90	2.81	0.00
60.00	4.90	2.81	0.00
62.50	4.90	2.81	0.00
65.00	4.90	2.81	0.00
67.50	4.90	2.81	0.00
70.00	4.90	2.81	0.00
72.50	4.90	2.81	0.00
75.00	4.90	2.81	0.00
77.50	4.90	2.81	0.00
80.00	4.90	2.81	0.00
82.50	4.90	2.81	0.00
85.00	4.90	2.81	0.00
87.50	4.90	2.81	0.00
90.00	4.90	2.81	0.00
92.50	4.90	2.81	0.00
95.00	4.90	2.81	0.00
97.50	4.90	2.81	0.00
100.00	4.90	2.81	0.00
102.50	4.90	2.81	0.00
105.00	4.90	2.81	0.00
107.50	4.90	2.81	0.00
110.00	4.90	2.81	0.00
112.50	4.90	2.81	0.00
115.00	4.90	2.81	0.00
117.50	4.90	2.81	0.00
120.00	4.90	2.81	0.00
122.50	4.90	2.81	0.00
125.00	4.90	2.81	0.00
127.50	4.90	2.81	0.00
130.00	4.90	2.81	0.00
132.50	4.90	2.81	0.00
135.00	4.90	2.81	0.00
137.50	4.90	2.81	0.00
140.00	4.90	2.81	0.00
142.50	4.90	2.81	0.00
145.00	4.90	2.81	0.00
147.50	4.90	2.81	0.00
150.00	4.90	2.81	0.00
152.50	4.90	2.81	0.00
155.00	4.90	2.81	0.00
157.50	4.90	2.81	0.00
160.00	4.90	2.81	0.00
162.50	4.90	2.81	0.00
165.00	4.90	2.81	0.00
167.50	4.90	2.81	0.00
170.00	4.90	2.81	0.00
172.50	4.90	2.81	0.00
175.00	4.90	2.81	0.00
177.50	4.90	2.81	0.00
180.00	4.90	2.81	0.00
182.50	4.90	2.81	0.00
185.00	4.90	2.81	0.00
187.50	4.90	2.81	0.00
190.00	4.90	2.81	0.00
192.50	4.90	2.81	0.00
195.00	4.90	2.81	0.00
197.50	4.90	2.81	0.00
200.00	4.90	2.81	0.00
202.50	4.90	2.81	0.00
205.00	4.90	2.81	0.00
207.50	4.90	2.81	0.00
210.00	4.90	2.81	0.00
212.50	4.90	2.81	0.00
215.00	4.90	2.81	0.00
217.50	4.90	2.81	0.00
220.00	4.90	2.81	0.00
222.50	4.90	2.81	0.00
225.00	4.90	2.81	0.00
227.50	4.90	2.81	0.00
230.00	4.90	2.81	0.00
232.50	4.90	2.81	0.00
235.00	4.90	2.81	0.00
237.50	4.90	2.81	0.00
240.00	4.90	2.81	0.00

Summary for Subcatchment PDA-1.3A: Subcat PDA-1.3A

Runoff = 5.65 cfs @ 12.09 hrs, Volume= 19,058 cf, Depth= 3.99"
Routed to Pond 33P : Wet Swale

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
10,911	74	>75% Grass cover, Good, HSG C
5,194	80	>75% Grass cover, Good, HSG D
41,056	98	Paved parking, HSG C
40	98	Paved parking, HSG D
0	98	Roofs, HSG C
94	98	Unconnected pavement, HSG C
57,295	92	Weighted Average
16,106	76	28.11% Pervious Area
41,189	98	71.89% Impervious Area
94		0.23% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.5	27	0.0100	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
1.2	73	0.0100	0.99		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.30"
0.8	98	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
6.5	198	Total			

Hydrograph for Subcatchment PDA-1.3A: Subcat PDA-1.3A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.01	0.02
7.50	0.50	0.09	0.07
10.00	0.93	0.35	**0.22**
12.50	3.44	2.58	**1.29**
15.00	4.19	3.30	0.24
17.50	4.50	3.61	0.12
20.00	4.69	3.79	0.08
22.50	**4.83**	**3.92**	0.07
25.00	**4.90**	**3.99**	0.00
27.50	4.90	3.99	0.00
30.00	4.90	3.99	0.00
32.50	4.90	3.99	0.00
35.00	4.90	3.99	0.00
37.50	4.90	3.99	0.00
40.00	4.90	3.99	0.00
42.50	4.90	3.99	0.00
45.00	4.90	3.99	0.00
47.50	4.90	3.99	0.00
50.00	4.90	3.99	0.00
52.50	4.90	3.99	0.00
55.00	4.90	3.99	0.00
57.50	4.90	3.99	0.00
60.00	4.90	3.99	0.00
62.50	4.90	3.99	0.00
65.00	4.90	3.99	0.00
67.50	4.90	3.99	0.00
70.00	4.90	3.99	0.00
72.50	4.90	3.99	0.00
75.00	4.90	3.99	0.00
77.50	4.90	3.99	0.00
80.00	4.90	3.99	0.00
82.50	4.90	3.99	0.00
85.00	4.90	3.99	0.00
87.50	4.90	3.99	0.00
90.00	4.90	3.99	0.00
92.50	4.90	3.99	0.00
95.00	4.90	3.99	0.00
97.50	4.90	3.99	0.00
100.00	4.90	3.99	0.00
102.50	4.90	3.99	0.00
105.00	4.90	3.99	0.00
107.50	4.90	3.99	0.00
110.00	4.90	3.99	0.00
112.50	4.90	3.99	0.00
115.00	4.90	3.99	0.00
117.50	4.90	3.99	0.00
120.00	4.90	3.99	0.00
122.50	4.90	3.99	0.00
125.00	4.90	3.99	0.00
127.50	4.90	3.99	0.00
130.00	4.90	3.99	0.00
132.50	4.90	3.99	0.00
135.00	4.90	3.99	0.00
137.50	4.90	3.99	0.00
140.00	4.90	3.99	0.00
142.50	4.90	3.99	0.00
145.00	4.90	3.99	0.00
147.50	4.90	3.99	0.00
150.00	4.90	3.99	0.00
152.50	4.90	3.99	0.00
155.00	4.90	3.99	0.00
157.50	4.90	3.99	0.00
160.00	4.90	3.99	0.00
162.50	4.90	3.99	0.00
165.00	4.90	3.99	0.00
167.50	4.90	3.99	0.00
170.00	4.90	3.99	0.00
172.50	4.90	3.99	0.00
175.00	4.90	3.99	0.00
177.50	4.90	3.99	0.00
180.00	4.90	3.99	0.00
182.50	4.90	3.99	0.00
185.00	4.90	3.99	0.00
187.50	4.90	3.99	0.00
190.00	4.90	3.99	0.00
192.50	4.90	3.99	0.00
195.00	4.90	3.99	0.00
197.50	4.90	3.99	0.00
200.00	4.90	3.99	0.00
202.50	4.90	3.99	0.00
205.00	4.90	3.99	0.00
207.50	4.90	3.99	0.00
210.00	4.90	3.99	0.00
212.50	4.90	3.99	0.00
215.00	4.90	3.99	0.00
217.50	4.90	3.99	0.00
220.00	4.90	3.99	0.00
222.50	4.90	3.99	0.00
225.00	4.90	3.99	0.00
227.50	4.90	3.99	0.00
230.00	4.90	3.99	0.00
232.50	4.90	3.99	0.00
235.00	4.90	3.99	0.00
237.50	4.90	3.99	0.00
240.00	4.90	3.99	0.00

Summary for Subcatchment PDA-1.3C: Subcat PDA-1.3C

Runoff = 1.37 cfs @ 12.10 hrs, Volume= 4,464 cf, Depth= 3.18"
Routed to Pond 1P : Bio 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
9,827	74	>75% Grass cover, Good, HSG C
6,906	98	Paved parking, HSG C
0	98	Roofs, HSG C
117	98	Unconnected pavement, HSG C
16,850	84	Weighted Average
9,827	74	58.32% Pervious Area
7,023	98	41.68% Impervious Area
117		1.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	39	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.8	10	0.1000	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
6.8	49	Total			

Hydrograph for Subcatchment PDA-1.3C: Subcat PDA-1.3C

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.01	0.00
10.00	0.93	0.12	**0.03**
12.50	3.44	1.89	**0.34**
15.00	4.19	2.54	0.07
17.50	4.50	2.82	0.03
20.00	4.69	2.99	0.02
22.50	**4.83**	**3.12**	0.02
25.00	**4.90**	**3.18**	0.00
27.50	4.90	3.18	0.00
30.00	4.90	3.18	0.00
32.50	4.90	3.18	0.00
35.00	4.90	3.18	0.00
37.50	4.90	3.18	0.00
40.00	4.90	3.18	0.00
42.50	4.90	3.18	0.00
45.00	4.90	3.18	0.00
47.50	4.90	3.18	0.00
50.00	4.90	3.18	0.00
52.50	4.90	3.18	0.00
55.00	4.90	3.18	0.00
57.50	4.90	3.18	0.00
60.00	4.90	3.18	0.00
62.50	4.90	3.18	0.00
65.00	4.90	3.18	0.00
67.50	4.90	3.18	0.00
70.00	4.90	3.18	0.00
72.50	4.90	3.18	0.00
75.00	4.90	3.18	0.00
77.50	4.90	3.18	0.00
80.00	4.90	3.18	0.00
82.50	4.90	3.18	0.00
85.00	4.90	3.18	0.00
87.50	4.90	3.18	0.00
90.00	4.90	3.18	0.00
92.50	4.90	3.18	0.00
95.00	4.90	3.18	0.00
97.50	4.90	3.18	0.00
100.00	4.90	3.18	0.00
102.50	4.90	3.18	0.00
105.00	4.90	3.18	0.00
107.50	4.90	3.18	0.00
110.00	4.90	3.18	0.00
112.50	4.90	3.18	0.00
115.00	4.90	3.18	0.00
117.50	4.90	3.18	0.00
120.00	4.90	3.18	0.00
122.50	4.90	3.18	0.00
125.00	4.90	3.18	0.00
127.50	4.90	3.18	0.00
130.00	4.90	3.18	0.00
132.50	4.90	3.18	0.00
135.00	4.90	3.18	0.00
137.50	4.90	3.18	0.00
140.00	4.90	3.18	0.00
142.50	4.90	3.18	0.00
145.00	4.90	3.18	0.00
147.50	4.90	3.18	0.00
150.00	4.90	3.18	0.00
152.50	4.90	3.18	0.00
155.00	4.90	3.18	0.00
157.50	4.90	3.18	0.00
160.00	4.90	3.18	0.00
162.50	4.90	3.18	0.00
165.00	4.90	3.18	0.00
167.50	4.90	3.18	0.00
170.00	4.90	3.18	0.00
172.50	4.90	3.18	0.00
175.00	4.90	3.18	0.00
177.50	4.90	3.18	0.00
180.00	4.90	3.18	0.00
182.50	4.90	3.18	0.00
185.00	4.90	3.18	0.00
187.50	4.90	3.18	0.00
190.00	4.90	3.18	0.00
192.50	4.90	3.18	0.00
195.00	4.90	3.18	0.00
197.50	4.90	3.18	0.00
200.00	4.90	3.18	0.00
202.50	4.90	3.18	0.00
205.00	4.90	3.18	0.00
207.50	4.90	3.18	0.00
210.00	4.90	3.18	0.00
212.50	4.90	3.18	0.00
215.00	4.90	3.18	0.00
217.50	4.90	3.18	0.00
220.00	4.90	3.18	0.00
222.50	4.90	3.18	0.00
225.00	4.90	3.18	0.00
227.50	4.90	3.18	0.00
230.00	4.90	3.18	0.00
232.50	4.90	3.18	0.00
235.00	4.90	3.18	0.00
237.50	4.90	3.18	0.00
240.00	4.90	3.18	0.00

Summary for Subcatchment PDA-1.3D: Subcat PDA-1.3D

Runoff = 0.59 cfs @ 12.09 hrs, Volume= 1,870 cf, Depth= 3.28"
Routed to Pond 2P : Bio 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
3,766	74	>75% Grass cover, Good, HSG C
3,085	98	Paved parking, HSG C
0	98	Roofs, HSG C
6,850	85	Weighted Average
3,766	74	54.97% Pervious Area
3,085	98	45.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.3D: Subcat PDA-1.3D

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.01	0.00
10.00	0.93	0.14	**0.02**
12.50	3.44	1.96	**0.13**
15.00	4.19	2.62	0.03
17.50	4.50	2.91	0.01
20.00	4.69	3.08	0.01
22.50	**4.83**	**3.21**	0.01
25.00	**4.90**	**3.28**	0.00
27.50	4.90	3.28	0.00
30.00	4.90	3.28	0.00
32.50	4.90	3.28	0.00
35.00	4.90	3.28	0.00
37.50	4.90	3.28	0.00
40.00	4.90	3.28	0.00
42.50	4.90	3.28	0.00
45.00	4.90	3.28	0.00
47.50	4.90	3.28	0.00
50.00	4.90	3.28	0.00
52.50	4.90	3.28	0.00
55.00	4.90	3.28	0.00
57.50	4.90	3.28	0.00
60.00	4.90	3.28	0.00
62.50	4.90	3.28	0.00
65.00	4.90	3.28	0.00
67.50	4.90	3.28	0.00
70.00	4.90	3.28	0.00
72.50	4.90	3.28	0.00
75.00	4.90	3.28	0.00
77.50	4.90	3.28	0.00
80.00	4.90	3.28	0.00
82.50	4.90	3.28	0.00
85.00	4.90	3.28	0.00
87.50	4.90	3.28	0.00
90.00	4.90	3.28	0.00
92.50	4.90	3.28	0.00
95.00	4.90	3.28	0.00
97.50	4.90	3.28	0.00
100.00	4.90	3.28	0.00
102.50	4.90	3.28	0.00
105.00	4.90	3.28	0.00
107.50	4.90	3.28	0.00
110.00	4.90	3.28	0.00
112.50	4.90	3.28	0.00
115.00	4.90	3.28	0.00
117.50	4.90	3.28	0.00
120.00	4.90	3.28	0.00
122.50	4.90	3.28	0.00
125.00	4.90	3.28	0.00
127.50	4.90	3.28	0.00
130.00	4.90	3.28	0.00
132.50	4.90	3.28	0.00
135.00	4.90	3.28	0.00
137.50	4.90	3.28	0.00
140.00	4.90	3.28	0.00
142.50	4.90	3.28	0.00
145.00	4.90	3.28	0.00
147.50	4.90	3.28	0.00
150.00	4.90	3.28	0.00
152.50	4.90	3.28	0.00
155.00	4.90	3.28	0.00
157.50	4.90	3.28	0.00
160.00	4.90	3.28	0.00
162.50	4.90	3.28	0.00
165.00	4.90	3.28	0.00
167.50	4.90	3.28	0.00
170.00	4.90	3.28	0.00
172.50	4.90	3.28	0.00
175.00	4.90	3.28	0.00
177.50	4.90	3.28	0.00
180.00	4.90	3.28	0.00
182.50	4.90	3.28	0.00
185.00	4.90	3.28	0.00
187.50	4.90	3.28	0.00
190.00	4.90	3.28	0.00
192.50	4.90	3.28	0.00
195.00	4.90	3.28	0.00
197.50	4.90	3.28	0.00
200.00	4.90	3.28	0.00
202.50	4.90	3.28	0.00
205.00	4.90	3.28	0.00
207.50	4.90	3.28	0.00
210.00	4.90	3.28	0.00
212.50	4.90	3.28	0.00
215.00	4.90	3.28	0.00
217.50	4.90	3.28	0.00
220.00	4.90	3.28	0.00
222.50	4.90	3.28	0.00
225.00	4.90	3.28	0.00
227.50	4.90	3.28	0.00
230.00	4.90	3.28	0.00
232.50	4.90	3.28	0.00
235.00	4.90	3.28	0.00
237.50	4.90	3.28	0.00
240.00	4.90	3.28	0.00

Summary for Subcatchment PDA-1.4A: Subcat PDA-1.4A

Runoff = 2.01 cfs @ 12.19 hrs, Volume= 7,968 cf, Depth= 3.08"
Routed to Pond 20P : Sand Filter 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
14,884	74	>75% Grass cover, Good, HSG C
2,931	80	>75% Grass cover, Good, HSG D
5,758	87	Dirt roads, HSG C
6	89	Dirt roads, HSG D
2,675	98	Paved parking, HSG C
4,570	98	Paved parking, HSG D
183	98	Unconnected pavement, HSG C
31,007	83	Weighted Average
23,579	78	76.05% Pervious Area
7,428	98	23.95% Impervious Area
183		2.46% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.7	44	0.0250	1.11		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.4	144	Total			

Hydrograph for Subcatchment PDA-1.4A: Subcat PDA-1.4A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	4.90	3.08	0.00
2.50	0.12	0.00	0.00	130.00	4.90	3.08	0.00
5.00	0.28	0.00	0.00	132.50	4.90	3.08	0.00
7.50	0.50	0.00	0.00	135.00	4.90	3.08	0.00
10.00	0.93	0.10	**0.06**	137.50	4.90	3.08	0.00
12.50	3.44	1.81	**0.89**	140.00	4.90	3.08	0.00
15.00	4.19	2.45	0.12	142.50	4.90	3.08	0.00
17.50	4.50	2.73	0.06	145.00	4.90	3.08	0.00
20.00	4.69	2.89	0.04	147.50	4.90	3.08	0.00
22.50	**4.83**	**3.02**	0.03	150.00	4.90	3.08	0.00
25.00	**4.90**	**3.08**	0.00	152.50	4.90	3.08	0.00
27.50	4.90	3.08	0.00	155.00	4.90	3.08	0.00
30.00	4.90	3.08	0.00	157.50	4.90	3.08	0.00
32.50	4.90	3.08	0.00	160.00	4.90	3.08	0.00
35.00	4.90	3.08	0.00	162.50	4.90	3.08	0.00
37.50	4.90	3.08	0.00	165.00	4.90	3.08	0.00
40.00	4.90	3.08	0.00	167.50	4.90	3.08	0.00
42.50	4.90	3.08	0.00	170.00	4.90	3.08	0.00
45.00	4.90	3.08	0.00	172.50	4.90	3.08	0.00
47.50	4.90	3.08	0.00	175.00	4.90	3.08	0.00
50.00	4.90	3.08	0.00	177.50	4.90	3.08	0.00
52.50	4.90	3.08	0.00	180.00	4.90	3.08	0.00
55.00	4.90	3.08	0.00	182.50	4.90	3.08	0.00
57.50	4.90	3.08	0.00	185.00	4.90	3.08	0.00
60.00	4.90	3.08	0.00	187.50	4.90	3.08	0.00
62.50	4.90	3.08	0.00	190.00	4.90	3.08	0.00
65.00	4.90	3.08	0.00	192.50	4.90	3.08	0.00
67.50	4.90	3.08	0.00	195.00	4.90	3.08	0.00
70.00	4.90	3.08	0.00	197.50	4.90	3.08	0.00
72.50	4.90	3.08	0.00	200.00	4.90	3.08	0.00
75.00	4.90	3.08	0.00	202.50	4.90	3.08	0.00
77.50	4.90	3.08	0.00	205.00	4.90	3.08	0.00
80.00	4.90	3.08	0.00	207.50	4.90	3.08	0.00
82.50	4.90	3.08	0.00	210.00	4.90	3.08	0.00
85.00	4.90	3.08	0.00	212.50	4.90	3.08	0.00
87.50	4.90	3.08	0.00	215.00	4.90	3.08	0.00
90.00	4.90	3.08	0.00	217.50	4.90	3.08	0.00
92.50	4.90	3.08	0.00	220.00	4.90	3.08	0.00
95.00	4.90	3.08	0.00	222.50	4.90	3.08	0.00
97.50	4.90	3.08	0.00	225.00	4.90	3.08	0.00
100.00	4.90	3.08	0.00	227.50	4.90	3.08	0.00
102.50	4.90	3.08	0.00	230.00	4.90	3.08	0.00
105.00	4.90	3.08	0.00	232.50	4.90	3.08	0.00
107.50	4.90	3.08	0.00	235.00	4.90	3.08	0.00
110.00	4.90	3.08	0.00	237.50	4.90	3.08	0.00
112.50	4.90	3.08	0.00	240.00	4.90	3.08	0.00
115.00	4.90	3.08	0.00				
117.50	4.90	3.08	0.00				
120.00	4.90	3.08	0.00				
122.50	4.90	3.08	0.00				
125.00	4.90	3.08	0.00				

Summary for Subcatchment PDA-1.4B: Subcat PDA-1.4B

Runoff = 3.60 cfs @ 12.19 hrs, Volume= 14,517 cf, Depth= 3.28"
Routed to Pond 3P : DIV-02

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
25,747	74	>75% Grass cover, Good, HSG C
7,636	87	Dirt roads, HSG C
17,354	98	Paved parking, HSG C
2,443	98	Unconnected pavement, HSG C
53,181	85	Weighted Average
33,383	77	62.77% Pervious Area
19,797	98	37.23% Impervious Area
2,443		12.34% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	58	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
5.7	40	0.0120	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
13.9	98	Total			

Hydrograph for Subcatchment PDA-1.4B: Subcat PDA-1.4B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	4.90	3.28	0.00
2.50	0.12	0.00	0.00	130.00	4.90	3.28	0.00
5.00	0.28	0.00	0.00	132.50	4.90	3.28	0.00
7.50	0.50	0.01	0.02	135.00	4.90	3.28	0.00
10.00	0.93	0.14	**0.11**	137.50	4.90	3.28	0.00
12.50	3.44	1.96	**1.64**	140.00	4.90	3.28	0.00
15.00	4.19	2.62	0.22	142.50	4.90	3.28	0.00
17.50	4.50	2.91	0.11	145.00	4.90	3.28	0.00
20.00	4.69	3.08	0.07	147.50	4.90	3.28	0.00
22.50	**4.83**	**3.21**	0.06	150.00	4.90	3.28	0.00
25.00	**4.90**	**3.28**	0.00	152.50	4.90	3.28	0.00
27.50	4.90	3.28	0.00	155.00	4.90	3.28	0.00
30.00	4.90	3.28	0.00	157.50	4.90	3.28	0.00
32.50	4.90	3.28	0.00	160.00	4.90	3.28	0.00
35.00	4.90	3.28	0.00	162.50	4.90	3.28	0.00
37.50	4.90	3.28	0.00	165.00	4.90	3.28	0.00
40.00	4.90	3.28	0.00	167.50	4.90	3.28	0.00
42.50	4.90	3.28	0.00	170.00	4.90	3.28	0.00
45.00	4.90	3.28	0.00	172.50	4.90	3.28	0.00
47.50	4.90	3.28	0.00	175.00	4.90	3.28	0.00
50.00	4.90	3.28	0.00	177.50	4.90	3.28	0.00
52.50	4.90	3.28	0.00	180.00	4.90	3.28	0.00
55.00	4.90	3.28	0.00	182.50	4.90	3.28	0.00
57.50	4.90	3.28	0.00	185.00	4.90	3.28	0.00
60.00	4.90	3.28	0.00	187.50	4.90	3.28	0.00
62.50	4.90	3.28	0.00	190.00	4.90	3.28	0.00
65.00	4.90	3.28	0.00	192.50	4.90	3.28	0.00
67.50	4.90	3.28	0.00	195.00	4.90	3.28	0.00
70.00	4.90	3.28	0.00	197.50	4.90	3.28	0.00
72.50	4.90	3.28	0.00	200.00	4.90	3.28	0.00
75.00	4.90	3.28	0.00	202.50	4.90	3.28	0.00
77.50	4.90	3.28	0.00	205.00	4.90	3.28	0.00
80.00	4.90	3.28	0.00	207.50	4.90	3.28	0.00
82.50	4.90	3.28	0.00	210.00	4.90	3.28	0.00
85.00	4.90	3.28	0.00	212.50	4.90	3.28	0.00
87.50	4.90	3.28	0.00	215.00	4.90	3.28	0.00
90.00	4.90	3.28	0.00	217.50	4.90	3.28	0.00
92.50	4.90	3.28	0.00	220.00	4.90	3.28	0.00
95.00	4.90	3.28	0.00	222.50	4.90	3.28	0.00
97.50	4.90	3.28	0.00	225.00	4.90	3.28	0.00
100.00	4.90	3.28	0.00	227.50	4.90	3.28	0.00
102.50	4.90	3.28	0.00	230.00	4.90	3.28	0.00
105.00	4.90	3.28	0.00	232.50	4.90	3.28	0.00
107.50	4.90	3.28	0.00	235.00	4.90	3.28	0.00
110.00	4.90	3.28	0.00	237.50	4.90	3.28	0.00
112.50	4.90	3.28	0.00	240.00	4.90	3.28	0.00
115.00	4.90	3.28	0.00				
117.50	4.90	3.28	0.00				
120.00	4.90	3.28	0.00				
122.50	4.90	3.28	0.00				
125.00	4.90	3.28	0.00				

Summary for Subcatchment PDA-1.4C: Subcat PDA-1.4C

Runoff = 2.52 cfs @ 12.09 hrs, Volume= 8,213 cf, Depth= 3.68"
Routed to Pond 7P : Bio 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
9,701	74	>75% Grass cover, Good, HSG C
17,108	98	Paved parking, HSG C
26,810	89	Weighted Average
9,701	74	36.19% Pervious Area
17,108	98	63.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4C: Subcat PDA-1.4C

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.04	0.02
10.00	0.93	0.24	**0.08**
12.50	3.44	2.30	**0.56**
15.00	4.19	3.00	0.11
17.50	4.50	3.30	0.05
20.00	4.69	3.48	0.04
22.50	**4.83**	**3.61**	0.03
25.00	**4.90**	**3.68**	0.00
27.50	4.90	3.68	0.00
30.00	4.90	3.68	0.00
32.50	4.90	3.68	0.00
35.00	4.90	3.68	0.00
37.50	4.90	3.68	0.00
40.00	4.90	3.68	0.00
42.50	4.90	3.68	0.00
45.00	4.90	3.68	0.00
47.50	4.90	3.68	0.00
50.00	4.90	3.68	0.00
52.50	4.90	3.68	0.00
55.00	4.90	3.68	0.00
57.50	4.90	3.68	0.00
60.00	4.90	3.68	0.00
62.50	4.90	3.68	0.00
65.00	4.90	3.68	0.00
67.50	4.90	3.68	0.00
70.00	4.90	3.68	0.00
72.50	4.90	3.68	0.00
75.00	4.90	3.68	0.00
77.50	4.90	3.68	0.00
80.00	4.90	3.68	0.00
82.50	4.90	3.68	0.00
85.00	4.90	3.68	0.00
87.50	4.90	3.68	0.00
90.00	4.90	3.68	0.00
92.50	4.90	3.68	0.00
95.00	4.90	3.68	0.00
97.50	4.90	3.68	0.00
100.00	4.90	3.68	0.00
102.50	4.90	3.68	0.00
105.00	4.90	3.68	0.00
107.50	4.90	3.68	0.00
110.00	4.90	3.68	0.00
112.50	4.90	3.68	0.00
115.00	4.90	3.68	0.00
117.50	4.90	3.68	0.00
120.00	4.90	3.68	0.00
122.50	4.90	3.68	0.00
125.00	4.90	3.68	0.00
127.50	4.90	3.68	0.00
130.00	4.90	3.68	0.00
132.50	4.90	3.68	0.00
135.00	4.90	3.68	0.00
137.50	4.90	3.68	0.00
140.00	4.90	3.68	0.00
142.50	4.90	3.68	0.00
145.00	4.90	3.68	0.00
147.50	4.90	3.68	0.00
150.00	4.90	3.68	0.00
152.50	4.90	3.68	0.00
155.00	4.90	3.68	0.00
157.50	4.90	3.68	0.00
160.00	4.90	3.68	0.00
162.50	4.90	3.68	0.00
165.00	4.90	3.68	0.00
167.50	4.90	3.68	0.00
170.00	4.90	3.68	0.00
172.50	4.90	3.68	0.00
175.00	4.90	3.68	0.00
177.50	4.90	3.68	0.00
180.00	4.90	3.68	0.00
182.50	4.90	3.68	0.00
185.00	4.90	3.68	0.00
187.50	4.90	3.68	0.00
190.00	4.90	3.68	0.00
192.50	4.90	3.68	0.00
195.00	4.90	3.68	0.00
197.50	4.90	3.68	0.00
200.00	4.90	3.68	0.00
202.50	4.90	3.68	0.00
205.00	4.90	3.68	0.00
207.50	4.90	3.68	0.00
210.00	4.90	3.68	0.00
212.50	4.90	3.68	0.00
215.00	4.90	3.68	0.00
217.50	4.90	3.68	0.00
220.00	4.90	3.68	0.00
222.50	4.90	3.68	0.00
225.00	4.90	3.68	0.00
227.50	4.90	3.68	0.00
230.00	4.90	3.68	0.00
232.50	4.90	3.68	0.00
235.00	4.90	3.68	0.00
237.50	4.90	3.68	0.00
240.00	4.90	3.68	0.00

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Summary for Subcatchment PDA-1.4D: Subcat PDA-1.4D

Runoff = 4.00 cfs @ 12.09 hrs, Volume= 13,024 cf, Depth= 3.68"
Routed to Pond 14P : DIV-03

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
14,109	74	>75% Grass cover, Good, HSG C
2,143	80	>75% Grass cover, Good, HSG D
1,138	96	Gravel surface, HSG C
25,125	98	Paved parking, HSG C
42,514	89	Weighted Average
17,389	76	40.90% Pervious Area
25,125	98	59.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4D: Subcat PDA-1.4D

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	4.90	3.68	0.00
2.50	0.12	0.00	0.00	130.00	4.90	3.68	0.00
5.00	0.28	0.00	0.00	132.50	4.90	3.68	0.00
7.50	0.50	0.04	0.03	135.00	4.90	3.68	0.00
10.00	0.93	0.24	**0.13**	137.50	4.90	3.68	0.00
12.50	3.44	2.30	**0.89**	140.00	4.90	3.68	0.00
15.00	4.19	3.00	0.18	142.50	4.90	3.68	0.00
17.50	4.50	3.30	0.09	145.00	4.90	3.68	0.00
20.00	4.69	3.48	0.06	147.50	4.90	3.68	0.00
22.50	**4.83**	**3.61**	0.05	150.00	4.90	3.68	0.00
25.00	**4.90**	**3.68**	0.00	152.50	4.90	3.68	0.00
27.50	4.90	3.68	0.00	155.00	4.90	3.68	0.00
30.00	4.90	3.68	0.00	157.50	4.90	3.68	0.00
32.50	4.90	3.68	0.00	160.00	4.90	3.68	0.00
35.00	4.90	3.68	0.00	162.50	4.90	3.68	0.00
37.50	4.90	3.68	0.00	165.00	4.90	3.68	0.00
40.00	4.90	3.68	0.00	167.50	4.90	3.68	0.00
42.50	4.90	3.68	0.00	170.00	4.90	3.68	0.00
45.00	4.90	3.68	0.00	172.50	4.90	3.68	0.00
47.50	4.90	3.68	0.00	175.00	4.90	3.68	0.00
50.00	4.90	3.68	0.00	177.50	4.90	3.68	0.00
52.50	4.90	3.68	0.00	180.00	4.90	3.68	0.00
55.00	4.90	3.68	0.00	182.50	4.90	3.68	0.00
57.50	4.90	3.68	0.00	185.00	4.90	3.68	0.00
60.00	4.90	3.68	0.00	187.50	4.90	3.68	0.00
62.50	4.90	3.68	0.00	190.00	4.90	3.68	0.00
65.00	4.90	3.68	0.00	192.50	4.90	3.68	0.00
67.50	4.90	3.68	0.00	195.00	4.90	3.68	0.00
70.00	4.90	3.68	0.00	197.50	4.90	3.68	0.00
72.50	4.90	3.68	0.00	200.00	4.90	3.68	0.00
75.00	4.90	3.68	0.00	202.50	4.90	3.68	0.00
77.50	4.90	3.68	0.00	205.00	4.90	3.68	0.00
80.00	4.90	3.68	0.00	207.50	4.90	3.68	0.00
82.50	4.90	3.68	0.00	210.00	4.90	3.68	0.00
85.00	4.90	3.68	0.00	212.50	4.90	3.68	0.00
87.50	4.90	3.68	0.00	215.00	4.90	3.68	0.00
90.00	4.90	3.68	0.00	217.50	4.90	3.68	0.00
92.50	4.90	3.68	0.00	220.00	4.90	3.68	0.00
95.00	4.90	3.68	0.00	222.50	4.90	3.68	0.00
97.50	4.90	3.68	0.00	225.00	4.90	3.68	0.00
100.00	4.90	3.68	0.00	227.50	4.90	3.68	0.00
102.50	4.90	3.68	0.00	230.00	4.90	3.68	0.00
105.00	4.90	3.68	0.00	232.50	4.90	3.68	0.00
107.50	4.90	3.68	0.00	235.00	4.90	3.68	0.00
110.00	4.90	3.68	0.00	237.50	4.90	3.68	0.00
112.50	4.90	3.68	0.00	240.00	4.90	3.68	0.00
115.00	4.90	3.68	0.00				
117.50	4.90	3.68	0.00				
120.00	4.90	3.68	0.00				
122.50	4.90	3.68	0.00				
125.00	4.90	3.68	0.00				

Summary for Subcatchment PDA-1.4E: Subcat PDA-1.4E

Runoff = 3.69 cfs @ 12.09 hrs, Volume= 12,023 cf, Depth= 3.68"
Routed to Pond 18P : Sand Filter 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
14,786	74	>75% Grass cover, Good, HSG C
7	80	>75% Grass cover, Good, HSG D
24,452	98	Paved parking, HSG C
39,245	89	Weighted Average
14,794	74	37.70% Pervious Area
24,452	98	62.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4E: Subcat PDA-1.4E

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.04	0.03
10.00	0.93	0.24	**0.12**
12.50	3.44	2.30	**0.82**
15.00	4.19	3.00	0.16
17.50	4.50	3.30	0.08
20.00	4.69	3.48	0.06
22.50	**4.83**	**3.61**	0.04
25.00	**4.90**	**3.68**	0.00
27.50	4.90	3.68	0.00
30.00	4.90	3.68	0.00
32.50	4.90	3.68	0.00
35.00	4.90	3.68	0.00
37.50	4.90	3.68	0.00
40.00	4.90	3.68	0.00
42.50	4.90	3.68	0.00
45.00	4.90	3.68	0.00
47.50	4.90	3.68	0.00
50.00	4.90	3.68	0.00
52.50	4.90	3.68	0.00
55.00	4.90	3.68	0.00
57.50	4.90	3.68	0.00
60.00	4.90	3.68	0.00
62.50	4.90	3.68	0.00
65.00	4.90	3.68	0.00
67.50	4.90	3.68	0.00
70.00	4.90	3.68	0.00
72.50	4.90	3.68	0.00
75.00	4.90	3.68	0.00
77.50	4.90	3.68	0.00
80.00	4.90	3.68	0.00
82.50	4.90	3.68	0.00
85.00	4.90	3.68	0.00
87.50	4.90	3.68	0.00
90.00	4.90	3.68	0.00
92.50	4.90	3.68	0.00
95.00	4.90	3.68	0.00
97.50	4.90	3.68	0.00
100.00	4.90	3.68	0.00
102.50	4.90	3.68	0.00
105.00	4.90	3.68	0.00
107.50	4.90	3.68	0.00
110.00	4.90	3.68	0.00
112.50	4.90	3.68	0.00
115.00	4.90	3.68	0.00
117.50	4.90	3.68	0.00
120.00	4.90	3.68	0.00
122.50	4.90	3.68	0.00
125.00	4.90	3.68	0.00
127.50	4.90	3.68	0.00
130.00	4.90	3.68	0.00
132.50	4.90	3.68	0.00
135.00	4.90	3.68	0.00
137.50	4.90	3.68	0.00
140.00	4.90	3.68	0.00
142.50	4.90	3.68	0.00
145.00	4.90	3.68	0.00
147.50	4.90	3.68	0.00
150.00	4.90	3.68	0.00
152.50	4.90	3.68	0.00
155.00	4.90	3.68	0.00
157.50	4.90	3.68	0.00
160.00	4.90	3.68	0.00
162.50	4.90	3.68	0.00
165.00	4.90	3.68	0.00
167.50	4.90	3.68	0.00
170.00	4.90	3.68	0.00
172.50	4.90	3.68	0.00
175.00	4.90	3.68	0.00
177.50	4.90	3.68	0.00
180.00	4.90	3.68	0.00
182.50	4.90	3.68	0.00
185.00	4.90	3.68	0.00
187.50	4.90	3.68	0.00
190.00	4.90	3.68	0.00
192.50	4.90	3.68	0.00
195.00	4.90	3.68	0.00
197.50	4.90	3.68	0.00
200.00	4.90	3.68	0.00
202.50	4.90	3.68	0.00
205.00	4.90	3.68	0.00
207.50	4.90	3.68	0.00
210.00	4.90	3.68	0.00
212.50	4.90	3.68	0.00
215.00	4.90	3.68	0.00
217.50	4.90	3.68	0.00
220.00	4.90	3.68	0.00
222.50	4.90	3.68	0.00
225.00	4.90	3.68	0.00
227.50	4.90	3.68	0.00
230.00	4.90	3.68	0.00
232.50	4.90	3.68	0.00
235.00	4.90	3.68	0.00
237.50	4.90	3.68	0.00
240.00	4.90	3.68	0.00

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Summary for Subcatchment PDA-1.4F: Subcat PDA-1.4F

Runoff = 5.19 cfs @ 12.20 hrs, Volume= 21,377 cf, Depth= 3.47"
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
33,264	74	>75% Grass cover, Good, HSG C
3	80	>75% Grass cover, Good, HSG D
36,167	98	Paved parking, HSG C
4,425	98	Paved parking, HSG D
73,858	87	Weighted Average
33,267	74	45.04% Pervious Area
40,591	98	54.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	100	0.0105	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.2	42	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.8	204	0.0090	1.93		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
14.5	346	Total			

Hydrograph for Subcatchment PDA-1.4F: Subcat PDA-1.4F

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.02	0.04
10.00	0.93	0.19	**0.19**
12.50	3.44	2.13	**2.43**
15.00	4.19	2.81	0.31
17.50	4.50	3.10	0.15
20.00	4.69	3.28	0.10
22.50	**4.83**	**3.41**	0.08
25.00	**4.90**	**3.47**	0.00
27.50	4.90	3.47	0.00
30.00	4.90	3.47	0.00
32.50	4.90	3.47	0.00
35.00	4.90	3.47	0.00
37.50	4.90	3.47	0.00
40.00	4.90	3.47	0.00
42.50	4.90	3.47	0.00
45.00	4.90	3.47	0.00
47.50	4.90	3.47	0.00
50.00	4.90	3.47	0.00
52.50	4.90	3.47	0.00
55.00	4.90	3.47	0.00
57.50	4.90	3.47	0.00
60.00	4.90	3.47	0.00
62.50	4.90	3.47	0.00
65.00	4.90	3.47	0.00
67.50	4.90	3.47	0.00
70.00	4.90	3.47	0.00
72.50	4.90	3.47	0.00
75.00	4.90	3.47	0.00
77.50	4.90	3.47	0.00
80.00	4.90	3.47	0.00
82.50	4.90	3.47	0.00
85.00	4.90	3.47	0.00
87.50	4.90	3.47	0.00
90.00	4.90	3.47	0.00
92.50	4.90	3.47	0.00
95.00	4.90	3.47	0.00
97.50	4.90	3.47	0.00
100.00	4.90	3.47	0.00
102.50	4.90	3.47	0.00
105.00	4.90	3.47	0.00
107.50	4.90	3.47	0.00
110.00	4.90	3.47	0.00
112.50	4.90	3.47	0.00
115.00	4.90	3.47	0.00
117.50	4.90	3.47	0.00
120.00	4.90	3.47	0.00
122.50	4.90	3.47	0.00
125.00	4.90	3.47	0.00
127.50	4.90	3.47	0.00
130.00	4.90	3.47	0.00
132.50	4.90	3.47	0.00
135.00	4.90	3.47	0.00
137.50	4.90	3.47	0.00
140.00	4.90	3.47	0.00
142.50	4.90	3.47	0.00
145.00	4.90	3.47	0.00
147.50	4.90	3.47	0.00
150.00	4.90	3.47	0.00
152.50	4.90	3.47	0.00
155.00	4.90	3.47	0.00
157.50	4.90	3.47	0.00
160.00	4.90	3.47	0.00
162.50	4.90	3.47	0.00
165.00	4.90	3.47	0.00
167.50	4.90	3.47	0.00
170.00	4.90	3.47	0.00
172.50	4.90	3.47	0.00
175.00	4.90	3.47	0.00
177.50	4.90	3.47	0.00
180.00	4.90	3.47	0.00
182.50	4.90	3.47	0.00
185.00	4.90	3.47	0.00
187.50	4.90	3.47	0.00
190.00	4.90	3.47	0.00
192.50	4.90	3.47	0.00
195.00	4.90	3.47	0.00
197.50	4.90	3.47	0.00
200.00	4.90	3.47	0.00
202.50	4.90	3.47	0.00
205.00	4.90	3.47	0.00
207.50	4.90	3.47	0.00
210.00	4.90	3.47	0.00
212.50	4.90	3.47	0.00
215.00	4.90	3.47	0.00
217.50	4.90	3.47	0.00
220.00	4.90	3.47	0.00
222.50	4.90	3.47	0.00
225.00	4.90	3.47	0.00
227.50	4.90	3.47	0.00
230.00	4.90	3.47	0.00
232.50	4.90	3.47	0.00
235.00	4.90	3.47	0.00
237.50	4.90	3.47	0.00
240.00	4.90	3.47	0.00

Summary for Subcatchment PDA-1.4G: Subcat PDA-1.4G

Runoff = 2.10 cfs @ 12.09 hrs, Volume= 6,827 cf, Depth= 3.68"
Routed to Pond 19P : Sand Filter 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
8,361	74	>75% Grass cover, Good, HSG C
160	80	>75% Grass cover, Good, HSG D
13,763	98	Paved parking, HSG C
22,284	89	Weighted Average
8,521	74	38.24% Pervious Area
13,763	98	61.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4G: Subcat PDA-1.4G

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.04	0.02
10.00	0.93	0.24	**0.07**
12.50	3.44	2.30	**0.47**
15.00	4.19	3.00	0.09
17.50	4.50	3.30	0.05
20.00	4.69	3.48	0.03
22.50	**4.83**	**3.61**	0.02
25.00	**4.90**	**3.68**	0.00
27.50	4.90	3.68	0.00
30.00	4.90	3.68	0.00
32.50	4.90	3.68	0.00
35.00	4.90	3.68	0.00
37.50	4.90	3.68	0.00
40.00	4.90	3.68	0.00
42.50	4.90	3.68	0.00
45.00	4.90	3.68	0.00
47.50	4.90	3.68	0.00
50.00	4.90	3.68	0.00
52.50	4.90	3.68	0.00
55.00	4.90	3.68	0.00
57.50	4.90	3.68	0.00
60.00	4.90	3.68	0.00
62.50	4.90	3.68	0.00
65.00	4.90	3.68	0.00
67.50	4.90	3.68	0.00
70.00	4.90	3.68	0.00
72.50	4.90	3.68	0.00
75.00	4.90	3.68	0.00
77.50	4.90	3.68	0.00
80.00	4.90	3.68	0.00
82.50	4.90	3.68	0.00
85.00	4.90	3.68	0.00
87.50	4.90	3.68	0.00
90.00	4.90	3.68	0.00
92.50	4.90	3.68	0.00
95.00	4.90	3.68	0.00
97.50	4.90	3.68	0.00
100.00	4.90	3.68	0.00
102.50	4.90	3.68	0.00
105.00	4.90	3.68	0.00
107.50	4.90	3.68	0.00
110.00	4.90	3.68	0.00
112.50	4.90	3.68	0.00
115.00	4.90	3.68	0.00
117.50	4.90	3.68	0.00
120.00	4.90	3.68	0.00
122.50	4.90	3.68	0.00
125.00	4.90	3.68	0.00
127.50	4.90	3.68	0.00
130.00	4.90	3.68	0.00
132.50	4.90	3.68	0.00
135.00	4.90	3.68	0.00
137.50	4.90	3.68	0.00
140.00	4.90	3.68	0.00
142.50	4.90	3.68	0.00
145.00	4.90	3.68	0.00
147.50	4.90	3.68	0.00
150.00	4.90	3.68	0.00
152.50	4.90	3.68	0.00
155.00	4.90	3.68	0.00
157.50	4.90	3.68	0.00
160.00	4.90	3.68	0.00
162.50	4.90	3.68	0.00
165.00	4.90	3.68	0.00
167.50	4.90	3.68	0.00
170.00	4.90	3.68	0.00
172.50	4.90	3.68	0.00
175.00	4.90	3.68	0.00
177.50	4.90	3.68	0.00
180.00	4.90	3.68	0.00
182.50	4.90	3.68	0.00
185.00	4.90	3.68	0.00
187.50	4.90	3.68	0.00
190.00	4.90	3.68	0.00
192.50	4.90	3.68	0.00
195.00	4.90	3.68	0.00
197.50	4.90	3.68	0.00
200.00	4.90	3.68	0.00
202.50	4.90	3.68	0.00
205.00	4.90	3.68	0.00
207.50	4.90	3.68	0.00
210.00	4.90	3.68	0.00
212.50	4.90	3.68	0.00
215.00	4.90	3.68	0.00
217.50	4.90	3.68	0.00
220.00	4.90	3.68	0.00
222.50	4.90	3.68	0.00
225.00	4.90	3.68	0.00
227.50	4.90	3.68	0.00
230.00	4.90	3.68	0.00
232.50	4.90	3.68	0.00
235.00	4.90	3.68	0.00
237.50	4.90	3.68	0.00
240.00	4.90	3.68	0.00

Summary for Subcatchment PDA-1.4H: Subcat PDA-1.4H

Runoff = 0.67 cfs @ 12.09 hrs, Volume= 2,120 cf, Depth= 2.37"
Routed to Pond 4P : Detention Basin 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
9,974	74	>75% Grass cover, Good, HSG C
169	80	>75% Grass cover, Good, HSG D
600	98	Paved parking, HSG C
10,744	75	Weighted Average
10,143	74	94.41% Pervious Area
600	98	5.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4H: Subcat PDA-1.4H

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.00	0.00
10.00	0.93	0.02	**0.01**
12.50	3.44	1.26	**0.17**
15.00	4.19	1.81	0.04
17.50	4.50	2.05	0.02
20.00	4.69	2.20	0.01
22.50	**4.83**	**2.31**	0.01
25.00	**4.90**	**2.37**	0.00
27.50	4.90	2.37	0.00
30.00	4.90	2.37	0.00
32.50	4.90	2.37	0.00
35.00	4.90	2.37	0.00
37.50	4.90	2.37	0.00
40.00	4.90	2.37	0.00
42.50	4.90	2.37	0.00
45.00	4.90	2.37	0.00
47.50	4.90	2.37	0.00
50.00	4.90	2.37	0.00
52.50	4.90	2.37	0.00
55.00	4.90	2.37	0.00
57.50	4.90	2.37	0.00
60.00	4.90	2.37	0.00
62.50	4.90	2.37	0.00
65.00	4.90	2.37	0.00
67.50	4.90	2.37	0.00
70.00	4.90	2.37	0.00
72.50	4.90	2.37	0.00
75.00	4.90	2.37	0.00
77.50	4.90	2.37	0.00
80.00	4.90	2.37	0.00
82.50	4.90	2.37	0.00
85.00	4.90	2.37	0.00
87.50	4.90	2.37	0.00
90.00	4.90	2.37	0.00
92.50	4.90	2.37	0.00
95.00	4.90	2.37	0.00
97.50	4.90	2.37	0.00
100.00	4.90	2.37	0.00
102.50	4.90	2.37	0.00
105.00	4.90	2.37	0.00
107.50	4.90	2.37	0.00
110.00	4.90	2.37	0.00
112.50	4.90	2.37	0.00
115.00	4.90	2.37	0.00
117.50	4.90	2.37	0.00
120.00	4.90	2.37	0.00
122.50	4.90	2.37	0.00
125.00	4.90	2.37	0.00
127.50	4.90	2.37	0.00
130.00	4.90	2.37	0.00
132.50	4.90	2.37	0.00
135.00	4.90	2.37	0.00
137.50	4.90	2.37	0.00
140.00	4.90	2.37	0.00
142.50	4.90	2.37	0.00
145.00	4.90	2.37	0.00
147.50	4.90	2.37	0.00
150.00	4.90	2.37	0.00
152.50	4.90	2.37	0.00
155.00	4.90	2.37	0.00
157.50	4.90	2.37	0.00
160.00	4.90	2.37	0.00
162.50	4.90	2.37	0.00
165.00	4.90	2.37	0.00
167.50	4.90	2.37	0.00
170.00	4.90	2.37	0.00
172.50	4.90	2.37	0.00
175.00	4.90	2.37	0.00
177.50	4.90	2.37	0.00
180.00	4.90	2.37	0.00
182.50	4.90	2.37	0.00
185.00	4.90	2.37	0.00
187.50	4.90	2.37	0.00
190.00	4.90	2.37	0.00
192.50	4.90	2.37	0.00
195.00	4.90	2.37	0.00
197.50	4.90	2.37	0.00
200.00	4.90	2.37	0.00
202.50	4.90	2.37	0.00
205.00	4.90	2.37	0.00
207.50	4.90	2.37	0.00
210.00	4.90	2.37	0.00
212.50	4.90	2.37	0.00
215.00	4.90	2.37	0.00
217.50	4.90	2.37	0.00
220.00	4.90	2.37	0.00
222.50	4.90	2.37	0.00
225.00	4.90	2.37	0.00
227.50	4.90	2.37	0.00
230.00	4.90	2.37	0.00
232.50	4.90	2.37	0.00
235.00	4.90	2.37	0.00
237.50	4.90	2.37	0.00
240.00	4.90	2.37	0.00

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Summary for Subcatchment PDA-1.4I: Subcat PDA-1.4I

Runoff = 0.75 cfs @ 12.09 hrs, Volume= 2,372 cf, Depth= 2.90"
Routed to Pond 12P : Infiltration Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
6,972	74	>75% Grass cover, Good, HSG C
194	80	>75% Grass cover, Good, HSG D
2,658	98	Paved parking, HSG C
0	98	Roofs, HSG C
9,824	81	Weighted Average
7,166	74	72.94% Pervious Area
2,658	98	27.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

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Hydrograph for Subcatchment PDA-1.4I: Subcat PDA-1.4I

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.00	0.00
10.00	0.93	0.07	**0.02**
12.50	3.44	1.66	**0.18**
15.00	4.19	2.28	0.04
17.50	4.50	2.55	0.02
20.00	4.69	2.71	0.01
22.50	**4.83**	**2.84**	0.01
25.00	**4.90**	**2.90**	0.00
27.50	4.90	2.90	0.00
30.00	4.90	2.90	0.00
32.50	4.90	2.90	0.00
35.00	4.90	2.90	0.00
37.50	4.90	2.90	0.00
40.00	4.90	2.90	0.00
42.50	4.90	2.90	0.00
45.00	4.90	2.90	0.00
47.50	4.90	2.90	0.00
50.00	4.90	2.90	0.00
52.50	4.90	2.90	0.00
55.00	4.90	2.90	0.00
57.50	4.90	2.90	0.00
60.00	4.90	2.90	0.00
62.50	4.90	2.90	0.00
65.00	4.90	2.90	0.00
67.50	4.90	2.90	0.00
70.00	4.90	2.90	0.00
72.50	4.90	2.90	0.00
75.00	4.90	2.90	0.00
77.50	4.90	2.90	0.00
80.00	4.90	2.90	0.00
82.50	4.90	2.90	0.00
85.00	4.90	2.90	0.00
87.50	4.90	2.90	0.00
90.00	4.90	2.90	0.00
92.50	4.90	2.90	0.00
95.00	4.90	2.90	0.00
97.50	4.90	2.90	0.00
100.00	4.90	2.90	0.00
102.50	4.90	2.90	0.00
105.00	4.90	2.90	0.00
107.50	4.90	2.90	0.00
110.00	4.90	2.90	0.00
112.50	4.90	2.90	0.00
115.00	4.90	2.90	0.00
117.50	4.90	2.90	0.00
120.00	4.90	2.90	0.00
122.50	4.90	2.90	0.00
125.00	4.90	2.90	0.00
127.50	4.90	2.90	0.00
130.00	4.90	2.90	0.00
132.50	4.90	2.90	0.00
135.00	4.90	2.90	0.00
137.50	4.90	2.90	0.00
140.00	4.90	2.90	0.00
142.50	4.90	2.90	0.00
145.00	4.90	2.90	0.00
147.50	4.90	2.90	0.00
150.00	4.90	2.90	0.00
152.50	4.90	2.90	0.00
155.00	4.90	2.90	0.00
157.50	4.90	2.90	0.00
160.00	4.90	2.90	0.00
162.50	4.90	2.90	0.00
165.00	4.90	2.90	0.00
167.50	4.90	2.90	0.00
170.00	4.90	2.90	0.00
172.50	4.90	2.90	0.00
175.00	4.90	2.90	0.00
177.50	4.90	2.90	0.00
180.00	4.90	2.90	0.00
182.50	4.90	2.90	0.00
185.00	4.90	2.90	0.00
187.50	4.90	2.90	0.00
190.00	4.90	2.90	0.00
192.50	4.90	2.90	0.00
195.00	4.90	2.90	0.00
197.50	4.90	2.90	0.00
200.00	4.90	2.90	0.00
202.50	4.90	2.90	0.00
205.00	4.90	2.90	0.00
207.50	4.90	2.90	0.00
210.00	4.90	2.90	0.00
212.50	4.90	2.90	0.00
215.00	4.90	2.90	0.00
217.50	4.90	2.90	0.00
220.00	4.90	2.90	0.00
222.50	4.90	2.90	0.00
225.00	4.90	2.90	0.00
227.50	4.90	2.90	0.00
230.00	4.90	2.90	0.00
232.50	4.90	2.90	0.00
235.00	4.90	2.90	0.00
237.50	4.90	2.90	0.00
240.00	4.90	2.90	0.00

Summary for Subcatchment PDA-1.4J: Subcat PDA-1.4J

Runoff = 4.26 cfs @ 12.09 hrs, Volume= 13,458 cf, Depth= 2.72"
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
22,085	74	>75% Grass cover, Good, HSG C
32,367	80	>75% Grass cover, Good, HSG D
4,308	98	Paved parking, HSG C
392	98	Paved parking, HSG D
314	98	Unconnected pavement, HSG D
59,466	79	Weighted Average
54,452	78	91.57% Pervious Area
5,014	98	8.43% Impervious Area
314		6.27% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

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Hydrograph for Subcatchment PDA-1.4J: Subcat PDA-1.4J

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.00	0.00
10.00	0.93	0.05	**0.07**
12.50	3.44	1.52	**1.03**
15.00	4.19	2.12	0.21
17.50	4.50	2.38	0.11
20.00	4.69	2.54	0.08
22.50	**4.83**	**2.66**	0.06
25.00	**4.90**	**2.72**	0.00
27.50	4.90	2.72	0.00
30.00	4.90	2.72	0.00
32.50	4.90	2.72	0.00
35.00	4.90	2.72	0.00
37.50	4.90	2.72	0.00
40.00	4.90	2.72	0.00
42.50	4.90	2.72	0.00
45.00	4.90	2.72	0.00
47.50	4.90	2.72	0.00
50.00	4.90	2.72	0.00
52.50	4.90	2.72	0.00
55.00	4.90	2.72	0.00
57.50	4.90	2.72	0.00
60.00	4.90	2.72	0.00
62.50	4.90	2.72	0.00
65.00	4.90	2.72	0.00
67.50	4.90	2.72	0.00
70.00	4.90	2.72	0.00
72.50	4.90	2.72	0.00
75.00	4.90	2.72	0.00
77.50	4.90	2.72	0.00
80.00	4.90	2.72	0.00
82.50	4.90	2.72	0.00
85.00	4.90	2.72	0.00
87.50	4.90	2.72	0.00
90.00	4.90	2.72	0.00
92.50	4.90	2.72	0.00
95.00	4.90	2.72	0.00
97.50	4.90	2.72	0.00
100.00	4.90	2.72	0.00
102.50	4.90	2.72	0.00
105.00	4.90	2.72	0.00
107.50	4.90	2.72	0.00
110.00	4.90	2.72	0.00
112.50	4.90	2.72	0.00
115.00	4.90	2.72	0.00
117.50	4.90	2.72	0.00
120.00	4.90	2.72	0.00
122.50	4.90	2.72	0.00
125.00	4.90	2.72	0.00
127.50	4.90	2.72	0.00
130.00	4.90	2.72	0.00
132.50	4.90	2.72	0.00
135.00	4.90	2.72	0.00
137.50	4.90	2.72	0.00
140.00	4.90	2.72	0.00
142.50	4.90	2.72	0.00
145.00	4.90	2.72	0.00
147.50	4.90	2.72	0.00
150.00	4.90	2.72	0.00
152.50	4.90	2.72	0.00
155.00	4.90	2.72	0.00
157.50	4.90	2.72	0.00
160.00	4.90	2.72	0.00
162.50	4.90	2.72	0.00
165.00	4.90	2.72	0.00
167.50	4.90	2.72	0.00
170.00	4.90	2.72	0.00
172.50	4.90	2.72	0.00
175.00	4.90	2.72	0.00
177.50	4.90	2.72	0.00
180.00	4.90	2.72	0.00
182.50	4.90	2.72	0.00
185.00	4.90	2.72	0.00
187.50	4.90	2.72	0.00
190.00	4.90	2.72	0.00
192.50	4.90	2.72	0.00
195.00	4.90	2.72	0.00
197.50	4.90	2.72	0.00
200.00	4.90	2.72	0.00
202.50	4.90	2.72	0.00
205.00	4.90	2.72	0.00
207.50	4.90	2.72	0.00
210.00	4.90	2.72	0.00
212.50	4.90	2.72	0.00
215.00	4.90	2.72	0.00
217.50	4.90	2.72	0.00
220.00	4.90	2.72	0.00
222.50	4.90	2.72	0.00
225.00	4.90	2.72	0.00
227.50	4.90	2.72	0.00
230.00	4.90	2.72	0.00
232.50	4.90	2.72	0.00
235.00	4.90	2.72	0.00
237.50	4.90	2.72	0.00
240.00	4.90	2.72	0.00

Summary for Subcatchment PDA-1.4K: Subcat PDA-1.4K

Runoff = 1.92 cfs @ 12.09 hrs, Volume= 6,449 cf, Depth= 4.10"
Routed to Pond 9P : Sand Filter 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
3,577	74	>75% Grass cover, Good, HSG C
173	80	>75% Grass cover, Good, HSG D
15,126	98	Paved parking, HSG C
18,876	93	Weighted Average
3,751	74	19.87% Pervious Area
15,126	98	80.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4K: Subcat PDA-1.4K

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.02	0.01
7.50	0.50	0.11	0.03
10.00	0.93	0.39	**0.08**
12.50	3.44	2.68	**0.41**
15.00	4.19	3.40	0.08
17.50	4.50	3.71	0.04
20.00	4.69	3.89	0.03
22.50	**4.83**	**4.03**	0.02
25.00	**4.90**	**4.10**	0.00
27.50	4.90	4.10	0.00
30.00	4.90	4.10	0.00
32.50	4.90	4.10	0.00
35.00	4.90	4.10	0.00
37.50	4.90	4.10	0.00
40.00	4.90	4.10	0.00
42.50	4.90	4.10	0.00
45.00	4.90	4.10	0.00
47.50	4.90	4.10	0.00
50.00	4.90	4.10	0.00
52.50	4.90	4.10	0.00
55.00	4.90	4.10	0.00
57.50	4.90	4.10	0.00
60.00	4.90	4.10	0.00
62.50	4.90	4.10	0.00
65.00	4.90	4.10	0.00
67.50	4.90	4.10	0.00
70.00	4.90	4.10	0.00
72.50	4.90	4.10	0.00
75.00	4.90	4.10	0.00
77.50	4.90	4.10	0.00
80.00	4.90	4.10	0.00
82.50	4.90	4.10	0.00
85.00	4.90	4.10	0.00
87.50	4.90	4.10	0.00
90.00	4.90	4.10	0.00
92.50	4.90	4.10	0.00
95.00	4.90	4.10	0.00
97.50	4.90	4.10	0.00
100.00	4.90	4.10	0.00
102.50	4.90	4.10	0.00
105.00	4.90	4.10	0.00
107.50	4.90	4.10	0.00
110.00	4.90	4.10	0.00
112.50	4.90	4.10	0.00
115.00	4.90	4.10	0.00
117.50	4.90	4.10	0.00
120.00	4.90	4.10	0.00
122.50	4.90	4.10	0.00
125.00	4.90	4.10	0.00
127.50	4.90	4.10	0.00
130.00	4.90	4.10	0.00
132.50	4.90	4.10	0.00
135.00	4.90	4.10	0.00
137.50	4.90	4.10	0.00
140.00	4.90	4.10	0.00
142.50	4.90	4.10	0.00
145.00	4.90	4.10	0.00
147.50	4.90	4.10	0.00
150.00	4.90	4.10	0.00
152.50	4.90	4.10	0.00
155.00	4.90	4.10	0.00
157.50	4.90	4.10	0.00
160.00	4.90	4.10	0.00
162.50	4.90	4.10	0.00
165.00	4.90	4.10	0.00
167.50	4.90	4.10	0.00
170.00	4.90	4.10	0.00
172.50	4.90	4.10	0.00
175.00	4.90	4.10	0.00
177.50	4.90	4.10	0.00
180.00	4.90	4.10	0.00
182.50	4.90	4.10	0.00
185.00	4.90	4.10	0.00
187.50	4.90	4.10	0.00
190.00	4.90	4.10	0.00
192.50	4.90	4.10	0.00
195.00	4.90	4.10	0.00
197.50	4.90	4.10	0.00
200.00	4.90	4.10	0.00
202.50	4.90	4.10	0.00
205.00	4.90	4.10	0.00
207.50	4.90	4.10	0.00
210.00	4.90	4.10	0.00
212.50	4.90	4.10	0.00
215.00	4.90	4.10	0.00
217.50	4.90	4.10	0.00
220.00	4.90	4.10	0.00
222.50	4.90	4.10	0.00
225.00	4.90	4.10	0.00
227.50	4.90	4.10	0.00
230.00	4.90	4.10	0.00
232.50	4.90	4.10	0.00
235.00	4.90	4.10	0.00
237.50	4.90	4.10	0.00
240.00	4.90	4.10	0.00

Summary for Subcatchment PDA-1.4L: Subcat PDA-1.4L

Runoff = 0.82 cfs @ 12.12 hrs, Volume= 2,801 cf, Depth= 2.81"
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
9,069	74	>75% Grass cover, Good, HSG C
2,908	98	Paved parking, HSG C
1	98	Roofs, HSG C
11,978	80	Weighted Average
9,069	74	75.72% Pervious Area
2,909	98	24.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	32	0.0120	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
3.7	43	0.0400	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
8.5	75	Total			

Hydrograph for Subcatchment PDA-1.4L: Subcat PDA-1.4L

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.00	0.00
10.00	0.93	0.06	**0.02**
12.50	3.44	1.59	**0.25**
15.00	4.19	2.20	0.04
17.50	4.50	2.47	0.02
20.00	4.69	2.62	0.02
22.50	**4.83**	**2.75**	0.01
25.00	**4.90**	**2.81**	0.00
27.50	4.90	2.81	0.00
30.00	4.90	2.81	0.00
32.50	4.90	2.81	0.00
35.00	4.90	2.81	0.00
37.50	4.90	2.81	0.00
40.00	4.90	2.81	0.00
42.50	4.90	2.81	0.00
45.00	4.90	2.81	0.00
47.50	4.90	2.81	0.00
50.00	4.90	2.81	0.00
52.50	4.90	2.81	0.00
55.00	4.90	2.81	0.00
57.50	4.90	2.81	0.00
60.00	4.90	2.81	0.00
62.50	4.90	2.81	0.00
65.00	4.90	2.81	0.00
67.50	4.90	2.81	0.00
70.00	4.90	2.81	0.00
72.50	4.90	2.81	0.00
75.00	4.90	2.81	0.00
77.50	4.90	2.81	0.00
80.00	4.90	2.81	0.00
82.50	4.90	2.81	0.00
85.00	4.90	2.81	0.00
87.50	4.90	2.81	0.00
90.00	4.90	2.81	0.00
92.50	4.90	2.81	0.00
95.00	4.90	2.81	0.00
97.50	4.90	2.81	0.00
100.00	4.90	2.81	0.00
102.50	4.90	2.81	0.00
105.00	4.90	2.81	0.00
107.50	4.90	2.81	0.00
110.00	4.90	2.81	0.00
112.50	4.90	2.81	0.00
115.00	4.90	2.81	0.00
117.50	4.90	2.81	0.00
120.00	4.90	2.81	0.00
122.50	4.90	2.81	0.00
125.00	4.90	2.81	0.00
127.50	4.90	2.81	0.00
130.00	4.90	2.81	0.00
132.50	4.90	2.81	0.00
135.00	4.90	2.81	0.00
137.50	4.90	2.81	0.00
140.00	4.90	2.81	0.00
142.50	4.90	2.81	0.00
145.00	4.90	2.81	0.00
147.50	4.90	2.81	0.00
150.00	4.90	2.81	0.00
152.50	4.90	2.81	0.00
155.00	4.90	2.81	0.00
157.50	4.90	2.81	0.00
160.00	4.90	2.81	0.00
162.50	4.90	2.81	0.00
165.00	4.90	2.81	0.00
167.50	4.90	2.81	0.00
170.00	4.90	2.81	0.00
172.50	4.90	2.81	0.00
175.00	4.90	2.81	0.00
177.50	4.90	2.81	0.00
180.00	4.90	2.81	0.00
182.50	4.90	2.81	0.00
185.00	4.90	2.81	0.00
187.50	4.90	2.81	0.00
190.00	4.90	2.81	0.00
192.50	4.90	2.81	0.00
195.00	4.90	2.81	0.00
197.50	4.90	2.81	0.00
200.00	4.90	2.81	0.00
202.50	4.90	2.81	0.00
205.00	4.90	2.81	0.00
207.50	4.90	2.81	0.00
210.00	4.90	2.81	0.00
212.50	4.90	2.81	0.00
215.00	4.90	2.81	0.00
217.50	4.90	2.81	0.00
220.00	4.90	2.81	0.00
222.50	4.90	2.81	0.00
225.00	4.90	2.81	0.00
227.50	4.90	2.81	0.00
230.00	4.90	2.81	0.00
232.50	4.90	2.81	0.00
235.00	4.90	2.81	0.00
237.50	4.90	2.81	0.00
240.00	4.90	2.81	0.00

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Summary for Subcatchment PDA-1.4M: Subcat PDA-1.4M

Runoff = 0.23 cfs @ 12.20 hrs, Volume= 934 cf, Depth= 2.37"
Routed to Pond 9P : Sand Filter 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
4,536	74	>75% Grass cover, Good, HSG C
199	98	Paved parking, HSG C
4,734	75	Weighted Average
4,536	74	95.80% Pervious Area
199	98	4.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
1.6	66	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.3	166	Total			

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Hydrograph for Subcatchment PDA-1.4M: Subcat PDA-1.4M

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.00	0.00
10.00	0.93	0.02	**0.00**
12.50	3.44	1.26	**0.12**
15.00	4.19	1.81	0.02
17.50	4.50	2.05	0.01
20.00	4.69	2.20	0.01
22.50	**4.83**	**2.31**	0.00
25.00	**4.90**	**2.37**	0.00
27.50	4.90	2.37	0.00
30.00	4.90	2.37	0.00
32.50	4.90	2.37	0.00
35.00	4.90	2.37	0.00
37.50	4.90	2.37	0.00
40.00	4.90	2.37	0.00
42.50	4.90	2.37	0.00
45.00	4.90	2.37	0.00
47.50	4.90	2.37	0.00
50.00	4.90	2.37	0.00
52.50	4.90	2.37	0.00
55.00	4.90	2.37	0.00
57.50	4.90	2.37	0.00
60.00	4.90	2.37	0.00
62.50	4.90	2.37	0.00
65.00	4.90	2.37	0.00
67.50	4.90	2.37	0.00
70.00	4.90	2.37	0.00
72.50	4.90	2.37	0.00
75.00	4.90	2.37	0.00
77.50	4.90	2.37	0.00
80.00	4.90	2.37	0.00
82.50	4.90	2.37	0.00
85.00	4.90	2.37	0.00
87.50	4.90	2.37	0.00
90.00	4.90	2.37	0.00
92.50	4.90	2.37	0.00
95.00	4.90	2.37	0.00
97.50	4.90	2.37	0.00
100.00	4.90	2.37	0.00
102.50	4.90	2.37	0.00
105.00	4.90	2.37	0.00
107.50	4.90	2.37	0.00
110.00	4.90	2.37	0.00
112.50	4.90	2.37	0.00
115.00	4.90	2.37	0.00
117.50	4.90	2.37	0.00
120.00	4.90	2.37	0.00
122.50	4.90	2.37	0.00
125.00	4.90	2.37	0.00
127.50	4.90	2.37	0.00
130.00	4.90	2.37	0.00
132.50	4.90	2.37	0.00
135.00	4.90	2.37	0.00
137.50	4.90	2.37	0.00
140.00	4.90	2.37	0.00
142.50	4.90	2.37	0.00
145.00	4.90	2.37	0.00
147.50	4.90	2.37	0.00
150.00	4.90	2.37	0.00
152.50	4.90	2.37	0.00
155.00	4.90	2.37	0.00
157.50	4.90	2.37	0.00
160.00	4.90	2.37	0.00
162.50	4.90	2.37	0.00
165.00	4.90	2.37	0.00
167.50	4.90	2.37	0.00
170.00	4.90	2.37	0.00
172.50	4.90	2.37	0.00
175.00	4.90	2.37	0.00
177.50	4.90	2.37	0.00
180.00	4.90	2.37	0.00
182.50	4.90	2.37	0.00
185.00	4.90	2.37	0.00
187.50	4.90	2.37	0.00
190.00	4.90	2.37	0.00
192.50	4.90	2.37	0.00
195.00	4.90	2.37	0.00
197.50	4.90	2.37	0.00
200.00	4.90	2.37	0.00
202.50	4.90	2.37	0.00
205.00	4.90	2.37	0.00
207.50	4.90	2.37	0.00
210.00	4.90	2.37	0.00
212.50	4.90	2.37	0.00
215.00	4.90	2.37	0.00
217.50	4.90	2.37	0.00
220.00	4.90	2.37	0.00
222.50	4.90	2.37	0.00
225.00	4.90	2.37	0.00
227.50	4.90	2.37	0.00
230.00	4.90	2.37	0.00
232.50	4.90	2.37	0.00
235.00	4.90	2.37	0.00
237.50	4.90	2.37	0.00
240.00	4.90	2.37	0.00

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Summary for Subcatchment PDA-2.1A: Subcat PDA-2.1A

Runoff = 19.82 cfs @ 12.22 hrs, Volume= 84,050 cf, Depth= 2.90"
Routed to Pond 28P : DIV-01

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
244,846	74	>75% Grass cover, Good, HSG C
65	80	>75% Grass cover, Good, HSG D
7,583	87	Dirt roads, HSG C
4,725	96	Gravel surface, HSG C
86,246	98	Paved parking, HSG C
4,565	98	Unconnected pavement, HSG C
107	70	Woods, Good, HSG C
348,138	81	Weighted Average
257,327	75	73.92% Pervious Area
90,810	98	26.08% Impervious Area
4,565		5.03% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
2.5	103	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	66	0.0189	0.96		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.3	269	Total			

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Hydrograph for Subcatchment PDA-2.1A: Subcat PDA-2.1A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.00	0.00
10.00	0.93	0.07	**0.49**
12.50	3.44	1.66	**10.93**
15.00	4.19	2.28	1.35
17.50	4.50	2.55	0.67
20.00	4.69	2.71	0.46
22.50	**4.83**	**2.84**	0.36
25.00	**4.90**	**2.90**	0.00
27.50	4.90	2.90	0.00
30.00	4.90	2.90	0.00
32.50	4.90	2.90	0.00
35.00	4.90	2.90	0.00
37.50	4.90	2.90	0.00
40.00	4.90	2.90	0.00
42.50	4.90	2.90	0.00
45.00	4.90	2.90	0.00
47.50	4.90	2.90	0.00
50.00	4.90	2.90	0.00
52.50	4.90	2.90	0.00
55.00	4.90	2.90	0.00
57.50	4.90	2.90	0.00
60.00	4.90	2.90	0.00
62.50	4.90	2.90	0.00
65.00	4.90	2.90	0.00
67.50	4.90	2.90	0.00
70.00	4.90	2.90	0.00
72.50	4.90	2.90	0.00
75.00	4.90	2.90	0.00
77.50	4.90	2.90	0.00
80.00	4.90	2.90	0.00
82.50	4.90	2.90	0.00
85.00	4.90	2.90	0.00
87.50	4.90	2.90	0.00
90.00	4.90	2.90	0.00
92.50	4.90	2.90	0.00
95.00	4.90	2.90	0.00
97.50	4.90	2.90	0.00
100.00	4.90	2.90	0.00
102.50	4.90	2.90	0.00
105.00	4.90	2.90	0.00
107.50	4.90	2.90	0.00
110.00	4.90	2.90	0.00
112.50	4.90	2.90	0.00
115.00	4.90	2.90	0.00
117.50	4.90	2.90	0.00
120.00	4.90	2.90	0.00
122.50	4.90	2.90	0.00
125.00	4.90	2.90	0.00
127.50	4.90	2.90	0.00
130.00	4.90	2.90	0.00
132.50	4.90	2.90	0.00
135.00	4.90	2.90	0.00
137.50	4.90	2.90	0.00
140.00	4.90	2.90	0.00
142.50	4.90	2.90	0.00
145.00	4.90	2.90	0.00
147.50	4.90	2.90	0.00
150.00	4.90	2.90	0.00
152.50	4.90	2.90	0.00
155.00	4.90	2.90	0.00
157.50	4.90	2.90	0.00
160.00	4.90	2.90	0.00
162.50	4.90	2.90	0.00
165.00	4.90	2.90	0.00
167.50	4.90	2.90	0.00
170.00	4.90	2.90	0.00
172.50	4.90	2.90	0.00
175.00	4.90	2.90	0.00
177.50	4.90	2.90	0.00
180.00	4.90	2.90	0.00
182.50	4.90	2.90	0.00
185.00	4.90	2.90	0.00
187.50	4.90	2.90	0.00
190.00	4.90	2.90	0.00
192.50	4.90	2.90	0.00
195.00	4.90	2.90	0.00
197.50	4.90	2.90	0.00
200.00	4.90	2.90	0.00
202.50	4.90	2.90	0.00
205.00	4.90	2.90	0.00
207.50	4.90	2.90	0.00
210.00	4.90	2.90	0.00
212.50	4.90	2.90	0.00
215.00	4.90	2.90	0.00
217.50	4.90	2.90	0.00
220.00	4.90	2.90	0.00
222.50	4.90	2.90	0.00
225.00	4.90	2.90	0.00
227.50	4.90	2.90	0.00
230.00	4.90	2.90	0.00
232.50	4.90	2.90	0.00
235.00	4.90	2.90	0.00
237.50	4.90	2.90	0.00
240.00	4.90	2.90	0.00

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Summary for Subcatchment PDA-2.1B: Subcat PDA-2.1B

Runoff = 7.16 cfs @ 12.24 hrs, Volume= 31,067 cf, Depth= 2.45"
Routed to Pond 15P : Detention Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
135,152	74	>75% Grass cover, Good, HSG C
9,554	87	Dirt roads, HSG C
4,830	98	Paved parking, HSG C
2,421	98	Unconnected pavement, HSG C
151,957	76	Weighted Average
144,706	75	95.23% Pervious Area
7,251	98	4.77% Impervious Area
2,421		33.39% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.2	23	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.0	123	Total			

Hydrograph for Subcatchment PDA-2.1B: Subcat PDA-2.1B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.00	0.00
10.00	0.93	0.03	**0.11**
12.50	3.44	1.32	**4.29**
15.00	4.19	1.88	0.54
17.50	4.50	2.13	0.27
20.00	4.69	2.28	0.19
22.50	**4.83**	**2.40**	0.15
25.00	**4.90**	**2.45**	0.00
27.50	4.90	2.45	0.00
30.00	4.90	2.45	0.00
32.50	4.90	2.45	0.00
35.00	4.90	2.45	0.00
37.50	4.90	2.45	0.00
40.00	4.90	2.45	0.00
42.50	4.90	2.45	0.00
45.00	4.90	2.45	0.00
47.50	4.90	2.45	0.00
50.00	4.90	2.45	0.00
52.50	4.90	2.45	0.00
55.00	4.90	2.45	0.00
57.50	4.90	2.45	0.00
60.00	4.90	2.45	0.00
62.50	4.90	2.45	0.00
65.00	4.90	2.45	0.00
67.50	4.90	2.45	0.00
70.00	4.90	2.45	0.00
72.50	4.90	2.45	0.00
75.00	4.90	2.45	0.00
77.50	4.90	2.45	0.00
80.00	4.90	2.45	0.00
82.50	4.90	2.45	0.00
85.00	4.90	2.45	0.00
87.50	4.90	2.45	0.00
90.00	4.90	2.45	0.00
92.50	4.90	2.45	0.00
95.00	4.90	2.45	0.00
97.50	4.90	2.45	0.00
100.00	4.90	2.45	0.00
102.50	4.90	2.45	0.00
105.00	4.90	2.45	0.00
107.50	4.90	2.45	0.00
110.00	4.90	2.45	0.00
112.50	4.90	2.45	0.00
115.00	4.90	2.45	0.00
117.50	4.90	2.45	0.00
120.00	4.90	2.45	0.00
122.50	4.90	2.45	0.00
125.00	4.90	2.45	0.00
127.50	4.90	2.45	0.00
130.00	4.90	2.45	0.00
132.50	4.90	2.45	0.00
135.00	4.90	2.45	0.00
137.50	4.90	2.45	0.00
140.00	4.90	2.45	0.00
142.50	4.90	2.45	0.00
145.00	4.90	2.45	0.00
147.50	4.90	2.45	0.00
150.00	4.90	2.45	0.00
152.50	4.90	2.45	0.00
155.00	4.90	2.45	0.00
157.50	4.90	2.45	0.00
160.00	4.90	2.45	0.00
162.50	4.90	2.45	0.00
165.00	4.90	2.45	0.00
167.50	4.90	2.45	0.00
170.00	4.90	2.45	0.00
172.50	4.90	2.45	0.00
175.00	4.90	2.45	0.00
177.50	4.90	2.45	0.00
180.00	4.90	2.45	0.00
182.50	4.90	2.45	0.00
185.00	4.90	2.45	0.00
187.50	4.90	2.45	0.00
190.00	4.90	2.45	0.00
192.50	4.90	2.45	0.00
195.00	4.90	2.45	0.00
197.50	4.90	2.45	0.00
200.00	4.90	2.45	0.00
202.50	4.90	2.45	0.00
205.00	4.90	2.45	0.00
207.50	4.90	2.45	0.00
210.00	4.90	2.45	0.00
212.50	4.90	2.45	0.00
215.00	4.90	2.45	0.00
217.50	4.90	2.45	0.00
220.00	4.90	2.45	0.00
222.50	4.90	2.45	0.00
225.00	4.90	2.45	0.00
227.50	4.90	2.45	0.00
230.00	4.90	2.45	0.00
232.50	4.90	2.45	0.00
235.00	4.90	2.45	0.00
237.50	4.90	2.45	0.00
240.00	4.90	2.45	0.00

Summary for Subcatchment PDA-2.2A: Subcat PDA-2.2A

Runoff = 9.33 cfs @ 12.18 hrs, Volume= 36,487 cf, Depth= 2.81"
Routed to Link 7L : DP 2.2 - Silver Creek West Branch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
115,003	74	>75% Grass cover, Good, HSG C
36,719	98	Paved parking, HSG C
4,050	98	Unconnected pavement, HSG C
279	70	Woods, Good, HSG C
156,051	80	Weighted Average
115,282	74	73.87% Pervious Area
40,769	98	26.13% Impervious Area
4,050		9.93% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.9					**Direct Entry, PER EDA-2.2A**

Hydrograph for Subcatchment PDA-2.2A: Subcat PDA-2.2A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.00	0.00
5.00	0.28	0.00	0.00
7.50	0.50	0.00	0.00
10.00	0.93	0.06	**0.20**
12.50	3.44	1.59	**4.10**
15.00	4.19	2.20	0.59
17.50	4.50	2.47	0.29
20.00	4.69	2.62	0.20
22.50	**4.83**	**2.75**	0.16
25.00	**4.90**	**2.81**	0.00
27.50	4.90	2.81	0.00
30.00	4.90	2.81	0.00
32.50	4.90	2.81	0.00
35.00	4.90	2.81	0.00
37.50	4.90	2.81	0.00
40.00	4.90	2.81	0.00
42.50	4.90	2.81	0.00
45.00	4.90	2.81	0.00
47.50	4.90	2.81	0.00
50.00	4.90	2.81	0.00
52.50	4.90	2.81	0.00
55.00	4.90	2.81	0.00
57.50	4.90	2.81	0.00
60.00	4.90	2.81	0.00
62.50	4.90	2.81	0.00
65.00	4.90	2.81	0.00
67.50	4.90	2.81	0.00
70.00	4.90	2.81	0.00
72.50	4.90	2.81	0.00
75.00	4.90	2.81	0.00
77.50	4.90	2.81	0.00
80.00	4.90	2.81	0.00
82.50	4.90	2.81	0.00
85.00	4.90	2.81	0.00
87.50	4.90	2.81	0.00
90.00	4.90	2.81	0.00
92.50	4.90	2.81	0.00
95.00	4.90	2.81	0.00
97.50	4.90	2.81	0.00
100.00	4.90	2.81	0.00
102.50	4.90	2.81	0.00
105.00	4.90	2.81	0.00
107.50	4.90	2.81	0.00
110.00	4.90	2.81	0.00
112.50	4.90	2.81	0.00
115.00	4.90	2.81	0.00
117.50	4.90	2.81	0.00
120.00	4.90	2.81	0.00
122.50	4.90	2.81	0.00
125.00	4.90	2.81	0.00
127.50	4.90	2.81	0.00
130.00	4.90	2.81	0.00
132.50	4.90	2.81	0.00
135.00	4.90	2.81	0.00
137.50	4.90	2.81	0.00
140.00	4.90	2.81	0.00
142.50	4.90	2.81	0.00
145.00	4.90	2.81	0.00
147.50	4.90	2.81	0.00
150.00	4.90	2.81	0.00
152.50	4.90	2.81	0.00
155.00	4.90	2.81	0.00
157.50	4.90	2.81	0.00
160.00	4.90	2.81	0.00
162.50	4.90	2.81	0.00
165.00	4.90	2.81	0.00
167.50	4.90	2.81	0.00
170.00	4.90	2.81	0.00
172.50	4.90	2.81	0.00
175.00	4.90	2.81	0.00
177.50	4.90	2.81	0.00
180.00	4.90	2.81	0.00
182.50	4.90	2.81	0.00
185.00	4.90	2.81	0.00
187.50	4.90	2.81	0.00
190.00	4.90	2.81	0.00
192.50	4.90	2.81	0.00
195.00	4.90	2.81	0.00
197.50	4.90	2.81	0.00
200.00	4.90	2.81	0.00
202.50	4.90	2.81	0.00
205.00	4.90	2.81	0.00
207.50	4.90	2.81	0.00
210.00	4.90	2.81	0.00
212.50	4.90	2.81	0.00
215.00	4.90	2.81	0.00
217.50	4.90	2.81	0.00
220.00	4.90	2.81	0.00
222.50	4.90	2.81	0.00
225.00	4.90	2.81	0.00
227.50	4.90	2.81	0.00
230.00	4.90	2.81	0.00
232.50	4.90	2.81	0.00
235.00	4.90	2.81	0.00
237.50	4.90	2.81	0.00
240.00	4.90	2.81	0.00

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Summary for Subcatchment PDA-2.2B: Subcat PDA-2.2B

Runoff = 4.22 cfs @ 12.58 hrs, Volume= 26,928 cf, Depth= 2.12"
Routed to Link 6L : DP 2.1 - West Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
51,518	74	>75% Grass cover, Good, HSG C
2,379	98	Paved parking, HSG C
98,443	70	Woods, Good, HSG C
152,340	72	Weighted Average
149,961	71	98.44% Pervious Area
2,379	98	1.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.9	100	0.0120	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
14.1	465	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.0	565	Total			

Hydrograph for Subcatchment PDA-2.2B: Subcat PDA-2.2B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	4.90	2.12	0.00
2.50	0.12	0.00	0.00	130.00	4.90	2.12	0.00
5.00	0.28	0.00	0.00	132.50	4.90	2.12	0.00
7.50	0.50	0.00	0.00	135.00	4.90	2.12	0.00
10.00	0.93	0.01	0.01	137.50	4.90	2.12	0.00
12.50	3.44	1.08	**4.11**	140.00	4.90	2.12	0.00
15.00	4.19	1.59	**0.55**	142.50	4.90	2.12	0.00
17.50	4.50	1.82	0.27	145.00	4.90	2.12	0.00
20.00	4.69	1.96	0.18	147.50	4.90	2.12	0.00
22.50	**4.83**	**2.07**	0.14	150.00	4.90	2.12	0.00
25.00	**4.90**	**2.12**	0.01	152.50	4.90	2.12	0.00
27.50	4.90	2.12	0.00	155.00	4.90	2.12	0.00
30.00	4.90	2.12	0.00	157.50	4.90	2.12	0.00
32.50	4.90	2.12	0.00	160.00	4.90	2.12	0.00
35.00	4.90	2.12	0.00	162.50	4.90	2.12	0.00
37.50	4.90	2.12	0.00	165.00	4.90	2.12	0.00
40.00	4.90	2.12	0.00	167.50	4.90	2.12	0.00
42.50	4.90	2.12	0.00	170.00	4.90	2.12	0.00
45.00	4.90	2.12	0.00	172.50	4.90	2.12	0.00
47.50	4.90	2.12	0.00	175.00	4.90	2.12	0.00
50.00	4.90	2.12	0.00	177.50	4.90	2.12	0.00
52.50	4.90	2.12	0.00	180.00	4.90	2.12	0.00
55.00	4.90	2.12	0.00	182.50	4.90	2.12	0.00
57.50	4.90	2.12	0.00	185.00	4.90	2.12	0.00
60.00	4.90	2.12	0.00	187.50	4.90	2.12	0.00
62.50	4.90	2.12	0.00	190.00	4.90	2.12	0.00
65.00	4.90	2.12	0.00	192.50	4.90	2.12	0.00
67.50	4.90	2.12	0.00	195.00	4.90	2.12	0.00
70.00	4.90	2.12	0.00	197.50	4.90	2.12	0.00
72.50	4.90	2.12	0.00	200.00	4.90	2.12	0.00
75.00	4.90	2.12	0.00	202.50	4.90	2.12	0.00
77.50	4.90	2.12	0.00	205.00	4.90	2.12	0.00
80.00	4.90	2.12	0.00	207.50	4.90	2.12	0.00
82.50	4.90	2.12	0.00	210.00	4.90	2.12	0.00
85.00	4.90	2.12	0.00	212.50	4.90	2.12	0.00
87.50	4.90	2.12	0.00	215.00	4.90	2.12	0.00
90.00	4.90	2.12	0.00	217.50	4.90	2.12	0.00
92.50	4.90	2.12	0.00	220.00	4.90	2.12	0.00
95.00	4.90	2.12	0.00	222.50	4.90	2.12	0.00
97.50	4.90	2.12	0.00	225.00	4.90	2.12	0.00
100.00	4.90	2.12	0.00	227.50	4.90	2.12	0.00
102.50	4.90	2.12	0.00	230.00	4.90	2.12	0.00
105.00	4.90	2.12	0.00	232.50	4.90	2.12	0.00
107.50	4.90	2.12	0.00	235.00	4.90	2.12	0.00
110.00	4.90	2.12	0.00	237.50	4.90	2.12	0.00
112.50	4.90	2.12	0.00	240.00	4.90	2.12	0.00
115.00	4.90	2.12	0.00				
117.50	4.90	2.12	0.00				
120.00	4.90	2.12	0.00				
122.50	4.90	2.12	0.00				
125.00	4.90	2.12	0.00				

Summary for Subcatchment PDA-2.2C.a: Subcat PDA-2.2C.a

Runoff = 9.74 cfs @ 12.09 hrs, Volume= 35,236 cf, Depth= 4.66"
Routed to Pond 17P : Track and Field- stone base

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
90,671	98	Paved parking, HSG C
90,671	98	Weighted Average
0	74	0.00% Pervious Area
90,671	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-2.2C.a: Subcat PDA-2.2C.a

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	127.50	4.90	4.66	0.00
2.50	0.12	0.02	0.05	130.00	4.90	4.66	0.00
5.00	0.28	0.13	0.12	132.50	4.90	4.66	0.00
7.50	0.50	0.32	0.21	135.00	4.90	4.66	0.00
10.00	0.93	0.72	**0.47**	137.50	4.90	4.66	0.00
12.50	3.44	3.21	**2.06**	140.00	4.90	4.66	0.00
15.00	4.19	3.95	0.40	142.50	4.90	4.66	0.00
17.50	4.50	4.27	0.19	145.00	4.90	4.66	0.00
20.00	4.69	4.45	0.13	147.50	4.90	4.66	0.00
22.50	**4.83**	**4.59**	0.11	150.00	4.90	4.66	0.00
25.00	**4.90**	**4.66**	0.00	152.50	4.90	4.66	0.00
27.50	4.90	4.66	0.00	155.00	4.90	4.66	0.00
30.00	4.90	4.66	0.00	157.50	4.90	4.66	0.00
32.50	4.90	4.66	0.00	160.00	4.90	4.66	0.00
35.00	4.90	4.66	0.00	162.50	4.90	4.66	0.00
37.50	4.90	4.66	0.00	165.00	4.90	4.66	0.00
40.00	4.90	4.66	0.00	167.50	4.90	4.66	0.00
42.50	4.90	4.66	0.00	170.00	4.90	4.66	0.00
45.00	4.90	4.66	0.00	172.50	4.90	4.66	0.00
47.50	4.90	4.66	0.00	175.00	4.90	4.66	0.00
50.00	4.90	4.66	0.00	177.50	4.90	4.66	0.00
52.50	4.90	4.66	0.00	180.00	4.90	4.66	0.00
55.00	4.90	4.66	0.00	182.50	4.90	4.66	0.00
57.50	4.90	4.66	0.00	185.00	4.90	4.66	0.00
60.00	4.90	4.66	0.00	187.50	4.90	4.66	0.00
62.50	4.90	4.66	0.00	190.00	4.90	4.66	0.00
65.00	4.90	4.66	0.00	192.50	4.90	4.66	0.00
67.50	4.90	4.66	0.00	195.00	4.90	4.66	0.00
70.00	4.90	4.66	0.00	197.50	4.90	4.66	0.00
72.50	4.90	4.66	0.00	200.00	4.90	4.66	0.00
75.00	4.90	4.66	0.00	202.50	4.90	4.66	0.00
77.50	4.90	4.66	0.00	205.00	4.90	4.66	0.00
80.00	4.90	4.66	0.00	207.50	4.90	4.66	0.00
82.50	4.90	4.66	0.00	210.00	4.90	4.66	0.00
85.00	4.90	4.66	0.00	212.50	4.90	4.66	0.00
87.50	4.90	4.66	0.00	215.00	4.90	4.66	0.00
90.00	4.90	4.66	0.00	217.50	4.90	4.66	0.00
92.50	4.90	4.66	0.00	220.00	4.90	4.66	0.00
95.00	4.90	4.66	0.00	222.50	4.90	4.66	0.00
97.50	4.90	4.66	0.00	225.00	4.90	4.66	0.00
100.00	4.90	4.66	0.00	227.50	4.90	4.66	0.00
102.50	4.90	4.66	0.00	230.00	4.90	4.66	0.00
105.00	4.90	4.66	0.00	232.50	4.90	4.66	0.00
107.50	4.90	4.66	0.00	235.00	4.90	4.66	0.00
110.00	4.90	4.66	0.00	237.50	4.90	4.66	0.00
112.50	4.90	4.66	0.00	240.00	4.90	4.66	0.00
115.00	4.90	4.66	0.00				
117.50	4.90	4.66	0.00				
120.00	4.90	4.66	0.00				
122.50	4.90	4.66	0.00				
125.00	4.90	4.66	0.00				

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Summary for Subcatchment PDA-2.2C.b: Subcat PDA-2.2C.b

Runoff = 6.57 cfs @ 12.09 hrs, Volume= 23,777 cf, Depth= 4.66"
Routed to Pond 35P : Track and Field-manifold

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
4	74	>75% Grass cover, Good, HSG C
61,181	98	Paved parking, HSG C
61,186	98	Weighted Average
4	74	0.01% Pervious Area
61,181	98	99.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-2.2C.b: Subcat PDA-2.2C.b

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.02	0.04
5.00	0.28	0.13	0.08
7.50	0.50	0.32	0.14
10.00	0.93	0.72	**0.32**
12.50	3.44	3.21	**1.39**
15.00	4.19	3.95	0.27
17.50	4.50	4.27	0.13
20.00	4.69	4.45	0.09
22.50	**4.83**	**4.59**	0.07
25.00	**4.90**	**4.66**	0.00
27.50	4.90	4.66	0.00
30.00	4.90	4.66	0.00
32.50	4.90	4.66	0.00
35.00	4.90	4.66	0.00
37.50	4.90	4.66	0.00
40.00	4.90	4.66	0.00
42.50	4.90	4.66	0.00
45.00	4.90	4.66	0.00
47.50	4.90	4.66	0.00
50.00	4.90	4.66	0.00
52.50	4.90	4.66	0.00
55.00	4.90	4.66	0.00
57.50	4.90	4.66	0.00
60.00	4.90	4.66	0.00
62.50	4.90	4.66	0.00
65.00	4.90	4.66	0.00
67.50	4.90	4.66	0.00
70.00	4.90	4.66	0.00
72.50	4.90	4.66	0.00
75.00	4.90	4.66	0.00
77.50	4.90	4.66	0.00
80.00	4.90	4.66	0.00
82.50	4.90	4.66	0.00
85.00	4.90	4.66	0.00
87.50	4.90	4.66	0.00
90.00	4.90	4.66	0.00
92.50	4.90	4.66	0.00
95.00	4.90	4.66	0.00
97.50	4.90	4.66	0.00
100.00	4.90	4.66	0.00
102.50	4.90	4.66	0.00
105.00	4.90	4.66	0.00
107.50	4.90	4.66	0.00
110.00	4.90	4.66	0.00
112.50	4.90	4.66	0.00
115.00	4.90	4.66	0.00
117.50	4.90	4.66	0.00
120.00	4.90	4.66	0.00
122.50	4.90	4.66	0.00
125.00	4.90	4.66	0.00
127.50	4.90	4.66	0.00
130.00	4.90	4.66	0.00
132.50	4.90	4.66	0.00
135.00	4.90	4.66	0.00
137.50	4.90	4.66	0.00
140.00	4.90	4.66	0.00
142.50	4.90	4.66	0.00
145.00	4.90	4.66	0.00
147.50	4.90	4.66	0.00
150.00	4.90	4.66	0.00
152.50	4.90	4.66	0.00
155.00	4.90	4.66	0.00
157.50	4.90	4.66	0.00
160.00	4.90	4.66	0.00
162.50	4.90	4.66	0.00
165.00	4.90	4.66	0.00
167.50	4.90	4.66	0.00
170.00	4.90	4.66	0.00
172.50	4.90	4.66	0.00
175.00	4.90	4.66	0.00
177.50	4.90	4.66	0.00
180.00	4.90	4.66	0.00
182.50	4.90	4.66	0.00
185.00	4.90	4.66	0.00
187.50	4.90	4.66	0.00
190.00	4.90	4.66	0.00
192.50	4.90	4.66	0.00
195.00	4.90	4.66	0.00
197.50	4.90	4.66	0.00
200.00	4.90	4.66	0.00
202.50	4.90	4.66	0.00
205.00	4.90	4.66	0.00
207.50	4.90	4.66	0.00
210.00	4.90	4.66	0.00
212.50	4.90	4.66	0.00
215.00	4.90	4.66	0.00
217.50	4.90	4.66	0.00
220.00	4.90	4.66	0.00
222.50	4.90	4.66	0.00
225.00	4.90	4.66	0.00
227.50	4.90	4.66	0.00
230.00	4.90	4.66	0.00
232.50	4.90	4.66	0.00
235.00	4.90	4.66	0.00
237.50	4.90	4.66	0.00
240.00	4.90	4.66	0.00

Summary for Subcatchment PDA-ROOF1.3: Subcat PDA-ROOF1.3

Runoff = 1.05 cfs @ 12.09 hrs, Volume= 3,801 cf, Depth= 4.66"
Routed to Pond 2P : Bio 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
0	98	Paved parking, HSG C
9,782	98	Roofs, HSG C
9,782	98	Weighted Average
0	74	0.00% Pervious Area
9,782	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-ROOF1.3: Subcat PDA-ROOF1.3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.02	0.01
5.00	0.28	0.13	0.01
7.50	0.50	0.32	0.02
10.00	0.93	0.72	**0.05**
12.50	3.44	3.21	**0.22**
15.00	4.19	3.95	0.04
17.50	4.50	4.27	0.02
20.00	4.69	4.45	0.01
22.50	**4.83**	**4.59**	0.01
25.00	**4.90**	**4.66**	0.00
27.50	4.90	4.66	0.00
30.00	4.90	4.66	0.00
32.50	4.90	4.66	0.00
35.00	4.90	4.66	0.00
37.50	4.90	4.66	0.00
40.00	4.90	4.66	0.00
42.50	4.90	4.66	0.00
45.00	4.90	4.66	0.00
47.50	4.90	4.66	0.00
50.00	4.90	4.66	0.00
52.50	4.90	4.66	0.00
55.00	4.90	4.66	0.00
57.50	4.90	4.66	0.00
60.00	4.90	4.66	0.00
62.50	4.90	4.66	0.00
65.00	4.90	4.66	0.00
67.50	4.90	4.66	0.00
70.00	4.90	4.66	0.00
72.50	4.90	4.66	0.00
75.00	4.90	4.66	0.00
77.50	4.90	4.66	0.00
80.00	4.90	4.66	0.00
82.50	4.90	4.66	0.00
85.00	4.90	4.66	0.00
87.50	4.90	4.66	0.00
90.00	4.90	4.66	0.00
92.50	4.90	4.66	0.00
95.00	4.90	4.66	0.00
97.50	4.90	4.66	0.00
100.00	4.90	4.66	0.00
102.50	4.90	4.66	0.00
105.00	4.90	4.66	0.00
107.50	4.90	4.66	0.00
110.00	4.90	4.66	0.00
112.50	4.90	4.66	0.00
115.00	4.90	4.66	0.00
117.50	4.90	4.66	0.00
120.00	4.90	4.66	0.00
122.50	4.90	4.66	0.00
125.00	4.90	4.66	0.00
127.50	4.90	4.66	0.00
130.00	4.90	4.66	0.00
132.50	4.90	4.66	0.00
135.00	4.90	4.66	0.00
137.50	4.90	4.66	0.00
140.00	4.90	4.66	0.00
142.50	4.90	4.66	0.00
145.00	4.90	4.66	0.00
147.50	4.90	4.66	0.00
150.00	4.90	4.66	0.00
152.50	4.90	4.66	0.00
155.00	4.90	4.66	0.00
157.50	4.90	4.66	0.00
160.00	4.90	4.66	0.00
162.50	4.90	4.66	0.00
165.00	4.90	4.66	0.00
167.50	4.90	4.66	0.00
170.00	4.90	4.66	0.00
172.50	4.90	4.66	0.00
175.00	4.90	4.66	0.00
177.50	4.90	4.66	0.00
180.00	4.90	4.66	0.00
182.50	4.90	4.66	0.00
185.00	4.90	4.66	0.00
187.50	4.90	4.66	0.00
190.00	4.90	4.66	0.00
192.50	4.90	4.66	0.00
195.00	4.90	4.66	0.00
197.50	4.90	4.66	0.00
200.00	4.90	4.66	0.00
202.50	4.90	4.66	0.00
205.00	4.90	4.66	0.00
207.50	4.90	4.66	0.00
210.00	4.90	4.66	0.00
212.50	4.90	4.66	0.00
215.00	4.90	4.66	0.00
217.50	4.90	4.66	0.00
220.00	4.90	4.66	0.00
222.50	4.90	4.66	0.00
225.00	4.90	4.66	0.00
227.50	4.90	4.66	0.00
230.00	4.90	4.66	0.00
232.50	4.90	4.66	0.00
235.00	4.90	4.66	0.00
237.50	4.90	4.66	0.00
240.00	4.90	4.66	0.00

Summary for Subcatchment PDA-ROOF1.4: Subcat PDA-ROOF1.4

Runoff = 6.25 cfs @ 12.09 hrs, Volume= 22,621 cf, Depth= 4.66"
Routed to Pond 12P : Infiltration Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
1	98	Paved parking, HSG C
58,209	98	Roofs, HSG C
58,210	98	Weighted Average
0	74	0.00% Pervious Area
58,210	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

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Hydrograph for Subcatchment PDA-ROOF1.4: Subcat PDA-ROOF1.4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.02	0.03
5.00	0.28	0.13	0.07
7.50	0.50	0.32	0.14
10.00	0.93	0.72	**0.30**
12.50	3.44	3.21	**1.32**
15.00	4.19	3.95	0.25
17.50	4.50	4.27	0.12
20.00	4.69	4.45	0.09
22.50	**4.83**	**4.59**	0.07
25.00	**4.90**	**4.66**	0.00
27.50	4.90	4.66	0.00
30.00	4.90	4.66	0.00
32.50	4.90	4.66	0.00
35.00	4.90	4.66	0.00
37.50	4.90	4.66	0.00
40.00	4.90	4.66	0.00
42.50	4.90	4.66	0.00
45.00	4.90	4.66	0.00
47.50	4.90	4.66	0.00
50.00	4.90	4.66	0.00
52.50	4.90	4.66	0.00
55.00	4.90	4.66	0.00
57.50	4.90	4.66	0.00
60.00	4.90	4.66	0.00
62.50	4.90	4.66	0.00
65.00	4.90	4.66	0.00
67.50	4.90	4.66	0.00
70.00	4.90	4.66	0.00
72.50	4.90	4.66	0.00
75.00	4.90	4.66	0.00
77.50	4.90	4.66	0.00
80.00	4.90	4.66	0.00
82.50	4.90	4.66	0.00
85.00	4.90	4.66	0.00
87.50	4.90	4.66	0.00
90.00	4.90	4.66	0.00
92.50	4.90	4.66	0.00
95.00	4.90	4.66	0.00
97.50	4.90	4.66	0.00
100.00	4.90	4.66	0.00
102.50	4.90	4.66	0.00
105.00	4.90	4.66	0.00
107.50	4.90	4.66	0.00
110.00	4.90	4.66	0.00
112.50	4.90	4.66	0.00
115.00	4.90	4.66	0.00
117.50	4.90	4.66	0.00
120.00	4.90	4.66	0.00
122.50	4.90	4.66	0.00
125.00	4.90	4.66	0.00
127.50	4.90	4.66	0.00
130.00	4.90	4.66	0.00
132.50	4.90	4.66	0.00
135.00	4.90	4.66	0.00
137.50	4.90	4.66	0.00
140.00	4.90	4.66	0.00
142.50	4.90	4.66	0.00
145.00	4.90	4.66	0.00
147.50	4.90	4.66	0.00
150.00	4.90	4.66	0.00
152.50	4.90	4.66	0.00
155.00	4.90	4.66	0.00
157.50	4.90	4.66	0.00
160.00	4.90	4.66	0.00
162.50	4.90	4.66	0.00
165.00	4.90	4.66	0.00
167.50	4.90	4.66	0.00
170.00	4.90	4.66	0.00
172.50	4.90	4.66	0.00
175.00	4.90	4.66	0.00
177.50	4.90	4.66	0.00
180.00	4.90	4.66	0.00
182.50	4.90	4.66	0.00
185.00	4.90	4.66	0.00
187.50	4.90	4.66	0.00
190.00	4.90	4.66	0.00
192.50	4.90	4.66	0.00
195.00	4.90	4.66	0.00
197.50	4.90	4.66	0.00
200.00	4.90	4.66	0.00
202.50	4.90	4.66	0.00
205.00	4.90	4.66	0.00
207.50	4.90	4.66	0.00
210.00	4.90	4.66	0.00
212.50	4.90	4.66	0.00
215.00	4.90	4.66	0.00
217.50	4.90	4.66	0.00
220.00	4.90	4.66	0.00
222.50	4.90	4.66	0.00
225.00	4.90	4.66	0.00
227.50	4.90	4.66	0.00
230.00	4.90	4.66	0.00
232.50	4.90	4.66	0.00
235.00	4.90	4.66	0.00
237.50	4.90	4.66	0.00
240.00	4.90	4.66	0.00

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Summary for Subcatchment PDA-ROOF2.1: Subcat PDA-ROOF2.1

Runoff = 3.34 cfs @ 12.09 hrs, Volume= 12,081 cf, Depth= 4.66"
Routed to Pond 28P : DIV-01

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.90"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
31,087	98	Roofs, HSG C
31,087	98	Weighted Average
0	74	0.00% Pervious Area
31,087	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-ROOF2.1: Subcat PDA-ROOF2.1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.12	0.02	0.02
5.00	0.28	0.13	0.04
7.50	0.50	0.32	0.07
10.00	0.93	0.72	**0.16**
12.50	3.44	3.21	**0.70**
15.00	4.19	3.95	0.14
17.50	4.50	4.27	0.07
20.00	4.69	4.45	0.05
22.50	**4.83**	**4.59**	0.04
25.00	**4.90**	**4.66**	0.00
27.50	4.90	4.66	0.00
30.00	4.90	4.66	0.00
32.50	4.90	4.66	0.00
35.00	4.90	4.66	0.00
37.50	4.90	4.66	0.00
40.00	4.90	4.66	0.00
42.50	4.90	4.66	0.00
45.00	4.90	4.66	0.00
47.50	4.90	4.66	0.00
50.00	4.90	4.66	0.00
52.50	4.90	4.66	0.00
55.00	4.90	4.66	0.00
57.50	4.90	4.66	0.00
60.00	4.90	4.66	0.00
62.50	4.90	4.66	0.00
65.00	4.90	4.66	0.00
67.50	4.90	4.66	0.00
70.00	4.90	4.66	0.00
72.50	4.90	4.66	0.00
75.00	4.90	4.66	0.00
77.50	4.90	4.66	0.00
80.00	4.90	4.66	0.00
82.50	4.90	4.66	0.00
85.00	4.90	4.66	0.00
87.50	4.90	4.66	0.00
90.00	4.90	4.66	0.00
92.50	4.90	4.66	0.00
95.00	4.90	4.66	0.00
97.50	4.90	4.66	0.00
100.00	4.90	4.66	0.00
102.50	4.90	4.66	0.00
105.00	4.90	4.66	0.00
107.50	4.90	4.66	0.00
110.00	4.90	4.66	0.00
112.50	4.90	4.66	0.00
115.00	4.90	4.66	0.00
117.50	4.90	4.66	0.00
120.00	4.90	4.66	0.00
122.50	4.90	4.66	0.00
125.00	4.90	4.66	0.00
127.50	4.90	4.66	0.00
130.00	4.90	4.66	0.00
132.50	4.90	4.66	0.00
135.00	4.90	4.66	0.00
137.50	4.90	4.66	0.00
140.00	4.90	4.66	0.00
142.50	4.90	4.66	0.00
145.00	4.90	4.66	0.00
147.50	4.90	4.66	0.00
150.00	4.90	4.66	0.00
152.50	4.90	4.66	0.00
155.00	4.90	4.66	0.00
157.50	4.90	4.66	0.00
160.00	4.90	4.66	0.00
162.50	4.90	4.66	0.00
165.00	4.90	4.66	0.00
167.50	4.90	4.66	0.00
170.00	4.90	4.66	0.00
172.50	4.90	4.66	0.00
175.00	4.90	4.66	0.00
177.50	4.90	4.66	0.00
180.00	4.90	4.66	0.00
182.50	4.90	4.66	0.00
185.00	4.90	4.66	0.00
187.50	4.90	4.66	0.00
190.00	4.90	4.66	0.00
192.50	4.90	4.66	0.00
195.00	4.90	4.66	0.00
197.50	4.90	4.66	0.00
200.00	4.90	4.66	0.00
202.50	4.90	4.66	0.00
205.00	4.90	4.66	0.00
207.50	4.90	4.66	0.00
210.00	4.90	4.66	0.00
212.50	4.90	4.66	0.00
215.00	4.90	4.66	0.00
217.50	4.90	4.66	0.00
220.00	4.90	4.66	0.00
222.50	4.90	4.66	0.00
225.00	4.90	4.66	0.00
227.50	4.90	4.66	0.00
230.00	4.90	4.66	0.00
232.50	4.90	4.66	0.00
235.00	4.90	4.66	0.00
237.50	4.90	4.66	0.00
240.00	4.90	4.66	0.00

Summary for Pond 1P: Bio 4

Inflow Area = 16,850 sf, 41.68% Impervious, Inflow Depth = 3.18" for 10-year event
Inflow = 1.37 cfs @ 12.10 hrs, Volume= 4,464 cf
Outflow = 1.57 cfs @ 12.12 hrs, Volume= 4,464 cf, Atten= 0%, Lag= 1.1 min
Discarded = 0.01 cfs @ 12.11 hrs, Volume= 1,489 cf
Primary = 1.56 cfs @ 12.12 hrs, Volume= 2,975 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 60.40' @ 12.11 hrs Surf.Area= 1,022 sf Storage= 1,240 cf

Plug-Flow detention time= 691.2 min calculated for 4,464 cf (100% of inflow)
Center-of-Mass det. time= 691.2 min (1,503.2 - 812.1)

Volume	Invert	Avail.Storage	Storage Description
#1	56.79'	3,573 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.79	724	0.0	0	0
56.80	724	33.0	2	2
59.79	724	33.0	714	717
59.80	724	100.0	7	724
60.00	809	100.0	153	877
61.00	1,346	100.0	1,078	1,955
62.00	1,891	100.0	1,619	3,573

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.79'	**0.270 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#2	Primary	60.30'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 12.11 hrs HW=60.39' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=1.41 cfs @ 12.12 hrs HW=60.39' TW=0.00' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 1.41 cfs @ 1.41 fps)

Hydrograph for Pond 1P: Bio 4

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	56.79	0.00	0.00	0.00
5.00	0.00	0	56.79	0.00	0.00	0.00
10.00	**0.03**	**112**	**57.26**	**0.00**	**0.00**	**0.00**
15.00	**0.07**	**1,152**	**60.31**	**0.07**	**0.01**	**0.06**
20.00	0.02	1,148	60.30	0.02	0.01	0.02
25.00	0.00	1,127	60.28	0.01	0.01	0.00
30.00	0.00	1,022	60.17	0.01	0.01	0.00
35.00	0.00	924	60.06	0.01	0.01	0.00
40.00	0.00	833	59.94	0.00	0.00	0.00
45.00	0.00	747	59.83	0.00	0.00	0.00
50.00	0.00	666	59.58	0.00	0.00	0.00
55.00	0.00	584	59.24	0.00	0.00	0.00
60.00	0.00	503	58.89	0.00	0.00	0.00
65.00	0.00	421	58.55	0.00	0.00	0.00
70.00	0.00	340	58.21	0.00	0.00	0.00
75.00	0.00	258	57.87	0.00	0.00	0.00
80.00	0.00	177	57.53	0.00	0.00	0.00
85.00	0.00	96	57.19	0.00	0.00	0.00
90.00	0.00	14	56.85	0.00	0.00	0.00
95.00	0.00	0	56.79	0.00	0.00	0.00
100.00	0.00	0	56.79	0.00	0.00	0.00
105.00	0.00	0	56.79	0.00	0.00	0.00
110.00	0.00	0	56.79	0.00	0.00	0.00
115.00	0.00	0	56.79	0.00	0.00	0.00
120.00	0.00	0	56.79	0.00	0.00	0.00
125.00	0.00	0	56.79	0.00	0.00	0.00
130.00	0.00	0	56.79	0.00	0.00	0.00
135.00	0.00	0	56.79	0.00	0.00	0.00
140.00	0.00	0	56.79	0.00	0.00	0.00
145.00	0.00	0	56.79	0.00	0.00	0.00
150.00	0.00	0	56.79	0.00	0.00	0.00
155.00	0.00	0	56.79	0.00	0.00	0.00
160.00	0.00	0	56.79	0.00	0.00	0.00
165.00	0.00	0	56.79	0.00	0.00	0.00
170.00	0.00	0	56.79	0.00	0.00	0.00
175.00	0.00	0	56.79	0.00	0.00	0.00
180.00	0.00	0	56.79	0.00	0.00	0.00
185.00	0.00	0	56.79	0.00	0.00	0.00
190.00	0.00	0	56.79	0.00	0.00	0.00
195.00	0.00	0	56.79	0.00	0.00	0.00
200.00	0.00	0	56.79	0.00	0.00	0.00
205.00	0.00	0	56.79	0.00	0.00	0.00
210.00	0.00	0	56.79	0.00	0.00	0.00
215.00	0.00	0	56.79	0.00	0.00	0.00
220.00	0.00	0	56.79	0.00	0.00	0.00
225.00	0.00	0	56.79	0.00	0.00	0.00
230.00	0.00	0	56.79	0.00	0.00	0.00
235.00	0.00	0	56.79	0.00	0.00	0.00
240.00	0.00	0	56.79	0.00	0.00	0.00

Stage-Discharge for Pond 1P: Bio 4

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
56.79	0.00	0.00	0.00
56.89	0.00	0.00	0.00
56.99	0.00	0.00	0.00
57.09	0.00	0.00	0.00
57.19	0.00	0.00	0.00
57.29	0.00	0.00	0.00
57.39	0.00	0.00	0.00
57.49	0.00	0.00	0.00
57.59	0.00	0.00	0.00
57.69	0.00	0.00	0.00
57.79	0.00	0.00	0.00
57.89	0.00	0.00	0.00
57.99	0.00	0.00	0.00
58.09	0.00	0.00	0.00
58.19	0.00	0.00	0.00
58.29	0.00	0.00	0.00
58.39	0.00	0.00	0.00
58.49	0.00	0.00	0.00
58.59	0.00	0.00	0.00
58.69	0.00	0.00	0.00
58.79	0.00	0.00	0.00
58.89	0.00	0.00	0.00
58.99	0.00	0.00	0.00
59.09	0.00	0.00	0.00
59.19	0.00	0.00	0.00
59.29	0.00	0.00	0.00
59.39	0.00	0.00	0.00
59.49	0.00	0.00	0.00
59.59	0.00	0.00	0.00
59.69	0.00	0.00	0.00
59.79	0.00	0.00	0.00
59.89	0.00	0.00	0.00
59.99	0.01	0.01	0.00
60.09	0.01	0.01	0.00
60.19	0.01	0.01	0.00
60.29	0.01	0.01	0.00
60.39	1.45	0.01	1.44
60.49	2.11	0.01	2.10
60.59	2.60	0.01	2.59
60.69	3.01	0.01	3.01
60.79	3.38	0.01	3.37
60.89	3.71	0.01	3.70
60.99	4.01	0.01	4.00
61.09	4.29	0.01	4.28
61.19	4.55	0.01	4.54
61.29	4.80	0.01	4.79
61.39	5.04	0.01	5.03
61.49	5.26	0.01	5.25
61.59	5.48	0.01	5.47
61.69	5.69	0.01	5.68
61.79	5.89	0.01	5.88
61.89	6.08	0.01	6.07
61.99	**6.27**	**0.01**	**6.26**

Stage-Area-Storage for Pond 1P: Bio 4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.79	724	0
56.89	724	24
56.99	724	48
57.09	724	72
57.19	724	96
57.29	724	119
57.39	724	143
57.49	724	167
57.59	724	191
57.69	724	215
57.79	724	239
57.89	724	263
57.99	724	287
58.09	724	311
58.19	724	334
58.29	724	358
58.39	724	382
58.49	724	406
58.59	724	430
58.69	724	454
58.79	724	478
58.89	724	502
58.99	724	526
59.09	724	550
59.19	724	573
59.29	724	597
59.39	724	621
59.49	724	645
59.59	724	669
59.69	724	693
59.79	724	717
59.89	762	791
59.99	805	869
60.09	857	952
60.19	911	1,041
60.29	965	1,134
60.39	1,018	1,234
60.49	1,072	1,338
60.59	1,126	1,448
60.69	1,180	1,563
60.79	1,233	1,684
60.89	1,287	1,810
60.99	1,341	1,941
61.09	1,395	2,078
61.19	1,450	2,220
61.29	1,504	2,368
61.39	1,559	2,521
61.49	1,613	2,680
61.59	1,668	2,844
61.69	1,722	3,013
61.79	1,777	3,188
61.89	1,831	3,369
61.99	**1,886**	**3,554**

Summary for Pond 2P: Bio 3

Inflow Area = 16,632 sf, 77.36% Impervious, Inflow Depth = 4.09" for 10-year event
Inflow = 1.64 cfs @ 12.09 hrs, Volume= 5,671 cf
Outflow = 1.66 cfs @ 12.09 hrs, Volume= 5,671 cf, Atten= 0%, Lag= 0.4 min
Primary = 1.64 cfs @ 12.09 hrs, Volume= 3,230 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Tertiary = 0.02 cfs @ 12.09 hrs, Volume= 2,441 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 59.80' @ 12.09 hrs Surf.Area= 881 sf Storage= 1,149 cf

Plug-Flow detention time= 263.1 min calculated for 5,670 cf (100% of inflow)
Center-of-Mass det. time= 263.3 min (1,031.4 - 768.1)

Volume	Invert	Avail.Storage	Storage Description
#1	56.24'	3,220 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.24	606	0.0	0	0
56.25	606	33.0	2	2
58.99	606	33.0	548	550
59.00	606	100.0	6	556
60.00	951	100.0	779	1,335
61.00	1,354	100.0	1,153	2,487
61.50	1,576	100.0	733	3,220

Device	Routing	Invert	Outlet Devices
#1	Device 3	56.24'	**1.020 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#2	Primary	59.75'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Tertiary	55.50'	**6.0" Round 6" SUBDRAIN** L= 35.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.50' / 55.20' S= 0.0086 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=1.61 cfs @ 12.09 hrs HW=59.80' TW=0.00' (Dynamic Tailwater)
└─**2=Orifice/Grate** (Weir Controls 1.61 cfs @ 0.71 fps)

Tertiary OutFlow Max=0.02 cfs @ 12.09 hrs HW=59.80' TW=0.00' (Dynamic Tailwater)
└─**3=6" SUBDRAIN** (Passes 0.02 cfs of 1.50 cfs potential flow)
└─**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Hydrograph for Pond 2P: Bio 3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Tertiary (cfs)
0.00	0.00	0	56.24	0.00	0.00	0.00
5.00	0.01	3	56.26	0.01	0.00	0.01
10.00	**0.07**	**293**	**57.71**	**0.01**	**0.00**	**0.01**
15.00	**0.07**	**1,112**	**59.75**	**0.07**	**0.05**	**0.02**
20.00	0.02	1,108	59.75	0.02	0.00	0.02
25.00	0.00	1,022	59.65	0.02	0.00	0.02
30.00	0.00	700	59.22	0.02	0.00	0.02
35.00	0.00	434	58.41	0.01	0.00	0.01
40.00	0.00	177	57.12	0.01	0.00	0.01
45.00	0.00	0	56.24	0.00	0.00	0.00
50.00	0.00	0	56.24	0.00	0.00	0.00
55.00	0.00	0	56.24	0.00	0.00	0.00
60.00	0.00	0	56.24	0.00	0.00	0.00
65.00	0.00	0	56.24	0.00	0.00	0.00
70.00	0.00	0	56.24	0.00	0.00	0.00
75.00	0.00	0	56.24	0.00	0.00	0.00
80.00	0.00	0	56.24	0.00	0.00	0.00
85.00	0.00	0	56.24	0.00	0.00	0.00
90.00	0.00	0	56.24	0.00	0.00	0.00
95.00	0.00	0	56.24	0.00	0.00	0.00
100.00	0.00	0	56.24	0.00	0.00	0.00
105.00	0.00	0	56.24	0.00	0.00	0.00
110.00	0.00	0	56.24	0.00	0.00	0.00
115.00	0.00	0	56.24	0.00	0.00	0.00
120.00	0.00	0	56.24	0.00	0.00	0.00
125.00	0.00	0	56.24	0.00	0.00	0.00
130.00	0.00	0	56.24	0.00	0.00	0.00
135.00	0.00	0	56.24	0.00	0.00	0.00
140.00	0.00	0	56.24	0.00	0.00	0.00
145.00	0.00	0	56.24	0.00	0.00	0.00
150.00	0.00	0	56.24	0.00	0.00	0.00
155.00	0.00	0	56.24	0.00	0.00	0.00
160.00	0.00	0	56.24	0.00	0.00	0.00
165.00	0.00	0	56.24	0.00	0.00	0.00
170.00	0.00	0	56.24	0.00	0.00	0.00
175.00	0.00	0	56.24	0.00	0.00	0.00
180.00	0.00	0	56.24	0.00	0.00	0.00
185.00	0.00	0	56.24	0.00	0.00	0.00
190.00	0.00	0	56.24	0.00	0.00	0.00
195.00	0.00	0	56.24	0.00	0.00	0.00
200.00	0.00	0	56.24	0.00	0.00	0.00
205.00	0.00	0	56.24	0.00	0.00	0.00
210.00	0.00	0	56.24	0.00	0.00	0.00
215.00	0.00	0	56.24	0.00	0.00	0.00
220.00	0.00	0	56.24	0.00	0.00	0.00
225.00	0.00	0	56.24	0.00	0.00	0.00
230.00	0.00	0	56.24	0.00	0.00	0.00
235.00	0.00	0	56.24	0.00	0.00	0.00
240.00	0.00	0	56.24	0.00	0.00	0.00

Stage-Discharge for Pond 2P: Bio 3

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Tertiary (cfs)
56.24	0.00	0.00	0.00
56.34	0.01	0.00	0.01
56.44	0.01	0.00	0.01
56.54	0.01	0.00	0.01
56.64	0.01	0.00	0.01
56.74	0.01	0.00	0.01
56.84	0.01	0.00	0.01
56.94	0.01	0.00	0.01
57.04	0.01	0.00	0.01
57.14	0.01	0.00	0.01
57.24	0.01	0.00	0.01
57.34	0.01	0.00	0.01
57.44	0.01	0.00	0.01
57.54	0.01	0.00	0.01
57.64	0.01	0.00	0.01
57.74	0.01	0.00	0.01
57.84	0.01	0.00	0.01
57.94	0.01	0.00	0.01
58.04	0.01	0.00	0.01
58.14	0.01	0.00	0.01
58.24	0.01	0.00	0.01
58.34	0.01	0.00	0.01
58.44	0.01	0.00	0.01
58.54	0.01	0.00	0.01
58.64	0.01	0.00	0.01
58.74	0.01	0.00	0.01
58.84	0.01	0.00	0.01
58.94	0.01	0.00	0.01
59.04	0.01	0.00	0.01
59.14	0.02	0.00	0.02
59.24	0.02	0.00	0.02
59.34	0.02	0.00	0.02
59.44	0.02	0.00	0.02
59.54	0.02	0.00	0.02
59.64	0.02	0.00	0.02
59.74	0.02	0.00	0.02
59.84	2.91	2.89	0.02
59.94	4.22	4.20	0.02
60.04	5.21	5.19	0.02
60.14	6.04	6.01	0.02
60.24	6.77	6.74	0.02
60.34	7.42	7.40	0.03
60.44	8.03	8.00	0.03
60.54	8.59	8.56	0.03
60.64	9.11	9.08	0.03
60.74	9.61	9.58	0.03
60.84	10.08	10.05	0.03
60.94	10.54	10.51	0.03
61.04	10.97	10.94	0.03
61.14	11.39	11.35	0.03
61.24	11.79	11.75	0.03
61.34	12.18	12.14	0.04
61.44	**12.56**	**12.52**	**0.04**

Stage-Area-Storage for Pond 2P: Bio 3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.24	606	0
56.34	606	20
56.44	606	40
56.54	606	60
56.64	606	80
56.74	606	100
56.84	606	120
56.94	606	140
57.04	606	160
57.14	606	180
57.24	606	200
57.34	606	220
57.44	606	240
57.54	606	260
57.64	606	280
57.74	606	300
57.84	606	320
57.94	606	340
58.04	606	360
58.14	606	380
58.24	606	400
58.34	606	420
58.44	606	440
58.54	606	460
58.64	606	480
58.74	606	500
58.84	606	520
58.94	606	540
59.04	620	581
59.14	654	644
59.24	689	711
59.34	723	782
59.44	758	856
59.54	792	934
59.64	827	1,015
59.74	861	1,099
59.84	896	1,187
59.94	930	1,278
60.04	967	1,373
60.14	1,007	1,472
60.24	1,048	1,574
60.34	1,088	1,681
60.44	1,128	1,792
60.54	1,169	1,907
60.64	1,209	2,026
60.74	1,249	2,149
60.84	1,290	2,276
60.94	1,330	2,406
61.04	1,372	2,542
61.14	1,416	2,681
61.24	1,461	2,825
61.34	1,505	2,973
61.44	**1,549**	**3,126**

Summary for Pond 3P: DIV-02

Inflow Area = 75,465 sf, 44.47% Impervious, Inflow Depth = 2.64" for 10-year event
Inflow = 3.60 cfs @ 12.19 hrs, Volume= 16,583 cf
Outflow = 3.60 cfs @ 12.19 hrs, Volume= 16,583 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.03 cfs @ 12.19 hrs, Volume= 12,875 cf
Routed to Pond 18P : Sand Filter 2
Secondary = 2.57 cfs @ 12.19 hrs, Volume= 3,708 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 57.09' @ 12.19 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.15'	**8.0" Round Culvert** L= 13.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.15' / 54.85' S= 0.1000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.35 sf
#2	Device 3	56.80'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	56.15'	**15.0" Round Culvert** L= 19.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.15' / 55.00' S= 0.0605 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=1.03 cfs @ 12.19 hrs HW=57.08' TW=55.40' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.03 cfs @ 2.94 fps)

Secondary OutFlow Max=2.54 cfs @ 12.19 hrs HW=57.08' TW=0.00' (Dynamic Tailwater)
└**3=Culvert** (Inlet Controls 2.54 cfs @ 2.59 fps)
└**2=Sharp-Crested Rectangular Weir** (Passes 2.54 cfs of 2.90 cfs potential flow)

Hydrograph for Pond 3P: DIV-02

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	56.15	0.00	0.00	0.00
5.00	0.00	56.15	0.00	0.00	0.00
10.00	**0.11**	**56.36**	**0.11**	**0.11**	**0.00**
15.00	**0.30**	**56.50**	**0.30**	**0.30**	**0.00**
20.00	0.09	56.34	0.09	0.09	0.00
25.00	0.00	56.15	0.00	0.00	0.00
30.00	0.00	56.15	0.00	0.00	0.00
35.00	0.00	56.15	0.00	0.00	0.00
40.00	0.00	56.15	0.00	0.00	0.00
45.00	0.00	56.15	0.00	0.00	0.00
50.00	0.00	56.15	0.00	0.00	0.00
55.00	0.00	56.15	0.00	0.00	0.00
60.00	0.00	56.15	0.00	0.00	0.00
65.00	0.00	56.15	0.00	0.00	0.00
70.00	0.00	56.15	0.00	0.00	0.00
75.00	0.00	56.15	0.00	0.00	0.00
80.00	0.00	56.15	0.00	0.00	0.00
85.00	0.00	56.15	0.00	0.00	0.00
90.00	0.00	56.15	0.00	0.00	0.00
95.00	0.00	56.15	0.00	0.00	0.00
100.00	0.00	56.15	0.00	0.00	0.00
105.00	0.00	56.15	0.00	0.00	0.00
110.00	0.00	56.15	0.00	0.00	0.00
115.00	0.00	56.15	0.00	0.00	0.00
120.00	0.00	56.15	0.00	0.00	0.00
125.00	0.00	56.15	0.00	0.00	0.00
130.00	0.00	56.15	0.00	0.00	0.00
135.00	0.00	56.15	0.00	0.00	0.00
140.00	0.00	56.15	0.00	0.00	0.00
145.00	0.00	56.15	0.00	0.00	0.00
150.00	0.00	56.15	0.00	0.00	0.00
155.00	0.00	56.15	0.00	0.00	0.00
160.00	0.00	56.15	0.00	0.00	0.00
165.00	0.00	56.15	0.00	0.00	0.00
170.00	0.00	56.15	0.00	0.00	0.00
175.00	0.00	56.15	0.00	0.00	0.00
180.00	0.00	56.15	0.00	0.00	0.00
185.00	0.00	56.15	0.00	0.00	0.00
190.00	0.00	56.15	0.00	0.00	0.00
195.00	0.00	56.15	0.00	0.00	0.00
200.00	0.00	56.15	0.00	0.00	0.00
205.00	0.00	56.15	0.00	0.00	0.00
210.00	0.00	56.15	0.00	0.00	0.00
215.00	0.00	56.15	0.00	0.00	0.00
220.00	0.00	56.15	0.00	0.00	0.00
225.00	0.00	56.15	0.00	0.00	0.00
230.00	0.00	56.15	0.00	0.00	0.00
235.00	0.00	56.15	0.00	0.00	0.00
240.00	0.00	56.15	0.00	0.00	0.00

Stage-Discharge for Pond 3P: DIV-02

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
56.15	0.00	0.00	0.00
56.17	0.00	0.00	0.00
56.19	0.00	0.00	0.00
56.21	0.01	0.01	0.00
56.23	0.02	0.02	0.00
56.25	0.03	0.03	0.00
56.27	0.04	0.04	0.00
56.29	0.05	0.05	0.00
56.31	0.07	0.07	0.00
56.33	0.09	0.09	0.00
56.35	0.11	0.11	0.00
56.37	0.13	0.13	0.00
56.39	0.15	0.15	0.00
56.41	0.17	0.17	0.00
56.43	0.20	0.20	0.00
56.45	0.22	0.22	0.00
56.47	0.25	0.25	0.00
56.49	0.28	0.28	0.00
56.51	0.31	0.31	0.00
56.53	0.34	0.34	0.00
56.55	0.37	0.37	0.00
56.57	0.40	0.40	0.00
56.59	0.44	0.44	0.00
56.61	0.47	0.47	0.00
56.63	0.50	0.50	0.00
56.65	0.53	0.53	0.00
56.67	0.57	0.57	0.00
56.69	0.60	0.60	0.00
56.71	0.63	0.63	0.00
56.73	0.66	0.66	0.00
56.75	0.69	0.69	0.00
56.77	0.72	0.72	0.00
56.79	0.74	0.74	0.00
56.81	0.78	0.76	0.02
56.83	0.88	0.78	0.10
56.85	1.02	0.80	0.22
56.87	1.19	0.83	0.36
56.89	1.37	0.85	0.53
56.91	1.58	0.87	0.71
56.93	1.80	0.89	0.92
56.95	2.04	0.91	1.13
56.97	2.29	0.93	1.37
56.99	2.56	0.94	1.61
57.01	2.84	0.96	1.87
57.03	3.13	0.98	2.15
57.05	3.41	1.00	2.41
57.07	3.51	1.02	2.50
57.09	3.61	1.03	2.58
57.11	3.71	1.05	2.66
57.13	3.81	1.07	2.75
57.15	3.91	1.08	2.83
57.17	4.01	1.10	2.91
57.19	4.11	1.12	2.99
57.21	4.20	1.13	3.07
57.23	4.29	1.15	3.15
57.25	4.39	1.16	3.22
57.27	4.48	1.18	3.30
57.29	4.56	1.19	3.37
57.31	4.65	1.21	3.44
57.33	4.72	1.22	3.50
57.35	4.80	1.24	3.56
57.37	4.87	1.25	3.62
57.39	**4.93**	**1.26**	**3.67**

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Stage-Area-Storage for Pond 3P: DIV-02

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
56.15	**0**	56.66	0	57.17	0
56.16	0	56.67	0	57.18	0
56.17	0	56.68	0	57.19	0
56.18	0	56.69	0	57.20	0
56.19	0	56.70	0	57.21	0
56.20	0	56.71	0	57.22	0
56.21	0	56.72	0	57.23	0
56.22	0	56.73	0	57.24	0
56.23	0	56.74	0	57.25	0
56.24	0	56.75	0	57.26	0
56.25	0	56.76	0	57.27	0
56.26	0	56.77	0	57.28	0
56.27	0	56.78	0	57.29	0
56.28	0	56.79	0	57.30	0
56.29	0	56.80	0	57.31	0
56.30	0	56.81	0	57.32	0
56.31	0	56.82	0	57.33	0
56.32	0	56.83	0	57.34	0
56.33	0	56.84	0	57.35	0
56.34	0	56.85	0	57.36	0
56.35	0	56.86	0	57.37	0
56.36	0	56.87	0	57.38	0
56.37	0	56.88	0	57.39	0
56.38	0	56.89	0	57.40	0
56.39	0	56.90	0		
56.40	0	56.91	0		
56.41	0	56.92	0		
56.42	0	56.93	0		
56.43	0	56.94	0		
56.44	0	56.95	0		
56.45	0	56.96	0		
56.46	0	56.97	0		
56.47	0	56.98	0		
56.48	0	56.99	0		
56.49	0	57.00	0		
56.50	0	57.01	0		
56.51	0	57.02	0		
56.52	0	57.03	0		
56.53	0	57.04	0		
56.54	0	57.05	0		
56.55	0	57.06	0		
56.56	0	57.07	0		
56.57	0	57.08	0		
56.58	0	57.09	0		
56.59	0	57.10	0		
56.60	0	57.11	0		
56.61	0	57.12	0		
56.62	0	57.13	0		
56.63	0	57.14	0		
56.64	0	57.15	0		
56.65	0	57.16	0		

Summary for Pond 4P: Detention Basin 2

Inflow Area = 68,038 sf, 61.42% Impervious, Inflow Depth = 2.87" for 10-year event
Inflow = 4.97 cfs @ 12.15 hrs, Volume= 16,248 cf
Outflow = 1.40 cfs @ 12.53 hrs, Volume= 16,244 cf, Atten= 72%, Lag= 23.1 min
Primary = 1.40 cfs @ 12.53 hrs, Volume= 16,244 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 4L : DP 1.3 - Culvert 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 58.09' @ 12.53 hrs Surf.Area= 3,922 sf Storage= 7,295 cf

Plug-Flow detention time= 461.9 min calculated for 16,241 cf (100% of inflow)
Center-of-Mass det. time= 463.6 min (1,297.8 - 834.2)

Volume	Invert	Avail.Storage	Storage Description
#1	55.60'	26,026 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.60	1,952	0	0
56.00	2,295	849	849
57.00	3,025	2,660	3,509
58.00	3,843	3,434	6,943
59.00	4,717	4,280	11,223
60.00	5,662	5,190	16,413
61.50	7,155	9,613	26,026

Device	Routing	Invert	Outlet Devices
#1	Primary	55.60'	**24.0" Round Culvert** L= 12.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.60' / 52.60' S= 0.2500 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	55.60'	**1.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	57.50'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	58.25'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#5	Secondary	60.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.40 cfs @ 12.53 hrs HW=58.09' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.40 cfs of 14.57 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.09 cfs @ 7.50 fps)
  ├─**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.30 cfs @ 2.51 fps)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.60' TW=0.00' (Dynamic Tailwater)
└─**5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 4P: Detention Basin 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	55.60	0.00	0.00	**0.00**
5.00	0.00	0	55.60	0.00	0.00	0.00
10.00	**0.01**	**14**	**55.61**	**0.00**	**0.00**	0.00
15.00	**0.27**	**5,751**	**57.68**	**0.32**	**0.32**	0.00
20.00	0.09	5,236	57.53	0.10	0.10	0.00
25.00	0.00	4,770	57.40	0.08	0.08	0.00
30.00	0.00	3,458	56.98	0.07	0.07	0.00
35.00	0.00	2,333	56.59	0.06	0.06	0.00
40.00	0.00	1,415	56.24	0.04	0.04	0.00
45.00	0.00	727	55.95	0.03	0.03	0.00
50.00	0.00	290	55.74	0.02	0.02	0.00
55.00	0.00	114	55.66	0.00	0.00	0.00
60.00	0.00	65	55.63	0.00	0.00	0.00
65.00	0.00	45	55.62	0.00	0.00	0.00
70.00	0.00	34	55.62	0.00	0.00	0.00
75.00	0.00	27	55.61	0.00	0.00	0.00
80.00	0.00	23	55.61	0.00	0.00	0.00
85.00	0.00	19	55.61	0.00	0.00	0.00
90.00	0.00	17	55.61	0.00	0.00	0.00
95.00	0.00	15	55.61	0.00	0.00	0.00
100.00	0.00	14	55.61	0.00	0.00	0.00
105.00	0.00	12	55.61	0.00	0.00	0.00
110.00	0.00	11	55.61	0.00	0.00	0.00
115.00	0.00	10	55.61	0.00	0.00	0.00
120.00	0.00	10	55.60	0.00	0.00	0.00
125.00	0.00	9	55.60	0.00	0.00	0.00
130.00	0.00	8	55.60	0.00	0.00	0.00
135.00	0.00	8	55.60	0.00	0.00	0.00
140.00	0.00	7	55.60	0.00	0.00	0.00
145.00	0.00	7	55.60	0.00	0.00	0.00
150.00	0.00	7	55.60	0.00	0.00	0.00
155.00	0.00	6	55.60	0.00	0.00	0.00
160.00	0.00	6	55.60	0.00	0.00	0.00
165.00	0.00	6	55.60	0.00	0.00	0.00
170.00	0.00	6	55.60	0.00	0.00	0.00
175.00	0.00	5	55.60	0.00	0.00	0.00
180.00	0.00	5	55.60	0.00	0.00	0.00
185.00	0.00	5	55.60	0.00	0.00	0.00
190.00	0.00	5	55.60	0.00	0.00	0.00
195.00	0.00	5	55.60	0.00	0.00	0.00
200.00	0.00	4	55.60	0.00	0.00	0.00
205.00	0.00	4	55.60	0.00	0.00	0.00
210.00	0.00	4	55.60	0.00	0.00	0.00
215.00	0.00	4	55.60	0.00	0.00	0.00
220.00	0.00	4	55.60	0.00	0.00	0.00
225.00	0.00	4	55.60	0.00	0.00	0.00
230.00	0.00	4	55.60	0.00	0.00	0.00
235.00	0.00	4	55.60	0.00	0.00	0.00
240.00	0.00	4	55.60	0.00	0.00	0.00

Stage-Discharge for Pond 4P: Detention Basin 2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
55.60	0.00	0.00	0.00
55.70	0.01	0.01	0.00
55.80	0.02	0.02	0.00
55.90	0.03	0.03	0.00
56.00	0.03	0.03	0.00
56.10	0.04	0.04	0.00
56.20	0.04	0.04	0.00
56.30	0.05	0.05	0.00
56.40	0.05	0.05	0.00
56.50	0.05	0.05	0.00
56.60	0.06	0.06	0.00
56.70	0.06	0.06	0.00
56.80	0.06	0.06	0.00
56.90	0.07	0.07	0.00
57.00	0.07	0.07	0.00
57.10	0.07	0.07	0.00
57.20	0.07	0.07	0.00
57.30	0.08	0.08	0.00
57.40	0.08	0.08	0.00
57.50	0.08	0.08	0.00
57.60	0.18	0.18	0.00
57.70	0.37	0.37	0.00
57.80	0.59	0.59	0.00
57.90	0.85	0.85	0.00
58.00	1.13	1.13	0.00
58.10	1.43	1.43	0.00
58.20	1.74	1.74	0.00
58.30	2.24	2.24	0.00
58.40	3.33	3.33	0.00
58.50	4.74	4.74	0.00
58.60	6.38	6.38	0.00
58.70	8.22	8.22	0.00
58.80	10.21	10.21	0.00
58.90	12.35	12.35	0.00
59.00	14.61	14.61	0.00
59.10	16.99	16.99	0.00
59.20	19.26	19.26	0.00
59.30	19.62	19.62	0.00
59.40	19.98	19.98	0.00
59.50	20.34	20.34	0.00
59.60	20.68	20.68	0.00
59.70	21.03	21.03	0.00
59.80	21.36	21.36	0.00
59.90	21.69	21.69	0.00
60.00	22.02	22.02	0.00
60.10	22.34	22.34	0.00
60.20	23.69	22.66	1.03
60.30	25.88	22.97	2.91
60.40	28.62	23.28	5.34
60.50	31.79	23.58	8.21
60.60	35.33	23.88	11.45
60.70	39.20	24.18	15.02
60.80	43.36	24.47	18.88
60.90	47.79	24.76	23.02
61.00	52.47	25.05	27.42
61.10	57.38	25.33	32.05
61.20	62.51	25.61	36.90
61.30	67.84	25.89	41.95
61.40	73.37	26.16	47.21
61.50	**79.09**	**26.44**	**52.65**

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Stage-Area-Storage for Pond 4P: Detention Basin 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
55.60	1,952	0
55.70	2,038	199
55.80	2,124	408
55.90	2,209	624
56.00	2,295	849
56.10	2,368	1,083
56.20	2,441	1,323
56.30	2,514	1,571
56.40	2,587	1,826
56.50	2,660	2,088
56.60	2,733	2,358
56.70	2,806	2,635
56.80	2,879	2,919
56.90	2,952	3,211
57.00	3,025	3,509
57.10	3,107	3,816
57.20	3,189	4,131
57.30	3,270	4,454
57.40	3,352	4,785
57.50	3,434	5,124
57.60	3,516	5,472
57.70	3,598	5,827
57.80	3,679	6,191
57.90	3,761	6,563
58.00	3,843	6,943
58.10	3,930	7,332
58.20	4,018	7,729
58.30	4,105	8,136
58.40	4,193	8,551
58.50	4,280	8,974
58.60	4,367	9,407
58.70	4,455	9,848
58.80	4,542	10,297
58.90	4,630	10,756
59.00	4,717	11,223
59.10	4,812	11,700
59.20	4,906	12,186
59.30	5,001	12,681
59.40	5,095	13,186
59.50	5,190	13,700
59.60	5,284	14,224
59.70	5,379	14,757
59.80	5,473	15,299
59.90	5,567	15,851
60.00	5,662	16,413
60.10	5,762	16,984
60.20	5,861	17,565
60.30	5,961	18,156
60.40	6,060	18,757
60.50	6,160	19,368
60.60	6,259	19,989
60.70	6,359	20,620
60.80	6,458	21,261
60.90	6,558	21,912
61.00	6,657	22,573
61.10	6,757	23,243
61.20	6,856	23,924
61.30	6,956	24,615
61.40	7,055	25,315
61.50	**7,155**	**26,026**

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Summary for Pond 7P: Bio 2

Inflow Area = 26,810 sf, 63.81% Impervious, Inflow Depth = 3.68" for 10-year event
Inflow = 2.52 cfs @ 12.09 hrs, Volume= 8,213 cf
Outflow = 2.75 cfs @ 12.11 hrs, Volume= 8,213 cf, Atten= 0%, Lag= 1.5 min
Primary = 2.73 cfs @ 12.11 hrs, Volume= 4,447 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Tertiary = 0.03 cfs @ 8.60 hrs, Volume= 3,766 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 56.58' @ 12.11 hrs Surf.Area= 2,201 sf Storage= 2,269 cf

Plug-Flow detention time= 364.6 min calculated for 8,212 cf (100% of inflow)
Center-of-Mass det. time= 364.8 min (1,159.9 - 795.1)

Volume	Invert	Avail.Storage	Storage Description
#1	52.99'	8,230 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
52.99	1,128	0.0	0	0
53.00	1,128	33.0	4	4
55.99	1,128	33.0	1,113	1,117
56.00	1,742	100.0	14	1,131
57.00	2,537	100.0	2,140	3,271
58.00	3,569	100.0	3,053	6,324
58.50	4,058	100.0	1,907	8,230

Device	Routing	Invert	Outlet Devices
#1	Primary	56.50'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#2	Device 3	52.99'	**1.020 in/hr Exfiltration over Surface area from 52.98' - 55.99'** Excluded Surface area = 0 sf Phase-In= 0.02'
#3	Tertiary	52.25'	**6.0" Vert. subdrain** C= 0.600 Limited to weir flow at low heads
#4	Secondary	57.50'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.57 cfs @ 12.11 hrs HW=56.57' TW=0.00' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 2.57 cfs @ 1.29 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=52.99' TW=0.00' (Dynamic Tailwater)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.03 cfs @ 8.60 hrs HW=53.05' TW=0.00' (Dynamic Tailwater)
└**3=subdrain** (Passes 0.03 cfs of 0.70 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Hydrograph for Pond 7P: Bio 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
0.00	0.00	0	52.99	0.00	0.00	**0.00**	0.00
5.00	0.00	0	52.99	0.00	0.00	0.00	**0.00**
10.00	**0.08**	**194**	**53.51**	**0.03**	**0.00**	0.00	**0.03**
15.00	**0.11**	**2,116**	**56.51**	**0.11**	**0.08**	0.00	0.03
20.00	0.04	2,105	56.50	0.04	0.01	0.00	0.03
25.00	0.00	2,013	56.46	0.03	0.00	0.00	0.03
30.00	0.00	1,533	56.22	0.03	0.00	0.00	0.03
35.00	0.00	1,054	55.82	0.03	0.00	0.00	0.03
40.00	0.00	575	54.53	0.03	0.00	0.00	0.03
45.00	0.00	95	53.25	0.03	0.00	0.00	0.03
50.00	0.00	0	52.99	0.00	0.00	0.00	0.00
55.00	0.00	0	52.99	0.00	0.00	0.00	0.00
60.00	0.00	0	52.99	0.00	0.00	0.00	0.00
65.00	0.00	0	52.99	0.00	0.00	0.00	0.00
70.00	0.00	0	52.99	0.00	0.00	0.00	0.00
75.00	0.00	0	52.99	0.00	0.00	0.00	0.00
80.00	0.00	0	52.99	0.00	0.00	0.00	0.00
85.00	0.00	0	52.99	0.00	0.00	0.00	0.00
90.00	0.00	0	52.99	0.00	0.00	0.00	0.00
95.00	0.00	0	52.99	0.00	0.00	0.00	0.00
100.00	0.00	0	52.99	0.00	0.00	0.00	0.00
105.00	0.00	0	52.99	0.00	0.00	0.00	0.00
110.00	0.00	0	52.99	0.00	0.00	0.00	0.00
115.00	0.00	0	52.99	0.00	0.00	0.00	0.00
120.00	0.00	0	52.99	0.00	0.00	0.00	0.00
125.00	0.00	0	52.99	0.00	0.00	0.00	0.00
130.00	0.00	0	52.99	0.00	0.00	0.00	0.00
135.00	0.00	0	52.99	0.00	0.00	0.00	0.00
140.00	0.00	0	52.99	0.00	0.00	0.00	0.00
145.00	0.00	0	52.99	0.00	0.00	0.00	0.00
150.00	0.00	0	52.99	0.00	0.00	0.00	0.00
155.00	0.00	0	52.99	0.00	0.00	0.00	0.00
160.00	0.00	0	52.99	0.00	0.00	0.00	0.00
165.00	0.00	0	52.99	0.00	0.00	0.00	0.00
170.00	0.00	0	52.99	0.00	0.00	0.00	0.00
175.00	0.00	0	52.99	0.00	0.00	0.00	0.00
180.00	0.00	0	52.99	0.00	0.00	0.00	0.00
185.00	0.00	0	52.99	0.00	0.00	0.00	0.00
190.00	0.00	0	52.99	0.00	0.00	0.00	0.00
195.00	0.00	0	52.99	0.00	0.00	0.00	0.00
200.00	0.00	0	52.99	0.00	0.00	0.00	0.00
205.00	0.00	0	52.99	0.00	0.00	0.00	0.00
210.00	0.00	0	52.99	0.00	0.00	0.00	0.00
215.00	0.00	0	52.99	0.00	0.00	0.00	0.00
220.00	0.00	0	52.99	0.00	0.00	0.00	0.00
225.00	0.00	0	52.99	0.00	0.00	0.00	0.00
230.00	0.00	0	52.99	0.00	0.00	0.00	0.00
235.00	0.00	0	52.99	0.00	0.00	0.00	0.00
240.00	0.00	0	52.99	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 7P: Bio 2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
52.99	0.00	0.00	0.00	**0.00**
53.19	0.03	0.00	0.00	**0.03**
53.39	0.03	0.00	0.00	0.03
53.59	0.03	0.00	0.00	0.03
53.79	0.03	0.00	0.00	0.03
53.99	0.03	0.00	0.00	0.03
54.19	0.03	0.00	0.00	0.03
54.39	0.03	0.00	0.00	0.03
54.59	0.03	0.00	0.00	0.03
54.79	0.03	0.00	0.00	0.03
54.99	0.03	0.00	0.00	0.03
55.19	0.03	0.00	0.00	0.03
55.39	0.03	0.00	0.00	0.03
55.59	0.03	0.00	0.00	0.03
55.79	0.03	0.00	0.00	0.03
55.99	0.03	0.00	0.00	0.03
56.19	0.03	0.00	0.00	0.03
56.39	0.03	0.00	0.00	0.03
56.59	2.92	2.89	0.00	0.03
56.79	5.21	5.19	0.00	0.03
56.99	6.77	6.74	0.00	0.03
57.19	8.03	8.00	0.00	0.03
57.39	9.11	9.08	0.00	0.03
57.59	10.96	10.05	0.88	0.03
57.79	16.04	10.94	5.08	0.03
57.99	22.89	11.75	11.11	0.03
58.19	31.03	12.52	18.48	0.03
58.39	**40.23**	**13.24**	**26.97**	0.03

Stage-Area-Storage for Pond 7P: Bio 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
52.99	1,128	0
53.09	1,128	37
53.19	1,128	74
53.29	1,128	112
53.39	1,128	149
53.49	1,128	186
53.59	1,128	223
53.69	1,128	261
53.79	1,128	298
53.89	1,128	335
53.99	1,128	372
54.09	1,128	409
54.19	1,128	447
54.29	1,128	484
54.39	1,128	521
54.49	1,128	558
54.59	1,128	596
54.69	1,128	633
54.79	1,128	670
54.89	1,128	707
54.99	1,128	744
55.09	1,128	782
55.19	1,128	819
55.29	1,128	856
55.39	1,128	893
55.49	1,128	931
55.59	1,128	968
55.69	1,128	1,005
55.79	1,128	1,042
55.89	1,128	1,079
55.99	1,128	1,117
56.09	1,814	1,291
56.19	1,893	1,476
56.29	1,973	1,670
56.39	2,052	1,871
56.49	2,132	2,080
56.59	2,211	2,297
56.69	2,291	2,522
56.79	2,370	2,755
56.89	2,450	2,996
56.99	2,529	3,245
57.09	2,630	3,503
57.19	2,733	3,771
57.29	2,836	4,050
57.39	2,939	4,338
57.49	3,043	4,638
57.59	3,146	4,947
57.69	3,249	5,267
57.79	3,352	5,597
57.89	3,455	5,937
57.99	3,559	6,288
58.09	3,657	6,649
58.19	3,755	7,019
58.29	3,853	7,400
58.39	3,950	7,790
58.49	**4,048**	**8,190**

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Summary for Pond 8P: DIV-04

Inflow Area = 151,857 sf,100.00% Impervious, Inflow Depth = 2.27" for 10-year event
Inflow = 8.84 cfs @ 12.20 hrs, Volume= 28,730 cf
Outflow = 8.84 cfs @ 12.20 hrs, Volume= 28,726 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.84 cfs @ 12.08 hrs, Volume= 15,464 cf
Routed to Pond 23P : UGIS-1
Secondary = 5.06 cfs @ 12.38 hrs, Volume= 13,262 cf
Routed to Link 6L : DP 2.1 - West Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 48.81' @ 12.38 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.90'	**18.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.90' / 46.80' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 3	48.40'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	46.90'	**24.0" Round Culvert** L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.90' / 46.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=5.90 cfs @ 12.08 hrs HW=48.54' TW=47.77' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 5.90 cfs @ 3.34 fps)

Secondary OutFlow Max=5.03 cfs @ 12.38 hrs HW=48.81' TW=0.00' (Dynamic Tailwater)
└**3=Culvert** (Passes 5.03 cfs of 10.71 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 5.03 cfs @ 2.09 fps)

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Hydrograph for Pond 8P: DIV-04

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	46.90	0.00	0.00	0.00
5.00	0.01	46.94	0.01	0.01	0.00
10.00	**0.17**	**47.11**	**0.17**	**0.17**	**0.00**
15.00	**0.16**	**48.43**	**0.16**	**0.08**	**0.08**
20.00	0.02	48.31	0.01	0.01	0.00
25.00	0.00	46.90	0.00	0.00	0.00
30.00	0.00	46.90	0.00	0.00	0.00
35.00	0.00	47.64	0.00	0.00	0.00
40.00	0.00	47.46	0.00	0.00	0.00
45.00	0.00	46.90	0.00	0.00	0.00
50.00	0.00	46.90	0.00	0.00	0.00
55.00	0.00	46.90	0.00	0.00	0.00
60.00	0.00	46.90	0.00	0.00	0.00
65.00	0.00	46.90	0.00	0.00	0.00
70.00	0.00	46.90	0.00	0.00	0.00
75.00	0.00	46.90	0.00	0.00	0.00
80.00	0.00	46.90	0.00	0.00	0.00
85.00	0.00	46.90	0.00	0.00	0.00
90.00	0.00	46.90	0.00	0.00	0.00
95.00	0.00	46.90	0.00	0.00	0.00
100.00	0.00	46.90	0.00	0.00	0.00
105.00	0.00	46.90	0.00	0.00	0.00
110.00	0.00	46.90	0.00	0.00	0.00
115.00	0.00	46.90	0.00	0.00	0.00
120.00	0.00	46.90	0.00	0.00	0.00
125.00	0.00	46.90	0.00	0.00	0.00
130.00	0.00	46.90	0.00	0.00	0.00
135.00	0.00	46.90	0.00	0.00	0.00
140.00	0.00	46.90	0.00	0.00	0.00
145.00	0.00	46.90	0.00	0.00	0.00
150.00	0.00	46.90	0.00	0.00	0.00
155.00	0.00	46.90	0.00	0.00	0.00
160.00	0.00	46.90	0.00	0.00	0.00
165.00	0.00	46.90	0.00	0.00	0.00
170.00	0.00	46.90	0.00	0.00	0.00
175.00	0.00	46.90	0.00	0.00	0.00
180.00	0.00	46.90	0.00	0.00	0.00
185.00	0.00	46.90	0.00	0.00	0.00
190.00	0.00	46.90	0.00	0.00	0.00
195.00	0.00	46.90	0.00	0.00	0.00
200.00	0.00	46.90	0.00	0.00	0.00
205.00	0.00	46.90	0.00	0.00	0.00
210.00	0.00	46.90	0.00	0.00	0.00
215.00	0.00	46.90	0.00	0.00	0.00
220.00	0.00	46.90	0.00	0.00	0.00
225.00	0.00	46.90	0.00	0.00	0.00
230.00	0.00	46.90	0.00	0.00	0.00
235.00	0.00	46.90	0.00	0.00	0.00
240.00	0.00	46.90	0.00	0.00	0.00

Stage-Discharge for Pond 8P: DIV-04

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
46.90	0.00	0.00	0.00
46.92	0.00	0.00	0.00
46.94	0.01	0.01	0.00
46.96	0.02	0.02	0.00
46.98	0.03	0.03	0.00
47.00	0.04	0.04	0.00
47.02	0.06	0.06	0.00
47.04	0.08	0.08	0.00
47.06	0.11	0.11	0.00
47.08	0.13	0.13	0.00
47.10	0.16	0.16	0.00
47.12	0.20	0.20	0.00
47.14	0.23	0.23	0.00
47.16	0.27	0.27	0.00
47.18	0.31	0.31	0.00
47.20	0.35	0.35	0.00
47.22	0.39	0.39	0.00
47.24	0.44	0.44	0.00
47.26	0.48	0.48	0.00
47.28	0.53	0.53	0.00
47.30	0.58	0.58	0.00
47.32	0.64	0.64	0.00
47.34	0.69	0.69	0.00
47.36	0.75	0.75	0.00
47.38	0.81	0.81	0.00
47.40	0.87	0.87	0.00
47.42	0.94	0.94	0.00
47.44	1.00	1.00	0.00
47.46	1.07	1.07	0.00
47.48	1.14	1.14	0.00
47.50	1.21	1.21	0.00
47.52	1.28	1.28	0.00
47.54	1.35	1.35	0.00
47.56	1.42	1.42	0.00
47.58	1.50	1.50	0.00
47.60	1.58	1.58	0.00
47.62	1.66	1.66	0.00
47.64	1.74	1.74	0.00
47.66	1.82	1.82	0.00
47.68	1.91	1.91	0.00
47.70	1.99	1.99	0.00
47.72	2.08	2.08	0.00
47.74	2.16	2.16	0.00
47.76	2.25	2.25	0.00
47.78	2.34	2.34	0.00
47.80	2.43	2.43	0.00
47.82	2.53	2.53	0.00
47.84	2.62	2.62	0.00
47.86	2.71	2.71	0.00
47.88	2.81	2.81	0.00
47.90	2.91	2.91	0.00
47.92	3.00	3.00	0.00
47.94	3.10	3.10	0.00
47.96	3.20	3.20	0.00
47.98	3.30	3.30	0.00
48.00	3.40	3.40	0.00
48.02	3.50	3.50	0.00
48.04	3.61	3.61	0.00
48.06	3.71	3.71	0.00
48.08	3.81	3.81	0.00
48.10	3.92	3.92	0.00
48.12	4.02	4.02	0.00
48.14	4.12	4.12	0.00
48.16	4.23	4.23	0.00
48.18	4.34	4.34	0.00
48.20	4.44	4.44	0.00
48.22	4.55	4.55	0.00
48.24	4.65	4.65	0.00
48.26	4.76	4.76	0.00
48.28	4.87	4.87	0.00
48.30	4.97	4.97	0.00
48.32	5.08	5.08	0.00
48.34	5.19	5.19	0.00
48.36	5.29	5.29	0.00
48.38	5.40	5.40	0.00
48.40	5.50	5.50	0.00
48.42	5.66	5.61	0.06
48.44	5.87	5.71	0.16
48.46	6.10	5.81	0.29
48.48	6.36	5.92	0.44
48.50	6.64	6.02	0.62
48.52	6.93	6.12	0.81
48.54	7.24	6.22	1.02
48.56	7.57	6.32	1.25
48.58	7.91	6.42	1.49
48.60	8.26	6.52	1.74
48.62	8.62	6.61	2.01
48.64	8.97	6.68	2.29
48.66	9.33	6.75	2.58
48.68	9.70	6.82	2.88
48.70	10.07	6.88	3.19
48.72	10.46	6.95	3.51
48.74	10.86	7.01	3.85
48.76	11.26	7.08	4.19
48.78	11.68	7.14	4.54
48.80	12.10	7.20	4.90
48.82	12.53	7.27	5.27
48.84	12.97	7.33	5.64
48.86	13.42	7.39	6.03
48.88	13.87	7.45	6.42
48.90	**14.33**	**7.51**	**6.82**

Stage-Area-Storage for Pond 8P: DIV-04

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
46.90	**0**	47.92	0
46.92	0	47.94	0
46.94	0	47.96	0
46.96	0	47.98	0
46.98	0	48.00	0
47.00	0	48.02	0
47.02	0	48.04	0
47.04	0	48.06	0
47.06	0	48.08	0
47.08	0	48.10	0
47.10	0	48.12	0
47.12	0	48.14	0
47.14	0	48.16	0
47.16	0	48.18	0
47.18	0	48.20	0
47.20	0	48.22	0
47.22	0	48.24	0
47.24	0	48.26	0
47.26	0	48.28	0
47.28	0	48.30	0
47.30	0	48.32	0
47.32	0	48.34	0
47.34	0	48.36	0
47.36	0	48.38	0
47.38	0	48.40	0
47.40	0	48.42	0
47.42	0	48.44	0
47.44	0	48.46	0
47.46	0	48.48	0
47.48	0	48.50	0
47.50	0	48.52	0
47.52	0	48.54	0
47.54	0	48.56	0
47.56	0	48.58	0
47.58	0	48.60	0
47.60	0	48.62	0
47.62	0	48.64	0
47.64	0	48.66	0
47.66	0	48.68	0
47.68	0	48.70	0
47.70	0	48.72	0
47.72	0	48.74	0
47.74	0	48.76	0
47.76	0	48.78	0
47.78	0	48.80	0
47.80	0	48.82	0
47.82	0	48.84	0
47.84	0	48.86	0
47.86	0	48.88	0
47.88	0	48.90	0
47.90	0		

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Summary for Pond 9P: Sand Filter 5

Inflow Area = 23,611 sf, 64.90% Impervious, Inflow Depth = 3.75" for 10-year event
Inflow = 2.08 cfs @ 12.09 hrs, Volume= 7,383 cf
Outflow = 1.90 cfs @ 12.13 hrs, Volume= 7,383 cf, Atten= 9%, Lag= 2.3 min
Discarded = 0.01 cfs @ 12.13 hrs, Volume= 1,798 cf
Primary = 1.89 cfs @ 12.13 hrs, Volume= 5,586 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 49.90' @ 12.13 hrs Surf.Area= 1,138 sf Storage= 1,538 cf

Plug-Flow detention time= 560.7 min calculated for 7,383 cf (100% of inflow)
Center-of-Mass det. time= 560.7 min (1,347.8 - 787.1)

Volume	Invert	Avail.Storage	Storage Description
#1	45.99'	4,039 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.99	705	0.0	0	0
46.00	705	33.0	2	2
48.99	705	33.0	696	698
49.00	705	100.0	7	705
50.00	1,184	100.0	945	1,649
51.00	1,725	100.0	1,455	3,104
51.50	2,016	100.0	935	4,039

Device	Routing	Invert	Outlet Devices
#1	Discarded	45.99'	**0.270 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#2	Primary	49.75'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Secondary	50.20'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 12.13 hrs HW=49.90' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=1.86 cfs @ 12.13 hrs HW=49.90' TW=0.00' (Dynamic Tailwater)
└**2=Orifice/Grate** (Orifice Controls 1.86 cfs @ 1.86 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=45.99' TW=0.00' (Dynamic Tailwater)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 9P: Sand Filter 5

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	45.99	0.00	0.00	0.00	**0.00**
5.00	0.01	9	46.03	0.00	0.00	0.00	0.00
10.00	**0.08**	**501**	**48.15**	**0.00**	**0.00**	**0.00**	0.00
15.00	**0.10**	**1,380**	**49.76**	**0.10**	**0.01**	**0.09**	0.00
20.00	0.03	1,374	49.75	0.03	0.01	0.03	0.00
25.00	0.00	1,351	49.73	0.01	0.01	0.00	0.00
30.00	0.00	1,235	49.62	0.01	0.01	0.00	0.00
35.00	0.00	1,125	49.51	0.01	0.01	0.00	0.00
40.00	0.00	1,021	49.40	0.01	0.01	0.00	0.00
45.00	0.00	924	49.28	0.01	0.01	0.00	0.00
50.00	0.00	832	49.17	0.00	0.00	0.00	0.00
55.00	0.00	747	49.06	0.00	0.00	0.00	0.00
60.00	0.00	667	48.86	0.00	0.00	0.00	0.00
65.00	0.00	587	48.51	0.00	0.00	0.00	0.00
70.00	0.00	508	48.17	0.00	0.00	0.00	0.00
75.00	0.00	429	47.83	0.00	0.00	0.00	0.00
80.00	0.00	349	47.49	0.00	0.00	0.00	0.00
85.00	0.00	270	47.15	0.00	0.00	0.00	0.00
90.00	0.00	191	46.81	0.00	0.00	0.00	0.00
95.00	0.00	111	46.47	0.00	0.00	0.00	0.00
100.00	0.00	32	46.13	0.00	0.00	0.00	0.00
105.00	0.00	0	45.99	0.00	0.00	0.00	0.00
110.00	0.00	0	45.99	0.00	0.00	0.00	0.00
115.00	0.00	0	45.99	0.00	0.00	0.00	0.00
120.00	0.00	0	45.99	0.00	0.00	0.00	0.00
125.00	0.00	0	45.99	0.00	0.00	0.00	0.00
130.00	0.00	0	45.99	0.00	0.00	0.00	0.00
135.00	0.00	0	45.99	0.00	0.00	0.00	0.00
140.00	0.00	0	45.99	0.00	0.00	0.00	0.00
145.00	0.00	0	45.99	0.00	0.00	0.00	0.00
150.00	0.00	0	45.99	0.00	0.00	0.00	0.00
155.00	0.00	0	45.99	0.00	0.00	0.00	0.00
160.00	0.00	0	45.99	0.00	0.00	0.00	0.00
165.00	0.00	0	45.99	0.00	0.00	0.00	0.00
170.00	0.00	0	45.99	0.00	0.00	0.00	0.00
175.00	0.00	0	45.99	0.00	0.00	0.00	0.00
180.00	0.00	0	45.99	0.00	0.00	0.00	0.00
185.00	0.00	0	45.99	0.00	0.00	0.00	0.00
190.00	0.00	0	45.99	0.00	0.00	0.00	0.00
195.00	0.00	0	45.99	0.00	0.00	0.00	0.00
200.00	0.00	0	45.99	0.00	0.00	0.00	0.00
205.00	0.00	0	45.99	0.00	0.00	0.00	0.00
210.00	0.00	0	45.99	0.00	0.00	0.00	0.00
215.00	0.00	0	45.99	0.00	0.00	0.00	0.00
220.00	0.00	0	45.99	0.00	0.00	0.00	0.00
225.00	0.00	0	45.99	0.00	0.00	0.00	0.00
230.00	0.00	0	45.99	0.00	0.00	0.00	0.00
235.00	0.00	0	45.99	0.00	0.00	0.00	0.00
240.00	0.00	0	45.99	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 9P: Sand Filter 5

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
45.99	0.00	0.00	0.00	0.00
46.19	0.00	0.00	0.00	0.00
46.39	0.00	0.00	0.00	0.00
46.59	0.00	0.00	0.00	0.00
46.79	0.00	0.00	0.00	0.00
46.99	0.00	0.00	0.00	0.00
47.19	0.00	0.00	0.00	0.00
47.39	0.00	0.00	0.00	0.00
47.59	0.00	0.00	0.00	0.00
47.79	0.00	0.00	0.00	0.00
47.99	0.00	0.00	0.00	0.00
48.19	0.00	0.00	0.00	0.00
48.39	0.00	0.00	0.00	0.00
48.59	0.00	0.00	0.00	0.00
48.79	0.00	0.00	0.00	0.00
48.99	0.00	0.00	0.00	0.00
49.19	0.00	0.00	0.00	0.00
49.39	0.01	0.01	0.00	0.00
49.59	0.01	0.01	0.00	0.00
49.79	0.63	0.01	0.63	0.00
49.99	2.37	0.01	2.36	0.00
50.19	3.20	0.01	3.19	0.00
50.39	6.56	0.01	3.85	2.70
50.59	12.32	0.01	4.41	7.90
50.79	19.56	0.01	4.91	14.64
50.99	27.97	0.01	5.36	22.60
51.19	37.36	0.01	5.78	31.57
51.39	**47.62**	**0.01**	**6.17**	**41.44**

Stage-Area-Storage for Pond 9P: Sand Filter 5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
45.99	705	0
46.09	705	23
46.19	705	47
46.29	705	70
46.39	705	93
46.49	705	116
46.59	705	140
46.69	705	163
46.79	705	186
46.89	705	209
46.99	705	233
47.09	705	256
47.19	705	279
47.29	705	302
47.39	705	326
47.49	705	349
47.59	705	372
47.69	705	396
47.79	705	419
47.89	705	442
47.99	705	465
48.09	705	489
48.19	705	512
48.29	705	535
48.39	705	558
48.49	705	582
48.59	705	605
48.69	705	628
48.79	705	651
48.89	705	675
48.99	705	698
49.09	748	770
49.19	796	848
49.29	844	930
49.39	892	1,016
49.49	940	1,108
49.59	988	1,204
49.69	1,036	1,305
49.79	1,083	1,411
49.89	1,131	1,522
49.99	1,179	1,638
50.09	1,233	1,758
50.19	1,287	1,884
50.29	1,341	2,016
50.39	1,395	2,152
50.49	1,449	2,295
50.59	1,503	2,442
50.69	1,557	2,595
50.79	1,611	2,754
50.89	1,665	2,918
50.99	1,720	3,087
51.09	1,777	3,262
51.19	1,836	3,442
51.29	1,894	3,629
51.39	1,952	3,821
51.49	**2,010**	**4,019**

Summary for Pond 10P: Bio 1

Inflow Area = 42,514 sf, 59.10% Impervious, Inflow Depth = 2.98" for 10-year event
Inflow = 1.25 cfs @ 12.09 hrs, Volume= 10,551 cf
Outflow = 1.23 cfs @ 12.13 hrs, Volume= 10,551 cf, Atten= 2%, Lag= 2.3 min
Discarded = 0.01 cfs @ 9.40 hrs, Volume= 2,138 cf
Primary = 1.22 cfs @ 12.13 hrs, Volume= 8,413 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 44.56' @ 12.13 hrs Surf.Area= 2,728 sf Storage= 1,855 cf

Plug-Flow detention time= 467.3 min calculated for 10,549 cf (100% of inflow)
Center-of-Mass det. time= 468.2 min (1,279.4 - 811.2)

Volume	Invert	Avail.Storage	Storage Description
#1	41.99'	6,655 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.99	725	0.0	0	0
42.00	725	33.0	2	2
43.99	725	33.0	476	479
44.00	1,147	33.0	3	482
44.01	2,171	100.0	17	498
45.00	3,166	100.0	2,642	3,140
46.00	3,865	100.0	3,516	6,655

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#2	Discarded	41.99'	**0.270 in/hr Exfiltration over Surface area from 41.98' - 44.00'** Excluded Surface area = 0 sf Phase-In= 0.02'
#3	Secondary	45.00'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 9.40 hrs HW=44.00' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=1.21 cfs @ 12.13 hrs HW=44.56' TW=0.00' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 1.21 cfs @ 1.21 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=41.99' TW=0.00' (Dynamic Tailwater)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 10P: Bio 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	41.99	0.00	0.00	0.00	**0.00**
5.00	0.00	1	41.99	0.00	**0.00**	0.00	0.00
10.00	**0.13**	**723**	**44.11**	**0.01**	**0.01**	**0.00**	0.00
15.00	**0.18**	**1,727**	**44.52**	**0.18**	0.01	**0.17**	0.00
20.00	0.06	1,703	44.51	0.06	0.01	0.05	0.00
25.00	0.00	1,666	44.49	0.01	0.01	0.00	0.00
30.00	0.00	1,537	44.44	0.01	0.01	0.00	0.00
35.00	0.00	1,408	44.39	0.01	0.01	0.00	0.00
40.00	0.00	1,279	44.34	0.01	0.01	0.00	0.00
45.00	0.00	1,150	44.29	0.01	0.01	0.00	0.00
50.00	0.00	1,021	44.24	0.01	0.01	0.00	0.00
55.00	0.00	892	44.18	0.01	0.01	0.00	0.00
60.00	0.00	763	44.13	0.01	0.01	0.00	0.00
65.00	0.00	634	44.07	0.01	0.01	0.00	0.00
70.00	0.00	505	44.01	0.01	0.01	0.00	0.00
75.00	0.00	414	43.72	0.00	0.00	0.00	0.00
80.00	0.00	333	43.38	0.00	0.00	0.00	0.00
85.00	0.00	251	43.04	0.00	0.00	0.00	0.00
90.00	0.00	169	42.70	0.00	0.00	0.00	0.00
95.00	0.00	88	42.36	0.00	0.00	0.00	0.00
100.00	0.00	6	42.02	0.00	0.00	0.00	0.00
105.00	0.00	0	41.99	0.00	0.00	0.00	0.00
110.00	0.00	0	41.99	0.00	0.00	0.00	0.00
115.00	0.00	0	41.99	0.00	0.00	0.00	0.00
120.00	0.00	0	41.99	0.00	0.00	0.00	0.00
125.00	0.00	0	41.99	0.00	0.00	0.00	0.00
130.00	0.00	0	41.99	0.00	0.00	0.00	0.00
135.00	0.00	0	41.99	0.00	0.00	0.00	0.00
140.00	0.00	0	41.99	0.00	0.00	0.00	0.00
145.00	0.00	0	41.99	0.00	0.00	0.00	0.00
150.00	0.00	0	41.99	0.00	0.00	0.00	0.00
155.00	0.00	0	41.99	0.00	0.00	0.00	0.00
160.00	0.00	0	41.99	0.00	0.00	0.00	0.00
165.00	0.00	0	41.99	0.00	0.00	0.00	0.00
170.00	0.00	0	41.99	0.00	0.00	0.00	0.00
175.00	0.00	0	41.99	0.00	0.00	0.00	0.00
180.00	0.00	0	41.99	0.00	0.00	0.00	0.00
185.00	0.00	0	41.99	0.00	0.00	0.00	0.00
190.00	0.00	0	41.99	0.00	0.00	0.00	0.00
195.00	0.00	0	41.99	0.00	0.00	0.00	0.00
200.00	0.00	0	41.99	0.00	0.00	0.00	0.00
205.00	0.00	0	41.99	0.00	0.00	0.00	0.00
210.00	0.00	0	41.99	0.00	0.00	0.00	0.00
215.00	0.00	0	41.99	0.00	0.00	0.00	0.00
220.00	0.00	0	41.99	0.00	0.00	0.00	0.00
225.00	0.00	0	41.99	0.00	0.00	0.00	0.00
230.00	0.00	0	41.99	0.00	0.00	0.00	0.00
235.00	0.00	0	41.99	0.00	0.00	0.00	0.00
240.00	0.00	0	41.99	0.00	0.00	0.00	0.00

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Stage-Discharge for Pond 10P: Bio 1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
41.99	0.00	0.00	0.00	0.00
42.09	0.00	0.00	0.00	0.00
42.19	0.00	0.00	0.00	0.00
42.29	0.00	0.00	0.00	0.00
42.39	0.00	0.00	0.00	0.00
42.49	0.00	0.00	0.00	0.00
42.59	0.00	0.00	0.00	0.00
42.69	0.00	0.00	0.00	0.00
42.79	0.00	0.00	0.00	0.00
42.89	0.00	0.00	0.00	0.00
42.99	0.00	0.00	0.00	0.00
43.09	0.00	0.00	0.00	0.00
43.19	0.00	0.00	0.00	0.00
43.29	0.00	0.00	0.00	0.00
43.39	0.00	0.00	0.00	0.00
43.49	0.00	0.00	0.00	0.00
43.59	0.00	0.00	0.00	0.00
43.69	0.00	0.00	0.00	0.00
43.79	0.00	0.00	0.00	0.00
43.89	0.00	0.00	0.00	0.00
43.99	0.00	**0.00**	0.00	0.00
44.09	0.01	**0.01**	0.00	0.00
44.19	0.01	0.01	0.00	0.00
44.29	0.01	0.01	0.00	0.00
44.39	0.01	0.01	0.00	0.00
44.49	0.01	0.01	0.00	0.00
44.59	1.45	0.01	1.44	0.00
44.69	2.11	0.01	2.10	0.00
44.79	2.60	0.01	2.59	0.00
44.89	3.01	0.01	3.01	0.00
44.99	3.38	0.01	3.37	0.00
45.09	4.59	0.01	3.70	0.88
45.19	6.70	0.01	4.00	2.70
45.29	9.36	0.01	4.28	5.08
45.39	12.45	0.01	4.54	7.90
45.49	15.90	0.01	4.79	11.11
45.59	19.68	0.01	5.03	14.64
45.69	23.74	0.01	5.25	18.48
45.79	28.07	0.01	5.47	22.60
45.89	32.65	0.01	5.68	26.97
45.99	**37.46**	0.01	**5.88**	**31.57**

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Stage-Area-Storage for Pond 10P: Bio 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
41.99	725	0
42.04	725	12
42.09	725	24
42.14	725	36
42.19	725	48
42.24	725	60
42.29	725	72
42.34	725	84
42.39	725	96
42.44	725	108
42.49	725	120
42.54	725	132
42.59	725	144
42.64	725	156
42.69	725	167
42.74	725	179
42.79	725	191
42.84	725	203
42.89	725	215
42.94	725	227
42.99	725	239
43.04	725	251
43.09	725	263
43.14	725	275
43.19	725	287
43.24	725	299
43.29	725	311
43.34	725	323
43.39	725	335
43.44	725	347
43.49	725	359
43.54	725	371
43.59	725	383
43.64	725	395
43.69	725	407
43.74	725	419
43.79	725	431
43.84	725	443
43.89	725	455
43.94	725	467
43.99	725	479
44.04	2,201	564
44.09	2,251	675
44.14	2,302	789
44.19	2,352	905
44.24	2,402	1,024
44.29	2,452	1,145
44.34	2,503	1,269
44.39	2,553	1,396
44.44	2,603	1,525
44.49	2,653	1,656
44.54	2,704	1,790
44.59	2,754	1,926
44.64	2,804	2,065
44.69	2,854	2,207
44.74	2,905	2,351
44.79	2,955	2,497
44.84	3,005	2,646
44.89	3,055	2,798
44.94	3,106	2,952
44.99	3,156	3,108
45.04	3,194	3,267
45.09	3,229	3,428
45.14	3,264	3,590
45.19	3,299	3,754
45.24	3,334	3,920
45.29	3,369	4,088
45.34	3,404	4,257
45.39	3,439	4,428
45.44	3,474	4,601
45.49	3,509	4,775
45.54	3,543	4,952
45.59	3,578	5,130
45.64	3,613	5,309
45.69	3,648	5,491
45.74	3,683	5,674
45.79	3,718	5,859
45.84	3,753	6,046
45.89	3,788	6,235
45.94	3,823	6,425
45.99	**3,858**	**6,617**

Summary for Pond 12P: Infiltration Basin 1

Inflow Area = 68,033 sf, 89.47% Impervious, Inflow Depth = 4.41" for 10-year event
Inflow = 7.00 cfs @ 12.09 hrs, Volume= 24,993 cf
Outflow = 6.29 cfs @ 12.13 hrs, Volume= 24,993 cf, Atten= 10%, Lag= 2.4 min
Discarded = 0.08 cfs @ 12.13 hrs, Volume= 9,601 cf
Primary = 6.22 cfs @ 12.13 hrs, Volume= 15,392 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 58.12' @ 12.13 hrs Surf.Area= 3,196 sf Storage= 6,624 cf

Plug-Flow detention time= 352.9 min calculated for 24,987 cf (100% of inflow)
Center-of-Mass det. time= 353.2 min (1,108.3 - 755.1)

Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	10,931 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.00	1,125	0	0
56.00	1,739	1,432	1,432
57.00	2,393	2,066	3,498
58.00	3,104	2,749	6,247
59.00	3,870	3,487	9,734
59.30	4,111	1,197	10,931

Device	Routing	Invert	Outlet Devices
#1	Primary	51.75'	**24.0" Round Culvert** L= 9.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.75' / 51.55' S= 0.0222 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Discarded	55.00'	**1.020 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#3	Secondary	58.40'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	57.65'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.08 cfs @ 12.13 hrs HW=58.11' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=6.09 cfs @ 12.13 hrs HW=58.11' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 6.09 cfs of 27.66 cfs potential flow)
└**4=Sharp-Crested Rectangular Weir** (Weir Controls 6.09 cfs @ 2.23 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.00' TW=0.00' (Dynamic Tailwater)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 12P: Infiltration Basin 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	55.00	0.00	0.00	0.00	**0.00**
5.00	0.07	263	55.22	0.03	0.03	0.00	0.00
10.00	**0.32**	**2,443**	**56.53**	**0.05**	**0.05**	**0.00**	0.00
15.00	**0.29**	**5,353**	**57.70**	**0.30**	**0.07**	**0.23**	0.00
20.00	0.10	5,245	57.66	0.10	0.07	0.03	0.00
25.00	0.00	4,990	57.57	0.07	0.07	0.00	0.00
30.00	0.00	3,863	57.15	0.06	0.06	0.00	0.00
35.00	0.00	2,863	56.72	0.05	0.05	0.00	0.00
40.00	0.00	1,982	56.30	0.05	0.05	0.00	0.00
45.00	0.00	1,218	55.87	0.04	0.04	0.00	0.00
50.00	0.00	568	55.45	0.03	0.03	0.00	0.00
55.00	0.00	28	55.02	0.03	0.03	0.00	0.00
60.00	0.00	0	55.00	0.00	0.00	0.00	0.00
65.00	0.00	0	55.00	0.00	0.00	0.00	0.00
70.00	0.00	0	55.00	0.00	0.00	0.00	0.00
75.00	0.00	0	55.00	0.00	0.00	0.00	0.00
80.00	0.00	0	55.00	0.00	0.00	0.00	0.00
85.00	0.00	0	55.00	0.00	0.00	0.00	0.00
90.00	0.00	0	55.00	0.00	0.00	0.00	0.00
95.00	0.00	0	55.00	0.00	0.00	0.00	0.00
100.00	0.00	0	55.00	0.00	0.00	0.00	0.00
105.00	0.00	0	55.00	0.00	0.00	0.00	0.00
110.00	0.00	0	55.00	0.00	0.00	0.00	0.00
115.00	0.00	0	55.00	0.00	0.00	0.00	0.00
120.00	0.00	0	55.00	0.00	0.00	0.00	0.00
125.00	0.00	0	55.00	0.00	0.00	0.00	0.00
130.00	0.00	0	55.00	0.00	0.00	0.00	0.00
135.00	0.00	0	55.00	0.00	0.00	0.00	0.00
140.00	0.00	0	55.00	0.00	0.00	0.00	0.00
145.00	0.00	0	55.00	0.00	0.00	0.00	0.00
150.00	0.00	0	55.00	0.00	0.00	0.00	0.00
155.00	0.00	0	55.00	0.00	0.00	0.00	0.00
160.00	0.00	0	55.00	0.00	0.00	0.00	0.00
165.00	0.00	0	55.00	0.00	0.00	0.00	0.00
170.00	0.00	0	55.00	0.00	0.00	0.00	0.00
175.00	0.00	0	55.00	0.00	0.00	0.00	0.00
180.00	0.00	0	55.00	0.00	0.00	0.00	0.00
185.00	0.00	0	55.00	0.00	0.00	0.00	0.00
190.00	0.00	0	55.00	0.00	0.00	0.00	0.00
195.00	0.00	0	55.00	0.00	0.00	0.00	0.00
200.00	0.00	0	55.00	0.00	0.00	0.00	0.00
205.00	0.00	0	55.00	0.00	0.00	0.00	0.00
210.00	0.00	0	55.00	0.00	0.00	0.00	0.00
215.00	0.00	0	55.00	0.00	0.00	0.00	0.00
220.00	0.00	0	55.00	0.00	0.00	0.00	0.00
225.00	0.00	0	55.00	0.00	0.00	0.00	0.00
230.00	0.00	0	55.00	0.00	0.00	0.00	0.00
235.00	0.00	0	55.00	0.00	0.00	0.00	0.00
240.00	0.00	0	55.00	0.00	0.00	0.00	0.00

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Stage-Discharge for Pond 12P: Infiltration Basin 1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
55.00	0.00	0.00	0.00	0.00
55.10	0.03	0.03	0.00	0.00
55.20	0.03	0.03	0.00	0.00
55.30	0.03	0.03	0.00	0.00
55.40	0.03	0.03	0.00	0.00
55.50	0.03	0.03	0.00	0.00
55.60	0.04	0.04	0.00	0.00
55.70	0.04	0.04	0.00	0.00
55.80	0.04	0.04	0.00	0.00
55.90	0.04	0.04	0.00	0.00
56.00	0.04	0.04	0.00	0.00
56.10	0.04	0.04	0.00	0.00
56.20	0.04	0.04	0.00	0.00
56.30	0.05	0.05	0.00	0.00
56.40	0.05	0.05	0.00	0.00
56.50	0.05	0.05	0.00	0.00
56.60	0.05	0.05	0.00	0.00
56.70	0.05	0.05	0.00	0.00
56.80	0.05	0.05	0.00	0.00
56.90	0.05	0.05	0.00	0.00
57.00	0.06	0.06	0.00	0.00
57.10	0.06	0.06	0.00	0.00
57.20	0.06	0.06	0.00	0.00
57.30	0.06	0.06	0.00	0.00
57.40	0.06	0.06	0.00	0.00
57.50	0.06	0.06	0.00	0.00
57.60	0.07	0.07	0.00	0.00
57.70	0.29	0.07	0.22	0.00
57.80	1.20	0.07	1.13	0.00
57.90	2.50	0.07	2.43	0.00
58.00	4.09	0.07	4.02	0.00
58.10	5.91	0.08	5.83	0.00
58.20	7.93	0.08	7.86	0.00
58.30	10.14	0.08	10.06	0.00
58.40	12.51	0.08	12.42	0.00
58.50	16.05	0.08	14.94	1.03
58.60	20.59	0.08	17.59	2.91
58.70	25.80	0.09	20.37	5.34
58.80	31.56	0.09	23.27	8.21
58.90	37.81	0.09	26.28	11.45
59.00	44.50	0.09	29.39	15.02
59.10	49.07	0.09	30.09	18.88
59.20	53.45	0.10	30.33	23.02
59.30	**58.08**	**0.10**	**30.56**	**27.42**

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Stage-Area-Storage for Pond 12P: Infiltration Basin 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
55.00	1,125	0
55.05	1,156	57
55.10	1,186	116
55.15	1,217	176
55.20	1,248	237
55.25	1,279	300
55.30	1,309	365
55.35	1,340	431
55.40	1,371	499
55.45	1,401	568
55.50	1,432	639
55.55	1,463	712
55.60	1,493	786
55.65	1,524	861
55.70	1,555	938
55.75	1,586	1,016
55.80	1,616	1,096
55.85	1,647	1,178
55.90	1,678	1,261
55.95	1,708	1,346
56.00	1,739	1,432
56.05	1,772	1,520
56.10	1,804	1,609
56.15	1,837	1,700
56.20	1,870	1,793
56.25	1,903	1,887
56.30	1,935	1,983
56.35	1,968	2,081
56.40	2,001	2,180
56.45	2,033	2,281
56.50	2,066	2,383
56.55	2,099	2,487
56.60	2,131	2,593
56.65	2,164	2,701
56.70	2,197	2,810
56.75	2,230	2,920
56.80	2,262	3,032
56.85	2,295	3,146
56.90	2,328	3,262
56.95	2,360	3,379
57.00	2,393	3,498
57.05	2,429	3,619
57.10	2,464	3,741
57.15	2,500	3,865
57.20	2,535	3,991
57.25	2,571	4,118
57.30	2,606	4,248
57.35	2,642	4,379
57.40	2,677	4,512
57.45	2,713	4,647
57.50	2,749	4,783
57.55	2,784	4,922
57.60	2,820	5,062
57.65	2,855	5,204
57.70	2,891	5,347
57.75	2,926	5,493
57.80	2,962	5,640
57.85	2,997	5,789
57.90	3,033	5,940
57.95	3,068	6,092
58.00	3,104	6,247
58.05	3,142	6,403
58.10	3,181	6,561
58.15	3,219	6,721
58.20	3,257	6,883
58.25	3,296	7,046
58.30	3,334	7,212
58.35	3,372	7,380
58.40	3,410	7,549
58.45	3,449	7,721
58.50	3,487	7,894
58.55	3,525	8,070
58.60	3,564	8,247
58.65	3,602	8,426
58.70	3,640	8,607
58.75	3,679	8,790
58.80	3,717	8,975
58.85	3,755	9,162
58.90	3,793	9,350
58.95	3,832	9,541
59.00	3,870	9,734
59.05	3,910	9,928
59.10	3,950	10,125
59.15	3,991	10,323
59.20	4,031	10,524
59.25	4,071	10,726
59.30	**4,111**	**10,931**

Summary for Pond 13P: Sand Filter 1

Inflow Area = 379,224 sf, 32.14% Impervious, Inflow Depth = 1.20" for 10-year event
Inflow = 2.60 cfs @ 12.20 hrs, Volume= 37,812 cf
Outflow = 0.74 cfs @ 12.80 hrs, Volume= 37,812 cf, Atten= 72%, Lag= 36.5 min
Discarded = 0.03 cfs @ 5.95 hrs, Volume= 12,703 cf
Primary = 0.71 cfs @ 12.80 hrs, Volume= 25,109 cf
Routed to Pond 15P : Detention Basin 1
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond 15P : Detention Basin 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 47.26' @ 12.80 hrs Surf.Area= 8,755 sf Storage= 15,279 cf

Plug-Flow detention time= 1,109.8 min calculated for 37,804 cf (100% of inflow)
Center-of-Mass det. time= 1,110.9 min (1,993.1 - 882.2)

Volume	Invert	Avail.Storage	Storage Description
#1	42.49'	32,650 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.49	4,630	0.0	0	0
42.50	4,630	33.0	15	15
45.99	4,630	33.0	5,332	5,348
46.00	6,904	100.0	58	5,405
47.00	8,336	100.0	7,620	13,025
48.00	9,925	100.0	9,131	22,156
49.00	11,063	100.0	10,494	32,650

Device	Routing	Invert	Outlet Devices
#1	Discarded	42.49'	**0.270 in/hr Exfiltration over Surface area from 42.48' - 45.99'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Secondary	48.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	46.65'	**1.5" x 1.5" Horiz. Orifice/Grate X 4.00 columns** X 3 rows C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.03 cfs @ 5.95 hrs HW=42.56' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.71 cfs @ 12.80 hrs HW=47.26' TW=46.37' (Dynamic Tailwater)
↑**3=Orifice/Grate** (Orifice Controls 0.71 cfs @ 3.77 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=42.49' TW=44.00' (Dynamic Tailwater)
↑**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 13P: Sand Filter 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	42.49	0.00	0.00	0.00	**0.00**
5.00	0.04	54	42.53	0.03	**0.03**	0.00	0.00
10.00	**0.65**	**2,711**	**44.26**	**0.03**	**0.03**	**0.00**	0.00
15.00	**0.53**	**13,773**	**47.09**	**0.63**	0.03	**0.60**	0.00
20.00	0.50	12,723	46.96	0.53	0.03	0.51	0.00
25.00	0.00	10,722	46.72	0.26	0.03	0.23	0.00
30.00	0.00	9,836	46.60	0.03	0.03	0.00	0.00
35.00	0.00	9,315	46.54	0.03	0.03	0.00	0.00
40.00	0.00	8,794	46.47	0.03	0.03	0.00	0.00
45.00	0.00	8,273	46.40	0.03	0.03	0.00	0.00
50.00	0.00	7,752	46.33	0.03	0.03	0.00	0.00
55.00	0.00	7,232	46.26	0.03	0.03	0.00	0.00
60.00	0.00	6,711	46.19	0.03	0.03	0.00	0.00
65.00	0.00	6,190	46.11	0.03	0.03	0.00	0.00
70.00	0.00	5,669	46.04	0.03	0.03	0.00	0.00
75.00	0.00	5,148	45.86	0.03	0.03	0.00	0.00
80.00	0.00	4,627	45.52	0.03	0.03	0.00	0.00
85.00	0.00	4,106	45.18	0.03	0.03	0.00	0.00
90.00	0.00	3,585	44.84	0.03	0.03	0.00	0.00
95.00	0.00	3,065	44.50	0.03	0.03	0.00	0.00
100.00	0.00	2,544	44.15	0.03	0.03	0.00	0.00
105.00	0.00	2,023	43.81	0.03	0.03	0.00	0.00
110.00	0.00	1,502	43.47	0.03	0.03	0.00	0.00
115.00	0.00	981	43.13	0.03	0.03	0.00	0.00
120.00	0.00	460	42.79	0.03	0.03	0.00	0.00
125.00	0.00	2	42.49	0.00	0.00	0.00	0.00
130.00	0.00	0	42.49	0.00	0.00	0.00	0.00
135.00	0.00	0	42.49	0.00	0.00	0.00	0.00
140.00	0.00	0	42.49	0.00	0.00	0.00	0.00
145.00	0.00	0	42.49	0.00	0.00	0.00	0.00
150.00	0.00	0	42.49	0.00	0.00	0.00	0.00
155.00	0.00	0	42.49	0.00	0.00	0.00	0.00
160.00	0.00	0	42.49	0.00	0.00	0.00	0.00
165.00	0.00	0	42.49	0.00	0.00	0.00	0.00
170.00	0.00	0	42.49	0.00	0.00	0.00	0.00
175.00	0.00	0	42.49	0.00	0.00	0.00	0.00
180.00	0.00	0	42.49	0.00	0.00	0.00	0.00
185.00	0.00	0	42.49	0.00	0.00	0.00	0.00
190.00	0.00	0	42.49	0.00	0.00	0.00	0.00
195.00	0.00	0	42.49	0.00	0.00	0.00	0.00
200.00	0.00	0	42.49	0.00	0.00	0.00	0.00
205.00	0.00	0	42.49	0.00	0.00	0.00	0.00
210.00	0.00	0	42.49	0.00	0.00	0.00	0.00
215.00	0.00	0	42.49	0.00	0.00	0.00	0.00
220.00	0.00	0	42.49	0.00	0.00	0.00	0.00
225.00	0.00	0	42.49	0.00	0.00	0.00	0.00
230.00	0.00	0	42.49	0.00	0.00	0.00	0.00
235.00	0.00	0	42.49	0.00	0.00	0.00	0.00
240.00	0.00	0	42.49	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 13P: Sand Filter 1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
42.49	0.00	**0.00**	0.00	0.00
42.69	0.03	**0.03**	0.00	0.00
42.89	0.03	0.03	0.00	0.00
43.09	0.03	0.03	0.00	0.00
43.29	0.03	0.03	0.00	0.00
43.49	0.03	0.03	0.00	0.00
43.69	0.03	0.03	0.00	0.00
43.89	0.03	0.03	0.00	0.00
44.09	0.03	0.03	0.00	0.00
44.29	0.03	0.03	0.00	0.00
44.49	0.03	0.03	0.00	0.00
44.69	0.03	0.03	0.00	0.00
44.89	0.03	0.03	0.00	0.00
45.09	0.03	0.03	0.00	0.00
45.29	0.03	0.03	0.00	0.00
45.49	0.03	0.03	0.00	0.00
45.69	0.03	0.03	0.00	0.00
45.89	0.03	0.03	0.00	0.00
46.09	0.03	0.03	0.00	0.00
46.29	0.03	0.03	0.00	0.00
46.49	0.03	0.03	0.00	0.00
46.69	0.19	0.03	0.16	0.00
46.89	0.47	0.03	0.44	0.00
47.09	0.63	0.03	0.60	0.00
47.29	0.75	0.03	0.72	0.00
47.49	0.86	0.03	0.83	0.00
47.69	0.95	0.03	0.92	0.00
47.89	1.03	0.03	1.01	0.00
48.09	1.11	0.03	1.08	0.00
48.29	3.88	0.03	1.16	2.70
48.49	9.16	0.03	1.22	7.90
48.69	15.96	0.03	1.29	14.64
48.89	**23.98**	0.03	**1.35**	**22.60**

Stage-Area-Storage for Pond 13P: Sand Filter 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
42.49	4,630	0
42.59	4,630	153
42.69	4,630	306
42.79	4,630	458
42.89	4,630	611
42.99	4,630	764
43.09	4,630	917
43.19	4,630	1,070
43.29	4,630	1,222
43.39	4,630	1,375
43.49	4,630	1,528
43.59	4,630	1,681
43.69	4,630	1,833
43.79	4,630	1,986
43.89	4,630	2,139
43.99	4,630	2,292
44.09	4,630	2,445
44.19	4,630	2,597
44.29	4,630	2,750
44.39	4,630	2,903
44.49	4,630	3,056
44.59	4,630	3,209
44.69	4,630	3,361
44.79	4,630	3,514
44.89	4,630	3,667
44.99	4,630	3,820
45.09	4,630	3,973
45.19	4,630	4,125
45.29	4,630	4,278
45.39	4,630	4,431
45.49	4,630	4,584
45.59	4,630	4,736
45.69	4,630	4,889
45.79	4,630	5,042
45.89	4,630	5,195
45.99	4,630	5,348
46.09	7,033	6,032
46.19	7,176	6,743
46.29	7,319	7,468
46.39	7,462	8,207
46.49	7,606	8,960
46.59	7,749	9,728
46.69	7,892	10,510
46.79	8,035	11,306
46.89	8,178	12,117
46.99	8,322	12,942
47.09	8,479	13,782
47.19	8,638	14,638
47.29	8,797	15,510
47.39	8,956	16,397
47.49	9,115	17,301
47.59	9,274	18,220
47.69	9,432	19,155
47.79	9,591	20,107
47.89	9,750	21,074
47.99	9,909	22,057
48.09	10,027	23,054
48.19	10,141	24,062
48.29	10,255	25,082
48.39	10,369	26,113
48.49	10,483	27,156
48.59	10,596	28,210
48.69	10,710	29,275
48.79	10,824	30,352
48.89	10,938	31,440
48.99	**11,052**	**32,539**

Summary for Pond 14P: DIV-03

Inflow Area = 42,514 sf, 59.10% Impervious, Inflow Depth = 3.68" for 10-year event
Inflow = 4.00 cfs @ 12.09 hrs, Volume= 13,024 cf
Outflow = 4.00 cfs @ 12.09 hrs, Volume= 13,024 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.25 cfs @ 12.09 hrs, Volume= 10,551 cf
Routed to Pond 10P : Bio 1
Secondary = 2.74 cfs @ 12.09 hrs, Volume= 2,473 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 45.12' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.10'	**9.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.10' / 44.00' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.44 sf
#2	Device 3	44.85'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	44.10'	**15.0" Round Culvert** L= 55.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.10' / 42.25' S= 0.0336 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.25 cfs @ 12.09 hrs HW=45.11' TW=44.56' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.25 cfs @ 2.82 fps)

Secondary OutFlow Max=2.65 cfs @ 12.09 hrs HW=45.12' TW=0.00' (Dynamic Tailwater)
└**3=Culvert** (Passes 2.65 cfs of 2.89 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 2.65 cfs @ 1.68 fps)

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Hydrograph for Pond 14P: DIV-03

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	44.10	0.00	0.00	0.00
5.00	0.00	44.13	0.00	0.00	0.00
10.00	**0.13**	**44.32**	**0.13**	**0.13**	**0.00**
15.00	**0.18**	**44.55**	**0.18**	**0.18**	**0.00**
20.00	0.06	44.51	0.06	0.06	0.00
25.00	0.00	44.40	0.00	0.00	0.00
30.00	0.00	44.44	0.00	0.00	0.00
35.00	0.00	44.39	0.00	0.00	0.00
40.00	0.00	44.34	0.00	0.00	0.00
45.00	0.00	44.29	0.00	0.00	0.00
50.00	0.00	44.24	0.00	0.00	0.00
55.00	0.00	44.18	0.00	0.00	0.00
60.00	0.00	44.13	0.00	0.00	0.00
65.00	0.00	44.10	0.00	0.00	0.00
70.00	0.00	44.10	0.00	0.00	0.00
75.00	0.00	44.10	0.00	0.00	0.00
80.00	0.00	44.10	0.00	0.00	0.00
85.00	0.00	44.10	0.00	0.00	0.00
90.00	0.00	44.10	0.00	0.00	0.00
95.00	0.00	44.10	0.00	0.00	0.00
100.00	0.00	44.10	0.00	0.00	0.00
105.00	0.00	44.10	0.00	0.00	0.00
110.00	0.00	44.10	0.00	0.00	0.00
115.00	0.00	44.10	0.00	0.00	0.00
120.00	0.00	44.10	0.00	0.00	0.00
125.00	0.00	44.10	0.00	0.00	0.00
130.00	0.00	44.10	0.00	0.00	0.00
135.00	0.00	44.10	0.00	0.00	0.00
140.00	0.00	44.10	0.00	0.00	0.00
145.00	0.00	44.10	0.00	0.00	0.00
150.00	0.00	44.10	0.00	0.00	0.00
155.00	0.00	44.10	0.00	0.00	0.00
160.00	0.00	44.10	0.00	0.00	0.00
165.00	0.00	44.10	0.00	0.00	0.00
170.00	0.00	44.10	0.00	0.00	0.00
175.00	0.00	44.10	0.00	0.00	0.00
180.00	0.00	44.10	0.00	0.00	0.00
185.00	0.00	44.10	0.00	0.00	0.00
190.00	0.00	44.10	0.00	0.00	0.00
195.00	0.00	44.10	0.00	0.00	0.00
200.00	0.00	44.10	0.00	0.00	0.00
205.00	0.00	44.10	0.00	0.00	0.00
210.00	0.00	44.10	0.00	0.00	0.00
215.00	0.00	44.10	0.00	0.00	0.00
220.00	0.00	44.10	0.00	0.00	0.00
225.00	0.00	44.10	0.00	0.00	0.00
230.00	0.00	44.10	0.00	0.00	0.00
235.00	0.00	44.10	0.00	0.00	0.00
240.00	0.00	44.10	0.00	0.00	0.00

Stage-Discharge for Pond 14P: DIV-03

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
44.10	0.00	0.00	0.00
44.12	0.00	0.00	0.00
44.14	0.00	0.00	0.00
44.16	0.01	0.01	0.00
44.18	0.02	0.02	0.00
44.20	0.03	0.03	0.00
44.22	0.04	0.04	0.00
44.24	0.06	0.06	0.00
44.26	0.07	0.07	0.00
44.28	0.09	0.09	0.00
44.30	0.11	0.11	0.00
44.32	0.13	0.13	0.00
44.34	0.15	0.15	0.00
44.36	0.18	0.18	0.00
44.38	0.20	0.20	0.00
44.40	0.23	0.23	0.00
44.42	0.26	0.26	0.00
44.44	0.29	0.29	0.00
44.46	0.31	0.31	0.00
44.48	0.35	0.35	0.00
44.50	0.38	0.38	0.00
44.52	0.41	0.41	0.00
44.54	0.44	0.44	0.00
44.56	0.48	0.48	0.00
44.58	0.51	0.51	0.00
44.60	0.55	0.55	0.00
44.62	0.58	0.58	0.00
44.64	0.62	0.62	0.00
44.66	0.66	0.66	0.00
44.68	0.69	0.69	0.00
44.70	0.73	0.73	0.00
44.72	0.77	0.77	0.00
44.74	0.81	0.81	0.00
44.76	0.85	0.85	0.00
44.78	0.88	0.88	0.00
44.80	0.92	0.92	0.00
44.82	0.96	0.96	0.00
44.84	1.00	1.00	0.00
44.86	1.06	1.04	0.02
44.88	1.17	1.07	0.10
44.90	1.31	1.09	0.22
44.92	1.48	1.12	0.36
44.94	1.67	1.15	0.53
44.96	1.88	1.17	0.71
44.98	2.11	1.19	0.92
45.00	2.35	1.22	1.13
45.02	2.61	1.24	1.37
45.04	2.88	1.26	1.61
45.06	3.16	1.28	1.87
45.08	3.45	1.31	2.15
45.10	3.76	1.33	2.43
45.12	4.08	1.35	2.73
45.14	4.36	1.37	2.99
45.16	4.46	1.39	3.07
45.18	4.56	1.41	3.15
45.20	4.65	1.43	3.22
45.22	4.75	1.45	3.30
45.24	4.84	1.47	3.37
45.26	4.93	1.49	3.44
45.28	5.01	1.51	3.50
45.30	5.09	1.53	3.56
45.32	5.16	1.54	3.62
45.34	**5.23**	**1.56**	**3.67**

Stage-Area-Storage for Pond 14P: DIV-03

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
44.10	**0**	44.61	0	45.12	0
44.11	0	44.62	0	45.13	0
44.12	0	44.63	0	45.14	0
44.13	0	44.64	0	45.15	0
44.14	0	44.65	0	45.16	0
44.15	0	44.66	0	45.17	0
44.16	0	44.67	0	45.18	0
44.17	0	44.68	0	45.19	0
44.18	0	44.69	0	45.20	0
44.19	0	44.70	0	45.21	0
44.20	0	44.71	0	45.22	0
44.21	0	44.72	0	45.23	0
44.22	0	44.73	0	45.24	0
44.23	0	44.74	0	45.25	0
44.24	0	44.75	0	45.26	0
44.25	0	44.76	0	45.27	0
44.26	0	44.77	0	45.28	0
44.27	0	44.78	0	45.29	0
44.28	0	44.79	0	45.30	0
44.29	0	44.80	0	45.31	0
44.30	0	44.81	0	45.32	0
44.31	0	44.82	0	45.33	0
44.32	0	44.83	0	45.34	0
44.33	0	44.84	0	45.35	0
44.34	0	44.85	0		
44.35	0	44.86	0		
44.36	0	44.87	0		
44.37	0	44.88	0		
44.38	0	44.89	0		
44.39	0	44.90	0		
44.40	0	44.91	0		
44.41	0	44.92	0		
44.42	0	44.93	0		
44.43	0	44.94	0		
44.44	0	44.95	0		
44.45	0	44.96	0		
44.46	0	44.97	0		
44.47	0	44.98	0		
44.48	0	44.99	0		
44.49	0	45.00	0		
44.50	0	45.01	0		
44.51	0	45.02	0		
44.52	0	45.03	0		
44.53	0	45.04	0		
44.54	0	45.05	0		
44.55	0	45.06	0		
44.56	0	45.07	0		
44.57	0	45.08	0		
44.58	0	45.09	0		
44.59	0	45.10	0		
44.60	0	45.11	0		

Summary for Pond 15P: Detention Basin 1

Inflow Area = 531,182 sf, 24.31% Impervious, Inflow Depth = 2.59" for 10-year event
Inflow = 26.67 cfs @ 12.22 hrs, Volume= 114,495 cf
Outflow = 10.62 cfs @ 12.62 hrs, Volume= 114,430 cf, Atten= 60%, Lag= 23.7 min
Primary = 10.62 cfs @ 12.62 hrs, Volume= 114,430 cf
Routed to Link 6L : DP 2.1 - West Wetland
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 6L : DP 2.1 - West Wetland
Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 6L : DP 2.1 - West Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 46.46' @ 12.62 hrs Surf.Area= 17,781 sf Storage= 36,424 cf

Plug-Flow detention time= 127.6 min calculated for 114,430 cf (100% of inflow)
Center-of-Mass det. time= 127.1 min (988.4 - 861.3)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	89,712 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	11,920	0	0
45.00	14,261	13,091	13,091
46.00	16,659	15,460	28,551
47.00	19,113	17,886	46,437
48.00	21,623	20,368	66,805
49.00	24,191	22,907	89,712

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	**24.0" Round Culvert** L= 15.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.00' / 43.40' S= 0.0400 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	44.00'	**5.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	44.55'	**1.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	47.20'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#5	Tertiary	48.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	45.00'	**24.0" Round Culvert** L= 212.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 45.00' / 43.70' S= 0.0061 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#7	Device 6	47.15'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=10.61 cfs @ 12.62 hrs HW=46.46' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 10.61 cfs of 14.41 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.98 cfs @ 7.22 fps)
  ├─**3=Sharp-Crested Rectangular Weir** (Weir Controls 9.62 cfs @ 4.51 fps)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=44.00' TW=0.00' (Dynamic Tailwater)
└─**6=Culvert** (Controls 0.00 cfs)
  └─**7=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=44.00' TW=0.00' (Dynamic Tailwater)
└─**5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 15P: Detention Basin 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
0.00	0.00	0	44.00	0.00	0.00	**0.00**	**0.00**
5.00	0.00	0	44.00	0.00	0.00	0.00	0.00
10.00	**0.11**	**206**	**44.02**	**0.00**	**0.00**	0.00	0.00
15.00	**2.10**	**15,990**	**45.20**	**3.00**	**3.00**	0.00	0.00
20.00	0.70	9,237	44.72	0.82	0.82	0.00	0.00
25.00	0.23	7,594	44.60	0.47	0.47	0.00	0.00
30.00	0.00	2,951	44.24	0.14	0.14	0.00	0.00
35.00	0.00	1,542	44.13	0.04	0.04	0.00	0.00
40.00	0.00	1,016	44.08	0.02	0.02	0.00	0.00
45.00	0.00	752	44.06	0.01	0.01	0.00	0.00
50.00	0.00	594	44.05	0.01	0.01	0.00	0.00
55.00	0.00	491	44.04	0.00	0.00	0.00	0.00
60.00	0.00	417	44.03	0.00	0.00	0.00	0.00
65.00	0.00	363	44.03	0.00	0.00	0.00	0.00
70.00	0.00	321	44.03	0.00	0.00	0.00	0.00
75.00	0.00	287	44.02	0.00	0.00	0.00	0.00
80.00	0.00	260	44.02	0.00	0.00	0.00	0.00
85.00	0.00	238	44.02	0.00	0.00	0.00	0.00
90.00	0.00	219	44.02	0.00	0.00	0.00	0.00
95.00	0.00	203	44.02	0.00	0.00	0.00	0.00
100.00	0.00	189	44.02	0.00	0.00	0.00	0.00
105.00	0.00	176	44.01	0.00	0.00	0.00	0.00
110.00	0.00	166	44.01	0.00	0.00	0.00	0.00
115.00	0.00	156	44.01	0.00	0.00	0.00	0.00
120.00	0.00	148	44.01	0.00	0.00	0.00	0.00
125.00	0.00	140	44.01	0.00	0.00	0.00	0.00
130.00	0.00	133	44.01	0.00	0.00	0.00	0.00
135.00	0.00	127	44.01	0.00	0.00	0.00	0.00
140.00	0.00	121	44.01	0.00	0.00	0.00	0.00
145.00	0.00	116	44.01	0.00	0.00	0.00	0.00
150.00	0.00	111	44.01	0.00	0.00	0.00	0.00
155.00	0.00	107	44.01	0.00	0.00	0.00	0.00
160.00	0.00	103	44.01	0.00	0.00	0.00	0.00
165.00	0.00	99	44.01	0.00	0.00	0.00	0.00
170.00	0.00	96	44.01	0.00	0.00	0.00	0.00
175.00	0.00	92	44.01	0.00	0.00	0.00	0.00
180.00	0.00	89	44.01	0.00	0.00	0.00	0.00
185.00	0.00	87	44.01	0.00	0.00	0.00	0.00
190.00	0.00	84	44.01	0.00	0.00	0.00	0.00
195.00	0.00	81	44.01	0.00	0.00	0.00	0.00
200.00	0.00	79	44.01	0.00	0.00	0.00	0.00
205.00	0.00	77	44.01	0.00	0.00	0.00	0.00
210.00	0.00	75	44.01	0.00	0.00	0.00	0.00
215.00	0.00	73	44.01	0.00	0.00	0.00	0.00
220.00	0.00	71	44.01	0.00	0.00	0.00	0.00
225.00	0.00	69	44.01	0.00	0.00	0.00	0.00
230.00	0.00	67	44.01	0.00	0.00	0.00	0.00
235.00	0.00	66	44.01	0.00	0.00	0.00	0.00
240.00	0.00	64	44.01	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 15P: Detention Basin 1

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
44.00	0.00	0.00	0.00	0.00
44.10	0.03	0.03	0.00	0.00
44.20	0.10	0.10	0.00	0.00
44.30	0.20	0.20	0.00	0.00
44.40	0.29	0.29	0.00	0.00
44.50	0.35	0.35	0.00	0.00
44.60	0.47	0.47	0.00	0.00
44.70	0.74	0.74	0.00	0.00
44.80	1.10	1.10	0.00	0.00
44.90	1.51	1.51	0.00	0.00
45.00	1.98	1.98	0.00	0.00
45.10	2.47	2.47	0.00	0.00
45.20	3.00	3.00	0.00	0.00
45.30	3.55	3.55	0.00	0.00
45.40	4.12	4.12	0.00	0.00
45.50	4.71	4.71	0.00	0.00
45.60	5.31	5.31	0.00	0.00
45.70	5.92	5.92	0.00	0.00
45.80	6.54	6.54	0.00	0.00
45.90	7.16	7.16	0.00	0.00
46.00	7.79	7.79	0.00	0.00
46.10	8.41	8.41	0.00	0.00
46.20	9.04	9.04	0.00	0.00
46.30	9.66	9.66	0.00	0.00
46.40	10.27	10.27	0.00	0.00
46.50	10.88	10.88	0.00	0.00
46.60	11.48	11.48	0.00	0.00
46.70	12.07	12.07	0.00	0.00
46.80	12.65	12.65	0.00	0.00
46.90	13.21	13.21	0.00	0.00
47.00	13.76	13.76	0.00	0.00
47.10	14.30	14.30	0.00	0.00
47.20	15.04	14.82	0.22	0.00
47.30	17.07	15.94	1.13	0.00
47.40	19.98	17.55	2.43	0.00
47.50	22.90	18.88	4.02	0.00
47.60	25.09	19.26	5.83	0.00
47.70	27.48	19.62	7.86	0.00
47.80	30.04	19.98	10.06	0.00
47.90	32.76	20.34	12.42	0.00
48.00	35.62	20.68	14.94	0.00
48.10	38.33	21.03	17.31	0.00
48.20	40.11	21.36	17.71	1.03
48.30	42.72	21.69	18.11	2.91
48.40	45.86	22.02	18.50	5.34
48.50	49.43	22.34	18.88	8.21
48.60	53.36	22.66	19.26	11.45
48.70	57.61	22.97	19.62	15.02
48.80	62.15	23.28	19.98	18.88
48.90	66.94	23.58	20.34	23.02
49.00	**71.99**	**23.88**	**20.68**	**27.42**

Stage-Area-Storage for Pond 15P: Detention Basin 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
44.00	11,920	0
44.05	12,037	599
44.10	12,154	1,204
44.15	12,271	1,814
44.20	12,388	2,431
44.25	12,505	3,053
44.30	12,622	3,681
44.35	12,739	4,315
44.40	12,856	4,955
44.45	12,973	5,601
44.50	13,091	6,253
44.55	13,208	6,910
44.60	13,325	7,573
44.65	13,442	8,243
44.70	13,559	8,918
44.75	13,676	9,598
44.80	13,793	10,285
44.85	13,910	10,978
44.90	14,027	11,676
44.95	14,144	12,380
45.00	14,261	13,091
45.05	14,381	13,807
45.10	14,501	14,529
45.15	14,621	15,257
45.20	14,741	15,991
45.25	14,861	16,731
45.30	14,980	17,477
45.35	15,100	18,229
45.40	15,220	18,987
45.45	15,340	19,751
45.50	15,460	20,521
45.55	15,580	21,297
45.60	15,700	22,079
45.65	15,820	22,867
45.70	15,940	23,661
45.75	16,060	24,461
45.80	16,179	25,267
45.85	16,299	26,079
45.90	16,419	26,897
45.95	16,539	27,721
46.00	16,659	28,551
46.05	16,782	29,387
46.10	16,904	30,229
46.15	17,027	31,077
46.20	17,150	31,931
46.25	17,273	32,792
46.30	17,395	33,659
46.35	17,518	34,531
46.40	17,641	35,410
46.45	17,763	36,296
46.50	17,886	37,187
46.55	18,009	38,084
46.60	18,131	38,988
46.65	18,254	39,897
46.70	18,377	40,813
46.75	18,500	41,735
46.80	18,622	42,663
46.85	18,745	43,597
46.90	18,868	44,537
46.95	18,990	45,484
47.00	19,113	46,437
47.05	19,238	47,395
47.10	19,364	48,360
47.15	19,489	49,332
47.20	19,615	50,309
47.25	19,741	51,293
47.30	19,866	52,283
47.35	19,992	53,280
47.40	20,117	54,282
47.45	20,243	55,291
47.50	20,368	56,307
47.55	20,493	57,328
47.60	20,619	58,356
47.65	20,744	59,390
47.70	20,870	60,431
47.75	20,996	61,477
47.80	21,121	62,530
47.85	21,247	63,589
47.90	21,372	64,655
47.95	21,498	65,726
48.00	21,623	66,805
48.05	21,751	67,889
48.10	21,880	68,980
48.15	22,008	70,077
48.20	22,137	71,180
48.25	22,265	72,291
48.30	22,393	73,407
48.35	22,522	74,530
48.40	22,650	75,659
48.45	22,779	76,795
48.50	22,907	77,937
48.55	23,035	79,086
48.60	23,164	80,241
48.65	23,292	81,402
48.70	23,421	82,570
48.75	23,549	83,744
48.80	23,677	84,925
48.85	23,806	86,112
48.90	23,934	87,305
48.95	24,063	88,505
49.00	**24,191**	**89,712**

Summary for Pond 17P: Track and Field- stone base

Inflow Area = 90,671 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-year event
Inflow = 9.74 cfs @ 12.09 hrs, Volume= 35,236 cf
Outflow = 6.19 cfs @ 12.19 hrs, Volume= 35,236 cf, Atten= 36%, Lag= 6.2 min
Discarded = 0.61 cfs @ 12.19 hrs, Volume= 20,879 cf
Primary = 5.58 cfs @ 12.19 hrs, Volume= 14,357 cf
Routed to Pond 35P : Track and Field-manifold

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 50.66' @ 12.19 hrs Surf.Area= 90,671 sf Storage= 5,025 cf

Plug-Flow detention time= 16.7 min calculated for 35,228 cf (100% of inflow)
Center-of-Mass det. time= 16.7 min (765.0 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	50.50'	37,271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 113,339 cf Overall - 397 cf Embedded = 112,942 cf x 33.0% Voids
#2	50.52'	274 cf	**12.0" W x 1.0" H Ellipse 1" flat drains** x 44 Inside #1 L= 95.2' 397 cf Overall - 0.2" Wall Thickness = 274 cf
		37,545 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.50	90,671	0	0
51.58	90,671	97,925	97,925
51.59	90,671	907	98,831
51.75	90,671	14,507	113,339

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.50'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 48.40' Phase-In= 0.02'
#2	Primary	50.52'	**12.0" W x 1.0" H Vert. Orifice/Grate X 44.00** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.61 cfs @ 12.19 hrs HW=50.66' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.61 cfs)

Primary OutFlow Max=5.56 cfs @ 12.19 hrs HW=50.66' TW=49.69' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 5.56 cfs @ 1.52 fps)

Hydrograph for Pond 17P: Track and Field- stone base

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	50.50	0.00	0.00	0.00
5.00	0.12	114	50.50	0.11	0.11	0.00
10.00	**0.47**	**455**	**50.52**	**0.44**	**0.44**	**0.00**
15.00	**0.40**	**455**	**50.52**	**0.44**	**0.44**	**0.00**
20.00	0.13	146	50.50	0.14	0.14	0.00
25.00	0.00	4	50.50	0.00	0.00	0.00
30.00	0.00	0	50.50	0.00	0.00	0.00
35.00	0.00	0	50.50	0.00	0.00	0.00
40.00	0.00	0	50.50	0.00	0.00	0.00
45.00	0.00	0	50.50	0.00	0.00	0.00
50.00	0.00	0	50.50	0.00	0.00	0.00
55.00	0.00	0	50.50	0.00	0.00	0.00
60.00	0.00	0	50.50	0.00	0.00	0.00
65.00	0.00	0	50.50	0.00	0.00	0.00
70.00	0.00	0	50.50	0.00	0.00	0.00
75.00	0.00	0	50.50	0.00	0.00	0.00
80.00	0.00	0	50.50	0.00	0.00	0.00
85.00	0.00	0	50.50	0.00	0.00	0.00
90.00	0.00	0	50.50	0.00	0.00	0.00
95.00	0.00	0	50.50	0.00	0.00	0.00
100.00	0.00	0	50.50	0.00	0.00	0.00
105.00	0.00	0	50.50	0.00	0.00	0.00
110.00	0.00	0	50.50	0.00	0.00	0.00
115.00	0.00	0	50.50	0.00	0.00	0.00
120.00	0.00	0	50.50	0.00	0.00	0.00
125.00	0.00	0	50.50	0.00	0.00	0.00
130.00	0.00	0	50.50	0.00	0.00	0.00
135.00	0.00	0	50.50	0.00	0.00	0.00
140.00	0.00	0	50.50	0.00	0.00	0.00
145.00	0.00	0	50.50	0.00	0.00	0.00
150.00	0.00	0	50.50	0.00	0.00	0.00
155.00	0.00	0	50.50	0.00	0.00	0.00
160.00	0.00	0	50.50	0.00	0.00	0.00
165.00	0.00	0	50.50	0.00	0.00	0.00
170.00	0.00	0	50.50	0.00	0.00	0.00
175.00	0.00	0	50.50	0.00	0.00	0.00
180.00	0.00	0	50.50	0.00	0.00	0.00
185.00	0.00	0	50.50	0.00	0.00	0.00
190.00	0.00	0	50.50	0.00	0.00	0.00
195.00	0.00	0	50.50	0.00	0.00	0.00
200.00	0.00	0	50.50	0.00	0.00	0.00
205.00	0.00	0	50.50	0.00	0.00	0.00
210.00	0.00	0	50.50	0.00	0.00	0.00
215.00	0.00	0	50.50	0.00	0.00	0.00
220.00	0.00	0	50.50	0.00	0.00	0.00
225.00	0.00	0	50.50	0.00	0.00	0.00
230.00	0.00	0	50.50	0.00	0.00	0.00
235.00	0.00	0	50.50	0.00	0.00	0.00
240.00	0.00	0	50.50	0.00	0.00	0.00

Stage-Discharge for Pond 17P: Track and Field- stone base

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
50.50	0.00	0.00	0.00
50.52	0.57	0.57	0.00
50.54	0.98	0.58	0.40
50.56	1.71	0.58	1.13
50.58	2.66	0.59	2.08
50.60	3.79	0.59	3.20
50.62	4.76	0.60	4.16
50.64	5.48	0.60	4.88
50.66	6.10	0.61	5.49
50.68	6.66	0.62	6.04
50.70	7.16	0.62	6.54
50.72	7.63	0.63	7.00
50.74	8.07	0.63	7.44
50.76	8.48	0.64	7.85
50.78	8.88	0.64	8.24
50.80	9.26	0.65	8.61
50.82	9.62	0.65	8.96
50.84	9.96	0.66	9.31
50.86	10.30	0.66	9.64
50.88	10.62	0.67	9.95
50.90	10.94	0.67	10.26
50.92	11.24	0.68	10.56
50.94	11.54	0.69	10.85
50.96	11.83	0.69	11.14
50.98	12.11	0.70	11.41
51.00	12.39	0.70	11.68
51.02	12.66	0.71	11.95
51.04	12.92	0.71	12.21
51.06	13.18	0.72	12.46
51.08	13.43	0.72	12.71
51.10	13.68	0.73	12.95
51.12	13.92	0.73	13.19
51.14	14.16	0.74	13.42
51.16	14.40	0.74	13.65
51.18	14.63	0.75	13.88
51.20	14.86	0.76	14.10
51.22	15.08	0.76	14.32
51.24	15.30	0.77	14.54
51.26	15.52	0.77	14.75
51.28	15.74	0.78	14.96
51.30	15.95	0.78	15.17
51.32	16.16	0.79	15.37
51.34	16.37	0.79	15.57
51.36	16.57	0.80	15.77
51.38	16.77	0.80	15.97
51.40	16.97	0.81	16.16
51.42	17.17	0.81	16.36
51.44	17.36	0.82	16.54
51.46	17.56	0.83	16.73
51.48	17.75	0.83	16.92
51.50	17.94	0.84	17.10
51.52	18.12	0.84	17.28
51.54	18.31	0.85	17.46
51.56	18.49	0.85	17.64
51.58	18.67	0.86	17.81
51.60	18.85	0.86	17.99
51.62	19.03	0.87	18.16
51.64	19.21	0.87	18.33
51.66	19.38	0.88	18.50
51.68	19.55	0.89	18.67
51.70	19.73	0.89	18.84
51.72	19.90	0.90	19.00
51.74	**20.06**	**0.90**	**19.16**

Stage-Area-Storage for Pond 17P: Track and Field- stone base

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
50.50	**90,671**	0
50.52	90,671	587
50.54	90,671	1,212
50.56	90,671	1,862
50.58	90,671	2,514
50.60	90,671	3,147
50.62	90,671	3,734
50.64	90,671	4,332
50.66	90,671	4,931
50.68	90,671	5,529
50.70	90,671	6,128
50.72	90,671	6,726
50.74	90,671	7,324
50.76	90,671	7,923
50.78	90,671	8,521
50.80	90,671	9,120
50.82	90,671	9,718
50.84	90,671	10,317
50.86	90,671	10,915
50.88	90,671	11,513
50.90	90,671	12,112
50.92	90,671	12,710
50.94	90,671	13,309
50.96	90,671	13,907
50.98	90,671	14,506
51.00	90,671	15,104
51.02	90,671	15,702
51.04	90,671	16,301
51.06	90,671	16,899
51.08	90,671	17,498
51.10	90,671	18,096
51.12	90,671	18,695
51.14	90,671	19,293
51.16	90,671	19,891
51.18	90,671	20,490
51.20	90,671	21,088
51.22	90,671	21,687
51.24	90,671	22,285
51.26	90,671	22,884
51.28	90,671	23,482
51.30	90,671	24,080
51.32	90,671	24,679
51.34	90,671	25,277
51.36	90,671	25,876
51.38	90,671	26,474
51.40	90,671	27,073
51.42	90,671	27,671
51.44	90,671	28,269
51.46	90,671	28,868
51.48	90,671	29,466
51.50	90,671	30,065
51.52	90,671	30,663
51.54	90,671	31,262
51.56	90,671	31,860
51.58	90,671	32,458
51.60	90,671	33,057
51.62	90,671	33,655
51.64	90,671	34,254
51.66	90,671	34,852
51.68	90,671	35,451
51.70	90,671	36,049
51.72	90,671	36,647
51.74	90,671	**37,246**

Summary for Pond 18P: Sand Filter 2

Inflow Area = 114,710 sf, 50.57% Impervious, Inflow Depth = 2.60" for 10-year event
Inflow = 4.65 cfs @ 12.09 hrs, Volume= 24,898 cf
Outflow = 3.84 cfs @ 12.16 hrs, Volume= 24,898 cf, Atten= 17%, Lag= 4.2 min
Discarded = 0.01 cfs @ 7.05 hrs, Volume= 5,092 cf
Primary = 3.83 cfs @ 12.16 hrs, Volume= 19,806 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 55.41' @ 12.16 hrs Surf.Area= 5,504 sf Storage= 5,031 cf

Plug-Flow detention time= 573.0 min calculated for 24,892 cf (100% of inflow)
Center-of-Mass det. time= 574.0 min (1,401.3 - 827.4)

Volume	Invert	Avail.Storage	Storage Description
#1	51.84'	15,389 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.84	2,171	0.0	0	0
51.85	2,171	33.0	7	7
54.84	2,171	33.0	2,142	2,149
54.85	4,561	100.0	34	2,183
55.00	4,959	100.0	714	2,897
56.00	6,294	100.0	5,627	8,523
57.00	7,438	100.0	6,866	15,389

Device	Routing	Invert	Outlet Devices
#1	Discarded	51.84'	**0.270 in/hr Exfiltration over Surface area from 51.83' - 54.84'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Primary	55.25'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Secondary	56.00'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 7.05 hrs HW=51.89' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=3.80 cfs @ 12.16 hrs HW=55.41' TW=0.00' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 3.80 cfs @ 1.90 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=51.84' TW=0.00' (Dynamic Tailwater)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 18P: Sand Filter 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	51.84	0.00	0.00	0.00	**0.00**
5.00	0.00	1	51.84	0.00	**0.00**	0.00	0.00
10.00	**0.24**	**1,072**	**53.34**	**0.01**	**0.01**	**0.00**	0.00
15.00	**0.46**	**4,286**	**55.27**	**0.47**	0.01	**0.45**	0.00
20.00	0.15	4,227	55.26	0.15	0.01	0.14	0.00
25.00	0.00	4,155	55.25	0.01	0.01	0.00	0.00
30.00	0.00	3,910	55.20	0.01	0.01	0.00	0.00
35.00	0.00	3,666	55.15	0.01	0.01	0.00	0.00
40.00	0.00	3,422	55.10	0.01	0.01	0.00	0.00
45.00	0.00	3,178	55.06	0.01	0.01	0.00	0.00
50.00	0.00	2,933	55.01	0.01	0.01	0.00	0.00
55.00	0.00	2,689	54.96	0.01	0.01	0.00	0.00
60.00	0.00	2,445	54.91	0.01	0.01	0.00	0.00
65.00	0.00	2,201	54.85	0.01	0.01	0.00	0.00
70.00	0.00	1,956	54.57	0.01	0.01	0.00	0.00
75.00	0.00	1,712	54.23	0.01	0.01	0.00	0.00
80.00	0.00	1,468	53.89	0.01	0.01	0.00	0.00
85.00	0.00	1,224	53.55	0.01	0.01	0.00	0.00
90.00	0.00	979	53.21	0.01	0.01	0.00	0.00
95.00	0.00	735	52.87	0.01	0.01	0.00	0.00
100.00	0.00	491	52.53	0.01	0.01	0.00	0.00
105.00	0.00	247	52.18	0.01	0.01	0.00	0.00
110.00	0.00	6	51.85	0.01	0.01	0.00	0.00
115.00	0.00	0	51.84	0.00	0.00	0.00	0.00
120.00	0.00	0	51.84	0.00	0.00	0.00	0.00
125.00	0.00	0	51.84	0.00	0.00	0.00	0.00
130.00	0.00	0	51.84	0.00	0.00	0.00	0.00
135.00	0.00	0	51.84	0.00	0.00	0.00	0.00
140.00	0.00	0	51.84	0.00	0.00	0.00	0.00
145.00	0.00	0	51.84	0.00	0.00	0.00	0.00
150.00	0.00	0	51.84	0.00	0.00	0.00	0.00
155.00	0.00	0	51.84	0.00	0.00	0.00	0.00
160.00	0.00	0	51.84	0.00	0.00	0.00	0.00
165.00	0.00	0	51.84	0.00	0.00	0.00	0.00
170.00	0.00	0	51.84	0.00	0.00	0.00	0.00
175.00	0.00	0	51.84	0.00	0.00	0.00	0.00
180.00	0.00	0	51.84	0.00	0.00	0.00	0.00
185.00	0.00	0	51.84	0.00	0.00	0.00	0.00
190.00	0.00	0	51.84	0.00	0.00	0.00	0.00
195.00	0.00	0	51.84	0.00	0.00	0.00	0.00
200.00	0.00	0	51.84	0.00	0.00	0.00	0.00
205.00	0.00	0	51.84	0.00	0.00	0.00	0.00
210.00	0.00	0	51.84	0.00	0.00	0.00	0.00
215.00	0.00	0	51.84	0.00	0.00	0.00	0.00
220.00	0.00	0	51.84	0.00	0.00	0.00	0.00
225.00	0.00	0	51.84	0.00	0.00	0.00	0.00
230.00	0.00	0	51.84	0.00	0.00	0.00	0.00
235.00	0.00	0	51.84	0.00	0.00	0.00	0.00
240.00	0.00	0	51.84	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 18P: Sand Filter 2

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
51.84	0.00	**0.00**	0.00	0.00
52.04	0.01	**0.01**	0.00	0.00
52.24	0.01	0.01	0.00	0.00
52.44	0.01	0.01	0.00	0.00
52.64	0.01	0.01	0.00	0.00
52.84	0.01	0.01	0.00	0.00
53.04	0.01	0.01	0.00	0.00
53.24	0.01	0.01	0.00	0.00
53.44	0.01	0.01	0.00	0.00
53.64	0.01	0.01	0.00	0.00
53.84	0.01	0.01	0.00	0.00
54.04	0.01	0.01	0.00	0.00
54.24	0.01	0.01	0.00	0.00
54.44	0.01	0.01	0.00	0.00
54.64	0.01	0.01	0.00	0.00
54.84	0.01	0.01	0.00	0.00
55.04	0.01	0.01	0.00	0.00
55.24	0.01	0.01	0.00	0.00
55.44	4.21	0.01	4.20	0.00
55.64	6.03	0.01	6.01	0.00
55.84	7.41	0.01	7.40	0.00
56.04	8.83	0.01	8.56	0.26
56.24	13.42	0.01	9.58	3.83
56.44	19.98	0.01	10.51	9.46
56.64	27.90	0.01	11.35	16.53
56.84	**36.91**	0.01	**12.14**	**24.75**

Stage-Area-Storage for Pond 18P: Sand Filter 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
51.84	2,171	0
51.94	2,171	72
52.04	2,171	143
52.14	2,171	215
52.24	2,171	287
52.34	2,171	358
52.44	2,171	430
52.54	2,171	502
52.64	2,171	573
52.74	2,171	645
52.84	2,171	716
52.94	2,171	788
53.04	2,171	860
53.14	2,171	931
53.24	2,171	1,003
53.34	2,171	1,075
53.44	2,171	1,146
53.54	2,171	1,218
53.64	2,171	1,290
53.74	2,171	1,361
53.84	2,171	1,433
53.94	2,171	1,505
54.04	2,171	1,576
54.14	2,171	1,648
54.24	2,171	1,719
54.34	2,171	1,791
54.44	2,171	1,863
54.54	2,171	1,934
54.64	2,171	2,006
54.74	2,171	2,078
54.84	2,171	2,149
54.94	4,800	2,604
55.04	5,012	3,096
55.14	5,146	3,604
55.24	5,279	4,126
55.34	5,413	4,660
55.44	5,546	5,208
55.54	5,680	5,769
55.64	5,813	6,344
55.74	5,947	6,932
55.84	6,080	7,533
55.94	6,214	8,148
56.04	6,340	8,776
56.14	6,454	9,416
56.24	6,569	10,067
56.34	6,683	10,730
56.44	6,797	11,404
56.54	6,912	12,089
56.64	7,026	12,786
56.74	7,141	13,494
56.84	7,255	14,214
56.94	**7,369**	**14,945**

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Summary for Pond 19P: Sand Filter 3

Inflow Area = 22,284 sf, 61.76% Impervious, Inflow Depth = 3.68" for 10-year event
Inflow = 2.10 cfs @ 12.09 hrs, Volume= 6,827 cf
Outflow = 0.24 cfs @ 12.77 hrs, Volume= 6,827 cf, Atten= 88%, Lag= 40.7 min
Discarded = 0.01 cfs @ 8.10 hrs, Volume= 4,761 cf
Primary = 0.23 cfs @ 12.77 hrs, Volume= 2,066 cf
Routed to Pond 3P : DIV-02
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 4L : DP 1.3 - Culvert 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 60.67' @ 12.77 hrs Surf.Area= 3,588 sf Storage= 4,025 cf

Plug-Flow detention time= 1,963.2 min calculated for 6,827 cf (100% of inflow)
Center-of-Mass det. time= 1,963.2 min (2,758.3 - 795.1)

Volume	Invert	Avail.Storage	Storage Description
#1	56.99'	10,312 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.99	1,999	0.0	0	0
57.00	1,999	33.0	7	7
59.99	1,999	33.0	1,972	1,979
60.00	2,449	100.0	22	2,001
61.00	4,147	100.0	3,298	5,299
62.00	5,878	100.0	5,013	10,312

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.99'	**0.270 in/hr Exfiltration over Surface area from 56.98' - 59.99'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Primary	60.65'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Secondary	61.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 8.10 hrs HW=57.04' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.23 cfs @ 12.77 hrs HW=60.67' TW=56.84' (Dynamic Tailwater)
└**2=Orifice/Grate** (Weir Controls 0.23 cfs @ 0.47 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.99' TW=0.00' (Dynamic Tailwater)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 19P: Sand Filter 3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	56.99	0.00	0.00	0.00	**0.00**
5.00	0.00	1	56.99	0.00	**0.00**	0.00	0.00
10.00	**0.07**	**255**	**57.38**	**0.01**	**0.01**	**0.00**	0.00
15.00	**0.09**	**3,988**	**60.66**	**0.09**	0.01	**0.08**	0.00
20.00	0.03	3,966	60.65	0.03	0.01	0.02	0.00
25.00	0.00	3,918	60.64	0.01	0.01	0.00	0.00
30.00	0.00	3,693	60.58	0.01	0.01	0.00	0.00
35.00	0.00	3,468	60.51	0.01	0.01	0.00	0.00
40.00	0.00	3,243	60.44	0.01	0.01	0.00	0.00
45.00	0.00	3,018	60.37	0.01	0.01	0.00	0.00
50.00	0.00	2,793	60.29	0.01	0.01	0.00	0.00
55.00	0.00	2,568	60.22	0.01	0.01	0.00	0.00
60.00	0.00	2,344	60.13	0.01	0.01	0.00	0.00
65.00	0.00	2,119	60.05	0.01	0.01	0.00	0.00
70.00	0.00	1,894	59.86	0.01	0.01	0.00	0.00
75.00	0.00	1,669	59.52	0.01	0.01	0.00	0.00
80.00	0.00	1,444	59.18	0.01	0.01	0.00	0.00
85.00	0.00	1,219	58.84	0.01	0.01	0.00	0.00
90.00	0.00	994	58.50	0.01	0.01	0.00	0.00
95.00	0.00	769	58.16	0.01	0.01	0.00	0.00
100.00	0.00	544	57.82	0.01	0.01	0.00	0.00
105.00	0.00	320	57.47	0.01	0.01	0.00	0.00
110.00	0.00	95	57.13	0.01	0.01	0.00	0.00
115.00	0.00	0	56.99	0.00	0.00	0.00	0.00
120.00	0.00	0	56.99	0.00	0.00	0.00	0.00
125.00	0.00	0	56.99	0.00	0.00	0.00	0.00
130.00	0.00	0	56.99	0.00	0.00	0.00	0.00
135.00	0.00	0	56.99	0.00	0.00	0.00	0.00
140.00	0.00	0	56.99	0.00	0.00	0.00	0.00
145.00	0.00	0	56.99	0.00	0.00	0.00	0.00
150.00	0.00	0	56.99	0.00	0.00	0.00	0.00
155.00	0.00	0	56.99	0.00	0.00	0.00	0.00
160.00	0.00	0	56.99	0.00	0.00	0.00	0.00
165.00	0.00	0	56.99	0.00	0.00	0.00	0.00
170.00	0.00	0	56.99	0.00	0.00	0.00	0.00
175.00	0.00	0	56.99	0.00	0.00	0.00	0.00
180.00	0.00	0	56.99	0.00	0.00	0.00	0.00
185.00	0.00	0	56.99	0.00	0.00	0.00	0.00
190.00	0.00	0	56.99	0.00	0.00	0.00	0.00
195.00	0.00	0	56.99	0.00	0.00	0.00	0.00
200.00	0.00	0	56.99	0.00	0.00	0.00	0.00
205.00	0.00	0	56.99	0.00	0.00	0.00	0.00
210.00	0.00	0	56.99	0.00	0.00	0.00	0.00
215.00	0.00	0	56.99	0.00	0.00	0.00	0.00
220.00	0.00	0	56.99	0.00	0.00	0.00	0.00
225.00	0.00	0	56.99	0.00	0.00	0.00	0.00
230.00	0.00	0	56.99	0.00	0.00	0.00	0.00
235.00	0.00	0	56.99	0.00	0.00	0.00	0.00
240.00	0.00	0	56.99	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 19P: Sand Filter 3

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
56.99	0.00	**0.00**	0.00	0.00
57.09	0.01	**0.01**	0.00	0.00
57.19	0.01	0.01	0.00	0.00
57.29	0.01	0.01	0.00	0.00
57.39	0.01	0.01	0.00	0.00
57.49	0.01	0.01	0.00	0.00
57.59	0.01	0.01	0.00	0.00
57.69	0.01	0.01	0.00	0.00
57.79	0.01	0.01	0.00	0.00
57.89	0.01	0.01	0.00	0.00
57.99	0.01	0.01	0.00	0.00
58.09	0.01	0.01	0.00	0.00
58.19	0.01	0.01	0.00	0.00
58.29	0.01	0.01	0.00	0.00
58.39	0.01	0.01	0.00	0.00
58.49	0.01	0.01	0.00	0.00
58.59	0.01	0.01	0.00	0.00
58.69	0.01	0.01	0.00	0.00
58.79	0.01	0.01	0.00	0.00
58.89	0.01	0.01	0.00	0.00
58.99	0.01	0.01	0.00	0.00
59.09	0.01	0.01	0.00	0.00
59.19	0.01	0.01	0.00	0.00
59.29	0.01	0.01	0.00	0.00
59.39	0.01	0.01	0.00	0.00
59.49	0.01	0.01	0.00	0.00
59.59	0.01	0.01	0.00	0.00
59.69	0.01	0.01	0.00	0.00
59.79	0.01	0.01	0.00	0.00
59.89	0.01	0.01	0.00	0.00
59.99	0.01	0.01	0.00	0.00
60.09	0.01	0.01	0.00	0.00
60.19	0.01	0.01	0.00	0.00
60.29	0.01	0.01	0.00	0.00
60.39	0.01	0.01	0.00	0.00
60.49	0.01	0.01	0.00	0.00
60.59	0.01	0.01	0.00	0.00
60.69	0.64	0.01	0.63	0.00
60.79	1.81	0.01	1.80	0.00
60.89	2.37	0.01	2.36	0.00
60.99	2.82	0.01	2.81	0.00
61.09	3.21	0.01	3.19	0.00
61.19	4.43	0.01	3.54	0.88
61.29	6.56	0.01	3.85	2.70
61.39	9.23	0.01	4.14	5.08
61.49	12.33	0.01	4.41	7.90
61.59	15.79	0.01	4.67	11.11
61.69	19.57	0.01	4.91	14.64
61.79	23.64	0.01	5.14	18.48
61.89	27.97	0.01	5.36	22.60
61.99	**32.55**	0.01	**5.57**	**26.97**

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Stage-Area-Storage for Pond 19P: Sand Filter 3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.99	1,999	0
57.04	1,999	33
57.09	1,999	66
57.14	1,999	99
57.19	1,999	132
57.24	1,999	165
57.29	1,999	198
57.34	1,999	231
57.39	1,999	264
57.44	1,999	297
57.49	1,999	330
57.54	1,999	363
57.59	1,999	396
57.64	1,999	429
57.69	1,999	462
57.74	1,999	495
57.79	1,999	528
57.84	1,999	561
57.89	1,999	594
57.94	1,999	627
57.99	1,999	660
58.04	1,999	693
58.09	1,999	726
58.14	1,999	759
58.19	1,999	792
58.24	1,999	825
58.29	1,999	858
58.34	1,999	891
58.39	1,999	924
58.44	1,999	957
58.49	1,999	990
58.54	1,999	1,022
58.59	1,999	1,055
58.64	1,999	1,088
58.69	1,999	1,121
58.74	1,999	1,154
58.79	1,999	1,187
58.84	1,999	1,220
58.89	1,999	1,253
58.94	1,999	1,286
58.99	1,999	1,319
59.04	1,999	1,352
59.09	1,999	1,385
59.14	1,999	1,418
59.19	1,999	1,451
59.24	1,999	1,484
59.29	1,999	1,517
59.34	1,999	1,550
59.39	1,999	1,583
59.44	1,999	1,616
59.49	1,999	1,649
59.54	1,999	1,682
59.59	1,999	1,715
59.64	1,999	1,748
59.69	1,999	1,781
59.74	1,999	1,814
59.79	1,999	1,847
59.84	1,999	1,880
59.89	1,999	1,913
59.94	1,999	1,946
59.99	1,999	1,979
60.04	2,517	2,101
60.09	2,602	2,229
60.14	2,687	2,361
60.19	2,772	2,497
60.24	2,857	2,638
60.29	2,941	2,783
60.34	3,026	2,932
60.39	3,111	3,085
60.44	3,196	3,243
60.49	3,281	3,405
60.54	3,366	3,571
60.59	3,451	3,742
60.64	3,536	3,916
60.69	3,621	4,095
60.74	3,706	4,278
60.79	3,790	4,466
60.84	3,875	4,657
60.89	3,960	4,853
60.94	4,045	5,053
60.99	4,130	5,258
61.04	4,216	5,467
61.09	4,303	5,679
61.14	4,389	5,897
61.19	4,476	6,118
61.24	4,562	6,344
61.29	4,649	6,575
61.34	4,736	6,809
61.39	4,822	7,048
61.44	4,909	7,291
61.49	4,995	7,539
61.54	5,082	7,791
61.59	5,168	8,047
61.64	5,255	8,308
61.69	5,341	8,573
61.74	5,428	8,842
61.79	5,514	9,116
61.84	5,601	9,393
61.89	5,688	9,676
61.94	5,774	9,962
61.99	**5,861**	**10,253**

Summary for Pond 20P: Sand Filter 4

Inflow Area = 31,007 sf, 23.95% Impervious, Inflow Depth = 3.08" for 10-year event
Inflow = 2.01 cfs @ 12.19 hrs, Volume= 7,968 cf
Outflow = 0.61 cfs @ 12.62 hrs, Volume= 7,968 cf, Atten= 70%, Lag= 26.1 min
Primary = 0.61 cfs @ 12.62 hrs, Volume= 7,968 cf
Routed to Link 3L : DP 1.2 - Culvert 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 61.51' @ 12.62 hrs Surf.Area= 2,497 sf Storage= 2,281 cf

Plug-Flow detention time= 36.3 min calculated for 7,966 cf (100% of inflow)
Center-of-Mass det. time= 36.2 min (857.4 - 821.1)

Volume	Invert	Avail.Storage	Storage Description
#1	58.99'	3,660 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.99	1,767	0.0	0	0
59.00	1,767	33.0	6	6
60.99	1,767	33.0	1,160	1,166
61.00	1,767	100.0	18	1,184
62.00	3,186	100.0	2,477	3,660

Device	Routing	Invert	Outlet Devices
#1	Primary	61.50'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#2	Device 3	58.99'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#3	Primary	58.25'	**6.0" Round subdrain** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.25' / 56.90' S= 0.0270 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.60 cfs @ 12.62 hrs HW=61.51' TW=0.00' (Dynamic Tailwater)
└─**1=Orifice/Grate** (Weir Controls 0.12 cfs @ 0.38 fps)
└─**3=subdrain** (Passes 0.48 cfs of 1.30 cfs potential flow)
└─**2=Exfiltration** (Exfiltration Controls 0.48 cfs)

Hydrograph for Pond 20P: Sand Filter 4

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	58.99	0.00
5.00	0.00	0	58.99	0.00
10.00	**0.06**	**2**	**58.99**	**0.06**
15.00	**0.12**	**639**	**60.09**	**0.34**
20.00	0.04	1	58.99	0.04
25.00	0.00	0	58.99	0.00
30.00	0.00	0	58.99	0.00
35.00	0.00	0	58.99	0.00
40.00	0.00	0	58.99	0.00
45.00	0.00	0	58.99	0.00
50.00	0.00	0	58.99	0.00
55.00	0.00	0	58.99	0.00
60.00	0.00	0	58.99	0.00
65.00	0.00	0	58.99	0.00
70.00	0.00	0	58.99	0.00
75.00	0.00	0	58.99	0.00
80.00	0.00	0	58.99	0.00
85.00	0.00	0	58.99	0.00
90.00	0.00	0	58.99	0.00
95.00	0.00	0	58.99	0.00
100.00	0.00	0	58.99	0.00
105.00	0.00	0	58.99	0.00
110.00	0.00	0	58.99	0.00
115.00	0.00	0	58.99	0.00
120.00	0.00	0	58.99	0.00
125.00	0.00	0	58.99	0.00
130.00	0.00	0	58.99	0.00
135.00	0.00	0	58.99	0.00
140.00	0.00	0	58.99	0.00
145.00	0.00	0	58.99	0.00
150.00	0.00	0	58.99	0.00
155.00	0.00	0	58.99	0.00
160.00	0.00	0	58.99	0.00
165.00	0.00	0	58.99	0.00
170.00	0.00	0	58.99	0.00
175.00	0.00	0	58.99	0.00
180.00	0.00	0	58.99	0.00
185.00	0.00	0	58.99	0.00
190.00	0.00	0	58.99	0.00
195.00	0.00	0	58.99	0.00
200.00	0.00	0	58.99	0.00
205.00	0.00	0	58.99	0.00
210.00	0.00	0	58.99	0.00
215.00	0.00	0	58.99	0.00
220.00	0.00	0	58.99	0.00
225.00	0.00	0	58.99	0.00
230.00	0.00	0	58.99	0.00
235.00	0.00	0	58.99	0.00
240.00	0.00	0	58.99	0.00

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Stage-Discharge for Pond 20P: Sand Filter 4

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
58.99	0.00	60.01	0.34	61.03	0.35
59.01	0.34	60.03	0.34	61.05	0.35
59.03	0.34	60.05	0.34	61.07	0.36
59.05	0.34	60.07	0.34	61.09	0.36
59.07	0.34	60.09	0.34	61.11	0.37
59.09	0.34	60.11	0.34	61.13	0.37
59.11	0.34	60.13	0.34	61.15	0.38
59.13	0.34	60.15	0.34	61.17	0.38
59.15	0.34	60.17	0.34	61.19	0.39
59.17	0.34	60.19	0.34	61.21	0.40
59.19	0.34	60.21	0.34	61.23	0.40
59.21	0.34	60.23	0.34	61.25	0.41
59.23	0.34	60.25	0.34	61.27	0.41
59.25	0.34	60.27	0.34	61.29	0.42
59.27	0.34	60.29	0.34	61.31	0.42
59.29	0.34	60.31	0.34	61.33	0.43
59.31	0.34	60.33	0.34	61.35	0.43
59.33	0.34	60.35	0.34	61.37	0.44
59.35	0.34	60.37	0.34	61.39	0.44
59.37	0.34	60.39	0.34	61.41	0.45
59.39	0.34	60.41	0.34	61.43	0.46
59.41	0.34	60.43	0.34	61.45	0.46
59.43	0.34	60.45	0.34	61.47	0.47
59.45	0.34	60.47	0.34	61.49	0.47
59.47	0.34	60.49	0.34	61.51	0.56
59.49	0.34	60.51	0.34	61.53	0.89
59.51	0.34	60.53	0.34	61.55	1.37
59.53	0.34	60.55	0.34	61.57	1.77
59.55	0.34	60.57	0.34	61.59	1.94
59.57	0.34	60.59	0.34	61.61	2.10
59.59	0.34	60.61	0.34	61.63	2.25
59.61	0.34	60.63	0.34	61.65	2.38
59.63	0.34	60.65	0.34	61.67	2.51
59.65	0.34	60.67	0.34	61.69	2.62
59.67	0.34	60.69	0.34	61.71	2.74
59.69	0.34	60.71	0.34	61.73	2.85
59.71	0.34	60.73	0.34	61.75	2.95
59.73	0.34	60.75	0.34	61.77	3.05
59.75	0.34	60.77	0.34	61.79	3.15
59.77	0.34	60.79	0.34	61.81	3.24
59.79	0.34	60.81	0.34	61.83	3.33
59.81	0.34	60.83	0.34	61.85	3.42
59.83	0.34	60.85	0.34	61.87	3.50
59.85	0.34	60.87	0.34	61.89	3.59
59.87	0.34	60.89	0.34	61.91	3.67
59.89	0.34	60.91	0.34	61.93	3.75
59.91	0.34	60.93	0.34	61.95	3.83
59.93	0.34	60.95	0.34	61.97	3.90
59.95	0.34	60.97	0.34	61.99	**3.98**
59.97	0.34	60.99	0.34		
59.99	0.34	61.01	0.34		

Stage-Area-Storage for Pond 20P: Sand Filter 4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
58.99	1,767	0
59.04	1,767	29
59.09	1,767	58
59.14	1,767	87
59.19	1,767	117
59.24	1,767	146
59.29	1,767	175
59.34	1,767	204
59.39	1,767	233
59.44	1,767	262
59.49	1,767	292
59.54	1,767	321
59.59	1,767	350
59.64	1,767	379
59.69	1,767	408
59.74	1,767	437
59.79	1,767	466
59.84	1,767	496
59.89	1,767	525
59.94	1,767	554
59.99	1,767	583
60.04	1,767	612
60.09	1,767	641
60.14	1,767	671
60.19	1,767	700
60.24	1,767	729
60.29	1,767	758
60.34	1,767	787
60.39	1,767	816
60.44	1,767	846
60.49	1,767	875
60.54	1,767	904
60.59	1,767	933
60.64	1,767	962
60.69	1,767	991
60.74	1,767	1,020
60.79	1,767	1,050
60.84	1,767	1,079
60.89	1,767	1,108
60.94	1,767	1,137
60.99	1,767	1,166
61.04	1,824	1,256
61.09	1,895	1,349
61.14	1,966	1,445
61.19	2,037	1,545
61.24	2,108	1,649
61.29	2,179	1,756
61.34	2,249	1,867
61.39	2,320	1,981
61.44	2,391	2,099
61.49	2,462	2,220
61.54	2,533	2,345
61.59	2,604	2,473
61.64	2,675	2,605
61.69	2,746	2,741
61.74	2,817	2,880
61.79	2,888	3,023
61.84	2,959	3,169
61.89	3,030	3,319
61.94	3,101	3,472
61.99	**3,172**	**3,629**

Pro-Hydro
Prepared by Pare Corporation
HydroCAD® 10.20-5c s/n 04883 © 2023 HydroCAD Software Solutions LLC

Summary for Pond 23P: UGIS-1

Inflow Area = 151,857 sf,100.00% Impervious, Inflow Depth = 1.22" for 10-year event
Inflow = 5.84 cfs @ 12.08 hrs, Volume= 15,464 cf
Outflow = 1.33 cfs @ 12.50 hrs, Volume= 15,464 cf, Atten= 77%, Lag= 24.8 min
Discarded = 0.08 cfs @ 12.50 hrs, Volume= 12,512 cf
Primary = 1.25 cfs @ 12.50 hrs, Volume= 2,952 cf
Routed to Link 6L : DP 2.1 - West Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 48.74' @ 12.50 hrs Surf.Area= 6,719 sf Storage= 11,219 cf

Plug-Flow detention time= 1,121.7 min calculated for 15,461 cf (100% of inflow)
Center-of-Mass det. time= 1,122.0 min (1,853.6 - 731.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.30'	3,295 cf	**66.58'W x 80.00'L x 3.21'H Field A** 17,090 cf Overall - 7,104 cf Embedded = 9,986 cf x 33.0% Voids
#2A	46.80'	7,104 cf	**Cultec R-280HD** x 165 Inside #1 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap Row Length Adjustment= +1.00' x 6.07 sf x 15 rows
#3B	46.30'	893 cf	**44.92'W x 31.00'L x 3.21'H Field B** 4,467 cf Overall - 1,761 cf Embedded = 2,707 cf x 33.0% Voids
#4B	46.80'	1,761 cf	**Cultec R-280HD** x 40 Inside #3 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap Row Length Adjustment= +1.00' x 6.07 sf x 10 rows
		13,053 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	46.80'	**24.0" Round Culvert** L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.80' / 43.50' S= 0.0550 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Primary	48.40'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	49.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Discarded	46.30'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 43.30' Phase-In= 0.02'

Discarded OutFlow Max=0.08 cfs @ 12.50 hrs HW=48.74' (Free Discharge)
└**4=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=1.25 cfs @ 12.50 hrs HW=48.74' TW=0.00' (Dynamic Tailwater)
├**1=Culvert** (Passes 0.00 cfs of 11.66 cfs potential flow)
│└**3=Sharp-Crested Rectangular Weir**(Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir**(Weir Controls 1.25 cfs @ 1.91 fps)

Pond 23P: UGIS-1 - Chamber Wizard Field A

Chamber Model = Cultec R-280HD (Cultec Recharger®280HD)
Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf
Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
Row Length Adjustment= +1.00' x 6.07 sf x 15 rows

47.0" Wide + 5.0" Spacing = 52.0" C-C Row Spacing

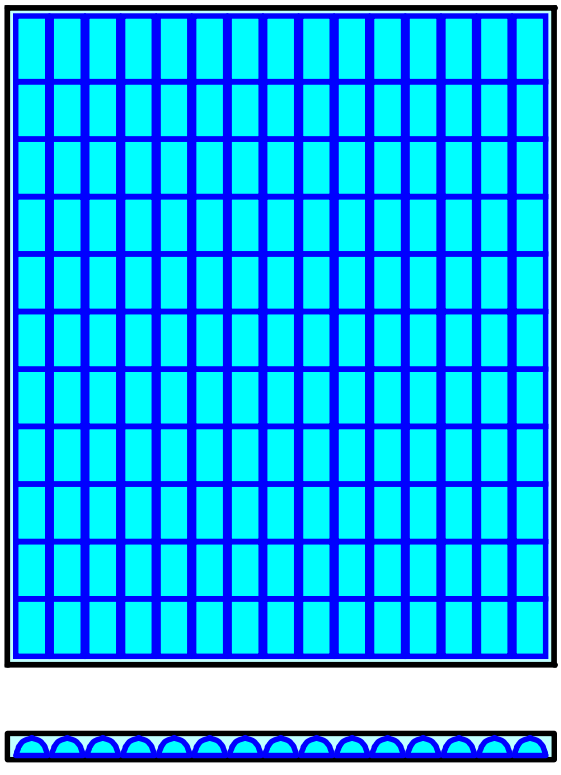
11 Chambers/Row x 7.00' Long +1.00' Row Adjustment = 78.00' Row Length +12.0" End Stone x 2 = 80.00' Base Length
15 Rows x 47.0" Wide + 5.0" Spacing x 14 + 12.0" Side Stone x 2 = 66.58' Base Width
6.0" Stone Base + 26.5" Chamber Height + 6.0" Stone Cover = 3.21' Field Height

165 Chambers x 42.5 cf +1.00' Row Adjustment x 6.07 sf x 15 Rows = 7,103.9 cf Chamber Storage

17,089.7 cf Field - 7,103.9 cf Chambers = 9,985.8 cf Stone x 33.0% Voids = 3,295.3 cf Stone Storage

Chamber Storage + Stone Storage = 10,399.3 cf = 0.239 af
Overall Storage Efficiency = 60.9%
Overall System Size = 80.00' x 66.58' x 3.21'

165 Chambers
633.0 cy Field
369.8 cy Stone



Pond 23P: UGIS-1 - Chamber Wizard Field B

Chamber Model = Cultec R-280HD (Cultec Recharger®280HD)
Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf
Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
Row Length Adjustment= +1.00' x 6.07 sf x 10 rows

47.0" Wide + 5.0" Spacing = 52.0" C-C Row Spacing

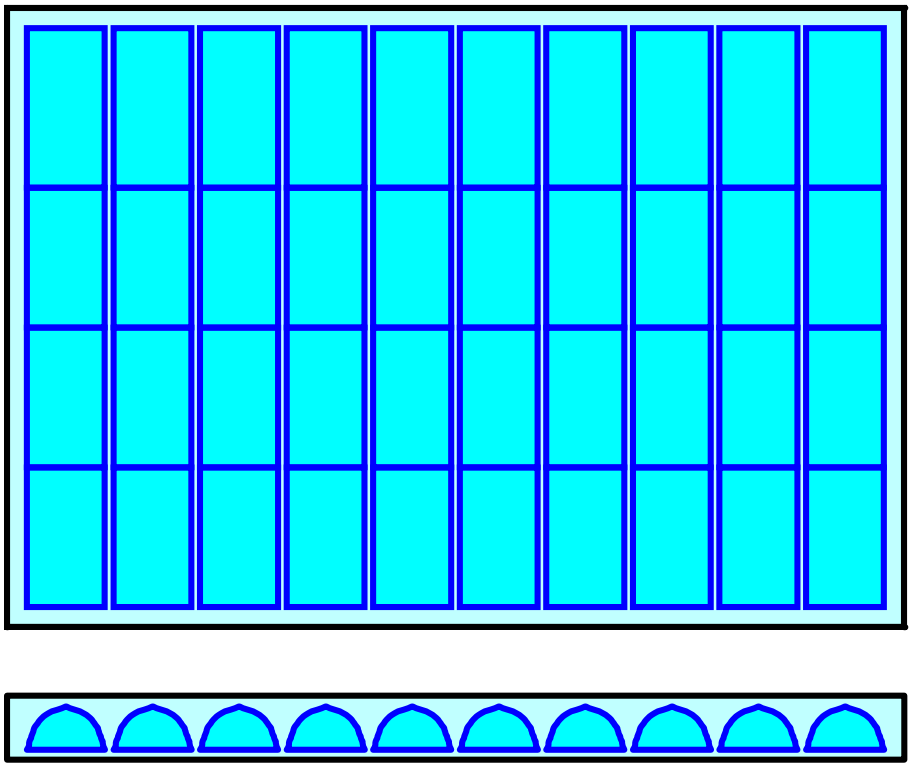
4 Chambers/Row x 7.00' Long +1.00' Row Adjustment = 29.00' Row Length +12.0" End Stone x 2 = 31.00' Base Length
10 Rows x 47.0" Wide + 5.0" Spacing x 9 + 12.0" Side Stone x 2 = 44.92' Base Width
6.0" Stone Base + 26.5" Chamber Height + 6.0" Stone Cover = 3.21' Field Height

40 Chambers x 42.5 cf +1.00' Row Adjustment x 6.07 sf x 10 Rows = 1,760.8 cf Chamber Storage

4,467.3 cf Field - 1,760.8 cf Chambers = 2,706.5 cf Stone x 33.0% Voids = 893.2 cf Stone Storage

Chamber Storage + Stone Storage = 2,654.0 cf = 0.061 af
Overall Storage Efficiency = 59.4%
Overall System Size = 31.00' x 44.92' x 3.21'

40 Chambers
165.5 cy Field
100.2 cy Stone



Hydrograph for Pond 23P: UGIS-1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	46.30	0.00	0.00	0.00
5.00	0.01	5	46.30	0.00	0.00	0.00
10.00	**0.17**	**505**	**46.53**	**0.05**	**0.05**	**0.00**
15.00	**0.08**	**9,939**	**48.43**	**0.10**	**0.07**	**0.03**
20.00	0.01	9,422	48.31	0.07	0.07	0.00
25.00	0.00	8,332	48.09	0.07	0.07	0.00
30.00	0.00	7,154	47.86	0.06	0.06	0.00
35.00	0.00	6,030	47.66	0.06	0.06	0.00
40.00	0.00	4,958	47.46	0.06	0.06	0.00
45.00	0.00	3,932	47.28	0.06	0.06	0.00
50.00	0.00	2,950	47.11	0.05	0.05	0.00
55.00	0.00	2,010	46.95	0.05	0.05	0.00
60.00	0.00	1,110	46.80	0.05	0.05	0.00
65.00	0.00	276	46.42	0.04	0.04	0.00
70.00	0.00	0	46.30	0.00	0.00	0.00
75.00	0.00	0	46.30	0.00	0.00	0.00
80.00	0.00	0	46.30	0.00	0.00	0.00
85.00	0.00	0	46.30	0.00	0.00	0.00
90.00	0.00	0	46.30	0.00	0.00	0.00
95.00	0.00	0	46.30	0.00	0.00	0.00
100.00	0.00	0	46.30	0.00	0.00	0.00
105.00	0.00	0	46.30	0.00	0.00	0.00
110.00	0.00	0	46.30	0.00	0.00	0.00
115.00	0.00	0	46.30	0.00	0.00	0.00
120.00	0.00	0	46.30	0.00	0.00	0.00
125.00	0.00	0	46.30	0.00	0.00	0.00
130.00	0.00	0	46.30	0.00	0.00	0.00
135.00	0.00	0	46.30	0.00	0.00	0.00
140.00	0.00	0	46.30	0.00	0.00	0.00
145.00	0.00	0	46.30	0.00	0.00	0.00
150.00	0.00	0	46.30	0.00	0.00	0.00
155.00	0.00	0	46.30	0.00	0.00	0.00
160.00	0.00	0	46.30	0.00	0.00	0.00
165.00	0.00	0	46.30	0.00	0.00	0.00
170.00	0.00	0	46.30	0.00	0.00	0.00
175.00	0.00	0	46.30	0.00	0.00	0.00
180.00	0.00	0	46.30	0.00	0.00	0.00
185.00	0.00	0	46.30	0.00	0.00	0.00
190.00	0.00	0	46.30	0.00	0.00	0.00
195.00	0.00	0	46.30	0.00	0.00	0.00
200.00	0.00	0	46.30	0.00	0.00	0.00
205.00	0.00	0	46.30	0.00	0.00	0.00
210.00	0.00	0	46.30	0.00	0.00	0.00
215.00	0.00	0	46.30	0.00	0.00	0.00
220.00	0.00	0	46.30	0.00	0.00	0.00
225.00	0.00	0	46.30	0.00	0.00	0.00
230.00	0.00	0	46.30	0.00	0.00	0.00
235.00	0.00	0	46.30	0.00	0.00	0.00
240.00	0.00	0	46.30	0.00	0.00	0.00

Stage-Discharge for Pond 23P: UGIS-1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
46.30	0.00	0.00	0.00
46.35	0.04	0.04	0.00
46.40	0.04	0.04	0.00
46.45	0.04	0.04	0.00
46.50	0.04	0.04	0.00
46.55	0.05	0.05	0.00
46.60	0.05	0.05	0.00
46.65	0.05	0.05	0.00
46.70	0.05	0.05	0.00
46.75	0.05	0.05	0.00
46.80	0.05	0.05	0.00
46.85	0.05	0.05	0.00
46.90	0.05	0.05	0.00
46.95	0.05	0.05	0.00
47.00	0.05	0.05	0.00
47.05	0.05	0.05	0.00
47.10	0.05	0.05	0.00
47.15	0.05	0.05	0.00
47.20	0.05	0.05	0.00
47.25	0.06	0.06	0.00
47.30	0.06	0.06	0.00
47.35	0.06	0.06	0.00
47.40	0.06	0.06	0.00
47.45	0.06	0.06	0.00
47.50	0.06	0.06	0.00
47.55	0.06	0.06	0.00
47.60	0.06	0.06	0.00
47.65	0.06	0.06	0.00
47.70	0.06	0.06	0.00
47.75	0.06	0.06	0.00
47.80	0.06	0.06	0.00
47.85	0.06	0.06	0.00
47.90	0.06	0.06	0.00
47.95	0.07	0.07	0.00
48.00	0.07	0.07	0.00
48.05	0.07	0.07	0.00
48.10	0.07	0.07	0.00
48.15	0.07	0.07	0.00
48.20	0.07	0.07	0.00
48.25	0.07	0.07	0.00
48.30	0.07	0.07	0.00
48.35	0.07	0.07	0.00
48.40	0.07	0.07	0.00
48.45	0.14	0.07	0.07
48.50	0.28	0.07	0.20
48.55	0.45	0.07	0.37
48.60	0.65	0.07	0.57
48.65	0.87	0.07	0.80
48.70	1.12	0.08	1.04
48.75	1.38	0.08	1.31
48.80	1.67	0.08	1.59
48.85	1.96	0.08	1.89
48.90	2.28	0.08	2.20
48.95	2.60	0.08	2.52
49.00	2.94	0.08	2.86
49.05	3.43	0.08	3.35
49.10	4.05	0.08	3.97
49.15	4.77	0.08	4.68
49.20	5.55	0.08	5.46
49.25	6.39	0.08	6.30
49.30	7.28	0.08	7.20
49.35	8.23	0.08	8.14
49.40	9.21	0.09	9.13
49.45	10.24	0.09	10.16
49.50	**11.31**	**0.09**	**11.22**

Stage-Area-Storage for Pond 23P: UGIS-1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
46.30	**6,719**	0
46.35	6,719	111
46.40	6,719	222
46.45	6,719	333
46.50	6,719	443
46.55	6,719	554
46.60	6,719	665
46.65	6,719	776
46.70	6,719	887
46.75	6,719	998
46.80	6,719	1,109
46.85	6,719	1,410
46.90	6,719	1,708
46.95	6,719	2,004
47.00	6,719	2,297
47.05	6,719	2,590
47.10	6,719	2,882
47.15	6,719	3,173
47.20	6,719	3,463
47.25	6,719	3,753
47.30	6,719	4,041
47.35	6,719	4,326
47.40	6,719	4,610
47.45	6,719	4,891
47.50	6,719	5,172
47.55	6,719	5,450
47.60	6,719	5,726
47.65	6,719	6,000
47.70	6,719	6,272
47.75	6,719	6,543
47.80	6,719	6,812
47.85	6,719	7,080
47.90	6,719	7,347
47.95	6,719	7,611
48.00	6,719	7,871
48.05	6,719	8,128
48.10	6,719	8,381
48.15	6,719	8,631
48.20	6,719	8,878
48.25	6,719	9,121
48.30	6,719	9,360
48.35	6,719	9,595
48.40	6,719	9,825
48.45	6,719	10,050
48.50	6,719	10,269
48.55	6,719	10,482
48.60	6,719	10,689
48.65	6,719	10,887
48.70	6,719	11,075
48.75	6,719	11,252
48.80	6,719	11,413
48.85	6,719	11,560
48.90	6,719	11,693
48.95	6,719	11,814
49.00	6,719	11,926
49.05	6,719	12,037
49.10	6,719	12,148
49.15	6,719	12,259
49.20	6,719	12,370
49.25	6,719	12,480
49.30	6,719	12,591
49.35	6,719	12,702
49.40	6,719	12,813
49.45	6,719	12,924
49.50	6,719	**13,035**

Summary for Pond 28P: DIV-01

Inflow Area = 379,224 sf, 32.14% Impervious, Inflow Depth = 3.04" for 10-year event
Inflow = 21.56 cfs @ 12.21 hrs, Volume= 96,131 cf
Outflow = 21.56 cfs @ 12.21 hrs, Volume= 96,131 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.60 cfs @ 12.20 hrs, Volume= 37,812 cf
Routed to Pond 13P : Sand Filter 1
Secondary = 18.97 cfs @ 12.22 hrs, Volume= 58,319 cf
Routed to Pond 15P : Detention Basin 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 48.10' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.10'	**11.0" Round Culvert** L= 14.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.10' / 46.00' S= 0.0071 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.66 sf
#2	Device 3	47.00'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	46.10'	**36.0" Round Culvert** L= 56.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.10' / 44.00' S= 0.0375 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=2.59 cfs @ 12.20 hrs HW=48.08' TW=47.02' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 2.59 cfs @ 3.93 fps)

Secondary OutFlow Max=18.79 cfs @ 12.22 hrs HW=48.08' TW=45.62' (Dynamic Tailwater)
└**3=Culvert** (Inlet Controls 18.79 cfs @ 3.79 fps)
└**2=Sharp-Crested Rectangular Weir** (Passes 18.79 cfs of 21.36 cfs potential flow)

Hydrograph for Pond 28P: DIV-01

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	46.10	0.00	0.00	0.00
5.00	0.04	46.21	0.04	0.04	0.00
10.00	**0.65**	**46.62**	**0.65**	**0.65**	**0.00**
15.00	**1.49**	**47.13**	**1.49**	**0.53**	**0.96**
20.00	0.51	47.00	0.51	0.50	0.00
25.00	0.00	46.10	0.00	0.00	0.00
30.00	0.00	46.58	0.00	0.00	0.00
35.00	0.00	46.52	0.00	0.00	0.00
40.00	0.00	46.46	0.00	0.00	0.00
45.00	0.00	46.37	0.00	0.00	0.00
50.00	0.00	46.31	0.00	0.00	0.00
55.00	0.00	46.25	0.00	0.00	0.00
60.00	0.00	46.16	0.00	0.00	0.00
65.00	0.00	46.10	0.00	0.00	0.00
70.00	0.00	46.10	0.00	0.00	0.00
75.00	0.00	46.10	0.00	0.00	0.00
80.00	0.00	46.10	0.00	0.00	0.00
85.00	0.00	46.10	0.00	0.00	0.00
90.00	0.00	46.10	0.00	0.00	0.00
95.00	0.00	46.10	0.00	0.00	0.00
100.00	0.00	46.10	0.00	0.00	0.00
105.00	0.00	46.10	0.00	0.00	0.00
110.00	0.00	46.10	0.00	0.00	0.00
115.00	0.00	46.10	0.00	0.00	0.00
120.00	0.00	46.10	0.00	0.00	0.00
125.00	0.00	46.10	0.00	0.00	0.00
130.00	0.00	46.10	0.00	0.00	0.00
135.00	0.00	46.10	0.00	0.00	0.00
140.00	0.00	46.10	0.00	0.00	0.00
145.00	0.00	46.10	0.00	0.00	0.00
150.00	0.00	46.10	0.00	0.00	0.00
155.00	0.00	46.10	0.00	0.00	0.00
160.00	0.00	46.10	0.00	0.00	0.00
165.00	0.00	46.10	0.00	0.00	0.00
170.00	0.00	46.10	0.00	0.00	0.00
175.00	0.00	46.10	0.00	0.00	0.00
180.00	0.00	46.10	0.00	0.00	0.00
185.00	0.00	46.10	0.00	0.00	0.00
190.00	0.00	46.10	0.00	0.00	0.00
195.00	0.00	46.10	0.00	0.00	0.00
200.00	0.00	46.10	0.00	0.00	0.00
205.00	0.00	46.10	0.00	0.00	0.00
210.00	0.00	46.10	0.00	0.00	0.00
215.00	0.00	46.10	0.00	0.00	0.00
220.00	0.00	46.10	0.00	0.00	0.00
225.00	0.00	46.10	0.00	0.00	0.00
230.00	0.00	46.10	0.00	0.00	0.00
235.00	0.00	46.10	0.00	0.00	0.00
240.00	0.00	46.10	0.00	0.00	0.00

Stage-Discharge for Pond 28P: DIV-01

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
46.10	0.00	0.00	0.00
46.15	0.01	0.01	0.00
46.20	0.03	0.03	0.00
46.25	0.07	0.07	0.00
46.30	0.12	0.12	0.00
46.35	0.18	0.18	0.00
46.40	0.25	0.25	0.00
46.45	0.33	0.33	0.00
46.50	0.41	0.41	0.00
46.55	0.51	0.51	0.00
46.60	0.61	0.61	0.00
46.65	0.72	0.72	0.00
46.70	0.83	0.83	0.00
46.75	0.95	0.95	0.00
46.80	1.07	1.07	0.00
46.85	1.20	1.20	0.00
46.90	1.32	1.32	0.00
46.95	1.45	1.45	0.00
47.00	1.58	1.58	0.00
47.05	1.92	1.70	0.22
47.10	2.44	1.82	0.62
47.15	3.06	1.93	1.13
47.20	3.75	2.01	1.74
47.25	4.52	2.09	2.43
47.30	5.35	2.16	3.19
47.35	6.25	2.23	4.02
47.40	7.20	2.30	4.90
47.45	8.20	2.37	5.83
47.50	9.26	2.43	6.82
47.55	10.35	2.50	7.86
47.60	11.50	2.56	8.94
47.65	12.68	2.62	10.06
47.70	13.90	2.68	11.22
47.75	15.16	2.74	12.42
47.80	16.46	2.80	13.66
47.85	17.79	2.85	14.94
47.90	18.88	2.91	15.97
47.95	19.68	2.96	16.72
48.00	20.50	3.01	17.49
48.05	21.32	3.06	18.26
48.10	22.14	3.11	19.03
48.15	22.97	3.16	19.81
48.20	23.80	3.21	20.59
48.25	24.63	3.26	21.37
48.30	25.46	3.31	22.15
48.35	26.29	3.36	22.93
48.40	27.11	3.40	23.70
48.45	27.93	3.45	24.48
48.50	28.74	3.50	25.24
48.55	29.54	3.54	26.00
48.60	30.33	3.58	26.75
48.65	31.11	3.63	27.49
48.70	31.88	3.67	28.21
48.75	32.63	3.71	28.91
48.80	33.35	3.76	29.60
48.85	34.05	3.80	30.25
48.90	34.72	3.84	30.88
48.95	35.36	3.88	31.48
49.00	35.94	3.92	32.02
49.05	36.47	3.96	32.51
49.10	**36.91**	**4.00**	**32.91**

Stage-Area-Storage for Pond 28P: DIV-01

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
46.10	**0**	47.12	0	48.14	0
46.12	0	47.14	0	48.16	0
46.14	0	47.16	0	48.18	0
46.16	0	47.18	0	48.20	0
46.18	0	47.20	0	48.22	0
46.20	0	47.22	0	48.24	0
46.22	0	47.24	0	48.26	0
46.24	0	47.26	0	48.28	0
46.26	0	47.28	0	48.30	0
46.28	0	47.30	0	48.32	0
46.30	0	47.32	0	48.34	0
46.32	0	47.34	0	48.36	0
46.34	0	47.36	0	48.38	0
46.36	0	47.38	0	48.40	0
46.38	0	47.40	0	48.42	0
46.40	0	47.42	0	48.44	0
46.42	0	47.44	0	48.46	0
46.44	0	47.46	0	48.48	0
46.46	0	47.48	0	48.50	0
46.48	0	47.50	0	48.52	0
46.50	0	47.52	0	48.54	0
46.52	0	47.54	0	48.56	0
46.54	0	47.56	0	48.58	0
46.56	0	47.58	0	48.60	0
46.58	0	47.60	0	48.62	0
46.60	0	47.62	0	48.64	0
46.62	0	47.64	0	48.66	0
46.64	0	47.66	0	48.68	0
46.66	0	47.68	0	48.70	0
46.68	0	47.70	0	48.72	0
46.70	0	47.72	0	48.74	0
46.72	0	47.74	0	48.76	0
46.74	0	47.76	0	48.78	0
46.76	0	47.78	0	48.80	0
46.78	0	47.80	0	48.82	0
46.80	0	47.82	0	48.84	0
46.82	0	47.84	0	48.86	0
46.84	0	47.86	0	48.88	0
46.86	0	47.88	0	48.90	0
46.88	0	47.90	0	48.92	0
46.90	0	47.92	0	48.94	0
46.92	0	47.94	0	48.96	0
46.94	0	47.96	0	48.98	0
46.96	0	47.98	0	49.00	0
46.98	0	48.00	0	49.02	0
47.00	0	48.02	0	49.04	0
47.02	0	48.04	0	49.06	0
47.04	0	48.06	0	49.08	0
47.06	0	48.08	0	49.10	0
47.08	0	48.10	0		
47.10	0	48.12	0		

Summary for Pond 33P: Wet Swale

Inflow Area = 57,295 sf, 71.89% Impervious, Inflow Depth = 3.99" for 10-year event
Inflow = 5.65 cfs @ 12.09 hrs, Volume= 19,058 cf
Outflow = 4.45 cfs @ 12.16 hrs, Volume= 19,058 cf, Atten= 21%, Lag= 4.1 min
Discarded = 0.01 cfs @ 4.95 hrs, Volume= 4,931 cf
Primary = 4.44 cfs @ 12.16 hrs, Volume= 14,127 cf
Routed to Pond 4P : Detention Basin 2
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 2L : DP 1.1 - Culvert 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 59.96' @ 12.16 hrs Surf.Area= 5,152 sf Storage= 5,292 cf

Plug-Flow detention time= 1,023.6 min calculated for 19,054 cf (100% of inflow)
Center-of-Mass det. time= 1,025.0 min (1,808.8 - 783.8)

Volume	Invert	Avail.Storage	Storage Description
#1	57.69'	11,649 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.69	1,511	0.0	0	0
57.70	1,511	33.0	5	5
58.69	1,511	33.0	494	499
58.70	1,801	100.0	17	515
59.00	3,213	100.0	752	1,267
60.00	5,228	100.0	4,221	5,488
61.00	7,094	100.0	6,161	11,649

Device	Routing	Invert	Outlet Devices
#1	Discarded	57.69'	**0.270 in/hr Exfiltration over Surface area from 57.68' - 58.69'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Primary	56.20'	**18.0" Round Culvert** L= 62.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.20' / 55.60' S= 0.0097 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#3	Device 2	59.75'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#4	Secondary	60.50'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 4.95 hrs HW=57.72' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=4.40 cfs @ 12.16 hrs HW=59.96' TW=57.19' (Dynamic Tailwater)
└**2=Culvert** (Passes 4.40 cfs of 11.18 cfs potential flow)
└**3=Orifice/Grate** (Orifice Controls 4.40 cfs @ 2.20 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=57.69' TW=0.00' (Dynamic Tailwater)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 33P: Wet Swale

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	57.69	0.00	**0.00**	0.00	**0.00**
5.00	0.02	18	57.73	0.01	**0.01**	0.00	0.00
10.00	**0.22**	**1,387**	**59.04**	**0.01**	0.01	**0.00**	0.00
15.00	**0.24**	**4,306**	**59.76**	**0.25**	0.01	**0.24**	0.00
20.00	0.08	4,273	59.76	0.08	0.01	0.07	0.00
25.00	0.00	4,223	59.75	0.01	0.01	0.00	0.00
30.00	0.00	4,053	59.71	0.01	0.01	0.00	0.00
35.00	0.00	3,883	59.67	0.01	0.01	0.00	0.00
40.00	0.00	3,713	59.63	0.01	0.01	0.00	0.00
45.00	0.00	3,543	59.60	0.01	0.01	0.00	0.00
50.00	0.00	3,373	59.56	0.01	0.01	0.00	0.00
55.00	0.00	3,203	59.52	0.01	0.01	0.00	0.00
60.00	0.00	3,033	59.48	0.01	0.01	0.00	0.00
65.00	0.00	2,863	59.44	0.01	0.01	0.00	0.00
70.00	0.00	2,693	59.39	0.01	0.01	0.00	0.00
75.00	0.00	2,523	59.35	0.01	0.01	0.00	0.00
80.00	0.00	2,353	59.31	0.01	0.01	0.00	0.00
85.00	0.00	2,183	59.26	0.01	0.01	0.00	0.00
90.00	0.00	2,013	59.22	0.01	0.01	0.00	0.00
95.00	0.00	1,843	59.17	0.01	0.01	0.00	0.00
100.00	0.00	1,673	59.12	0.01	0.01	0.00	0.00
105.00	0.00	1,503	59.07	0.01	0.01	0.00	0.00
110.00	0.00	1,333	59.02	0.01	0.01	0.00	0.00
115.00	0.00	1,163	58.97	0.01	0.01	0.00	0.00
120.00	0.00	993	58.91	0.01	0.01	0.00	0.00
125.00	0.00	823	58.84	0.01	0.01	0.00	0.00
130.00	0.00	653	58.77	0.01	0.01	0.00	0.00
135.00	0.00	483	58.66	0.01	0.01	0.00	0.00
140.00	0.00	313	58.32	0.01	0.01	0.00	0.00
145.00	0.00	143	57.98	0.01	0.01	0.00	0.00
150.00	0.00	0	57.69	0.00	0.00	0.00	0.00
155.00	0.00	0	57.69	0.00	0.00	0.00	0.00
160.00	0.00	0	57.69	0.00	0.00	0.00	0.00
165.00	0.00	0	57.69	0.00	0.00	0.00	0.00
170.00	0.00	0	57.69	0.00	0.00	0.00	0.00
175.00	0.00	0	57.69	0.00	0.00	0.00	0.00
180.00	0.00	0	57.69	0.00	0.00	0.00	0.00
185.00	0.00	0	57.69	0.00	0.00	0.00	0.00
190.00	0.00	0	57.69	0.00	0.00	0.00	0.00
195.00	0.00	0	57.69	0.00	0.00	0.00	0.00
200.00	0.00	0	57.69	0.00	0.00	0.00	0.00
205.00	0.00	0	57.69	0.00	0.00	0.00	0.00
210.00	0.00	0	57.69	0.00	0.00	0.00	0.00
215.00	0.00	0	57.69	0.00	0.00	0.00	0.00
220.00	0.00	0	57.69	0.00	0.00	0.00	0.00
225.00	0.00	0	57.69	0.00	0.00	0.00	0.00
230.00	0.00	0	57.69	0.00	0.00	0.00	0.00
235.00	0.00	0	57.69	0.00	0.00	0.00	0.00
240.00	0.00	0	57.69	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 33P: Wet Swale

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
57.69	0.00	**0.00**	0.00	0.00
57.79	0.01	**0.01**	0.00	0.00
57.89	0.01	0.01	0.00	0.00
57.99	0.01	0.01	0.00	0.00
58.09	0.01	0.01	0.00	0.00
58.19	0.01	0.01	0.00	0.00
58.29	0.01	0.01	0.00	0.00
58.39	0.01	0.01	0.00	0.00
58.49	0.01	0.01	0.00	0.00
58.59	0.01	0.01	0.00	0.00
58.69	0.01	0.01	0.00	0.00
58.79	0.01	0.01	0.00	0.00
58.89	0.01	0.01	0.00	0.00
58.99	0.01	0.01	0.00	0.00
59.09	0.01	0.01	0.00	0.00
59.19	0.01	0.01	0.00	0.00
59.29	0.01	0.01	0.00	0.00
59.39	0.01	0.01	0.00	0.00
59.49	0.01	0.01	0.00	0.00
59.59	0.01	0.01	0.00	0.00
59.69	0.01	0.01	0.00	0.00
59.79	1.27	0.01	1.26	0.00
59.89	3.61	0.01	3.60	0.00
59.99	4.73	0.01	4.72	0.00
60.09	5.62	0.01	5.62	0.00
60.19	6.40	0.01	6.39	0.00
60.29	7.09	0.01	7.08	0.00
60.39	7.71	0.01	7.70	0.00
60.49	8.29	0.01	8.28	0.00
60.59	9.72	0.01	8.83	0.88
60.69	12.04	0.01	9.34	2.70
60.79	14.91	0.01	9.82	5.08
60.89	18.19	0.01	10.28	7.90
60.99	**21.84**	0.01	**10.72**	**11.11**

Stage-Area-Storage for Pond 33P: Wet Swale

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
57.69	1,511	0
57.74	1,511	25
57.79	1,511	50
57.84	1,511	75
57.89	1,511	100
57.94	1,511	125
57.99	1,511	150
58.04	1,511	175
58.09	1,511	199
58.14	1,511	224
58.19	1,511	249
58.24	1,511	274
58.29	1,511	299
58.34	1,511	324
58.39	1,511	349
58.44	1,511	374
58.49	1,511	399
58.54	1,511	424
58.59	1,511	449
58.64	1,511	474
58.69	1,511	499
58.74	1,989	591
58.79	2,225	696
58.84	2,460	813
58.89	2,695	942
58.94	2,931	1,083
58.99	3,166	1,235
59.04	3,294	1,397
59.09	3,394	1,565
59.14	3,495	1,737
59.19	3,596	1,914
59.24	3,697	2,096
59.29	3,797	2,284
59.34	3,898	2,476
59.39	3,999	2,674
59.44	4,100	2,876
59.49	4,200	3,084
59.54	4,301	3,296
59.59	4,402	3,514
59.64	4,503	3,736
59.69	4,603	3,964
59.74	4,704	4,197
59.79	4,805	4,434
59.84	4,906	4,677
59.89	5,006	4,925
59.94	5,107	5,178
59.99	5,208	5,436
60.04	5,303	5,698
60.09	5,396	5,966
60.14	5,489	6,238
60.19	5,583	6,515
60.24	5,676	6,796
60.29	5,769	7,082
60.34	5,862	7,373
60.39	5,956	7,669
60.44	6,049	7,969
60.49	6,142	8,274
60.54	6,236	8,583
60.59	6,329	8,897
60.64	6,422	9,216
60.69	6,516	9,539
60.74	6,609	9,867
60.79	6,702	10,200
60.84	6,795	10,538
60.89	6,889	10,880
60.94	6,982	11,227
60.99	**7,075**	**11,578**

Summary for Pond 35P: Track and Field-manifold

Inflow Area = 151,857 sf,100.00% Impervious, Inflow Depth = 3.01" for 10-year event
Inflow = 11.52 cfs @ 12.10 hrs, Volume= 38,134 cf
Outflow = 9.51 cfs @ 12.20 hrs, Volume= 38,134 cf, Atten= 17%, Lag= 5.9 min
Discarded = 0.67 cfs @ 12.20 hrs, Volume= 9,404 cf
Primary = 8.84 cfs @ 12.20 hrs, Volume= 28,730 cf
Routed to Pond 8P : DIV-04

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 49.69' @ 12.20 hrs Surf.Area= 8,273 sf Storage= 3,941 cf

Plug-Flow detention time= 12.7 min calculated for 38,126 cf (100% of inflow)
Center-of-Mass det. time= 12.7 min (758.1 - 745.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	48.50'	4,898 cf	**7.00'W x 1,182.00'L x 2.25'H Field A** 18,608 cf Overall - 3,767 cf Embedded = 14,841 cf x 33.0% Voids
#2A	49.00'	2,832 cf	**ADS N-12 15"** x 118 Inside #1 Inside= 14.8"W x 14.8"H => 1.20 sf x 20.00'L = 24.0 cf Outside= 18.0"W x 18.0"H => 1.60 sf x 20.00'L = 31.9 cf 118 Chambers in 2 Rows
		7,730 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	48.50'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 48.40' Phase-In= 0.02'
#2	Primary	48.50'	**18.0" Round Culvert X 2.00** L= 54.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 48.50' / 46.80' S= 0.0315 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Discarded OutFlow Max=0.67 cfs @ 12.20 hrs HW=49.69' (Free Discharge)
1=Exfiltration (Controls 0.67 cfs)

Primary OutFlow Max=8.83 cfs @ 12.20 hrs HW=49.69' TW=48.75' (Dynamic Tailwater)
2=Culvert (Inlet Controls 8.83 cfs @ 2.93 fps)

Pond 35P: Track and Field-manifold - Chamber Wizard Field A

Chamber Model = ADS N-12 15" (ADS N-12® Pipe)
Inside= 14.8"W x 14.8"H => 1.20 sf x 20.00'L = 24.0 cf
Outside= 18.0"W x 18.0"H => 1.60 sf x 20.00'L = 31.9 cf

18.0" Wide + 24.0" Spacing = 42.0" C-C Row Spacing

59 Chambers/Row x 20.00' Long = 1,180.00' Row Length +12.0" End Stone x 2 = 1,182.00' Base Length
2 Rows x 18.0" Wide + 24.0" Spacing x 1 + 12.0" Side Stone x 2 = 7.00' Base Width
6.0" Stone Base + 18.0" Chamber Height + 3.0" Stone Cover = 2.25' Field Height

118 Chambers x 24.0 cf = 2,832.0 cf Chamber Storage
118 Chambers x 31.9 cf = 3,767.1 cf Displacement

18,608.5 cf Field - 3,767.1 cf Chambers = 14,841.3 cf Stone x 33.0% Voids = 4,897.6 cf Stone Storage

Chamber Storage + Stone Storage = 7,729.6 cf = 0.177 af
Overall Storage Efficiency = 41.5%
Overall System Size = 1,182.00' x 7.00' x 2.25'

118 Chambers
689.2 cy Field
549.7 cy Stone

Hydrograph for Pond 35P: Track and Field-manifold

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	48.50	0.00	0.00	0.00
5.00	0.08	67	48.52	0.07	0.06	0.01
10.00	**0.32**	**389**	**48.64**	**0.30**	**0.13**	**0.17**
15.00	**0.27**	**433**	**48.66**	**0.29**	**0.13**	**0.16**
20.00	0.09	150	48.56	0.10	0.08	0.02
25.00	0.00	2	48.50	0.00	0.00	0.00
30.00	0.00	0	48.50	0.00	0.00	0.00
35.00	0.00	0	48.50	0.00	0.00	0.00
40.00	0.00	0	48.50	0.00	0.00	0.00
45.00	0.00	0	48.50	0.00	0.00	0.00
50.00	0.00	0	48.50	0.00	0.00	0.00
55.00	0.00	0	48.50	0.00	0.00	0.00
60.00	0.00	0	48.50	0.00	0.00	0.00
65.00	0.00	0	48.50	0.00	0.00	0.00
70.00	0.00	0	48.50	0.00	0.00	0.00
75.00	0.00	0	48.50	0.00	0.00	0.00
80.00	0.00	0	48.50	0.00	0.00	0.00
85.00	0.00	0	48.50	0.00	0.00	0.00
90.00	0.00	0	48.50	0.00	0.00	0.00
95.00	0.00	0	48.50	0.00	0.00	0.00
100.00	0.00	0	48.50	0.00	0.00	0.00
105.00	0.00	0	48.50	0.00	0.00	0.00
110.00	0.00	0	48.50	0.00	0.00	0.00
115.00	0.00	0	48.50	0.00	0.00	0.00
120.00	0.00	0	48.50	0.00	0.00	0.00
125.00	0.00	0	48.50	0.00	0.00	0.00
130.00	0.00	0	48.50	0.00	0.00	0.00
135.00	0.00	0	48.50	0.00	0.00	0.00
140.00	0.00	0	48.50	0.00	0.00	0.00
145.00	0.00	0	48.50	0.00	0.00	0.00
150.00	0.00	0	48.50	0.00	0.00	0.00
155.00	0.00	0	48.50	0.00	0.00	0.00
160.00	0.00	0	48.50	0.00	0.00	0.00
165.00	0.00	0	48.50	0.00	0.00	0.00
170.00	0.00	0	48.50	0.00	0.00	0.00
175.00	0.00	0	48.50	0.00	0.00	0.00
180.00	0.00	0	48.50	0.00	0.00	0.00
185.00	0.00	0	48.50	0.00	0.00	0.00
190.00	0.00	0	48.50	0.00	0.00	0.00
195.00	0.00	0	48.50	0.00	0.00	0.00
200.00	0.00	0	48.50	0.00	0.00	0.00
205.00	0.00	0	48.50	0.00	0.00	0.00
210.00	0.00	0	48.50	0.00	0.00	0.00
215.00	0.00	0	48.50	0.00	0.00	0.00
220.00	0.00	0	48.50	0.00	0.00	0.00
225.00	0.00	0	48.50	0.00	0.00	0.00
230.00	0.00	0	48.50	0.00	0.00	0.00
235.00	0.00	0	48.50	0.00	0.00	0.00
240.00	0.00	0	48.50	0.00	0.00	0.00

Stage-Discharge for Pond 35P: Track and Field-manifold

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
48.50	0.00	0.00	0.00
48.55	0.10	0.08	0.02
48.60	0.19	0.10	0.09
48.65	0.32	0.13	0.19
48.70	0.49	0.16	0.34
48.75	0.70	0.18	0.52
48.80	0.95	0.21	0.74
48.85	1.23	0.23	1.00
48.90	1.54	0.26	1.29
48.95	1.89	0.28	1.61
49.00	2.27	0.31	1.96
49.05	2.68	0.34	2.34
49.10	3.11	0.36	2.75
49.15	3.57	0.39	3.18
49.20	4.05	0.41	3.64
49.25	4.55	0.44	4.11
49.30	5.07	0.47	4.61
49.35	5.61	0.49	5.12
49.40	6.16	0.52	5.65
49.45	6.73	0.54	6.18
49.50	7.30	0.57	6.73
49.55	7.87	0.59	7.28
49.60	8.45	0.62	7.83
49.65	9.03	0.65	8.38
49.70	9.60	0.67	8.92
49.75	10.16	0.70	9.46
49.80	10.70	0.72	9.97
49.85	11.21	0.75	10.46
49.90	11.69	0.78	10.92
49.95	12.12	0.80	11.32
50.00	12.46	0.83	11.63
50.05	12.87	0.85	12.02
50.10	13.27	0.88	12.39
50.15	13.65	0.90	12.75
50.20	14.03	0.93	13.09
50.25	14.39	0.96	13.43
50.30	14.75	0.98	13.77
50.35	15.10	1.01	14.09
50.40	15.44	1.03	14.41
50.45	15.78	1.06	14.72
50.50	16.11	1.09	15.02
50.55	16.43	1.11	15.32
50.60	16.75	1.14	15.61
50.65	17.06	1.16	15.90
50.70	17.37	1.19	16.18
50.75	**17.67**	**1.22**	**16.45**

Stage-Area-Storage for Pond 35P: Track and Field-manifold

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
48.50	**8,273**	0
48.55	8,273	136
48.60	8,273	273
48.65	8,273	409
48.70	8,273	546
48.75	8,273	682
48.80	8,273	819
48.85	8,273	955
48.90	8,273	1,092
48.95	8,273	1,228
49.00	8,273	1,365
49.05	8,273	1,489
49.10	8,273	1,602
49.15	8,273	1,718
49.20	8,273	1,874
49.25	8,273	2,049
49.30	8,273	2,238
49.35	8,273	2,437
49.40	8,273	2,644
49.45	8,273	2,857
49.50	8,273	3,075
49.55	8,273	3,297
49.60	8,273	3,522
49.65	8,273	3,749
49.70	8,273	3,978
49.75	8,273	4,207
49.80	8,273	4,437
49.85	8,273	4,666
49.90	8,273	4,893
49.95	8,273	5,118
50.00	8,273	5,340
50.05	8,273	5,558
50.10	8,273	5,771
50.15	8,273	5,977
50.20	8,273	6,176
50.25	8,273	6,365
50.30	8,273	6,540
50.35	8,273	6,695
50.40	8,273	6,811
50.45	8,273	6,925
50.50	8,273	7,049
50.55	8,273	7,185
50.60	8,273	7,322
50.65	8,273	7,458
50.70	8,273	7,595
50.75	8,273	**7,730**

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Summary for Link 2L: DP 1.1 - Culvert 1

Inflow Area = 475,005 sf, 1.72% Impervious, Inflow Depth = 2.54" for 10-year event
Inflow = 21.30 cfs @ 12.30 hrs, Volume= 100,525 cf
Primary = 21.30 cfs @ 12.30 hrs, Volume= 100,525 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DP 1.2 - Culvert 2

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 2L: DP 1.1 - Culvert 1

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	**0.37**	0.00	**0.37**	137.50	0.00	0.00	0.00
12.50	**15.63**	0.00	**15.63**	140.00	0.00	0.00	0.00
15.00	1.75	0.00	1.75	142.50	0.00	0.00	0.00
17.50	0.88	0.00	0.88	145.00	0.00	0.00	0.00
20.00	0.60	0.00	0.60	147.50	0.00	0.00	0.00
22.50	0.47	0.00	0.47	150.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	152.50	0.00	0.00	0.00
27.50	0.00	0.00	0.00	155.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	157.50	0.00	0.00	0.00
32.50	0.00	0.00	0.00	160.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

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Summary for Link 3L: DP 1.2 - Culvert 2

Inflow Area = 536,345 sf, 2.91% Impervious, Inflow Depth = 2.58" for 10-year event
Inflow = 23.04 cfs @ 12.29 hrs, Volume= 115,134 cf
Primary = 23.04 cfs @ 12.29 hrs, Volume= 115,134 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DP 1.3 - Culvert 3

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 3L: DP 1.2 - Culvert 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	**0.45**	0.00	**0.45**	137.50	0.00	0.00	0.00
12.50	**16.86**	0.00	**16.86**	140.00	0.00	0.00	0.00
15.00	2.20	0.00	2.20	142.50	0.00	0.00	0.00
17.50	1.00	0.00	1.00	145.00	0.00	0.00	0.00
20.00	0.68	0.00	0.68	147.50	0.00	0.00	0.00
22.50	0.53	0.00	0.53	150.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	152.50	0.00	0.00	0.00
27.50	0.00	0.00	0.00	155.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	157.50	0.00	0.00	0.00
32.50	0.00	0.00	0.00	160.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

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Summary for Link 4L: DP 1.3 - Culvert 3

Inflow Area = 562,190 sf, 3.45% Impervious, Inflow Depth = 2.59" for 10-year event
Inflow = 23.98 cfs @ 12.29 hrs, Volume= 121,177 cf
Primary = 23.98 cfs @ 12.29 hrs, Volume= 121,177 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 4L: DP 1.3 - Culvert 3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	**0.49**	0.00	**0.49**	137.50	0.00	0.00	0.00
12.50	**17.36**	0.00	**17.36**	140.00	0.00	0.00	0.00
15.00	2.30	0.00	2.30	142.50	0.00	0.00	0.00
17.50	1.04	0.00	1.04	145.00	0.00	0.00	0.00
20.00	0.71	0.00	0.71	147.50	0.00	0.00	0.00
22.50	0.56	0.00	0.56	150.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	152.50	0.00	0.00	0.00
27.50	0.00	0.00	0.00	155.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	157.50	0.00	0.00	0.00
32.50	0.00	0.00	0.00	160.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 5L: DP 1.4 - Silver Creek East Branch

Inflow Area = 1,084,691 sf, 28.21% Impervious, Inflow Depth = 2.74" for 10-year event
Inflow = 50.66 cfs @ 12.16 hrs, Volume= 247,294 cf
Primary = 50.66 cfs @ 12.16 hrs, Volume= 247,294 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

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Hydrograph for Link 5L: DP 1.4 - Silver Creek East Branch

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.01	0.00	0.01	130.00	0.00	0.00	0.00
5.00	0.01	0.00	0.01	132.50	0.00	0.00	0.00
7.50	0.08	0.00	0.08	135.00	0.00	0.00	0.00
10.00	**0.81**	0.00	**0.81**	137.50	0.00	0.00	0.00
12.50	**29.65**	0.00	**29.65**	140.00	0.00	0.00	0.00
15.00	4.38	0.00	4.38	142.50	0.00	0.00	0.00
17.50	2.02	0.00	2.02	145.00	0.00	0.00	0.00
20.00	1.33	0.00	1.33	147.50	0.00	0.00	0.00
22.50	1.03	0.00	1.03	150.00	0.00	0.00	0.00
25.00	0.13	0.00	0.13	152.50	0.00	0.00	0.00
27.50	0.12	0.00	0.12	155.00	0.00	0.00	0.00
30.00	0.11	0.00	0.11	157.50	0.00	0.00	0.00
32.50	0.10	0.00	0.10	160.00	0.00	0.00	0.00
35.00	0.10	0.00	0.10	162.50	0.00	0.00	0.00
37.50	0.09	0.00	0.09	165.00	0.00	0.00	0.00
40.00	0.09	0.00	0.09	167.50	0.00	0.00	0.00
42.50	0.08	0.00	0.08	170.00	0.00	0.00	0.00
45.00	0.06	0.00	0.06	172.50	0.00	0.00	0.00
47.50	0.02	0.00	0.02	175.00	0.00	0.00	0.00
50.00	0.02	0.00	0.02	177.50	0.00	0.00	0.00
52.50	0.01	0.00	0.01	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 6L: DP 2.1 - West Wetland

Inflow Area = 835,379 sf, 33.92% Impervious, Inflow Depth = 2.26" for 10-year event
Inflow = 20.15 cfs @ 12.50 hrs, Volume= 157,573 cf
Primary = 20.15 cfs @ 12.50 hrs, Volume= 157,573 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : DP 2.2 - Silver Creek West Branch

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 6L: DP 2.1 - West Wetland

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	0.01	0.00	0.01	137.50	0.00	0.00	0.00
12.50	**20.15**	0.00	**20.15**	140.00	0.00	0.00	0.00
15.00	3.65	0.00	3.65	142.50	0.00	0.00	0.00
17.50	1.62	0.00	1.62	145.00	0.00	0.00	0.00
20.00	1.00	0.00	1.00	147.50	0.00	0.00	0.00
22.50	0.80	0.00	0.80	150.00	0.00	0.00	0.00
25.00	0.48	0.00	0.48	152.50	0.00	0.00	0.00
27.50	0.28	0.00	0.28	155.00	0.00	0.00	0.00
30.00	0.14	0.00	0.14	157.50	0.00	0.00	0.00
32.50	0.07	0.00	0.07	160.00	0.00	0.00	0.00
35.00	0.04	0.00	0.04	162.50	0.00	0.00	0.00
37.50	0.03	0.00	0.03	165.00	0.00	0.00	0.00
40.00	0.02	0.00	0.02	167.50	0.00	0.00	0.00
42.50	0.01	0.00	0.01	170.00	0.00	0.00	0.00
45.00	0.01	0.00	0.01	172.50	0.00	0.00	0.00
47.50	0.01	0.00	0.01	175.00	0.00	0.00	0.00
50.00	0.01	0.00	0.01	177.50	0.00	0.00	0.00
52.50	0.01	0.00	0.01	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

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Summary for Link 7L: DP 2.2 - Silver Creek West Branch

Inflow Area = 991,430 sf, 32.70% Impervious, Inflow Depth = 2.35" for 10-year event
Inflow = 24.67 cfs @ 12.44 hrs, Volume= 194,060 cf
Primary = 24.67 cfs @ 12.44 hrs, Volume= 194,060 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 7L: DP 2.2 - Silver Creek West Branch

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	**0.22**	0.00	**0.22**	137.50	0.00	0.00	0.00
12.50	**24.26**	0.00	**24.26**	140.00	0.00	0.00	0.00
15.00	4.24	0.00	4.24	142.50	0.00	0.00	0.00
17.50	1.92	0.00	1.92	145.00	0.00	0.00	0.00
20.00	1.20	0.00	1.20	147.50	0.00	0.00	0.00
22.50	0.96	0.00	0.96	150.00	0.00	0.00	0.00
25.00	0.48	0.00	0.48	152.50	0.00	0.00	0.00
27.50	0.28	0.00	0.28	155.00	0.00	0.00	0.00
30.00	0.14	0.00	0.14	157.50	0.00	0.00	0.00
32.50	0.07	0.00	0.07	160.00	0.00	0.00	0.00
35.00	0.04	0.00	0.04	162.50	0.00	0.00	0.00
37.50	0.03	0.00	0.03	165.00	0.00	0.00	0.00
40.00	0.02	0.00	0.02	167.50	0.00	0.00	0.00
42.50	0.01	0.00	0.01	170.00	0.00	0.00	0.00
45.00	0.01	0.00	0.01	172.50	0.00	0.00	0.00
47.50	0.01	0.00	0.01	175.00	0.00	0.00	0.00
50.00	0.01	0.00	0.01	177.50	0.00	0.00	0.00
52.50	0.01	0.00	0.01	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Time span=0.00-240.00 hrs, dt=0.05 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PDA-1.1A: Subcat PDA-1.1A Runoff Area=475,005 sf 1.72% Impervious Runoff Depth=3.57"
Flow Length=451' Slope=0.0100 '/' Tc=21.1 min CN=77 Runoff=29.98 cfs 141,177 cf

Subcatchment PDA-1.1B: Subcat PDA-1.1B Runoff Area=30,333 sf 0.05% Impervious Runoff Depth=3.67"
Flow Length=126' Tc=13.1 min CN=78 Runoff=2.36 cfs 9,270 cf

Subcatchment PDA-1.2A: Subcat PDA-1.2A Runoff Area=25,845 sf 14.60% Impervious Runoff Depth=3.87"
Flow Length=73' Tc=7.3 min UI Adjusted CN=80 Runoff=2.53 cfs 8,339 cf

Subcatchment PDA-1.3A: Subcat PDA-1.3A Runoff Area=57,295 sf 71.89% Impervious Runoff Depth=5.17"
Flow Length=198' Slope=0.0100 '/' Tc=6.5 min CN=92 Runoff=7.21 cfs 24,674 cf

Subcatchment PDA-1.3C: Subcat PDA-1.3C Runoff Area=16,850 sf 41.68% Impervious Runoff Depth=4.29"
Flow Length=49' Tc=6.8 min CN=84 Runoff=1.84 cfs 6,024 cf

Subcatchment PDA-1.3D: Subcat PDA-1.3D Runoff Area=6,850 sf 45.03% Impervious Runoff Depth=4.40"
Tc=6.0 min CN=85 Runoff=0.78 cfs 2,510 cf

Subcatchment PDA-1.4A: Subcat PDA-1.4A Runoff Area=31,007 sf 23.95% Impervious Runoff Depth=4.18"
Flow Length=144' Tc=13.4 min CN=83 Runoff=2.70 cfs 10,812 cf

Subcatchment PDA-1.4B: Subcat PDA-1.4B Runoff Area=53,181 sf 37.23% Impervious Runoff Depth=4.40"
Flow Length=98' Tc=13.9 min CN=85 Runoff=4.79 cfs 19,486 cf

Subcatchment PDA-1.4C: Subcat PDA-1.4C Runoff Area=26,810 sf 63.81% Impervious Runoff Depth=4.83"
Tc=6.0 min CN=89 Runoff=3.27 cfs 10,796 cf

Subcatchment PDA-1.4D: Subcat PDA-1.4D Runoff Area=42,514 sf 59.10% Impervious Runoff Depth=4.83"
Tc=6.0 min CN=89 Runoff=5.18 cfs 17,120 cf

Subcatchment PDA-1.4E: Subcat PDA-1.4E Runoff Area=39,245 sf 62.30% Impervious Runoff Depth=4.83"
Tc=6.0 min CN=89 Runoff=4.78 cfs 15,804 cf

Subcatchment PDA-1.4F: Subcat PDA-1.4F Runoff Area=73,858 sf 54.96% Impervious Runoff Depth=4.61"
Flow Length=346' Tc=14.5 min CN=87 Runoff=6.82 cfs 28,392 cf

Subcatchment PDA-1.4G: Subcat PDA-1.4G Runoff Area=22,284 sf 61.76% Impervious Runoff Depth=4.83"
Tc=6.0 min CN=89 Runoff=2.72 cfs 8,974 cf

Subcatchment PDA-1.4H: Subcat PDA-1.4H Runoff Area=10,744 sf 5.59% Impervious Runoff Depth=3.37"
Tc=6.0 min CN=75 Runoff=0.95 cfs 3,015 cf

Subcatchment PDA-1.4I: Subcat PDA-1.4I Runoff Area=9,824 sf 27.06% Impervious Runoff Depth=3.97"
Tc=6.0 min CN=81 Runoff=1.02 cfs 3,254 cf

Subcatchment PDA-1.4J: Subcat PDA-1.4J Runoff Area=59,466 sf 8.43% Impervious Runoff Depth=3.77"
Tc=6.0 min CN=79 Runoff=5.89 cfs 18,678 cf

Subcatchment PDA-1.4K: Subcat PDA-1.4K Runoff Area=18,876 sf 80.13% Impervious Runoff Depth=5.28"
Tc=6.0 min CN=93 Runoff=2.43 cfs 8,308 cf

Subcatchment PDA-1.4L: Subcat PDA-1.4L Runoff Area=11,978 sf 24.28% Impervious Runoff Depth=3.87"
Flow Length=75' Tc=8.5 min CN=80 Runoff=1.13 cfs 3,864 cf

Subcatchment PDA-1.4M: Subcat PDA-1.4M Runoff Area=4,734 sf 4.20% Impervious Runoff Depth=3.37"
Flow Length=166' Slope=0.0100 '/' Tc=14.3 min CN=75 Runoff=0.33 cfs 1,329 cf

Subcatchment PDA-2.1A: Subcat Runoff Area=348,138 sf 26.08% Impervious Runoff Depth=3.97"
Flow Length=269' Tc=16.3 min CN=81 Runoff=27.09 cfs 115,320 cf

Subcatchment PDA-2.1B: Subcat PDA-2.1B Runoff Area=151,957 sf 4.77% Impervious Runoff Depth=3.47"
Flow Length=123' Tc=17.0 min CN=76 Runoff=10.16 cfs 43,897 cf

Subcatchment PDA-2.2A: Subcat Runoff Area=156,051 sf 26.13% Impervious Runoff Depth=3.87"
Tc=12.9 min CN=80 Runoff=12.83 cfs 50,347 cf

Subcatchment PDA-2.2B: Subcat PDA-2.2B Runoff Area=152,340 sf 1.56% Impervious Runoff Depth=3.08"
Flow Length=565' Slope=0.0120 '/' Tc=40.0 min CN=72 Runoff=6.18 cfs 39,040 cf

Subcatchment PDA-2.2C.a: Subcat Runoff Area=90,671 sf 100.00% Impervious Runoff Depth=5.86"
Tc=6.0 min CN=98 Runoff=12.15 cfs 44,291 cf

Subcatchment PDA-2.2C.b: Subcat Runoff Area=61,186 sf 99.99% Impervious Runoff Depth=5.86"
Tc=6.0 min CN=98 Runoff=8.20 cfs 29,888 cf

Subcatchment PDA-ROOF1.3: Subcat Runoff Area=9,782 sf 100.00% Impervious Runoff Depth=5.86"
Tc=6.0 min CN=98 Runoff=1.31 cfs 4,778 cf

Subcatchment PDA-ROOF1.4: Subcat Runoff Area=58,210 sf 100.00% Impervious Runoff Depth=5.86"
Tc=6.0 min CN=98 Runoff=7.80 cfs 28,434 cf

Subcatchment PDA-ROOF2.1: Subcat Runoff Area=31,087 sf 100.00% Impervious Runoff Depth=5.86"
Tc=6.0 min CN=98 Runoff=4.17 cfs 15,185 cf

Pond 1P: Bio 4 Peak Elev=60.42' Storage=1,269 cf Inflow=1.84 cfs 6,024 cf
Discarded=0.01 cfs 1,506 cf Primary=1.70 cfs 4,518 cf Outflow=1.71 cfs 6,024 cf

Pond 2P: Bio 3 Peak Elev=59.81' Storage=1,156 cf Inflow=2.09 cfs 7,288 cf
Primary=2.07 cfs 4,769 cf Tertiary=0.02 cfs 2,519 cf Outflow=2.09 cfs 7,288 cf

Pond 3P: DIV-02 Peak Elev=57.60' Inflow=5.64 cfs 23,654 cf
Primary=1.40 cfs 16,523 cf Secondary=4.23 cfs 7,131 cf Outflow=5.64 cfs 23,654 cf

Pond 4P: Detention Basin 2 Peak Elev=58.45' Storage=8,743 cf Inflow=6.12 cfs 22,733 cf
Primary=3.94 cfs 22,729 cf Secondary=0.00 cfs 0 cf Outflow=3.94 cfs 22,729 cf

Pond 7P: Bio 2 Peak Elev=56.60' Storage=2,316 cf Inflow=3.27 cfs 10,796 cf
Primary=3.02 cfs 6,935 cf Secondary=0.00 cfs 0 cf Tertiary=0.03 cfs 3,861 cf Outflow=3.05 cfs 10,796 cf

Pond 8P: DIV-04 Peak Elev=48.94' Inflow=10.79 cfs 39,057 cf
Primary=4.97 cfs 18,058 cf Secondary=7.74 cfs 20,998 cf Outflow=10.79 cfs 39,057 cf

Pond 9P: Sand Filter 5 Peak Elev=49.99' Storage=1,640 cf Inflow=2.67 cfs 9,636 cf
Discarded=0.01 cfs 1,816 cf Primary=2.37 cfs 7,820 cf Secondary=0.00 cfs 0 cf Outflow=2.38 cfs 9,636 cf

Pond 10P: Bio 1 Peak Elev=44.58' Storage=1,891 cf Inflow=1.48 cfs 13,193 cf
Discarded=0.01 cfs 2,160 cf Primary=1.34 cfs 11,032 cf Secondary=0.00 cfs 0 cf Outflow=1.34 cfs 13,193 cf

Pond 12P: Infiltration Basin 1 Peak Elev=58.20' Storage=6,898 cf Inflow=8.82 cfs 31,688 cf
Discarded=0.08 cfs 9,801 cf Primary=7.95 cfs 21,887 cf Secondary=0.00 cfs 0 cf Outflow=8.03 cfs 31,688 cf

Pond 13P: Sand Filter 1 Peak Elev=47.52' Storage=17,607 cf Inflow=2.87 cfs 41,129 cf
Discarded=0.03 cfs 12,813 cf Primary=0.78 cfs 28,316 cf Secondary=0.00 cfs 0 cf Outflow=0.81 cfs 41,129 cf

Pond 14P: DIV-03 Peak Elev=45.35' Inflow=5.18 cfs 17,120 cf
Primary=1.48 cfs 13,193 cf Secondary=3.70 cfs 3,928 cf Outflow=5.18 cfs 17,120 cf

Pond 15P: Detention Basin 1 Peak Elev=47.25' Storage=51,322 cf Inflow=37.25 cfs 161,590 cf
Primary=15.31 cfs 161,107 cf Secondary=0.63 cfs 418 cf Tertiary=0.00 cfs 0 cf Outflow=15.94 cfs 161,526 cf

Pond 17P: Track and Field- stone base Peak Elev=50.71' Storage=6,315 cf Inflow=12.15 cfs 44,291 cf
Discarded=0.62 cfs 24,299 cf Primary=6.69 cfs 19,992 cf Outflow=7.31 cfs 44,291 cf

Pond 18P: Sand Filter 2 Peak Elev=55.48' Storage=5,430 cf Inflow=5.83 cfs 32,327 cf
Discarded=0.01 cfs 5,139 cf Primary=4.62 cfs 27,188 cf Secondary=0.00 cfs 0 cf Outflow=4.63 cfs 32,327 cf

Pond 19P: Sand Filter 3 Peak Elev=60.72' Storage=4,197 cf Inflow=2.72 cfs 8,974 cf
Discarded=0.01 cfs 4,806 cf Primary=1.30 cfs 4,168 cf Secondary=0.00 cfs 0 cf Outflow=1.31 cfs 8,974 cf

Pond 20P: Sand Filter 4 Peak Elev=61.58' Storage=2,437 cf Inflow=2.70 cfs 10,812 cf
Outflow=1.84 cfs 10,812 cf

Pond 23P: UGIS-1 Peak Elev=48.84' Storage=11,524 cf Inflow=4.97 cfs 18,058 cf
Discarded=0.08 cfs 13,090 cf Primary=1.81 cfs 4,968 cf Outflow=1.89 cfs 18,058 cf

Pond 28P: DIV-01 Peak Elev=48.58' Inflow=29.27 cfs 130,505 cf
Primary=2.87 cfs 41,129 cf Secondary=26.41 cfs 89,376 cf Outflow=29.27 cfs 130,505 cf

Pond 33P: Wet Swale Peak Elev=60.06' Storage=5,815 cf Inflow=7.21 cfs 24,674 cf
Discarded=0.01 cfs 4,956 cf Primary=5.38 cfs 19,718 cf Secondary=0.00 cfs 0 cf Outflow=5.39 cfs 24,674 cf

Pond 35P: Track and Field-manifold Peak Elev=49.88' Storage=4,825 cf Inflow=14.09 cfs 49,880 cf
Discarded=0.77 cfs 10,824 cf Primary=10.79 cfs 39,057 cf Outflow=11.55 cfs 49,880 cf

Link 2L: DP 1.1 - Culvert 1 Inflow=29.98 cfs 141,177 cf
Primary=29.98 cfs 141,177 cf

Link 3L: DP 1.2 - Culvert 2 Inflow=33.24 cfs 161,259 cf
Primary=33.24 cfs 161,259 cf

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Link 4L: DP 1.3 - Culvert 3
Inflow=34.45 cfs 169,598 cf
Primary=34.45 cfs 169,598 cf

Link 5L: DP 1.4 - Silver Creek East Branch
Inflow=69.28 cfs 344,849 cf
Primary=69.28 cfs 344,849 cf

Link 6L: DP 2.1 - West Wetland
Inflow=29.10 cfs 226,532 cf
Primary=29.10 cfs 226,532 cf

Link 7L: DP 2.2 - Silver Creek West Branch
Inflow=35.88 cfs 276,880 cf
Primary=35.88 cfs 276,880 cf

Total Runoff Area = 2,076,121 sf Runoff Volume = 713,006 cf Average Runoff Depth = 4.12"
69.65% Pervious = 1,445,943 sf 30.35% Impervious = 630,178 sf

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Time span=0.00-240.00 hrs, dt=0.05 hrs, 4801 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PDA-1.1A: Subcat PDA-1.1A Runoff Area=475,005 sf 1.72% Impervious Runoff Depth=5.83"
Flow Length=451' Slope=0.0100 '/' Tc=21.1 min CN=77 Runoff=48.60 cfs 230,673 cf

Subcatchment PDA-1.1B: Subcat PDA-1.1B Runoff Area=30,333 sf 0.05% Impervious Runoff Depth=5.95"
Flow Length=126' Tc=13.1 min CN=78 Runoff=3.78 cfs 15,036 cf

Subcatchment PDA-1.2A: Subcat PDA-1.2A Runoff Area=25,845 sf 14.60% Impervious Runoff Depth=6.19"
Flow Length=73' Tc=7.3 min UI Adjusted CN=80 Runoff=3.99 cfs 13,331 cf

Subcatchment PDA-1.3A: Subcat PDA-1.3A Runoff Area=57,295 sf 71.89% Impervious Runoff Depth=7.64"
Flow Length=198' Slope=0.0100 '/' Tc=6.5 min CN=92 Runoff=10.42 cfs 36,468 cf

Subcatchment PDA-1.3C: Subcat PDA-1.3C Runoff Area=16,850 sf 41.68% Impervious Runoff Depth=6.67"
Flow Length=49' Tc=6.8 min CN=84 Runoff=2.80 cfs 9,370 cf

Subcatchment PDA-1.3D: Subcat PDA-1.3D Runoff Area=6,850 sf 45.03% Impervious Runoff Depth=6.79"
Tc=6.0 min CN=85 Runoff=1.17 cfs 3,878 cf

Subcatchment PDA-1.4A: Subcat PDA-1.4A Runoff Area=31,007 sf 23.95% Impervious Runoff Depth=6.55"
Flow Length=144' Tc=13.4 min CN=83 Runoff=4.16 cfs 16,930 cf

Subcatchment PDA-1.4B: Subcat PDA-1.4B Runoff Area=53,181 sf 37.23% Impervious Runoff Depth=6.79"
Flow Length=98' Tc=13.9 min CN=85 Runoff=7.25 cfs 30,106 cf

Subcatchment PDA-1.4C: Subcat PDA-1.4C Runoff Area=26,810 sf 63.81% Impervious Runoff Depth=7.28"
Tc=6.0 min CN=89 Runoff=4.81 cfs 16,256 cf

Subcatchment PDA-1.4D: Subcat PDA-1.4D Runoff Area=42,514 sf 59.10% Impervious Runoff Depth=7.28"
Tc=6.0 min CN=89 Runoff=7.62 cfs 25,778 cf

Subcatchment PDA-1.4E: Subcat PDA-1.4E Runoff Area=39,245 sf 62.30% Impervious Runoff Depth=7.28"
Tc=6.0 min CN=89 Runoff=7.04 cfs 23,796 cf

Subcatchment PDA-1.4F: Subcat PDA-1.4F Runoff Area=73,858 sf 54.96% Impervious Runoff Depth=7.03"
Flow Length=346' Tc=14.5 min CN=87 Runoff=10.18 cfs 43,298 cf

Subcatchment PDA-1.4G: Subcat PDA-1.4G Runoff Area=22,284 sf 61.76% Impervious Runoff Depth=7.28"
Tc=6.0 min CN=89 Runoff=4.00 cfs 13,512 cf

Subcatchment PDA-1.4H: Subcat PDA-1.4H Runoff Area=10,744 sf 5.59% Impervious Runoff Depth=5.59"
Tc=6.0 min CN=75 Runoff=1.57 cfs 5,001 cf

Subcatchment PDA-1.4I: Subcat PDA-1.4I Runoff Area=9,824 sf 27.06% Impervious Runoff Depth=6.31"
Tc=6.0 min CN=81 Runoff=1.59 cfs 5,166 cf

Subcatchment PDA-1.4J: Subcat PDA-1.4J Runoff Area=59,466 sf 8.43% Impervious Runoff Depth=6.07"
Tc=6.0 min CN=79 Runoff=9.35 cfs 30,074 cf

Subcatchment PDA-1.4K: Subcat PDA-1.4K Runoff Area=18,876 sf 80.13% Impervious Runoff Depth=7.76"
Tc=6.0 min CN=93 Runoff=3.50 cfs 12,204 cf

Subcatchment PDA-1.4L: Subcat PDA-1.4L Runoff Area=11,978 sf 24.28% Impervious Runoff Depth=6.19"
Flow Length=75' Tc=8.5 min CN=80 Runoff=1.77 cfs 6,178 cf

Subcatchment PDA-1.4M: Subcat PDA-1.4M Runoff Area=4,734 sf 4.20% Impervious Runoff Depth=5.59"
Flow Length=166' Slope=0.0100 '/' Tc=14.3 min CN=75 Runoff=0.54 cfs 2,204 cf

Subcatchment PDA-2.1A: Subcat Runoff Area=348,138 sf 26.08% Impervious Runoff Depth=6.31"
Flow Length=269' Tc=16.3 min CN=81 Runoff=42.39 cfs 183,073 cf

Subcatchment PDA-2.1B: Subcat PDA-2.1B Runoff Area=151,957 sf 4.77% Impervious Runoff Depth=5.71"
Flow Length=123' Tc=17.0 min CN=76 Runoff=16.62 cfs 72,266 cf

Subcatchment PDA-2.2A: Subcat Runoff Area=156,051 sf 26.13% Impervious Runoff Depth=6.19"
Tc=12.9 min CN=80 Runoff=20.34 cfs 80,492 cf

Subcatchment PDA-2.2B: Subcat PDA-2.2B Runoff Area=152,340 sf 1.56% Impervious Runoff Depth=5.22"
Flow Length=565' Slope=0.0120 '/' Tc=40.0 min CN=72 Runoff=10.53 cfs 66,328 cf

Subcatchment PDA-2.2C.a: Subcat Runoff Area=90,671 sf 100.00% Impervious Runoff Depth=8.36"
Tc=6.0 min CN=98 Runoff=17.17 cfs 63,166 cf

Subcatchment PDA-2.2C.b: Subcat Runoff Area=61,186 sf 99.99% Impervious Runoff Depth=8.36"
Tc=6.0 min CN=98 Runoff=11.58 cfs 42,625 cf

Subcatchment PDA-ROOF1.3: Subcat Runoff Area=9,782 sf 100.00% Impervious Runoff Depth=8.36"
Tc=6.0 min CN=98 Runoff=1.85 cfs 6,815 cf

Subcatchment PDA-ROOF1.4: Subcat Runoff Area=58,210 sf 100.00% Impervious Runoff Depth=8.36"
Tc=6.0 min CN=98 Runoff=11.02 cfs 40,552 cf

Subcatchment PDA-ROOF2.1: Subcat Runoff Area=31,087 sf 100.00% Impervious Runoff Depth=8.36"
Tc=6.0 min CN=98 Runoff=5.89 cfs 21,657 cf

Pond 1P: Bio 4 Peak Elev=60.57' Storage=1,420 cf Inflow=2.80 cfs 9,370 cf
Discarded=0.01 cfs 1,537 cf Primary=2.48 cfs 7,833 cf Outflow=2.49 cfs 9,370 cf

Pond 2P: Bio 3 Peak Elev=59.84' Storage=1,190 cf Inflow=3.03 cfs 10,693 cf
Primary=2.94 cfs 8,092 cf Tertiary=0.02 cfs 2,601 cf Outflow=2.96 cfs 10,693 cf

Pond 3P: DIV-02 Peak Elev=59.39' Inflow=9.81 cfs 38,749 cf
Primary=2.26 cfs 23,999 cf Secondary=7.55 cfs 14,750 cf Outflow=9.81 cfs 38,749 cf

Pond 4P: Detention Basin 2 Peak Elev=58.67' Storage=9,716 cf Inflow=8.27 cfs 36,480 cf
Primary=7.65 cfs 36,477 cf Secondary=0.00 cfs 0 cf Outflow=7.65 cfs 36,477 cf

Pond 7P: Bio 2 Peak Elev=56.70' Storage=2,540 cf Inflow=4.81 cfs 16,256 cf
Primary=4.29 cfs 12,249 cf Secondary=0.00 cfs 0 cf Tertiary=0.03 cfs 4,007 cf Outflow=4.31 cfs 16,256 cf

Pond 8P: DIV-04 Peak Elev=49.11' Inflow=14.35 cfs 62,243 cf
Primary=3.11 cfs 23,765 cf Secondary=11.57 cfs 38,479 cf Outflow=14.35 cfs 62,243 cf

Pond 9P: Sand Filter 5 Peak Elev=50.21' Storage=1,913 cf Inflow=3.90 cfs 14,408 cf
Discarded=0.01 cfs 1,843 cf Primary=3.27 cfs 12,558 cf Secondary=0.04 cfs 8 cf Outflow=3.32 cfs 14,408 cf

Pond 10P: Bio 1 Peak Elev=44.63' Storage=2,031 cf Inflow=2.08 cfs 18,713 cf
Discarded=0.01 cfs 2,193 cf Primary=1.72 cfs 16,520 cf Secondary=0.00 cfs 0 cf Outflow=1.73 cfs 18,713 cf

Pond 12P: Infiltration Basin 1 Peak Elev=58.36' Storage=7,424 cf Inflow=12.61 cfs 45,718 cf
Discarded=0.08 cfs 10,099 cf Primary=11.52 cfs 35,619 cf Secondary=0.00 cfs 0 cf Outflow=11.60 cfs 45,718 cf

Pond 13P: Sand Filter 1 Peak Elev=47.99' Storage=22,101 cf Inflow=3.94 cfs 46,057 cf
Discarded=0.03 cfs 12,913 cf Primary=0.94 cfs 33,216 cf Secondary=0.00 cfs 0 cf Outflow=0.97 cfs 46,057 cf

Pond 14P: DIV-03 Peak Elev=46.13' Inflow=7.62 cfs 25,778 cf
Primary=2.08 cfs 18,713 cf Secondary=5.55 cfs 7,066 cf Outflow=7.62 cfs 25,778 cf

Pond 15P: Detention Basin 1 Peak Elev=48.08' Storage=68,535 cf Inflow=58.46 cfs 264,155 cf
Primary=20.96 cfs 236,727 cf Secondary=17.04 cfs 27,364 cf Tertiary=0.00 cfs 0 cf Outflow=38.00 cfs 264,091 cf

Pond 17P: Track and Field- stone base Peak Elev=50.81' Storage=9,321 cf Inflow=17.17 cfs 63,166 cf
Discarded=0.65 cfs 29,957 cf Primary=8.73 cfs 33,209 cf Outflow=9.38 cfs 63,166 cf

Pond 18P: Sand Filter 2 Peak Elev=55.69' Storage=6,652 cf Inflow=8.89 cfs 47,795 cf
Discarded=0.01 cfs 5,202 cf Primary=6.41 cfs 42,594 cf Secondary=0.00 cfs 0 cf Outflow=6.42 cfs 47,795 cf

Pond 19P: Sand Filter 3 Peak Elev=60.93' Storage=5,023 cf Inflow=4.00 cfs 13,512 cf
Discarded=0.01 cfs 4,870 cf Primary=2.56 cfs 8,642 cf Secondary=0.00 cfs 0 cf Outflow=2.57 cfs 13,512 cf

Pond 20P: Sand Filter 4 Peak Elev=61.79' Storage=3,036 cf Inflow=4.16 cfs 16,930 cf
Outflow=3.17 cfs 16,930 cf

Pond 23P: UGIS-1 Peak Elev=48.95' Storage=11,811 cf Inflow=3.11 cfs 23,765 cf
Discarded=0.08 cfs 14,054 cf Primary=2.51 cfs 9,710 cf Outflow=2.59 cfs 23,765 cf

Pond 28P: DIV-01 Peak Elev=50.01' Inflow=45.51 cfs 204,730 cf
Primary=3.94 cfs 46,057 cf Secondary=41.58 cfs 158,674 cf Outflow=45.51 cfs 204,730 cf

Pond 33P: Wet Swale Peak Elev=60.29' Storage=7,104 cf Inflow=10.42 cfs 36,468 cf
Discarded=0.01 cfs 4,989 cf Primary=7.10 cfs 31,479 cf Secondary=0.00 cfs 0 cf Outflow=7.11 cfs 36,468 cf

Pond 35P: Track and Field-manifold Peak Elev=50.39' Storage=6,792 cf Inflow=19.17 cfs 75,834 cf
Discarded=1.03 cfs 13,591 cf Primary=14.35 cfs 62,243 cf Outflow=15.38 cfs 75,834 cf

Link 2L: DP 1.1 - Culvert 1 Inflow=48.60 cfs 230,673 cf
Primary=48.60 cfs 230,673 cf

Link 3L: DP 1.2 - Culvert 2 Inflow=54.77 cfs 262,638 cf
Primary=54.77 cfs 262,638 cf

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Link 4L: DP 1.3 - Culvert 3 Inflow=56.88 cfs 275,969 cf
Primary=56.88 cfs 275,969 cf

Link 5L: DP 1.4 - Silver Creek East Branch Inflow=116.14 cfs 555,891 cf
Primary=116.14 cfs 555,891 cf

Link 6L: DP 2.1 - West Wetland Inflow=60.02 cfs 378,608 cf
Primary=60.02 cfs 378,608 cf

Link 7L: DP 2.2 - Silver Creek West Branch Inflow=71.23 cfs 459,099 cf
Primary=71.23 cfs 459,099 cf

Total Runoff Area = 2,076,121 sf Runoff Volume = 1,116,233 cf Average Runoff Depth = 6.45"
69.65% Pervious = 1,445,943 sf 30.35% Impervious = 630,178 sf

Summary for Subcatchment PDA-1.1A: Subcat PDA-1.1A

Runoff = 48.60 cfs @ 12.29 hrs, Volume= 230,673 cf, Depth= 5.83"
Routed to Link 2L : DP 1.1 - Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
90,334	74	>75% Grass cover, Good, HSG C
38,424	80	>75% Grass cover, Good, HSG D
4,538	87	Dirt roads, HSG C
1,510	89	Dirt roads, HSG D
1,040	98	Paved parking, HSG D
6,366	98	Unconnected pavement, HSG C
776	98	Unconnected pavement, HSG D
33,631	70	Woods, Good, HSG C
298,387	77	Woods, Good, HSG D
475,005	77	Weighted Average
466,824	76	98.28% Pervious Area
8,181	98	1.72% Impervious Area
7,142		87.29% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
8.4	351	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.1	451	Total			

Hydrograph for Subcatchment PDA-1.1A: Subcat PDA-1.1A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.00	0.00
7.50	0.87	0.02	0.27
10.00	1.63	0.26	**1.75**
12.50	6.04	3.51	**34.15**
15.00	7.35	4.68	3.53
17.50	7.91	5.19	1.74
20.00	8.23	5.49	1.17
22.50	**8.48**	**5.72**	0.92
25.00	**8.60**	**5.83**	0.00
27.50	8.60	5.83	0.00
30.00	8.60	5.83	0.00
32.50	8.60	5.83	0.00
35.00	8.60	5.83	0.00
37.50	8.60	5.83	0.00
40.00	8.60	5.83	0.00
42.50	8.60	5.83	0.00
45.00	8.60	5.83	0.00
47.50	8.60	5.83	0.00
50.00	8.60	5.83	0.00
52.50	8.60	5.83	0.00
55.00	8.60	5.83	0.00
57.50	8.60	5.83	0.00
60.00	8.60	5.83	0.00
62.50	8.60	5.83	0.00
65.00	8.60	5.83	0.00
67.50	8.60	5.83	0.00
70.00	8.60	5.83	0.00
72.50	8.60	5.83	0.00
75.00	8.60	5.83	0.00
77.50	8.60	5.83	0.00
80.00	8.60	5.83	0.00
82.50	8.60	5.83	0.00
85.00	8.60	5.83	0.00
87.50	8.60	5.83	0.00
90.00	8.60	5.83	0.00
92.50	8.60	5.83	0.00
95.00	8.60	5.83	0.00
97.50	8.60	5.83	0.00
100.00	8.60	5.83	0.00
102.50	8.60	5.83	0.00
105.00	8.60	5.83	0.00
107.50	8.60	5.83	0.00
110.00	8.60	5.83	0.00
112.50	8.60	5.83	0.00
115.00	8.60	5.83	0.00
117.50	8.60	5.83	0.00
120.00	8.60	5.83	0.00
122.50	8.60	5.83	0.00
125.00	8.60	5.83	0.00
127.50	8.60	5.83	0.00
130.00	8.60	5.83	0.00
132.50	8.60	5.83	0.00
135.00	8.60	5.83	0.00
137.50	8.60	5.83	0.00
140.00	8.60	5.83	0.00
142.50	8.60	5.83	0.00
145.00	8.60	5.83	0.00
147.50	8.60	5.83	0.00
150.00	8.60	5.83	0.00
152.50	8.60	5.83	0.00
155.00	8.60	5.83	0.00
157.50	8.60	5.83	0.00
160.00	8.60	5.83	0.00
162.50	8.60	5.83	0.00
165.00	8.60	5.83	0.00
167.50	8.60	5.83	0.00
170.00	8.60	5.83	0.00
172.50	8.60	5.83	0.00
175.00	8.60	5.83	0.00
177.50	8.60	5.83	0.00
180.00	8.60	5.83	0.00
182.50	8.60	5.83	0.00
185.00	8.60	5.83	0.00
187.50	8.60	5.83	0.00
190.00	8.60	5.83	0.00
192.50	8.60	5.83	0.00
195.00	8.60	5.83	0.00
197.50	8.60	5.83	0.00
200.00	8.60	5.83	0.00
202.50	8.60	5.83	0.00
205.00	8.60	5.83	0.00
207.50	8.60	5.83	0.00
210.00	8.60	5.83	0.00
212.50	8.60	5.83	0.00
215.00	8.60	5.83	0.00
217.50	8.60	5.83	0.00
220.00	8.60	5.83	0.00
222.50	8.60	5.83	0.00
225.00	8.60	5.83	0.00
227.50	8.60	5.83	0.00
230.00	8.60	5.83	0.00
232.50	8.60	5.83	0.00
235.00	8.60	5.83	0.00
237.50	8.60	5.83	0.00
240.00	8.60	5.83	0.00

Summary for Subcatchment PDA-1.1B: Subcat PDA-1.1B

Runoff = 3.78 cfs @ 12.18 hrs, Volume= 15,036 cf, Depth= 5.95"
Routed to Link 3L : DP 1.2 - Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
19,238	74	>75% Grass cover, Good, HSG C
5,415	80	>75% Grass cover, Good, HSG D
5,665	87	Dirt roads, HSG C
8	98	Paved parking, HSG C
7	98	Paved parking, HSG D
30,333	78	Weighted Average
30,318	78	99.95% Pervious Area
15	98	0.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.4	26	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.1	126	Total			

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Hydrograph for Subcatchment PDA-1.1B: Subcat PDA-1.1B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.00	0.00
7.50	0.87	0.03	0.02
10.00	1.63	0.29	**0.13**
12.50	6.04	3.61	**1.61**
15.00	7.35	4.79	0.22
17.50	7.91	5.30	0.11
20.00	8.23	5.60	0.07
22.50	**8.48**	**5.84**	0.06
25.00	**8.60**	**5.95**	0.00
27.50	8.60	5.95	0.00
30.00	8.60	5.95	0.00
32.50	8.60	5.95	0.00
35.00	8.60	5.95	0.00
37.50	8.60	5.95	0.00
40.00	8.60	5.95	0.00
42.50	8.60	5.95	0.00
45.00	8.60	5.95	0.00
47.50	8.60	5.95	0.00
50.00	8.60	5.95	0.00
52.50	8.60	5.95	0.00
55.00	8.60	5.95	0.00
57.50	8.60	5.95	0.00
60.00	8.60	5.95	0.00
62.50	8.60	5.95	0.00
65.00	8.60	5.95	0.00
67.50	8.60	5.95	0.00
70.00	8.60	5.95	0.00
72.50	8.60	5.95	0.00
75.00	8.60	5.95	0.00
77.50	8.60	5.95	0.00
80.00	8.60	5.95	0.00
82.50	8.60	5.95	0.00
85.00	8.60	5.95	0.00
87.50	8.60	5.95	0.00
90.00	8.60	5.95	0.00
92.50	8.60	5.95	0.00
95.00	8.60	5.95	0.00
97.50	8.60	5.95	0.00
100.00	8.60	5.95	0.00
102.50	8.60	5.95	0.00
105.00	8.60	5.95	0.00
107.50	8.60	5.95	0.00
110.00	8.60	5.95	0.00
112.50	8.60	5.95	0.00
115.00	8.60	5.95	0.00
117.50	8.60	5.95	0.00
120.00	8.60	5.95	0.00
122.50	8.60	5.95	0.00
125.00	8.60	5.95	0.00
127.50	8.60	5.95	0.00
130.00	8.60	5.95	0.00
132.50	8.60	5.95	0.00
135.00	8.60	5.95	0.00
137.50	8.60	5.95	0.00
140.00	8.60	5.95	0.00
142.50	8.60	5.95	0.00
145.00	8.60	5.95	0.00
147.50	8.60	5.95	0.00
150.00	8.60	5.95	0.00
152.50	8.60	5.95	0.00
155.00	8.60	5.95	0.00
157.50	8.60	5.95	0.00
160.00	8.60	5.95	0.00
162.50	8.60	5.95	0.00
165.00	8.60	5.95	0.00
167.50	8.60	5.95	0.00
170.00	8.60	5.95	0.00
172.50	8.60	5.95	0.00
175.00	8.60	5.95	0.00
177.50	8.60	5.95	0.00
180.00	8.60	5.95	0.00
182.50	8.60	5.95	0.00
185.00	8.60	5.95	0.00
187.50	8.60	5.95	0.00
190.00	8.60	5.95	0.00
192.50	8.60	5.95	0.00
195.00	8.60	5.95	0.00
197.50	8.60	5.95	0.00
200.00	8.60	5.95	0.00
202.50	8.60	5.95	0.00
205.00	8.60	5.95	0.00
207.50	8.60	5.95	0.00
210.00	8.60	5.95	0.00
212.50	8.60	5.95	0.00
215.00	8.60	5.95	0.00
217.50	8.60	5.95	0.00
220.00	8.60	5.95	0.00
222.50	8.60	5.95	0.00
225.00	8.60	5.95	0.00
227.50	8.60	5.95	0.00
230.00	8.60	5.95	0.00
232.50	8.60	5.95	0.00
235.00	8.60	5.95	0.00
237.50	8.60	5.95	0.00
240.00	8.60	5.95	0.00

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Summary for Subcatchment PDA-1.2A: Subcat PDA-1.2A

Runoff = 3.99 cfs @ 12.10 hrs, Volume= 13,331 cf, Depth= 6.19"
Routed to Link 4L : DP 1.3 - Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Adj	Description
9,020	74		>75% Grass cover, Good, HSG C
13,051	80		>75% Grass cover, Good, HSG D
1,436	98		Paved parking, HSG C
1,771	98		Paved parking, HSG D
0	98		Roofs, HSG C
567	98		Unconnected pavement, HSG C
25,845	81	80	Weighted Average, UI Adjusted
22,071	78	78	85.40% Pervious Area
3,775	98	98	14.60% Impervious Area
567			15.03% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	54	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.3	6	0.3300	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.3	5	0.2000	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.8	8	0.5000	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
7.3	73	Total			

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Hydrograph for Subcatchment PDA-1.2A: Subcat PDA-1.2A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.00	0.00
7.50	0.87	0.05	0.03
10.00	1.63	0.35	**0.13**
12.50	6.04	3.81	**1.01**
15.00	7.35	5.02	0.19
17.50	7.91	5.54	0.09
20.00	8.23	5.84	0.06
22.50	**8.48**	**6.08**	0.05
25.00	**8.60**	**6.19**	0.00
27.50	8.60	6.19	0.00
30.00	8.60	6.19	0.00
32.50	8.60	6.19	0.00
35.00	8.60	6.19	0.00
37.50	8.60	6.19	0.00
40.00	8.60	6.19	0.00
42.50	8.60	6.19	0.00
45.00	8.60	6.19	0.00
47.50	8.60	6.19	0.00
50.00	8.60	6.19	0.00
52.50	8.60	6.19	0.00
55.00	8.60	6.19	0.00
57.50	8.60	6.19	0.00
60.00	8.60	6.19	0.00
62.50	8.60	6.19	0.00
65.00	8.60	6.19	0.00
67.50	8.60	6.19	0.00
70.00	8.60	6.19	0.00
72.50	8.60	6.19	0.00
75.00	8.60	6.19	0.00
77.50	8.60	6.19	0.00
80.00	8.60	6.19	0.00
82.50	8.60	6.19	0.00
85.00	8.60	6.19	0.00
87.50	8.60	6.19	0.00
90.00	8.60	6.19	0.00
92.50	8.60	6.19	0.00
95.00	8.60	6.19	0.00
97.50	8.60	6.19	0.00
100.00	8.60	6.19	0.00
102.50	8.60	6.19	0.00
105.00	8.60	6.19	0.00
107.50	8.60	6.19	0.00
110.00	8.60	6.19	0.00
112.50	8.60	6.19	0.00
115.00	8.60	6.19	0.00
117.50	8.60	6.19	0.00
120.00	8.60	6.19	0.00
122.50	8.60	6.19	0.00
125.00	8.60	6.19	0.00
127.50	8.60	6.19	0.00
130.00	8.60	6.19	0.00
132.50	8.60	6.19	0.00
135.00	8.60	6.19	0.00
137.50	8.60	6.19	0.00
140.00	8.60	6.19	0.00
142.50	8.60	6.19	0.00
145.00	8.60	6.19	0.00
147.50	8.60	6.19	0.00
150.00	8.60	6.19	0.00
152.50	8.60	6.19	0.00
155.00	8.60	6.19	0.00
157.50	8.60	6.19	0.00
160.00	8.60	6.19	0.00
162.50	8.60	6.19	0.00
165.00	8.60	6.19	0.00
167.50	8.60	6.19	0.00
170.00	8.60	6.19	0.00
172.50	8.60	6.19	0.00
175.00	8.60	6.19	0.00
177.50	8.60	6.19	0.00
180.00	8.60	6.19	0.00
182.50	8.60	6.19	0.00
185.00	8.60	6.19	0.00
187.50	8.60	6.19	0.00
190.00	8.60	6.19	0.00
192.50	8.60	6.19	0.00
195.00	8.60	6.19	0.00
197.50	8.60	6.19	0.00
200.00	8.60	6.19	0.00
202.50	8.60	6.19	0.00
205.00	8.60	6.19	0.00
207.50	8.60	6.19	0.00
210.00	8.60	6.19	0.00
212.50	8.60	6.19	0.00
215.00	8.60	6.19	0.00
217.50	8.60	6.19	0.00
220.00	8.60	6.19	0.00
222.50	8.60	6.19	0.00
225.00	8.60	6.19	0.00
227.50	8.60	6.19	0.00
230.00	8.60	6.19	0.00
232.50	8.60	6.19	0.00
235.00	8.60	6.19	0.00
237.50	8.60	6.19	0.00
240.00	8.60	6.19	0.00

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Summary for Subcatchment PDA-1.3A: Subcat PDA-1.3A

Runoff = 10.42 cfs @ 12.09 hrs, Volume= 36,468 cf, Depth= 7.64"
Routed to Pond 33P : Wet Swale

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
10,911	74	>75% Grass cover, Good, HSG C
5,194	80	>75% Grass cover, Good, HSG D
41,056	98	Paved parking, HSG C
40	98	Paved parking, HSG D
0	98	Roofs, HSG C
94	98	Unconnected pavement, HSG C
57,295	92	Weighted Average
16,106	76	28.11% Pervious Area
41,189	98	71.89% Impervious Area
94		0.23% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.5	27	0.0100	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
1.2	73	0.0100	0.99		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.30"
0.8	98	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
6.5	198	Total			

Hydrograph for Subcatchment PDA-1.3A: Subcat PDA-1.3A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.01
5.00	0.49	0.08	0.07
7.50	0.87	0.31	0.18
10.00	1.63	0.91	**0.47**
12.50	6.04	5.11	**2.32**
15.00	7.35	6.40	0.44
17.50	7.91	6.95	0.21
20.00	8.23	7.27	0.15
22.50	**8.48**	**7.52**	0.12
25.00	**8.60**	**7.64**	0.00
27.50	8.60	7.64	0.00
30.00	8.60	7.64	0.00
32.50	8.60	7.64	0.00
35.00	8.60	7.64	0.00
37.50	8.60	7.64	0.00
40.00	8.60	7.64	0.00
42.50	8.60	7.64	0.00
45.00	8.60	7.64	0.00
47.50	8.60	7.64	0.00
50.00	8.60	7.64	0.00
52.50	8.60	7.64	0.00
55.00	8.60	7.64	0.00
57.50	8.60	7.64	0.00
60.00	8.60	7.64	0.00
62.50	8.60	7.64	0.00
65.00	8.60	7.64	0.00
67.50	8.60	7.64	0.00
70.00	8.60	7.64	0.00
72.50	8.60	7.64	0.00
75.00	8.60	7.64	0.00
77.50	8.60	7.64	0.00
80.00	8.60	7.64	0.00
82.50	8.60	7.64	0.00
85.00	8.60	7.64	0.00
87.50	8.60	7.64	0.00
90.00	8.60	7.64	0.00
92.50	8.60	7.64	0.00
95.00	8.60	7.64	0.00
97.50	8.60	7.64	0.00
100.00	8.60	7.64	0.00
102.50	8.60	7.64	0.00
105.00	8.60	7.64	0.00
107.50	8.60	7.64	0.00
110.00	8.60	7.64	0.00
112.50	8.60	7.64	0.00
115.00	8.60	7.64	0.00
117.50	8.60	7.64	0.00
120.00	8.60	7.64	0.00
122.50	8.60	7.64	0.00
125.00	8.60	7.64	0.00
127.50	8.60	7.64	0.00
130.00	8.60	7.64	0.00
132.50	8.60	7.64	0.00
135.00	8.60	7.64	0.00
137.50	8.60	7.64	0.00
140.00	8.60	7.64	0.00
142.50	8.60	7.64	0.00
145.00	8.60	7.64	0.00
147.50	8.60	7.64	0.00
150.00	8.60	7.64	0.00
152.50	8.60	7.64	0.00
155.00	8.60	7.64	0.00
157.50	8.60	7.64	0.00
160.00	8.60	7.64	0.00
162.50	8.60	7.64	0.00
165.00	8.60	7.64	0.00
167.50	8.60	7.64	0.00
170.00	8.60	7.64	0.00
172.50	8.60	7.64	0.00
175.00	8.60	7.64	0.00
177.50	8.60	7.64	0.00
180.00	8.60	7.64	0.00
182.50	8.60	7.64	0.00
185.00	8.60	7.64	0.00
187.50	8.60	7.64	0.00
190.00	8.60	7.64	0.00
192.50	8.60	7.64	0.00
195.00	8.60	7.64	0.00
197.50	8.60	7.64	0.00
200.00	8.60	7.64	0.00
202.50	8.60	7.64	0.00
205.00	8.60	7.64	0.00
207.50	8.60	7.64	0.00
210.00	8.60	7.64	0.00
212.50	8.60	7.64	0.00
215.00	8.60	7.64	0.00
217.50	8.60	7.64	0.00
220.00	8.60	7.64	0.00
222.50	8.60	7.64	0.00
225.00	8.60	7.64	0.00
227.50	8.60	7.64	0.00
230.00	8.60	7.64	0.00
232.50	8.60	7.64	0.00
235.00	8.60	7.64	0.00
237.50	8.60	7.64	0.00
240.00	8.60	7.64	0.00

Summary for Subcatchment PDA-1.3C: Subcat PDA-1.3C

Runoff = 2.80 cfs @ 12.10 hrs, Volume= 9,370 cf, Depth= 6.67"
Routed to Pond 1P : Bio 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
9,827	74	>75% Grass cover, Good, HSG C
6,906	98	Paved parking, HSG C
0	98	Roofs, HSG C
117	98	Unconnected pavement, HSG C
16,850	84	Weighted Average
9,827	74	58.32% Pervious Area
7,023	98	41.68% Impervious Area
117		1.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	39	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.8	10	0.1000	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
6.8	49	Total			

Hydrograph for Subcatchment PDA-1.3C: Subcat PDA-1.3C

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.01	0.00
7.50	0.87	0.10	0.03
10.00	1.63	0.49	**0.10**
12.50	6.04	4.23	**0.66**
15.00	7.35	5.47	0.12
17.50	7.91	6.01	0.06
20.00	8.23	6.32	0.04
22.50	**8.48**	**6.56**	0.03
25.00	**8.60**	**6.67**	0.00
27.50	8.60	6.67	0.00
30.00	8.60	6.67	0.00
32.50	8.60	6.67	0.00
35.00	8.60	6.67	0.00
37.50	8.60	6.67	0.00
40.00	8.60	6.67	0.00
42.50	8.60	6.67	0.00
45.00	8.60	6.67	0.00
47.50	8.60	6.67	0.00
50.00	8.60	6.67	0.00
52.50	8.60	6.67	0.00
55.00	8.60	6.67	0.00
57.50	8.60	6.67	0.00
60.00	8.60	6.67	0.00
62.50	8.60	6.67	0.00
65.00	8.60	6.67	0.00
67.50	8.60	6.67	0.00
70.00	8.60	6.67	0.00
72.50	8.60	6.67	0.00
75.00	8.60	6.67	0.00
77.50	8.60	6.67	0.00
80.00	8.60	6.67	0.00
82.50	8.60	6.67	0.00
85.00	8.60	6.67	0.00
87.50	8.60	6.67	0.00
90.00	8.60	6.67	0.00
92.50	8.60	6.67	0.00
95.00	8.60	6.67	0.00
97.50	8.60	6.67	0.00
100.00	8.60	6.67	0.00
102.50	8.60	6.67	0.00
105.00	8.60	6.67	0.00
107.50	8.60	6.67	0.00
110.00	8.60	6.67	0.00
112.50	8.60	6.67	0.00
115.00	8.60	6.67	0.00
117.50	8.60	6.67	0.00
120.00	8.60	6.67	0.00
122.50	8.60	6.67	0.00
125.00	8.60	6.67	0.00
127.50	8.60	6.67	0.00
130.00	8.60	6.67	0.00
132.50	8.60	6.67	0.00
135.00	8.60	6.67	0.00
137.50	8.60	6.67	0.00
140.00	8.60	6.67	0.00
142.50	8.60	6.67	0.00
145.00	8.60	6.67	0.00
147.50	8.60	6.67	0.00
150.00	8.60	6.67	0.00
152.50	8.60	6.67	0.00
155.00	8.60	6.67	0.00
157.50	8.60	6.67	0.00
160.00	8.60	6.67	0.00
162.50	8.60	6.67	0.00
165.00	8.60	6.67	0.00
167.50	8.60	6.67	0.00
170.00	8.60	6.67	0.00
172.50	8.60	6.67	0.00
175.00	8.60	6.67	0.00
177.50	8.60	6.67	0.00
180.00	8.60	6.67	0.00
182.50	8.60	6.67	0.00
185.00	8.60	6.67	0.00
187.50	8.60	6.67	0.00
190.00	8.60	6.67	0.00
192.50	8.60	6.67	0.00
195.00	8.60	6.67	0.00
197.50	8.60	6.67	0.00
200.00	8.60	6.67	0.00
202.50	8.60	6.67	0.00
205.00	8.60	6.67	0.00
207.50	8.60	6.67	0.00
210.00	8.60	6.67	0.00
212.50	8.60	6.67	0.00
215.00	8.60	6.67	0.00
217.50	8.60	6.67	0.00
220.00	8.60	6.67	0.00
222.50	8.60	6.67	0.00
225.00	8.60	6.67	0.00
227.50	8.60	6.67	0.00
230.00	8.60	6.67	0.00
232.50	8.60	6.67	0.00
235.00	8.60	6.67	0.00
237.50	8.60	6.67	0.00
240.00	8.60	6.67	0.00

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Summary for Subcatchment PDA-1.3D: Subcat PDA-1.3D

Runoff = 1.17 cfs @ 12.09 hrs, Volume= 3,878 cf, Depth= 6.79"
Routed to Pond 2P : Bio 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
3,766	74	>75% Grass cover, Good, HSG C
3,085	98	Paved parking, HSG C
0	98	Roofs, HSG C
6,850	85	Weighted Average
3,766	74	54.97% Pervious Area
3,085	98	45.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.3D: Subcat PDA-1.3D

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.01	0.00
7.50	0.87	0.12	0.01
10.00	1.63	0.53	**0.04**
12.50	6.04	4.34	**0.26**
15.00	7.35	5.58	0.05
17.50	7.91	6.12	0.02
20.00	8.23	6.44	0.02
22.50	**8.48**	**6.68**	0.01
25.00	**8.60**	**6.79**	0.00
27.50	8.60	6.79	0.00
30.00	8.60	6.79	0.00
32.50	8.60	6.79	0.00
35.00	8.60	6.79	0.00
37.50	8.60	6.79	0.00
40.00	8.60	6.79	0.00
42.50	8.60	6.79	0.00
45.00	8.60	6.79	0.00
47.50	8.60	6.79	0.00
50.00	8.60	6.79	0.00
52.50	8.60	6.79	0.00
55.00	8.60	6.79	0.00
57.50	8.60	6.79	0.00
60.00	8.60	6.79	0.00
62.50	8.60	6.79	0.00
65.00	8.60	6.79	0.00
67.50	8.60	6.79	0.00
70.00	8.60	6.79	0.00
72.50	8.60	6.79	0.00
75.00	8.60	6.79	0.00
77.50	8.60	6.79	0.00
80.00	8.60	6.79	0.00
82.50	8.60	6.79	0.00
85.00	8.60	6.79	0.00
87.50	8.60	6.79	0.00
90.00	8.60	6.79	0.00
92.50	8.60	6.79	0.00
95.00	8.60	6.79	0.00
97.50	8.60	6.79	0.00
100.00	8.60	6.79	0.00
102.50	8.60	6.79	0.00
105.00	8.60	6.79	0.00
107.50	8.60	6.79	0.00
110.00	8.60	6.79	0.00
112.50	8.60	6.79	0.00
115.00	8.60	6.79	0.00
117.50	8.60	6.79	0.00
120.00	8.60	6.79	0.00
122.50	8.60	6.79	0.00
125.00	8.60	6.79	0.00
127.50	8.60	6.79	0.00
130.00	8.60	6.79	0.00
132.50	8.60	6.79	0.00
135.00	8.60	6.79	0.00
137.50	8.60	6.79	0.00
140.00	8.60	6.79	0.00
142.50	8.60	6.79	0.00
145.00	8.60	6.79	0.00
147.50	8.60	6.79	0.00
150.00	8.60	6.79	0.00
152.50	8.60	6.79	0.00
155.00	8.60	6.79	0.00
157.50	8.60	6.79	0.00
160.00	8.60	6.79	0.00
162.50	8.60	6.79	0.00
165.00	8.60	6.79	0.00
167.50	8.60	6.79	0.00
170.00	8.60	6.79	0.00
172.50	8.60	6.79	0.00
175.00	8.60	6.79	0.00
177.50	8.60	6.79	0.00
180.00	8.60	6.79	0.00
182.50	8.60	6.79	0.00
185.00	8.60	6.79	0.00
187.50	8.60	6.79	0.00
190.00	8.60	6.79	0.00
192.50	8.60	6.79	0.00
195.00	8.60	6.79	0.00
197.50	8.60	6.79	0.00
200.00	8.60	6.79	0.00
202.50	8.60	6.79	0.00
205.00	8.60	6.79	0.00
207.50	8.60	6.79	0.00
210.00	8.60	6.79	0.00
212.50	8.60	6.79	0.00
215.00	8.60	6.79	0.00
217.50	8.60	6.79	0.00
220.00	8.60	6.79	0.00
222.50	8.60	6.79	0.00
225.00	8.60	6.79	0.00
227.50	8.60	6.79	0.00
230.00	8.60	6.79	0.00
232.50	8.60	6.79	0.00
235.00	8.60	6.79	0.00
237.50	8.60	6.79	0.00
240.00	8.60	6.79	0.00

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Summary for Subcatchment PDA-1.4A: Subcat PDA-1.4A

Runoff = 4.16 cfs @ 12.18 hrs, Volume= 16,930 cf, Depth= 6.55"
Routed to Pond 20P : Sand Filter 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
14,884	74	>75% Grass cover, Good, HSG C
2,931	80	>75% Grass cover, Good, HSG D
5,758	87	Dirt roads, HSG C
6	89	Dirt roads, HSG D
2,675	98	Paved parking, HSG C
4,570	98	Paved parking, HSG D
183	98	Unconnected pavement, HSG C
31,007	83	Weighted Average
23,579	78	76.05% Pervious Area
7,428	98	23.95% Impervious Area
183		2.46% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.7	44	0.0250	1.11		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
13.4	144	Total			

Hydrograph for Subcatchment PDA-1.4A: Subcat PDA-1.4A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.00	0.00
7.50	0.87	0.09	0.04
10.00	1.63	0.45	**0.17**
12.50	6.04	4.13	**1.77**
15.00	7.35	5.36	0.23
17.50	7.91	5.89	0.11
20.00	8.23	6.20	0.08
22.50	**8.48**	**6.44**	0.06
25.00	**8.60**	**6.55**	0.00
27.50	8.60	6.55	0.00
30.00	8.60	6.55	0.00
32.50	8.60	6.55	0.00
35.00	8.60	6.55	0.00
37.50	8.60	6.55	0.00
40.00	8.60	6.55	0.00
42.50	8.60	6.55	0.00
45.00	8.60	6.55	0.00
47.50	8.60	6.55	0.00
50.00	8.60	6.55	0.00
52.50	8.60	6.55	0.00
55.00	8.60	6.55	0.00
57.50	8.60	6.55	0.00
60.00	8.60	6.55	0.00
62.50	8.60	6.55	0.00
65.00	8.60	6.55	0.00
67.50	8.60	6.55	0.00
70.00	8.60	6.55	0.00
72.50	8.60	6.55	0.00
75.00	8.60	6.55	0.00
77.50	8.60	6.55	0.00
80.00	8.60	6.55	0.00
82.50	8.60	6.55	0.00
85.00	8.60	6.55	0.00
87.50	8.60	6.55	0.00
90.00	8.60	6.55	0.00
92.50	8.60	6.55	0.00
95.00	8.60	6.55	0.00
97.50	8.60	6.55	0.00
100.00	8.60	6.55	0.00
102.50	8.60	6.55	0.00
105.00	8.60	6.55	0.00
107.50	8.60	6.55	0.00
110.00	8.60	6.55	0.00
112.50	8.60	6.55	0.00
115.00	8.60	6.55	0.00
117.50	8.60	6.55	0.00
120.00	8.60	6.55	0.00
122.50	8.60	6.55	0.00
125.00	8.60	6.55	0.00
127.50	8.60	6.55	0.00
130.00	8.60	6.55	0.00
132.50	8.60	6.55	0.00
135.00	8.60	6.55	0.00
137.50	8.60	6.55	0.00
140.00	8.60	6.55	0.00
142.50	8.60	6.55	0.00
145.00	8.60	6.55	0.00
147.50	8.60	6.55	0.00
150.00	8.60	6.55	0.00
152.50	8.60	6.55	0.00
155.00	8.60	6.55	0.00
157.50	8.60	6.55	0.00
160.00	8.60	6.55	0.00
162.50	8.60	6.55	0.00
165.00	8.60	6.55	0.00
167.50	8.60	6.55	0.00
170.00	8.60	6.55	0.00
172.50	8.60	6.55	0.00
175.00	8.60	6.55	0.00
177.50	8.60	6.55	0.00
180.00	8.60	6.55	0.00
182.50	8.60	6.55	0.00
185.00	8.60	6.55	0.00
187.50	8.60	6.55	0.00
190.00	8.60	6.55	0.00
192.50	8.60	6.55	0.00
195.00	8.60	6.55	0.00
197.50	8.60	6.55	0.00
200.00	8.60	6.55	0.00
202.50	8.60	6.55	0.00
205.00	8.60	6.55	0.00
207.50	8.60	6.55	0.00
210.00	8.60	6.55	0.00
212.50	8.60	6.55	0.00
215.00	8.60	6.55	0.00
217.50	8.60	6.55	0.00
220.00	8.60	6.55	0.00
222.50	8.60	6.55	0.00
225.00	8.60	6.55	0.00
227.50	8.60	6.55	0.00
230.00	8.60	6.55	0.00
232.50	8.60	6.55	0.00
235.00	8.60	6.55	0.00
237.50	8.60	6.55	0.00
240.00	8.60	6.55	0.00

Summary for Subcatchment PDA-1.4B: Subcat PDA-1.4B

Runoff = 7.25 cfs @ 12.19 hrs, Volume= 30,106 cf, Depth= 6.79"
Routed to Pond 3P : DIV-02

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
25,747	74	>75% Grass cover, Good, HSG C
7,636	87	Dirt roads, HSG C
17,354	98	Paved parking, HSG C
2,443	98	Unconnected pavement, HSG C
53,181	85	Weighted Average
33,383	77	62.77% Pervious Area
19,797	98	37.23% Impervious Area
2,443		12.34% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	58	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
5.7	40	0.0120	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
13.9	98	Total			

Hydrograph for Subcatchment PDA-1.4B: Subcat PDA-1.4B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.01	0.02
7.50	0.87	0.12	0.09
10.00	1.63	0.53	**0.32**
12.50	6.04	4.34	**3.17**
15.00	7.35	5.58	0.41
17.50	7.91	6.12	0.20
20.00	8.23	6.44	0.14
22.50	**8.48**	**6.68**	0.11
25.00	**8.60**	**6.79**	0.00
27.50	8.60	6.79	0.00
30.00	8.60	6.79	0.00
32.50	8.60	6.79	0.00
35.00	8.60	6.79	0.00
37.50	8.60	6.79	0.00
40.00	8.60	6.79	0.00
42.50	8.60	6.79	0.00
45.00	8.60	6.79	0.00
47.50	8.60	6.79	0.00
50.00	8.60	6.79	0.00
52.50	8.60	6.79	0.00
55.00	8.60	6.79	0.00
57.50	8.60	6.79	0.00
60.00	8.60	6.79	0.00
62.50	8.60	6.79	0.00
65.00	8.60	6.79	0.00
67.50	8.60	6.79	0.00
70.00	8.60	6.79	0.00
72.50	8.60	6.79	0.00
75.00	8.60	6.79	0.00
77.50	8.60	6.79	0.00
80.00	8.60	6.79	0.00
82.50	8.60	6.79	0.00
85.00	8.60	6.79	0.00
87.50	8.60	6.79	0.00
90.00	8.60	6.79	0.00
92.50	8.60	6.79	0.00
95.00	8.60	6.79	0.00
97.50	8.60	6.79	0.00
100.00	8.60	6.79	0.00
102.50	8.60	6.79	0.00
105.00	8.60	6.79	0.00
107.50	8.60	6.79	0.00
110.00	8.60	6.79	0.00
112.50	8.60	6.79	0.00
115.00	8.60	6.79	0.00
117.50	8.60	6.79	0.00
120.00	8.60	6.79	0.00
122.50	8.60	6.79	0.00
125.00	8.60	6.79	0.00
127.50	8.60	6.79	0.00
130.00	8.60	6.79	0.00
132.50	8.60	6.79	0.00
135.00	8.60	6.79	0.00
137.50	8.60	6.79	0.00
140.00	8.60	6.79	0.00
142.50	8.60	6.79	0.00
145.00	8.60	6.79	0.00
147.50	8.60	6.79	0.00
150.00	8.60	6.79	0.00
152.50	8.60	6.79	0.00
155.00	8.60	6.79	0.00
157.50	8.60	6.79	0.00
160.00	8.60	6.79	0.00
162.50	8.60	6.79	0.00
165.00	8.60	6.79	0.00
167.50	8.60	6.79	0.00
170.00	8.60	6.79	0.00
172.50	8.60	6.79	0.00
175.00	8.60	6.79	0.00
177.50	8.60	6.79	0.00
180.00	8.60	6.79	0.00
182.50	8.60	6.79	0.00
185.00	8.60	6.79	0.00
187.50	8.60	6.79	0.00
190.00	8.60	6.79	0.00
192.50	8.60	6.79	0.00
195.00	8.60	6.79	0.00
197.50	8.60	6.79	0.00
200.00	8.60	6.79	0.00
202.50	8.60	6.79	0.00
205.00	8.60	6.79	0.00
207.50	8.60	6.79	0.00
210.00	8.60	6.79	0.00
212.50	8.60	6.79	0.00
215.00	8.60	6.79	0.00
217.50	8.60	6.79	0.00
220.00	8.60	6.79	0.00
222.50	8.60	6.79	0.00
225.00	8.60	6.79	0.00
227.50	8.60	6.79	0.00
230.00	8.60	6.79	0.00
232.50	8.60	6.79	0.00
235.00	8.60	6.79	0.00
237.50	8.60	6.79	0.00
240.00	8.60	6.79	0.00

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Summary for Subcatchment PDA-1.4C: Subcat PDA-1.4C

Runoff = 4.81 cfs @ 12.09 hrs, Volume= 16,256 cf, Depth= 7.28"
Routed to Pond 7P : Bio 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
9,701	74	>75% Grass cover, Good, HSG C
17,108	98	Paved parking, HSG C
26,810	89	Weighted Average
9,701	74	36.19% Pervious Area
17,108	98	63.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4C: Subcat PDA-1.4C

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.04	0.02
7.50	0.87	0.21	0.07
10.00	1.63	0.73	**0.20**
12.50	6.04	4.77	**1.04**
15.00	7.35	6.05	0.20
17.50	7.91	6.60	0.10
20.00	8.23	6.91	0.07
22.50	**8.48**	**7.16**	0.05
25.00	**8.60**	**7.28**	0.00
27.50	8.60	7.28	0.00
30.00	8.60	7.28	0.00
32.50	8.60	7.28	0.00
35.00	8.60	7.28	0.00
37.50	8.60	7.28	0.00
40.00	8.60	7.28	0.00
42.50	8.60	7.28	0.00
45.00	8.60	7.28	0.00
47.50	8.60	7.28	0.00
50.00	8.60	7.28	0.00
52.50	8.60	7.28	0.00
55.00	8.60	7.28	0.00
57.50	8.60	7.28	0.00
60.00	8.60	7.28	0.00
62.50	8.60	7.28	0.00
65.00	8.60	7.28	0.00
67.50	8.60	7.28	0.00
70.00	8.60	7.28	0.00
72.50	8.60	7.28	0.00
75.00	8.60	7.28	0.00
77.50	8.60	7.28	0.00
80.00	8.60	7.28	0.00
82.50	8.60	7.28	0.00
85.00	8.60	7.28	0.00
87.50	8.60	7.28	0.00
90.00	8.60	7.28	0.00
92.50	8.60	7.28	0.00
95.00	8.60	7.28	0.00
97.50	8.60	7.28	0.00
100.00	8.60	7.28	0.00
102.50	8.60	7.28	0.00
105.00	8.60	7.28	0.00
107.50	8.60	7.28	0.00
110.00	8.60	7.28	0.00
112.50	8.60	7.28	0.00
115.00	8.60	7.28	0.00
117.50	8.60	7.28	0.00
120.00	8.60	7.28	0.00
122.50	8.60	7.28	0.00
125.00	8.60	7.28	0.00
127.50	8.60	7.28	0.00
130.00	8.60	7.28	0.00
132.50	8.60	7.28	0.00
135.00	8.60	7.28	0.00
137.50	8.60	7.28	0.00
140.00	8.60	7.28	0.00
142.50	8.60	7.28	0.00
145.00	8.60	7.28	0.00
147.50	8.60	7.28	0.00
150.00	8.60	7.28	0.00
152.50	8.60	7.28	0.00
155.00	8.60	7.28	0.00
157.50	8.60	7.28	0.00
160.00	8.60	7.28	0.00
162.50	8.60	7.28	0.00
165.00	8.60	7.28	0.00
167.50	8.60	7.28	0.00
170.00	8.60	7.28	0.00
172.50	8.60	7.28	0.00
175.00	8.60	7.28	0.00
177.50	8.60	7.28	0.00
180.00	8.60	7.28	0.00
182.50	8.60	7.28	0.00
185.00	8.60	7.28	0.00
187.50	8.60	7.28	0.00
190.00	8.60	7.28	0.00
192.50	8.60	7.28	0.00
195.00	8.60	7.28	0.00
197.50	8.60	7.28	0.00
200.00	8.60	7.28	0.00
202.50	8.60	7.28	0.00
205.00	8.60	7.28	0.00
207.50	8.60	7.28	0.00
210.00	8.60	7.28	0.00
212.50	8.60	7.28	0.00
215.00	8.60	7.28	0.00
217.50	8.60	7.28	0.00
220.00	8.60	7.28	0.00
222.50	8.60	7.28	0.00
225.00	8.60	7.28	0.00
227.50	8.60	7.28	0.00
230.00	8.60	7.28	0.00
232.50	8.60	7.28	0.00
235.00	8.60	7.28	0.00
237.50	8.60	7.28	0.00
240.00	8.60	7.28	0.00

Pro-Hydro
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Summary for Subcatchment PDA-1.4D: Subcat PDA-1.4D

Runoff = 7.62 cfs @ 12.09 hrs, Volume= 25,778 cf, Depth= 7.28"
Routed to Pond 14P : DIV-03

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
14,109	74	>75% Grass cover, Good, HSG C
2,143	80	>75% Grass cover, Good, HSG D
1,138	96	Gravel surface, HSG C
25,125	98	Paved parking, HSG C
42,514	89	Weighted Average
17,389	76	40.90% Pervious Area
25,125	98	59.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4D: Subcat PDA-1.4D

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.04	0.04
7.50	0.87	0.21	0.11
10.00	1.63	0.73	**0.31**
12.50	6.04	4.77	**1.64**
15.00	7.35	6.05	0.32
17.50	7.91	6.60	0.16
20.00	8.23	6.91	0.11
22.50	**8.48**	**7.16**	0.09
25.00	**8.60**	**7.28**	0.00
27.50	8.60	7.28	0.00
30.00	8.60	7.28	0.00
32.50	8.60	7.28	0.00
35.00	8.60	7.28	0.00
37.50	8.60	7.28	0.00
40.00	8.60	7.28	0.00
42.50	8.60	7.28	0.00
45.00	8.60	7.28	0.00
47.50	8.60	7.28	0.00
50.00	8.60	7.28	0.00
52.50	8.60	7.28	0.00
55.00	8.60	7.28	0.00
57.50	8.60	7.28	0.00
60.00	8.60	7.28	0.00
62.50	8.60	7.28	0.00
65.00	8.60	7.28	0.00
67.50	8.60	7.28	0.00
70.00	8.60	7.28	0.00
72.50	8.60	7.28	0.00
75.00	8.60	7.28	0.00
77.50	8.60	7.28	0.00
80.00	8.60	7.28	0.00
82.50	8.60	7.28	0.00
85.00	8.60	7.28	0.00
87.50	8.60	7.28	0.00
90.00	8.60	7.28	0.00
92.50	8.60	7.28	0.00
95.00	8.60	7.28	0.00
97.50	8.60	7.28	0.00
100.00	8.60	7.28	0.00
102.50	8.60	7.28	0.00
105.00	8.60	7.28	0.00
107.50	8.60	7.28	0.00
110.00	8.60	7.28	0.00
112.50	8.60	7.28	0.00
115.00	8.60	7.28	0.00
117.50	8.60	7.28	0.00
120.00	8.60	7.28	0.00
122.50	8.60	7.28	0.00
125.00	8.60	7.28	0.00
127.50	8.60	7.28	0.00
130.00	8.60	7.28	0.00
132.50	8.60	7.28	0.00
135.00	8.60	7.28	0.00
137.50	8.60	7.28	0.00
140.00	8.60	7.28	0.00
142.50	8.60	7.28	0.00
145.00	8.60	7.28	0.00
147.50	8.60	7.28	0.00
150.00	8.60	7.28	0.00
152.50	8.60	7.28	0.00
155.00	8.60	7.28	0.00
157.50	8.60	7.28	0.00
160.00	8.60	7.28	0.00
162.50	8.60	7.28	0.00
165.00	8.60	7.28	0.00
167.50	8.60	7.28	0.00
170.00	8.60	7.28	0.00
172.50	8.60	7.28	0.00
175.00	8.60	7.28	0.00
177.50	8.60	7.28	0.00
180.00	8.60	7.28	0.00
182.50	8.60	7.28	0.00
185.00	8.60	7.28	0.00
187.50	8.60	7.28	0.00
190.00	8.60	7.28	0.00
192.50	8.60	7.28	0.00
195.00	8.60	7.28	0.00
197.50	8.60	7.28	0.00
200.00	8.60	7.28	0.00
202.50	8.60	7.28	0.00
205.00	8.60	7.28	0.00
207.50	8.60	7.28	0.00
210.00	8.60	7.28	0.00
212.50	8.60	7.28	0.00
215.00	8.60	7.28	0.00
217.50	8.60	7.28	0.00
220.00	8.60	7.28	0.00
222.50	8.60	7.28	0.00
225.00	8.60	7.28	0.00
227.50	8.60	7.28	0.00
230.00	8.60	7.28	0.00
232.50	8.60	7.28	0.00
235.00	8.60	7.28	0.00
237.50	8.60	7.28	0.00
240.00	8.60	7.28	0.00

Summary for Subcatchment PDA-1.4E: Subcat PDA-1.4E

Runoff = 7.04 cfs @ 12.09 hrs, Volume= 23,796 cf, Depth= 7.28"
Routed to Pond 18P : Sand Filter 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
14,786	74	>75% Grass cover, Good, HSG C
7	80	>75% Grass cover, Good, HSG D
24,452	98	Paved parking, HSG C
39,245	89	Weighted Average
14,794	74	37.70% Pervious Area
24,452	98	62.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4E: Subcat PDA-1.4E

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.04	0.03
7.50	0.87	0.21	0.10
10.00	1.63	0.73	**0.29**
12.50	6.04	4.77	**1.52**
15.00	7.35	6.05	0.29
17.50	7.91	6.60	0.15
20.00	8.23	6.91	0.10
22.50	**8.48**	**7.16**	0.08
25.00	**8.60**	**7.28**	0.00
27.50	8.60	7.28	0.00
30.00	8.60	7.28	0.00
32.50	8.60	7.28	0.00
35.00	8.60	7.28	0.00
37.50	8.60	7.28	0.00
40.00	8.60	7.28	0.00
42.50	8.60	7.28	0.00
45.00	8.60	7.28	0.00
47.50	8.60	7.28	0.00
50.00	8.60	7.28	0.00
52.50	8.60	7.28	0.00
55.00	8.60	7.28	0.00
57.50	8.60	7.28	0.00
60.00	8.60	7.28	0.00
62.50	8.60	7.28	0.00
65.00	8.60	7.28	0.00
67.50	8.60	7.28	0.00
70.00	8.60	7.28	0.00
72.50	8.60	7.28	0.00
75.00	8.60	7.28	0.00
77.50	8.60	7.28	0.00
80.00	8.60	7.28	0.00
82.50	8.60	7.28	0.00
85.00	8.60	7.28	0.00
87.50	8.60	7.28	0.00
90.00	8.60	7.28	0.00
92.50	8.60	7.28	0.00
95.00	8.60	7.28	0.00
97.50	8.60	7.28	0.00
100.00	8.60	7.28	0.00
102.50	8.60	7.28	0.00
105.00	8.60	7.28	0.00
107.50	8.60	7.28	0.00
110.00	8.60	7.28	0.00
112.50	8.60	7.28	0.00
115.00	8.60	7.28	0.00
117.50	8.60	7.28	0.00
120.00	8.60	7.28	0.00
122.50	8.60	7.28	0.00
125.00	8.60	7.28	0.00
127.50	8.60	7.28	0.00
130.00	8.60	7.28	0.00
132.50	8.60	7.28	0.00
135.00	8.60	7.28	0.00
137.50	8.60	7.28	0.00
140.00	8.60	7.28	0.00
142.50	8.60	7.28	0.00
145.00	8.60	7.28	0.00
147.50	8.60	7.28	0.00
150.00	8.60	7.28	0.00
152.50	8.60	7.28	0.00
155.00	8.60	7.28	0.00
157.50	8.60	7.28	0.00
160.00	8.60	7.28	0.00
162.50	8.60	7.28	0.00
165.00	8.60	7.28	0.00
167.50	8.60	7.28	0.00
170.00	8.60	7.28	0.00
172.50	8.60	7.28	0.00
175.00	8.60	7.28	0.00
177.50	8.60	7.28	0.00
180.00	8.60	7.28	0.00
182.50	8.60	7.28	0.00
185.00	8.60	7.28	0.00
187.50	8.60	7.28	0.00
190.00	8.60	7.28	0.00
192.50	8.60	7.28	0.00
195.00	8.60	7.28	0.00
197.50	8.60	7.28	0.00
200.00	8.60	7.28	0.00
202.50	8.60	7.28	0.00
205.00	8.60	7.28	0.00
207.50	8.60	7.28	0.00
210.00	8.60	7.28	0.00
212.50	8.60	7.28	0.00
215.00	8.60	7.28	0.00
217.50	8.60	7.28	0.00
220.00	8.60	7.28	0.00
222.50	8.60	7.28	0.00
225.00	8.60	7.28	0.00
227.50	8.60	7.28	0.00
230.00	8.60	7.28	0.00
232.50	8.60	7.28	0.00
235.00	8.60	7.28	0.00
237.50	8.60	7.28	0.00
240.00	8.60	7.28	0.00

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Summary for Subcatchment PDA-1.4F: Subcat PDA-1.4F

Runoff = 10.18 cfs @ 12.19 hrs, Volume= 43,298 cf, Depth= 7.03"
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
33,264	74	>75% Grass cover, Good, HSG C
3	80	>75% Grass cover, Good, HSG D
36,167	98	Paved parking, HSG C
4,425	98	Paved parking, HSG D
73,858	87	Weighted Average
33,267	74	45.04% Pervious Area
40,591	98	54.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	100	0.0105	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.2	42	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.8	204	0.0090	1.93		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
14.5	346	Total			

Hydrograph for Subcatchment PDA-1.4F: Subcat PDA-1.4F

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.02	0.04
7.50	0.87	0.16	0.15
10.00	1.63	0.62	**0.48**
12.50	6.04	4.55	**4.61**
15.00	7.35	5.81	0.57
17.50	7.91	6.36	0.28
20.00	8.23	6.67	0.19
22.50	**8.48**	**6.92**	0.15
25.00	**8.60**	**7.03**	0.00
27.50	8.60	7.03	0.00
30.00	8.60	7.03	0.00
32.50	8.60	7.03	0.00
35.00	8.60	7.03	0.00
37.50	8.60	7.03	0.00
40.00	8.60	7.03	0.00
42.50	8.60	7.03	0.00
45.00	8.60	7.03	0.00
47.50	8.60	7.03	0.00
50.00	8.60	7.03	0.00
52.50	8.60	7.03	0.00
55.00	8.60	7.03	0.00
57.50	8.60	7.03	0.00
60.00	8.60	7.03	0.00
62.50	8.60	7.03	0.00
65.00	8.60	7.03	0.00
67.50	8.60	7.03	0.00
70.00	8.60	7.03	0.00
72.50	8.60	7.03	0.00
75.00	8.60	7.03	0.00
77.50	8.60	7.03	0.00
80.00	8.60	7.03	0.00
82.50	8.60	7.03	0.00
85.00	8.60	7.03	0.00
87.50	8.60	7.03	0.00
90.00	8.60	7.03	0.00
92.50	8.60	7.03	0.00
95.00	8.60	7.03	0.00
97.50	8.60	7.03	0.00
100.00	8.60	7.03	0.00
102.50	8.60	7.03	0.00
105.00	8.60	7.03	0.00
107.50	8.60	7.03	0.00
110.00	8.60	7.03	0.00
112.50	8.60	7.03	0.00
115.00	8.60	7.03	0.00
117.50	8.60	7.03	0.00
120.00	8.60	7.03	0.00
122.50	8.60	7.03	0.00
125.00	8.60	7.03	0.00
127.50	8.60	7.03	0.00
130.00	8.60	7.03	0.00
132.50	8.60	7.03	0.00
135.00	8.60	7.03	0.00
137.50	8.60	7.03	0.00
140.00	8.60	7.03	0.00
142.50	8.60	7.03	0.00
145.00	8.60	7.03	0.00
147.50	8.60	7.03	0.00
150.00	8.60	7.03	0.00
152.50	8.60	7.03	0.00
155.00	8.60	7.03	0.00
157.50	8.60	7.03	0.00
160.00	8.60	7.03	0.00
162.50	8.60	7.03	0.00
165.00	8.60	7.03	0.00
167.50	8.60	7.03	0.00
170.00	8.60	7.03	0.00
172.50	8.60	7.03	0.00
175.00	8.60	7.03	0.00
177.50	8.60	7.03	0.00
180.00	8.60	7.03	0.00
182.50	8.60	7.03	0.00
185.00	8.60	7.03	0.00
187.50	8.60	7.03	0.00
190.00	8.60	7.03	0.00
192.50	8.60	7.03	0.00
195.00	8.60	7.03	0.00
197.50	8.60	7.03	0.00
200.00	8.60	7.03	0.00
202.50	8.60	7.03	0.00
205.00	8.60	7.03	0.00
207.50	8.60	7.03	0.00
210.00	8.60	7.03	0.00
212.50	8.60	7.03	0.00
215.00	8.60	7.03	0.00
217.50	8.60	7.03	0.00
220.00	8.60	7.03	0.00
222.50	8.60	7.03	0.00
225.00	8.60	7.03	0.00
227.50	8.60	7.03	0.00
230.00	8.60	7.03	0.00
232.50	8.60	7.03	0.00
235.00	8.60	7.03	0.00
237.50	8.60	7.03	0.00
240.00	8.60	7.03	0.00

Summary for Subcatchment PDA-1.4G: Subcat PDA-1.4G

Runoff = 4.00 cfs @ 12.09 hrs, Volume= 13,512 cf, Depth= 7.28"
Routed to Pond 19P : Sand Filter 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
8,361	74	>75% Grass cover, Good, HSG C
160	80	>75% Grass cover, Good, HSG D
13,763	98	Paved parking, HSG C
22,284	89	Weighted Average
8,521	74	38.24% Pervious Area
13,763	98	61.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4G: Subcat PDA-1.4G

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.04	0.02
7.50	0.87	0.21	0.06
10.00	1.63	0.73	**0.16**
12.50	6.04	4.77	**0.86**
15.00	7.35	6.05	0.17
17.50	7.91	6.60	0.08
20.00	8.23	6.91	0.06
22.50	**8.48**	**7.16**	0.04
25.00	**8.60**	**7.28**	0.00
27.50	8.60	7.28	0.00
30.00	8.60	7.28	0.00
32.50	8.60	7.28	0.00
35.00	8.60	7.28	0.00
37.50	8.60	7.28	0.00
40.00	8.60	7.28	0.00
42.50	8.60	7.28	0.00
45.00	8.60	7.28	0.00
47.50	8.60	7.28	0.00
50.00	8.60	7.28	0.00
52.50	8.60	7.28	0.00
55.00	8.60	7.28	0.00
57.50	8.60	7.28	0.00
60.00	8.60	7.28	0.00
62.50	8.60	7.28	0.00
65.00	8.60	7.28	0.00
67.50	8.60	7.28	0.00
70.00	8.60	7.28	0.00
72.50	8.60	7.28	0.00
75.00	8.60	7.28	0.00
77.50	8.60	7.28	0.00
80.00	8.60	7.28	0.00
82.50	8.60	7.28	0.00
85.00	8.60	7.28	0.00
87.50	8.60	7.28	0.00
90.00	8.60	7.28	0.00
92.50	8.60	7.28	0.00
95.00	8.60	7.28	0.00
97.50	8.60	7.28	0.00
100.00	8.60	7.28	0.00
102.50	8.60	7.28	0.00
105.00	8.60	7.28	0.00
107.50	8.60	7.28	0.00
110.00	8.60	7.28	0.00
112.50	8.60	7.28	0.00
115.00	8.60	7.28	0.00
117.50	8.60	7.28	0.00
120.00	8.60	7.28	0.00
122.50	8.60	7.28	0.00
125.00	8.60	7.28	0.00
127.50	8.60	7.28	0.00
130.00	8.60	7.28	0.00
132.50	8.60	7.28	0.00
135.00	8.60	7.28	0.00
137.50	8.60	7.28	0.00
140.00	8.60	7.28	0.00
142.50	8.60	7.28	0.00
145.00	8.60	7.28	0.00
147.50	8.60	7.28	0.00
150.00	8.60	7.28	0.00
152.50	8.60	7.28	0.00
155.00	8.60	7.28	0.00
157.50	8.60	7.28	0.00
160.00	8.60	7.28	0.00
162.50	8.60	7.28	0.00
165.00	8.60	7.28	0.00
167.50	8.60	7.28	0.00
170.00	8.60	7.28	0.00
172.50	8.60	7.28	0.00
175.00	8.60	7.28	0.00
177.50	8.60	7.28	0.00
180.00	8.60	7.28	0.00
182.50	8.60	7.28	0.00
185.00	8.60	7.28	0.00
187.50	8.60	7.28	0.00
190.00	8.60	7.28	0.00
192.50	8.60	7.28	0.00
195.00	8.60	7.28	0.00
197.50	8.60	7.28	0.00
200.00	8.60	7.28	0.00
202.50	8.60	7.28	0.00
205.00	8.60	7.28	0.00
207.50	8.60	7.28	0.00
210.00	8.60	7.28	0.00
212.50	8.60	7.28	0.00
215.00	8.60	7.28	0.00
217.50	8.60	7.28	0.00
220.00	8.60	7.28	0.00
222.50	8.60	7.28	0.00
225.00	8.60	7.28	0.00
227.50	8.60	7.28	0.00
230.00	8.60	7.28	0.00
232.50	8.60	7.28	0.00
235.00	8.60	7.28	0.00
237.50	8.60	7.28	0.00
240.00	8.60	7.28	0.00

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Summary for Subcatchment PDA-1.4H: Subcat PDA-1.4H

Runoff = 1.57 cfs @ 12.09 hrs, Volume= 5,001 cf, Depth= 5.59"
Routed to Pond 4P : Detention Basin 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
9,974	74	>75% Grass cover, Good, HSG C
169	80	>75% Grass cover, Good, HSG D
600	98	Paved parking, HSG C
10,744	75	Weighted Average
10,143	74	94.41% Pervious Area
600	98	5.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

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Hydrograph for Subcatchment PDA-1.4H: Subcat PDA-1.4H

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.00	0.00
7.50	0.87	0.01	0.01
10.00	1.63	0.21	**0.04**
12.50	6.04	3.31	**0.36**
15.00	7.35	4.46	0.07
17.50	7.91	4.96	0.04
20.00	8.23	5.25	0.03
22.50	**8.48**	**5.48**	0.02
25.00	**8.60**	**5.59**	0.00
27.50	8.60	5.59	0.00
30.00	8.60	5.59	0.00
32.50	8.60	5.59	0.00
35.00	8.60	5.59	0.00
37.50	8.60	5.59	0.00
40.00	8.60	5.59	0.00
42.50	8.60	5.59	0.00
45.00	8.60	5.59	0.00
47.50	8.60	5.59	0.00
50.00	8.60	5.59	0.00
52.50	8.60	5.59	0.00
55.00	8.60	5.59	0.00
57.50	8.60	5.59	0.00
60.00	8.60	5.59	0.00
62.50	8.60	5.59	0.00
65.00	8.60	5.59	0.00
67.50	8.60	5.59	0.00
70.00	8.60	5.59	0.00
72.50	8.60	5.59	0.00
75.00	8.60	5.59	0.00
77.50	8.60	5.59	0.00
80.00	8.60	5.59	0.00
82.50	8.60	5.59	0.00
85.00	8.60	5.59	0.00
87.50	8.60	5.59	0.00
90.00	8.60	5.59	0.00
92.50	8.60	5.59	0.00
95.00	8.60	5.59	0.00
97.50	8.60	5.59	0.00
100.00	8.60	5.59	0.00
102.50	8.60	5.59	0.00
105.00	8.60	5.59	0.00
107.50	8.60	5.59	0.00
110.00	8.60	5.59	0.00
112.50	8.60	5.59	0.00
115.00	8.60	5.59	0.00
117.50	8.60	5.59	0.00
120.00	8.60	5.59	0.00
122.50	8.60	5.59	0.00
125.00	8.60	5.59	0.00
127.50	8.60	5.59	0.00
130.00	8.60	5.59	0.00
132.50	8.60	5.59	0.00
135.00	8.60	5.59	0.00
137.50	8.60	5.59	0.00
140.00	8.60	5.59	0.00
142.50	8.60	5.59	0.00
145.00	8.60	5.59	0.00
147.50	8.60	5.59	0.00
150.00	8.60	5.59	0.00
152.50	8.60	5.59	0.00
155.00	8.60	5.59	0.00
157.50	8.60	5.59	0.00
160.00	8.60	5.59	0.00
162.50	8.60	5.59	0.00
165.00	8.60	5.59	0.00
167.50	8.60	5.59	0.00
170.00	8.60	5.59	0.00
172.50	8.60	5.59	0.00
175.00	8.60	5.59	0.00
177.50	8.60	5.59	0.00
180.00	8.60	5.59	0.00
182.50	8.60	5.59	0.00
185.00	8.60	5.59	0.00
187.50	8.60	5.59	0.00
190.00	8.60	5.59	0.00
192.50	8.60	5.59	0.00
195.00	8.60	5.59	0.00
197.50	8.60	5.59	0.00
200.00	8.60	5.59	0.00
202.50	8.60	5.59	0.00
205.00	8.60	5.59	0.00
207.50	8.60	5.59	0.00
210.00	8.60	5.59	0.00
212.50	8.60	5.59	0.00
215.00	8.60	5.59	0.00
217.50	8.60	5.59	0.00
220.00	8.60	5.59	0.00
222.50	8.60	5.59	0.00
225.00	8.60	5.59	0.00
227.50	8.60	5.59	0.00
230.00	8.60	5.59	0.00
232.50	8.60	5.59	0.00
235.00	8.60	5.59	0.00
237.50	8.60	5.59	0.00
240.00	8.60	5.59	0.00

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Summary for Subcatchment PDA-1.4I: Subcat PDA-1.4I

Runoff = 1.59 cfs @ 12.09 hrs, Volume= 5,166 cf, Depth= 6.31"
Routed to Pond 12P : Infiltration Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
6,972	74	>75% Grass cover, Good, HSG C
194	80	>75% Grass cover, Good, HSG D
2,658	98	Paved parking, HSG C
0	98	Roofs, HSG C
9,824	81	Weighted Average
7,166	74	72.94% Pervious Area
2,658	98	27.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4I: Subcat PDA-1.4I

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.00	0.00
7.50	0.87	0.06	0.01
10.00	1.63	0.38	**0.05**
12.50	6.04	3.92	**0.36**
15.00	7.35	5.13	0.07
17.50	7.91	5.65	0.03
20.00	8.23	5.96	0.02
22.50	**8.48**	**6.20**	0.02
25.00	**8.60**	**6.31**	0.00
27.50	8.60	6.31	0.00
30.00	8.60	6.31	0.00
32.50	8.60	6.31	0.00
35.00	8.60	6.31	0.00
37.50	8.60	6.31	0.00
40.00	8.60	6.31	0.00
42.50	8.60	6.31	0.00
45.00	8.60	6.31	0.00
47.50	8.60	6.31	0.00
50.00	8.60	6.31	0.00
52.50	8.60	6.31	0.00
55.00	8.60	6.31	0.00
57.50	8.60	6.31	0.00
60.00	8.60	6.31	0.00
62.50	8.60	6.31	0.00
65.00	8.60	6.31	0.00
67.50	8.60	6.31	0.00
70.00	8.60	6.31	0.00
72.50	8.60	6.31	0.00
75.00	8.60	6.31	0.00
77.50	8.60	6.31	0.00
80.00	8.60	6.31	0.00
82.50	8.60	6.31	0.00
85.00	8.60	6.31	0.00
87.50	8.60	6.31	0.00
90.00	8.60	6.31	0.00
92.50	8.60	6.31	0.00
95.00	8.60	6.31	0.00
97.50	8.60	6.31	0.00
100.00	8.60	6.31	0.00
102.50	8.60	6.31	0.00
105.00	8.60	6.31	0.00
107.50	8.60	6.31	0.00
110.00	8.60	6.31	0.00
112.50	8.60	6.31	0.00
115.00	8.60	6.31	0.00
117.50	8.60	6.31	0.00
120.00	8.60	6.31	0.00
122.50	8.60	6.31	0.00
125.00	8.60	6.31	0.00
127.50	8.60	6.31	0.00
130.00	8.60	6.31	0.00
132.50	8.60	6.31	0.00
135.00	8.60	6.31	0.00
137.50	8.60	6.31	0.00
140.00	8.60	6.31	0.00
142.50	8.60	6.31	0.00
145.00	8.60	6.31	0.00
147.50	8.60	6.31	0.00
150.00	8.60	6.31	0.00
152.50	8.60	6.31	0.00
155.00	8.60	6.31	0.00
157.50	8.60	6.31	0.00
160.00	8.60	6.31	0.00
162.50	8.60	6.31	0.00
165.00	8.60	6.31	0.00
167.50	8.60	6.31	0.00
170.00	8.60	6.31	0.00
172.50	8.60	6.31	0.00
175.00	8.60	6.31	0.00
177.50	8.60	6.31	0.00
180.00	8.60	6.31	0.00
182.50	8.60	6.31	0.00
185.00	8.60	6.31	0.00
187.50	8.60	6.31	0.00
190.00	8.60	6.31	0.00
192.50	8.60	6.31	0.00
195.00	8.60	6.31	0.00
197.50	8.60	6.31	0.00
200.00	8.60	6.31	0.00
202.50	8.60	6.31	0.00
205.00	8.60	6.31	0.00
207.50	8.60	6.31	0.00
210.00	8.60	6.31	0.00
212.50	8.60	6.31	0.00
215.00	8.60	6.31	0.00
217.50	8.60	6.31	0.00
220.00	8.60	6.31	0.00
222.50	8.60	6.31	0.00
225.00	8.60	6.31	0.00
227.50	8.60	6.31	0.00
230.00	8.60	6.31	0.00
232.50	8.60	6.31	0.00
235.00	8.60	6.31	0.00
237.50	8.60	6.31	0.00
240.00	8.60	6.31	0.00

Summary for Subcatchment PDA-1.4J: Subcat PDA-1.4J

Runoff = 9.35 cfs @ 12.09 hrs, Volume= 30,074 cf, Depth= 6.07"
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
22,085	74	>75% Grass cover, Good, HSG C
32,367	80	>75% Grass cover, Good, HSG D
4,308	98	Paved parking, HSG C
392	98	Paved parking, HSG D
314	98	Unconnected pavement, HSG D
59,466	79	Weighted Average
54,452	78	91.57% Pervious Area
5,014	98	8.43% Impervious Area
314		6.27% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4J: Subcat PDA-1.4J

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.00	0.00
7.50	0.87	0.04	0.06
10.00	1.63	0.32	**0.28**
12.50	6.04	3.71	**2.11**
15.00	7.35	4.90	0.42
17.50	7.91	5.42	0.21
20.00	8.23	5.72	0.15
22.50	**8.48**	**5.96**	0.11
25.00	**8.60**	**6.07**	0.00
27.50	8.60	6.07	0.00
30.00	8.60	6.07	0.00
32.50	8.60	6.07	0.00
35.00	8.60	6.07	0.00
37.50	8.60	6.07	0.00
40.00	8.60	6.07	0.00
42.50	8.60	6.07	0.00
45.00	8.60	6.07	0.00
47.50	8.60	6.07	0.00
50.00	8.60	6.07	0.00
52.50	8.60	6.07	0.00
55.00	8.60	6.07	0.00
57.50	8.60	6.07	0.00
60.00	8.60	6.07	0.00
62.50	8.60	6.07	0.00
65.00	8.60	6.07	0.00
67.50	8.60	6.07	0.00
70.00	8.60	6.07	0.00
72.50	8.60	6.07	0.00
75.00	8.60	6.07	0.00
77.50	8.60	6.07	0.00
80.00	8.60	6.07	0.00
82.50	8.60	6.07	0.00
85.00	8.60	6.07	0.00
87.50	8.60	6.07	0.00
90.00	8.60	6.07	0.00
92.50	8.60	6.07	0.00
95.00	8.60	6.07	0.00
97.50	8.60	6.07	0.00
100.00	8.60	6.07	0.00
102.50	8.60	6.07	0.00
105.00	8.60	6.07	0.00
107.50	8.60	6.07	0.00
110.00	8.60	6.07	0.00
112.50	8.60	6.07	0.00
115.00	8.60	6.07	0.00
117.50	8.60	6.07	0.00
120.00	8.60	6.07	0.00
122.50	8.60	6.07	0.00
125.00	8.60	6.07	0.00
127.50	8.60	6.07	0.00
130.00	8.60	6.07	0.00
132.50	8.60	6.07	0.00
135.00	8.60	6.07	0.00
137.50	8.60	6.07	0.00
140.00	8.60	6.07	0.00
142.50	8.60	6.07	0.00
145.00	8.60	6.07	0.00
147.50	8.60	6.07	0.00
150.00	8.60	6.07	0.00
152.50	8.60	6.07	0.00
155.00	8.60	6.07	0.00
157.50	8.60	6.07	0.00
160.00	8.60	6.07	0.00
162.50	8.60	6.07	0.00
165.00	8.60	6.07	0.00
167.50	8.60	6.07	0.00
170.00	8.60	6.07	0.00
172.50	8.60	6.07	0.00
175.00	8.60	6.07	0.00
177.50	8.60	6.07	0.00
180.00	8.60	6.07	0.00
182.50	8.60	6.07	0.00
185.00	8.60	6.07	0.00
187.50	8.60	6.07	0.00
190.00	8.60	6.07	0.00
192.50	8.60	6.07	0.00
195.00	8.60	6.07	0.00
197.50	8.60	6.07	0.00
200.00	8.60	6.07	0.00
202.50	8.60	6.07	0.00
205.00	8.60	6.07	0.00
207.50	8.60	6.07	0.00
210.00	8.60	6.07	0.00
212.50	8.60	6.07	0.00
215.00	8.60	6.07	0.00
217.50	8.60	6.07	0.00
220.00	8.60	6.07	0.00
222.50	8.60	6.07	0.00
225.00	8.60	6.07	0.00
227.50	8.60	6.07	0.00
230.00	8.60	6.07	0.00
232.50	8.60	6.07	0.00
235.00	8.60	6.07	0.00
237.50	8.60	6.07	0.00
240.00	8.60	6.07	0.00

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Summary for Subcatchment PDA-1.4K: Subcat PDA-1.4K

Runoff = 3.50 cfs @ 12.09 hrs, Volume= 12,204 cf, Depth= 7.76"
Routed to Pond 9P : Sand Filter 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
3,577	74	>75% Grass cover, Good, HSG C
173	80	>75% Grass cover, Good, HSG D
15,126	98	Paved parking, HSG C
18,876	93	Weighted Average
3,751	74	19.87% Pervious Area
15,126	98	80.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-1.4K: Subcat PDA-1.4K

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.01	0.01
5.00	0.49	0.10	0.03
7.50	0.87	0.35	0.06
10.00	1.63	0.98	**0.16**
12.50	6.04	5.22	**0.74**
15.00	7.35	6.51	0.14
17.50	7.91	7.07	0.07
20.00	8.23	7.39	0.05
22.50	**8.48**	**7.64**	0.04
25.00	**8.60**	**7.76**	0.00
27.50	8.60	7.76	0.00
30.00	8.60	7.76	0.00
32.50	8.60	7.76	0.00
35.00	8.60	7.76	0.00
37.50	8.60	7.76	0.00
40.00	8.60	7.76	0.00
42.50	8.60	7.76	0.00
45.00	8.60	7.76	0.00
47.50	8.60	7.76	0.00
50.00	8.60	7.76	0.00
52.50	8.60	7.76	0.00
55.00	8.60	7.76	0.00
57.50	8.60	7.76	0.00
60.00	8.60	7.76	0.00
62.50	8.60	7.76	0.00
65.00	8.60	7.76	0.00
67.50	8.60	7.76	0.00
70.00	8.60	7.76	0.00
72.50	8.60	7.76	0.00
75.00	8.60	7.76	0.00
77.50	8.60	7.76	0.00
80.00	8.60	7.76	0.00
82.50	8.60	7.76	0.00
85.00	8.60	7.76	0.00
87.50	8.60	7.76	0.00
90.00	8.60	7.76	0.00
92.50	8.60	7.76	0.00
95.00	8.60	7.76	0.00
97.50	8.60	7.76	0.00
100.00	8.60	7.76	0.00
102.50	8.60	7.76	0.00
105.00	8.60	7.76	0.00
107.50	8.60	7.76	0.00
110.00	8.60	7.76	0.00
112.50	8.60	7.76	0.00
115.00	8.60	7.76	0.00
117.50	8.60	7.76	0.00
120.00	8.60	7.76	0.00
122.50	8.60	7.76	0.00
125.00	8.60	7.76	0.00
127.50	8.60	7.76	0.00
130.00	8.60	7.76	0.00
132.50	8.60	7.76	0.00
135.00	8.60	7.76	0.00
137.50	8.60	7.76	0.00
140.00	8.60	7.76	0.00
142.50	8.60	7.76	0.00
145.00	8.60	7.76	0.00
147.50	8.60	7.76	0.00
150.00	8.60	7.76	0.00
152.50	8.60	7.76	0.00
155.00	8.60	7.76	0.00
157.50	8.60	7.76	0.00
160.00	8.60	7.76	0.00
162.50	8.60	7.76	0.00
165.00	8.60	7.76	0.00
167.50	8.60	7.76	0.00
170.00	8.60	7.76	0.00
172.50	8.60	7.76	0.00
175.00	8.60	7.76	0.00
177.50	8.60	7.76	0.00
180.00	8.60	7.76	0.00
182.50	8.60	7.76	0.00
185.00	8.60	7.76	0.00
187.50	8.60	7.76	0.00
190.00	8.60	7.76	0.00
192.50	8.60	7.76	0.00
195.00	8.60	7.76	0.00
197.50	8.60	7.76	0.00
200.00	8.60	7.76	0.00
202.50	8.60	7.76	0.00
205.00	8.60	7.76	0.00
207.50	8.60	7.76	0.00
210.00	8.60	7.76	0.00
212.50	8.60	7.76	0.00
215.00	8.60	7.76	0.00
217.50	8.60	7.76	0.00
220.00	8.60	7.76	0.00
222.50	8.60	7.76	0.00
225.00	8.60	7.76	0.00
227.50	8.60	7.76	0.00
230.00	8.60	7.76	0.00
232.50	8.60	7.76	0.00
235.00	8.60	7.76	0.00
237.50	8.60	7.76	0.00
240.00	8.60	7.76	0.00

Summary for Subcatchment PDA-1.4L: Subcat PDA-1.4L

Runoff = 1.77 cfs @ 12.12 hrs, Volume= 6,178 cf, Depth= 6.19"
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
9,069	74	>75% Grass cover, Good, HSG C
2,908	98	Paved parking, HSG C
1	98	Roofs, HSG C
11,978	80	Weighted Average
9,069	74	75.72% Pervious Area
2,909	98	24.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	32	0.0120	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
3.7	43	0.0400	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
8.5	75	Total			

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Hydrograph for Subcatchment PDA-1.4L: Subcat PDA-1.4L

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.00	0.00
7.50	0.87	0.05	0.01
10.00	1.63	0.35	**0.06**
12.50	6.04	3.81	**0.50**
15.00	7.35	5.02	0.09
17.50	7.91	5.54	0.04
20.00	8.23	5.84	0.03
22.50	**8.48**	**6.08**	0.02
25.00	**8.60**	**6.19**	0.00
27.50	8.60	6.19	0.00
30.00	8.60	6.19	0.00
32.50	8.60	6.19	0.00
35.00	8.60	6.19	0.00
37.50	8.60	6.19	0.00
40.00	8.60	6.19	0.00
42.50	8.60	6.19	0.00
45.00	8.60	6.19	0.00
47.50	8.60	6.19	0.00
50.00	8.60	6.19	0.00
52.50	8.60	6.19	0.00
55.00	8.60	6.19	0.00
57.50	8.60	6.19	0.00
60.00	8.60	6.19	0.00
62.50	8.60	6.19	0.00
65.00	8.60	6.19	0.00
67.50	8.60	6.19	0.00
70.00	8.60	6.19	0.00
72.50	8.60	6.19	0.00
75.00	8.60	6.19	0.00
77.50	8.60	6.19	0.00
80.00	8.60	6.19	0.00
82.50	8.60	6.19	0.00
85.00	8.60	6.19	0.00
87.50	8.60	6.19	0.00
90.00	8.60	6.19	0.00
92.50	8.60	6.19	0.00
95.00	8.60	6.19	0.00
97.50	8.60	6.19	0.00
100.00	8.60	6.19	0.00
102.50	8.60	6.19	0.00
105.00	8.60	6.19	0.00
107.50	8.60	6.19	0.00
110.00	8.60	6.19	0.00
112.50	8.60	6.19	0.00
115.00	8.60	6.19	0.00
117.50	8.60	6.19	0.00
120.00	8.60	6.19	0.00
122.50	8.60	6.19	0.00
125.00	8.60	6.19	0.00
127.50	8.60	6.19	0.00
130.00	8.60	6.19	0.00
132.50	8.60	6.19	0.00
135.00	8.60	6.19	0.00
137.50	8.60	6.19	0.00
140.00	8.60	6.19	0.00
142.50	8.60	6.19	0.00
145.00	8.60	6.19	0.00
147.50	8.60	6.19	0.00
150.00	8.60	6.19	0.00
152.50	8.60	6.19	0.00
155.00	8.60	6.19	0.00
157.50	8.60	6.19	0.00
160.00	8.60	6.19	0.00
162.50	8.60	6.19	0.00
165.00	8.60	6.19	0.00
167.50	8.60	6.19	0.00
170.00	8.60	6.19	0.00
172.50	8.60	6.19	0.00
175.00	8.60	6.19	0.00
177.50	8.60	6.19	0.00
180.00	8.60	6.19	0.00
182.50	8.60	6.19	0.00
185.00	8.60	6.19	0.00
187.50	8.60	6.19	0.00
190.00	8.60	6.19	0.00
192.50	8.60	6.19	0.00
195.00	8.60	6.19	0.00
197.50	8.60	6.19	0.00
200.00	8.60	6.19	0.00
202.50	8.60	6.19	0.00
205.00	8.60	6.19	0.00
207.50	8.60	6.19	0.00
210.00	8.60	6.19	0.00
212.50	8.60	6.19	0.00
215.00	8.60	6.19	0.00
217.50	8.60	6.19	0.00
220.00	8.60	6.19	0.00
222.50	8.60	6.19	0.00
225.00	8.60	6.19	0.00
227.50	8.60	6.19	0.00
230.00	8.60	6.19	0.00
232.50	8.60	6.19	0.00
235.00	8.60	6.19	0.00
237.50	8.60	6.19	0.00
240.00	8.60	6.19	0.00

Summary for Subcatchment PDA-1.4M: Subcat PDA-1.4M

Runoff = 0.54 cfs @ 12.20 hrs, Volume= 2,204 cf, Depth= 5.59"
Routed to Pond 9P : Sand Filter 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
4,536	74	>75% Grass cover, Good, HSG C
199	98	Paved parking, HSG C
4,734	75	Weighted Average
4,536	74	95.80% Pervious Area
199	98	4.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
1.6	66	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.3	166	Total			

Hydrograph for Subcatchment PDA-1.4M: Subcat PDA-1.4M

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.00	0.00
7.50	0.87	0.01	0.00
10.00	1.63	0.21	**0.02**
12.50	6.04	3.31	**0.26**
15.00	7.35	4.46	0.03
17.50	7.91	4.96	0.02
20.00	8.23	5.25	0.01
22.50	**8.48**	**5.48**	0.01
25.00	**8.60**	**5.59**	0.00
27.50	8.60	5.59	0.00
30.00	8.60	5.59	0.00
32.50	8.60	5.59	0.00
35.00	8.60	5.59	0.00
37.50	8.60	5.59	0.00
40.00	8.60	5.59	0.00
42.50	8.60	5.59	0.00
45.00	8.60	5.59	0.00
47.50	8.60	5.59	0.00
50.00	8.60	5.59	0.00
52.50	8.60	5.59	0.00
55.00	8.60	5.59	0.00
57.50	8.60	5.59	0.00
60.00	8.60	5.59	0.00
62.50	8.60	5.59	0.00
65.00	8.60	5.59	0.00
67.50	8.60	5.59	0.00
70.00	8.60	5.59	0.00
72.50	8.60	5.59	0.00
75.00	8.60	5.59	0.00
77.50	8.60	5.59	0.00
80.00	8.60	5.59	0.00
82.50	8.60	5.59	0.00
85.00	8.60	5.59	0.00
87.50	8.60	5.59	0.00
90.00	8.60	5.59	0.00
92.50	8.60	5.59	0.00
95.00	8.60	5.59	0.00
97.50	8.60	5.59	0.00
100.00	8.60	5.59	0.00
102.50	8.60	5.59	0.00
105.00	8.60	5.59	0.00
107.50	8.60	5.59	0.00
110.00	8.60	5.59	0.00
112.50	8.60	5.59	0.00
115.00	8.60	5.59	0.00
117.50	8.60	5.59	0.00
120.00	8.60	5.59	0.00
122.50	8.60	5.59	0.00
125.00	8.60	5.59	0.00
127.50	8.60	5.59	0.00
130.00	8.60	5.59	0.00
132.50	8.60	5.59	0.00
135.00	8.60	5.59	0.00
137.50	8.60	5.59	0.00
140.00	8.60	5.59	0.00
142.50	8.60	5.59	0.00
145.00	8.60	5.59	0.00
147.50	8.60	5.59	0.00
150.00	8.60	5.59	0.00
152.50	8.60	5.59	0.00
155.00	8.60	5.59	0.00
157.50	8.60	5.59	0.00
160.00	8.60	5.59	0.00
162.50	8.60	5.59	0.00
165.00	8.60	5.59	0.00
167.50	8.60	5.59	0.00
170.00	8.60	5.59	0.00
172.50	8.60	5.59	0.00
175.00	8.60	5.59	0.00
177.50	8.60	5.59	0.00
180.00	8.60	5.59	0.00
182.50	8.60	5.59	0.00
185.00	8.60	5.59	0.00
187.50	8.60	5.59	0.00
190.00	8.60	5.59	0.00
192.50	8.60	5.59	0.00
195.00	8.60	5.59	0.00
197.50	8.60	5.59	0.00
200.00	8.60	5.59	0.00
202.50	8.60	5.59	0.00
205.00	8.60	5.59	0.00
207.50	8.60	5.59	0.00
210.00	8.60	5.59	0.00
212.50	8.60	5.59	0.00
215.00	8.60	5.59	0.00
217.50	8.60	5.59	0.00
220.00	8.60	5.59	0.00
222.50	8.60	5.59	0.00
225.00	8.60	5.59	0.00
227.50	8.60	5.59	0.00
230.00	8.60	5.59	0.00
232.50	8.60	5.59	0.00
235.00	8.60	5.59	0.00
237.50	8.60	5.59	0.00
240.00	8.60	5.59	0.00

Summary for Subcatchment PDA-2.1A: Subcat PDA-2.1A

Runoff = 42.39 cfs @ 12.22 hrs, Volume= 183,073 cf, Depth= 6.31"
Routed to Pond 28P : DIV-01

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
244,846	74	>75% Grass cover, Good, HSG C
65	80	>75% Grass cover, Good, HSG D
7,583	87	Dirt roads, HSG C
4,725	96	Gravel surface, HSG C
86,246	98	Paved parking, HSG C
4,565	98	Unconnected pavement, HSG C
107	70	Woods, Good, HSG C
348,138	81	Weighted Average
257,327	75	73.92% Pervious Area
90,810	98	26.08% Impervious Area
4,565		5.03% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0100	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
2.5	103	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	66	0.0189	0.96		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.3	269	Total			

Hydrograph for Subcatchment PDA-2.1A: Subcat PDA-2.1A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.00	0.00
7.50	0.87	0.06	0.38
10.00	1.63	0.38	**1.67**
12.50	6.04	3.92	**22.29**
15.00	7.35	5.13	2.62
17.50	7.91	5.65	1.29
20.00	8.23	5.96	0.88
22.50	**8.48**	**6.20**	0.69
25.00	**8.60**	**6.31**	0.00
27.50	8.60	6.31	0.00
30.00	8.60	6.31	0.00
32.50	8.60	6.31	0.00
35.00	8.60	6.31	0.00
37.50	8.60	6.31	0.00
40.00	8.60	6.31	0.00
42.50	8.60	6.31	0.00
45.00	8.60	6.31	0.00
47.50	8.60	6.31	0.00
50.00	8.60	6.31	0.00
52.50	8.60	6.31	0.00
55.00	8.60	6.31	0.00
57.50	8.60	6.31	0.00
60.00	8.60	6.31	0.00
62.50	8.60	6.31	0.00
65.00	8.60	6.31	0.00
67.50	8.60	6.31	0.00
70.00	8.60	6.31	0.00
72.50	8.60	6.31	0.00
75.00	8.60	6.31	0.00
77.50	8.60	6.31	0.00
80.00	8.60	6.31	0.00
82.50	8.60	6.31	0.00
85.00	8.60	6.31	0.00
87.50	8.60	6.31	0.00
90.00	8.60	6.31	0.00
92.50	8.60	6.31	0.00
95.00	8.60	6.31	0.00
97.50	8.60	6.31	0.00
100.00	8.60	6.31	0.00
102.50	8.60	6.31	0.00
105.00	8.60	6.31	0.00
107.50	8.60	6.31	0.00
110.00	8.60	6.31	0.00
112.50	8.60	6.31	0.00
115.00	8.60	6.31	0.00
117.50	8.60	6.31	0.00
120.00	8.60	6.31	0.00
122.50	8.60	6.31	0.00
125.00	8.60	6.31	0.00
127.50	8.60	6.31	0.00
130.00	8.60	6.31	0.00
132.50	8.60	6.31	0.00
135.00	8.60	6.31	0.00
137.50	8.60	6.31	0.00
140.00	8.60	6.31	0.00
142.50	8.60	6.31	0.00
145.00	8.60	6.31	0.00
147.50	8.60	6.31	0.00
150.00	8.60	6.31	0.00
152.50	8.60	6.31	0.00
155.00	8.60	6.31	0.00
157.50	8.60	6.31	0.00
160.00	8.60	6.31	0.00
162.50	8.60	6.31	0.00
165.00	8.60	6.31	0.00
167.50	8.60	6.31	0.00
170.00	8.60	6.31	0.00
172.50	8.60	6.31	0.00
175.00	8.60	6.31	0.00
177.50	8.60	6.31	0.00
180.00	8.60	6.31	0.00
182.50	8.60	6.31	0.00
185.00	8.60	6.31	0.00
187.50	8.60	6.31	0.00
190.00	8.60	6.31	0.00
192.50	8.60	6.31	0.00
195.00	8.60	6.31	0.00
197.50	8.60	6.31	0.00
200.00	8.60	6.31	0.00
202.50	8.60	6.31	0.00
205.00	8.60	6.31	0.00
207.50	8.60	6.31	0.00
210.00	8.60	6.31	0.00
212.50	8.60	6.31	0.00
215.00	8.60	6.31	0.00
217.50	8.60	6.31	0.00
220.00	8.60	6.31	0.00
222.50	8.60	6.31	0.00
225.00	8.60	6.31	0.00
227.50	8.60	6.31	0.00
230.00	8.60	6.31	0.00
232.50	8.60	6.31	0.00
235.00	8.60	6.31	0.00
237.50	8.60	6.31	0.00
240.00	8.60	6.31	0.00

Summary for Subcatchment PDA-2.1B: Subcat PDA-2.1B

Runoff = 16.62 cfs @ 12.23 hrs, Volume= 72,266 cf, Depth= 5.71"
Routed to Pond 15P : Detention Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
135,152	74	>75% Grass cover, Good, HSG C
9,554	87	Dirt roads, HSG C
4,830	98	Paved parking, HSG C
2,421	98	Unconnected pavement, HSG C
151,957	76	Weighted Average
144,706	75	95.23% Pervious Area
7,251	98	4.77% Impervious Area
2,421		33.39% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.30"
0.2	23	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.0	123	Total			

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Hydrograph for Subcatchment PDA-2.1B: Subcat PDA-2.1B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.00	0.00
7.50	0.87	0.02	0.07
10.00	1.63	0.24	**0.54**
12.50	6.04	3.41	**9.37**
15.00	7.35	4.57	1.10
17.50	7.91	5.07	0.54
20.00	8.23	5.37	0.37
22.50	**8.48**	**5.60**	0.29
25.00	**8.60**	**5.71**	0.00
27.50	8.60	5.71	0.00
30.00	8.60	5.71	0.00
32.50	8.60	5.71	0.00
35.00	8.60	5.71	0.00
37.50	8.60	5.71	0.00
40.00	8.60	5.71	0.00
42.50	8.60	5.71	0.00
45.00	8.60	5.71	0.00
47.50	8.60	5.71	0.00
50.00	8.60	5.71	0.00
52.50	8.60	5.71	0.00
55.00	8.60	5.71	0.00
57.50	8.60	5.71	0.00
60.00	8.60	5.71	0.00
62.50	8.60	5.71	0.00
65.00	8.60	5.71	0.00
67.50	8.60	5.71	0.00
70.00	8.60	5.71	0.00
72.50	8.60	5.71	0.00
75.00	8.60	5.71	0.00
77.50	8.60	5.71	0.00
80.00	8.60	5.71	0.00
82.50	8.60	5.71	0.00
85.00	8.60	5.71	0.00
87.50	8.60	5.71	0.00
90.00	8.60	5.71	0.00
92.50	8.60	5.71	0.00
95.00	8.60	5.71	0.00
97.50	8.60	5.71	0.00
100.00	8.60	5.71	0.00
102.50	8.60	5.71	0.00
105.00	8.60	5.71	0.00
107.50	8.60	5.71	0.00
110.00	8.60	5.71	0.00
112.50	8.60	5.71	0.00
115.00	8.60	5.71	0.00
117.50	8.60	5.71	0.00
120.00	8.60	5.71	0.00
122.50	8.60	5.71	0.00
125.00	8.60	5.71	0.00
127.50	8.60	5.71	0.00
130.00	8.60	5.71	0.00
132.50	8.60	5.71	0.00
135.00	8.60	5.71	0.00
137.50	8.60	5.71	0.00
140.00	8.60	5.71	0.00
142.50	8.60	5.71	0.00
145.00	8.60	5.71	0.00
147.50	8.60	5.71	0.00
150.00	8.60	5.71	0.00
152.50	8.60	5.71	0.00
155.00	8.60	5.71	0.00
157.50	8.60	5.71	0.00
160.00	8.60	5.71	0.00
162.50	8.60	5.71	0.00
165.00	8.60	5.71	0.00
167.50	8.60	5.71	0.00
170.00	8.60	5.71	0.00
172.50	8.60	5.71	0.00
175.00	8.60	5.71	0.00
177.50	8.60	5.71	0.00
180.00	8.60	5.71	0.00
182.50	8.60	5.71	0.00
185.00	8.60	5.71	0.00
187.50	8.60	5.71	0.00
190.00	8.60	5.71	0.00
192.50	8.60	5.71	0.00
195.00	8.60	5.71	0.00
197.50	8.60	5.71	0.00
200.00	8.60	5.71	0.00
202.50	8.60	5.71	0.00
205.00	8.60	5.71	0.00
207.50	8.60	5.71	0.00
210.00	8.60	5.71	0.00
212.50	8.60	5.71	0.00
215.00	8.60	5.71	0.00
217.50	8.60	5.71	0.00
220.00	8.60	5.71	0.00
222.50	8.60	5.71	0.00
225.00	8.60	5.71	0.00
227.50	8.60	5.71	0.00
230.00	8.60	5.71	0.00
232.50	8.60	5.71	0.00
235.00	8.60	5.71	0.00
237.50	8.60	5.71	0.00
240.00	8.60	5.71	0.00

Summary for Subcatchment PDA-2.2A: Subcat PDA-2.2A

Runoff = 20.34 cfs @ 12.17 hrs, Volume= 80,492 cf, Depth= 6.19"
Routed to Link 7L : DP 2.2 - Silver Creek West Branch

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
115,003	74	>75% Grass cover, Good, HSG C
36,719	98	Paved parking, HSG C
4,050	98	Unconnected pavement, HSG C
279	70	Woods, Good, HSG C
156,051	80	Weighted Average
115,282	74	73.87% Pervious Area
40,769	98	26.13% Impervious Area
4,050		9.93% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.9					**Direct Entry, PER EDA-2.2A**

Hydrograph for Subcatchment PDA-2.2A: Subcat PDA-2.2A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.00	0.00
7.50	0.87	0.05	0.16
10.00	1.63	0.35	**0.73**
12.50	6.04	3.81	**8.40**
15.00	7.35	5.02	1.15
17.50	7.91	5.54	0.57
20.00	8.23	5.84	0.39
22.50	**8.48**	**6.08**	0.30
25.00	**8.60**	**6.19**	0.00
27.50	8.60	6.19	0.00
30.00	8.60	6.19	0.00
32.50	8.60	6.19	0.00
35.00	8.60	6.19	0.00
37.50	8.60	6.19	0.00
40.00	8.60	6.19	0.00
42.50	8.60	6.19	0.00
45.00	8.60	6.19	0.00
47.50	8.60	6.19	0.00
50.00	8.60	6.19	0.00
52.50	8.60	6.19	0.00
55.00	8.60	6.19	0.00
57.50	8.60	6.19	0.00
60.00	8.60	6.19	0.00
62.50	8.60	6.19	0.00
65.00	8.60	6.19	0.00
67.50	8.60	6.19	0.00
70.00	8.60	6.19	0.00
72.50	8.60	6.19	0.00
75.00	8.60	6.19	0.00
77.50	8.60	6.19	0.00
80.00	8.60	6.19	0.00
82.50	8.60	6.19	0.00
85.00	8.60	6.19	0.00
87.50	8.60	6.19	0.00
90.00	8.60	6.19	0.00
92.50	8.60	6.19	0.00
95.00	8.60	6.19	0.00
97.50	8.60	6.19	0.00
100.00	8.60	6.19	0.00
102.50	8.60	6.19	0.00
105.00	8.60	6.19	0.00
107.50	8.60	6.19	0.00
110.00	8.60	6.19	0.00
112.50	8.60	6.19	0.00
115.00	8.60	6.19	0.00
117.50	8.60	6.19	0.00
120.00	8.60	6.19	0.00
122.50	8.60	6.19	0.00
125.00	8.60	6.19	0.00
127.50	8.60	6.19	0.00
130.00	8.60	6.19	0.00
132.50	8.60	6.19	0.00
135.00	8.60	6.19	0.00
137.50	8.60	6.19	0.00
140.00	8.60	6.19	0.00
142.50	8.60	6.19	0.00
145.00	8.60	6.19	0.00
147.50	8.60	6.19	0.00
150.00	8.60	6.19	0.00
152.50	8.60	6.19	0.00
155.00	8.60	6.19	0.00
157.50	8.60	6.19	0.00
160.00	8.60	6.19	0.00
162.50	8.60	6.19	0.00
165.00	8.60	6.19	0.00
167.50	8.60	6.19	0.00
170.00	8.60	6.19	0.00
172.50	8.60	6.19	0.00
175.00	8.60	6.19	0.00
177.50	8.60	6.19	0.00
180.00	8.60	6.19	0.00
182.50	8.60	6.19	0.00
185.00	8.60	6.19	0.00
187.50	8.60	6.19	0.00
190.00	8.60	6.19	0.00
192.50	8.60	6.19	0.00
195.00	8.60	6.19	0.00
197.50	8.60	6.19	0.00
200.00	8.60	6.19	0.00
202.50	8.60	6.19	0.00
205.00	8.60	6.19	0.00
207.50	8.60	6.19	0.00
210.00	8.60	6.19	0.00
212.50	8.60	6.19	0.00
215.00	8.60	6.19	0.00
217.50	8.60	6.19	0.00
220.00	8.60	6.19	0.00
222.50	8.60	6.19	0.00
225.00	8.60	6.19	0.00
227.50	8.60	6.19	0.00
230.00	8.60	6.19	0.00
232.50	8.60	6.19	0.00
235.00	8.60	6.19	0.00
237.50	8.60	6.19	0.00
240.00	8.60	6.19	0.00

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Summary for Subcatchment PDA-2.2B: Subcat PDA-2.2B

Runoff = 10.53 cfs @ 12.55 hrs, Volume= 66,328 cf, Depth= 5.22"
Routed to Link 6L : DP 2.1 - West Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
51,518	74	>75% Grass cover, Good, HSG C
2,379	98	Paved parking, HSG C
98,443	70	Woods, Good, HSG C
152,340	72	Weighted Average
149,961	71	98.44% Pervious Area
2,379	98	1.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.9	100	0.0120	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"
14.1	465	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.0	565	Total			

Hydrograph for Subcatchment PDA-2.2B: Subcat PDA-2.2B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.00	0.00
5.00	0.49	0.00	0.00
7.50	0.87	0.00	0.00
10.00	1.63	0.15	0.32
12.50	6.04	3.02	**10.42**
15.00	7.35	4.13	**1.17**
17.50	7.91	4.61	0.57
20.00	8.23	4.90	0.37
22.50	**8.48**	**5.12**	0.29
25.00	**8.60**	**5.22**	0.02
27.50	8.60	5.22	0.00
30.00	8.60	5.22	0.00
32.50	8.60	5.22	0.00
35.00	8.60	5.22	0.00
37.50	8.60	5.22	0.00
40.00	8.60	5.22	0.00
42.50	8.60	5.22	0.00
45.00	8.60	5.22	0.00
47.50	8.60	5.22	0.00
50.00	8.60	5.22	0.00
52.50	8.60	5.22	0.00
55.00	8.60	5.22	0.00
57.50	8.60	5.22	0.00
60.00	8.60	5.22	0.00
62.50	8.60	5.22	0.00
65.00	8.60	5.22	0.00
67.50	8.60	5.22	0.00
70.00	8.60	5.22	0.00
72.50	8.60	5.22	0.00
75.00	8.60	5.22	0.00
77.50	8.60	5.22	0.00
80.00	8.60	5.22	0.00
82.50	8.60	5.22	0.00
85.00	8.60	5.22	0.00
87.50	8.60	5.22	0.00
90.00	8.60	5.22	0.00
92.50	8.60	5.22	0.00
95.00	8.60	5.22	0.00
97.50	8.60	5.22	0.00
100.00	8.60	5.22	0.00
102.50	8.60	5.22	0.00
105.00	8.60	5.22	0.00
107.50	8.60	5.22	0.00
110.00	8.60	5.22	0.00
112.50	8.60	5.22	0.00
115.00	8.60	5.22	0.00
117.50	8.60	5.22	0.00
120.00	8.60	5.22	0.00
122.50	8.60	5.22	0.00
125.00	8.60	5.22	0.00
127.50	8.60	5.22	0.00
130.00	8.60	5.22	0.00
132.50	8.60	5.22	0.00
135.00	8.60	5.22	0.00
137.50	8.60	5.22	0.00
140.00	8.60	5.22	0.00
142.50	8.60	5.22	0.00
145.00	8.60	5.22	0.00
147.50	8.60	5.22	0.00
150.00	8.60	5.22	0.00
152.50	8.60	5.22	0.00
155.00	8.60	5.22	0.00
157.50	8.60	5.22	0.00
160.00	8.60	5.22	0.00
162.50	8.60	5.22	0.00
165.00	8.60	5.22	0.00
167.50	8.60	5.22	0.00
170.00	8.60	5.22	0.00
172.50	8.60	5.22	0.00
175.00	8.60	5.22	0.00
177.50	8.60	5.22	0.00
180.00	8.60	5.22	0.00
182.50	8.60	5.22	0.00
185.00	8.60	5.22	0.00
187.50	8.60	5.22	0.00
190.00	8.60	5.22	0.00
192.50	8.60	5.22	0.00
195.00	8.60	5.22	0.00
197.50	8.60	5.22	0.00
200.00	8.60	5.22	0.00
202.50	8.60	5.22	0.00
205.00	8.60	5.22	0.00
207.50	8.60	5.22	0.00
210.00	8.60	5.22	0.00
212.50	8.60	5.22	0.00
215.00	8.60	5.22	0.00
217.50	8.60	5.22	0.00
220.00	8.60	5.22	0.00
222.50	8.60	5.22	0.00
225.00	8.60	5.22	0.00
227.50	8.60	5.22	0.00
230.00	8.60	5.22	0.00
232.50	8.60	5.22	0.00
235.00	8.60	5.22	0.00
237.50	8.60	5.22	0.00
240.00	8.60	5.22	0.00

Summary for Subcatchment PDA-2.2C.a: Subcat PDA-2.2C.a

Runoff = 17.17 cfs @ 12.09 hrs, Volume= 63,166 cf, Depth= 8.36"
Routed to Pond 17P : Track and Field- stone base

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
90,671	98	Paved parking, HSG C
90,671	98	Weighted Average
0	74	0.00% Pervious Area
90,671	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-2.2C.a: Subcat PDA-2.2C.a

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.08	0.13
5.00	0.49	0.31	0.23
7.50	0.87	0.67	0.40
10.00	1.63	1.40	**0.85**
12.50	6.04	5.80	**3.62**
15.00	7.35	7.11	0.70
17.50	7.91	7.67	0.34
20.00	8.23	7.99	0.24
22.50	**8.48**	**8.24**	0.19
25.00	**8.60**	**8.36**	0.00
27.50	8.60	8.36	0.00
30.00	8.60	8.36	0.00
32.50	8.60	8.36	0.00
35.00	8.60	8.36	0.00
37.50	8.60	8.36	0.00
40.00	8.60	8.36	0.00
42.50	8.60	8.36	0.00
45.00	8.60	8.36	0.00
47.50	8.60	8.36	0.00
50.00	8.60	8.36	0.00
52.50	8.60	8.36	0.00
55.00	8.60	8.36	0.00
57.50	8.60	8.36	0.00
60.00	8.60	8.36	0.00
62.50	8.60	8.36	0.00
65.00	8.60	8.36	0.00
67.50	8.60	8.36	0.00
70.00	8.60	8.36	0.00
72.50	8.60	8.36	0.00
75.00	8.60	8.36	0.00
77.50	8.60	8.36	0.00
80.00	8.60	8.36	0.00
82.50	8.60	8.36	0.00
85.00	8.60	8.36	0.00
87.50	8.60	8.36	0.00
90.00	8.60	8.36	0.00
92.50	8.60	8.36	0.00
95.00	8.60	8.36	0.00
97.50	8.60	8.36	0.00
100.00	8.60	8.36	0.00
102.50	8.60	8.36	0.00
105.00	8.60	8.36	0.00
107.50	8.60	8.36	0.00
110.00	8.60	8.36	0.00
112.50	8.60	8.36	0.00
115.00	8.60	8.36	0.00
117.50	8.60	8.36	0.00
120.00	8.60	8.36	0.00
122.50	8.60	8.36	0.00
125.00	8.60	8.36	0.00
127.50	8.60	8.36	0.00
130.00	8.60	8.36	0.00
132.50	8.60	8.36	0.00
135.00	8.60	8.36	0.00
137.50	8.60	8.36	0.00
140.00	8.60	8.36	0.00
142.50	8.60	8.36	0.00
145.00	8.60	8.36	0.00
147.50	8.60	8.36	0.00
150.00	8.60	8.36	0.00
152.50	8.60	8.36	0.00
155.00	8.60	8.36	0.00
157.50	8.60	8.36	0.00
160.00	8.60	8.36	0.00
162.50	8.60	8.36	0.00
165.00	8.60	8.36	0.00
167.50	8.60	8.36	0.00
170.00	8.60	8.36	0.00
172.50	8.60	8.36	0.00
175.00	8.60	8.36	0.00
177.50	8.60	8.36	0.00
180.00	8.60	8.36	0.00
182.50	8.60	8.36	0.00
185.00	8.60	8.36	0.00
187.50	8.60	8.36	0.00
190.00	8.60	8.36	0.00
192.50	8.60	8.36	0.00
195.00	8.60	8.36	0.00
197.50	8.60	8.36	0.00
200.00	8.60	8.36	0.00
202.50	8.60	8.36	0.00
205.00	8.60	8.36	0.00
207.50	8.60	8.36	0.00
210.00	8.60	8.36	0.00
212.50	8.60	8.36	0.00
215.00	8.60	8.36	0.00
217.50	8.60	8.36	0.00
220.00	8.60	8.36	0.00
222.50	8.60	8.36	0.00
225.00	8.60	8.36	0.00
227.50	8.60	8.36	0.00
230.00	8.60	8.36	0.00
232.50	8.60	8.36	0.00
235.00	8.60	8.36	0.00
237.50	8.60	8.36	0.00
240.00	8.60	8.36	0.00

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Summary for Subcatchment PDA-2.2C.b: Subcat PDA-2.2C.b

Runoff = 11.58 cfs @ 12.09 hrs, Volume= 42,625 cf, Depth= 8.36"
Routed to Pond 35P : Track and Field-manifold

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
4	74	>75% Grass cover, Good, HSG C
61,181	98	Paved parking, HSG C
61,186	98	Weighted Average
4	74	0.01% Pervious Area
61,181	98	99.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-2.2C.b: Subcat PDA-2.2C.b

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.08	0.09
5.00	0.49	0.31	0.16
7.50	0.87	0.67	0.27
10.00	1.63	1.40	**0.58**
12.50	6.04	5.80	**2.44**
15.00	7.35	7.11	0.47
17.50	7.91	7.67	0.23
20.00	8.23	7.99	0.16
22.50	**8.48**	**8.24**	0.13
25.00	**8.60**	**8.36**	0.00
27.50	8.60	8.36	0.00
30.00	8.60	8.36	0.00
32.50	8.60	8.36	0.00
35.00	8.60	8.36	0.00
37.50	8.60	8.36	0.00
40.00	8.60	8.36	0.00
42.50	8.60	8.36	0.00
45.00	8.60	8.36	0.00
47.50	8.60	8.36	0.00
50.00	8.60	8.36	0.00
52.50	8.60	8.36	0.00
55.00	8.60	8.36	0.00
57.50	8.60	8.36	0.00
60.00	8.60	8.36	0.00
62.50	8.60	8.36	0.00
65.00	8.60	8.36	0.00
67.50	8.60	8.36	0.00
70.00	8.60	8.36	0.00
72.50	8.60	8.36	0.00
75.00	8.60	8.36	0.00
77.50	8.60	8.36	0.00
80.00	8.60	8.36	0.00
82.50	8.60	8.36	0.00
85.00	8.60	8.36	0.00
87.50	8.60	8.36	0.00
90.00	8.60	8.36	0.00
92.50	8.60	8.36	0.00
95.00	8.60	8.36	0.00
97.50	8.60	8.36	0.00
100.00	8.60	8.36	0.00
102.50	8.60	8.36	0.00
105.00	8.60	8.36	0.00
107.50	8.60	8.36	0.00
110.00	8.60	8.36	0.00
112.50	8.60	8.36	0.00
115.00	8.60	8.36	0.00
117.50	8.60	8.36	0.00
120.00	8.60	8.36	0.00
122.50	8.60	8.36	0.00
125.00	8.60	8.36	0.00
127.50	8.60	8.36	0.00
130.00	8.60	8.36	0.00
132.50	8.60	8.36	0.00
135.00	8.60	8.36	0.00
137.50	8.60	8.36	0.00
140.00	8.60	8.36	0.00
142.50	8.60	8.36	0.00
145.00	8.60	8.36	0.00
147.50	8.60	8.36	0.00
150.00	8.60	8.36	0.00
152.50	8.60	8.36	0.00
155.00	8.60	8.36	0.00
157.50	8.60	8.36	0.00
160.00	8.60	8.36	0.00
162.50	8.60	8.36	0.00
165.00	8.60	8.36	0.00
167.50	8.60	8.36	0.00
170.00	8.60	8.36	0.00
172.50	8.60	8.36	0.00
175.00	8.60	8.36	0.00
177.50	8.60	8.36	0.00
180.00	8.60	8.36	0.00
182.50	8.60	8.36	0.00
185.00	8.60	8.36	0.00
187.50	8.60	8.36	0.00
190.00	8.60	8.36	0.00
192.50	8.60	8.36	0.00
195.00	8.60	8.36	0.00
197.50	8.60	8.36	0.00
200.00	8.60	8.36	0.00
202.50	8.60	8.36	0.00
205.00	8.60	8.36	0.00
207.50	8.60	8.36	0.00
210.00	8.60	8.36	0.00
212.50	8.60	8.36	0.00
215.00	8.60	8.36	0.00
217.50	8.60	8.36	0.00
220.00	8.60	8.36	0.00
222.50	8.60	8.36	0.00
225.00	8.60	8.36	0.00
227.50	8.60	8.36	0.00
230.00	8.60	8.36	0.00
232.50	8.60	8.36	0.00
235.00	8.60	8.36	0.00
237.50	8.60	8.36	0.00
240.00	8.60	8.36	0.00

Summary for Subcatchment PDA-ROOF1.3: Subcat PDA-ROOF1.3

Runoff = 1.85 cfs @ 12.09 hrs, Volume= 6,815 cf, Depth= 8.36"
Routed to Pond 2P : Bio 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
0	98	Paved parking, HSG C
9,782	98	Roofs, HSG C
9,782	98	Weighted Average
0	74	0.00% Pervious Area
9,782	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-ROOF1.3: Subcat PDA-ROOF1.3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.08	0.01
5.00	0.49	0.31	0.03
7.50	0.87	0.67	0.04
10.00	1.63	1.40	**0.09**
12.50	6.04	5.80	**0.39**
15.00	7.35	7.11	0.08
17.50	7.91	7.67	0.04
20.00	8.23	7.99	0.03
22.50	**8.48**	**8.24**	0.02
25.00	**8.60**	**8.36**	0.00
27.50	8.60	8.36	0.00
30.00	8.60	8.36	0.00
32.50	8.60	8.36	0.00
35.00	8.60	8.36	0.00
37.50	8.60	8.36	0.00
40.00	8.60	8.36	0.00
42.50	8.60	8.36	0.00
45.00	8.60	8.36	0.00
47.50	8.60	8.36	0.00
50.00	8.60	8.36	0.00
52.50	8.60	8.36	0.00
55.00	8.60	8.36	0.00
57.50	8.60	8.36	0.00
60.00	8.60	8.36	0.00
62.50	8.60	8.36	0.00
65.00	8.60	8.36	0.00
67.50	8.60	8.36	0.00
70.00	8.60	8.36	0.00
72.50	8.60	8.36	0.00
75.00	8.60	8.36	0.00
77.50	8.60	8.36	0.00
80.00	8.60	8.36	0.00
82.50	8.60	8.36	0.00
85.00	8.60	8.36	0.00
87.50	8.60	8.36	0.00
90.00	8.60	8.36	0.00
92.50	8.60	8.36	0.00
95.00	8.60	8.36	0.00
97.50	8.60	8.36	0.00
100.00	8.60	8.36	0.00
102.50	8.60	8.36	0.00
105.00	8.60	8.36	0.00
107.50	8.60	8.36	0.00
110.00	8.60	8.36	0.00
112.50	8.60	8.36	0.00
115.00	8.60	8.36	0.00
117.50	8.60	8.36	0.00
120.00	8.60	8.36	0.00
122.50	8.60	8.36	0.00
125.00	8.60	8.36	0.00
127.50	8.60	8.36	0.00
130.00	8.60	8.36	0.00
132.50	8.60	8.36	0.00
135.00	8.60	8.36	0.00
137.50	8.60	8.36	0.00
140.00	8.60	8.36	0.00
142.50	8.60	8.36	0.00
145.00	8.60	8.36	0.00
147.50	8.60	8.36	0.00
150.00	8.60	8.36	0.00
152.50	8.60	8.36	0.00
155.00	8.60	8.36	0.00
157.50	8.60	8.36	0.00
160.00	8.60	8.36	0.00
162.50	8.60	8.36	0.00
165.00	8.60	8.36	0.00
167.50	8.60	8.36	0.00
170.00	8.60	8.36	0.00
172.50	8.60	8.36	0.00
175.00	8.60	8.36	0.00
177.50	8.60	8.36	0.00
180.00	8.60	8.36	0.00
182.50	8.60	8.36	0.00
185.00	8.60	8.36	0.00
187.50	8.60	8.36	0.00
190.00	8.60	8.36	0.00
192.50	8.60	8.36	0.00
195.00	8.60	8.36	0.00
197.50	8.60	8.36	0.00
200.00	8.60	8.36	0.00
202.50	8.60	8.36	0.00
205.00	8.60	8.36	0.00
207.50	8.60	8.36	0.00
210.00	8.60	8.36	0.00
212.50	8.60	8.36	0.00
215.00	8.60	8.36	0.00
217.50	8.60	8.36	0.00
220.00	8.60	8.36	0.00
222.50	8.60	8.36	0.00
225.00	8.60	8.36	0.00
227.50	8.60	8.36	0.00
230.00	8.60	8.36	0.00
232.50	8.60	8.36	0.00
235.00	8.60	8.36	0.00
237.50	8.60	8.36	0.00
240.00	8.60	8.36	0.00

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Summary for Subcatchment PDA-ROOF1.4: Subcat PDA-ROOF1.4

Runoff = 11.02 cfs @ 12.09 hrs, Volume= 40,552 cf, Depth= 8.36"
Routed to Pond 12P : Infiltration Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
1	98	Paved parking, HSG C
58,209	98	Roofs, HSG C
58,210	98	Weighted Average
0	74	0.00% Pervious Area
58,210	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-ROOF1.4: Subcat PDA-ROOF1.4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.08	0.09
5.00	0.49	0.31	0.15
7.50	0.87	0.67	0.26
10.00	1.63	1.40	**0.55**
12.50	6.04	5.80	**2.32**
15.00	7.35	7.11	0.45
17.50	7.91	7.67	0.22
20.00	8.23	7.99	0.15
22.50	**8.48**	**8.24**	0.12
25.00	**8.60**	**8.36**	0.00
27.50	8.60	8.36	0.00
30.00	8.60	8.36	0.00
32.50	8.60	8.36	0.00
35.00	8.60	8.36	0.00
37.50	8.60	8.36	0.00
40.00	8.60	8.36	0.00
42.50	8.60	8.36	0.00
45.00	8.60	8.36	0.00
47.50	8.60	8.36	0.00
50.00	8.60	8.36	0.00
52.50	8.60	8.36	0.00
55.00	8.60	8.36	0.00
57.50	8.60	8.36	0.00
60.00	8.60	8.36	0.00
62.50	8.60	8.36	0.00
65.00	8.60	8.36	0.00
67.50	8.60	8.36	0.00
70.00	8.60	8.36	0.00
72.50	8.60	8.36	0.00
75.00	8.60	8.36	0.00
77.50	8.60	8.36	0.00
80.00	8.60	8.36	0.00
82.50	8.60	8.36	0.00
85.00	8.60	8.36	0.00
87.50	8.60	8.36	0.00
90.00	8.60	8.36	0.00
92.50	8.60	8.36	0.00
95.00	8.60	8.36	0.00
97.50	8.60	8.36	0.00
100.00	8.60	8.36	0.00
102.50	8.60	8.36	0.00
105.00	8.60	8.36	0.00
107.50	8.60	8.36	0.00
110.00	8.60	8.36	0.00
112.50	8.60	8.36	0.00
115.00	8.60	8.36	0.00
117.50	8.60	8.36	0.00
120.00	8.60	8.36	0.00
122.50	8.60	8.36	0.00
125.00	8.60	8.36	0.00
127.50	8.60	8.36	0.00
130.00	8.60	8.36	0.00
132.50	8.60	8.36	0.00
135.00	8.60	8.36	0.00
137.50	8.60	8.36	0.00
140.00	8.60	8.36	0.00
142.50	8.60	8.36	0.00
145.00	8.60	8.36	0.00
147.50	8.60	8.36	0.00
150.00	8.60	8.36	0.00
152.50	8.60	8.36	0.00
155.00	8.60	8.36	0.00
157.50	8.60	8.36	0.00
160.00	8.60	8.36	0.00
162.50	8.60	8.36	0.00
165.00	8.60	8.36	0.00
167.50	8.60	8.36	0.00
170.00	8.60	8.36	0.00
172.50	8.60	8.36	0.00
175.00	8.60	8.36	0.00
177.50	8.60	8.36	0.00
180.00	8.60	8.36	0.00
182.50	8.60	8.36	0.00
185.00	8.60	8.36	0.00
187.50	8.60	8.36	0.00
190.00	8.60	8.36	0.00
192.50	8.60	8.36	0.00
195.00	8.60	8.36	0.00
197.50	8.60	8.36	0.00
200.00	8.60	8.36	0.00
202.50	8.60	8.36	0.00
205.00	8.60	8.36	0.00
207.50	8.60	8.36	0.00
210.00	8.60	8.36	0.00
212.50	8.60	8.36	0.00
215.00	8.60	8.36	0.00
217.50	8.60	8.36	0.00
220.00	8.60	8.36	0.00
222.50	8.60	8.36	0.00
225.00	8.60	8.36	0.00
227.50	8.60	8.36	0.00
230.00	8.60	8.36	0.00
232.50	8.60	8.36	0.00
235.00	8.60	8.36	0.00
237.50	8.60	8.36	0.00
240.00	8.60	8.36	0.00

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Summary for Subcatchment PDA-ROOF2.1: Subcat PDA-ROOF2.1

Runoff = 5.89 cfs @ 12.09 hrs, Volume= 21,657 cf, Depth= 8.36"
Routed to Pond 28P : DIV-01

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.60"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
31,087	98	Roofs, HSG C
31,087	98	Weighted Average
0	74	0.00% Pervious Area
31,087	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Hydrograph for Subcatchment PDA-ROOF2.1: Subcat PDA-ROOF2.1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
2.50	0.22	0.08	0.05
5.00	0.49	0.31	0.08
7.50	0.87	0.67	0.14
10.00	1.63	1.40	**0.29**
12.50	6.04	5.80	**1.24**
15.00	7.35	7.11	0.24
17.50	7.91	7.67	0.12
20.00	8.23	7.99	0.08
22.50	**8.48**	**8.24**	0.06
25.00	**8.60**	**8.36**	0.00
27.50	8.60	8.36	0.00
30.00	8.60	8.36	0.00
32.50	8.60	8.36	0.00
35.00	8.60	8.36	0.00
37.50	8.60	8.36	0.00
40.00	8.60	8.36	0.00
42.50	8.60	8.36	0.00
45.00	8.60	8.36	0.00
47.50	8.60	8.36	0.00
50.00	8.60	8.36	0.00
52.50	8.60	8.36	0.00
55.00	8.60	8.36	0.00
57.50	8.60	8.36	0.00
60.00	8.60	8.36	0.00
62.50	8.60	8.36	0.00
65.00	8.60	8.36	0.00
67.50	8.60	8.36	0.00
70.00	8.60	8.36	0.00
72.50	8.60	8.36	0.00
75.00	8.60	8.36	0.00
77.50	8.60	8.36	0.00
80.00	8.60	8.36	0.00
82.50	8.60	8.36	0.00
85.00	8.60	8.36	0.00
87.50	8.60	8.36	0.00
90.00	8.60	8.36	0.00
92.50	8.60	8.36	0.00
95.00	8.60	8.36	0.00
97.50	8.60	8.36	0.00
100.00	8.60	8.36	0.00
102.50	8.60	8.36	0.00
105.00	8.60	8.36	0.00
107.50	8.60	8.36	0.00
110.00	8.60	8.36	0.00
112.50	8.60	8.36	0.00
115.00	8.60	8.36	0.00
117.50	8.60	8.36	0.00
120.00	8.60	8.36	0.00
122.50	8.60	8.36	0.00
125.00	8.60	8.36	0.00
127.50	8.60	8.36	0.00
130.00	8.60	8.36	0.00
132.50	8.60	8.36	0.00
135.00	8.60	8.36	0.00
137.50	8.60	8.36	0.00
140.00	8.60	8.36	0.00
142.50	8.60	8.36	0.00
145.00	8.60	8.36	0.00
147.50	8.60	8.36	0.00
150.00	8.60	8.36	0.00
152.50	8.60	8.36	0.00
155.00	8.60	8.36	0.00
157.50	8.60	8.36	0.00
160.00	8.60	8.36	0.00
162.50	8.60	8.36	0.00
165.00	8.60	8.36	0.00
167.50	8.60	8.36	0.00
170.00	8.60	8.36	0.00
172.50	8.60	8.36	0.00
175.00	8.60	8.36	0.00
177.50	8.60	8.36	0.00
180.00	8.60	8.36	0.00
182.50	8.60	8.36	0.00
185.00	8.60	8.36	0.00
187.50	8.60	8.36	0.00
190.00	8.60	8.36	0.00
192.50	8.60	8.36	0.00
195.00	8.60	8.36	0.00
197.50	8.60	8.36	0.00
200.00	8.60	8.36	0.00
202.50	8.60	8.36	0.00
205.00	8.60	8.36	0.00
207.50	8.60	8.36	0.00
210.00	8.60	8.36	0.00
212.50	8.60	8.36	0.00
215.00	8.60	8.36	0.00
217.50	8.60	8.36	0.00
220.00	8.60	8.36	0.00
222.50	8.60	8.36	0.00
225.00	8.60	8.36	0.00
227.50	8.60	8.36	0.00
230.00	8.60	8.36	0.00
232.50	8.60	8.36	0.00
235.00	8.60	8.36	0.00
237.50	8.60	8.36	0.00
240.00	8.60	8.36	0.00

Summary for Pond 1P: Bio 4

Inflow Area = 16,850 sf, 41.68% Impervious, Inflow Depth = 6.67" for 100-year event
Inflow = 2.80 cfs @ 12.10 hrs, Volume= 9,370 cf
Outflow = 2.49 cfs @ 12.14 hrs, Volume= 9,370 cf, Atten= 11%, Lag= 2.7 min
Discarded = 0.01 cfs @ 12.14 hrs, Volume= 1,537 cf
Primary = 2.48 cfs @ 12.14 hrs, Volume= 7,833 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 60.57' @ 12.14 hrs Surf.Area= 1,112 sf Storage= 1,420 cf

Plug-Flow detention time= 341.7 min calculated for 9,368 cf (100% of inflow)
Center-of-Mass det. time= 342.5 min (1,133.8 - 791.4)

Volume	Invert	Avail.Storage	Storage Description
#1	56.79'	3,573 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.79	724	0.0	0	0
56.80	724	33.0	2	2
59.79	724	33.0	714	717
59.80	724	100.0	7	724
60.00	809	100.0	153	877
61.00	1,346	100.0	1,078	1,955
62.00	1,891	100.0	1,619	3,573

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.79'	**0.270 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#2	Primary	60.30'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 12.14 hrs HW=60.56' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=2.46 cfs @ 12.14 hrs HW=60.56' TW=0.00' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 2.46 cfs @ 2.46 fps)

Hydrograph for Pond 1P: Bio 4

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	56.79	0.00	0.00	0.00
5.00	0.00	3	56.80	0.00	0.00	0.00
10.00	**0.10**	**568**	**59.17**	**0.00**	**0.00**	**0.00**
15.00	**0.12**	**1,157**	**60.31**	**0.12**	**0.01**	**0.12**
20.00	0.04	1,150	60.31	0.04	0.01	0.04
25.00	0.00	1,128	60.28	0.01	0.01	0.00
30.00	0.00	1,023	60.17	0.01	0.01	0.00
35.00	0.00	925	60.06	0.01	0.01	0.00
40.00	0.00	834	59.95	0.00	0.00	0.00
45.00	0.00	748	59.83	0.00	0.00	0.00
50.00	0.00	666	59.58	0.00	0.00	0.00
55.00	0.00	585	59.24	0.00	0.00	0.00
60.00	0.00	503	58.90	0.00	0.00	0.00
65.00	0.00	422	58.56	0.00	0.00	0.00
70.00	0.00	340	58.22	0.00	0.00	0.00
75.00	0.00	259	57.87	0.00	0.00	0.00
80.00	0.00	178	57.53	0.00	0.00	0.00
85.00	0.00	96	57.19	0.00	0.00	0.00
90.00	0.00	15	56.85	0.00	0.00	0.00
95.00	0.00	0	56.79	0.00	0.00	0.00
100.00	0.00	0	56.79	0.00	0.00	0.00
105.00	0.00	0	56.79	0.00	0.00	0.00
110.00	0.00	0	56.79	0.00	0.00	0.00
115.00	0.00	0	56.79	0.00	0.00	0.00
120.00	0.00	0	56.79	0.00	0.00	0.00
125.00	0.00	0	56.79	0.00	0.00	0.00
130.00	0.00	0	56.79	0.00	0.00	0.00
135.00	0.00	0	56.79	0.00	0.00	0.00
140.00	0.00	0	56.79	0.00	0.00	0.00
145.00	0.00	0	56.79	0.00	0.00	0.00
150.00	0.00	0	56.79	0.00	0.00	0.00
155.00	0.00	0	56.79	0.00	0.00	0.00
160.00	0.00	0	56.79	0.00	0.00	0.00
165.00	0.00	0	56.79	0.00	0.00	0.00
170.00	0.00	0	56.79	0.00	0.00	0.00
175.00	0.00	0	56.79	0.00	0.00	0.00
180.00	0.00	0	56.79	0.00	0.00	0.00
185.00	0.00	0	56.79	0.00	0.00	0.00
190.00	0.00	0	56.79	0.00	0.00	0.00
195.00	0.00	0	56.79	0.00	0.00	0.00
200.00	0.00	0	56.79	0.00	0.00	0.00
205.00	0.00	0	56.79	0.00	0.00	0.00
210.00	0.00	0	56.79	0.00	0.00	0.00
215.00	0.00	0	56.79	0.00	0.00	0.00
220.00	0.00	0	56.79	0.00	0.00	0.00
225.00	0.00	0	56.79	0.00	0.00	0.00
230.00	0.00	0	56.79	0.00	0.00	0.00
235.00	0.00	0	56.79	0.00	0.00	0.00
240.00	0.00	0	56.79	0.00	0.00	0.00

Stage-Discharge for Pond 1P: Bio 4

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
56.79	0.00	0.00	0.00
56.89	0.00	0.00	0.00
56.99	0.00	0.00	0.00
57.09	0.00	0.00	0.00
57.19	0.00	0.00	0.00
57.29	0.00	0.00	0.00
57.39	0.00	0.00	0.00
57.49	0.00	0.00	0.00
57.59	0.00	0.00	0.00
57.69	0.00	0.00	0.00
57.79	0.00	0.00	0.00
57.89	0.00	0.00	0.00
57.99	0.00	0.00	0.00
58.09	0.00	0.00	0.00
58.19	0.00	0.00	0.00
58.29	0.00	0.00	0.00
58.39	0.00	0.00	0.00
58.49	0.00	0.00	0.00
58.59	0.00	0.00	0.00
58.69	0.00	0.00	0.00
58.79	0.00	0.00	0.00
58.89	0.00	0.00	0.00
58.99	0.00	0.00	0.00
59.09	0.00	0.00	0.00
59.19	0.00	0.00	0.00
59.29	0.00	0.00	0.00
59.39	0.00	0.00	0.00
59.49	0.00	0.00	0.00
59.59	0.00	0.00	0.00
59.69	0.00	0.00	0.00
59.79	0.00	0.00	0.00
59.89	0.00	0.00	0.00
59.99	0.01	0.01	0.00
60.09	0.01	0.01	0.00
60.19	0.01	0.01	0.00
60.29	0.01	0.01	0.00
60.39	1.45	0.01	1.44
60.49	2.11	0.01	2.10
60.59	2.60	0.01	2.59
60.69	3.01	0.01	3.01
60.79	3.38	0.01	3.37
60.89	3.71	0.01	3.70
60.99	4.01	0.01	4.00
61.09	4.29	0.01	4.28
61.19	4.55	0.01	4.54
61.29	4.80	0.01	4.79
61.39	5.04	0.01	5.03
61.49	5.26	0.01	5.25
61.59	5.48	0.01	5.47
61.69	5.69	0.01	5.68
61.79	5.89	0.01	5.88
61.89	6.08	0.01	6.07
61.99	**6.27**	**0.01**	**6.26**

Stage-Area-Storage for Pond 1P: Bio 4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.79	724	0
56.89	724	24
56.99	724	48
57.09	724	72
57.19	724	96
57.29	724	119
57.39	724	143
57.49	724	167
57.59	724	191
57.69	724	215
57.79	724	239
57.89	724	263
57.99	724	287
58.09	724	311
58.19	724	334
58.29	724	358
58.39	724	382
58.49	724	406
58.59	724	430
58.69	724	454
58.79	724	478
58.89	724	502
58.99	724	526
59.09	724	550
59.19	724	573
59.29	724	597
59.39	724	621
59.49	724	645
59.59	724	669
59.69	724	693
59.79	724	717
59.89	762	791
59.99	805	869
60.09	857	952
60.19	911	1,041
60.29	965	1,134
60.39	1,018	1,234
60.49	1,072	1,338
60.59	1,126	1,448
60.69	1,180	1,563
60.79	1,233	1,684
60.89	1,287	1,810
60.99	1,341	1,941
61.09	1,395	2,078
61.19	1,450	2,220
61.29	1,504	2,368
61.39	1,559	2,521
61.49	1,613	2,680
61.59	1,668	2,844
61.69	1,722	3,013
61.79	1,777	3,188
61.89	1,831	3,369
61.99	**1,886**	**3,554**

Summary for Pond 2P: Bio 3

Inflow Area = 16,632 sf, 77.36% Impervious, Inflow Depth = 7.71" for 100-year event
Inflow = 3.03 cfs @ 12.09 hrs, Volume= 10,693 cf
Outflow = 2.96 cfs @ 12.10 hrs, Volume= 10,693 cf, Atten= 2%, Lag= 0.7 min
Primary = 2.94 cfs @ 12.10 hrs, Volume= 8,092 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Tertiary = 0.02 cfs @ 12.10 hrs, Volume= 2,601 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 59.84' @ 12.10 hrs Surf.Area= 897 sf Storage= 1,190 cf

Plug-Flow detention time= 155.4 min calculated for 10,691 cf (100% of inflow)
Center-of-Mass det. time= 155.6 min (913.2 - 757.6)

Volume	Invert	Avail.Storage	Storage Description
#1	56.24'	3,220 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.24	606	0.0	0	0
56.25	606	33.0	2	2
58.99	606	33.0	548	550
59.00	606	100.0	6	556
60.00	951	100.0	779	1,335
61.00	1,354	100.0	1,153	2,487
61.50	1,576	100.0	733	3,220

Device	Routing	Invert	Outlet Devices
#1	Device 3	56.24'	**1.020 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#2	Primary	59.75'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Tertiary	55.50'	**6.0" Round 6" SUBDRAIN** L= 35.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.50' / 55.20' S= 0.0086 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=2.93 cfs @ 12.10 hrs HW=59.84' TW=0.00' (Dynamic Tailwater)
└─**2=Orifice/Grate** (Orifice Controls 2.93 cfs @ 1.47 fps)

Tertiary OutFlow Max=0.02 cfs @ 12.10 hrs HW=59.84' TW=0.00' (Dynamic Tailwater)
└─**3=6" SUBDRAIN** (Passes 0.02 cfs of 1.51 cfs potential flow)
└─**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Hydrograph for Pond 2P: Bio 3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Tertiary (cfs)
0.00	0.00	0	56.24	0.00	0.00	0.00
5.00	0.03	60	56.54	0.01	0.00	0.01
10.00	**0.13**	**950**	**59.56**	**0.02**	**0.00**	**0.02**
15.00	**0.13**	**1,114**	**59.76**	**0.13**	**0.11**	**0.02**
20.00	0.04	1,110	59.75	0.04	0.02	0.02
25.00	0.00	1,044	59.68	0.02	0.00	0.02
30.00	0.00	718	59.25	0.02	0.00	0.02
35.00	0.00	450	58.49	0.01	0.00	0.01
40.00	0.00	193	57.20	0.01	0.00	0.01
45.00	0.00	0	56.24	0.00	0.00	0.00
50.00	0.00	0	56.24	0.00	0.00	0.00
55.00	0.00	0	56.24	0.00	0.00	0.00
60.00	0.00	0	56.24	0.00	0.00	0.00
65.00	0.00	0	56.24	0.00	0.00	0.00
70.00	0.00	0	56.24	0.00	0.00	0.00
75.00	0.00	0	56.24	0.00	0.00	0.00
80.00	0.00	0	56.24	0.00	0.00	0.00
85.00	0.00	0	56.24	0.00	0.00	0.00
90.00	0.00	0	56.24	0.00	0.00	0.00
95.00	0.00	0	56.24	0.00	0.00	0.00
100.00	0.00	0	56.24	0.00	0.00	0.00
105.00	0.00	0	56.24	0.00	0.00	0.00
110.00	0.00	0	56.24	0.00	0.00	0.00
115.00	0.00	0	56.24	0.00	0.00	0.00
120.00	0.00	0	56.24	0.00	0.00	0.00
125.00	0.00	0	56.24	0.00	0.00	0.00
130.00	0.00	0	56.24	0.00	0.00	0.00
135.00	0.00	0	56.24	0.00	0.00	0.00
140.00	0.00	0	56.24	0.00	0.00	0.00
145.00	0.00	0	56.24	0.00	0.00	0.00
150.00	0.00	0	56.24	0.00	0.00	0.00
155.00	0.00	0	56.24	0.00	0.00	0.00
160.00	0.00	0	56.24	0.00	0.00	0.00
165.00	0.00	0	56.24	0.00	0.00	0.00
170.00	0.00	0	56.24	0.00	0.00	0.00
175.00	0.00	0	56.24	0.00	0.00	0.00
180.00	0.00	0	56.24	0.00	0.00	0.00
185.00	0.00	0	56.24	0.00	0.00	0.00
190.00	0.00	0	56.24	0.00	0.00	0.00
195.00	0.00	0	56.24	0.00	0.00	0.00
200.00	0.00	0	56.24	0.00	0.00	0.00
205.00	0.00	0	56.24	0.00	0.00	0.00
210.00	0.00	0	56.24	0.00	0.00	0.00
215.00	0.00	0	56.24	0.00	0.00	0.00
220.00	0.00	0	56.24	0.00	0.00	0.00
225.00	0.00	0	56.24	0.00	0.00	0.00
230.00	0.00	0	56.24	0.00	0.00	0.00
235.00	0.00	0	56.24	0.00	0.00	0.00
240.00	0.00	0	56.24	0.00	0.00	0.00

Stage-Discharge for Pond 2P: Bio 3

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Tertiary (cfs)
56.24	0.00	0.00	0.00
56.34	0.01	0.00	0.01
56.44	0.01	0.00	0.01
56.54	0.01	0.00	0.01
56.64	0.01	0.00	0.01
56.74	0.01	0.00	0.01
56.84	0.01	0.00	0.01
56.94	0.01	0.00	0.01
57.04	0.01	0.00	0.01
57.14	0.01	0.00	0.01
57.24	0.01	0.00	0.01
57.34	0.01	0.00	0.01
57.44	0.01	0.00	0.01
57.54	0.01	0.00	0.01
57.64	0.01	0.00	0.01
57.74	0.01	0.00	0.01
57.84	0.01	0.00	0.01
57.94	0.01	0.00	0.01
58.04	0.01	0.00	0.01
58.14	0.01	0.00	0.01
58.24	0.01	0.00	0.01
58.34	0.01	0.00	0.01
58.44	0.01	0.00	0.01
58.54	0.01	0.00	0.01
58.64	0.01	0.00	0.01
58.74	0.01	0.00	0.01
58.84	0.01	0.00	0.01
58.94	0.01	0.00	0.01
59.04	0.01	0.00	0.01
59.14	0.02	0.00	0.02
59.24	0.02	0.00	0.02
59.34	0.02	0.00	0.02
59.44	0.02	0.00	0.02
59.54	0.02	0.00	0.02
59.64	0.02	0.00	0.02
59.74	0.02	0.00	0.02
59.84	2.91	2.89	0.02
59.94	4.22	4.20	0.02
60.04	5.21	5.19	0.02
60.14	6.04	6.01	0.02
60.24	6.77	6.74	0.02
60.34	7.42	7.40	0.03
60.44	8.03	8.00	0.03
60.54	8.59	8.56	0.03
60.64	9.11	9.08	0.03
60.74	9.61	9.58	0.03
60.84	10.08	10.05	0.03
60.94	10.54	10.51	0.03
61.04	10.97	10.94	0.03
61.14	11.39	11.35	0.03
61.24	11.79	11.75	0.03
61.34	12.18	12.14	0.04
61.44	**12.56**	**12.52**	**0.04**

Stage-Area-Storage for Pond 2P: Bio 3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.24	606	0
56.34	606	20
56.44	606	40
56.54	606	60
56.64	606	80
56.74	606	100
56.84	606	120
56.94	606	140
57.04	606	160
57.14	606	180
57.24	606	200
57.34	606	220
57.44	606	240
57.54	606	260
57.64	606	280
57.74	606	300
57.84	606	320
57.94	606	340
58.04	606	360
58.14	606	380
58.24	606	400
58.34	606	420
58.44	606	440
58.54	606	460
58.64	606	480
58.74	606	500
58.84	606	520
58.94	606	540
59.04	620	581
59.14	654	644
59.24	689	711
59.34	723	782
59.44	758	856
59.54	792	934
59.64	827	1,015
59.74	861	1,099
59.84	896	1,187
59.94	930	1,278
60.04	967	1,373
60.14	1,007	1,472
60.24	1,048	1,574
60.34	1,088	1,681
60.44	1,128	1,792
60.54	1,169	1,907
60.64	1,209	2,026
60.74	1,249	2,149
60.84	1,290	2,276
60.94	1,330	2,406
61.04	1,372	2,542
61.14	1,416	2,681
61.24	1,461	2,825
61.34	1,505	2,973
61.44	**1,549**	**3,126**

Summary for Pond 3P: DIV-02

Inflow Area = 75,465 sf, 44.47% Impervious, Inflow Depth = 6.16" for 100-year event
Inflow = 9.81 cfs @ 12.19 hrs, Volume= 38,749 cf
Outflow = 9.81 cfs @ 12.19 hrs, Volume= 38,749 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.26 cfs @ 12.19 hrs, Volume= 23,999 cf
Routed to Pond 18P : Sand Filter 2
Secondary = 7.55 cfs @ 12.19 hrs, Volume= 14,750 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 59.39' @ 12.19 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.15'	**8.0" Round Culvert** L= 13.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.15' / 54.85' S= 0.1000 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.35 sf
#2	Device 3	56.80'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	56.15'	**15.0" Round Culvert** L= 19.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.15' / 55.00' S= 0.0605 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=2.24 cfs @ 12.19 hrs HW=59.34' TW=55.69' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.24 cfs @ 6.43 fps)

Secondary OutFlow Max=7.48 cfs @ 12.19 hrs HW=59.34' TW=0.00' (Dynamic Tailwater)
└─**3=Culvert** (Inlet Controls 7.48 cfs @ 6.09 fps)
└─**2=Sharp-Crested Rectangular Weir** (Passes 7.48 cfs of 72.83 cfs potential flow)

Hydrograph for Pond 3P: DIV-02

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	56.15	0.00	0.00	0.00
5.00	0.02	56.23	0.02	0.02	0.00
10.00	**0.32**	**56.51**	**0.32**	**0.32**	**0.00**
15.00	**0.56**	**56.67**	**0.56**	**0.56**	**0.00**
20.00	0.18	56.42	0.18	0.18	0.00
25.00	0.00	56.15	0.00	0.00	0.00
30.00	0.00	56.15	0.00	0.00	0.00
35.00	0.00	56.15	0.00	0.00	0.00
40.00	0.00	56.15	0.00	0.00	0.00
45.00	0.00	56.15	0.00	0.00	0.00
50.00	0.00	56.15	0.00	0.00	0.00
55.00	0.00	56.15	0.00	0.00	0.00
60.00	0.00	56.15	0.00	0.00	0.00
65.00	0.00	56.15	0.00	0.00	0.00
70.00	0.00	56.15	0.00	0.00	0.00
75.00	0.00	56.15	0.00	0.00	0.00
80.00	0.00	56.15	0.00	0.00	0.00
85.00	0.00	56.15	0.00	0.00	0.00
90.00	0.00	56.15	0.00	0.00	0.00
95.00	0.00	56.15	0.00	0.00	0.00
100.00	0.00	56.15	0.00	0.00	0.00
105.00	0.00	56.15	0.00	0.00	0.00
110.00	0.00	56.15	0.00	0.00	0.00
115.00	0.00	56.15	0.00	0.00	0.00
120.00	0.00	56.15	0.00	0.00	0.00
125.00	0.00	56.15	0.00	0.00	0.00
130.00	0.00	56.15	0.00	0.00	0.00
135.00	0.00	56.15	0.00	0.00	0.00
140.00	0.00	56.15	0.00	0.00	0.00
145.00	0.00	56.15	0.00	0.00	0.00
150.00	0.00	56.15	0.00	0.00	0.00
155.00	0.00	56.15	0.00	0.00	0.00
160.00	0.00	56.15	0.00	0.00	0.00
165.00	0.00	56.15	0.00	0.00	0.00
170.00	0.00	56.15	0.00	0.00	0.00
175.00	0.00	56.15	0.00	0.00	0.00
180.00	0.00	56.15	0.00	0.00	0.00
185.00	0.00	56.15	0.00	0.00	0.00
190.00	0.00	56.15	0.00	0.00	0.00
195.00	0.00	56.15	0.00	0.00	0.00
200.00	0.00	56.15	0.00	0.00	0.00
205.00	0.00	56.15	0.00	0.00	0.00
210.00	0.00	56.15	0.00	0.00	0.00
215.00	0.00	56.15	0.00	0.00	0.00
220.00	0.00	56.15	0.00	0.00	0.00
225.00	0.00	56.15	0.00	0.00	0.00
230.00	0.00	56.15	0.00	0.00	0.00
235.00	0.00	56.15	0.00	0.00	0.00
240.00	0.00	56.15	0.00	0.00	0.00

Stage-Discharge for Pond 3P: DIV-02

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
56.15	0.00	0.00	0.00
56.20	0.01	0.01	0.00
56.25	0.03	0.03	0.00
56.30	0.06	0.06	0.00
56.35	0.11	0.11	0.00
56.40	0.16	0.16	0.00
56.45	0.22	0.22	0.00
56.50	0.30	0.30	0.00
56.55	0.37	0.37	0.00
56.60	0.45	0.45	0.00
56.65	0.53	0.53	0.00
56.70	0.61	0.61	0.00
56.75	0.69	0.69	0.00
56.80	0.75	0.75	0.00
56.85	1.02	0.80	0.22
56.90	1.47	0.86	0.62
56.95	2.04	0.91	1.13
57.00	2.70	0.95	1.74
57.05	3.41	1.00	2.41
57.10	3.66	1.04	2.62
57.15	3.91	1.08	2.83
57.20	4.15	1.12	3.03
57.25	4.39	1.16	3.22
57.30	4.60	1.20	3.40
57.35	4.80	1.24	3.56
57.40	4.96	1.27	3.69
57.45	5.14	1.30	3.83
57.50	5.31	1.34	3.97
57.55	5.48	1.37	4.11
57.60	5.64	1.40	4.24
57.65	5.80	1.43	4.36
57.70	5.95	1.46	4.49
57.75	6.10	1.49	4.61
57.80	6.25	1.52	4.72
57.85	6.39	1.55	4.84
57.90	6.53	1.58	4.95
57.95	6.66	1.61	5.06
58.00	6.80	1.63	5.16
58.05	6.93	1.66	5.27
58.10	7.06	1.69	5.37
58.15	7.18	1.71	5.47
58.20	7.31	1.74	5.57
58.25	7.43	1.76	5.67
58.30	7.55	1.79	5.76
58.35	7.67	1.81	5.85
58.40	7.78	1.84	5.95
58.45	7.90	1.86	6.04
58.50	8.01	1.88	6.13
58.55	8.12	1.91	6.21
58.60	8.23	1.93	6.30
58.65	8.34	1.95	6.39
58.70	8.45	1.98	6.47
58.75	8.55	2.00	6.56
58.80	8.66	2.02	6.64
58.85	8.76	2.04	6.72
58.90	8.86	2.06	6.80
58.95	8.96	2.08	6.88
59.00	9.06	2.10	6.96
59.05	9.16	2.13	7.04
59.10	9.26	2.15	7.11
59.15	9.36	2.17	7.19
59.20	9.45	2.19	7.26
59.25	9.55	2.21	7.34
59.30	9.64	2.23	7.41
59.35	9.73	2.25	7.49
59.40	**9.82**	**2.27**	**7.56**

Stage-Area-Storage for Pond 3P: DIV-02

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
56.15	**0**	58.70	0
56.20	0	58.75	0
56.25	0	58.80	0
56.30	0	58.85	0
56.35	0	58.90	0
56.40	0	58.95	0
56.45	0	59.00	0
56.50	0	59.05	0
56.55	0	59.10	0
56.60	0	59.15	0
56.65	0	59.20	0
56.70	0	59.25	0
56.75	0	59.30	0
56.80	0	59.35	0
56.85	0	59.40	0
56.90	0		
56.95	0		
57.00	0		
57.05	0		
57.10	0		
57.15	0		
57.20	0		
57.25	0		
57.30	0		
57.35	0		
57.40	0		
57.45	0		
57.50	0		
57.55	0		
57.60	0		
57.65	0		
57.70	0		
57.75	0		
57.80	0		
57.85	0		
57.90	0		
57.95	0		
58.00	0		
58.05	0		
58.10	0		
58.15	0		
58.20	0		
58.25	0		
58.30	0		
58.35	0		
58.40	0		
58.45	0		
58.50	0		
58.55	0		
58.60	0		
58.65	0		

Summary for Pond 4P: Detention Basin 2

Inflow Area = 68,038 sf, 61.42% Impervious, Inflow Depth = 6.43" for 100-year event
Inflow = 8.27 cfs @ 12.15 hrs, Volume= 36,480 cf
Outflow = 7.65 cfs @ 12.25 hrs, Volume= 36,477 cf, Atten= 7%, Lag= 6.0 min
Primary = 7.65 cfs @ 12.25 hrs, Volume= 36,477 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 4L : DP 1.3 - Culvert 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 58.67' @ 12.25 hrs Surf.Area= 4,429 sf Storage= 9,716 cf

Plug-Flow detention time= 232.3 min calculated for 36,477 cf (100% of inflow)
Center-of-Mass det. time= 231.9 min (1,040.7 - 808.8)

Volume	Invert	Avail.Storage	Storage Description
#1	55.60'	26,026 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.60	1,952	0	0
56.00	2,295	849	849
57.00	3,025	2,660	3,509
58.00	3,843	3,434	6,943
59.00	4,717	4,280	11,223
60.00	5,662	5,190	16,413
61.50	7,155	9,613	26,026

Device	Routing	Invert	Outlet Devices
#1	Primary	55.60'	**24.0" Round Culvert** L= 12.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.60' / 52.60' S= 0.2500 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	55.60'	**1.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	57.50'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	58.25'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#5	Secondary	60.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=7.65 cfs @ 12.25 hrs HW=58.67' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 7.65 cfs of 17.18 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.10 cfs @ 8.35 fps)
  ├─**3=Sharp-Crested Rectangular Weir** (Weir Controls 3.17 cfs @ 3.54 fps)
  └─**4=Sharp-Crested Rectangular Weir** (Weir Controls 4.37 cfs @ 2.12 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.60' TW=0.00' (Dynamic Tailwater)
└─**5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 4P: Detention Basin 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	55.60	0.00	0.00	**0.00**
5.00	0.00	0	55.60	0.00	0.00	0.00
10.00	**0.04**	**160**	**55.68**	**0.01**	**0.01**	0.00
15.00	**0.50**	**6,168**	**57.79**	**0.58**	**0.58**	0.00
20.00	0.17	5,461	57.60	0.18	0.18	0.00
25.00	0.00	5,025	57.47	0.08	0.08	0.00
30.00	0.00	3,681	57.06	0.07	0.07	0.00
35.00	0.00	2,520	56.66	0.06	0.06	0.00
40.00	0.00	1,564	56.30	0.05	0.05	0.00
45.00	0.00	833	55.99	0.03	0.03	0.00
50.00	0.00	349	55.77	0.02	0.02	0.00
55.00	0.00	131	55.67	0.01	0.01	0.00
60.00	0.00	71	55.64	0.00	0.00	0.00
65.00	0.00	47	55.62	0.00	0.00	0.00
70.00	0.00	35	55.62	0.00	0.00	0.00
75.00	0.00	28	55.61	0.00	0.00	0.00
80.00	0.00	23	55.61	0.00	0.00	0.00
85.00	0.00	20	55.61	0.00	0.00	0.00
90.00	0.00	17	55.61	0.00	0.00	0.00
95.00	0.00	15	55.61	0.00	0.00	0.00
100.00	0.00	14	55.61	0.00	0.00	0.00
105.00	0.00	13	55.61	0.00	0.00	0.00
110.00	0.00	11	55.61	0.00	0.00	0.00
115.00	0.00	11	55.61	0.00	0.00	0.00
120.00	0.00	10	55.61	0.00	0.00	0.00
125.00	0.00	9	55.60	0.00	0.00	0.00
130.00	0.00	9	55.60	0.00	0.00	0.00
135.00	0.00	8	55.60	0.00	0.00	0.00
140.00	0.00	8	55.60	0.00	0.00	0.00
145.00	0.00	7	55.60	0.00	0.00	0.00
150.00	0.00	7	55.60	0.00	0.00	0.00
155.00	0.00	6	55.60	0.00	0.00	0.00
160.00	0.00	6	55.60	0.00	0.00	0.00
165.00	0.00	6	55.60	0.00	0.00	0.00
170.00	0.00	6	55.60	0.00	0.00	0.00
175.00	0.00	5	55.60	0.00	0.00	0.00
180.00	0.00	5	55.60	0.00	0.00	0.00
185.00	0.00	5	55.60	0.00	0.00	0.00
190.00	0.00	5	55.60	0.00	0.00	0.00
195.00	0.00	5	55.60	0.00	0.00	0.00
200.00	0.00	4	55.60	0.00	0.00	0.00
205.00	0.00	4	55.60	0.00	0.00	0.00
210.00	0.00	4	55.60	0.00	0.00	0.00
215.00	0.00	4	55.60	0.00	0.00	0.00
220.00	0.00	4	55.60	0.00	0.00	0.00
225.00	0.00	4	55.60	0.00	0.00	0.00
230.00	0.00	4	55.60	0.00	0.00	0.00
235.00	0.00	4	55.60	0.00	0.00	0.00
240.00	0.00	4	55.60	0.00	0.00	0.00

Stage-Discharge for Pond 4P: Detention Basin 2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
55.60	0.00	0.00	0.00
55.70	0.01	0.01	0.00
55.80	0.02	0.02	0.00
55.90	0.03	0.03	0.00
56.00	0.03	0.03	0.00
56.10	0.04	0.04	0.00
56.20	0.04	0.04	0.00
56.30	0.05	0.05	0.00
56.40	0.05	0.05	0.00
56.50	0.05	0.05	0.00
56.60	0.06	0.06	0.00
56.70	0.06	0.06	0.00
56.80	0.06	0.06	0.00
56.90	0.07	0.07	0.00
57.00	0.07	0.07	0.00
57.10	0.07	0.07	0.00
57.20	0.07	0.07	0.00
57.30	0.08	0.08	0.00
57.40	0.08	0.08	0.00
57.50	0.08	0.08	0.00
57.60	0.18	0.18	0.00
57.70	0.37	0.37	0.00
57.80	0.59	0.59	0.00
57.90	0.85	0.85	0.00
58.00	1.13	1.13	0.00
58.10	1.43	1.43	0.00
58.20	1.74	1.74	0.00
58.30	2.24	2.24	0.00
58.40	3.33	3.33	0.00
58.50	4.74	4.74	0.00
58.60	6.38	6.38	0.00
58.70	8.22	8.22	0.00
58.80	10.21	10.21	0.00
58.90	12.35	12.35	0.00
59.00	14.61	14.61	0.00
59.10	16.99	16.99	0.00
59.20	19.26	19.26	0.00
59.30	19.62	19.62	0.00
59.40	19.98	19.98	0.00
59.50	20.34	20.34	0.00
59.60	20.68	20.68	0.00
59.70	21.03	21.03	0.00
59.80	21.36	21.36	0.00
59.90	21.69	21.69	0.00
60.00	22.02	22.02	0.00
60.10	22.34	22.34	0.00
60.20	23.69	22.66	1.03
60.30	25.88	22.97	2.91
60.40	28.62	23.28	5.34
60.50	31.79	23.58	8.21
60.60	35.33	23.88	11.45
60.70	39.20	24.18	15.02
60.80	43.36	24.47	18.88
60.90	47.79	24.76	23.02
61.00	52.47	25.05	27.42
61.10	57.38	25.33	32.05
61.20	62.51	25.61	36.90
61.30	67.84	25.89	41.95
61.40	73.37	26.16	47.21
61.50	**79.09**	**26.44**	**52.65**

Stage-Area-Storage for Pond 4P: Detention Basin 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
55.60	1,952	0
55.70	2,038	199
55.80	2,124	408
55.90	2,209	624
56.00	2,295	849
56.10	2,368	1,083
56.20	2,441	1,323
56.30	2,514	1,571
56.40	2,587	1,826
56.50	2,660	2,088
56.60	2,733	2,358
56.70	2,806	2,635
56.80	2,879	2,919
56.90	2,952	3,211
57.00	3,025	3,509
57.10	3,107	3,816
57.20	3,189	4,131
57.30	3,270	4,454
57.40	3,352	4,785
57.50	3,434	5,124
57.60	3,516	5,472
57.70	3,598	5,827
57.80	3,679	6,191
57.90	3,761	6,563
58.00	3,843	6,943
58.10	3,930	7,332
58.20	4,018	7,729
58.30	4,105	8,136
58.40	4,193	8,551
58.50	4,280	8,974
58.60	4,367	9,407
58.70	4,455	9,848
58.80	4,542	10,297
58.90	4,630	10,756
59.00	4,717	11,223
59.10	4,812	11,700
59.20	4,906	12,186
59.30	5,001	12,681
59.40	5,095	13,186
59.50	5,190	13,700
59.60	5,284	14,224
59.70	5,379	14,757
59.80	5,473	15,299
59.90	5,567	15,851
60.00	5,662	16,413
60.10	5,762	16,984
60.20	5,861	17,565
60.30	5,961	18,156
60.40	6,060	18,757
60.50	6,160	19,368
60.60	6,259	19,989
60.70	6,359	20,620
60.80	6,458	21,261
60.90	6,558	21,912
61.00	6,657	22,573
61.10	6,757	23,243
61.20	6,856	23,924
61.30	6,956	24,615
61.40	7,055	25,315
61.50	**7,155**	**26,026**

Summary for Pond 7P: Bio 2

Inflow Area = 26,810 sf, 63.81% Impervious, Inflow Depth = 7.28" for 100-year event
Inflow = 4.81 cfs @ 12.09 hrs, Volume= 16,256 cf
Outflow = 4.31 cfs @ 12.13 hrs, Volume= 16,256 cf, Atten= 10%, Lag= 2.4 min
Primary = 4.29 cfs @ 12.13 hrs, Volume= 12,249 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Tertiary = 0.03 cfs @ 6.20 hrs, Volume= 4,007 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 56.70' @ 12.13 hrs Surf.Area= 2,297 sf Storage= 2,540 cf

Plug-Flow detention time= 197.7 min calculated for 16,253 cf (100% of inflow)
Center-of-Mass det. time= 198.0 min (974.9 - 776.9)

Volume	Invert	Avail.Storage	Storage Description
#1	52.99'	8,230 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
52.99	1,128	0.0	0	0
53.00	1,128	33.0	4	4
55.99	1,128	33.0	1,113	1,117
56.00	1,742	100.0	14	1,131
57.00	2,537	100.0	2,140	3,271
58.00	3,569	100.0	3,053	6,324
58.50	4,058	100.0	1,907	8,230

Device	Routing	Invert	Outlet Devices
#1	Primary	56.50'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#2	Device 3	52.99'	**1.020 in/hr Exfiltration over Surface area from 52.98' - 55.99'** Excluded Surface area = 0 sf Phase-In= 0.02'
#3	Tertiary	52.25'	**6.0" Vert. subdrain** C= 0.600 Limited to weir flow at low heads
#4	Secondary	57.50'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=4.21 cfs @ 12.13 hrs HW=56.69' TW=0.00' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 4.21 cfs @ 2.10 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=52.99' TW=0.00' (Dynamic Tailwater)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Tertiary OutFlow Max=0.03 cfs @ 6.20 hrs HW=53.05' TW=0.00' (Dynamic Tailwater)
└**3=subdrain** (Passes 0.03 cfs of 0.70 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Hydrograph for Pond 7P: Bio 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
0.00	0.00	0	52.99	0.00	0.00	**0.00**	0.00
5.00	0.02	6	53.01	0.02	0.00	0.00	**0.02**
10.00	**0.20**	**1,008**	**55.70**	**0.03**	**0.00**	0.00	**0.03**
15.00	**0.20**	**2,125**	**56.51**	**0.20**	**0.18**	0.00	0.03
20.00	0.07	2,110	56.50	0.07	0.04	0.00	0.03
25.00	0.00	2,020	56.46	0.03	0.00	0.00	0.03
30.00	0.00	1,540	56.22	0.03	0.00	0.00	0.03
35.00	0.00	1,061	55.84	0.03	0.00	0.00	0.03
40.00	0.00	582	54.55	0.03	0.00	0.00	0.03
45.00	0.00	102	53.26	0.03	0.00	0.00	0.03
50.00	0.00	0	52.99	0.00	0.00	0.00	0.00
55.00	0.00	0	52.99	0.00	0.00	0.00	0.00
60.00	0.00	0	52.99	0.00	0.00	0.00	0.00
65.00	0.00	0	52.99	0.00	0.00	0.00	0.00
70.00	0.00	0	52.99	0.00	0.00	0.00	0.00
75.00	0.00	0	52.99	0.00	0.00	0.00	0.00
80.00	0.00	0	52.99	0.00	0.00	0.00	0.00
85.00	0.00	0	52.99	0.00	0.00	0.00	0.00
90.00	0.00	0	52.99	0.00	0.00	0.00	0.00
95.00	0.00	0	52.99	0.00	0.00	0.00	0.00
100.00	0.00	0	52.99	0.00	0.00	0.00	0.00
105.00	0.00	0	52.99	0.00	0.00	0.00	0.00
110.00	0.00	0	52.99	0.00	0.00	0.00	0.00
115.00	0.00	0	52.99	0.00	0.00	0.00	0.00
120.00	0.00	0	52.99	0.00	0.00	0.00	0.00
125.00	0.00	0	52.99	0.00	0.00	0.00	0.00
130.00	0.00	0	52.99	0.00	0.00	0.00	0.00
135.00	0.00	0	52.99	0.00	0.00	0.00	0.00
140.00	0.00	0	52.99	0.00	0.00	0.00	0.00
145.00	0.00	0	52.99	0.00	0.00	0.00	0.00
150.00	0.00	0	52.99	0.00	0.00	0.00	0.00
155.00	0.00	0	52.99	0.00	0.00	0.00	0.00
160.00	0.00	0	52.99	0.00	0.00	0.00	0.00
165.00	0.00	0	52.99	0.00	0.00	0.00	0.00
170.00	0.00	0	52.99	0.00	0.00	0.00	0.00
175.00	0.00	0	52.99	0.00	0.00	0.00	0.00
180.00	0.00	0	52.99	0.00	0.00	0.00	0.00
185.00	0.00	0	52.99	0.00	0.00	0.00	0.00
190.00	0.00	0	52.99	0.00	0.00	0.00	0.00
195.00	0.00	0	52.99	0.00	0.00	0.00	0.00
200.00	0.00	0	52.99	0.00	0.00	0.00	0.00
205.00	0.00	0	52.99	0.00	0.00	0.00	0.00
210.00	0.00	0	52.99	0.00	0.00	0.00	0.00
215.00	0.00	0	52.99	0.00	0.00	0.00	0.00
220.00	0.00	0	52.99	0.00	0.00	0.00	0.00
225.00	0.00	0	52.99	0.00	0.00	0.00	0.00
230.00	0.00	0	52.99	0.00	0.00	0.00	0.00
235.00	0.00	0	52.99	0.00	0.00	0.00	0.00
240.00	0.00	0	52.99	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 7P: Bio 2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
52.99	0.00	0.00	0.00	**0.00**
53.19	0.03	0.00	0.00	**0.03**
53.39	0.03	0.00	0.00	0.03
53.59	0.03	0.00	0.00	0.03
53.79	0.03	0.00	0.00	0.03
53.99	0.03	0.00	0.00	0.03
54.19	0.03	0.00	0.00	0.03
54.39	0.03	0.00	0.00	0.03
54.59	0.03	0.00	0.00	0.03
54.79	0.03	0.00	0.00	0.03
54.99	0.03	0.00	0.00	0.03
55.19	0.03	0.00	0.00	0.03
55.39	0.03	0.00	0.00	0.03
55.59	0.03	0.00	0.00	0.03
55.79	0.03	0.00	0.00	0.03
55.99	0.03	0.00	0.00	0.03
56.19	0.03	0.00	0.00	0.03
56.39	0.03	0.00	0.00	0.03
56.59	2.92	2.89	0.00	0.03
56.79	5.21	5.19	0.00	0.03
56.99	6.77	6.74	0.00	0.03
57.19	8.03	8.00	0.00	0.03
57.39	9.11	9.08	0.00	0.03
57.59	10.96	10.05	0.88	0.03
57.79	16.04	10.94	5.08	0.03
57.99	22.89	11.75	11.11	0.03
58.19	31.03	12.52	18.48	0.03
58.39	**40.23**	**13.24**	**26.97**	0.03

Stage-Area-Storage for Pond 7P: Bio 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
52.99	1,128	0
53.09	1,128	37
53.19	1,128	74
53.29	1,128	112
53.39	1,128	149
53.49	1,128	186
53.59	1,128	223
53.69	1,128	261
53.79	1,128	298
53.89	1,128	335
53.99	1,128	372
54.09	1,128	409
54.19	1,128	447
54.29	1,128	484
54.39	1,128	521
54.49	1,128	558
54.59	1,128	596
54.69	1,128	633
54.79	1,128	670
54.89	1,128	707
54.99	1,128	744
55.09	1,128	782
55.19	1,128	819
55.29	1,128	856
55.39	1,128	893
55.49	1,128	931
55.59	1,128	968
55.69	1,128	1,005
55.79	1,128	1,042
55.89	1,128	1,079
55.99	1,128	1,117
56.09	1,814	1,291
56.19	1,893	1,476
56.29	1,973	1,670
56.39	2,052	1,871
56.49	2,132	2,080
56.59	2,211	2,297
56.69	2,291	2,522
56.79	2,370	2,755
56.89	2,450	2,996
56.99	2,529	3,245
57.09	2,630	3,503
57.19	2,733	3,771
57.29	2,836	4,050
57.39	2,939	4,338
57.49	3,043	4,638
57.59	3,146	4,947
57.69	3,249	5,267
57.79	3,352	5,597
57.89	3,455	5,937
57.99	3,559	6,288
58.09	3,657	6,649
58.19	3,755	7,019
58.29	3,853	7,400
58.39	3,950	7,790
58.49	**4,048**	**8,190**

Summary for Pond 8P: DIV-04

Inflow Area = 151,857 sf,100.00% Impervious, Inflow Depth = 4.92" for 100-year event
Inflow = 14.35 cfs @ 12.21 hrs, Volume= 62,243 cf
Outflow = 14.35 cfs @ 12.21 hrs, Volume= 62,243 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.11 cfs @ 11.72 hrs, Volume= 23,765 cf
Routed to Pond 23P : UGIS-1
Secondary = 11.57 cfs @ 12.22 hrs, Volume= 38,479 cf
Routed to Link 6L : DP 2.1 - West Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 49.11' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.90'	**18.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.90' / 46.80' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 3	48.40'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	46.90'	**24.0" Round Culvert** L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.90' / 46.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=3.06 cfs @ 11.72 hrs HW=48.44' TW=48.23' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 3.06 cfs @ 1.73 fps)

Secondary OutFlow Max=11.49 cfs @ 12.22 hrs HW=49.11' TW=0.00' (Dynamic Tailwater)
└**3=Culvert** (Passes 11.49 cfs of 13.11 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 11.49 cfs @ 2.76 fps)

Hydrograph for Pond 8P: DIV-04

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	46.90	0.00	0.00	0.00
5.00	0.05	47.01	0.05	0.05	0.00
10.00	**0.51**	**47.27**	**0.51**	**0.51**	**0.00**
15.00	**0.53**	**48.47**	**0.53**	**0.16**	**0.37**
20.00	0.06	48.40	0.06	0.06	0.00
25.00	0.00	48.26	0.00	0.00	0.00
30.00	0.00	48.02	0.00	0.00	0.00
35.00	0.00	47.80	0.00	0.00	0.00
40.00	0.00	47.58	0.00	0.00	0.00
45.00	0.00	47.40	0.00	0.00	0.00
50.00	0.00	47.22	0.00	0.00	0.00
55.00	0.00	47.06	0.00	0.00	0.00
60.00	0.00	46.90	0.00	0.00	0.00
65.00	0.00	46.90	0.00	0.00	0.00
70.00	0.00	46.90	0.00	0.00	0.00
75.00	0.00	46.90	0.00	0.00	0.00
80.00	0.00	46.90	0.00	0.00	0.00
85.00	0.00	46.90	0.00	0.00	0.00
90.00	0.00	46.90	0.00	0.00	0.00
95.00	0.00	46.90	0.00	0.00	0.00
100.00	0.00	46.90	0.00	0.00	0.00
105.00	0.00	46.90	0.00	0.00	0.00
110.00	0.00	46.90	0.00	0.00	0.00
115.00	0.00	46.90	0.00	0.00	0.00
120.00	0.00	46.90	0.00	0.00	0.00
125.00	0.00	46.90	0.00	0.00	0.00
130.00	0.00	46.90	0.00	0.00	0.00
135.00	0.00	46.90	0.00	0.00	0.00
140.00	0.00	46.90	0.00	0.00	0.00
145.00	0.00	46.90	0.00	0.00	0.00
150.00	0.00	46.90	0.00	0.00	0.00
155.00	0.00	46.90	0.00	0.00	0.00
160.00	0.00	46.90	0.00	0.00	0.00
165.00	0.00	46.90	0.00	0.00	0.00
170.00	0.00	46.90	0.00	0.00	0.00
175.00	0.00	46.90	0.00	0.00	0.00
180.00	0.00	46.90	0.00	0.00	0.00
185.00	0.00	46.90	0.00	0.00	0.00
190.00	0.00	46.90	0.00	0.00	0.00
195.00	0.00	46.90	0.00	0.00	0.00
200.00	0.00	46.90	0.00	0.00	0.00
205.00	0.00	46.90	0.00	0.00	0.00
210.00	0.00	46.90	0.00	0.00	0.00
215.00	0.00	46.90	0.00	0.00	0.00
220.00	0.00	46.90	0.00	0.00	0.00
225.00	0.00	46.90	0.00	0.00	0.00
230.00	0.00	46.90	0.00	0.00	0.00
235.00	0.00	46.90	0.00	0.00	0.00
240.00	0.00	46.90	0.00	0.00	0.00

Stage-Discharge for Pond 8P: DIV-04

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
46.90	0.00	0.00	0.00
46.95	0.01	0.01	0.00
47.00	0.04	0.04	0.00
47.05	0.10	0.10	0.00
47.10	0.16	0.16	0.00
47.15	0.25	0.25	0.00
47.20	0.35	0.35	0.00
47.25	0.46	0.46	0.00
47.30	0.58	0.58	0.00
47.35	0.72	0.72	0.00
47.40	0.87	0.87	0.00
47.45	1.03	1.03	0.00
47.50	1.21	1.21	0.00
47.55	1.39	1.39	0.00
47.60	1.58	1.58	0.00
47.65	1.78	1.78	0.00
47.70	1.99	1.99	0.00
47.75	2.21	2.21	0.00
47.80	2.43	2.43	0.00
47.85	2.67	2.67	0.00
47.90	2.91	2.91	0.00
47.95	3.15	3.15	0.00
48.00	3.40	3.40	0.00
48.05	3.66	3.66	0.00
48.10	3.92	3.92	0.00
48.15	4.18	4.18	0.00
48.20	4.44	4.44	0.00
48.25	4.71	4.71	0.00
48.30	4.97	4.97	0.00
48.35	5.24	5.24	0.00
48.40	5.50	5.50	0.00
48.45	5.98	5.76	0.22
48.50	6.64	6.02	0.62
48.55	7.41	6.27	1.13
48.60	8.26	6.52	1.74
48.65	9.15	6.72	2.43
48.70	10.07	6.88	3.19
48.75	11.06	7.05	4.02
48.80	12.10	7.20	4.90
48.85	13.19	7.36	5.83
48.90	14.33	7.51	6.82
48.95	15.52	7.66	7.86
49.00	16.74	7.80	8.94
49.05	18.01	7.95	10.06
49.10	**19.31**	**8.09**	**11.22**

Stage-Area-Storage for Pond 8P: DIV-04

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
46.90	**0**	47.92	0	48.94	0
46.92	0	47.94	0	48.96	0
46.94	0	47.96	0	48.98	0
46.96	0	47.98	0	49.00	0
46.98	0	48.00	0	49.02	0
47.00	0	48.02	0	49.04	0
47.02	0	48.04	0	49.06	0
47.04	0	48.06	0	49.08	0
47.06	0	48.08	0	49.10	0
47.08	0	48.10	0	49.12	0
47.10	0	48.12	0		
47.12	0	48.14	0		
47.14	0	48.16	0		
47.16	0	48.18	0		
47.18	0	48.20	0		
47.20	0	48.22	0		
47.22	0	48.24	0		
47.24	0	48.26	0		
47.26	0	48.28	0		
47.28	0	48.30	0		
47.30	0	48.32	0		
47.32	0	48.34	0		
47.34	0	48.36	0		
47.36	0	48.38	0		
47.38	0	48.40	0		
47.40	0	48.42	0		
47.42	0	48.44	0		
47.44	0	48.46	0		
47.46	0	48.48	0		
47.48	0	48.50	0		
47.50	0	48.52	0		
47.52	0	48.54	0		
47.54	0	48.56	0		
47.56	0	48.58	0		
47.58	0	48.60	0		
47.60	0	48.62	0		
47.62	0	48.64	0		
47.64	0	48.66	0		
47.66	0	48.68	0		
47.68	0	48.70	0		
47.70	0	48.72	0		
47.72	0	48.74	0		
47.74	0	48.76	0		
47.76	0	48.78	0		
47.78	0	48.80	0		
47.80	0	48.82	0		
47.82	0	48.84	0		
47.84	0	48.86	0		
47.86	0	48.88	0		
47.88	0	48.90	0		
47.90	0	48.92	0		

Summary for Pond 9P: Sand Filter 5

Inflow Area = 23,611 sf, 64.90% Impervious, Inflow Depth = 7.32" for 100-year event
Inflow = 3.90 cfs @ 12.09 hrs, Volume= 14,408 cf
Outflow = 3.32 cfs @ 12.15 hrs, Volume= 14,408 cf, Atten= 15%, Lag= 3.5 min
Discarded = 0.01 cfs @ 12.15 hrs, Volume= 1,843 cf
Primary = 3.27 cfs @ 12.15 hrs, Volume= 12,558 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.04 cfs @ 12.15 hrs, Volume= 8 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 50.21' @ 12.15 hrs Surf.Area= 1,299 sf Storage= 1,913 cf

Plug-Flow detention time= 300.2 min calculated for 14,405 cf (100% of inflow)
Center-of-Mass det. time= 301.1 min (1,073.2 - 772.0)

Volume	Invert	Avail.Storage	Storage Description
#1	45.99'	4,039 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.99	705	0.0	0	0
46.00	705	33.0	2	2
48.99	705	33.0	696	698
49.00	705	100.0	7	705
50.00	1,184	100.0	945	1,649
51.00	1,725	100.0	1,455	3,104
51.50	2,016	100.0	935	4,039

Device	Routing	Invert	Outlet Devices
#1	Discarded	45.99'	**0.270 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#2	Primary	49.75'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Secondary	50.20'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 12.15 hrs HW=50.21' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=3.27 cfs @ 12.15 hrs HW=50.21' TW=0.00' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 3.27 cfs @ 3.27 fps)

Secondary OutFlow Max=0.04 cfs @ 12.15 hrs HW=50.21' TW=0.00' (Dynamic Tailwater)
↑—**3=Sharp-Crested Rectangular Weir** (Weir Controls 0.04 cfs @ 0.36 fps)

Hydrograph for Pond 9P: Sand Filter 5

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	45.99	0.00	0.00	0.00	0.00
5.00	0.03	113	46.47	0.00	0.00	0.00	0.00
10.00	**0.18**	**1,386**	**49.77**	**0.18**	**0.01**	**0.17**	**0.00**
15.00	**0.18**	**1,386**	**49.77**	**0.18**	**0.01**	**0.17**	**0.00**
20.00	0.06	1,377	49.76	0.06	0.01	0.05	0.00
25.00	0.00	1,352	49.73	0.01	0.01	0.00	0.00
30.00	0.00	1,236	49.62	0.01	0.01	0.00	0.00
35.00	0.00	1,126	49.51	0.01	0.01	0.00	0.00
40.00	0.00	1,022	49.40	0.01	0.01	0.00	0.00
45.00	0.00	925	49.28	0.01	0.01	0.00	0.00
50.00	0.00	833	49.17	0.00	0.00	0.00	0.00
55.00	0.00	748	49.06	0.00	0.00	0.00	0.00
60.00	0.00	668	48.86	0.00	0.00	0.00	0.00
65.00	0.00	588	48.52	0.00	0.00	0.00	0.00
70.00	0.00	509	48.18	0.00	0.00	0.00	0.00
75.00	0.00	430	47.84	0.00	0.00	0.00	0.00
80.00	0.00	350	47.50	0.00	0.00	0.00	0.00
85.00	0.00	271	47.15	0.00	0.00	0.00	0.00
90.00	0.00	192	46.81	0.00	0.00	0.00	0.00
95.00	0.00	112	46.47	0.00	0.00	0.00	0.00
100.00	0.00	33	46.13	0.00	0.00	0.00	0.00
105.00	0.00	0	45.99	0.00	0.00	0.00	0.00
110.00	0.00	0	45.99	0.00	0.00	0.00	0.00
115.00	0.00	0	45.99	0.00	0.00	0.00	0.00
120.00	0.00	0	45.99	0.00	0.00	0.00	0.00
125.00	0.00	0	45.99	0.00	0.00	0.00	0.00
130.00	0.00	0	45.99	0.00	0.00	0.00	0.00
135.00	0.00	0	45.99	0.00	0.00	0.00	0.00
140.00	0.00	0	45.99	0.00	0.00	0.00	0.00
145.00	0.00	0	45.99	0.00	0.00	0.00	0.00
150.00	0.00	0	45.99	0.00	0.00	0.00	0.00
155.00	0.00	0	45.99	0.00	0.00	0.00	0.00
160.00	0.00	0	45.99	0.00	0.00	0.00	0.00
165.00	0.00	0	45.99	0.00	0.00	0.00	0.00
170.00	0.00	0	45.99	0.00	0.00	0.00	0.00
175.00	0.00	0	45.99	0.00	0.00	0.00	0.00
180.00	0.00	0	45.99	0.00	0.00	0.00	0.00
185.00	0.00	0	45.99	0.00	0.00	0.00	0.00
190.00	0.00	0	45.99	0.00	0.00	0.00	0.00
195.00	0.00	0	45.99	0.00	0.00	0.00	0.00
200.00	0.00	0	45.99	0.00	0.00	0.00	0.00
205.00	0.00	0	45.99	0.00	0.00	0.00	0.00
210.00	0.00	0	45.99	0.00	0.00	0.00	0.00
215.00	0.00	0	45.99	0.00	0.00	0.00	0.00
220.00	0.00	0	45.99	0.00	0.00	0.00	0.00
225.00	0.00	0	45.99	0.00	0.00	0.00	0.00
230.00	0.00	0	45.99	0.00	0.00	0.00	0.00
235.00	0.00	0	45.99	0.00	0.00	0.00	0.00
240.00	0.00	0	45.99	0.00	0.00	0.00	0.00

Pro-Hydro
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Stage-Discharge for Pond 9P: Sand Filter 5

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
45.99	0.00	0.00	0.00	0.00
46.19	0.00	0.00	0.00	0.00
46.39	0.00	0.00	0.00	0.00
46.59	0.00	0.00	0.00	0.00
46.79	0.00	0.00	0.00	0.00
46.99	0.00	0.00	0.00	0.00
47.19	0.00	0.00	0.00	0.00
47.39	0.00	0.00	0.00	0.00
47.59	0.00	0.00	0.00	0.00
47.79	0.00	0.00	0.00	0.00
47.99	0.00	0.00	0.00	0.00
48.19	0.00	0.00	0.00	0.00
48.39	0.00	0.00	0.00	0.00
48.59	0.00	0.00	0.00	0.00
48.79	0.00	0.00	0.00	0.00
48.99	0.00	0.00	0.00	0.00
49.19	0.00	0.00	0.00	0.00
49.39	0.01	0.01	0.00	0.00
49.59	0.01	0.01	0.00	0.00
49.79	0.63	0.01	0.63	0.00
49.99	2.37	0.01	2.36	0.00
50.19	3.20	0.01	3.19	0.00
50.39	6.56	0.01	3.85	2.70
50.59	12.32	0.01	4.41	7.90
50.79	19.56	0.01	4.91	14.64
50.99	27.97	0.01	5.36	22.60
51.19	37.36	0.01	5.78	31.57
51.39	**47.62**	**0.01**	**6.17**	**41.44**

Stage-Area-Storage for Pond 9P: Sand Filter 5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
45.99	705	0
46.09	705	23
46.19	705	47
46.29	705	70
46.39	705	93
46.49	705	116
46.59	705	140
46.69	705	163
46.79	705	186
46.89	705	209
46.99	705	233
47.09	705	256
47.19	705	279
47.29	705	302
47.39	705	326
47.49	705	349
47.59	705	372
47.69	705	396
47.79	705	419
47.89	705	442
47.99	705	465
48.09	705	489
48.19	705	512
48.29	705	535
48.39	705	558
48.49	705	582
48.59	705	605
48.69	705	628
48.79	705	651
48.89	705	675
48.99	705	698
49.09	748	770
49.19	796	848
49.29	844	930
49.39	892	1,016
49.49	940	1,108
49.59	988	1,204
49.69	1,036	1,305
49.79	1,083	1,411
49.89	1,131	1,522
49.99	1,179	1,638
50.09	1,233	1,758
50.19	1,287	1,884
50.29	1,341	2,016
50.39	1,395	2,152
50.49	1,449	2,295
50.59	1,503	2,442
50.69	1,557	2,595
50.79	1,611	2,754
50.89	1,665	2,918
50.99	1,720	3,087
51.09	1,777	3,262
51.19	1,836	3,442
51.29	1,894	3,629
51.39	1,952	3,821
51.49	**2,010**	**4,019**

Summary for Pond 10P: Bio 1

Inflow Area = 42,514 sf, 59.10% Impervious, Inflow Depth = 5.28" for 100-year event
Inflow = 2.08 cfs @ 12.09 hrs, Volume= 18,713 cf
Outflow = 1.73 cfs @ 12.15 hrs, Volume= 18,713 cf, Atten= 17%, Lag= 3.6 min
Discarded = 0.01 cfs @ 7.05 hrs, Volume= 2,193 cf
Primary = 1.72 cfs @ 12.15 hrs, Volume= 16,520 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 44.63' @ 12.15 hrs Surf.Area= 2,792 sf Storage= 2,031 cf

Plug-Flow detention time= 276.8 min calculated for 18,709 cf (100% of inflow)
Center-of-Mass det. time= 277.7 min (1,073.8 - 796.1)

Volume	Invert	Avail.Storage	Storage Description
#1	41.99'	6,655 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.99	725	0.0	0	0
42.00	725	33.0	2	2
43.99	725	33.0	476	479
44.00	1,147	33.0	3	482
44.01	2,171	100.0	17	498
45.00	3,166	100.0	2,642	3,140
46.00	3,865	100.0	3,516	6,655

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#2	Discarded	41.99'	**0.270 in/hr Exfiltration over Surface area from 41.98' - 44.00'** Excluded Surface area = 0 sf Phase-In= 0.02'
#3	Secondary	45.00'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 7.05 hrs HW=44.01' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=1.71 cfs @ 12.15 hrs HW=44.63' TW=0.00' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 1.71 cfs @ 1.71 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=41.99' TW=0.00' (Dynamic Tailwater)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 10P: Bio 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	41.99	0.00	0.00	0.00	**0.00**
5.00	0.04	99	42.40	0.00	**0.00**	0.00	0.00
10.00	**0.31**	**1,748**	**44.52**	**0.31**	**0.01**	**0.30**	0.00
15.00	**0.32**	**1,750**	**44.53**	**0.32**	0.01	**0.32**	0.00
20.00	0.11	1,715	44.51	0.11	0.01	0.10	0.00
25.00	0.00	1,668	44.49	0.01	0.01	0.00	0.00
30.00	0.00	1,539	44.45	0.01	0.01	0.00	0.00
35.00	0.00	1,410	44.40	0.01	0.01	0.00	0.00
40.00	0.00	1,281	44.34	0.01	0.01	0.00	0.00
45.00	0.00	1,151	44.29	0.01	0.01	0.00	0.00
50.00	0.00	1,022	44.24	0.01	0.01	0.00	0.00
55.00	0.00	893	44.18	0.01	0.01	0.00	0.00
60.00	0.00	764	44.13	0.01	0.01	0.00	0.00
65.00	0.00	635	44.07	0.01	0.01	0.00	0.00
70.00	0.00	506	44.01	0.01	0.01	0.00	0.00
75.00	0.00	415	43.72	0.00	0.00	0.00	0.00
80.00	0.00	333	43.38	0.00	0.00	0.00	0.00
85.00	0.00	252	43.04	0.00	0.00	0.00	0.00
90.00	0.00	170	42.70	0.00	0.00	0.00	0.00
95.00	0.00	89	42.36	0.00	0.00	0.00	0.00
100.00	0.00	7	42.02	0.00	0.00	0.00	0.00
105.00	0.00	0	41.99	0.00	0.00	0.00	0.00
110.00	0.00	0	41.99	0.00	0.00	0.00	0.00
115.00	0.00	0	41.99	0.00	0.00	0.00	0.00
120.00	0.00	0	41.99	0.00	0.00	0.00	0.00
125.00	0.00	0	41.99	0.00	0.00	0.00	0.00
130.00	0.00	0	41.99	0.00	0.00	0.00	0.00
135.00	0.00	0	41.99	0.00	0.00	0.00	0.00
140.00	0.00	0	41.99	0.00	0.00	0.00	0.00
145.00	0.00	0	41.99	0.00	0.00	0.00	0.00
150.00	0.00	0	41.99	0.00	0.00	0.00	0.00
155.00	0.00	0	41.99	0.00	0.00	0.00	0.00
160.00	0.00	0	41.99	0.00	0.00	0.00	0.00
165.00	0.00	0	41.99	0.00	0.00	0.00	0.00
170.00	0.00	0	41.99	0.00	0.00	0.00	0.00
175.00	0.00	0	41.99	0.00	0.00	0.00	0.00
180.00	0.00	0	41.99	0.00	0.00	0.00	0.00
185.00	0.00	0	41.99	0.00	0.00	0.00	0.00
190.00	0.00	0	41.99	0.00	0.00	0.00	0.00
195.00	0.00	0	41.99	0.00	0.00	0.00	0.00
200.00	0.00	0	41.99	0.00	0.00	0.00	0.00
205.00	0.00	0	41.99	0.00	0.00	0.00	0.00
210.00	0.00	0	41.99	0.00	0.00	0.00	0.00
215.00	0.00	0	41.99	0.00	0.00	0.00	0.00
220.00	0.00	0	41.99	0.00	0.00	0.00	0.00
225.00	0.00	0	41.99	0.00	0.00	0.00	0.00
230.00	0.00	0	41.99	0.00	0.00	0.00	0.00
235.00	0.00	0	41.99	0.00	0.00	0.00	0.00
240.00	0.00	0	41.99	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 10P: Bio 1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
41.99	0.00	0.00	0.00	0.00
42.09	0.00	0.00	0.00	0.00
42.19	0.00	0.00	0.00	0.00
42.29	0.00	0.00	0.00	0.00
42.39	0.00	0.00	0.00	0.00
42.49	0.00	0.00	0.00	0.00
42.59	0.00	0.00	0.00	0.00
42.69	0.00	0.00	0.00	0.00
42.79	0.00	0.00	0.00	0.00
42.89	0.00	0.00	0.00	0.00
42.99	0.00	0.00	0.00	0.00
43.09	0.00	0.00	0.00	0.00
43.19	0.00	0.00	0.00	0.00
43.29	0.00	0.00	0.00	0.00
43.39	0.00	0.00	0.00	0.00
43.49	0.00	0.00	0.00	0.00
43.59	0.00	0.00	0.00	0.00
43.69	0.00	0.00	0.00	0.00
43.79	0.00	0.00	0.00	0.00
43.89	0.00	0.00	0.00	0.00
43.99	0.00	**0.00**	0.00	0.00
44.09	0.01	**0.01**	0.00	0.00
44.19	0.01	0.01	0.00	0.00
44.29	0.01	0.01	0.00	0.00
44.39	0.01	0.01	0.00	0.00
44.49	0.01	0.01	0.00	0.00
44.59	1.45	0.01	1.44	0.00
44.69	2.11	0.01	2.10	0.00
44.79	2.60	0.01	2.59	0.00
44.89	3.01	0.01	3.01	0.00
44.99	3.38	0.01	3.37	0.00
45.09	4.59	0.01	3.70	0.88
45.19	6.70	0.01	4.00	2.70
45.29	9.36	0.01	4.28	5.08
45.39	12.45	0.01	4.54	7.90
45.49	15.90	0.01	4.79	11.11
45.59	19.68	0.01	5.03	14.64
45.69	23.74	0.01	5.25	18.48
45.79	28.07	0.01	5.47	22.60
45.89	32.65	0.01	5.68	26.97
45.99	**37.46**	0.01	**5.88**	**31.57**

Stage-Area-Storage for Pond 10P: Bio 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
41.99	725	0
42.04	725	12
42.09	725	24
42.14	725	36
42.19	725	48
42.24	725	60
42.29	725	72
42.34	725	84
42.39	725	96
42.44	725	108
42.49	725	120
42.54	725	132
42.59	725	144
42.64	725	156
42.69	725	167
42.74	725	179
42.79	725	191
42.84	725	203
42.89	725	215
42.94	725	227
42.99	725	239
43.04	725	251
43.09	725	263
43.14	725	275
43.19	725	287
43.24	725	299
43.29	725	311
43.34	725	323
43.39	725	335
43.44	725	347
43.49	725	359
43.54	725	371
43.59	725	383
43.64	725	395
43.69	725	407
43.74	725	419
43.79	725	431
43.84	725	443
43.89	725	455
43.94	725	467
43.99	725	479
44.04	2,201	564
44.09	2,251	675
44.14	2,302	789
44.19	2,352	905
44.24	2,402	1,024
44.29	2,452	1,145
44.34	2,503	1,269
44.39	2,553	1,396
44.44	2,603	1,525
44.49	2,653	1,656
44.54	2,704	1,790
44.59	2,754	1,926
44.64	2,804	2,065
44.69	2,854	2,207
44.74	2,905	2,351
44.79	2,955	2,497
44.84	3,005	2,646
44.89	3,055	2,798
44.94	3,106	2,952
44.99	3,156	3,108
45.04	3,194	3,267
45.09	3,229	3,428
45.14	3,264	3,590
45.19	3,299	3,754
45.24	3,334	3,920
45.29	3,369	4,088
45.34	3,404	4,257
45.39	3,439	4,428
45.44	3,474	4,601
45.49	3,509	4,775
45.54	3,543	4,952
45.59	3,578	5,130
45.64	3,613	5,309
45.69	3,648	5,491
45.74	3,683	5,674
45.79	3,718	5,859
45.84	3,753	6,046
45.89	3,788	6,235
45.94	3,823	6,425
45.99	**3,858**	**6,617**

Summary for Pond 12P: Infiltration Basin 1

Inflow Area = 68,033 sf, 89.47% Impervious, Inflow Depth = 8.06" for 100-year event
Inflow = 12.61 cfs @ 12.09 hrs, Volume= 45,718 cf
Outflow = 11.60 cfs @ 12.12 hrs, Volume= 45,718 cf, Atten= 8%, Lag= 2.1 min
Discarded = 0.08 cfs @ 12.12 hrs, Volume= 10,099 cf
Primary = 11.52 cfs @ 12.12 hrs, Volume= 35,619 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 58.36' @ 12.12 hrs Surf.Area= 3,382 sf Storage= 7,424 cf

Plug-Flow detention time= 212.1 min calculated for 45,709 cf (100% of inflow)
Center-of-Mass det. time= 212.5 min (959.3 - 746.8)

Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	10,931 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.00	1,125	0	0
56.00	1,739	1,432	1,432
57.00	2,393	2,066	3,498
58.00	3,104	2,749	6,247
59.00	3,870	3,487	9,734
59.30	4,111	1,197	10,931

Device	Routing	Invert	Outlet Devices
#1	Primary	51.75'	**24.0" Round Culvert** L= 9.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.75' / 51.55' S= 0.0222 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Discarded	55.00'	**1.020 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#3	Secondary	58.40'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	57.65'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.08 cfs @ 12.12 hrs HW=58.35' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=11.22 cfs @ 12.12 hrs HW=58.35' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 11.22 cfs of 28.26 cfs potential flow)
└**4=Sharp-Crested Rectangular Weir** (Weir Controls 11.22 cfs @ 2.74 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.00' TW=0.00' (Dynamic Tailwater)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 12P: Infiltration Basin 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	55.00	0.00	0.00	0.00	**0.00**
5.00	0.15	984	55.73	0.04	0.04	0.00	0.00
10.00	**0.60**	**5,418**	**57.72**	**0.47**	**0.07**	**0.40**	0.00
15.00	**0.52**	**5,441**	**57.73**	**0.53**	**0.07**	**0.46**	0.00
20.00	0.18	5,295	57.68	0.18	0.07	0.11	0.00
25.00	0.00	5,028	57.59	0.07	0.07	0.00	0.00
30.00	0.00	3,898	57.16	0.06	0.06	0.00	0.00
35.00	0.00	2,894	56.74	0.05	0.05	0.00	0.00
40.00	0.00	2,009	56.31	0.05	0.05	0.00	0.00
45.00	0.00	1,241	55.89	0.04	0.04	0.00	0.00
50.00	0.00	587	55.46	0.03	0.03	0.00	0.00
55.00	0.00	43	55.04	0.03	0.03	0.00	0.00
60.00	0.00	0	55.00	0.00	0.00	0.00	0.00
65.00	0.00	0	55.00	0.00	0.00	0.00	0.00
70.00	0.00	0	55.00	0.00	0.00	0.00	0.00
75.00	0.00	0	55.00	0.00	0.00	0.00	0.00
80.00	0.00	0	55.00	0.00	0.00	0.00	0.00
85.00	0.00	0	55.00	0.00	0.00	0.00	0.00
90.00	0.00	0	55.00	0.00	0.00	0.00	0.00
95.00	0.00	0	55.00	0.00	0.00	0.00	0.00
100.00	0.00	0	55.00	0.00	0.00	0.00	0.00
105.00	0.00	0	55.00	0.00	0.00	0.00	0.00
110.00	0.00	0	55.00	0.00	0.00	0.00	0.00
115.00	0.00	0	55.00	0.00	0.00	0.00	0.00
120.00	0.00	0	55.00	0.00	0.00	0.00	0.00
125.00	0.00	0	55.00	0.00	0.00	0.00	0.00
130.00	0.00	0	55.00	0.00	0.00	0.00	0.00
135.00	0.00	0	55.00	0.00	0.00	0.00	0.00
140.00	0.00	0	55.00	0.00	0.00	0.00	0.00
145.00	0.00	0	55.00	0.00	0.00	0.00	0.00
150.00	0.00	0	55.00	0.00	0.00	0.00	0.00
155.00	0.00	0	55.00	0.00	0.00	0.00	0.00
160.00	0.00	0	55.00	0.00	0.00	0.00	0.00
165.00	0.00	0	55.00	0.00	0.00	0.00	0.00
170.00	0.00	0	55.00	0.00	0.00	0.00	0.00
175.00	0.00	0	55.00	0.00	0.00	0.00	0.00
180.00	0.00	0	55.00	0.00	0.00	0.00	0.00
185.00	0.00	0	55.00	0.00	0.00	0.00	0.00
190.00	0.00	0	55.00	0.00	0.00	0.00	0.00
195.00	0.00	0	55.00	0.00	0.00	0.00	0.00
200.00	0.00	0	55.00	0.00	0.00	0.00	0.00
205.00	0.00	0	55.00	0.00	0.00	0.00	0.00
210.00	0.00	0	55.00	0.00	0.00	0.00	0.00
215.00	0.00	0	55.00	0.00	0.00	0.00	0.00
220.00	0.00	0	55.00	0.00	0.00	0.00	0.00
225.00	0.00	0	55.00	0.00	0.00	0.00	0.00
230.00	0.00	0	55.00	0.00	0.00	0.00	0.00
235.00	0.00	0	55.00	0.00	0.00	0.00	0.00
240.00	0.00	0	55.00	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 12P: Infiltration Basin 1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
55.00	0.00	0.00	0.00	0.00
55.10	0.03	0.03	0.00	0.00
55.20	0.03	0.03	0.00	0.00
55.30	0.03	0.03	0.00	0.00
55.40	0.03	0.03	0.00	0.00
55.50	0.03	0.03	0.00	0.00
55.60	0.04	0.04	0.00	0.00
55.70	0.04	0.04	0.00	0.00
55.80	0.04	0.04	0.00	0.00
55.90	0.04	0.04	0.00	0.00
56.00	0.04	0.04	0.00	0.00
56.10	0.04	0.04	0.00	0.00
56.20	0.04	0.04	0.00	0.00
56.30	0.05	0.05	0.00	0.00
56.40	0.05	0.05	0.00	0.00
56.50	0.05	0.05	0.00	0.00
56.60	0.05	0.05	0.00	0.00
56.70	0.05	0.05	0.00	0.00
56.80	0.05	0.05	0.00	0.00
56.90	0.05	0.05	0.00	0.00
57.00	0.06	0.06	0.00	0.00
57.10	0.06	0.06	0.00	0.00
57.20	0.06	0.06	0.00	0.00
57.30	0.06	0.06	0.00	0.00
57.40	0.06	0.06	0.00	0.00
57.50	0.06	0.06	0.00	0.00
57.60	0.07	0.07	0.00	0.00
57.70	0.29	0.07	0.22	0.00
57.80	1.20	0.07	1.13	0.00
57.90	2.50	0.07	2.43	0.00
58.00	4.09	0.07	4.02	0.00
58.10	5.91	0.08	5.83	0.00
58.20	7.93	0.08	7.86	0.00
58.30	10.14	0.08	10.06	0.00
58.40	12.51	0.08	12.42	0.00
58.50	16.05	0.08	14.94	1.03
58.60	20.59	0.08	17.59	2.91
58.70	25.80	0.09	20.37	5.34
58.80	31.56	0.09	23.27	8.21
58.90	37.81	0.09	26.28	11.45
59.00	44.50	0.09	29.39	15.02
59.10	49.07	0.09	30.09	18.88
59.20	53.45	0.10	30.33	23.02
59.30	**58.08**	**0.10**	**30.56**	**27.42**

Stage-Area-Storage for Pond 12P: Infiltration Basin 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
55.00	1,125	0
55.05	1,156	57
55.10	1,186	116
55.15	1,217	176
55.20	1,248	237
55.25	1,279	300
55.30	1,309	365
55.35	1,340	431
55.40	1,371	499
55.45	1,401	568
55.50	1,432	639
55.55	1,463	712
55.60	1,493	786
55.65	1,524	861
55.70	1,555	938
55.75	1,586	1,016
55.80	1,616	1,096
55.85	1,647	1,178
55.90	1,678	1,261
55.95	1,708	1,346
56.00	1,739	1,432
56.05	1,772	1,520
56.10	1,804	1,609
56.15	1,837	1,700
56.20	1,870	1,793
56.25	1,903	1,887
56.30	1,935	1,983
56.35	1,968	2,081
56.40	2,001	2,180
56.45	2,033	2,281
56.50	2,066	2,383
56.55	2,099	2,487
56.60	2,131	2,593
56.65	2,164	2,701
56.70	2,197	2,810
56.75	2,230	2,920
56.80	2,262	3,032
56.85	2,295	3,146
56.90	2,328	3,262
56.95	2,360	3,379
57.00	2,393	3,498
57.05	2,429	3,619
57.10	2,464	3,741
57.15	2,500	3,865
57.20	2,535	3,991
57.25	2,571	4,118
57.30	2,606	4,248
57.35	2,642	4,379
57.40	2,677	4,512
57.45	2,713	4,647
57.50	2,749	4,783
57.55	2,784	4,922
57.60	2,820	5,062
57.65	2,855	5,204
57.70	2,891	5,347
57.75	2,926	5,493
57.80	2,962	5,640
57.85	2,997	5,789
57.90	3,033	5,940
57.95	3,068	6,092
58.00	3,104	6,247
58.05	3,142	6,403
58.10	3,181	6,561
58.15	3,219	6,721
58.20	3,257	6,883
58.25	3,296	7,046
58.30	3,334	7,212
58.35	3,372	7,380
58.40	3,410	7,549
58.45	3,449	7,721
58.50	3,487	7,894
58.55	3,525	8,070
58.60	3,564	8,247
58.65	3,602	8,426
58.70	3,640	8,607
58.75	3,679	8,790
58.80	3,717	8,975
58.85	3,755	9,162
58.90	3,793	9,350
58.95	3,832	9,541
59.00	3,870	9,734
59.05	3,910	9,928
59.10	3,950	10,125
59.15	3,991	10,323
59.20	4,031	10,524
59.25	4,071	10,726
59.30	**4,111**	**10,931**

Summary for Pond 13P: Sand Filter 1

Inflow Area = 379,224 sf, 32.14% Impervious, Inflow Depth = 1.46" for 100-year event
Inflow = 3.94 cfs @ 12.21 hrs, Volume= 46,057 cf
Outflow = 0.97 cfs @ 13.61 hrs, Volume= 46,057 cf, Atten= 75%, Lag= 83.9 min
Discarded = 0.03 cfs @ 3.05 hrs, Volume= 12,913 cf
Primary = 0.94 cfs @ 13.61 hrs, Volume= 33,216 cf
Routed to Pond 15P : Detention Basin 1
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond 15P : Detention Basin 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 47.99' @ 12.71 hrs Surf.Area= 9,916 sf Storage= 22,101 cf

Plug-Flow detention time= 988.0 min calculated for 46,047 cf (100% of inflow)
Center-of-Mass det. time= 989.0 min (1,816.9 - 827.9)

Volume	Invert	Avail.Storage	Storage Description
#1	42.49'	32,650 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.49	4,630	0.0	0	0
42.50	4,630	33.0	15	15
45.99	4,630	33.0	5,332	5,348
46.00	6,904	100.0	58	5,405
47.00	8,336	100.0	7,620	13,025
48.00	9,925	100.0	9,131	22,156
49.00	11,063	100.0	10,494	32,650

Device	Routing	Invert	Outlet Devices
#1	Discarded	42.49'	**0.270 in/hr Exfiltration over Surface area from 42.48' - 45.99'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Secondary	48.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	46.65'	**1.5" x 1.5" Horiz. Orifice/Grate X 4.00 columns** X 3 rows C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.03 cfs @ 3.05 hrs HW=42.56' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.94 cfs @ 13.61 hrs HW=47.73' TW=46.65' (Dynamic Tailwater)
↑—**3=Orifice/Grate** (Orifice Controls 0.94 cfs @ 5.00 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=42.49' TW=44.00' (Dynamic Tailwater)
↑—**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 13P: Sand Filter 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	42.49	0.00	**0.00**	0.00	**0.00**
5.00	0.08	373	42.73	0.03	**0.03**	0.00	0.00
10.00	**1.36**	**11,427**	**46.80**	**0.38**	0.03	**0.36**	0.00
15.00	**0.17**	**15,283**	**47.26**	**0.74**	0.03	**0.71**	0.00
20.00	0.56	13,242	47.03	0.58	0.03	0.55	0.00
25.00	0.00	11,612	46.83	0.41	0.03	0.38	0.00
30.00	0.00	9,912	46.61	0.03	0.03	0.00	0.00
35.00	0.00	9,392	46.55	0.03	0.03	0.00	0.00
40.00	0.00	8,871	46.48	0.03	0.03	0.00	0.00
45.00	0.00	8,350	46.41	0.03	0.03	0.00	0.00
50.00	0.00	7,829	46.34	0.03	0.03	0.00	0.00
55.00	0.00	7,308	46.27	0.03	0.03	0.00	0.00
60.00	0.00	6,787	46.20	0.03	0.03	0.00	0.00
65.00	0.00	6,266	46.12	0.03	0.03	0.00	0.00
70.00	0.00	5,745	46.05	0.03	0.03	0.00	0.00
75.00	0.00	5,225	45.91	0.03	0.03	0.00	0.00
80.00	0.00	4,704	45.57	0.03	0.03	0.00	0.00
85.00	0.00	4,183	45.23	0.03	0.03	0.00	0.00
90.00	0.00	3,662	44.89	0.03	0.03	0.00	0.00
95.00	0.00	3,141	44.55	0.03	0.03	0.00	0.00
100.00	0.00	2,620	44.20	0.03	0.03	0.00	0.00
105.00	0.00	2,099	43.86	0.03	0.03	0.00	0.00
110.00	0.00	1,578	43.52	0.03	0.03	0.00	0.00
115.00	0.00	1,058	43.18	0.03	0.03	0.00	0.00
120.00	0.00	537	42.84	0.03	0.03	0.00	0.00
125.00	0.00	19	42.50	0.02	0.02	0.00	0.00
130.00	0.00	0	42.49	0.00	0.00	0.00	0.00
135.00	0.00	0	42.49	0.00	0.00	0.00	0.00
140.00	0.00	0	42.49	0.00	0.00	0.00	0.00
145.00	0.00	0	42.49	0.00	0.00	0.00	0.00
150.00	0.00	0	42.49	0.00	0.00	0.00	0.00
155.00	0.00	0	42.49	0.00	0.00	0.00	0.00
160.00	0.00	0	42.49	0.00	0.00	0.00	0.00
165.00	0.00	0	42.49	0.00	0.00	0.00	0.00
170.00	0.00	0	42.49	0.00	0.00	0.00	0.00
175.00	0.00	0	42.49	0.00	0.00	0.00	0.00
180.00	0.00	0	42.49	0.00	0.00	0.00	0.00
185.00	0.00	0	42.49	0.00	0.00	0.00	0.00
190.00	0.00	0	42.49	0.00	0.00	0.00	0.00
195.00	0.00	0	42.49	0.00	0.00	0.00	0.00
200.00	0.00	0	42.49	0.00	0.00	0.00	0.00
205.00	0.00	0	42.49	0.00	0.00	0.00	0.00
210.00	0.00	0	42.49	0.00	0.00	0.00	0.00
215.00	0.00	0	42.49	0.00	0.00	0.00	0.00
220.00	0.00	0	42.49	0.00	0.00	0.00	0.00
225.00	0.00	0	42.49	0.00	0.00	0.00	0.00
230.00	0.00	0	42.49	0.00	0.00	0.00	0.00
235.00	0.00	0	42.49	0.00	0.00	0.00	0.00
240.00	0.00	0	42.49	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 13P: Sand Filter 1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
42.49	0.00	**0.00**	0.00	0.00
42.69	0.03	**0.03**	0.00	0.00
42.89	0.03	0.03	0.00	0.00
43.09	0.03	0.03	0.00	0.00
43.29	0.03	0.03	0.00	0.00
43.49	0.03	0.03	0.00	0.00
43.69	0.03	0.03	0.00	0.00
43.89	0.03	0.03	0.00	0.00
44.09	0.03	0.03	0.00	0.00
44.29	0.03	0.03	0.00	0.00
44.49	0.03	0.03	0.00	0.00
44.69	0.03	0.03	0.00	0.00
44.89	0.03	0.03	0.00	0.00
45.09	0.03	0.03	0.00	0.00
45.29	0.03	0.03	0.00	0.00
45.49	0.03	0.03	0.00	0.00
45.69	0.03	0.03	0.00	0.00
45.89	0.03	0.03	0.00	0.00
46.09	0.03	0.03	0.00	0.00
46.29	0.03	0.03	0.00	0.00
46.49	0.03	0.03	0.00	0.00
46.69	0.19	0.03	0.16	0.00
46.89	0.47	0.03	0.44	0.00
47.09	0.63	0.03	0.60	0.00
47.29	0.75	0.03	0.72	0.00
47.49	0.86	0.03	0.83	0.00
47.69	0.95	0.03	0.92	0.00
47.89	1.03	0.03	1.01	0.00
48.09	1.11	0.03	1.08	0.00
48.29	3.88	0.03	1.16	2.70
48.49	9.16	0.03	1.22	7.90
48.69	15.96	0.03	1.29	14.64
48.89	**23.98**	0.03	**1.35**	**22.60**

Stage-Area-Storage for Pond 13P: Sand Filter 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
42.49	4,630	0
42.59	4,630	153
42.69	4,630	306
42.79	4,630	458
42.89	4,630	611
42.99	4,630	764
43.09	4,630	917
43.19	4,630	1,070
43.29	4,630	1,222
43.39	4,630	1,375
43.49	4,630	1,528
43.59	4,630	1,681
43.69	4,630	1,833
43.79	4,630	1,986
43.89	4,630	2,139
43.99	4,630	2,292
44.09	4,630	2,445
44.19	4,630	2,597
44.29	4,630	2,750
44.39	4,630	2,903
44.49	4,630	3,056
44.59	4,630	3,209
44.69	4,630	3,361
44.79	4,630	3,514
44.89	4,630	3,667
44.99	4,630	3,820
45.09	4,630	3,973
45.19	4,630	4,125
45.29	4,630	4,278
45.39	4,630	4,431
45.49	4,630	4,584
45.59	4,630	4,736
45.69	4,630	4,889
45.79	4,630	5,042
45.89	4,630	5,195
45.99	4,630	5,348
46.09	7,033	6,032
46.19	7,176	6,743
46.29	7,319	7,468
46.39	7,462	8,207
46.49	7,606	8,960
46.59	7,749	9,728
46.69	7,892	10,510
46.79	8,035	11,306
46.89	8,178	12,117
46.99	8,322	12,942
47.09	8,479	13,782
47.19	8,638	14,638
47.29	8,797	15,510
47.39	8,956	16,397
47.49	9,115	17,301
47.59	9,274	18,220
47.69	9,432	19,155
47.79	9,591	20,107
47.89	9,750	21,074
47.99	9,909	22,057
48.09	10,027	23,054
48.19	10,141	24,062
48.29	10,255	25,082
48.39	10,369	26,113
48.49	10,483	27,156
48.59	10,596	28,210
48.69	10,710	29,275
48.79	10,824	30,352
48.89	10,938	31,440
48.99	**11,052**	**32,539**

Summary for Pond 14P: DIV-03

Inflow Area = 42,514 sf, 59.10% Impervious, Inflow Depth = 7.28" for 100-year event
Inflow = 7.62 cfs @ 12.09 hrs, Volume= 25,778 cf
Outflow = 7.62 cfs @ 12.09 hrs, Volume= 25,778 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.08 cfs @ 12.09 hrs, Volume= 18,713 cf
Routed to Pond 10P : Bio 1
Secondary = 5.55 cfs @ 12.09 hrs, Volume= 7,066 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 46.13' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.10'	**9.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.10' / 44.00' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.44 sf
#2	Device 3	44.85'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	44.10'	**15.0" Round Culvert** L= 55.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.10' / 42.25' S= 0.0336 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.02 cfs @ 12.09 hrs HW=46.06' TW=44.61' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 2.02 cfs @ 4.58 fps)

Secondary OutFlow Max=5.41 cfs @ 12.09 hrs HW=46.07' TW=0.00' (Dynamic Tailwater)
└**3=Culvert** (Inlet Controls 5.41 cfs @ 4.40 fps)
└**2=Sharp-Crested Rectangular Weir** (Passes 5.41 cfs of 25.29 cfs potential flow)

Hydrograph for Pond 14P: DIV-03

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	44.10	0.00	0.00	0.00
5.00	0.04	44.21	0.04	0.04	0.00
10.00	**0.31**	**44.60**	**0.31**	**0.31**	**0.00**
15.00	**0.32**	**44.60**	**0.32**	**0.32**	**0.00**
20.00	0.11	44.53	0.11	0.11	0.00
25.00	0.00	44.40	0.00	0.00	0.00
30.00	0.00	44.44	0.00	0.00	0.00
35.00	0.00	44.39	0.00	0.00	0.00
40.00	0.00	44.34	0.00	0.00	0.00
45.00	0.00	44.29	0.00	0.00	0.00
50.00	0.00	44.24	0.00	0.00	0.00
55.00	0.00	44.18	0.00	0.00	0.00
60.00	0.00	44.13	0.00	0.00	0.00
65.00	0.00	44.10	0.00	0.00	0.00
70.00	0.00	44.10	0.00	0.00	0.00
75.00	0.00	44.10	0.00	0.00	0.00
80.00	0.00	44.10	0.00	0.00	0.00
85.00	0.00	44.10	0.00	0.00	0.00
90.00	0.00	44.10	0.00	0.00	0.00
95.00	0.00	44.10	0.00	0.00	0.00
100.00	0.00	44.10	0.00	0.00	0.00
105.00	0.00	44.10	0.00	0.00	0.00
110.00	0.00	44.10	0.00	0.00	0.00
115.00	0.00	44.10	0.00	0.00	0.00
120.00	0.00	44.10	0.00	0.00	0.00
125.00	0.00	44.10	0.00	0.00	0.00
130.00	0.00	44.10	0.00	0.00	0.00
135.00	0.00	44.10	0.00	0.00	0.00
140.00	0.00	44.10	0.00	0.00	0.00
145.00	0.00	44.10	0.00	0.00	0.00
150.00	0.00	44.10	0.00	0.00	0.00
155.00	0.00	44.10	0.00	0.00	0.00
160.00	0.00	44.10	0.00	0.00	0.00
165.00	0.00	44.10	0.00	0.00	0.00
170.00	0.00	44.10	0.00	0.00	0.00
175.00	0.00	44.10	0.00	0.00	0.00
180.00	0.00	44.10	0.00	0.00	0.00
185.00	0.00	44.10	0.00	0.00	0.00
190.00	0.00	44.10	0.00	0.00	0.00
195.00	0.00	44.10	0.00	0.00	0.00
200.00	0.00	44.10	0.00	0.00	0.00
205.00	0.00	44.10	0.00	0.00	0.00
210.00	0.00	44.10	0.00	0.00	0.00
215.00	0.00	44.10	0.00	0.00	0.00
220.00	0.00	44.10	0.00	0.00	0.00
225.00	0.00	44.10	0.00	0.00	0.00
230.00	0.00	44.10	0.00	0.00	0.00
235.00	0.00	44.10	0.00	0.00	0.00
240.00	0.00	44.10	0.00	0.00	0.00

Pro-Hydro
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Stage-Discharge for Pond 14P: DIV-03

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
44.10	0.00	0.00	0.00
44.12	0.00	0.00	0.00
44.14	0.00	0.00	0.00
44.16	0.01	0.01	0.00
44.18	0.02	0.02	0.00
44.20	0.03	0.03	0.00
44.22	0.04	0.04	0.00
44.24	0.06	0.06	0.00
44.26	0.07	0.07	0.00
44.28	0.09	0.09	0.00
44.30	0.11	0.11	0.00
44.32	0.13	0.13	0.00
44.34	0.15	0.15	0.00
44.36	0.18	0.18	0.00
44.38	0.20	0.20	0.00
44.40	0.23	0.23	0.00
44.42	0.26	0.26	0.00
44.44	0.29	0.29	0.00
44.46	0.31	0.31	0.00
44.48	0.35	0.35	0.00
44.50	0.38	0.38	0.00
44.52	0.41	0.41	0.00
44.54	0.44	0.44	0.00
44.56	0.48	0.48	0.00
44.58	0.51	0.51	0.00
44.60	0.55	0.55	0.00
44.62	0.58	0.58	0.00
44.64	0.62	0.62	0.00
44.66	0.66	0.66	0.00
44.68	0.69	0.69	0.00
44.70	0.73	0.73	0.00
44.72	0.77	0.77	0.00
44.74	0.81	0.81	0.00
44.76	0.85	0.85	0.00
44.78	0.88	0.88	0.00
44.80	0.92	0.92	0.00
44.82	0.96	0.96	0.00
44.84	1.00	1.00	0.00
44.86	1.06	1.04	0.02
44.88	1.17	1.07	0.10
44.90	1.31	1.09	0.22
44.92	1.48	1.12	0.36
44.94	1.67	1.15	0.53
44.96	1.88	1.17	0.71
44.98	2.11	1.19	0.92
45.00	2.35	1.22	1.13
45.02	2.61	1.24	1.37
45.04	2.88	1.26	1.61
45.06	3.16	1.28	1.87
45.08	3.45	1.31	2.15
45.10	3.76	1.33	2.43
45.12	4.08	1.35	2.73
45.14	4.36	1.37	2.99
45.16	4.46	1.39	3.07
45.18	4.56	1.41	3.15
45.20	4.65	1.43	3.22
45.22	4.75	1.45	3.30
45.24	4.84	1.47	3.37
45.26	4.93	1.49	3.44
45.28	5.01	1.51	3.50
45.30	5.09	1.53	3.56
45.32	5.16	1.54	3.62
45.34	5.23	1.56	3.67
45.36	5.30	1.58	3.72
45.38	5.37	1.60	3.78
45.40	5.45	1.62	3.83
45.42	5.52	1.63	3.89
45.44	5.59	1.65	3.94
45.46	5.67	1.67	4.00
45.48	5.74	1.68	4.05
45.50	5.81	1.70	4.11
45.52	5.88	1.72	4.16
45.54	5.94	1.73	4.21
45.56	6.01	1.75	4.26
45.58	6.08	1.77	4.31
45.60	6.14	1.78	4.36
45.62	6.21	1.80	4.41
45.64	6.27	1.81	4.46
45.66	6.34	1.83	4.51
45.68	6.40	1.84	4.56
45.70	6.46	1.86	4.61
45.72	6.53	1.87	4.65
45.74	6.59	1.89	4.70
45.76	6.65	1.90	4.75
45.78	6.71	1.92	4.79
45.80	6.77	1.93	4.84
45.82	6.83	1.95	4.88
45.84	6.89	1.96	4.93
45.86	6.95	1.98	4.97
45.88	7.00	1.99	5.01
45.90	7.06	2.00	5.06
45.92	7.12	2.02	5.10
45.94	7.17	2.03	5.14
45.96	7.23	2.05	5.18
45.98	7.29	2.06	5.23
46.00	7.34	2.07	5.27
46.02	7.40	2.09	5.31
46.04	7.45	2.10	5.35
46.06	7.50	2.11	5.39
46.08	7.56	2.13	5.43
46.10	7.61	2.14	5.47
46.12	**7.66**	**2.15**	**5.51**

Stage-Area-Storage for Pond 14P: DIV-03

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
44.10	**0**	45.12	0
44.12	0	45.14	0
44.14	0	45.16	0
44.16	0	45.18	0
44.18	0	45.20	0
44.20	0	45.22	0
44.22	0	45.24	0
44.24	0	45.26	0
44.26	0	45.28	0
44.28	0	45.30	0
44.30	0	45.32	0
44.32	0	45.34	0
44.34	0	45.36	0
44.36	0	45.38	0
44.38	0	45.40	0
44.40	0	45.42	0
44.42	0	45.44	0
44.44	0	45.46	0
44.46	0	45.48	0
44.48	0	45.50	0
44.50	0	45.52	0
44.52	0	45.54	0
44.54	0	45.56	0
44.56	0	45.58	0
44.58	0	45.60	0
44.60	0	45.62	0
44.62	0	45.64	0
44.64	0	45.66	0
44.66	0	45.68	0
44.68	0	45.70	0
44.70	0	45.72	0
44.72	0	45.74	0
44.74	0	45.76	0
44.76	0	45.78	0
44.78	0	45.80	0
44.80	0	45.82	0
44.82	0	45.84	0
44.84	0	45.86	0
44.86	0	45.88	0
44.88	0	45.90	0
44.90	0	45.92	0
44.92	0	45.94	0
44.94	0	45.96	0
44.96	0	45.98	0
44.98	0	46.00	0
45.00	0	46.02	0
45.02	0	46.04	0
45.04	0	46.06	0
45.06	0	46.08	0
45.08	0	46.10	0
45.10	0	46.12	0

Summary for Pond 15P: Detention Basin 1

Inflow Area = 531,182 sf, 24.31% Impervious, Inflow Depth = 5.97" for 100-year event
Inflow = 58.46 cfs @ 12.22 hrs, Volume= 264,155 cf
Outflow = 38.00 cfs @ 12.42 hrs, Volume= 264,091 cf, Atten= 35%, Lag= 12.4 min
Primary = 20.96 cfs @ 12.42 hrs, Volume= 236,727 cf
Routed to Link 6L : DP 2.1 - West Wetland
Secondary = 17.04 cfs @ 12.42 hrs, Volume= 27,364 cf
Routed to Link 6L : DP 2.1 - West Wetland
Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 6L : DP 2.1 - West Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 48.08' @ 12.42 hrs Surf.Area= 21,828 sf Storage= 68,535 cf

Plug-Flow detention time= 81.8 min calculated for 264,091 cf (100% of inflow)
Center-of-Mass det. time= 81.5 min (913.3 - 831.8)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	89,712 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	11,920	0	0
45.00	14,261	13,091	13,091
46.00	16,659	15,460	28,551
47.00	19,113	17,886	46,437
48.00	21,623	20,368	66,805
49.00	24,191	22,907	89,712

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	**24.0" Round Culvert** L= 15.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.00' / 43.40' S= 0.0400 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	44.00'	**5.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	44.55'	**1.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Device 1	47.20'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#5	Tertiary	48.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	45.00'	**24.0" Round Culvert** L= 212.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 45.00' / 43.70' S= 0.0061 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#7	Device 6	47.15'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

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Primary OutFlow Max=20.94 cfs @ 12.42 hrs HW=48.07' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 20.94 cfs @ 6.66 fps)
  ├─**2=Orifice/Grate** (Passes < 1.29 cfs potential flow)
  ├─**3=Sharp-Crested Rectangular Weir** (Passes < 17.20 cfs potential flow)
  └─**4=Sharp-Crested Rectangular Weir** (Passes < 15.55 cfs potential flow)

Secondary OutFlow Max=16.88 cfs @ 12.42 hrs HW=48.07' TW=0.00' (Dynamic Tailwater)
└─**6=Culvert** (Passes 16.88 cfs of 17.20 cfs potential flow)
  └─**7=Sharp-Crested Rectangular Weir** (Weir Controls 16.88 cfs @ 3.14 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=44.00' TW=0.00' (Dynamic Tailwater)
└─**5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 15P: Detention Basin 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
0.00	0.00	0	44.00	0.00	0.00	0.00	**0.00**
5.00	0.00	0	44.00	0.00	0.00	0.00	0.00
10.00	**1.51**	**2,936**	**44.24**	**0.14**	**0.14**	**0.00**	0.00
15.00	**4.49**	**24,833**	**45.77**	**6.37**	**6.37**	**0.00**	0.00
20.00	1.33	11,649	44.90	1.51	1.51	0.00	0.00
25.00	0.38	8,760	44.69	0.70	0.70	0.00	0.00
30.00	0.00	3,467	44.28	0.18	0.18	0.00	0.00
35.00	0.00	1,697	44.14	0.05	0.05	0.00	0.00
40.00	0.00	1,085	44.09	0.02	0.02	0.00	0.00
45.00	0.00	790	44.07	0.01	0.01	0.00	0.00
50.00	0.00	618	44.05	0.01	0.01	0.00	0.00
55.00	0.00	507	44.04	0.01	0.01	0.00	0.00
60.00	0.00	429	44.04	0.00	0.00	0.00	0.00
65.00	0.00	372	44.03	0.00	0.00	0.00	0.00
70.00	0.00	328	44.03	0.00	0.00	0.00	0.00
75.00	0.00	293	44.02	0.00	0.00	0.00	0.00
80.00	0.00	265	44.02	0.00	0.00	0.00	0.00
85.00	0.00	241	44.02	0.00	0.00	0.00	0.00
90.00	0.00	222	44.02	0.00	0.00	0.00	0.00
95.00	0.00	205	44.02	0.00	0.00	0.00	0.00
100.00	0.00	191	44.02	0.00	0.00	0.00	0.00
105.00	0.00	178	44.01	0.00	0.00	0.00	0.00
110.00	0.00	168	44.01	0.00	0.00	0.00	0.00
115.00	0.00	158	44.01	0.00	0.00	0.00	0.00
120.00	0.00	149	44.01	0.00	0.00	0.00	0.00
125.00	0.00	141	44.01	0.00	0.00	0.00	0.00
130.00	0.00	134	44.01	0.00	0.00	0.00	0.00
135.00	0.00	128	44.01	0.00	0.00	0.00	0.00
140.00	0.00	122	44.01	0.00	0.00	0.00	0.00
145.00	0.00	117	44.01	0.00	0.00	0.00	0.00
150.00	0.00	112	44.01	0.00	0.00	0.00	0.00
155.00	0.00	108	44.01	0.00	0.00	0.00	0.00
160.00	0.00	104	44.01	0.00	0.00	0.00	0.00
165.00	0.00	100	44.01	0.00	0.00	0.00	0.00
170.00	0.00	96	44.01	0.00	0.00	0.00	0.00
175.00	0.00	93	44.01	0.00	0.00	0.00	0.00
180.00	0.00	90	44.01	0.00	0.00	0.00	0.00
185.00	0.00	87	44.01	0.00	0.00	0.00	0.00
190.00	0.00	84	44.01	0.00	0.00	0.00	0.00
195.00	0.00	82	44.01	0.00	0.00	0.00	0.00
200.00	0.00	79	44.01	0.00	0.00	0.00	0.00
205.00	0.00	77	44.01	0.00	0.00	0.00	0.00
210.00	0.00	75	44.01	0.00	0.00	0.00	0.00
215.00	0.00	73	44.01	0.00	0.00	0.00	0.00
220.00	0.00	71	44.01	0.00	0.00	0.00	0.00
225.00	0.00	69	44.01	0.00	0.00	0.00	0.00
230.00	0.00	68	44.01	0.00	0.00	0.00	0.00
235.00	0.00	66	44.01	0.00	0.00	0.00	0.00
240.00	0.00	64	44.01	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 15P: Detention Basin 1

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Tertiary (cfs)
44.00	0.00	0.00	0.00	0.00
44.10	0.03	0.03	0.00	0.00
44.20	0.10	0.10	0.00	0.00
44.30	0.20	0.20	0.00	0.00
44.40	0.29	0.29	0.00	0.00
44.50	0.35	0.35	0.00	0.00
44.60	0.47	0.47	0.00	0.00
44.70	0.74	0.74	0.00	0.00
44.80	1.10	1.10	0.00	0.00
44.90	1.51	1.51	0.00	0.00
45.00	1.98	1.98	0.00	0.00
45.10	2.47	2.47	0.00	0.00
45.20	3.00	3.00	0.00	0.00
45.30	3.55	3.55	0.00	0.00
45.40	4.12	4.12	0.00	0.00
45.50	4.71	4.71	0.00	0.00
45.60	5.31	5.31	0.00	0.00
45.70	5.92	5.92	0.00	0.00
45.80	6.54	6.54	0.00	0.00
45.90	7.16	7.16	0.00	0.00
46.00	7.79	7.79	0.00	0.00
46.10	8.41	8.41	0.00	0.00
46.20	9.04	9.04	0.00	0.00
46.30	9.66	9.66	0.00	0.00
46.40	10.27	10.27	0.00	0.00
46.50	10.88	10.88	0.00	0.00
46.60	11.48	11.48	0.00	0.00
46.70	12.07	12.07	0.00	0.00
46.80	12.65	12.65	0.00	0.00
46.90	13.21	13.21	0.00	0.00
47.00	13.76	13.76	0.00	0.00
47.10	14.30	14.30	0.00	0.00
47.20	15.04	14.82	0.22	0.00
47.30	17.07	15.94	1.13	0.00
47.40	19.98	17.55	2.43	0.00
47.50	22.90	18.88	4.02	0.00
47.60	25.09	19.26	5.83	0.00
47.70	27.48	19.62	7.86	0.00
47.80	30.04	19.98	10.06	0.00
47.90	32.76	20.34	12.42	0.00
48.00	35.62	20.68	14.94	0.00
48.10	38.33	21.03	17.31	0.00
48.20	40.11	21.36	17.71	1.03
48.30	42.72	21.69	18.11	2.91
48.40	45.86	22.02	18.50	5.34
48.50	49.43	22.34	18.88	8.21
48.60	53.36	22.66	19.26	11.45
48.70	57.61	22.97	19.62	15.02
48.80	62.15	23.28	19.98	18.88
48.90	66.94	23.58	20.34	23.02
49.00	**71.99**	**23.88**	**20.68**	**27.42**

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Stage-Area-Storage for Pond 15P: Detention Basin 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
44.00	11,920	0
44.05	12,037	599
44.10	12,154	1,204
44.15	12,271	1,814
44.20	12,388	2,431
44.25	12,505	3,053
44.30	12,622	3,681
44.35	12,739	4,315
44.40	12,856	4,955
44.45	12,973	5,601
44.50	13,091	6,253
44.55	13,208	6,910
44.60	13,325	7,573
44.65	13,442	8,243
44.70	13,559	8,918
44.75	13,676	9,598
44.80	13,793	10,285
44.85	13,910	10,978
44.90	14,027	11,676
44.95	14,144	12,380
45.00	14,261	13,091
45.05	14,381	13,807
45.10	14,501	14,529
45.15	14,621	15,257
45.20	14,741	15,991
45.25	14,861	16,731
45.30	14,980	17,477
45.35	15,100	18,229
45.40	15,220	18,987
45.45	15,340	19,751
45.50	15,460	20,521
45.55	15,580	21,297
45.60	15,700	22,079
45.65	15,820	22,867
45.70	15,940	23,661
45.75	16,060	24,461
45.80	16,179	25,267
45.85	16,299	26,079
45.90	16,419	26,897
45.95	16,539	27,721
46.00	16,659	28,551
46.05	16,782	29,387
46.10	16,904	30,229
46.15	17,027	31,077
46.20	17,150	31,931
46.25	17,273	32,792
46.30	17,395	33,659
46.35	17,518	34,531
46.40	17,641	35,410
46.45	17,763	36,296
46.50	17,886	37,187
46.55	18,009	38,084
46.60	18,131	38,988
46.65	18,254	39,897
46.70	18,377	40,813
46.75	18,500	41,735
46.80	18,622	42,663
46.85	18,745	43,597
46.90	18,868	44,537
46.95	18,990	45,484
47.00	19,113	46,437
47.05	19,238	47,395
47.10	19,364	48,360
47.15	19,489	49,332
47.20	19,615	50,309
47.25	19,741	51,293
47.30	19,866	52,283
47.35	19,992	53,280
47.40	20,117	54,282
47.45	20,243	55,291
47.50	20,368	56,307
47.55	20,493	57,328
47.60	20,619	58,356
47.65	20,744	59,390
47.70	20,870	60,431
47.75	20,996	61,477
47.80	21,121	62,530
47.85	21,247	63,589
47.90	21,372	64,655
47.95	21,498	65,726
48.00	21,623	66,805
48.05	21,751	67,889
48.10	21,880	68,980
48.15	22,008	70,077
48.20	22,137	71,180
48.25	22,265	72,291
48.30	22,393	73,407
48.35	22,522	74,530
48.40	22,650	75,659
48.45	22,779	76,795
48.50	22,907	77,937
48.55	23,035	79,086
48.60	23,164	80,241
48.65	23,292	81,402
48.70	23,421	82,570
48.75	23,549	83,744
48.80	23,677	84,925
48.85	23,806	86,112
48.90	23,934	87,305
48.95	24,063	88,505
49.00	**24,191**	**89,712**

Summary for Pond 17P: Track and Field- stone base

Inflow Area = 90,671 sf,100.00% Impervious, Inflow Depth = 8.36" for 100-year event
Inflow = 17.17 cfs @ 12.09 hrs, Volume= 63,166 cf
Outflow = 9.38 cfs @ 12.22 hrs, Volume= 63,166 cf, Atten= 45%, Lag= 7.9 min
Discarded = 0.65 cfs @ 12.22 hrs, Volume= 29,957 cf
Primary = 8.73 cfs @ 12.22 hrs, Volume= 33,209 cf
Routed to Pond 35P : Track and Field-manifold

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 50.81' @ 12.22 hrs Surf.Area= 90,671 sf Storage= 9,321 cf

Plug-Flow detention time= 17.0 min calculated for 63,153 cf (100% of inflow)
Center-of-Mass det. time= 17.1 min (757.4 - 740.3)

Volume	Invert	Avail.Storage	Storage Description
#1	50.50'	37,271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 113,339 cf Overall - 397 cf Embedded = 112,942 cf x 33.0% Voids
#2	50.52'	274 cf	**12.0" W x 1.0" H Ellipse 1" flat drains** x 44 Inside #1 L= 95.2' 397 cf Overall - 0.2" Wall Thickness = 274 cf
		37,545 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.50	90,671	0	0
51.58	90,671	97,925	97,925
51.59	90,671	907	98,831
51.75	90,671	14,507	113,339

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.50'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 48.40' Phase-In= 0.02'
#2	Primary	50.52'	**12.0" W x 1.0" H Vert. Orifice/Grate X 44.00** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.65 cfs @ 12.22 hrs HW=50.80' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.65 cfs)

Primary OutFlow Max=8.70 cfs @ 12.22 hrs HW=50.80' TW=50.38' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 8.70 cfs @ 2.37 fps)

Hydrograph for Pond 17P: Track and Field- stone base

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	50.50	0.00	0.00	0.00
5.00	0.23	233	50.51	0.22	0.22	0.00
10.00	**0.85**	**956**	**50.53**	**0.76**	**0.58**	**0.19**
15.00	**0.70**	**969**	**50.53**	**0.77**	**0.58**	**0.19**
20.00	0.24	255	50.51	0.24	0.24	0.00
25.00	0.00	8	50.50	0.01	0.01	0.00
30.00	0.00	0	50.50	0.00	0.00	0.00
35.00	0.00	0	50.50	0.00	0.00	0.00
40.00	0.00	0	50.50	0.00	0.00	0.00
45.00	0.00	0	50.50	0.00	0.00	0.00
50.00	0.00	0	50.50	0.00	0.00	0.00
55.00	0.00	0	50.50	0.00	0.00	0.00
60.00	0.00	0	50.50	0.00	0.00	0.00
65.00	0.00	0	50.50	0.00	0.00	0.00
70.00	0.00	0	50.50	0.00	0.00	0.00
75.00	0.00	0	50.50	0.00	0.00	0.00
80.00	0.00	0	50.50	0.00	0.00	0.00
85.00	0.00	0	50.50	0.00	0.00	0.00
90.00	0.00	0	50.50	0.00	0.00	0.00
95.00	0.00	0	50.50	0.00	0.00	0.00
100.00	0.00	0	50.50	0.00	0.00	0.00
105.00	0.00	0	50.50	0.00	0.00	0.00
110.00	0.00	0	50.50	0.00	0.00	0.00
115.00	0.00	0	50.50	0.00	0.00	0.00
120.00	0.00	0	50.50	0.00	0.00	0.00
125.00	0.00	0	50.50	0.00	0.00	0.00
130.00	0.00	0	50.50	0.00	0.00	0.00
135.00	0.00	0	50.50	0.00	0.00	0.00
140.00	0.00	0	50.50	0.00	0.00	0.00
145.00	0.00	0	50.50	0.00	0.00	0.00
150.00	0.00	0	50.50	0.00	0.00	0.00
155.00	0.00	0	50.50	0.00	0.00	0.00
160.00	0.00	0	50.50	0.00	0.00	0.00
165.00	0.00	0	50.50	0.00	0.00	0.00
170.00	0.00	0	50.50	0.00	0.00	0.00
175.00	0.00	0	50.50	0.00	0.00	0.00
180.00	0.00	0	50.50	0.00	0.00	0.00
185.00	0.00	0	50.50	0.00	0.00	0.00
190.00	0.00	0	50.50	0.00	0.00	0.00
195.00	0.00	0	50.50	0.00	0.00	0.00
200.00	0.00	0	50.50	0.00	0.00	0.00
205.00	0.00	0	50.50	0.00	0.00	0.00
210.00	0.00	0	50.50	0.00	0.00	0.00
215.00	0.00	0	50.50	0.00	0.00	0.00
220.00	0.00	0	50.50	0.00	0.00	0.00
225.00	0.00	0	50.50	0.00	0.00	0.00
230.00	0.00	0	50.50	0.00	0.00	0.00
235.00	0.00	0	50.50	0.00	0.00	0.00
240.00	0.00	0	50.50	0.00	0.00	0.00

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Stage-Discharge for Pond 17P: Track and Field- stone base

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
50.50	0.00	0.00	0.00
50.52	0.57	0.57	0.00
50.54	0.98	0.58	0.40
50.56	1.71	0.58	1.13
50.58	2.66	0.59	2.08
50.60	3.79	0.59	3.20
50.62	4.76	0.60	4.16
50.64	5.48	0.60	4.88
50.66	6.10	0.61	5.49
50.68	6.66	0.62	6.04
50.70	7.16	0.62	6.54
50.72	7.63	0.63	7.00
50.74	8.07	0.63	7.44
50.76	8.48	0.64	7.85
50.78	8.88	0.64	8.24
50.80	9.26	0.65	8.61
50.82	9.62	0.65	8.96
50.84	9.96	0.66	9.31
50.86	10.30	0.66	9.64
50.88	10.62	0.67	9.95
50.90	10.94	0.67	10.26
50.92	11.24	0.68	10.56
50.94	11.54	0.69	10.85
50.96	11.83	0.69	11.14
50.98	12.11	0.70	11.41
51.00	12.39	0.70	11.68
51.02	12.66	0.71	11.95
51.04	12.92	0.71	12.21
51.06	13.18	0.72	12.46
51.08	13.43	0.72	12.71
51.10	13.68	0.73	12.95
51.12	13.92	0.73	13.19
51.14	14.16	0.74	13.42
51.16	14.40	0.74	13.65
51.18	14.63	0.75	13.88
51.20	14.86	0.76	14.10
51.22	15.08	0.76	14.32
51.24	15.30	0.77	14.54
51.26	15.52	0.77	14.75
51.28	15.74	0.78	14.96
51.30	15.95	0.78	15.17
51.32	16.16	0.79	15.37
51.34	16.37	0.79	15.57
51.36	16.57	0.80	15.77
51.38	16.77	0.80	15.97
51.40	16.97	0.81	16.16
51.42	17.17	0.81	16.36
51.44	17.36	0.82	16.54
51.46	17.56	0.83	16.73
51.48	17.75	0.83	16.92
51.50	17.94	0.84	17.10
51.52	18.12	0.84	17.28
51.54	18.31	0.85	17.46
51.56	18.49	0.85	17.64
51.58	18.67	0.86	17.81
51.60	18.85	0.86	17.99
51.62	19.03	0.87	18.16
51.64	19.21	0.87	18.33
51.66	19.38	0.88	18.50
51.68	19.55	0.89	18.67
51.70	19.73	0.89	18.84
51.72	19.90	0.90	19.00
51.74	**20.06**	**0.90**	**19.16**

Stage-Area-Storage for Pond 17P: Track and Field- stone base

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
50.50	**90,671**	0
50.52	90,671	587
50.54	90,671	1,212
50.56	90,671	1,862
50.58	90,671	2,514
50.60	90,671	3,147
50.62	90,671	3,734
50.64	90,671	4,332
50.66	90,671	4,931
50.68	90,671	5,529
50.70	90,671	6,128
50.72	90,671	6,726
50.74	90,671	7,324
50.76	90,671	7,923
50.78	90,671	8,521
50.80	90,671	9,120
50.82	90,671	9,718
50.84	90,671	10,317
50.86	90,671	10,915
50.88	90,671	11,513
50.90	90,671	12,112
50.92	90,671	12,710
50.94	90,671	13,309
50.96	90,671	13,907
50.98	90,671	14,506
51.00	90,671	15,104
51.02	90,671	15,702
51.04	90,671	16,301
51.06	90,671	16,899
51.08	90,671	17,498
51.10	90,671	18,096
51.12	90,671	18,695
51.14	90,671	19,293
51.16	90,671	19,891
51.18	90,671	20,490
51.20	90,671	21,088
51.22	90,671	21,687
51.24	90,671	22,285
51.26	90,671	22,884
51.28	90,671	23,482
51.30	90,671	24,080
51.32	90,671	24,679
51.34	90,671	25,277
51.36	90,671	25,876
51.38	90,671	26,474
51.40	90,671	27,073
51.42	90,671	27,671
51.44	90,671	28,269
51.46	90,671	28,868
51.48	90,671	29,466
51.50	90,671	30,065
51.52	90,671	30,663
51.54	90,671	31,262
51.56	90,671	31,860
51.58	90,671	32,458
51.60	90,671	33,057
51.62	90,671	33,655
51.64	90,671	34,254
51.66	90,671	34,852
51.68	90,671	35,451
51.70	90,671	36,049
51.72	90,671	36,647
51.74	90,671	**37,246**

Summary for Pond 18P: Sand Filter 2

Inflow Area = 114,710 sf, 50.57% Impervious, Inflow Depth = 5.00" for 100-year event
Inflow = 8.89 cfs @ 12.10 hrs, Volume= 47,795 cf
Outflow = 6.42 cfs @ 12.20 hrs, Volume= 47,795 cf, Atten= 28%, Lag= 6.5 min
Discarded = 0.01 cfs @ 4.60 hrs, Volume= 5,202 cf
Primary = 6.41 cfs @ 12.20 hrs, Volume= 42,594 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 55.69' @ 12.20 hrs Surf.Area= 5,884 sf Storage= 6,652 cf

Plug-Flow detention time= 311.4 min calculated for 47,785 cf (100% of inflow)
Center-of-Mass det. time= 312.4 min (1,124.0 - 811.6)

Volume	Invert	Avail.Storage	Storage Description
#1	51.84'	15,389 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.84	2,171	0.0	0	0
51.85	2,171	33.0	7	7
54.84	2,171	33.0	2,142	2,149
54.85	4,561	100.0	34	2,183
55.00	4,959	100.0	714	2,897
56.00	6,294	100.0	5,627	8,523
57.00	7,438	100.0	6,866	15,389

Device	Routing	Invert	Outlet Devices
#1	Discarded	51.84'	**0.270 in/hr Exfiltration over Surface area from 51.83' - 54.84'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Primary	55.25'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Secondary	56.00'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 4.60 hrs HW=51.89' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=6.40 cfs @ 12.20 hrs HW=55.69' TW=0.00' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Orifice Controls 6.40 cfs @ 3.20 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=51.84' TW=0.00' (Dynamic Tailwater)
↑—**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 18P: Sand Filter 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	51.84	0.00	**0.00**	0.00	**0.00**
5.00	0.05	79	51.95	0.01	**0.01**	0.00	0.00
10.00	**0.60**	**4,078**	**55.23**	**0.01**	0.01	**0.00**	0.00
15.00	**0.86**	**4,343**	**55.28**	**0.87**	0.01	**0.85**	0.00
20.00	0.28	4,255	55.26	0.28	0.01	0.27	0.00
25.00	0.00	4,158	55.25	0.01	0.01	0.00	0.00
30.00	0.00	3,914	55.20	0.01	0.01	0.00	0.00
35.00	0.00	3,669	55.15	0.01	0.01	0.00	0.00
40.00	0.00	3,425	55.11	0.01	0.01	0.00	0.00
45.00	0.00	3,181	55.06	0.01	0.01	0.00	0.00
50.00	0.00	2,937	55.01	0.01	0.01	0.00	0.00
55.00	0.00	2,692	54.96	0.01	0.01	0.00	0.00
60.00	0.00	2,448	54.91	0.01	0.01	0.00	0.00
65.00	0.00	2,204	54.85	0.01	0.01	0.00	0.00
70.00	0.00	1,960	54.58	0.01	0.01	0.00	0.00
75.00	0.00	1,715	54.23	0.01	0.01	0.00	0.00
80.00	0.00	1,471	53.89	0.01	0.01	0.00	0.00
85.00	0.00	1,227	53.55	0.01	0.01	0.00	0.00
90.00	0.00	983	53.21	0.01	0.01	0.00	0.00
95.00	0.00	739	52.87	0.01	0.01	0.00	0.00
100.00	0.00	494	52.53	0.01	0.01	0.00	0.00
105.00	0.00	250	52.19	0.01	0.01	0.00	0.00
110.00	0.00	8	51.85	0.01	0.01	0.00	0.00
115.00	0.00	0	51.84	0.00	0.00	0.00	0.00
120.00	0.00	0	51.84	0.00	0.00	0.00	0.00
125.00	0.00	0	51.84	0.00	0.00	0.00	0.00
130.00	0.00	0	51.84	0.00	0.00	0.00	0.00
135.00	0.00	0	51.84	0.00	0.00	0.00	0.00
140.00	0.00	0	51.84	0.00	0.00	0.00	0.00
145.00	0.00	0	51.84	0.00	0.00	0.00	0.00
150.00	0.00	0	51.84	0.00	0.00	0.00	0.00
155.00	0.00	0	51.84	0.00	0.00	0.00	0.00
160.00	0.00	0	51.84	0.00	0.00	0.00	0.00
165.00	0.00	0	51.84	0.00	0.00	0.00	0.00
170.00	0.00	0	51.84	0.00	0.00	0.00	0.00
175.00	0.00	0	51.84	0.00	0.00	0.00	0.00
180.00	0.00	0	51.84	0.00	0.00	0.00	0.00
185.00	0.00	0	51.84	0.00	0.00	0.00	0.00
190.00	0.00	0	51.84	0.00	0.00	0.00	0.00
195.00	0.00	0	51.84	0.00	0.00	0.00	0.00
200.00	0.00	0	51.84	0.00	0.00	0.00	0.00
205.00	0.00	0	51.84	0.00	0.00	0.00	0.00
210.00	0.00	0	51.84	0.00	0.00	0.00	0.00
215.00	0.00	0	51.84	0.00	0.00	0.00	0.00
220.00	0.00	0	51.84	0.00	0.00	0.00	0.00
225.00	0.00	0	51.84	0.00	0.00	0.00	0.00
230.00	0.00	0	51.84	0.00	0.00	0.00	0.00
235.00	0.00	0	51.84	0.00	0.00	0.00	0.00
240.00	0.00	0	51.84	0.00	0.00	0.00	0.00

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Stage-Discharge for Pond 18P: Sand Filter 2

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
51.84	0.00	**0.00**	0.00	0.00
52.04	0.01	**0.01**	0.00	0.00
52.24	0.01	0.01	0.00	0.00
52.44	0.01	0.01	0.00	0.00
52.64	0.01	0.01	0.00	0.00
52.84	0.01	0.01	0.00	0.00
53.04	0.01	0.01	0.00	0.00
53.24	0.01	0.01	0.00	0.00
53.44	0.01	0.01	0.00	0.00
53.64	0.01	0.01	0.00	0.00
53.84	0.01	0.01	0.00	0.00
54.04	0.01	0.01	0.00	0.00
54.24	0.01	0.01	0.00	0.00
54.44	0.01	0.01	0.00	0.00
54.64	0.01	0.01	0.00	0.00
54.84	0.01	0.01	0.00	0.00
55.04	0.01	0.01	0.00	0.00
55.24	0.01	0.01	0.00	0.00
55.44	4.21	0.01	4.20	0.00
55.64	6.03	0.01	6.01	0.00
55.84	7.41	0.01	7.40	0.00
56.04	8.83	0.01	8.56	0.26
56.24	13.42	0.01	9.58	3.83
56.44	19.98	0.01	10.51	9.46
56.64	27.90	0.01	11.35	16.53
56.84	**36.91**	0.01	**12.14**	**24.75**

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Stage-Area-Storage for Pond 18P: Sand Filter 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
51.84	2,171	0
51.94	2,171	72
52.04	2,171	143
52.14	2,171	215
52.24	2,171	287
52.34	2,171	358
52.44	2,171	430
52.54	2,171	502
52.64	2,171	573
52.74	2,171	645
52.84	2,171	716
52.94	2,171	788
53.04	2,171	860
53.14	2,171	931
53.24	2,171	1,003
53.34	2,171	1,075
53.44	2,171	1,146
53.54	2,171	1,218
53.64	2,171	1,290
53.74	2,171	1,361
53.84	2,171	1,433
53.94	2,171	1,505
54.04	2,171	1,576
54.14	2,171	1,648
54.24	2,171	1,719
54.34	2,171	1,791
54.44	2,171	1,863
54.54	2,171	1,934
54.64	2,171	2,006
54.74	2,171	2,078
54.84	2,171	2,149
54.94	4,800	2,604
55.04	5,012	3,096
55.14	5,146	3,604
55.24	5,279	4,126
55.34	5,413	4,660
55.44	5,546	5,208
55.54	5,680	5,769
55.64	5,813	6,344
55.74	5,947	6,932
55.84	6,080	7,533
55.94	6,214	8,148
56.04	6,340	8,776
56.14	6,454	9,416
56.24	6,569	10,067
56.34	6,683	10,730
56.44	6,797	11,404
56.54	6,912	12,089
56.64	7,026	12,786
56.74	7,141	13,494
56.84	7,255	14,214
56.94	**7,369**	**14,945**

Summary for Pond 19P: Sand Filter 3

Inflow Area = 22,284 sf, 61.76% Impervious, Inflow Depth = 7.28" for 100-year event
Inflow = 4.00 cfs @ 12.09 hrs, Volume= 13,512 cf
Outflow = 2.57 cfs @ 12.19 hrs, Volume= 13,512 cf, Atten= 36%, Lag= 6.1 min
Discarded = 0.01 cfs @ 5.50 hrs, Volume= 4,870 cf
Primary = 2.56 cfs @ 12.19 hrs, Volume= 8,642 cf
Routed to Pond 3P : DIV-02
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 4L : DP 1.3 - Culvert 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 60.93' @ 12.19 hrs Surf.Area= 4,032 sf Storage= 5,023 cf

Plug-Flow detention time= 1,014.3 min calculated for 13,509 cf (100% of inflow)
Center-of-Mass det. time= 1,015.2 min (1,792.1 - 776.9)

Volume	Invert	Avail.Storage	Storage Description
#1	56.99'	10,312 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.99	1,999	0.0	0	0
57.00	1,999	33.0	7	7
59.99	1,999	33.0	1,972	1,979
60.00	2,449	100.0	22	2,001
61.00	4,147	100.0	3,298	5,299
62.00	5,878	100.0	5,013	10,312

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.99'	**0.270 in/hr Exfiltration over Surface area from 56.98' - 59.99'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Primary	60.65'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#3	Secondary	61.10'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 5.50 hrs HW=57.04' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=2.55 cfs @ 12.19 hrs HW=60.93' TW=59.35' (Dynamic Tailwater)
2=Orifice/Grate (Orifice Controls 2.55 cfs @ 2.55 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.99' TW=0.00' (Dynamic Tailwater)
3=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

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Hydrograph for Pond 19P: Sand Filter 3

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	56.99	0.00	0.00	0.00	**0.00**
5.00	0.02	18	57.02	0.01	**0.01**	0.00	0.00
10.00	**0.16**	**1,021**	**58.54**	**0.01**	**0.01**	**0.00**	0.00
15.00	**0.17**	**4,009**	**60.67**	**0.17**	0.01	**0.16**	0.00
20.00	0.06	3,977	60.66	0.06	0.01	0.05	0.00
25.00	0.00	3,922	60.64	0.01	0.01	0.00	0.00
30.00	0.00	3,697	60.58	0.01	0.01	0.00	0.00
35.00	0.00	3,472	60.51	0.01	0.01	0.00	0.00
40.00	0.00	3,247	60.44	0.01	0.01	0.00	0.00
45.00	0.00	3,022	60.37	0.01	0.01	0.00	0.00
50.00	0.00	2,797	60.29	0.01	0.01	0.00	0.00
55.00	0.00	2,572	60.22	0.01	0.01	0.00	0.00
60.00	0.00	2,348	60.14	0.01	0.01	0.00	0.00
65.00	0.00	2,123	60.05	0.01	0.01	0.00	0.00
70.00	0.00	1,898	59.87	0.01	0.01	0.00	0.00
75.00	0.00	1,673	59.53	0.01	0.01	0.00	0.00
80.00	0.00	1,448	59.18	0.01	0.01	0.00	0.00
85.00	0.00	1,223	58.84	0.01	0.01	0.00	0.00
90.00	0.00	998	58.50	0.01	0.01	0.00	0.00
95.00	0.00	773	58.16	0.01	0.01	0.00	0.00
100.00	0.00	548	57.82	0.01	0.01	0.00	0.00
105.00	0.00	324	57.48	0.01	0.01	0.00	0.00
110.00	0.00	99	57.14	0.01	0.01	0.00	0.00
115.00	0.00	0	56.99	0.00	0.00	0.00	0.00
120.00	0.00	0	56.99	0.00	0.00	0.00	0.00
125.00	0.00	0	56.99	0.00	0.00	0.00	0.00
130.00	0.00	0	56.99	0.00	0.00	0.00	0.00
135.00	0.00	0	56.99	0.00	0.00	0.00	0.00
140.00	0.00	0	56.99	0.00	0.00	0.00	0.00
145.00	0.00	0	56.99	0.00	0.00	0.00	0.00
150.00	0.00	0	56.99	0.00	0.00	0.00	0.00
155.00	0.00	0	56.99	0.00	0.00	0.00	0.00
160.00	0.00	0	56.99	0.00	0.00	0.00	0.00
165.00	0.00	0	56.99	0.00	0.00	0.00	0.00
170.00	0.00	0	56.99	0.00	0.00	0.00	0.00
175.00	0.00	0	56.99	0.00	0.00	0.00	0.00
180.00	0.00	0	56.99	0.00	0.00	0.00	0.00
185.00	0.00	0	56.99	0.00	0.00	0.00	0.00
190.00	0.00	0	56.99	0.00	0.00	0.00	0.00
195.00	0.00	0	56.99	0.00	0.00	0.00	0.00
200.00	0.00	0	56.99	0.00	0.00	0.00	0.00
205.00	0.00	0	56.99	0.00	0.00	0.00	0.00
210.00	0.00	0	56.99	0.00	0.00	0.00	0.00
215.00	0.00	0	56.99	0.00	0.00	0.00	0.00
220.00	0.00	0	56.99	0.00	0.00	0.00	0.00
225.00	0.00	0	56.99	0.00	0.00	0.00	0.00
230.00	0.00	0	56.99	0.00	0.00	0.00	0.00
235.00	0.00	0	56.99	0.00	0.00	0.00	0.00
240.00	0.00	0	56.99	0.00	0.00	0.00	0.00

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Stage-Discharge for Pond 19P: Sand Filter 3

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
56.99	0.00	**0.00**	0.00	0.00
57.09	0.01	**0.01**	0.00	0.00
57.19	0.01	0.01	0.00	0.00
57.29	0.01	0.01	0.00	0.00
57.39	0.01	0.01	0.00	0.00
57.49	0.01	0.01	0.00	0.00
57.59	0.01	0.01	0.00	0.00
57.69	0.01	0.01	0.00	0.00
57.79	0.01	0.01	0.00	0.00
57.89	0.01	0.01	0.00	0.00
57.99	0.01	0.01	0.00	0.00
58.09	0.01	0.01	0.00	0.00
58.19	0.01	0.01	0.00	0.00
58.29	0.01	0.01	0.00	0.00
58.39	0.01	0.01	0.00	0.00
58.49	0.01	0.01	0.00	0.00
58.59	0.01	0.01	0.00	0.00
58.69	0.01	0.01	0.00	0.00
58.79	0.01	0.01	0.00	0.00
58.89	0.01	0.01	0.00	0.00
58.99	0.01	0.01	0.00	0.00
59.09	0.01	0.01	0.00	0.00
59.19	0.01	0.01	0.00	0.00
59.29	0.01	0.01	0.00	0.00
59.39	0.01	0.01	0.00	0.00
59.49	0.01	0.01	0.00	0.00
59.59	0.01	0.01	0.00	0.00
59.69	0.01	0.01	0.00	0.00
59.79	0.01	0.01	0.00	0.00
59.89	0.01	0.01	0.00	0.00
59.99	0.01	0.01	0.00	0.00
60.09	0.01	0.01	0.00	0.00
60.19	0.01	0.01	0.00	0.00
60.29	0.01	0.01	0.00	0.00
60.39	0.01	0.01	0.00	0.00
60.49	0.01	0.01	0.00	0.00
60.59	0.01	0.01	0.00	0.00
60.69	0.64	0.01	0.63	0.00
60.79	1.81	0.01	1.80	0.00
60.89	2.37	0.01	2.36	0.00
60.99	2.82	0.01	2.81	0.00
61.09	3.21	0.01	3.19	0.00
61.19	4.43	0.01	3.54	0.88
61.29	6.56	0.01	3.85	2.70
61.39	9.23	0.01	4.14	5.08
61.49	12.33	0.01	4.41	7.90
61.59	15.79	0.01	4.67	11.11
61.69	19.57	0.01	4.91	14.64
61.79	23.64	0.01	5.14	18.48
61.89	27.97	0.01	5.36	22.60
61.99	**32.55**	0.01	**5.57**	**26.97**

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Stage-Area-Storage for Pond 19P: Sand Filter 3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.99	1,999	0
57.04	1,999	33
57.09	1,999	66
57.14	1,999	99
57.19	1,999	132
57.24	1,999	165
57.29	1,999	198
57.34	1,999	231
57.39	1,999	264
57.44	1,999	297
57.49	1,999	330
57.54	1,999	363
57.59	1,999	396
57.64	1,999	429
57.69	1,999	462
57.74	1,999	495
57.79	1,999	528
57.84	1,999	561
57.89	1,999	594
57.94	1,999	627
57.99	1,999	660
58.04	1,999	693
58.09	1,999	726
58.14	1,999	759
58.19	1,999	792
58.24	1,999	825
58.29	1,999	858
58.34	1,999	891
58.39	1,999	924
58.44	1,999	957
58.49	1,999	990
58.54	1,999	1,022
58.59	1,999	1,055
58.64	1,999	1,088
58.69	1,999	1,121
58.74	1,999	1,154
58.79	1,999	1,187
58.84	1,999	1,220
58.89	1,999	1,253
58.94	1,999	1,286
58.99	1,999	1,319
59.04	1,999	1,352
59.09	1,999	1,385
59.14	1,999	1,418
59.19	1,999	1,451
59.24	1,999	1,484
59.29	1,999	1,517
59.34	1,999	1,550
59.39	1,999	1,583
59.44	1,999	1,616
59.49	1,999	1,649
59.54	1,999	1,682
59.59	1,999	1,715
59.64	1,999	1,748
59.69	1,999	1,781
59.74	1,999	1,814
59.79	1,999	1,847
59.84	1,999	1,880
59.89	1,999	1,913
59.94	1,999	1,946
59.99	1,999	1,979
60.04	2,517	2,101
60.09	2,602	2,229
60.14	2,687	2,361
60.19	2,772	2,497
60.24	2,857	2,638
60.29	2,941	2,783
60.34	3,026	2,932
60.39	3,111	3,085
60.44	3,196	3,243
60.49	3,281	3,405
60.54	3,366	3,571
60.59	3,451	3,742
60.64	3,536	3,916
60.69	3,621	4,095
60.74	3,706	4,278
60.79	3,790	4,466
60.84	3,875	4,657
60.89	3,960	4,853
60.94	4,045	5,053
60.99	4,130	5,258
61.04	4,216	5,467
61.09	4,303	5,679
61.14	4,389	5,897
61.19	4,476	6,118
61.24	4,562	6,344
61.29	4,649	6,575
61.34	4,736	6,809
61.39	4,822	7,048
61.44	4,909	7,291
61.49	4,995	7,539
61.54	5,082	7,791
61.59	5,168	8,047
61.64	5,255	8,308
61.69	5,341	8,573
61.74	5,428	8,842
61.79	5,514	9,116
61.84	5,601	9,393
61.89	5,688	9,676
61.94	5,774	9,962
61.99	**5,861**	**10,253**

Summary for Pond 20P: Sand Filter 4

Inflow Area = 31,007 sf, 23.95% Impervious, Inflow Depth = 6.55" for 100-year event
Inflow = 4.16 cfs @ 12.18 hrs, Volume= 16,930 cf
Outflow = 3.17 cfs @ 12.31 hrs, Volume= 16,930 cf, Atten= 24%, Lag= 7.5 min
Primary = 3.17 cfs @ 12.31 hrs, Volume= 16,930 cf
Routed to Link 3L : DP 1.2 - Culvert 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 61.79' @ 12.31 hrs Surf.Area= 2,895 sf Storage= 3,036 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 29.8 min (829.8 - 800.0)

Volume	Invert	Avail.Storage	Storage Description
#1	58.99'	3,660 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.99	1,767	0.0	0	0
59.00	1,767	33.0	6	6
60.99	1,767	33.0	1,160	1,166
61.00	1,767	100.0	18	1,184
62.00	3,186	100.0	2,477	3,660

Device	Routing	Invert	Outlet Devices
#1	Primary	61.50'	**2.0" x 2.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#2	Device 3	58.99'	**8.270 in/hr Exfiltration over Surface area** Phase-In= 0.02'
#3	Primary	58.25'	**6.0" Round subdrain** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.25' / 56.90' S= 0.0270 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=3.16 cfs @ 12.31 hrs HW=61.79' TW=0.00' (Dynamic Tailwater)
- **1=Orifice/Grate** (Orifice Controls 2.61 cfs @ 2.61 fps)
- **3=subdrain** (Passes 0.55 cfs of 1.35 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.55 cfs)

Hydrograph for Pond 20P: Sand Filter 4

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	58.99	0.00
5.00	0.00	0	58.99	0.00
10.00	**0.17**	**6**	**59.00**	**0.17**
15.00	**0.23**	**1,462**	**61.15**	**0.38**
20.00	0.08	3	58.99	0.08
25.00	0.00	0	58.99	0.00
30.00	0.00	0	58.99	0.00
35.00	0.00	0	58.99	0.00
40.00	0.00	0	58.99	0.00
45.00	0.00	0	58.99	0.00
50.00	0.00	0	58.99	0.00
55.00	0.00	0	58.99	0.00
60.00	0.00	0	58.99	0.00
65.00	0.00	0	58.99	0.00
70.00	0.00	0	58.99	0.00
75.00	0.00	0	58.99	0.00
80.00	0.00	0	58.99	0.00
85.00	0.00	0	58.99	0.00
90.00	0.00	0	58.99	0.00
95.00	0.00	0	58.99	0.00
100.00	0.00	0	58.99	0.00
105.00	0.00	0	58.99	0.00
110.00	0.00	0	58.99	0.00
115.00	0.00	0	58.99	0.00
120.00	0.00	0	58.99	0.00
125.00	0.00	0	58.99	0.00
130.00	0.00	0	58.99	0.00
135.00	0.00	0	58.99	0.00
140.00	0.00	0	58.99	0.00
145.00	0.00	0	58.99	0.00
150.00	0.00	0	58.99	0.00
155.00	0.00	0	58.99	0.00
160.00	0.00	0	58.99	0.00
165.00	0.00	0	58.99	0.00
170.00	0.00	0	58.99	0.00
175.00	0.00	0	58.99	0.00
180.00	0.00	0	58.99	0.00
185.00	0.00	0	58.99	0.00
190.00	0.00	0	58.99	0.00
195.00	0.00	0	58.99	0.00
200.00	0.00	0	58.99	0.00
205.00	0.00	0	58.99	0.00
210.00	0.00	0	58.99	0.00
215.00	0.00	0	58.99	0.00
220.00	0.00	0	58.99	0.00
225.00	0.00	0	58.99	0.00
230.00	0.00	0	58.99	0.00
235.00	0.00	0	58.99	0.00
240.00	0.00	0	58.99	0.00

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Stage-Discharge for Pond 20P: Sand Filter 4

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
58.99	0.00	60.01	0.34	61.03	0.35
59.01	0.34	60.03	0.34	61.05	0.35
59.03	0.34	60.05	0.34	61.07	0.36
59.05	0.34	60.07	0.34	61.09	0.36
59.07	0.34	60.09	0.34	61.11	0.37
59.09	0.34	60.11	0.34	61.13	0.37
59.11	0.34	60.13	0.34	61.15	0.38
59.13	0.34	60.15	0.34	61.17	0.38
59.15	0.34	60.17	0.34	61.19	0.39
59.17	0.34	60.19	0.34	61.21	0.40
59.19	0.34	60.21	0.34	61.23	0.40
59.21	0.34	60.23	0.34	61.25	0.41
59.23	0.34	60.25	0.34	61.27	0.41
59.25	0.34	60.27	0.34	61.29	0.42
59.27	0.34	60.29	0.34	61.31	0.42
59.29	0.34	60.31	0.34	61.33	0.43
59.31	0.34	60.33	0.34	61.35	0.43
59.33	0.34	60.35	0.34	61.37	0.44
59.35	0.34	60.37	0.34	61.39	0.44
59.37	0.34	60.39	0.34	61.41	0.45
59.39	0.34	60.41	0.34	61.43	0.46
59.41	0.34	60.43	0.34	61.45	0.46
59.43	0.34	60.45	0.34	61.47	0.47
59.45	0.34	60.47	0.34	61.49	0.47
59.47	0.34	60.49	0.34	61.51	0.56
59.49	0.34	60.51	0.34	61.53	0.89
59.51	0.34	60.53	0.34	61.55	1.37
59.53	0.34	60.55	0.34	61.57	1.77
59.55	0.34	60.57	0.34	61.59	1.94
59.57	0.34	60.59	0.34	61.61	2.10
59.59	0.34	60.61	0.34	61.63	2.25
59.61	0.34	60.63	0.34	61.65	2.38
59.63	0.34	60.65	0.34	61.67	2.51
59.65	0.34	60.67	0.34	61.69	2.62
59.67	0.34	60.69	0.34	61.71	2.74
59.69	0.34	60.71	0.34	61.73	2.85
59.71	0.34	60.73	0.34	61.75	2.95
59.73	0.34	60.75	0.34	61.77	3.05
59.75	0.34	60.77	0.34	61.79	3.15
59.77	0.34	60.79	0.34	61.81	3.24
59.79	0.34	60.81	0.34	61.83	3.33
59.81	0.34	60.83	0.34	61.85	3.42
59.83	0.34	60.85	0.34	61.87	3.50
59.85	0.34	60.87	0.34	61.89	3.59
59.87	0.34	60.89	0.34	61.91	3.67
59.89	0.34	60.91	0.34	61.93	3.75
59.91	0.34	60.93	0.34	61.95	3.83
59.93	0.34	60.95	0.34	61.97	3.90
59.95	0.34	60.97	0.34	61.99	**3.98**
59.97	0.34	60.99	0.34		
59.99	0.34	61.01	0.34		

Stage-Area-Storage for Pond 20P: Sand Filter 4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
58.99	1,767	0
59.04	1,767	29
59.09	1,767	58
59.14	1,767	87
59.19	1,767	117
59.24	1,767	146
59.29	1,767	175
59.34	1,767	204
59.39	1,767	233
59.44	1,767	262
59.49	1,767	292
59.54	1,767	321
59.59	1,767	350
59.64	1,767	379
59.69	1,767	408
59.74	1,767	437
59.79	1,767	466
59.84	1,767	496
59.89	1,767	525
59.94	1,767	554
59.99	1,767	583
60.04	1,767	612
60.09	1,767	641
60.14	1,767	671
60.19	1,767	700
60.24	1,767	729
60.29	1,767	758
60.34	1,767	787
60.39	1,767	816
60.44	1,767	846
60.49	1,767	875
60.54	1,767	904
60.59	1,767	933
60.64	1,767	962
60.69	1,767	991
60.74	1,767	1,020
60.79	1,767	1,050
60.84	1,767	1,079
60.89	1,767	1,108
60.94	1,767	1,137
60.99	1,767	1,166
61.04	1,824	1,256
61.09	1,895	1,349
61.14	1,966	1,445
61.19	2,037	1,545
61.24	2,108	1,649
61.29	2,179	1,756
61.34	2,249	1,867
61.39	2,320	1,981
61.44	2,391	2,099
61.49	2,462	2,220
61.54	2,533	2,345
61.59	2,604	2,473
61.64	2,675	2,605
61.69	2,746	2,741
61.74	2,817	2,880
61.79	2,888	3,023
61.84	2,959	3,169
61.89	3,030	3,319
61.94	3,101	3,472
61.99	**3,172**	**3,629**

Summary for Pond 23P: UGIS-1

Inflow Area = 151,857 sf,100.00% Impervious, Inflow Depth = 1.88" for 100-year event
Inflow = 3.11 cfs @ 11.72 hrs, Volume= 23,765 cf
Outflow = 2.59 cfs @ 12.29 hrs, Volume= 23,765 cf, Atten= 17%, Lag= 34.3 min
Discarded = 0.08 cfs @ 12.29 hrs, Volume= 14,054 cf
Primary = 2.51 cfs @ 12.29 hrs, Volume= 9,710 cf
Routed to Link 6L : DP 2.1 - West Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 48.95' @ 12.29 hrs Surf.Area= 6,719 sf Storage= 11,811 cf

Plug-Flow detention time= 852.1 min calculated for 23,760 cf (100% of inflow)
Center-of-Mass det. time= 852.5 min (1,572.0 - 719.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.30'	3,295 cf	**66.58'W x 80.00'L x 3.21'H Field A** 17,090 cf Overall - 7,104 cf Embedded = 9,986 cf x 33.0% Voids
#2A	46.80'	7,104 cf	**Cultec R-280HD** x 165 Inside #1 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap Row Length Adjustment= +1.00' x 6.07 sf x 15 rows
#3B	46.30'	893 cf	**44.92'W x 31.00'L x 3.21'H Field B** 4,467 cf Overall - 1,761 cf Embedded = 2,707 cf x 33.0% Voids
#4B	46.80'	1,761 cf	**Cultec R-280HD** x 40 Inside #3 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap Row Length Adjustment= +1.00' x 6.07 sf x 10 rows
		13,053 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	46.80'	**24.0" Round Culvert** L= 60.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.80' / 43.50' S= 0.0550 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Primary	48.40'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	49.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Discarded	46.30'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 43.30' Phase-In= 0.02'

Discarded OutFlow Max=0.08 cfs @ 12.29 hrs HW=48.95' (Free Discharge)
└**4=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=2.51 cfs @ 12.29 hrs HW=48.95' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.00 cfs of 12.80 cfs potential flow)
└**3=Sharp-Crested Rectangular Weir**(Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir**(Weir Controls 2.51 cfs @ 2.42 fps)

Pond 23P: UGIS-1 - Chamber Wizard Field A

Chamber Model = Cultec R-280HD (Cultec Recharger®280HD)
Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf
Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
Row Length Adjustment= +1.00' x 6.07 sf x 15 rows

47.0" Wide + 5.0" Spacing = 52.0" C-C Row Spacing

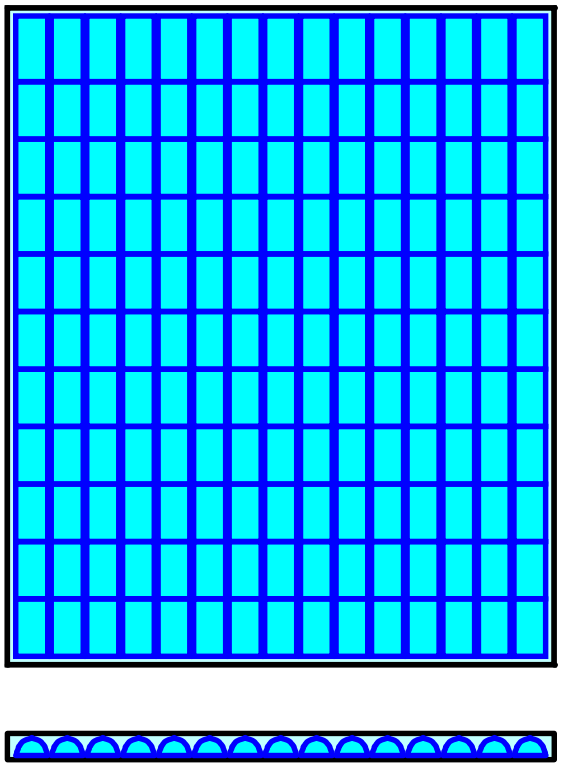
11 Chambers/Row x 7.00' Long +1.00' Row Adjustment = 78.00' Row Length +12.0" End Stone x 2 = 80.00' Base Length
15 Rows x 47.0" Wide + 5.0" Spacing x 14 + 12.0" Side Stone x 2 = 66.58' Base Width
6.0" Stone Base + 26.5" Chamber Height + 6.0" Stone Cover = 3.21' Field Height

165 Chambers x 42.5 cf +1.00' Row Adjustment x 6.07 sf x 15 Rows = 7,103.9 cf Chamber Storage

17,089.7 cf Field - 7,103.9 cf Chambers = 9,985.8 cf Stone x 33.0% Voids = 3,295.3 cf Stone Storage

Chamber Storage + Stone Storage = 10,399.3 cf = 0.239 af
Overall Storage Efficiency = 60.9%
Overall System Size = 80.00' x 66.58' x 3.21'

165 Chambers
633.0 cy Field
369.8 cy Stone



Pond 23P: UGIS-1 - Chamber Wizard Field B

Chamber Model = Cultec R-280HD (Cultec Recharger®280HD)
Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf
Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
Row Length Adjustment= +1.00' x 6.07 sf x 10 rows

47.0" Wide + 5.0" Spacing = 52.0" C-C Row Spacing

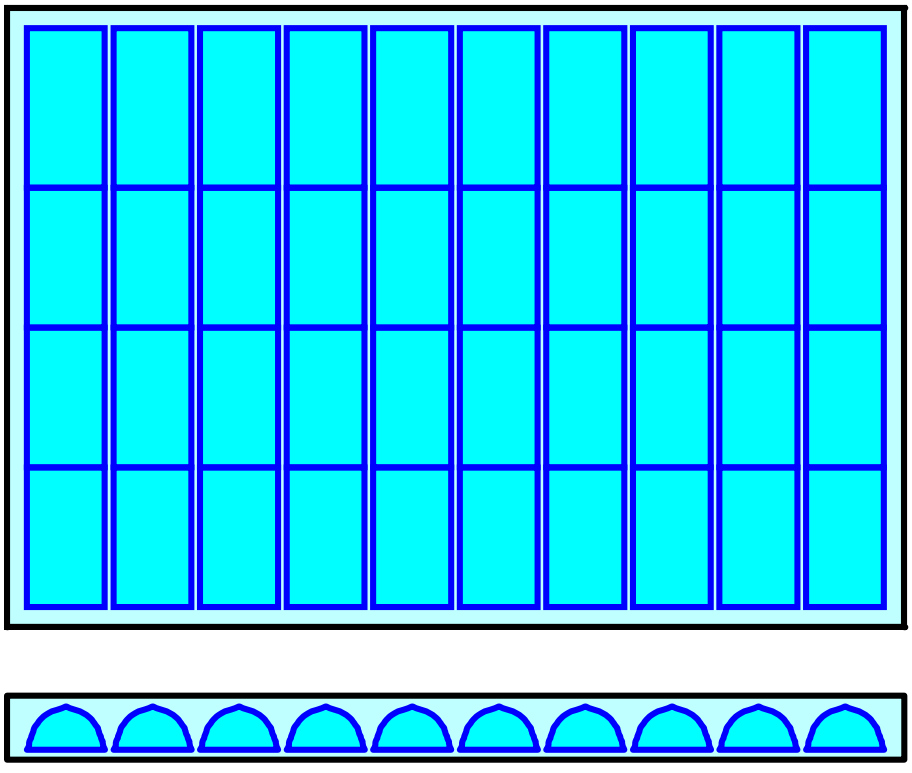
4 Chambers/Row x 7.00' Long +1.00' Row Adjustment = 29.00' Row Length +12.0" End Stone x 2 = 31.00' Base Length
10 Rows x 47.0" Wide + 5.0" Spacing x 9 + 12.0" Side Stone x 2 = 44.92' Base Width
6.0" Stone Base + 26.5" Chamber Height + 6.0" Stone Cover = 3.21' Field Height

40 Chambers x 42.5 cf +1.00' Row Adjustment x 6.07 sf x 10 Rows = 1,760.8 cf Chamber Storage

4,467.3 cf Field - 1,760.8 cf Chambers = 2,706.5 cf Stone x 33.0% Voids = 893.2 cf Stone Storage

Chamber Storage + Stone Storage = 2,654.0 cf = 0.061 af
Overall Storage Efficiency = 59.4%
Overall System Size = 31.00' x 44.92' x 3.21'

40 Chambers
165.5 cy Field
100.2 cy Stone



Pro-Hydro
Prepared by Pare Corporation
HydroCAD® 10.20-5c s/n 04883 © 2023 HydroCAD Software Solutions LLC

Hydrograph for Pond 23P: UGIS-1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	46.30	0.00	0.00	0.00
5.00	0.05	54	46.32	0.04	0.04	0.00
10.00	**0.51**	**2,312**	**47.00**	**0.05**	**0.05**	**0.00**
15.00	**0.16**	**10,140**	**48.47**	**0.19**	**0.07**	**0.12**
20.00	0.06	9,824	48.40	0.07	0.07	0.00
25.00	0.00	9,204	48.27	0.07	0.07	0.00
30.00	0.00	7,984	48.02	0.07	0.07	0.00
35.00	0.00	6,822	47.80	0.06	0.06	0.00
40.00	0.00	5,714	47.60	0.06	0.06	0.00
45.00	0.00	4,655	47.41	0.06	0.06	0.00
50.00	0.00	3,643	47.23	0.06	0.06	0.00
55.00	0.00	2,673	47.06	0.05	0.05	0.00
60.00	0.00	1,745	46.91	0.05	0.05	0.00
65.00	0.00	858	46.69	0.05	0.05	0.00
70.00	0.00	51	46.32	0.04	0.04	0.00
75.00	0.00	0	46.30	0.00	0.00	0.00
80.00	0.00	0	46.30	0.00	0.00	0.00
85.00	0.00	0	46.30	0.00	0.00	0.00
90.00	0.00	0	46.30	0.00	0.00	0.00
95.00	0.00	0	46.30	0.00	0.00	0.00
100.00	0.00	0	46.30	0.00	0.00	0.00
105.00	0.00	0	46.30	0.00	0.00	0.00
110.00	0.00	0	46.30	0.00	0.00	0.00
115.00	0.00	0	46.30	0.00	0.00	0.00
120.00	0.00	0	46.30	0.00	0.00	0.00
125.00	0.00	0	46.30	0.00	0.00	0.00
130.00	0.00	0	46.30	0.00	0.00	0.00
135.00	0.00	0	46.30	0.00	0.00	0.00
140.00	0.00	0	46.30	0.00	0.00	0.00
145.00	0.00	0	46.30	0.00	0.00	0.00
150.00	0.00	0	46.30	0.00	0.00	0.00
155.00	0.00	0	46.30	0.00	0.00	0.00
160.00	0.00	0	46.30	0.00	0.00	0.00
165.00	0.00	0	46.30	0.00	0.00	0.00
170.00	0.00	0	46.30	0.00	0.00	0.00
175.00	0.00	0	46.30	0.00	0.00	0.00
180.00	0.00	0	46.30	0.00	0.00	0.00
185.00	0.00	0	46.30	0.00	0.00	0.00
190.00	0.00	0	46.30	0.00	0.00	0.00
195.00	0.00	0	46.30	0.00	0.00	0.00
200.00	0.00	0	46.30	0.00	0.00	0.00
205.00	0.00	0	46.30	0.00	0.00	0.00
210.00	0.00	0	46.30	0.00	0.00	0.00
215.00	0.00	0	46.30	0.00	0.00	0.00
220.00	0.00	0	46.30	0.00	0.00	0.00
225.00	0.00	0	46.30	0.00	0.00	0.00
230.00	0.00	0	46.30	0.00	0.00	0.00
235.00	0.00	0	46.30	0.00	0.00	0.00
240.00	0.00	0	46.30	0.00	0.00	0.00

Stage-Discharge for Pond 23P: UGIS-1

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
46.30	0.00	0.00	0.00
46.35	0.04	0.04	0.00
46.40	0.04	0.04	0.00
46.45	0.04	0.04	0.00
46.50	0.04	0.04	0.00
46.55	0.05	0.05	0.00
46.60	0.05	0.05	0.00
46.65	0.05	0.05	0.00
46.70	0.05	0.05	0.00
46.75	0.05	0.05	0.00
46.80	0.05	0.05	0.00
46.85	0.05	0.05	0.00
46.90	0.05	0.05	0.00
46.95	0.05	0.05	0.00
47.00	0.05	0.05	0.00
47.05	0.05	0.05	0.00
47.10	0.05	0.05	0.00
47.15	0.05	0.05	0.00
47.20	0.05	0.05	0.00
47.25	0.06	0.06	0.00
47.30	0.06	0.06	0.00
47.35	0.06	0.06	0.00
47.40	0.06	0.06	0.00
47.45	0.06	0.06	0.00
47.50	0.06	0.06	0.00
47.55	0.06	0.06	0.00
47.60	0.06	0.06	0.00
47.65	0.06	0.06	0.00
47.70	0.06	0.06	0.00
47.75	0.06	0.06	0.00
47.80	0.06	0.06	0.00
47.85	0.06	0.06	0.00
47.90	0.06	0.06	0.00
47.95	0.07	0.07	0.00
48.00	0.07	0.07	0.00
48.05	0.07	0.07	0.00
48.10	0.07	0.07	0.00
48.15	0.07	0.07	0.00
48.20	0.07	0.07	0.00
48.25	0.07	0.07	0.00
48.30	0.07	0.07	0.00
48.35	0.07	0.07	0.00
48.40	0.07	0.07	0.00
48.45	0.14	0.07	0.07
48.50	0.28	0.07	0.20
48.55	0.45	0.07	0.37
48.60	0.65	0.07	0.57
48.65	0.87	0.07	0.80
48.70	1.12	0.08	1.04
48.75	1.38	0.08	1.31
48.80	1.67	0.08	1.59
48.85	1.96	0.08	1.89
48.90	2.28	0.08	2.20
48.95	2.60	0.08	2.52
49.00	2.94	0.08	2.86
49.05	3.43	0.08	3.35
49.10	4.05	0.08	3.97
49.15	4.77	0.08	4.68
49.20	5.55	0.08	5.46
49.25	6.39	0.08	6.30
49.30	7.28	0.08	7.20
49.35	8.23	0.08	8.14
49.40	9.21	0.09	9.13
49.45	10.24	0.09	10.16
49.50	**11.31**	**0.09**	**11.22**

Stage-Area-Storage for Pond 23P: UGIS-1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
46.30	**6,719**	0
46.35	6,719	111
46.40	6,719	222
46.45	6,719	333
46.50	6,719	443
46.55	6,719	554
46.60	6,719	665
46.65	6,719	776
46.70	6,719	887
46.75	6,719	998
46.80	6,719	1,109
46.85	6,719	1,410
46.90	6,719	1,708
46.95	6,719	2,004
47.00	6,719	2,297
47.05	6,719	2,590
47.10	6,719	2,882
47.15	6,719	3,173
47.20	6,719	3,463
47.25	6,719	3,753
47.30	6,719	4,041
47.35	6,719	4,326
47.40	6,719	4,610
47.45	6,719	4,891
47.50	6,719	5,172
47.55	6,719	5,450
47.60	6,719	5,726
47.65	6,719	6,000
47.70	6,719	6,272
47.75	6,719	6,543
47.80	6,719	6,812
47.85	6,719	7,080
47.90	6,719	7,347
47.95	6,719	7,611
48.00	6,719	7,871
48.05	6,719	8,128
48.10	6,719	8,381
48.15	6,719	8,631
48.20	6,719	8,878
48.25	6,719	9,121
48.30	6,719	9,360
48.35	6,719	9,595
48.40	6,719	9,825
48.45	6,719	10,050
48.50	6,719	10,269
48.55	6,719	10,482
48.60	6,719	10,689
48.65	6,719	10,887
48.70	6,719	11,075
48.75	6,719	11,252
48.80	6,719	11,413
48.85	6,719	11,560
48.90	6,719	11,693
48.95	6,719	11,814
49.00	6,719	11,926
49.05	6,719	12,037
49.10	6,719	12,148
49.15	6,719	12,259
49.20	6,719	12,370
49.25	6,719	12,480
49.30	6,719	12,591
49.35	6,719	12,702
49.40	6,719	12,813
49.45	6,719	12,924
49.50	6,719	**13,035**

Summary for Pond 28P: DIV-01

Inflow Area = 379,224 sf, 32.14% Impervious, Inflow Depth = 6.48" for 100-year event
Inflow = 45.51 cfs @ 12.21 hrs, Volume= 204,730 cf
Outflow = 45.51 cfs @ 12.21 hrs, Volume= 204,730 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.94 cfs @ 12.21 hrs, Volume= 46,057 cf
Routed to Pond 13P : Sand Filter 1
Secondary = 41.58 cfs @ 12.21 hrs, Volume= 158,674 cf
Routed to Pond 15P : Detention Basin 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 50.01' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.10'	**11.0" Round Culvert** L= 14.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.10' / 46.00' S= 0.0071 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 0.66 sf
#2	Device 3	47.00'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Secondary	46.10'	**36.0" Round Culvert** L= 56.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.10' / 44.00' S= 0.0375 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=3.91 cfs @ 12.21 hrs HW=49.98' TW=47.55' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 3.91 cfs @ 5.93 fps)

Secondary OutFlow Max=41.46 cfs @ 12.21 hrs HW=49.98' TW=47.46' (Dynamic Tailwater)
└**3=Culvert** (Inlet Controls 41.46 cfs @ 5.86 fps)
└**2=Sharp-Crested Rectangular Weir** (Passes 41.46 cfs of 88.73 cfs potential flow)

Hydrograph for Pond 28P: DIV-01

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	46.10	0.00	0.00	0.00
5.00	0.08	46.27	0.08	0.08	0.00
10.00	**1.97**	**47.10**	**1.97**	**1.36**	**0.61**
15.00	**2.85**	**47.27**	**2.85**	**0.17**	**2.69**
20.00	0.96	47.08	0.96	0.56	0.40
25.00	0.00	46.10	0.00	0.00	0.00
30.00	0.00	46.61	0.00	0.00	0.00
35.00	0.00	46.52	0.00	0.00	0.00
40.00	0.00	46.46	0.00	0.00	0.00
45.00	0.00	46.40	0.00	0.00	0.00
50.00	0.00	46.31	0.00	0.00	0.00
55.00	0.00	46.25	0.00	0.00	0.00
60.00	0.00	46.19	0.00	0.00	0.00
65.00	0.00	46.10	0.00	0.00	0.00
70.00	0.00	46.10	0.00	0.00	0.00
75.00	0.00	46.10	0.00	0.00	0.00
80.00	0.00	46.10	0.00	0.00	0.00
85.00	0.00	46.10	0.00	0.00	0.00
90.00	0.00	46.10	0.00	0.00	0.00
95.00	0.00	46.10	0.00	0.00	0.00
100.00	0.00	46.10	0.00	0.00	0.00
105.00	0.00	46.10	0.00	0.00	0.00
110.00	0.00	46.10	0.00	0.00	0.00
115.00	0.00	46.10	0.00	0.00	0.00
120.00	0.00	46.10	0.00	0.00	0.00
125.00	0.00	46.10	0.00	0.00	0.00
130.00	0.00	46.10	0.00	0.00	0.00
135.00	0.00	46.10	0.00	0.00	0.00
140.00	0.00	46.10	0.00	0.00	0.00
145.00	0.00	46.10	0.00	0.00	0.00
150.00	0.00	46.10	0.00	0.00	0.00
155.00	0.00	46.10	0.00	0.00	0.00
160.00	0.00	46.10	0.00	0.00	0.00
165.00	0.00	46.10	0.00	0.00	0.00
170.00	0.00	46.10	0.00	0.00	0.00
175.00	0.00	46.10	0.00	0.00	0.00
180.00	0.00	46.10	0.00	0.00	0.00
185.00	0.00	46.10	0.00	0.00	0.00
190.00	0.00	46.10	0.00	0.00	0.00
195.00	0.00	46.10	0.00	0.00	0.00
200.00	0.00	46.10	0.00	0.00	0.00
205.00	0.00	46.10	0.00	0.00	0.00
210.00	0.00	46.10	0.00	0.00	0.00
215.00	0.00	46.10	0.00	0.00	0.00
220.00	0.00	46.10	0.00	0.00	0.00
225.00	0.00	46.10	0.00	0.00	0.00
230.00	0.00	46.10	0.00	0.00	0.00
235.00	0.00	46.10	0.00	0.00	0.00
240.00	0.00	46.10	0.00	0.00	0.00

Stage-Discharge for Pond 28P: DIV-01

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
46.10	0.00	0.00	0.00
46.15	0.01	0.01	0.00
46.20	0.03	0.03	0.00
46.25	0.07	0.07	0.00
46.30	0.12	0.12	0.00
46.35	0.18	0.18	0.00
46.40	0.25	0.25	0.00
46.45	0.33	0.33	0.00
46.50	0.41	0.41	0.00
46.55	0.51	0.51	0.00
46.60	0.61	0.61	0.00
46.65	0.72	0.72	0.00
46.70	0.83	0.83	0.00
46.75	0.95	0.95	0.00
46.80	1.07	1.07	0.00
46.85	1.20	1.20	0.00
46.90	1.32	1.32	0.00
46.95	1.45	1.45	0.00
47.00	1.58	1.58	0.00
47.05	1.92	1.70	0.22
47.10	2.44	1.82	0.62
47.15	3.06	1.93	1.13
47.20	3.75	2.01	1.74
47.25	4.52	2.09	2.43
47.30	5.35	2.16	3.19
47.35	6.25	2.23	4.02
47.40	7.20	2.30	4.90
47.45	8.20	2.37	5.83
47.50	9.26	2.43	6.82
47.55	10.35	2.50	7.86
47.60	11.50	2.56	8.94
47.65	12.68	2.62	10.06
47.70	13.90	2.68	11.22
47.75	15.16	2.74	12.42
47.80	16.46	2.80	13.66
47.85	17.79	2.85	14.94
47.90	18.88	2.91	15.97
47.95	19.68	2.96	16.72
48.00	20.50	3.01	17.49
48.05	21.32	3.06	18.26
48.10	22.14	3.11	19.03
48.15	22.97	3.16	19.81
48.20	23.80	3.21	20.59
48.25	24.63	3.26	21.37
48.30	25.46	3.31	22.15
48.35	26.29	3.36	22.93
48.40	27.11	3.40	23.70
48.45	27.93	3.45	24.48
48.50	28.74	3.50	25.24
48.55	29.54	3.54	26.00
48.60	30.33	3.58	26.75
48.65	31.11	3.63	27.49
48.70	31.88	3.67	28.21
48.75	32.63	3.71	28.91
48.80	33.35	3.76	29.60
48.85	34.05	3.80	30.25
48.90	34.72	3.84	30.88
48.95	35.36	3.88	31.48
49.00	35.94	3.92	32.02
49.05	36.47	3.96	32.51
49.10	36.91	4.00	32.91
49.15	37.49	4.04	33.45
49.20	38.07	4.08	33.99
49.25	38.63	4.12	34.51
49.30	39.19	4.15	35.03
49.35	39.74	4.19	35.55
49.40	40.28	4.23	36.05
49.45	40.81	4.27	36.55
49.50	41.34	4.30	37.04
49.55	41.86	4.34	37.52
49.60	42.37	4.38	38.00
49.65	42.88	4.41	38.47
49.70	43.38	4.45	38.94
49.75	43.88	4.48	39.40
49.80	44.37	4.52	39.85
49.85	44.86	4.55	40.30
49.90	45.34	4.59	40.75
49.95	45.81	4.62	41.19
50.00	**46.28**	**4.65**	**41.63**

Stage-Area-Storage for Pond 28P: DIV-01

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
46.10	**0**	48.65	0
46.15	0	48.70	0
46.20	0	48.75	0
46.25	0	48.80	0
46.30	0	48.85	0
46.35	0	48.90	0
46.40	0	48.95	0
46.45	0	49.00	0
46.50	0	49.05	0
46.55	0	49.10	0
46.60	0	49.15	0
46.65	0	49.20	0
46.70	0	49.25	0
46.75	0	49.30	0
46.80	0	49.35	0
46.85	0	49.40	0
46.90	0	49.45	0
46.95	0	49.50	0
47.00	0	49.55	0
47.05	0	49.60	0
47.10	0	49.65	0
47.15	0	49.70	0
47.20	0	49.75	0
47.25	0	49.80	0
47.30	0	49.85	0
47.35	0	49.90	0
47.40	0	49.95	0
47.45	0	50.00	0
47.50	0		
47.55	0		
47.60	0		
47.65	0		
47.70	0		
47.75	0		
47.80	0		
47.85	0		
47.90	0		
47.95	0		
48.00	0		
48.05	0		
48.10	0		
48.15	0		
48.20	0		
48.25	0		
48.30	0		
48.35	0		
48.40	0		
48.45	0		
48.50	0		
48.55	0		
48.60	0		

Summary for Pond 33P: Wet Swale

Inflow Area = 57,295 sf, 71.89% Impervious, Inflow Depth = 7.64" for 100-year event
Inflow = 10.42 cfs @ 12.09 hrs, Volume= 36,468 cf
Outflow = 7.11 cfs @ 12.19 hrs, Volume= 36,468 cf, Atten= 32%, Lag= 5.6 min
Discarded = 0.01 cfs @ 3.00 hrs, Volume= 4,989 cf
Primary = 7.10 cfs @ 12.19 hrs, Volume= 31,479 cf
Routed to Pond 4P : Detention Basin 2
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 2L : DP 1.1 - Culvert 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 60.29' @ 12.19 hrs Surf.Area= 5,776 sf Storage= 7,104 cf

Plug-Flow detention time= 551.6 min calculated for 36,460 cf (100% of inflow)
Center-of-Mass det. time= 553.1 min (1,320.7 - 767.6)

Volume	Invert	Avail.Storage	Storage Description
#1	57.69'	11,649 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.69	1,511	0.0	0	0
57.70	1,511	33.0	5	5
58.69	1,511	33.0	494	499
58.70	1,801	100.0	17	515
59.00	3,213	100.0	752	1,267
60.00	5,228	100.0	4,221	5,488
61.00	7,094	100.0	6,161	11,649

Device	Routing	Invert	Outlet Devices
#1	Discarded	57.69'	**0.270 in/hr Exfiltration over Surface area from 57.68' - 58.69'** Excluded Surface area = 0 sf Phase-In= 0.02'
#2	Primary	56.20'	**18.0" Round Culvert** L= 62.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.20' / 55.60' S= 0.0097 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#3	Device 2	59.75'	**2.0" x 2.0" Horiz. Orifice/Grate X 12.00 columns** X 6 rows C= 0.600 Limited to weir flow at low heads
#4	Secondary	60.50'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.01 cfs @ 3.00 hrs HW=57.72' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=7.07 cfs @ 12.19 hrs HW=60.29' TW=58.65' (Dynamic Tailwater)
└**2=Culvert** (Passes 7.07 cfs of 8.61 cfs potential flow)
└**3=Orifice/Grate** (Orifice Controls 7.07 cfs @ 3.53 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=57.69' TW=0.00' (Dynamic Tailwater)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Hydrograph for Pond 33P: Wet Swale

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	57.69	0.00	**0.00**	0.00	**0.00**
5.00	0.07	287	58.27	0.01	**0.01**	0.00	0.00
10.00	**0.47**	**3,909**	**59.68**	**0.01**	0.01	**0.00**	0.00
15.00	**0.44**	**4,337**	**59.77**	**0.44**	0.01	**0.43**	0.00
20.00	0.15	4,288	59.76	0.15	0.01	0.14	0.00
25.00	0.00	4,225	59.75	0.01	0.01	0.00	0.00
30.00	0.00	4,055	59.71	0.01	0.01	0.00	0.00
35.00	0.00	3,885	59.67	0.01	0.01	0.00	0.00
40.00	0.00	3,715	59.64	0.01	0.01	0.00	0.00
45.00	0.00	3,545	59.60	0.01	0.01	0.00	0.00
50.00	0.00	3,375	59.56	0.01	0.01	0.00	0.00
55.00	0.00	3,205	59.52	0.01	0.01	0.00	0.00
60.00	0.00	3,035	59.48	0.01	0.01	0.00	0.00
65.00	0.00	2,865	59.44	0.01	0.01	0.00	0.00
70.00	0.00	2,695	59.40	0.01	0.01	0.00	0.00
75.00	0.00	2,525	59.35	0.01	0.01	0.00	0.00
80.00	0.00	2,355	59.31	0.01	0.01	0.00	0.00
85.00	0.00	2,185	59.26	0.01	0.01	0.00	0.00
90.00	0.00	2,015	59.22	0.01	0.01	0.00	0.00
95.00	0.00	1,845	59.17	0.01	0.01	0.00	0.00
100.00	0.00	1,675	59.12	0.01	0.01	0.00	0.00
105.00	0.00	1,505	59.07	0.01	0.01	0.00	0.00
110.00	0.00	1,335	59.02	0.01	0.01	0.00	0.00
115.00	0.00	1,165	58.97	0.01	0.01	0.00	0.00
120.00	0.00	995	58.91	0.01	0.01	0.00	0.00
125.00	0.00	825	58.84	0.01	0.01	0.00	0.00
130.00	0.00	655	58.77	0.01	0.01	0.00	0.00
135.00	0.00	485	58.66	0.01	0.01	0.00	0.00
140.00	0.00	315	58.32	0.01	0.01	0.00	0.00
145.00	0.00	145	57.98	0.01	0.01	0.00	0.00
150.00	0.00	0	57.69	0.00	0.00	0.00	0.00
155.00	0.00	0	57.69	0.00	0.00	0.00	0.00
160.00	0.00	0	57.69	0.00	0.00	0.00	0.00
165.00	0.00	0	57.69	0.00	0.00	0.00	0.00
170.00	0.00	0	57.69	0.00	0.00	0.00	0.00
175.00	0.00	0	57.69	0.00	0.00	0.00	0.00
180.00	0.00	0	57.69	0.00	0.00	0.00	0.00
185.00	0.00	0	57.69	0.00	0.00	0.00	0.00
190.00	0.00	0	57.69	0.00	0.00	0.00	0.00
195.00	0.00	0	57.69	0.00	0.00	0.00	0.00
200.00	0.00	0	57.69	0.00	0.00	0.00	0.00
205.00	0.00	0	57.69	0.00	0.00	0.00	0.00
210.00	0.00	0	57.69	0.00	0.00	0.00	0.00
215.00	0.00	0	57.69	0.00	0.00	0.00	0.00
220.00	0.00	0	57.69	0.00	0.00	0.00	0.00
225.00	0.00	0	57.69	0.00	0.00	0.00	0.00
230.00	0.00	0	57.69	0.00	0.00	0.00	0.00
235.00	0.00	0	57.69	0.00	0.00	0.00	0.00
240.00	0.00	0	57.69	0.00	0.00	0.00	0.00

Stage-Discharge for Pond 33P: Wet Swale

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Secondary (cfs)
57.69	0.00	**0.00**	0.00	0.00
57.79	0.01	**0.01**	0.00	0.00
57.89	0.01	0.01	0.00	0.00
57.99	0.01	0.01	0.00	0.00
58.09	0.01	0.01	0.00	0.00
58.19	0.01	0.01	0.00	0.00
58.29	0.01	0.01	0.00	0.00
58.39	0.01	0.01	0.00	0.00
58.49	0.01	0.01	0.00	0.00
58.59	0.01	0.01	0.00	0.00
58.69	0.01	0.01	0.00	0.00
58.79	0.01	0.01	0.00	0.00
58.89	0.01	0.01	0.00	0.00
58.99	0.01	0.01	0.00	0.00
59.09	0.01	0.01	0.00	0.00
59.19	0.01	0.01	0.00	0.00
59.29	0.01	0.01	0.00	0.00
59.39	0.01	0.01	0.00	0.00
59.49	0.01	0.01	0.00	0.00
59.59	0.01	0.01	0.00	0.00
59.69	0.01	0.01	0.00	0.00
59.79	1.27	0.01	1.26	0.00
59.89	3.61	0.01	3.60	0.00
59.99	4.73	0.01	4.72	0.00
60.09	5.62	0.01	5.62	0.00
60.19	6.40	0.01	6.39	0.00
60.29	7.09	0.01	7.08	0.00
60.39	7.71	0.01	7.70	0.00
60.49	8.29	0.01	8.28	0.00
60.59	9.72	0.01	8.83	0.88
60.69	12.04	0.01	9.34	2.70
60.79	14.91	0.01	9.82	5.08
60.89	18.19	0.01	10.28	7.90
60.99	**21.84**	0.01	**10.72**	**11.11**

Stage-Area-Storage for Pond 33P: Wet Swale

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
57.69	1,511	0
57.74	1,511	25
57.79	1,511	50
57.84	1,511	75
57.89	1,511	100
57.94	1,511	125
57.99	1,511	150
58.04	1,511	175
58.09	1,511	199
58.14	1,511	224
58.19	1,511	249
58.24	1,511	274
58.29	1,511	299
58.34	1,511	324
58.39	1,511	349
58.44	1,511	374
58.49	1,511	399
58.54	1,511	424
58.59	1,511	449
58.64	1,511	474
58.69	1,511	499
58.74	1,989	591
58.79	2,225	696
58.84	2,460	813
58.89	2,695	942
58.94	2,931	1,083
58.99	3,166	1,235
59.04	3,294	1,397
59.09	3,394	1,565
59.14	3,495	1,737
59.19	3,596	1,914
59.24	3,697	2,096
59.29	3,797	2,284
59.34	3,898	2,476
59.39	3,999	2,674
59.44	4,100	2,876
59.49	4,200	3,084
59.54	4,301	3,296
59.59	4,402	3,514
59.64	4,503	3,736
59.69	4,603	3,964
59.74	4,704	4,197
59.79	4,805	4,434
59.84	4,906	4,677
59.89	5,006	4,925
59.94	5,107	5,178
59.99	5,208	5,436
60.04	5,303	5,698
60.09	5,396	5,966
60.14	5,489	6,238
60.19	5,583	6,515
60.24	5,676	6,796
60.29	5,769	7,082
60.34	5,862	7,373
60.39	5,956	7,669
60.44	6,049	7,969
60.49	6,142	8,274
60.54	6,236	8,583
60.59	6,329	8,897
60.64	6,422	9,216
60.69	6,516	9,539
60.74	6,609	9,867
60.79	6,702	10,200
60.84	6,795	10,538
60.89	6,889	10,880
60.94	6,982	11,227
60.99	**7,075**	**11,578**

Summary for Pond 35P: Track and Field-manifold

Inflow Area = 151,857 sf,100.00% Impervious, Inflow Depth = 5.99" for 100-year event
Inflow = 19.17 cfs @ 12.10 hrs, Volume= 75,834 cf
Outflow = 15.38 cfs @ 12.21 hrs, Volume= 75,834 cf, Atten= 20%, Lag= 6.5 min
Discarded = 1.03 cfs @ 12.21 hrs, Volume= 13,591 cf
Primary = 14.35 cfs @ 12.21 hrs, Volume= 62,243 cf
Routed to Pond 8P : DIV-04

Routing by Dyn-Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 50.39' @ 12.21 hrs Surf.Area= 8,273 sf Storage= 6,792 cf

Plug-Flow detention time= 11.5 min calculated for 75,834 cf (100% of inflow)
Center-of-Mass det. time= 11.4 min (752.6 - 741.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	48.50'	4,898 cf	**7.00'W x 1,182.00'L x 2.25'H Field A** 18,608 cf Overall - 3,767 cf Embedded = 14,841 cf x 33.0% Voids
#2A	49.00'	2,832 cf	**ADS N-12 15"** x 118 Inside #1 Inside= 14.8"W x 14.8"H => 1.20 sf x 20.00'L = 24.0 cf Outside= 18.0"W x 18.0"H => 1.60 sf x 20.00'L = 31.9 cf 118 Chambers in 2 Rows
		7,730 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	48.50'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 48.40' Phase-In= 0.02'
#2	Primary	48.50'	**18.0" Round Culvert X 2.00** L= 54.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 48.50' / 46.80' S= 0.0315 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf

Discarded OutFlow Max=1.02 cfs @ 12.21 hrs HW=50.38' (Free Discharge)
↑—**1=Exfiltration** (Controls 1.02 cfs)

Primary OutFlow Max=14.29 cfs @ 12.21 hrs HW=50.38' TW=49.11' (Dynamic Tailwater)
↑—**2=Culvert** (Inlet Controls 14.29 cfs @ 4.04 fps)

Pond 35P: Track and Field-manifold - Chamber Wizard Field A

Chamber Model = ADS N-12 15" (ADS N-12® Pipe)
Inside= 14.8"W x 14.8"H => 1.20 sf x 20.00'L = 24.0 cf
Outside= 18.0"W x 18.0"H => 1.60 sf x 20.00'L = 31.9 cf

18.0" Wide + 24.0" Spacing = 42.0" C-C Row Spacing

59 Chambers/Row x 20.00' Long = 1,180.00' Row Length +12.0" End Stone x 2 = 1,182.00' Base Length
2 Rows x 18.0" Wide + 24.0" Spacing x 1 + 12.0" Side Stone x 2 = 7.00' Base Width
6.0" Stone Base + 18.0" Chamber Height + 3.0" Stone Cover = 2.25' Field Height

118 Chambers x 24.0 cf = 2,832.0 cf Chamber Storage
118 Chambers x 31.9 cf = 3,767.1 cf Displacement

18,608.5 cf Field - 3,767.1 cf Chambers = 14,841.3 cf Stone x 33.0% Voids = 4,897.6 cf Stone Storage

Chamber Storage + Stone Storage = 7,729.6 cf = 0.177 af
Overall Storage Efficiency = 41.5%
Overall System Size = 1,182.00' x 7.00' x 2.25'

118 Chambers
689.2 cy Field
549.7 cy Stone

Hydrograph for Pond 35P: Track and Field-manifold

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	48.50	0.00	0.00	0.00
5.00	0.16	216	48.58	0.15	0.09	0.05
10.00	**0.76**	**679**	**48.75**	**0.69**	**0.18**	**0.51**
15.00	**0.66**	**750**	**48.77**	**0.72**	**0.19**	**0.53**
20.00	0.16	282	48.60	0.17	0.11	0.06
25.00	0.00	8	48.50	0.01	0.01	0.00
30.00	0.00	0	48.50	0.00	0.00	0.00
35.00	0.00	0	48.50	0.00	0.00	0.00
40.00	0.00	0	48.50	0.00	0.00	0.00
45.00	0.00	0	48.50	0.00	0.00	0.00
50.00	0.00	0	48.50	0.00	0.00	0.00
55.00	0.00	0	48.50	0.00	0.00	0.00
60.00	0.00	0	48.50	0.00	0.00	0.00
65.00	0.00	0	48.50	0.00	0.00	0.00
70.00	0.00	0	48.50	0.00	0.00	0.00
75.00	0.00	0	48.50	0.00	0.00	0.00
80.00	0.00	0	48.50	0.00	0.00	0.00
85.00	0.00	0	48.50	0.00	0.00	0.00
90.00	0.00	0	48.50	0.00	0.00	0.00
95.00	0.00	0	48.50	0.00	0.00	0.00
100.00	0.00	0	48.50	0.00	0.00	0.00
105.00	0.00	0	48.50	0.00	0.00	0.00
110.00	0.00	0	48.50	0.00	0.00	0.00
115.00	0.00	0	48.50	0.00	0.00	0.00
120.00	0.00	0	48.50	0.00	0.00	0.00
125.00	0.00	0	48.50	0.00	0.00	0.00
130.00	0.00	0	48.50	0.00	0.00	0.00
135.00	0.00	0	48.50	0.00	0.00	0.00
140.00	0.00	0	48.50	0.00	0.00	0.00
145.00	0.00	0	48.50	0.00	0.00	0.00
150.00	0.00	0	48.50	0.00	0.00	0.00
155.00	0.00	0	48.50	0.00	0.00	0.00
160.00	0.00	0	48.50	0.00	0.00	0.00
165.00	0.00	0	48.50	0.00	0.00	0.00
170.00	0.00	0	48.50	0.00	0.00	0.00
175.00	0.00	0	48.50	0.00	0.00	0.00
180.00	0.00	0	48.50	0.00	0.00	0.00
185.00	0.00	0	48.50	0.00	0.00	0.00
190.00	0.00	0	48.50	0.00	0.00	0.00
195.00	0.00	0	48.50	0.00	0.00	0.00
200.00	0.00	0	48.50	0.00	0.00	0.00
205.00	0.00	0	48.50	0.00	0.00	0.00
210.00	0.00	0	48.50	0.00	0.00	0.00
215.00	0.00	0	48.50	0.00	0.00	0.00
220.00	0.00	0	48.50	0.00	0.00	0.00
225.00	0.00	0	48.50	0.00	0.00	0.00
230.00	0.00	0	48.50	0.00	0.00	0.00
235.00	0.00	0	48.50	0.00	0.00	0.00
240.00	0.00	0	48.50	0.00	0.00	0.00

Stage-Discharge for Pond 35P: Track and Field-manifold

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
48.50	0.00	0.00	0.00
48.55	0.10	0.08	0.02
48.60	0.19	0.10	0.09
48.65	0.32	0.13	0.19
48.70	0.49	0.16	0.34
48.75	0.70	0.18	0.52
48.80	0.95	0.21	0.74
48.85	1.23	0.23	1.00
48.90	1.54	0.26	1.29
48.95	1.89	0.28	1.61
49.00	2.27	0.31	1.96
49.05	2.68	0.34	2.34
49.10	3.11	0.36	2.75
49.15	3.57	0.39	3.18
49.20	4.05	0.41	3.64
49.25	4.55	0.44	4.11
49.30	5.07	0.47	4.61
49.35	5.61	0.49	5.12
49.40	6.16	0.52	5.65
49.45	6.73	0.54	6.18
49.50	7.30	0.57	6.73
49.55	7.87	0.59	7.28
49.60	8.45	0.62	7.83
49.65	9.03	0.65	8.38
49.70	9.60	0.67	8.92
49.75	10.16	0.70	9.46
49.80	10.70	0.72	9.97
49.85	11.21	0.75	10.46
49.90	11.69	0.78	10.92
49.95	12.12	0.80	11.32
50.00	12.46	0.83	11.63
50.05	12.87	0.85	12.02
50.10	13.27	0.88	12.39
50.15	13.65	0.90	12.75
50.20	14.03	0.93	13.09
50.25	14.39	0.96	13.43
50.30	14.75	0.98	13.77
50.35	15.10	1.01	14.09
50.40	15.44	1.03	14.41
50.45	15.78	1.06	14.72
50.50	16.11	1.09	15.02
50.55	16.43	1.11	15.32
50.60	16.75	1.14	15.61
50.65	17.06	1.16	15.90
50.70	17.37	1.19	16.18
50.75	**17.67**	**1.22**	**16.45**

Stage-Area-Storage for Pond 35P: Track and Field-manifold

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
48.50	**8,273**	0
48.55	8,273	136
48.60	8,273	273
48.65	8,273	409
48.70	8,273	546
48.75	8,273	682
48.80	8,273	819
48.85	8,273	955
48.90	8,273	1,092
48.95	8,273	1,228
49.00	8,273	1,365
49.05	8,273	1,489
49.10	8,273	1,602
49.15	8,273	1,718
49.20	8,273	1,874
49.25	8,273	2,049
49.30	8,273	2,238
49.35	8,273	2,437
49.40	8,273	2,644
49.45	8,273	2,857
49.50	8,273	3,075
49.55	8,273	3,297
49.60	8,273	3,522
49.65	8,273	3,749
49.70	8,273	3,978
49.75	8,273	4,207
49.80	8,273	4,437
49.85	8,273	4,666
49.90	8,273	4,893
49.95	8,273	5,118
50.00	8,273	5,340
50.05	8,273	5,558
50.10	8,273	5,771
50.15	8,273	5,977
50.20	8,273	6,176
50.25	8,273	6,365
50.30	8,273	6,540
50.35	8,273	6,695
50.40	8,273	6,811
50.45	8,273	6,925
50.50	8,273	7,049
50.55	8,273	7,185
50.60	8,273	7,322
50.65	8,273	7,458
50.70	8,273	7,595
50.75	8,273	**7,730**

Summary for Link 2L: DP 1.1 - Culvert 1

Inflow Area = 475,005 sf, 1.72% Impervious, Inflow Depth = 5.83" for 100-year event
Inflow = 48.60 cfs @ 12.29 hrs, Volume= 230,673 cf
Primary = 48.60 cfs @ 12.29 hrs, Volume= 230,673 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DP 1.2 - Culvert 2

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 2L: DP 1.1 - Culvert 1

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.27	0.00	0.27	135.00	0.00	0.00	0.00
10.00	**1.75**	0.00	**1.75**	137.50	0.00	0.00	0.00
12.50	**34.15**	0.00	**34.15**	140.00	0.00	0.00	0.00
15.00	3.53	0.00	3.53	142.50	0.00	0.00	0.00
17.50	1.74	0.00	1.74	145.00	0.00	0.00	0.00
20.00	1.17	0.00	1.17	147.50	0.00	0.00	0.00
22.50	0.92	0.00	0.92	150.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	152.50	0.00	0.00	0.00
27.50	0.00	0.00	0.00	155.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	157.50	0.00	0.00	0.00
32.50	0.00	0.00	0.00	160.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 3L: DP 1.2 - Culvert 2

Inflow Area = 536,345 sf, 2.91% Impervious, Inflow Depth = 5.88" for 100-year event
Inflow = 54.77 cfs @ 12.28 hrs, Volume= 262,638 cf
Primary = 54.77 cfs @ 12.28 hrs, Volume= 262,638 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DP 1.3 - Culvert 3

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 3L: DP 1.2 - Culvert 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.33	0.00	0.33	135.00	0.00	0.00	0.00
10.00	**2.04**	0.00	**2.04**	137.50	0.00	0.00	0.00
12.50	**38.23**	0.00	**38.23**	140.00	0.00	0.00	0.00
15.00	4.12	0.00	4.12	142.50	0.00	0.00	0.00
17.50	1.97	0.00	1.97	145.00	0.00	0.00	0.00
20.00	1.33	0.00	1.33	147.50	0.00	0.00	0.00
22.50	1.04	0.00	1.04	150.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	152.50	0.00	0.00	0.00
27.50	0.00	0.00	0.00	155.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	157.50	0.00	0.00	0.00
32.50	0.00	0.00	0.00	160.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 4L: DP 1.3 - Culvert 3

Inflow Area = 562,190 sf, 3.45% Impervious, Inflow Depth = 5.89" for 100-year event
Inflow = 56.88 cfs @ 12.27 hrs, Volume= 275,969 cf
Primary = 56.88 cfs @ 12.27 hrs, Volume= 275,969 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : DP 1.4 - Silver Creek East Branch

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 4L: DP 1.3 - Culvert 3

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.36	0.00	0.36	135.00	0.00	0.00	0.00
10.00	**2.17**	0.00	**2.17**	137.50	0.00	0.00	0.00
12.50	**39.24**	0.00	**39.24**	140.00	0.00	0.00	0.00
15.00	4.31	0.00	4.31	142.50	0.00	0.00	0.00
17.50	2.06	0.00	2.06	145.00	0.00	0.00	0.00
20.00	1.39	0.00	1.39	147.50	0.00	0.00	0.00
22.50	1.09	0.00	1.09	150.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	152.50	0.00	0.00	0.00
27.50	0.00	0.00	0.00	155.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	157.50	0.00	0.00	0.00
32.50	0.00	0.00	0.00	160.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	162.50	0.00	0.00	0.00
37.50	0.00	0.00	0.00	165.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	167.50	0.00	0.00	0.00
42.50	0.00	0.00	0.00	170.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00	172.50	0.00	0.00	0.00
47.50	0.00	0.00	0.00	175.00	0.00	0.00	0.00
50.00	0.00	0.00	0.00	177.50	0.00	0.00	0.00
52.50	0.00	0.00	0.00	180.00	0.00	0.00	0.00
55.00	0.00	0.00	0.00	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 5L: DP 1.4 - Silver Creek East Branch

Inflow Area = 1,084,691 sf, 28.21% Impervious, Inflow Depth = 6.15" for 100-year event
Inflow = 116.14 cfs @ 12.19 hrs, Volume= 555,891 cf
Primary = 116.14 cfs @ 12.19 hrs, Volume= 555,891 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 5L: DP 1.4 - Silver Creek East Branch

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.01	0.00	0.01	130.00	0.00	0.00	0.00
5.00	0.08	0.00	0.08	132.50	0.00	0.00	0.00
7.50	0.62	0.00	0.62	135.00	0.00	0.00	0.00
10.00	**3.91**	0.00	**3.91**	137.50	0.00	0.00	0.00
12.50	**68.03**	0.00	**68.03**	140.00	0.00	0.00	0.00
15.00	8.21	0.00	8.21	142.50	0.00	0.00	0.00
17.50	3.93	0.00	3.93	145.00	0.00	0.00	0.00
20.00	2.62	0.00	2.62	147.50	0.00	0.00	0.00
22.50	2.03	0.00	2.03	150.00	0.00	0.00	0.00
25.00	0.13	0.00	0.13	152.50	0.00	0.00	0.00
27.50	0.12	0.00	0.12	155.00	0.00	0.00	0.00
30.00	0.11	0.00	0.11	157.50	0.00	0.00	0.00
32.50	0.11	0.00	0.11	160.00	0.00	0.00	0.00
35.00	0.10	0.00	0.10	162.50	0.00	0.00	0.00
37.50	0.09	0.00	0.09	165.00	0.00	0.00	0.00
40.00	0.09	0.00	0.09	167.50	0.00	0.00	0.00
42.50	0.08	0.00	0.08	170.00	0.00	0.00	0.00
45.00	0.06	0.00	0.06	172.50	0.00	0.00	0.00
47.50	0.03	0.00	0.03	175.00	0.00	0.00	0.00
50.00	0.02	0.00	0.02	177.50	0.00	0.00	0.00
52.50	0.01	0.00	0.01	180.00	0.00	0.00	0.00
55.00	0.01	0.00	0.01	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 6L: DP 2.1 - West Wetland

Inflow Area = 835,379 sf, 33.92% Impervious, Inflow Depth = 5.44" for 100-year event
Inflow = 60.02 cfs @ 12.42 hrs, Volume= 378,608 cf
Primary = 60.02 cfs @ 12.42 hrs, Volume= 378,608 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : DP 2.2 - Silver Creek West Branch

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 6L: DP 2.1 - West Wetland

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.00	0.00	0.00	135.00	0.00	0.00	0.00
10.00	**0.46**	0.00	**0.46**	137.50	0.00	0.00	0.00
12.50	**58.37**	0.00	**58.37**	140.00	0.00	0.00	0.00
15.00	8.03	0.00	8.03	142.50	0.00	0.00	0.00
17.50	3.18	0.00	3.18	145.00	0.00	0.00	0.00
20.00	1.88	0.00	1.88	147.50	0.00	0.00	0.00
22.50	1.44	0.00	1.44	150.00	0.00	0.00	0.00
25.00	0.73	0.00	0.73	152.50	0.00	0.00	0.00
27.50	0.33	0.00	0.33	155.00	0.00	0.00	0.00
30.00	0.18	0.00	0.18	157.50	0.00	0.00	0.00
32.50	0.09	0.00	0.09	160.00	0.00	0.00	0.00
35.00	0.05	0.00	0.05	162.50	0.00	0.00	0.00
37.50	0.03	0.00	0.03	165.00	0.00	0.00	0.00
40.00	0.02	0.00	0.02	167.50	0.00	0.00	0.00
42.50	0.02	0.00	0.02	170.00	0.00	0.00	0.00
45.00	0.01	0.00	0.01	172.50	0.00	0.00	0.00
47.50	0.01	0.00	0.01	175.00	0.00	0.00	0.00
50.00	0.01	0.00	0.01	177.50	0.00	0.00	0.00
52.50	0.01	0.00	0.01	180.00	0.00	0.00	0.00
55.00	0.01	0.00	0.01	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Summary for Link 7L: DP 2.2 - Silver Creek West Branch

Inflow Area = 991,430 sf, 32.70% Impervious, Inflow Depth = 5.56" for 100-year event
Inflow = 71.23 cfs @ 12.38 hrs, Volume= 459,099 cf
Primary = 71.23 cfs @ 12.38 hrs, Volume= 459,099 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-240.00 hrs, dt= 0.05 hrs

Hydrograph for Link 7L: DP 2.2 - Silver Creek West Branch

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	127.50	0.00	0.00	0.00
2.50	0.00	0.00	0.00	130.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	132.50	0.00	0.00	0.00
7.50	0.16	0.00	0.16	135.00	0.00	0.00	0.00
10.00	**1.19**	0.00	**1.19**	137.50	0.00	0.00	0.00
12.50	**66.77**	0.00	**66.77**	140.00	0.00	0.00	0.00
15.00	9.18	0.00	9.18	142.50	0.00	0.00	0.00
17.50	3.74	0.00	3.74	145.00	0.00	0.00	0.00
20.00	2.27	0.00	2.27	147.50	0.00	0.00	0.00
22.50	1.74	0.00	1.74	150.00	0.00	0.00	0.00
25.00	0.73	0.00	0.73	152.50	0.00	0.00	0.00
27.50	0.33	0.00	0.33	155.00	0.00	0.00	0.00
30.00	0.18	0.00	0.18	157.50	0.00	0.00	0.00
32.50	0.09	0.00	0.09	160.00	0.00	0.00	0.00
35.00	0.05	0.00	0.05	162.50	0.00	0.00	0.00
37.50	0.03	0.00	0.03	165.00	0.00	0.00	0.00
40.00	0.02	0.00	0.02	167.50	0.00	0.00	0.00
42.50	0.02	0.00	0.02	170.00	0.00	0.00	0.00
45.00	0.01	0.00	0.01	172.50	0.00	0.00	0.00
47.50	0.01	0.00	0.01	175.00	0.00	0.00	0.00
50.00	0.01	0.00	0.01	177.50	0.00	0.00	0.00
52.50	0.01	0.00	0.01	180.00	0.00	0.00	0.00
55.00	0.01	0.00	0.01	182.50	0.00	0.00	0.00
57.50	0.00	0.00	0.00	185.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00	187.50	0.00	0.00	0.00
62.50	0.00	0.00	0.00	190.00	0.00	0.00	0.00
65.00	0.00	0.00	0.00	192.50	0.00	0.00	0.00
67.50	0.00	0.00	0.00	195.00	0.00	0.00	0.00
70.00	0.00	0.00	0.00	197.50	0.00	0.00	0.00
72.50	0.00	0.00	0.00	200.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00	202.50	0.00	0.00	0.00
77.50	0.00	0.00	0.00	205.00	0.00	0.00	0.00
80.00	0.00	0.00	0.00	207.50	0.00	0.00	0.00
82.50	0.00	0.00	0.00	210.00	0.00	0.00	0.00
85.00	0.00	0.00	0.00	212.50	0.00	0.00	0.00
87.50	0.00	0.00	0.00	215.00	0.00	0.00	0.00
90.00	0.00	0.00	0.00	217.50	0.00	0.00	0.00
92.50	0.00	0.00	0.00	220.00	0.00	0.00	0.00
95.00	0.00	0.00	0.00	222.50	0.00	0.00	0.00
97.50	0.00	0.00	0.00	225.00	0.00	0.00	0.00
100.00	0.00	0.00	0.00	227.50	0.00	0.00	0.00
102.50	0.00	0.00	0.00	230.00	0.00	0.00	0.00
105.00	0.00	0.00	0.00	232.50	0.00	0.00	0.00
107.50	0.00	0.00	0.00	235.00	0.00	0.00	0.00
110.00	0.00	0.00	0.00	237.50	0.00	0.00	0.00
112.50	0.00	0.00	0.00	240.00	0.00	0.00	0.00
115.00	0.00	0.00	0.00				
117.50	0.00	0.00	0.00				
120.00	0.00	0.00	0.00				
122.50	0.00	0.00	0.00				
125.00	0.00	0.00	0.00				

Hydraulic Design Table (25-year Design Storm)

Date 5/30/2025
Initials AJM

From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Total Drop	Average Slope	Pipe Diameter or Height	Manning's Roughness	Peak Flow	Max Flow Velocity	Design Flow Capacity	Max Flow / Design Flow Ratio
Column1	Column2	(ft)	(ft)3	(ft)4	(ft)5	(%)	(inches)	Column6	(cfs)	(ft/sec)	(cfs)7	Column8
AD-101	AD-109	25.00	49.00	48.80	0.20	0.8000	12.000	0.0120	0.32	2.18	3.45	0.09
AD-102	AD-404	110.00	49.50	48.95	0.55	0.5000	12.000	0.0120	0.20	1.27	2.73	0.07
AD-103	DMH-101	7.00	42.45	42.40	0.05	0.7100	12.000	0.0120	2.05	5.63	3.26	0.63
AD-104	CB-102	41.00	48.00	47.75	0.25	0.6100	12.000	0.0120	0.69	3.30	3.01	0.23
AD-105	AD-104	34.00	48.20	48.00	0.20	0.5900	12.000	0.0120	0.61	2.32	2.96	0.21
AD-106	AD-105	16.00	48.30	48.20	0.10	0.6200	12.000	0.0120	0.40	1.70	3.05	0.13
AD-107	AD-106	22.00	48.45	48.30	0.15	0.6800	12.000	0.0120	0.38	1.91	3.19	0.12
AD-108	AD-107	27.00	48.65	48.45	0.20	0.7400	12.000	0.0120	0.36	2.15	3.32	0.11
AD-109	AD-108	17.00	48.80	48.65	0.15	0.8800	12.000	0.0120	0.34	2.19	3.63	0.09
AD-201	DMH-201	185.00	57.90	56.90	1.00	0.5400	12.000	0.0120	2.23	4.80	2.84	0.78
AD-202	AD-203	77.00	59.05	58.65	0.40	0.5200	12.000	0.0120	0.48	1.76	2.78	0.17
AD-203	DMH-212	33.00	58.65	58.45	0.20	0.6100	12.000	0.0120	0.98	2.95	3.00	0.32
AD-204	CB-201	33.00	58.00	57.40	0.60	1.8200	12.000	0.0120	1.33	3.33	5.20	0.26
AD-205	CB-201	80.00	57.95	57.40	0.55	0.6900	12.000	0.0120	0.20	0.56	3.20	0.06
AD-206	DIV-2	39.00	56.85	56.65	0.20	0.5100	15.000	0.0120	4.01	3.93	5.01	0.80
AD-207	WetlandEast_DP1.4.4	25.00	47.25	47.10	0.15	0.6000	12.000	0.0120	2.21	3.60	2.99	0.74
AD-208	SF-05	103.00	49.70	49.00	0.70	0.6800	12.000	0.0120	0.25	2.37	3.18	0.08
AD-209	SF-5	160.00	50.60	49.00	1.60	1.0000	12.000	0.0120	0.44	3.20	3.86	0.11
AD-210	AD-204	166.00	58.85	58.00	0.85	0.5100	12.000	0.0120	0.61	2.65	2.76	0.22
AD-211	AD-208	73.00	50.30	49.70	0.60	0.8200	12.000	0.0120	0.05	0.76	3.50	0.01
AD-212	AD-213	108.00	56.35	55.75	0.60	0.5600	6.000	0.0120	0.04	0.29	0.45	0.08
AD-213	CB-306	29.00	55.75	55.20	0.55	1.9000	6.000	0.0120	0.24	1.74	0.84	0.28
AD-301	AD-302	198.00	54.80	53.80	1.00	0.5100	12.000	0.0120	1.10	2.32	2.74	0.40
AD-302	DMH-310	29.00	53.80	53.65	0.15	0.5200	15.000	0.0120	2.92	3.15	5.03	0.58
AD-303	DMH-311	38.00	53.65	53.40	0.25	0.6600	12.000	0.0120	1.80	4.41	3.13	0.57
AD-304	DMH-306	23.00	53.20	53.00	0.20	0.8700	12.000	0.0120	0.31	1.26	3.60	0.09
AD-305	AD-303	29.00	53.85	53.65	0.20	0.6900	12.000	0.0120	0.48	1.64	3.21	0.15
AD-306	DMH-305	74.00	54.80	54.35	0.45	0.6100	12.000	0.0120	2.58	3.79	3.01	0.86

Hydraulic Design Table (25-year Design Storm)

Date 5/30/2025
Initials AJM

From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Total Drop	Average Slope	Pipe Diameter or Height	Manning's Roughness	Peak Flow	Max Flow Velocity	Design Flow Capacity	Max Flow / Design Flow Ratio
Column1	Column2	(ft)	(ft)3	(ft)4	(ft)5	(%)	(inches)	Column6	(cfs)	(ft/sec)	(cfs)7	Column8
AD-307	_Bio-3	58.00	59.50	59.00	0.50	0.8600	6.000	0.0120	0.02	1.27	0.56	0.03
AD-308	AD-309	153.00	57.60	56.80	0.80	0.5200	12.000	0.0120	0.53	2.44	2.79	0.19
AD-309	DMH-311	36.00	56.80	56.60	0.20	0.5600	12.000	0.0120	0.58	2.63	2.88	0.20
AD-401	AD-402	50.00	54.00	53.70	0.30	0.6000	12.000	0.0120	1.37	2.38	2.99	0.46
AD-402	AD-403	192.00	53.70	52.70	1.00	0.5200	12.000	0.0120	2.41	3.19	2.79	0.87
AD-403	CB-401	57.00	52.70	52.35	0.35	0.6100	18.000	0.0120	4.63	2.78	8.92	0.52
AD-404	AD-405	88.00	48.95	48.45	0.50	0.5700	12.000	0.0120	0.64	2.21	2.91	0.22
AD-405	AD-406	28.00	48.45	48.30	0.15	0.5400	12.000	0.0120	0.64	1.46	2.83	0.23
AD-406	AD-407	19.00	48.30	48.20	0.10	0.5300	12.000	0.0120	0.65	1.57	2.80	0.23
AD-407	DMH-405	6.00	48.20	48.15	0.05	0.8300	12.000	0.0120	1.88	2.93	3.52	0.53
AD-408	wye-1	20.00	47.95	47.80	0.15	0.7500	12.000	0.0120	0.13	0.68	3.34	0.04
AD-409	EX-CB(NW)	68.00	47.00	45.70	1.30	1.9100	12.000	0.0120	0.13	2.73	5.34	0.02
AD-410	DMH-403	33.00	47.80	47.60	0.20	0.6100	12.000	0.0120	0.20	1.59	3.00	0.07
AD-411	Jun wye-2	8.00	48.00	47.90	0.10	1.2500	12.000	0.0120	0.10	0.95	4.32	0.02
AD-412	Out-11	24.00	44.25	44.00	0.25	1.0400	12.000	0.0150	0.52	2.74	3.15	0.16
CB-101	CB-402	70.00	57.50	57.10	0.40	0.5700	12.000	0.0120	0.53	1.84	2.92	0.18
CB-102	CB-103	59.00	47.75	45.50	2.25	3.8100	12.000	0.0120	0.89	5.54	7.54	0.12
CB-103	CB-104	34.00	45.50	44.25	1.25	3.6800	12.000	0.0120	1.18	2.87	7.40	0.16
CB-104	DIV-03	22.00	44.25	44.10	0.15	0.6800	15.000	0.0120	2.60	3.83	5.78	0.45
CB-105	CB-106	39.00	44.70	44.50	0.20	0.5100	12.000	0.0120	0.78	1.89	2.76	0.28
CB-106	CB-104	44.00	44.50	44.25	0.25	0.5700	12.000	0.0120	1.16	2.03	2.91	0.40
CB-107	WetlandEast_DP1.4.3	78.00	50.00	49.00	1.00	1.2800	30.000	0.0130	20.45	7.38	46.44	0.44
CB-201	CB-202	60.00	57.40	57.10	0.30	0.5000	15.000	0.0120	2.49	2.64	4.95	0.50
CB-202	AD-206	49.00	57.10	56.85	0.25	0.5100	15.000	0.0120	4.03	3.41	5.00	0.81
CB-203	WetlandEast_DP1.4.2	33.00	51.85	51.45	0.40	1.2100	15.000	0.0120	5.01	5.67	7.70	0.65
CB-301	DMH-302	26.00	55.90	53.85	2.05	7.8800	12.000	0.0120	0.77	4.74	10.84	0.07
CB-302	CB-401	193.00	53.35	52.35	1.00	0.5200	18.000	0.0120	4.00	2.98	8.19	0.49
CB-303	CB-304	67.00	56.85	56.50	0.35	0.5200	12.000	0.0120	2.52	3.21	2.79	0.90

Hydraulic Design Table (25-year Design Storm)

Date 5/30/2025
Initials AJM

From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Total Drop	Average Slope	Pipe Diameter or Height	Manning's Roughness	Peak Flow	Max Flow Velocity	Design Flow Capacity	Max Flow / Design Flow Ratio
Column1	Column2	(ft)	(ft)3	(ft)4	(ft)5	(%)	(inches)	Column6	(cfs)	(ft/sec)	(cfs)7	Column8
CB-304	CB-305	52.00	56.50	56.20	0.30	0.5800	15.000	0.0120	4.10	3.34	5.32	0.77
CB-305	DMH-303	70.00	56.20	55.80	0.40	0.5700	18.000	0.0120	5.86	3.31	8.60	0.68
CB-306	DMH-304	37.00	55.20	54.95	0.25	0.6800	12.000	0.0120	2.70	4.50	3.17	0.85
CB-307	DMH-303	29.00	56.00	55.80	0.20	0.6900	18.000	0.0120	7.25	6.41	9.45	0.77
CB-308	DMH-305	78.00	53.25	52.85	0.40	0.5100	15.000	0.0120	2.27	3.17	5.01	0.45
CB-401	DMH-401	89.00	52.35	52.00	0.35	0.3900	24.000	0.0120	8.96	3.80	15.37	0.58
CB-402	CB-404	151.00	57.10	56.30	0.80	0.5300	15.000	0.0120	1.50	3.70	5.09	0.29
CB-403	CB-404	55.49	57.00	56.30	0.70	1.2600	12.000	0.0120	0.80	3.09	4.33	0.19
CB-404	CB-405	96.00	56.30	51.50	4.80	5.0000	15.000	0.0120	3.65	5.90	15.65	0.23
CB-405	DMH-402	70.00	51.50	48.30	3.20	4.5700	24.000	0.0120	14.85	7.44	52.40	0.28
CB-406	CB-402	52.00	57.40	57.10	0.30	0.5800	12.000	0.0120	0.46	1.65	2.93	0.16
DIV-01	EX-DMH	33.60	46.10	44.10	2.00	5.9500	36.000	0.0130	42.74	8.35	162.73	0.26
DIV-03	DMH-101	57.00	42.75	42.40	0.35	0.6100	15.000	0.0120	2.59	2.83	5.48	0.47
DIV-04	DMH-106	31.00	46.90	46.60	0.30	0.9700	24.000	0.0150	10.14	5.30	19.29	0.53
DIV-2	WetlandEast_DP1.4.1	23.00	56.15	55.00	1.15	5.0000	15.000	0.0120	4.01	8.31	15.65	0.26
DMH-101	WetlandEast_DP1.4.5	27.00	42.40	42.25	0.15	0.5600	18.000	0.0130	3.95	3.81	7.83	0.50
DMH-102	DMH-103	42.00	56.25	55.80	0.45	1.0700	18.000	0.0120	2.25	3.68	11.78	0.19
DMH-103	IB-1.2	144.00	55.80	55.00	0.80	0.5600	18.000	0.0120	2.24	3.84	8.48	0.26
DMH-104	DMH-102	132.00	57.35	56.25	1.10	0.8300	12.000	0.0150	2.27	4.12	2.82	0.81
DMH-106	WESTWETLAND2	49.00	45.50	44.00	1.50	3.0600	24.000	0.0120	10.30	9.28	42.88	0.24
DMH-107	WESTWETLAND1	25.00	44.20	44.05	0.15	0.6000	24.000	0.0130	7.82	4.31	17.52	0.45
DMH-108	CB-107	98.00	50.50	50.00	0.50	0.5100	30.000	0.0130	17.40	4.93	29.30	0.59
DMH-201	DMH-202	187.50	56.90	55.95	0.95	0.5100	12.000	0.0120	2.04	4.03	2.75	0.74
DMH-202	DMH-203	51.00	55.95	55.60	0.35	0.6900	15.000	0.0120	2.04	3.14	5.80	0.35
DMH-203	WetlandEast_DP1.2.1	28.00	55.60	55.45	0.15	0.5400	15.000	0.0120	2.04	3.41	5.12	0.40
DMH-212	AD-204	81.00	58.45	58.00	0.45	0.5600	12.000	0.0120	0.33	2.50	2.88	0.11
DMH-301(OWS)	DMH-302	52.22	54.15	53.85	0.30	0.5700	12.000	0.0120	0.55	1.71	2.93	0.19
DMH-302	DMH-310	36.00	53.85	53.65	0.20	0.5600	15.000	0.0120	1.21	1.94	5.22	0.23

Hydraulic Design Table (25-year Design Storm)

Date 5/30/2025
Initials AJM

From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Total Drop	Average Slope	Pipe Diameter or Height	Manning's Roughness	Peak Flow	Max Flow Velocity	Design Flow Capacity	Max Flow / Design Flow Ratio
Column1	Column2	(ft)	(ft)3	(ft)4	(ft)5	(%)	(inches)	Column6	(cfs)	(ft/sec)	(cfs)7	Column8
DMH-303	DB-02	32.00	55.80	55.60	0.20	0.6200	18.000	0.0120	11.19	6.55	9.00	1.24
DMH-304	AD-306	28.00	54.95	54.80	0.15	0.5400	12.000	0.0120	2.61	4.92	2.83	0.92
DMH-305	DMH-306	19.00	52.85	52.65	0.20	1.0500	15.000	0.0120	4.78	4.31	7.18	0.67
DMH-306	DMH-307	64.00	52.40	52.05	0.35	0.5500	18.000	0.0130	5.00	2.90	7.77	0.64
DMH-307	DMH-308	148.00	52.05	51.25	0.80	0.5400	24.000	0.0130	8.92	3.06	16.63	0.54
DMH-308	DMH-309	65.00	51.25	50.90	0.35	0.5400	30.000	0.0130	17.40	5.26	30.10	0.58
DMH-309	DMH-108	77.00	50.90	50.50	0.40	0.5200	30.000	0.0130	17.40	6.06	29.56	0.59
DMH-310	CB-302	55.00	53.65	53.35	0.30	0.5500	15.000	0.0120	3.27	4.09	5.17	0.63
DMH-311	CB-308	26.00	53.40	53.25	0.15	0.5800	12.000	0.0120	2.27	4.73	2.93	0.77
DMH-401	CB-405	89.00	52.00	51.50	0.50	0.5600	24.000	0.0120	11.26	6.19	18.37	0.61
DMH-402	DMH-403	181.00	48.30	47.25	1.05	0.5800	24.000	0.0120	14.76	5.78	18.67	0.79
DMH-403	DIV-01	139.00	47.15	46.10	1.05	0.7600	30.000	0.0130	16.58	4.34	35.65	0.47
DMH-404	DMH-401	96.75	52.50	52.00	0.50	0.5200	18.000	0.0120	0.51	0.85	8.18	0.06
DMH-405	Jun wye-2	23.00	48.05	47.90	0.15	0.6500	15.000	0.0120	1.84	2.27	7.30	0.25
DMH-406	DMH-104	40.00	57.60	57.35	0.25	0.6300	12.000	0.0120	2.34	3.42	3.05	0.77
DMH-407	DMH-403	5.00	47.20	47.15	0.05	1.0000	15.000	0.0120	1.99	1.62	7.00	0.28
EX-DMH	DB-01	18.00	44.10	44.00	0.10	0.5600	36.000	0.0130	42.74	6.64	49.71	0.86
Jun wye-2	wye-1	46.00	47.90	47.70	0.20	0.4300	15.000	0.0150	2.48	3.17	3.69	0.67
OCS-05	Out-12	12.60	43.60	43.40	0.20	1.5900	24.000	0.0130	16.31	7.14	28.50	0.57
OCS-1	DMH-107	163.00	45.10	44.20	0.90	0.5500	24.000	0.0130	9.72	5.86	16.81	0.58
OCS-2	DMH-307	12.00	54.35	53.95	0.40	3.3300	24.000	0.0120	4.02	5.83	44.74	0.09
OCS-4	DMH-308	9.00	51.75	51.55	0.20	2.2200	24.000	0.0120	8.64	6.12	36.53	0.24
ROOF-1	DMH-401	47.00	57.45	55.10	2.35	5.0000	12.000	0.0120	3.80	8.50	8.63	0.44
ROOF-2	DMH-406	9.00	59.50	58.80	0.70	7.7800	12.000	0.0120	2.37	6.84	10.76	0.22
ROOF-4	Bio-03	12.16	59.40	59.00	0.40	3.2900	12.000	0.0120	1.19	5.22	7.00	0.17
ROOF-5	IB-1.1	40.00	55.25	55.00	0.25	0.6300	15.000	0.0120	4.76	4.37	5.53	0.86
Synthetic-Turf	DIV-04	54.00	47.20	46.90	0.30	0.5600	18.000	0.0120	13.97	5.57	16.96	0.82
TrenchDrainEast	Sandfilter-05	24.00	50.00	49.00	1.00	4.1700	12.000	0.0120	1.94	6.90	7.88	0.25

Hydraulic Design Table (25-year Design Storm)

Date 5/30/2025
Initials AJM

From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Total Drop	Average Slope	Pipe Diameter or Height	Manning's Roughness	Peak Flow	Max Flow Velocity	Design Flow Capacity	Max Flow / Design Flow Ratio
Column1	Column2	(ft)	(ft)3	(ft)4	(ft)5	(%)	(inches)	Column6	(cfs)	(ft/sec)	(cfs)7	Column8
TrenchDrainLoading	DMH-301(OWS)	6.00	54.30	54.15	0.15	2.5000	12.000	0.0150	0.60	2.69	4.88	0.12
TrenchDrainWest	SandFilter-02	48.00	55.35	54.85	0.50	1.0400	12.000	0.0150	2.61	4.04	3.15	0.83
wye-1	DMH-407	95.00	47.70	47.20	0.50	0.5300	15.000	0.0120	1.98	2.51	5.08	0.39

Bristol Warren Regional School District

MT. HOPE HIGH SCHOOL

APPENDIX C

RIDEM Pre-Application Minutes– dated 01/07/2025

Appendix A Checklist

Water Quality Volume Calculation Worksheet

Stormwater Treatment Area Calculation

Recharge Calculation Worksheet

Bioretention Area Calculations

Sand Filter Area Calculations

Infiltration Basin Calculations

Wet Swale Calculations

Channel Protection Calculations

Groundwater Mounding Analysis (see January 2025 report)

FHWA Riprap Spreader Calculations

Diversion Calculations

APPENDIX A: STORMWATER MANAGEMENT PLAN CHECKLIST AND LID PLANNING REPORT – STORMWATER DESIGN SUMMARY

PROJECT NAME **Mt. Hope High School**	**(RIDEM USE ONLY)**
TOWN **Bristol**	**STW/WQC File #:**
BRIEF PROJECT DESCRIPTION: The project includes the demolition of the existing Mt. Hope High School and the construction of a new high school at 199 Chestnut Street in Bristol, RI. The project will include a new building, site improvements, new utility connections, and new stormwater management systems.	**Date Received:**

Stormwater Management Plan (SMP) Elements – Minimum Standards

When submitting a SMP,[1] submit four separately bound documents: Appendix A Checklist; Stormwater Site Planning, Analysis and Design Report with Plan Set/Drawings; Soil Erosion and Sediment Control (SESC) Plan, and Post Construction Operations and Maintenance (O&M) Plan. Please refer to Suggestions to Promote Brevity.

Note: **All stormwater construction projects must create a Stormwater Management Plan (SMP). However, not every element listed below is required per the RIDEM Stormwater Rules and the RIPDES Construction General Permit (CGP). This checklist will help identify the required elements to be submitted with an Application for Stormwater Construction Permit & Water Quality Certification.**

PART 1. PROJECT AND SITE INFORMATION

PROJECT TYPE (Check all that apply)

☐ Residential	☐ Commercial	☐ Federal	☐ Retrofit	☐ Restoration
☐ Road	☐ Utility	☐ Fill	☐ Dredge	☐ Mine
☒ Other (specify): Institutional: High School				

SITE INFORMATION

☒ Vicinity Map: Appendix A

INITIAL DISCHARGE LOCATION(S): The WQv discharges to: (You may choose more than one answer if several discharge points are associated with the project.)

☒ **Groundwater**	☒ **Surface Water**	☒ **MS4**
☐ GAA	☐ Isolated Wetland	☐ RIDOT
☒ GA	☒ Named Waterbody	☐ RIDOT Alteration Permit is Approved
☐ GB	☐ Unnamed Waterbody Connected to Named Waterbody	☒ Town
		☐ Other (specify):

ULTIMATE RECEIVING WATERBODY LOCATION(S): Include pertinent information that applies to both WQ_v and flow from larger storm events including overflows. Choose all that apply, and repeat table for each waterbody.

☐ Groundwater or Disconnected Wetland	☐ SRWP		
☒ Waterbody Name: Silver Creek	☐ Coldwater	☒ Warmwater	☐ Unassessed
☒ Waterbody ID: RI0007026R-01	☐ 4th order stream of pond 50 acres or more		
☐ TMDL for:	☐ Watershed of flood prone river (e.g., Pocasset River)		
☐ Contributes to a priority outfall listed in the TMDL	☐ Contributes stormwater to a public beach		
☐ 303(d) list – Impairment(s) for:	☐ Contributes to shellfishing grounds		

[1] Applications for a Construction General Permit that do not require any other permits from RIDEM and will disturb less than 5 acres over the entire course of the project do not need to submit a SMP. The Appendix A checklist must still be submitted.

PROJECT HISTORY		
☒ RIDEM Pre- Application Meeting	Meeting Date: 7-18-23, 01-07-2025	☒ Minutes Attached
☒ Municipal Master Plan Approval	Approval Date: 10-10-2024	☐ Minutes Attached
☐ Subdivision Suitability Required	Approval #:	
☐ Previous Enforcement Action has been taken on the property	Enforcement #:	

FLOODPLAIN & FLOODWAY See Guidance Pertaining to Floodplain and Floodways	
☒ Riverine 100-year floodplain: **FEMA FLOODPLAIN FIRMETTE** has been reviewed and the 100-year floodplain is on site	
☒ Delineated from FEMA Maps: See Appendix A	
NOTE: Per Rule 250-RICR-150-10-8-1.1(B)(5)(d)(3), provide volumetric floodplain compensation calculations for cut and fill/displacement calculated by qualified professional	
☒ Calculated by Professional Engineer	
☒ Calculations are provided for cut vs. fill/displacement volumes proposed within the 100-year floodplain	Amount of Fill (CY): 0 Amount of Cut (CY): 996
☐ Restrictions or modifications are proposed to the flow path or velocities in a floodway	
☐ Floodplain storage capacity is impacted	
☐ Project area is not within 100-year floodplain as defined by RIDEM	

CRMC JURISDICTION
☐ CRMC Assent required
☐ Property subject to a Special Area Management Plan (SAMP). If so, specify which SAMP:
☐ Sea level rise mitigation has been designed into this project

LUHPPL IDENTIFICATION - MINIMUM STANDARD 8:			
1. OFFICE OF Land Revitalization and Sustainable Materials Management (OLRSMM)			
	☐ Known or suspected releases of HAZARDOUS MATERIAL are present at the site (Hazardous Material is defined in Rule 1.4(A)(33) of 250-140-30-1 of the RIDEM Rules and Regulations for Investigation and Remediation of Hazardous Materials (the Remediation Regulations))		**RIDEM CONTACT:**
	☐ Known or suspected releases of PETROLEUM PRODUCT are present at the site (Petroleum Product as defined in Rule 1.5(A)(84) of 250-140-25-1 of the RIDEM Rules and Regulations for Underground Storage Facilities Used for Regulated Substances and Hazardous Materials)		
	☐ This site is identified on the RIDEM Environmental Resources Map as one of the following regulated facilities		**SITE ID#**:
		☐ CERCLIS/Superfund (NPL)	
		☐ State Hazardous Waste Site (SHWS)	
		☐ Environmental Land Usage Restriction (ELUR)	
		☐ Leaking Underground Storage Tank (LUST)	
		☐ Closed Landfill	
Note: If any boxes in 1 above are checked, the applicant must contact the RIDEM OLRSMM Project Manager associated with the Site to determine if subsurface infiltration of stormwater is allowable for the project. Indicate if the infiltration corresponds to "Red," "Yellow" or "Green" as described in Section 3.2.8 of the RISDISM Guidance (Subsurface Contamination Guidance). Also, note and reference approval in PART 3, Minimum Standard 2: Groundwater Recharge/Infiltration.			
2. PER MINIMUM STANDARD 8 of RICR 8.14.C.1-6 "LUHPPLS," THE SITE IS/HAS:			
	☐ Industrial Site with RIPDES MSGP, except where No Exposure Certification exists. http://www.dem.ri.gov/programs/water/permits/ripdes/stormwater/status.php		
	☐ Auto Fueling Facility (e.g., gas station)		
	☐ Exterior Vehicles Service, Maintenance, or Equipment Cleaning Area		

	☐ Road Salt Storage and Loading Areas (exposed to rainwater)	
	☐ Outdoor Storage and Loading/Unloading of Hazardous Substances	
3.	**STORMWATER INDUSTRIAL PERMITTING**	
	☐ The site is associated with existing or proposed activities that are considered Land Uses with Higher Potential Pollutant Loads (LUHPPLS) (see RICR 8.14.C)	Activities: Sector:
	☐ Construction is proposed on a site that is subject to THE MULTI-SECTOR GENERAL PERMIT (MSGP) UNDER RULE 31(B)15 OF THE RIPDES REGULATIONS.	MSGP permit #
	☐ Additional stormwater treatment is required by the MSGP Explain:	

REDEVELOPMENT STANDARD – MINIMUM STANDARD 6		
☒ Pre Construction Impervious Area		
10.54	☒ Total Pre-Construction Impervious Area (**TIA**)	
44.41	☒ Total Site Area (**TSA**)	
18.63	☒ Jurisdictional Wetlands (**JW**)	
0.00	☒ Conservation Land (**CL**)	
☒ Calculate the Site Size (defined as contiguous properties under same ownership)		
28.74	☒ Site Size (**SS**) = (**TSA**) – (**JW**) – (**CL**)	
	☒ (**TIA**) / (**SS**) = 0.37	☐ (**TIA**) / (**SS**) >**0.4**?
☐ YES, Redevelopment		

PART 2. LOW IMPACT DEVELOPMENT ASSESSMENT – MINIMUM STANDARD 1

(NOT REQUIRED FOR REDEVELOPMENT OR RETROFITS)

This section may be deleted if not required.

Note: A written description must be provided specifying why each method is not being used or is not applicable at the Site. Appropriate answers may include:

- Town requires … (state the specific local requirement)
- Meets Town's dimensional requirement of …
- Not practical for site because …
- Applying for waiver/variance to achieve this (pending/approved/denied)
- Applying for wavier/variance to seek relief from this (pending/approved/denied)

A) PRESERVATION OF UNDISTURBED AREAS, BUFFERS, AND FLOODPLAINS	**IF NOT IMPLEMENTED, EXPLAIN HERE**
☒ Sensitive resource areas and site constraints are identified (required) ☒ Local development regulations have been reviewed (required) ☐ All vegetated buffers and coastal and freshwater wetlands will be protected during and after construction ☒ Conservation Development or another site design technique has been incorporated to protect open space and pre-development hydrology. **Note:** If Conservation Development has been used, check box and skip to Subpart C ☒ As much natural vegetation and pre-development hydrology as possible has been maintained	Vegetated buffers are protected to the maximum extent practicable

B) LOCATE DEVELOPMENT IN LESS SENSITIVE AREAS AND WORK WITH THE NATURAL LANDSCAPE CONDITIONS, HYDROLOGY, AND SOILS ☒ Development sites and building envelopes have been appropriately distanced from wetlands and waterbodies ☐ Development and stormwater systems have been located in areas with greatest infiltration capacity (e.g., soil groups A and B) ☒ Plans show measures to prevent soil compaction in areas designated as Qualified Pervious Areas (QPA's) ☐ Development sites and building envelopes have been positioned outside of floodplains ☒ Site design positions buildings, roadways and parking areas in a manner that avoids impacts to surface water features ☒ Development sites and building envelopes have been located to minimize impacts to steep slopes (≥15%) ☐ Other (describe):	No class A or B soils are on-site, infiltration is proposed in C soils and to the maximum extent practicable. Site features have been move outside of the flood plain to the maximum extent practicable.
C) MINIMIZE CLEARING AND GRADING ☒ Site clearing has been restricted to <u>minimum area needed</u> for building footprints, development activities, construction access, and safety. ☒ Site has been designed to position buildings, roadways, and parking areas in a manner that minimizes grading (cut and fill quantities) ☒ Protection for stands of trees and individual trees and their root zones to be preserved has been specified, and such protection extends at least to the tree canopy drip line(s) ☒ Plan notes specify that public trees removed or damaged during construction shall be replaced with equivalent	The Site has been graded to avoid fill within the floodplain.
D) REDUCE IMPERVIOUS COVER ☐ Reduced roadway widths (≤22 feet for ADT ≤ 400; ≤ 26 feet for ADT 400 - 2,000) ☐ Reduced driveway areas (length minimized via reduced ROW width (≤ 45 ft.) and/or reduced (or absolute minimum) front yard setback; width minimized to ≤ 9 ft. wide one lane; ≤ 18 ft. wide two lanes; shared driveways; pervious surface) ☒ Reduced building footprint: Explain approach: ☐ Reduced sidewalk area (≤ 4 ft. wide; one side of the street; unpaved path; pervious surface) ☐ Reduced cul-de-sacs (radius < 45 ft; vegetated island; alternative turn-around) ☒ Reduced parking lot area: Explain approach ☐ Use of pervious surfaces for driveways, sidewalks, parking areas/overflow parking areas, etc. ☒ Minimized impervious surfaces (project meets or is less than maximum specified by Zoning Ordinance) ☐ Other (describe):	Building footprint is the minimum possible to facilitate the required number of students. Parking has been minimized to limit impacts to resource areas. Drive aisles have been reduced to 20' where possible and compact spaces have been used to reduce impervious surface.
E) DISCONNECT IMPERVIOUS AREA ☒ Impervious surfaces have been disconnected, and runoff has been diverted to QPAs to the maximum extent possible ☐ Residential street edges allow side-of-the-road drainage into vegetated open swales ☐ Parking lot landscaping breaks up impervious expanse AND accepts runoff ☐ Other (describe):	
F) MITIGATE RUNOFF AT THE POINT OF GENERATION ☒ Small-scale BMPs have been designated to treat runoff as close as possible to the source	

G) PROVIDE LOW-MAINTENANCE NATIVE VEGETATION ☒ Low-maintenance landscaping has been proposed using native species and cultivars ☒ Plantings of native trees and shrubs in areas previously cleared of native vegetation are shown on site plan ☒ Lawn areas have been limited/minimized, and yards have been kept undisturbed to the maximum extent practicable on residential lots	
H) RESTORE STREAMS/WETLANDS ☐ Historic drainage patterns have been restored by removing closed drainage systems, daylighting buried streams, and/or restoring degraded stream channels and/or wetlands ☐ Removal of invasive species ☐ Other	

PART 3. SUMMARY OF REMAINING STANDARDS

GROUNDWATER RECHARGE – MINIMUM STANDARD 2		
YES	**NO**	
☒	☐	The project has been designed to meet the groundwater recharge standard.
☐	☐	If "No," the justification for groundwater recharge criterion waiver has been explained in the Narrative (e.g., threat of groundwater contamination or physical limitation), if applicable (see RICR 8.8.D);
☐	☐	Your waiver request has been explained in the Narrative, if applicable.
☐	☒	Is this site identified as a Regulated Facility in Part 1, Minimum Standard 8: LUHPPL Identification?
☐	☐	If "Yes," has approval for infiltration by the OLRSMM Site Project Manager, per Part 1, Minimum Standard 8, been requested?

TABLE 2-1: Summary of Recharge (see RISDISM Section 3.3.2)
(Add or Subtract Rows as Necessary)

Design Point	**Impervious Area Treated (sq ft)**	**Total Re_v Required (cu ft)**	**LID Stormwater Credits (see RISDISM Section 4.6.1)** **Portion of Re_v directed to a QPA (cu ft)**	**Recharge Required by Remaining BMPs (cu ft)**	**Recharge Provided by BMPs (cu ft)**
Silver Creek	544,519	11,344	234	11,110	40,199

Notes:
1. Only BMPs listed in RISDISM Table 3-5 "List of BMPs Acceptable for Recharge" may be used to meet the recharge requirement.
2. Recharge requirement must be satisfied for each waterbody ID.

☒ Indicate where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.): See appendix C

WATER QUALITY – MINIMUM STANDARD 3		
YES	**NO**	
☐	☒	Does this project meet or exceed the required water quality volume WQv (see RICR 8.9.E-I)?
☒	☐	Is the proposed final impervious cover greater than 20% of the disturbed area (see RICR 8.9.E-I)?
☒	☐	If "Yes," either the Modified Curve Number Method or the Split Pervious/Impervious method in Hydro-CAD was used to calculate WQv; or,
☐	☐	If "Yes," either TR-55 or TR-20 was used to calculate WQv; and,
☐	☐	If "No," the project meets the minimum WQv of 0.2 watershed inches over the entire disturbed area.
☐	☐	Not Applicable
☒	☐	Does this project meet or exceed the ability to treat required water quality flow WQf (see RICR 8.9.I.1-3)?
☐	☒	Does this project propose an increase of impervious cover to a receiving water body with impairments? If "Yes," please indicate below the method that was used to address the water quality requirements of no further degradation to a low-quality water.
☐	☒	RICR 8.36. A Pollutant Loading Analysis is needed and has been completed.
☐	☐	The Water Quality Guidance Document (Water Quality Goals and Pollutant Loading Analysis Guidance for Discharges to Impaired Waters) has been followed as applicable.
☐	☐	BMPs are proposed that are on the approved technology list . If "Yes," please provide all required worksheets from the manufacturer.
☐	☒	Additional pollutant-specific requirements and/or pollutant removal efficiencies are applicable to the site as the result of a TMDL, SAMP, or other watershed-specific requirements. If "Yes," please describe:

TABLE 3-1: Summary of Water Quality (see RICR 8.9)					
Design Point and WB ID	**Impervious area treated (sq ft)**	**Total WQ_v Required (cu ft)**	**LID Stormwater Credits** (see RICR 8.18) **WQv directed to a QPA (cu ft)**	**Water Quality Treatment Remaining (cu ft)**	**Water Quality Provided by BMPs (cu ft)**
Silver Creek	544,519	45,377	934	44,443	42,607

Notes:
1. Only BMPs listed in RICR 8.20 and 8.25 or the Approved Technologies List of BMPs is Acceptable for Water Quality treatment.
2. For each Design Point, the Water Quality Volume Standard must be met for each Waterbody ID.

☐ YES ☒ NO	This project has met the setback requirements for each BMP. If "No," please explain: Please see the Stormwater narrative for technical justifications requested.

☒ Indicate where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.): Water quality treatment is provided to the maximum extents practicable with significant water quality improvements compared to the existing condition. Refer to appendix C for BMP calculations.

CONVEYANCE AND NATURAL CHANNEL PROTECTION (RICR 8.10) – MINIMUM STANDARD 4			
YES	**NO**		
☐	☒	Is this standard waived? If "Yes," please indicate one or more of the reasons below:	
		☐	The project directs discharge to a large river (i.e., 4th-order stream or larger. See RISDISM Appendix I for State-wide list and map of stream orders), bodies of water >50.0 acres in surface area (i.e., lakes, ponds, reservoirs), or tidal waters.
		☐	The project is a small facility with impervious cover of less than or equal to 1 acre.
		☐	The project has a post-development peak discharge rate from the facility that is less than 2 cfs for the 1-year, 24-hour Type III design storm event (prior to any attenuation). (Note: LID design strategies can greatly reduce the peak discharge rate).
☒	☐	Conveyance and natural channel protection for the site have been met. If "No,' explain why:	

TABLE 4-1: Summary of Channel Protection Volumes (see RICR 8.10)					
Design Point	**Receiving Water Body Name**	**Coldwater Fishery? (Y/N)**	**Total CPv Required (cu ft)**	**Total CPv Provided (cu ft)**	**Average Release Rate Modeled in the 1-yr storm (cfs)**
Silver Creek	Silver Creek	N	93,855	119,230	20.50
Note: The Channel Protection Volume Standard must be met in each waterbody ID.					
☒ YES ☐ NO	The CPv is released at roughly a uniform rate over a 24-hour duration (see examples of sizing calculations in Appendix D of the RISDISM).				
☐ YES ☒ NO	Do additional design restrictions apply resulting from any discharge to cold-water fisheries; If "Yes," please indicate restrictions and solutions below.				
☒ Indicate below where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.). Refer to appendix C for channel protection calculations.					

OVERBANK FLOOD PROTECTION (RICR 8.11) AND OTHER POTENTIAL HIGH FLOWS – MINIMUM STANDARD 5			
YES	**NO**		
☐	☒	Is this standard waived? If yes, please indicate one or more of the reasons below:	
		☐	The project directs discharge to a large river (i.e., 4th-order stream or larger. See Appendix I for state-wide list and map of stream orders), bodies of water >50.0 acres in surface area (i.e., lakes, ponds, reservoirs), or tidal waters.
		☐	A Downstream Analysis (see RICR 8.11.D and E) indicates that peak discharge control would not be beneficial or would exacerbate peak flows in a downstream tributary of a particular site (e.g., through coincident peaks).

Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8)

☒	☐	Does the project flow to an MS4 system or subject to other stormwater requirements? If "Yes," indicate as follows:	
		☐	RIDOT
		☒	Other (specify): Town MS4, no other requirements
Note:		The project could be approved by RIDEM but not meet RIDOT or Town standards. RIDOT's regulations indicate that post-volumes must be **less** than pre-volumes for the 10-yr storm at the design point entering the RIDOT system. If you have not already received approval for the discharge to an MS4, please explain below your strategy to comply with RIDEM and the MS4.	
		Indicate below which model was used for your analysis. ☐ TR-55 ☐ TR-20 ☒ HydroCAD ☐ Bentley/Haestad ☐ Intellisolve ☐ Other (Specify):	
YES	**NO**		
☒	☐	Does the drainage design demonstrate that flows from the 100-year storm event through a BMP will safely manage and convey the 100-year storm? If "No," please explain briefly below and reference where in the application further documentation can be found (i.e., name of report/document, page numbers, appendices, etc.):	
☒	☐	Do off-site areas contribute to the sub-watersheds and design points? If "Yes,"	
☒	☐	Are the areas modeled as "present condition" for both pre- and post-development analysis?	
☒	☐	Are the off-site areas shown on the subwatershed maps?	
☒	☐	Does the drainage design confirm safe passage of the 100-year flow through the site for off-site runoff?	
☐	☒	Is a Downstream Analysis required (see RICR 8.11.E.1)?	
☐	☐	Calculate the following:	
		☐	Area of disturbance within the sub-watershed (areas): 29.80
		☐	Impervious cover (%) 30.26%
☐	☒	Is a dam breach analysis required (earthen embankments over six (6) feet in height, or a capacity of 15 acre-feet or more, and contributes to a significant or high hazard dam)?	
☒	☐	Does this project meet the overbank flood protection standard?	

Table 5-1 Hydraulic Analysis Summary								
Subwatershed (Design Point)	**1.2" Peak Flow** (cfs) **		**1-yr Peak Flow** (cfs)		**10-yr Peak Flow** (cfs)		**100-yr Peak Flow** (cfs)	
	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)
DP-1.1: Culvert 1	1.42	0.41	8.83	7.45	23.08	21.30	50.14	48.60
DP-1.2: Culvert 2	1.79	0.53	9.87	8.27	25.17	23.04	54.13	54.77
DP-1.3: Culvert 3	1.94	0.57	10.22	8.64	25.92	23.98	55.59	56.88
DP-1.4: Silver Creek East Branch	7.48	1.36	25.70	16.36	58.84	50.66	119.32	116.14
DP-2.1: West Wetland	0.97	0.03	6.84	3.09	20.21	20.15	60.35	60.02
DP-2.2: Silver Creek West Branch	1.75	0.76	10.53	4.44	30.43	24.67	78.59	71.23

** Utilize modified curve number method or split pervious /impervious method in HydroCAD.

Note: The hydraulic analysis must demonstrate no impact to each individual subwatershed DP unless each DP discharges to the same wetland or water resource.

Indicate as follows where the pertinent calculations and/or information for the items above are provided	**Name of report/document, page numbers, appendices, etc.**
Existing conditions analysis for each subwatershed, including curve numbers, times of concentration, runoff rates, volumes, and water surface elevations showing methodologies used and supporting calculations.	See appendix B and D
Proposed conditions analysis for each subwatershed, including curve numbers, times of concentration, runoff rates, volumes, water surface elevations, and routing showing the methodologies used and supporting calculations.	See appendix B and D
Final sizing calculations for structural stormwater BMPs, including contributing drainage area, storage, and outlet configuration.	See appendix B and C
Stage-storage, inflow and outflow hydrographs for storage facilities (e.g., detention, retention, or infiltration facilities).	See appendix B

Table 5-2 Summary of Best Management Practices											
BMP ID	**DP #**	**BMP Type** (e.g., bioretention, tree filter)	**BMP Functions**					**Bypass Type**	**Horizontal Setback Criteria are met per RICR 8.21.B.10, 8.22.D.11, and 8.35.B.4**		
			Pre-Treatment (Y/N/NA)	Re_v	WQ_v	CP_v (Y/N/NA)	Overbank Flood Reduction (Y/N/NA)	External (E) Internal (I) or NA	Yes/ No	Technical Justification (Design Report page number)	Distance Provided
Bio-1	DP1.4	Bioretention Area	Y	Y	Y	Y	N	E	Y		
Bio-2	DP1.4	Bioretention Area	Y	Y	Y	Y	N	I	Y		
Bio-3	DP1.4	Bioretention Area	N	Y	Y	Y	N	I	Y		
Bio-4	DP1.4	Bioretention Area	N	Y	Y	Y	N	I	Y		
SF-1	DP2.1	Sand Filter	Y	Y	Y	Y	N	E	Y		

Table 5-2 Summary of Best Management Practices											
BMP ID	**DP #**	**BMP Type** (e.g., bioretention, tree filter)	**BMP Functions**					**Bypass Type**	**Horizontal Setback Criteria are met per RICR 8.21.B.10, 8.22.D.11, and 8.35.B.4**		
			Pre-Treatment (Y/N/NA)	Re_v	WQ_v	CP_v (Y/N/NA)	Overbank Flood Reduction (Y/N/NA)	External (E) Internal (I) or NA	Yes/No	Technical Justification (Design Report page number)	Distance Provided
SF-2	DP1.4	Sand Filter	Y	Y	Y	Y	N	E	Y		
SF-3	DP1.4	Sand Filter	Y	N	Y	Y	N	I	Y		
SF-4	DP1.2	Sand Filter	N	N	Y	Y	N	I	Y		
SF-5	DP1.4	Sand Filter	N	Y	Y	Y	N	I	Y		
IB-1	DP1.4	Infiltration Basin	N	Y	Y	Y	Y	I	Y		
WS-1	DP1.4	Wet Swale	Y	Y	Y	N	N	I	Y		
UGIS-1	DP2.2	Underground Infiltration	N	Y	Y	Y	Y	I	N	See page 15 of the Stormwater Report Narrative	6 FT
		TOTALS:									

Table 5.3 Summary of Soils to Evaluate Each BMP									
DP #	**BMP ID**	**BMP Type** (e.g., bioretention, tree filter)	**Soils Analysis for Each BMP**						
			Test Pit ID# and Ground Elevation		SHWT Elevation (ft)	Bottom of Practice Elevation* (ft)	Separation Distance Provided (ft)	Hydrologic Soil Group (A, B, C, D)	Exfiltration Rate Applied (in/hr)
			Primary	Secondary					
DP1.2	SF-4	Sand Filter	TP 24-5	TP 24-4	63.40	61.00	-3.00	C	N/A
DP1.4	Bio-1	Bioretention	TP 20-6	TP 20-3	41.00	44.00	3.00	C	0.27
DP1.4	Bio-2	Bioretention	TP 24-9	TP 20-5	54.58	56.50	1.92	C	N/A
DP1.4	Bio-3	Bioretention	TP 24-8	TP 15-6	56.37	59.00	2.63	C	N/A
DP1.4	Bio-4	Bioretention	TP 10-3	TP 15-6	56.68	59.80	3.12	C	0.27
DP1.4	SF-2	Sand Filter	TP 24-6	TP 24-5	51.83	54.85	3.02	C	0.27
DP1.4	SF-3	Sand Filter	B24-2	TP 24-5	53.30	60.00	6.70	C	N/A
DP1.4	SF-5	Sand Filter	TP 20-4	TP 24-6	45.40	49.00	3.60	C	0.27
DP1.4	Inf-1	Infiltration Basin	TP 20-5	TP 24-9	50.72	55.00	4.28	C	1.02
DP1.4	WS-1	Wet Swale	TP 24-10	TP 10-3	57.70	56.70	-1.00	C	N/A
DP2.1	SF-1	Sand Filter	TP 08-5	TP 10-6	42.50	46.00	3.50	C	0.27
DP2.2	UGIS-1	Underground Infiltration	TP 20-3	N/A	43.30	46.30	3.00	C	0.27
* For underground infiltration systems (UICs) bottom equals bottom of stone, for surface infiltration basins bottom equals bottom									

of basin, for filters bottom equals interface of storage and top of filter layer

LAND USES WITH HIGHER POTENTIAL POLLUTANTS LOADS (LUHPPLs) – MINIMUM STANDARD 8			
YES	**NO**	**N/A**	
☐	☐	☒	Describe any LUHPPLs identified in Part 1, Minimum Standard 8, Section 2. If not applicable, continue to Minimum Standard 9.
☐	☐	☒	Are these activities already covered under an MSGP? If "No," please explain if you have applied for an MSGP or intend to do so?
☐	☐	☒	List the specific BMPs that are proposed for this project that receive stormwater from LUHPPL drainage areas. These BMP types must be listed in RISDISM Table 3-3, "Acceptable BMPs for Use at LUHPPLs." Please list BMPs:
☐	☐	☒	Additional BMPs, or additional pretreatment BMP's if any, that meet RIPDES MSGP requirements; Please list BMPs:
			Indicate below where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.).

ILLICIT DISCHARGES – MINIMUM STANDARD 9			
Illicit discharges are defined as unpermitted discharges to Waters of the State that do not consist entirely of stormwater or uncontaminated groundwater, except for certain discharges identified in the RIPDES Phase II Stormwater General Permit.			
YES	**NO**	**N/A**	
☒	☐	☐	Have you checked for illicit discharges?
☐	☒	☐	Have any been found and/or corrected? If "Yes," please identify.
☐	☐	☒	Does your report explain preventative measures that keep non-stormwater discharges out of the Waters of the State (during and after construction)?

SOIL EROSION AND SEDIMENT CONTROL (SESC) – MINIMUM STANDARD 10				
YES	**NO**	**N/A**		
☒	☐	☐	Have you included a Soil Erosion and Sediment Control Plan Set and/or Complete Construction Plan Set?	
☒	☐	☐	Have you provided a **separately-bound** document based upon the SESC Template? If yes, proceed to Minimum Standard 11 (the following items can be assumed to be addressed).	
			If "No," include a document with your submittal that addresses the following elements of an SESC Plan:	
			☐	Soil Erosion and Sediment Control Plan Project Narrative, including a description of how the fifteen (15) Performance Criteria have been met:
			☐	Provide Natural Buffers and Maintain Existing Vegetation
			☐	Minimize Area of Disturbance
			☐	Minimize the Disturbance of Steep Slopes
			☐	Preserve Topsoil
			☐	Stabilize Soils
			☐	Protect Storm Drain Inlets
			☐	Protect Storm Drain Outlets

	☐	Establish Temporary Controls for the Protection of Post-Construction Stormwater Control Measures
	☐	Establish Perimeter Controls and Sediment Barriers
	☐	Divert or Manage Run-On from Up-Gradient Areas
	☐	Properly Design Constructed Stormwater Conveyance Channels
	☐	Retain Sediment On-Site
	☐	Control Temporary Increases in Stormwater Velocity, Volume, and Peak Flows
	☐	Apply Construction Activity Pollution Prevention Control Measures
	☐	Install, Inspect, and Maintain Control Measures and Take Corrective Actions
	☐	Qualified SESC Plan Preparer's Information and Certification
	☐	Operator's Information and Certification; if not known at the time of application, the Operator must certify the SESC Plan upon selection and prior to initiating site activities
	☐	Description of Control Measures, such as Temporary Sediment Trapping and Conveyance Practices, including design calculations and supporting documentation, as required

STORMWATER MANAGEMENT SYSTEM OPERATION, MAINTENANCE, AND POLLUTION PREVENTION PLAN – MINIMUM STANDARDS 7 AND 9		
Operation and Maintenance Section		
YES	**NO**	
☒	☐	Have you minimized all sources of pollutant contact with stormwater runoff, to the maximum extent practicable?
☒	☐	Have you provided a **separately-bound** Operation and Maintenance Plan for the site and for all of the BMPs, and does it address each element of RICR 8.17 and RISDISM Appendix C and E?
☒	☐	Lawn, Garden, and Landscape Management meet the requirements of RISDISM Section G.7? If "No," why not?
☒	☐	Is the property owner or homeowner's association responsible for the stormwater maintenance of all BMP's? If "No," you must provide a legally binding and enforceable maintenance agreement (see RISDISM Appendix E, page 26) that identifies the entity that will be responsible for maintenance of the stormwater. Indicate where this agreement can be found in your report (i.e., name of report/document, page numbers, appendices, etc.).
☐	☒	Do you anticipate that you will need legal agreements related to the stormwater structures? (e.g. off-site easements, deed restrictions, covenants, or ELUR per the Remediation Regulations). If "Yes," have you obtained them? Or please explain your plan to obtain them:
☐	☒	Is stormwater being directed from public areas to private property? If "Yes," note the following: Note: This is not allowed unless a funding mechanism is in place to provide the finances for the long-term maintenance of the BMP and drainage, or a funding mechanism is demonstrated that can guarantee the long-term maintenance of a stormwater BMP by an individual homeowner.
Pollution Prevention Section		
☒	☐	Designated snow stockpile locations?
☐	☒	Trash racks to prevent floatables, trash, and debris from discharging to Waters of the State?
☒	☐	Asphalt-only based sealants?
☐	☒	Pet waste stations? (Note: If a receiving water has a bacterial impairment, and the project involves housing units, then this could be an important part of your pollution prevention plan).
☒	☐	Regular sweeping? Please describe:
☒	☐	De-icing specifications, in accordance with RISDISM Appendix G. (NOTE: If the groundwater is GAA, or this area contributes to a drinking water supply, then this could be an important part of your pollution prevention plan).
☒	☐	A prohibition of phosphate-based fertilizers? (Note: If the site discharges to a phosphorus impaired waterbody, then

		this could be an important part of your pollution prevention plan).

PART 4. SUBWATERSHED MAPPING AND SITE-PLAN DETAILS

Existing and Proposed Subwatershed Mapping (REQUIRED)			
YES	**NO**		
☒	☐		Existing and proposed drainage area delineations
☒	☐		Locations of all streams and drainage swales
☒	☐		Drainage flow paths, mapped according to the DEM *Guidance for Preparation of Drainage Area Maps* (included in RISDISM Appendix K)
☒	☐		Complete drainage area boundaries; include off-site areas in both mapping and analyses, as applicable
☒	☐		Logs of borings and/or test pit investigations along with supporting soils/geotechnical report
☒	☐		Mapped seasonal high-water-table test pit locations
☒	☐		Mapped locations of the site-specific borings and/or test pits and soils information from the test pits at the locations of the BMPs
☒	☐		Mapped locations of the BMPs, with the BMPs consistently identified on the Site Construction Plans
☒	☐		Mapped bedrock outcrops adjacent to any infiltration BMP
☒	☐		Soils were logged by a:
		☐	DEM-licensed Class IV soil evaluator Name: Spencer Lynds SE# 14275
		☐	RI-registered P.E. Name:

Subwatershed and Impervious Area Summary				
Subwatershed (area to each design point)	**First Receiving Water ID or MS4**	**Area Disturbed (units)**	**Existing Impervious (units)**	**Proposed Impervious (units)**
DP-1.4: Silver Creek East Branch	RI0007026R-01	1,112,405 SF	424,049 SF	305,981 SF
DP-2.2: Silver Creek West Branch	RI0007026R-01	963,806 SF	97, 055 SF	324,197SF
TOTALS:		2,076,121 SF	521,104 SF	630,178 SF

Site Construction Plans (Indicate that the following applicable specifications are provided)		
YES	**NO**	
☒	☐	Existing and proposed plans (scale not greater than 1" = 40') with North arrow
☒	☐	Existing and proposed site topography (with 1 or 2-foot contours); 10-foot contours accepted for off-site areas
☒	☐	Boundaries of existing predominant vegetation and proposed limits of clearing
☒	☐	Site Location clarification
☒	☐	Location and field-verified boundaries of resource protection areas such as: ► freshwater and coastal wetlands, including lakes and ponds ► coastal shoreline features Perennial and intermittent streams, in addition to Areas Subject to Storm Flowage (ASSFs)
☒	☐	All required setbacks (e.g., buffers, water-supply wells, septic systems)
☒	☐	Representative cross-section and profile drawings, and notes and details of structural stormwater management practices and conveyances (i.e., storm drains, open channels, swales, etc.), which include: ► Location and size of the stormwater treatment practices (type of practice, depth, area). Stormwater treatment practices (BMPs) must have labels that correspond to RISDISM Table 5-2; ► Design water surface elevations (applicable storms); ► Structural details of outlet structures, embankments, spillways, stilling basins, grade-control structures, conveyance channels, etc.; ► Existing and proposed structural elevations (e.g., inverts of pipes, manholes, etc.); ► Location of floodplain and, if applicable, floodway limits and relationship of site to upstream and downstream properties or drainage that could be affected by work in the floodplain; ► Planting plans for structural stormwater BMPs, including species, size, planting methods, and maintenance requirements of proposed planting
☒	☐	Logs of borings and/or test pit investigations along with supporting soils/geotechnical report and corresponding water tables
☐	☒	Mapping of any OLRSMM-approved remedial actions/systems (including ELURs)
☒	☐	Location of existing and proposed roads, buildings, and other structures including limits of disturbance; ► Existing and proposed utilities (e.g., water, sewer, gas, electric) and easements; ► Location of existing and proposed conveyance systems, such as grass channels, swales, and storm drains, and location(s) of final discharge point(s) (wetland, waterbody, etc.); ► Cross sections of roadways, with edge details such as curbs and sidewalks; ► Location and dimensions of channel modifications, such as bridge or culvert crossings
☐	☒	Locations, cross sections, and profiles of all stream or wetland crossings and their method of stabilization

PROJECT Mt.Hope High School		PROJECT NUMBER	23099.01
SUBJECT Groundwater Recharge			
COMPUTATIONS BY	ACB	DATE	1/8/2025
REVISED BY	AJM	DATE	6/2/2025
CHECK BY		DATE	

Recharge Volume Calculations

Required Recharge Volume

The Required Recharge Volume equals the depth of runoff, corresponding to the soil type, times the impervious areas covering that soil type at the post-development site per the Rhode Island Stormwater Design and Installation Standards Manual.

Required Recharge Volume = Target Depth Factor (F) x Impervious Area

Impervious Area within Hydrologic Group "**C**" Soils =	544,519	SF
F (from RISDISM) =	0.25	inches
Recharge Volume Required for Hydrologic Group "C" Soils =	11,344	CF
Required Recharge Volume Required =	**11,344**	**CF**
QPA Volume =	**234**	
Required Recharge Volume Required =	**11,110**	**CF**
Required Recharge Volume Required =	**0.255**	**ac-ft**

Proposed BMP's

The site design incorporates bioretention areas, sand filters, infiltration basins and a underground infiltration system.

BMP's Area Volume

	WQV Volume (cf)
Bio-01	1683
Bio-04	1144
IB-01	5204
SF-01	10117
SF-02	4178
SF-03	3952
SF-05	1368
UGIS-01	12,473
	40,119

Total Provided Recharge Volume =	**40,119**	**CF**
Total Provided Recharge Volume =	**0.921**	**ac-ft**
Required Recharge Volume =	0.255	ac-ft

PAGE 1 OF 1

PROJECT NAME: Mt. Hope High School PROJECT NUMBER: 23099.01

SUBJECT: Bioretention Area Calculations

COMPUTATIONS BY: ACB DATE: 1/8/2025

REVISED DATE: 05/28/2025

Bioretention Area Calculations

Refer to the RI Stormwater & Installation Standards Manual

Bioretention Area (BIO-1)

Total Area to BIO-1 =	42,514	SF
Total Impervious Area =	25,125	SF

Cell Volume shall be larger of Recharge Volume and Water Quality Volume

Recharge Volume (Re_V)

Hydrologic Soil Group (HSG) =	C	
Impervious Area within HSG =	25,125	SF
Recharge Factor (From Table 3-4) =	0.25	Inches
Required Re_V Volume =	**523**	**CF**

Water Quality Volume (WQ_V)

WQ_V = Impervious Area x 1.0 inches =	2,094	CF
75% WQ_V (including pretreatment) =	1,570	CF
Required WQ_V Volume =	**1,570**	**CF**
Volume provided in Bioretention Media =	482	CF in filter media with a 0.33 Void Ratio
Volume provided in Bioretention (above filter media) =	676	CF from HydroCAD Model
Volume provided in Sediment Forebay =	525	CF
Total WQ_V Volume Provided =	**1,683**	**CF**

Area

$Af=WQ_V (d_f)/[(k)(h_f+d_f)(t_f)]$	*(From 5.5.4)*	SF, Surface area of filter bed
d_f =	2.00	ft, Filter bed depth
k =	1.00	ft/day, Coefficient of permeability of filter media
h_f =	0.25	ft, Average height of water above surface of practice
t_f =	2	days, Design filter bed drain time
Area Required =	698	SF, Surface Area of filter bed
Filter Media Area Provided =	**725**	**SF**
Bioretention Area Provided =	1,147	SF

Pretreatment (Sediment Forebay)

Required Pretreatment Volume = 25% WQV =	523	CF
Volume Provided =	**525**	**CF**

Drawdown within 48 hours

Drawdown Time = (Provided Volume) / (K x Bottom Area)

Provided Volume (above filter media) =	1,201	CF	
K = saturated hydraulic conductivity =	0.54	ft/day	Rawls rate from Table 5-3 of the RISDISM
Bottom Area (Average) =	1,147	SF	
Drawdown Time =	**47**	**HRS**	**< 48 hrs**

PAGE 1 OF 1

PARE CORPORATION

PROJECT NAME:	Mt. Hope High School	PROJECT NUMBER:	23099.01
SUBJECT:	Bioretention Area Calculations		
COMPUTATIONS BY:	acb	DATE:	1/8/2025
		REVISED DATE:	05/28/2025

Bioretention Area Calculations

Refer to the RI Stormwater & Installation Standards Manual
Bioretention Area (BIO-2)

Total Area to BIO-2 =	26,810	SF
Total Impervious Area =	17,108	SF

Cell Volume shall be larger of Recharge Volume and Water Quality Volume

Recharge Volume (Re_V)

Hydrologic Soil Group (HSG) =	C	
Impervious Area within HSG =	17,108	SF
Recharge Factor (From Table 3-4) =	0.25	Inches
Required Re_V Volume =	**356**	**CF**

Water Quality Volume (WQ_V)

WQ_V = Impervious Area x 1.0 inches =	1,426	CF
75% WQ_V (including pretreatment) =	1,069	CF
Required WQ_V Volume =	**1,069**	**CF**
Volume provided in Bioretention Media =	1,131	CF in filter media with a 0.33 Void Ratio
Volume provided in Bioretention (above filter media) =	510	CF from HydroCAD Model
Volume provided in Sediment Forebay =	460	CF
Total WQ_V Volume Provided =	**2,101**	**CF**

Area

$Af=WQ_V (d_f)/[(k)(h_f+d_f)(t_f)]$	*(From 5.5.4)*	SF, Surface area of filter bed
d_f =	3.00	ft, Filter bed depth
k =	1.00	ft/day, Coefficient of permeability of filter media
h_f =	0.25	ft, Average height of water above surface of practice
t_f =	2	days, Design filter bed drain time
Area Required =	970	SF, Surface Area of filter bed
Area Provided =	**1,128**	**SF**

Pretreatment (Sediment Forebay)

Required Pretreatment Volume = 25% WQV =	356	CF
Volume Provided =	**460**	**CF**

Drawdown within 48 hours - Subdrain

Drawdown Time = (Provided Volume) / (K x Bottom Area)

Provided Volume (above filter media) =	970	CF	
K = saturated hydraulic conductivity =	1.00	ft/day	Coefficient of permeability of filter media from Section 5.5.4 of RISDISM
Bottom Area (Average) =	1,128	SF	
Drawdown Time =	**21**	**HRS**	**< 48 hrs**

PARE CORPORATION

PROJECT NAME: Mt. Hope High School PROJECT NUMBER: 23099.01

SUBJECT: Bioretention Area Calculations

COMPUTATIONS BY: ACB DATE: 1/8/2025

REVISED DATE: 05/28/2025

Bioretention Area Calculations

Refer to the RI Stormwater & Installation Standards Manual
Bioretention Area (BIO-3)

Total Area to BIO-3 =	16,632	SF
Total Impervious Area =	12,866	SF

Cell Volume shall be larger of Recharge Volume and Water Quality Volume

Recharge Volume (Re_V)

Hydrologic Soil Group (HSG) =	C	
Impervious Area within HSG =	12,866	SF
Recharge Factor (From Table 3-4) =	0.25	Inches
Required Re_V Volume =	**268**	**CF**

Water Quality Volume (WQ_V)

WQ_V = Impervious Area x 1.0 inches =	1,072	CF
Required WQ_V Volume =	**1,072**	**CF**
Volume provided in Bioretention Media =	556	CF in filter media with a 0.33 Void Ratio
Volume provided in Bioretention (above filter media) =	552	CF from HydroCAD Model
Total WQ_V Volume Provided =	**1,108**	**CF**

Area

$Af=WQ_V (d_f)/[(k)(h_f+d_f)(t_f)]$	*(From 5.5.4)*	SF, Surface area of filter bed
d_f =	2.75	ft, Filter bed depth
k =	1.00	ft/day, Coefficient of permeability of filter media
h_f =	0.38	ft, Average height of water above surface of practice
t_f =	2	days, Design filter bed drain time
Area Required =	488	SF, Surface Area of filter bed
Area Provided =	**606**	**SF**

Drawdown within 48 hours - Subdrain

Drawdown Time = (Provided Volume) / (K x Bottom Area)

Provided Volume (above filter media) =	552	CF	
K = saturated hydraulic conductivity =	1.00	ft/day	Coefficient of permeability of filter media from Section 5.5.4 of RISDISM
Bottom Area (Average) =	606	SF	
Drawdown Time =	**22**	**HRS**	**< 48 hrs**

PARE CORPORATION

PROJECT NAME:	Mt. Hope High School	PROJECT NUMBER:	23099.01
SUBJECT:	Bioretention Area Calculations		
COMPUTATIONS BY:	ACB	DATE:	1/8/2025
CHECK BY:		DATE:	REVISED 05/28/2025

Bioretention Area Calculations

Refer to the RI Stormwater & Installation Standards Manual
Bioretention Area (BIO-4)

Total Area to BIO-4 =	16,850	SF
Total Impervious Area =	6,900	SF

Cell Volume shall be larger of Recharge Volume and Water Quality Volume

Recharge Volume (Re_V)

Hydrologic Soil Group (HSG) =	C	
Impervious Area within HSG =	6,900	SF
Recharge Factor (From Table 3-4) =	0.25	Inches
Required Re_V Volume =	**144**	**CF**

Water Quality Volume (WQ_V)

WQ_V = Impervious Area x 1.0 inches =	575	CF
Required WQ_V Volume =	**575**	**CF**
Volume provided in Bioretention Media =	724	CF in filter media with a 0.33 Void Ratio
Volume provided in Bioretention (above filter media) =	420	CF from HydroCAD Model
Total WQ_V Volume Provided =	**1,144**	**CF**

Area

$Af=WQ_V (d_f)/[(k)(h_f+d_f)(t_f)]$	*(From 5.5.4)*	SF, Surface area of filter bed
d_f =	3.00	ft, Filter bed depth
k =	1.00	ft/day, Coefficient of permeability of filter media
h_f =	0.25	ft, Average height of water above surface of practice
t_f =	2	days, Design filter bed drain time
Area Required =	528	SF, Surface Area of filter bed
Area Provided =	**724**	**SF**

Drawdown within 48 hours

Drawdown Time = (Provided Volume) / (K x Bottom Area)

Provided Volume (above filter media) =	420	CF	
K = saturated hydraulic conductivity =	0.54	ft/day	Rawls rate from Table 5-3 of the RISDISM
Bottom Area (Average) =	724	SF	
Drawdown Time =	**26**	**HRS**	**< 48 hrs**

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PROJECT NAME: Mt. Hope High School PROJECT NUMBER: 23099.01

SUBJECT: Sand Filter Area Calculations

COMPUTATIONS BY: ACB DATE: 1/8/2025

REVISED DATE: 06/02/2025

Sand Filter Calculations

Refer to the RI Stormwater & Installation Standards Manual

Sand Filter (SF-1)

Total Area to SF-1 =	379,224	SF
Total Impervious Area =	121,882	SF
Pavement areas	76,199	SF

Cell Volume shall be larger of Recharge Volume and Water Quality Volume

Recharge Volume (Re_V)

Hydrologic Soil Group (HSG) =	C	
Impervious Area within HSG =	121,882	SF
Recharge Factor (From Table 3-4) =	0.25	Inches
Required Re_V Volume =	**2,539**	**CF**

Water Quality Volume (WQ_V)

WQ_V = Impervious Area x 1.0 inches =	10,157	CF
75% WQ_V (including pretreatment) =	7,618	CF
Required WQ_V Volume =	**7,618**	**CF**
Volume provided in Sand Filter Media =	5,348	CF in filter media with a 0.33 Void Ratio
Volume provided in Sand Filter (above filter media) =	3,149	CF from HydroCAD Model
Volume provided in Sediment Forebay =	1,620	CF
Total WQ_V Volume Provided =	**10,117**	**CF**

Area

$Af=WQ_V (d_f)/[(k)(h_f+d_f)(t_f)]$	*(From 5.5.4)*	SF, Surface area of filter bed
d_f =	3.50	ft, Filter bed depth
k =	3.50	ft/day, Coefficient of permeability of filter media
h_f =	0.33	ft, Average height of water above surface of practice
t_f =	2	days, Design filter bed drain time
Area Required =	1,322	SF, Surface Area of filter bed
Area Provided =	**4,630**	**SF**

Pretreatment (Sediment Forebay)

Required Pretreatment Volume = 25% WQV =	1,587	CF*	*Pretreatment is for pavement areas only . Does not icluded pretreatment for roof runoff or athletic infield mix
Volume Provided =	**1,620**	**CF**	

Drawdown within 48 hours

Drawdown Time = (Provided Volume) / (K x Bottom Area)

Provided Volume (above filter media) =	4,769	CF	
K = saturated hydraulic conductivity =	0.54	ft/day	Rawls rate from Table 5-3 of the RISDISM
Bottom Area (Average) =	4,630	SF	
Drawdown Time =	**46**	**HRS**	**< 48 hrs**

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PARE CORPORATION

PROJECT NAME: Mt. Hope High School PROJECT NUMBER: 23099.01

SUBJECT: Sand Filter Area Calculations

COMPUTATIONS BY: ACB DATE: 1/8/2025

REVISED DATE: 05/28/2025

Sand Filter Calculations

Refer to the RI Stormwater & Installation Standards Manual

Sand Filter (SF-2)

Total Area to SF-2 =	92,426	SF
Total Impervious Area =	44,249	SF

Cell Volume shall be larger of Recharge Volume and Water Quality Volume

Recharge Volume (Re_V)

Hydrologic Soil Group (HSG) =	C	
Impervious Area within HSG =	44,249	SF
Recharge Factor (From Table 3-4) =	0.25	Inches
Required Re_V Volume =	**922**	**CF**

Water Quality Volume (WQ_V)

WQ_V = Impervious Area x 1.0 inches =	3,687	CF
75% WQ_V (including pretreatment) =	2,766	CF
Required WQ_V Volume =	**2,766**	**CF**
Volume provided in Sand Filter Media =	2,149	CF in filter media with a 0.33 Void Ratio
Volume provided in Sand Filter (above filter media) =	1,073	CF from HydroCAD Model
Volume provided in Sediment Forebay =	956	CF
Total WQ_V Volume Provided =	**4,178**	**CF**

Area

$Af=WQ_V (d_f)/[(k)(h_f+d_f)(t_f)]$	*(From 5.5.4)*	SF, Surface area of filter bed
d_f =	3.00	ft, Filter bed depth
k =	3.50	ft/day, Coefficient of permeability of filter media
h_f =	0.20	ft, Average height of water above surface of practice
t_f =	2	days, Design filter bed drain time
Area Required =	560	SF, Surface Area of filter bed
Area Provided =	**2,171**	**SF**

Pretreatment (Sediment Forebay)

Required Pretreatment Volume = 25% WQV =	922	CF
Volume Provided =	**956**	**CF**

Drawdown within 48 hours

Drawdown Time = (Provided Volume) / (K x Bottom Area)

Provided Volume (above filter media) =	2,029	CF	
K = saturated hydraulic conductivity =	0.54	ft/day	Rawls rate from Table 5-3 of the RISDISM
Bottom Area (Average) =	2,171	SF	
Drawdown Time =	**42**	**HRS**	**< 48 hrs**

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PARE CORPORATION

PROJECT NAME: Mt. Hope High School PROJECT NUMBER: 23099.01

SUBJECT: Sand Filter Area Calculations

COMPUTATIONS BY: ACB DATE: 1/8/2025

REVISED DATE: 05/28/2025

Sand Filter Calculations

Refer to the RI Stormwater & Installation Standards Manual

Sand Filter (SF-3)

Total Area to SF-3 =	22,284	SF
Total Impervious Area =	13,763	SF

Cell Volume shall be larger of Recharge Volume and Water Quality Volume

Recharge Volume (Re_V)

Hydrologic Soil Group (HSG) =	C	
Impervious Area within HSG =	13,763	SF
Recharge Factor (From Table 3-4) =	0.25	Inches
Required Re_V Volume =	**287**	**CF**

Water Quality Volume (WQ_V)

WQ_V = Impervious Area x 1.0 inches =	1,147	CF
75% WQ_V (including pretreatment) =	860	CF
Required WQ_V Volume =	**860**	**CF**
Volume provided in Sand Filter Media =	1,979	CF in filter media with a 0.33 Void Ratio
Volume provided in Sand Filter (above filter media) =	1,686	CF from HydroCAD Model
Volume provided in Sediment Forebay =	287	CF
Total WQ_V Volume Provided =	**3,952**	**CF**

Area

$Af=WQ_V (d_f)/[(k)(h_f+d_f)(t_f)]$	*(From 5.5.4)*	SF, Surface area of filter bed
d_f =	3.00	ft, Filter bed depth
k =	3.50	ft/day, Coefficient of permeability of filter media
h_f =	0.33	ft, Average height of water above surface of practice
t_f =	2	days, Design filter bed drain time
Area Required =	509	SF, Surface Area of filter bed
Area Provided =	**1,999**	**SF**

Pretreatment (Sediment Forebay)

Required Pretreatment Volume = 25% WQV =	287	CF
Volume Provided =	**287**	**CF**

Drawdown within 48 hours

Drawdown Time = (Provided Volume) / (K x Bottom Area)

Provided Volume (above filter media) =	1,973	CF	
K = saturated hydraulic conductivity =	0.54	ft/day	Rawls rate from Table 5-3 of the RISDISM
Bottom Area (Average) =	1,999	SF	
Drawdown Time =	**44**	**HRS**	**< 48 hrs**

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PROJECT NAME: Mt. Hope High School PROJECT NUMBER: 23099.01

SUBJECT: Sand Filter Area Calculations

COMPUTATIONS BY: ACB DATE: 1/8/2025

CHECK BY: DATE: REVISED 05/28/2025

Sand Filter Calculations

Refer to the RI Stormwater & Installation Standards Manual

Sand Filter (SF-4)

Total Area to SF-4 =	31,007	SF
Total Impervious Area =	7,245	SF

Cell Volume shall be larger of Recharge Volume and Water Quality Volume

Recharge Volume (Re_V)

Hydrologic Soil Group (HSG) =	C	
Impervious Area within HSG =	7,245	SF
Recharge Factor (From Table 3-4) =	0.25	Inches
Required Re_V Volume =	**151**	**CF**

Water Quality Volume (WQ_V)

WQ_V = Impervious Area x 1.0 inches =	604	CF
Required WQ_V Volume =	**604**	**CF**
Volume provided in Sand Filter Media =	1,166	CF in filter media with a 0.33 Void Ratio
Volume provided in Sand Filter (above filter media) =	1,079	CF from HydroCAD Model
Total WQ_V Volume Provided =	**2,245**	**CF**

Area

$Af=WQ_V (d_f)/[(k)(h_f+d_f)(t_f)]$	*(From 5.5.4)*	SF, Surface area of filter bed
d_f =	2.00	ft, Filter bed depth
k =	3.50	ft/day, Coefficient of permeability of filter media
h_f =	0.25	ft, Average height of water above surface of practice
t_f =	2	days, Design filter bed drain time
Area Required =	285	SF, Surface Area of filter bed
Area Provided =	**1,767**	**SF**

Drawdown within 48 hours - Subdrain

Drawdown Time = (Provided Volume) / (K x Bottom Area)

Provided Volume (above filter media) =	1,079	CF	
K = saturated hydraulic conductivity =	3.50	ft/day	Coefficient of permeability of filter media from Section 5.5.4 of RISDISM
Bottom Area (Average) =	1,767	SF	
Drawdown Time =	**4**	**HRS**	**< 48 hrs**

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PARE CORPORATION

PROJECT NAME:	Mt. Hope High School	PROJECT NUMBER:	23099.01
SUBJECT:	Sand Filter Area Calculations		
COMPUTATIONS BY:	ACB	DATE:	1/8/2025
CHECK BY:		DATE:	REVISED 05/28/2025

Sand Filter Calculations

Refer to the RI Stormwater & Installation Standards Manual

Sand Filter (SF-5) Tennis court - West

Total Area to SF-5 =	23,611	SF
Total Impervious Area =	15,324	SF

Cell Volume shall be larger of Recharge Volume and Water Quality Volume

Recharge Volume (Re_V)

Hydrologic Soil Group (HSG) =	C	
Impervious Area within HSG =	15,324	SF
Recharge Factor (From Table 3-4) =	0.25	Inches
Required Re_V Volume =	**319**	**CF**

Water Quality Volume (WQ_V)

WQ_V = Impervious Area x 1.0 inches =	1,277	CF
Required WQ_V Volume =	**1,277**	**CF**
Volume provided in Sand Filter Media =	705	CF in filter media with a 0.33 Void Ratio
Volume provided in Sand Filter (above filter media) =	663	CF from HydroCAD Model
Total WQ_V Volume Provided =	**1,368**	**CF**

Area

$Af=WQ_V (d_f)/[(k)(h_f+d_f)(t_f)]$	*(From 5.5.4)*	SF, Surface area of filter bed
d_f =	3.00	ft, Filter bed depth
k =	3.50	ft/day, Coefficient of permeability of filter media
h_f =	0.38	ft, Average height of water above surface of practice
t_f =	2	days, Design filter bed drain time
Area Required =	174	SF, Surface Area of filter bed
Area Provided =	**705**	**SF**

Drawdown within 48 hours

Drawdown Time = (Provided Volume) / (K x Bottom Area)

Provided Volume (above filter media) =	663	CF	
K = saturated hydraulic conductivity =	0.54	ft/day	Rawls rate from Table 5-3 of the RISDISM
Bottom Area (Average) =	705	SF	
Drawdown Time =	**42**	**HRS**	**< 48 hrs**

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PROJECT Mt. Hope High School | PROJECT NUMBER 23099.01

SUBJECT Infiltration Basin

COMPUTATIONS BY ACB | DATE 1/8/2025 REV; 5/30/2025

CHECK BY | DATE

Infiltration Basin Calculations

Infiltration Basin -01

Total Area to Infiltration Basin =	68,033	SF
Total Impervious Area =	60,869	SF

Cell Volume shall be larger of Recharge Volume and Water Quality Volume

Recharge Volume

Impervious Area within Hydrologic Group "C" Soils =	60,869	SF
F (from RISDISM Table 3-4) =	0.25	inches
Recharge Volume Required for Hydrologic Group "C" Soils =	1,268	CF

Water Quality Volume (WQV)

WQV = Impervious Area x 1.0 inches =	5,072	CF
Required WQV Volume (including pretreatment) =	**5,072**	**CF**
Total WQ_V Volume Provided =	**5,204**	**CF @ elevation 57.65 from HydroCAD**
Surface Area Provided =	**1,125**	**SF**

Drawdown within 48 hours

Time = (Provided Volume) / (K x Bottom Area)

Provided Volume =	**5,204**	**CF**	
K = saturated hydraulic conductivity =	**2.04**	**FT/DAY**	Rawls rate from Table 5-3 of
Bottom Area (Average) =	**1,990**	**SF**	the RISDISM
Time (hrs) =	**31**	**hrs**	**< 48 hrs**

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PROJECT	Mt. Hope High School	PROJECT NUMBER	23099.01
SUBJECT	Channel Protection Volume		
COMPUTATIONS BY	ACB	DATE	1/8/2025 REVISED:06/2/2025
CHECK BY		DATE	

CHANNEL PROTECTION VOLUME (CPv)

Runoff Volume for the 1-year storm proposed condition Silver Creek (Vr)= 144,392 CF From HydroCAD

Method 1
CPv = 0.65 x Runoff Volume from 1-year storm(Vr)

CPv Required MIN = 93,855 CF

CPv Provided

Bio-01	2,078	CF (recharge for the 1-year Storm)
Bio-02	3,377	CF (Subdrain for the 1-year Storm)
Bio-03	2,132	CF (subdrain for the 1-year Storm)
Bio-04	1,446	CF (recharge for the 1-year Storm)
SF-01	12,365	CF (recharge for the 1-year Storm)
SF-02	4,970	CF (recharge for the 1-year Storm)
SF-03	3,194	CF (recharge for the 1-year Storm)
SF-04	3,326	CF (Subdrain for the 1-year Storm)
SF-05	1,753	CF (recharge for the 1-year Storm)
IB-01	8,817	CF (recharge for the 1-year Storm)
UGIS	11,449	CF (recharge for the 1-year Storm)
Synthetic Field Manifold	19,836	CF (recharge for the 1-year Storm)
Total CPv Provided =	**74,743**	CF
Total CPv Remaining =	**19,112**	**CF**

Detention Basin-01

Average Release Flow Rate over 24 hours

Vr Detention Basin 1= 39173 CF (1 yr volume entering detention basin-01)
Qcpv = 0.453 CFS

Area of Orifice
A = Qcpv / [Cx(2xgxh)^(1/2)]; A = pi() x r^2

C = 0.60
g = 32.2 ft/s^2
h = average height above orifice = 0.275 ft

A = 0.1796 sf

Therefore Diameter is:

D = 0.48 ft
D = 5.74 inches
D provided = 5.00 inches

Detention Basin -02

Average Release Flow Rate over 24 hours

Vr DB-02= 5314 CF (1 yr volume entering detention basin-02
Qcpv = 0.062 CFS

Area of Orifice
A = Qcpv / [Cx(2xgxh)^(1/2)]; A = pi() x r^2

C = 0.60
g = 32.2 ft/s^2
h = average height above orifice = 0.95 ft

A = 0.013 sf

Therefore Diameter is:

D = 0.13 ft
D = 1.55 inches
D provided = 1.50 inches

CPv Required = 93,855 CF
CPv Provided = 119,230 CF

PARE CORPORATION

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PROJECT Mt. Hope High School | PROJECT NUMBER 23099.01

SUBJECT Riprap Apron

COMPUTATIONS BY AJM | DATE 1/8/2025 REVISED: 06/02/2025

CHECK BY | DATE

RIPRAP APRON CALCULATIONS

A. Resources:

Based on Section 10.2 Riprap Apron of the FHWA HEC-14 (Publication No. FHWA-NIH-06-086).

B. Equations:

$$D_{50} = 0.2\,D\left(\frac{Q}{\sqrt{g}D^{2.5}}\right)^{4/3}\left(\frac{D}{TW}\right) \qquad (10.4)$$

Where,

D_{50} = riprap size, ft
Q = design discharge, cfs
D = culvert diameter, ft
TW = tailwater depth, ft
g = acceleration due to gravity, 32.2 ft/s^2

Note:
Tailwater depth should be limited to between 0.4D and 1.0D. If tailwater is unknown, use 0.4D.
Based on rock specific gravity of 2.65.

Table 10.1 Riprap Classes and Apron Dimensions

FHWA		RIDOT M.10.03.2		Apron	
Class	D_{50} (in)	NSA No.	D_{50} (in)	Length[1]	Depth
1	5	R-3	4	4*D	3.5*D_{50}
2	6	R-4	7	4*D	3.3*D_{50}
3	10	R-5	10	5*D	2.4*D_{50}
4	14	R-6	13	6*D	2.2*D_{50}
5	20	R-7	18	7*D	2.0*D_{50}
6	22	R-8	24	8*D	2.0*D_{50}

[1]D is the culvert rise.

Width (at apron end) = 3*D + (2/3)*Length
Width based on 1:3 flare

C. Calculations:

Pipe	D (in)	D (ft)	Q_{25} (cfs)	TW (ft)	Calculated		Select		Length (ft)	Width (ft)	Depth (in)
					D_{50} (ft)	D_{50} (in)	FHWA	D_{50} (in)			
UGIS -> FES	24	2.00	9.55	0.80	0.20	2.38	1.00	5	8.0	11.3	18
DIV-3 -> BIO-01	12	1.00	1.48	0.40	0.08	1.00	1.00	5	4.0	5.7	18
DMH-101 -> FES	18	1.50	5.04	0.60	0.17	1.99	1.00	5	6.0	8.5	18
CB-107 -> FES	30	2.50	7.95	1.00	0.09	1.11	1.00	5	10.0	14.2	18
AD-208 -> SF-5	12	1.00	0.25	0.40	0.01	0.09	1.00	5	4.0	5.7	18
AD-209 -> SF-5	12	1.00	2.38	0.40	0.16	1.88	1.00	5	4.0	5.7	18
East Tennis Court -> SF2	12	1.00	2.61	0.40	0.18	2.13	1.00	5	4.0	5.7	18
Center Tennis Court -> SF2	12	1.00	2.61	0.40	0.18	2.13	1.00	5	4.0	5.7	18
DIV-02 -> SF-2	12	1.00	1.40	0.40	0.08	0.93	1.00	5	4.0	5.7	18
DIV-02 -> FES	15	1.25	4.23	0.50	0.20	2.41	1.00	5	5.0	7.1	18
CB-203 -> FES	15	1.25	4.62	0.50	0.23	2.71	1.00	5	5.0	7.1	18
DMH-103 -> INF-01	18	1.50	2.24	0.60	0.06	0.67	1.00	5	6.0	8.5	18
Roof Drain -> INF-01	12	1.00	4.76	0.40	0.40	4.75	1.00	5	4.0	5.7	18
DMH-303 -> DB-02	18	1.50	5.38	0.60	0.18	2.17	1.00	5	6.0	8.5	18
Roof Drain -> Bio-03	12	1.00	1.31	0.40	0.07	0.85	1.00	5	4.0	5.7	18
DIV-01 -> SF-01	12	1.00	2.75	0.40	0.19	2.28	1.00	5	4.0	5.7	18
DIV-01 -> DB-01	36	3.00	26.53	1.20	0.30	3.61	1.00	5	12.0	17.0	18
SF-01 -> DB-01	12	1.00	0.81	0.40	0.04	0.45	1.00	5	4.0	5.7	18
DMH-107 -> FES	24	2.00	15.94	0.80	0.39	4.72	1.00	5	8.0	11.3	18
(SF-4) DMH-203 -> FES	15	1.25	1.84	0.50	0.07	0.79	1.00	5	5.0	7.1	18

Note: Level spreaders entering the Sedient Forebays and BMPs were sized using **Figure 6. Minimum Dimensions for Level Spreaders** in Section Five: Runoff Control Measures in the Rhode Island Soil Erosion & Sediment Control Handbook.

STORMWATER OPERATION AND MAINTENANCE PLAN
LONG TERM POLLUTION PREVENTION PLAN

Pare Project No. 23099.01

Mt. Hope High School
199 Chestnut Street
Bristol, Rhode Island 02809

Assessors Map 117, Lot 3, 4, 5, 6, & 7

Prepared for:

Bristol Warren Regional School District
235 High Street
Bristol, RI 02809

Prepared by:

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8 Blackstone Valley Place
Lincoln, RI 02865

JANUARY 2025

SUPPLEMENTAL REVISIONS:
JUNE 2025

PARE CORPORATION
ENGINEERS SCIENTISTS PLANNERS

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APPENDIX A

- *Maintenance Agreement*
- *Appendix G: Pollution Prevention and Spill Controls*
- *BMP, Maintenance and Management Inspection Checklist*
- *OM –1 Operation and Maintenance Plan (11" x 17")*

STORMWATER OPERATION AND MAINTENANCE PLAN

General Operation and Maintenance Notes

Following construction, the completion of the inspection and maintenance requirements below shall be the responsibility of the Owner (See Attachment OM-1).

1. The parking lot and entry drives shall be swept by the Owner once in the spring and once during the fall to remove sediments.

2. Trash, litter, sediment and other debris shall be removed from any stormwater facility (including catch basins, manholes, inlets, diversion and outlet structures) at least twice a year, once in the month of April and once in the month of October, at the cost of the Owner.

3. All sediments removed shall be disposed of at an approved and permitted location.

4. Snow storage is prohibited in the stormwater BMP's.

5. All cleaning and maintenance of drainage system BMP's shall be the responsibility of the property owner. See additional inspection, maintenance, and repair notes for the stormwater system. The Owner shall comply with the Town of Bristol operation and maintenance requirements per section 29-62 of the Code of Ordinances.

Catch Basins with Sump Inspection, Maintenance, and Repair Notes

1. Inspections shall be performed a minimum of two times per year (spring/fall). Units shall be cleaned annually and whenever the depth of sediment is greater than or equal to half the sump depth.

2. The inlet grate shall not be welded to the frame or paved over so that the sump can be easily inspected and maintained.

3. Care shall be taken to avoid damaging and displacing hoods placed on hooded outlets during cleaning.

Sediment Forebay Inspection, Maintenance, and Repair Notes

1. Sediment forebay shall be inspected a minimum of two times per year and after every storm of 2.8" inch or greater for trash, debris, sediment, erosion, standing water, and overall performance. Defects shall be repaired by the owner.

2. Sediment forebays shall be cleaned if sediment reaches half the design depth.

3. Sediment forebay check dams shall be replaced if drawdown times within the sediment forebay exceed 48 hours following the storm event.

4. All sediments removed shall be disposed of at an approved and permitted location.

5. Vegetation shall not exceed 18" in height in the sediment forebays.

Bioretention Area Inspection, Maintenance, and Repair Notes

1. Following first 6 months after construction
    - Inspect bioretention area after first two rainfall events of 1" or more.

2. Following storm events with rainfall exceeding 2.8"
    - Inspect bioretention area for trash, debris, sediment, erosion, standing water, and overall performance. Defects shall be repaired by the Owner.

3. Bi-annually
    - Inspect bioretention area a minimum of two times per year, preferably once in April and October. Sediment shall be removed from bioretention area if the sediment exceeds 1".
    - Mow side slopes and bottom of bioretention area a minimum of two times per year.

4. Quarterly
    - Inspect bioretention area outlet control structure and all overflow channels. The Owner shall stabilize eroded banks and repair eroded areas at inflow and outflow structures as necessary.

5. If sediment build-up has limited the filtering capabilities to below the design rate or ponding has exceeded 48 hours the following shall be completed:
    - The top 6" of soil shall be removed and disposed at a permitted location.
    - The exposed surface shall be scarified.
    - The top 6" shall be restored to the original design specifications with a sandy loam topsoil.

6. Trash and debris shall be removed from bioretention area as necessary.

7. Auxiliary Drain Pipes within Bio-01 and Bio-04 shall be inspected annually. The Owner shall keep the PVC ball valve in the closed position at all times except where necessary to perform an immediate drain-down operation for maintenance purposes.

Sand Filter Inspection, Maintenance, and Repair Notes

1. Following first 6 months after construction

- Inspect sand filter after first two rainfall events of 1" or more.

2. Following storm events with rainfall exceeding 2.8"
    - Inspect sand filter for trash, debris, sediment, erosion, standing water, and overall performance. Defects shall be repaired by the Owner.

3. Bi-annually
    - Inspect sand filter a minimum of two times per year, preferably in April and October. Sediment shall be removed from sand filter if the sediment exceeds 1".
    - Mow side slopes and bottom of sand filter a minimum of two times per year.

4. Quarterly
    - Inspect sand filter outlet control structure and all overflow channels. The Owner shall stabilize eroded banks and repair eroded areas at inflow and outflow structures as necessary.

5. If sediment build-up has limited the filtering capabilities to below the design rate or ponding has exceeded 48 hours the following shall be completed:
    - The top 6" of soil shall be removed and disposed at a permitted location.
    - The exposed surface shall be scarified.
    - The top 6" shall be restored to the original design specifications with sandy loam topsoil.

6. Trash and debris shall be removed from sand filter as necessary.

7. Auxiliary Drain Pipes within SF-01, SF-02, SF-03 and SF-05 shall be inspected annually. The Owner shall keep the PVC ball valve in the closed position at all times except where necessary to perform an immediate drain-down operation for maintenance purposes.

Infiltration Basin Inspection, Maintenance, and Repair Notes

1. Following first 6 months after construction
    - Inspect infiltration basin after first two rainfall events of 1" or more.

2. Following storm events with rainfall exceeding 2.8"
    - Inspect infiltration basin for trash, debris, sediment, erosion, standing water, and overall performance. Defects shall be repaired by the Owner.

3. Bi-annually
    - Inspect infiltration basin a minimum of two times per year, preferably in April and October. Sediment shall be removed from the top of the infiltration basin if the sediment exceeds 1".
    - Mow side slopes and bottom of infiltration basin a minimum of two times annually.

4. Quarterly
    - Inspect infiltration basin outlet control structure and all overflow channels. the owner shall stabilize eroded banks and repair eroded areas at inflow and outflow structures as necessary.

5. If sediment build-up has limited the infiltration capabilities to below the design rate or ponding has exceeded 48 hours the following shall be completed:
    - The top 6" of soil shall be removed and disposed at a permitted location.
    - The exposed surface shall be scarified.
    - The basin bottom shall be restored to the original design specifications with sandy loam topsoil.

6. Trash and debris shall be removed from infiltration basin as necessary.

7. Auxiliary Drain Pipes within IB-01 shall be inspected annually. The Owner shall keep the PVC ball valve in the closed position at all times except where necessary to perform an immediate drain-down operation for maintenance purposes.

Wet Swale Inspection, Maintenance, and Repair Notes

1. During the six months immediately after construction, filter practices shall be inspected following at least the first two precipitation events of at least 1.0 inches to ensure that the system is functioning properly, Thereafter, inspections shall be conducted on an annual basis and after storm events of greater that or equal 2.8” for trash, debris, sediment, erosion, standing water, and overall performance.

2. Trash and debris shall be removed from the forebay and swale system as necessary.

3. Minimum vegetative coverage of 50% is not achieved in the planted areas after the second growing season, reinforcement planting is required. Vegetation shall be pruned where dead or dying branches are observed.

Underground Infiltration System Inspection, Maintenance, and Repair Notes

1. The system shall be maintained as recommended by the manufacturer.

2. Following storm events with rainfall exceeding 2.8"
    - Inspect infiltration system for trash, debris, sediment, erosion, standing water, and overall performance. Defects shall be repaired by the Owner.

3. Bi-annually
    - Inspections shall be performed a minimum of two times per year on the inspection ports and drainage structures of the underground infiltration system to ensure proper operation of the system.

4. Auxiliary Drain Pipes within UGIS-01 shall be inspected annually. The Owner shall keep the PVC ball valve in the closed position at all times except where necessary to perform an immediate drain-down operation for maintenance purposes.

Oil/Water Separator Inspection and Maintenance Notes

1. Inspections shall be performed a minimum of 2 times per year (spring/fall). Inspect structure for sediment buildup, continuous flow-through, and integrity of outlet tee to ensure no damage.

2. Oil/water separator shall be cleaned bi-annually whenever the depth of sediment exceeds 1-foot deep, or half the distance between the bottom of the sump and the bottom of the outlet tee. Sediment/oil/grease shall be cleaned out with a vacuum truck and legally disposed.

3. Care shall be taken to avoid damaging and displacing the oil/water separator outlet tee during cleanings.

Detention Basin Inspection, Maintenance, and Repair Notes

1. Sediment shall be removed from the detention basin when the sediment volume exceeds 10 percent of the total basin volume. The removed sediment shall be disposed of at an approved and permitted location.

2. Following first 6 months after construction
    - Inspect infiltration practices after first two rainfall events of 1” or more.

3. Bi-Annually
    - Inspect detention basin a minimum of two times per year, preferably once in April and once in October.
    - Mow side slopes and bottom of detention basin a minimum of two times per year. The vegetation shall not exceed 18" in height.

4. Quarterly
    - The detention basin outlet structures and all outflow channels should be inspected quarterly by the Owner.

Qualifying Pervious Area Inspection, Maintenance, and Repair Notes

1. The Qualifying Pervious Areas (QPA’s) must be inspected a minimum of two times per year for sediment, ponding, erosion, and vegetation.

2. Remove accumulated sediment from the QPA’s if sediment exceeds 1”.

3. Owner shall repair any slopes that have been damaged due to erosion or other means. Owner shall replace any vegetation that has died or been damaged.

4. Owner shall mow grass within the QPA a minimum of two times annually to maintain a minimum grass height of 6”.

5. Trash and debris shall be removed from the QPA’s as necessary.

Synthetic Turf Field Manifold System Inspection, Maintenance, and Repair Notes

1. The system shall be maintained as recommended by the manufacturer.

2. Following storm events with rainfall exceeding 2.8"
    - Inspect system for ponding and any evidence of restricted infiltration capacity.

3. The flat drain and perimeter manifold turf infiltration system components are shown on attached plan OM-1

LONG TERM POLLUTION PREVENTION PLAN

Pollution Prevention and Source Controls

In addition, the following site-specific controls and performance procedures shall be followed. From *Appendix G: Pollution Prevention and Source Controls* from the *Rhode Island Stormwater Design and Installation Standards Manual* (See Attachment).

G.2 General Pollution Prevention Design Features

An inspection and maintenance schedule shall be developed by the owner to prevent trash and debris from backing up the stormwater management system.

G.3 Solid Waste Containment

Trash and recycling receptacles will be placed throughout the site.

G.4 Roads and Parking Area Management

Snow shall not be dumped and/or stored in the water quality best management practices.

G.4.1 Street and Parking Lot Sweeping

The roads shall be swept to remove sediment and debris.

G.4.2 Deicing and Salt Storage

Deicing and sanding materials create water quality problems. Refer to Table G-1 in the Appendix when selecting a deicer. All deicing materials shall be stored under cover. Refer to table G-2 for best practices for storage and use of deicers.

G 4.3 Snow Disposal

Snow shall not be dumped and/or stored in the sand filter, bioretention area, wet swales or infiltration basins.

G.4.4 Driveway and Parking Lot Sealants

DEM recommends asphalt-based sealant rather coal-tar based sealants to be used on driveways and parking lots

G.5 Hazardous Materials Containment

Stormwater shall be prevented from entering areas with hazardous materials to the maximum extent feasible. Spill containment is provided in areas where a spill might occur.

G.7 Lawn, Garden and Landscape Management

No lawn fertilizer shall be used on-site. Low-impact pest management strategies shall be implemented whenever damage is detected, or harmful organisms are present.

Bristol Warren Regional School District

MT. HOPE HIGH SCHOOL

APPENDIX A

Maintenance Agreement
Appendix G: Pollution Prevention and Spill Controls
BMP, Maintenance and Management Inspection Checklist
OM – 1 Operation and Maintenance Plan (11" x 17")

Maintenance Agreement

The Maintenance Agreement below is taken from Appendix E of the Rhode Island Department of Environmental Management's Rhode Island Stormwater Design and Installation Standards Manual Dated December 2010. This agreement shall be reviewed by an attorney prior to being signed and made a legal document.

THIS AGREEMENT, made and entered into this ___ day of _____, 20___, by and between (Insert Full Name of Owner) _____ hereinafter called the "Landowner", and the State of Rhode Island, hereinafter called the RIDEM WITNESSETH, that WHEREAS, the Landowner is the owner of certain real property described as (Tax Map/Parcel Identification Number) _____ as recorded by deed in the land records of State of Rhode Island Deed Book _____Page _____, hereinafter called the "Property".

WHEREAS, the Landowner is proceeding to build on and develop the property; and WHEREAS, the Site Plan/Subdivision Plan known as **Mt. Hope High School,** hereinafter called the "Plan", which is expressly made a part hereof, as approved or to be approved by the RIDEM, provides for detention of stormwater within the confines of the property; and WHEREAS, the RIDEM and the Landowner, its successors and assigns, including any homeowners association, agree that the health, safety, and welfare of the residents of State of Rhode Island require that on-site stormwater management facilities be constructed and maintained on the Property; and WHEREAS, the RIDEM requires that on-site stormwater management facilities as shown on the Plan be constructed and adequately maintained by the Landowner, its successors and assigns, including any homeowners association.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. This maintenance agreement shall be approved by the director of public works and the town solicitor. The agreement shall be recorded in the land evidence records. A maintenance and inspection report shall be filed annually with the director of public works.

2. The on-site stormwater management facilities shall be constructed by the Landowner, its successors and assigns, in accordance with the plans and specifications identified in the Plan.

3. The Landowner, its successors and assigns, including any homeowners association, shall adequately maintain the stormwater management facilities in accordance with the required Operation and Maintenance Plan. This includes all pipes, channels or other conveyances built to convey stormwater to the facility, as well as all structures, improvements, and vegetation provided to control the quantity and quality of the stormwater. Adequate maintenance is herein defined as good working condition so that these facilities are performing their design functions. The Stormwater Best Management Practices Operation, Maintenance and Management Checklists are to be used to establish what good working condition is acceptable to the RIDEM and the Town of Bristol.

4. The Landowner, its successors and assigns, shall inspect the stormwater management facility and submit an inspection report annually. The purpose of the inspection is to assure safe and proper functioning of the facilities. The inspection shall cover the entire facilities, berms, outlet structure, basin areas, access roads, etc. Deficiencies shall be noted in the inspection report.

5. The Landowner, its successors and assigns, hereby grant permission to the RIDEM and the Town of Bristol, its authorized agents and employees, to enter upon the Property and to inspect the stormwater management facilities whenever the RIDEM and the Town if Bristol deems necessary. The purpose of inspection is to follow-up on reported deficiencies and/or to respond to citizen complaints. The RIDEM and the Town of Bristol shall provide the Landowner, its successors and assigns, copies of the inspection findings and a directive to commence with the repairs if necessary.

6. In the event the Landowner, its successors and assigns, fails to maintain the stormwater management facilities in good working condition acceptable to the RIDEM and the Town of Bristol, the RIDEM and the Town of Bristol may enter upon the Property and take whatever steps necessary to correct deficiencies identified in the inspection report and to charge the costs of such repairs to the Landowner, its successors and assigns. This provision shall not be construed to allow the RIDEM and the Town of Bristol to erect any structure of permanent nature on the land of the Landowner outside of the easement for the stormwater management facilities. It is expressly understood and agreed that the RIDEM and the Town of Bristol are under no obligation to routinely maintain, or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the RIDEM and the Town of Bristol.

7. The Landowner, its successors and assigns, will perform the work necessary to keep these facilities in good working order as appropriate. In the event a maintenance schedule for the stormwater management facilities (including sediment removal) is outlined on the approved plans, the schedule will be followed.

8. In the event the RIDEM or the Town of Bristol, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner, its successors and assigns, shall reimburse the RIDEM or the Town of Bristol upon demand, within thirty (30) days of receipt thereof for all actual costs incurred by the RIDEM or the Town of Bristol hereunder.

9. This Agreement imposes no liability of any kind whatsoever on the RIDEM or the Town of Bristol and the Landowner agrees to hold the RIDEM and the Town of Bristol harmless from any liability in the event the stormwater management facilities fail to operate properly.

10. This Agreement shall be recorded among the land records of State of Rhode Island and shall constitute a covenant running with the land, and shall be binding on the Landowner, its administrators, executors, assigns, heirs and any other successors in interests, including any homeowners association.

11. Any alterations to this maintenance agreement are subject to review and approval of the Director of Public Works. Alterations shall be recorded in the land evidence records.

12. Any arrangements with a third party shall be subject to review and approval from the director of public works.

WITNESS the following signatures and seals:

_____
Company/Corporation/Partnership Name (Seal)

By: _____

_____
(Type Name and Title)
The foregoing Agreement was acknowledged before me this ____ day of
_____, 20___, by
_____.

_____

NOTARY PUBLIC
My Commission Expires: _____
By: _____

_____
(Type Name and Title)
The foregoing Agreement was acknowledged before me this ____ day of
_____, 20___, by
_____

_____

NOTARY PUBLIC
My Commission Expires: _____
Approved as to Form:

_____ _____
RIDEM Attorney Date

APPENDIX G: POLLUTION PREVENTION AND SOURCE CONTROLS

G.1 Overview

Pollution prevention techniques must, to the extent practicable, be incorporated into all site designs, especially at commercial and light industrial sites, to minimize the potential impact those activities may have on stormwater runoff quality. Preventative source controls must also be applied in residential development, particularly in preventing floatables (trash and debris) from entering storm sewer drainage systems.

G.2 General Pollution Prevention Design Features

Inlets to stormwater management systems should incorporate trash racks wherever practicable. Storm drain marking (e.g., stenciling) to discourage dumping must also be provided at each inlet. Maintenance plans must include a schedule for regular maintenance and inspection of trash racks.

G.3 Solid Waste Containment

Proper containment of solid waste will prevent it from entering drainage systems and polluting waterways. At a minimum, apply the following pollution prevention practices:

- Trash and recycling receptacles must be provided with regular collection at all sites;
- Industrial and commercial sites must include regular street sweeping (at least annually) in their maintenance plans; and
- Pet waste stations that provide bags and waste containers are recommended at all residential developments and must be provided at multiunit dwellings, such as apartments, town houses, and condominiums.

G.4 Roads and Parking Area Management

Roads and parking areas constitute a large portion of Rhode Island's impervious surfaces and are often directly connected to storm drain systems. These impervious areas contribute relatively high concentrations of a wide variety of pollutants, including sediment, nutrients, metals, and volatile organic compounds (VOCs), among other constituents. The discussion below addresses guidance requirements related to road and parking area management:

G.4.1 Street and Parking Lot Sweeping

Street sweeping helps to remove sediment and debris from paved surfaces, reducing potential pollutant transport to waterbodies. Street and parking lot sweeping may also reduce the need for maintenance of pretreatment devices, such catch basins and forebays that precede WVTSs or bioretention areas.

Street sweeping is a requirement for municipalities pursuant to Phase II of the RIPDES Stormwater Regulations and is also recommended for private entities. Currently, available street sweeping technology is not considered to meet the water quality treatment standard and should not be relied on for TSS removal, but does help as a pretreatment practice.

Debris collected from some streets and parking lots (e.g., LUHPPLs) may be regulated as a hazardous waste. For these cases, debris must be disposed of in accordance with appropriate practice and applicable regulatory standards. Appendix A of the *Rules and Regulations for Composting Facilities and Solid Waste Management Facilities,* which is entitled "Management of Street Sweepings in Rhode Island," should be reviewed. For further information, contact the DEM Office of Waste Management.

G.4.2 Deicing and Salt Storage

Deicing and sanding operations are often necessary for safety during winter storms; however, the materials used create water quality problems. Use deicing chemicals and sand judiciously. Consider the information in Table G-1 when selecting a deicer.

Table G-1 Comparison of Environmental Effects of Common Roadway Deicers

Media	Sodium Chloride ($NaCl$)	Calcium Chloride ($CaCl_2$)	Calcium magnesium acetate (CMA) ($CaMgC_2H_3O_2$)	Sand (SiO_2)
Soils	Cl complexes release heavy metals; Na can breakdown soil structure and reduce permeability	Ca can exchange with heavy metals, increase soil aeration and permeability.	Ca and Mg can exchange with heavy metals.	Gradually will accumulate on soil.
Vegetation	Salt spray/splash can cause leaf scorch and browning or dieback of new plant growth up to 50 feet from road; osmotic stress can result from salt uptake; grass is more tolerant than trees and woody plants.		Little effect.	Accumulates on and around low vegetation.
Groundwater	Mobile Na and Cl ions readily reach groundwater, and concentration levels can temporarily increase in areas of low flow during spring thaws. Ca and Mg can release heavy metals from soil.			No known effect.
Surface Water	Can cause density stratification in small lakes having closed basins, potentially leading to anoxia in lake bottoms; often contain nitrogen, phosphorus, and trace metals as impurities, often in concentrations greater than 5 ppm.		Depletes dissolved oxygen in small lakes and streams when degrading.	Accumulated sand alters stream geometry and habitat

Media	Sodium Chloride (NaCl)	Calcium Chloride ($CaCl_2$)	Calcium magnesium acetate (CMA) ($CaMgC_2H_3O_2$)	Sand (SiO_2)
Aquatic Biota	Little effect in large or flowing bodies at current road salting amounts; small streams that are end points for runoff can receive harmful concentrations of Cl; Cl from NaCl generally not toxic until it reaches levels of 1,000-36,000 ppm.		Can cause oxygen depletion.	Accumulation of particles to stream bottoms degrades habitat, clogs gills.

Source: Adapted from Ohrel, 2000

Sand and deicing chemicals should be stored under cover so as to prevent their exposure to stormwater; the DEM Groundwater Quality Rules require that deicer materials be covered in areas where the groundwater is classified GAA or GA. Table G-2 provides recommendations appropriate for storage and use of deicers. Storage of these materials may be regulated as an industrial activity. Contact DEM's Stormwater Program in the Office of Water Resources for further information.

Table G-2 Recommendations to Reduce Deicer Impacts

Activity	Recommendation
Storage	• Salt storage piles should be completely covered, ideally by a roof, and at a minimum, by a weighted tarp, and stored on impervious surfaces. The DEM Groundwater Quality Rules require that deicer materials be covered in areas where the groundwater is classified GAA or GA. • Runoff should be contained in appropriate areas. • Spills should be cleaned up after loading operations. The material may be directed to a sand pile or returned to salt piles. • Avoid storage in drinking water supply areas, water supply aquifer recharge areas, and public wellhead protection areas.
Application	• Application rate of deicing materials should be tailored to road conditions (i.e., high versus low volume roads). • Trucks should be equipped with sensors that automatically control the deicer spread rate. • Drivers and handlers of salt and other deicers should receive training to improve efficiency, reduce losses, and raise awareness of environmental impacts.

Activity	Recommendation
Other	• Identify ecosystems such as wetlands that may be sensitive to salt. • Use calcium chloride and CMA in sensitive ecosystem areas. • To avoid over-application and excessive expense, choose deicing agents that perform most efficiently according to pavement temperature. • Monitor the deicer market for new products and technology.

Source: Adapted from Ohrel, 2000.

G.4.3 Snow Disposal

Improper snow disposal can be a threat to public health and the environment. Disposal should consider site selection, site preparation and maintenance, and emergency snow disposal locations and procedures. Refer to DEM's Snow Disposal Policy for more details on these topics, which are summarized below.

G.4.3.1 Site Selection

The key to selecting effective snow disposal sites is to locate them adjacent to or on pervious surfaces in upland areas away from water resources and wells. At these locations, snow meltwater can filter in to the soil, leaving behind sand and debris, which can be removed in the springtime. When selecting a site for snow disposal, adhere to the following guidelines:

- Avoid dumping snow into any waterbody, including rivers, reservoirs, ponds, lakes, wetlands, bays, or the ocean. In addition to water quality impacts and flooding, snow disposed of in open water can cause navigational hazards when it freezes.
- Do not dump snow within a Wellhead Protection Area (WHPA) of a public water supply well, or within 200 feet of a private well, where road salt may contaminate water supplies.
- Avoid dumping snow in sanitary landfills and gravel pits. Snow meltwater will create more contaminated leachate in landfills posing a greater risk to groundwater. In gravel pits, there is little opportunity for pollutants to be filtered out of the meltwater because groundwater is close to the land surface.
- Avoid disposing of snow on top of storm drain catch basins or in stormwater drainage swales or ditches. Snow combined with sand and debris may block a storm drainage system, causing localized flooding. In addition, a high volume of sand, sediment, and litter released from melting snow may be quickly transported through the drainage system into surface water.

G.4.3.2 Site Selection Procedures

It is important that the municipal Department of Public Works or Highway Department, and other appropriate municipal offices work together to select appropriate snow disposal sites. The following steps should be taken:

- Estimate how much snow disposal capacity is needed for the season so that an adequate number of disposal sites can be selected and prepared;
- Identify sites that could potentially be used for snow disposal such as municipal open space (e.g., parking lots or parks);
- Sites located in upland locations that are not likely to impact sensitive environmental resources should be selected first; and
- If more storage space is needed, prioritize the sites with the least environmental impact (using the site selection criteria and the online Environmental Resource Map as a guide).

Environmental Resource Map

An interactive map containing a wide variety of GIS data layers of interest to local planning or zoning board members, consultants, or anyone else needing a general mapping of soils, wetlands, land use patterns, regulatory overlay districts and other environmental information can be accessed via the internet at the following address: http://www.state.ri.us/dem/maps/index.htm.

This interactive map can be used to identify publicly owned open spaces and approximate locations of sensitive environmental resources (locations should be field verified where possible).

G.4.3.3 Site Preparation and Maintenance

In addition to carefully selecting disposal sites before the winter begins, it is important to prepare and maintain these sites to maximize their effectiveness. The following maintenance measures should be undertaken for all snow disposal sites:

- A silt fence or equivalent barrier should be placed securely on the down-gradient side of the snow disposal site;
- To filter pollutants out of the meltwater, a 50-foot vegetative buffer strip should be maintained during the growth season between the disposal site and adjacent waterbodies;
- Debris should be cleared from the site prior to using the site for snow disposal; and
- Debris should be cleared from the site and properly disposed of at the end of the snow season.

G.4.3.4 Emergency Snow Disposal

Under normal winter conditions, storage, and disposal of snow should be done

exclusively in upland areas, not in or adjacent to waterbodies or wetlands. However, under extraordinary conditions when upland snow storage options are exhausted, it may be necessary to dispose of snow near or in certain waterbodies. The following guidance does not constitute a Clean Water Act permit for such disposal. However, in an emergency situation, DEM is unlikely to pursue an enforcement action for snow disposal by governmental entities into or near certain waters if conducted in accordance with the conditions identified below.

As mentioned earlier, it is important to estimate the amount of snow disposal capacity you will need so that an adequate number of upland disposal sites can be selected and prepared. If despite your planning, designated upland disposal sites have been exhausted, snow may be disposed of at other locations that meet the criteria in Section G.4.3.2.

Under extraordinary conditions, when all upland snow disposal options are exhausted, disposal of snow that is not obviously contaminated with road salt, sand, and other pollutants may be allowed near (within 50 feet of) or in certain waterbodies under certain conditions. In these dire situations, notify the DEM – Office of Water Resources, RIPDES Program at 222-4700 (or 222-3070 after normal business hours) before disposing of snow in a waterbody. If upland disposal is not available, and snow needs to be removed/relocated for safety reasons, then as a last resort waterways may be used in accordance with the following conditions:

- Dispose of snow in open water with adequate flow and mixing to prevent ice dams from forming;
- Do not dispose of snow in coastal or freshwater wetlands, eelgrass beds, vegetated shallows, vernal pools, shellfish beds, mudflats, outstanding resource waters, drinking water reservoirs and their tributaries, Wellhead Protection Areas (WHPAs), or other areas designated by the State as being environmentally sensitive;
- In coastal communities, preference should be given to disposal in salt water if it is available;
- Do not dispose of snow where trucks may cause shoreline damage or streambank damage or erosion; and
- Consult with appropriate municipal officials to ensure that snow disposal in water complies with local ordinances and bylaws.

G.4.4 Driveway and Parking Lot Sealants

Driveway and parking lot sealants are a major source of polycyclic aromatic hydrocarbons (PAHs) in our environment. There are two types of sealant: asphalt based and coal-tar based. Both types of sealant contain PAHs, but the coal-tar based sealants have a far higher concentration of PAHs (as much as 70 times higher than asphalt based). As the sealants wear down, small particles of sealant are washed off by stormwater into surface waters. PAHs have been found to be toxic to aquatic life, with bottom dwelling organisms most at risk since PAHs tend to attach to sediment

rather than dissolve in water. Also, in recognition of the human health effects of PAHs, DEM has adopted the US EPA water column human health criteria for PAHs in the DEM Water Quality Regulations. Because of the high concentrations of PAHs in coal-tar based sealants, DEM recommends that coal-tar based sealants not be used. For more information, see: US Geological Survey Fact Sheet 2005-3147, "Parking Lot Sealcoat: A Major Source of Polycyclic Aromatic Hydrocarbons (PAHs) in Urban and Suburban Environments."

G.5 Hazardous Materials Containment

As applicable, project proponents must provide a completed Stormwater Pollution Prevention Plan in accordance with the Rhode Island Pollution Discharge Elimination System Regulations. At a minimum, the following practices should be incorporated as part of site design:

- Site designs must incorporate adequate indoor storage of hazardous materials as the primary method for preventing problems related to stormwater;
- Diversion through devices such as curbing and berms should be incorporated wherever stormwater has the potential to runoff into hazardous materials storage areas; and
- Secondary containment must be included wherever spills might occur (e.g., fueling and hazardous materials transfer and loading areas). Oil/grit separators and other manufactured treatment devices may temporarily contain certain spills and contaminated stormwater. However, these devices should be used as backup for tighter containment practices.

G.6 Septic System Management

Approximately one-third of Rhode Islanders use some form of onsite wastewater treatment system (i.e., septic system, cesspool, etc.). When septic systems fail, they may become a major source of pollution to surface and groundwater. Discharge from failed systems is often carried to surface water via stormwater runoff. Stormwater management plans must discuss appropriate operation and management for all onsite wastewater treatment systems (OWTSs) on the project site. Use of regular inspections in accordance with the procedures of *Septic System Checkup: The Rhode Island Manual for Inspections* is recommended.

G.7 Lawn, Garden, and Landscape Management

Lawns are a significant feature of urban landscapes. Estimates of turf and lawn coverage in the United States are as high as 30 million acres, which, if lawns were classified as a crop, would rank as the fifth largest in the country after corn, soybeans, wheat, and hay (Swann and Schueler, 2000). This large area of managed landscape has the potential to contribute to urban runoff pollution due to overfertilization, overwatering, overapplication of pesticides, and direct disposal of lawn clippings, leaves, and trimmings. Also, erosion from bare patches of poorly managed lawns

contribute sediment to watercourses, and disposal of lawn clippings in landfills can reduce the capacity of these facilities to handle other types of waste.

The following standards for grounds management must be incorporated into stormwater management plans:

Lawn conversion - Grasses require more water and attention than alternative groundcovers, flowers, shrubs, or trees. Alternatives to turf are especially recommended for problem areas such as lawn edges, frost pockets, shady spots, steep slopes, and soggy areas. Vegetation that is best suited to the local conditions should be selected.

Soil building - Grounds operation and maintenance should incorporate soil evaluation every 1 to 3 years to determine suitability for supporting a lawn, and to determine how to optimize growing conditions. Consider testing soil characteristics such as pH, fertility, compaction, texture, and earthworm content.

Grass selection - Grass seed is available in a wide range of cultivated varieties, so homeowners, landscapers, and grounds managers are able to choose the grass type that grows well in their particular climate, matches site conditions, and is consistent with the property owner's desired level of maintenance. When choosing ground cover, consideration should be given to seasonal variations in rainfall and temperature. Table G-3 lists turfgrass types and their level of tolerance to drought:

Table G-3 Drought Tolerance of Turfgrass Types

Turfgrass Type	Drought Tolerance
Fine-leaved Fescues Tall Fescue Kentucky Bluegrass Perennial Ryegrass Bentgrasses	High ↓ Low

Mowing and thatch management - To prevent insects and weed problems, property owners should mow high, mow frequently, and keep mower blades sharp. Lawns should not be cut shorter than 2 to 3 inches, because weeds can grow more easily in short grasses. Grass can be cut lower in the spring and fall to stimulate root growth, but not shorter than 1 ½ inches.

Fertilization - If fertilizing is desired, consider the following points:

- Most lawns require little or no fertilizer to remain healthy. Fertilize no more than twice a year - once in May-June, and once in September-October;
- Fertilizers are rated on their labeling by three numbers (e.g., 10-10-10 or

12-4-8), which refer to their Nitrogen (N) – Phosphorus (P) – Potassium (K) concentrations. Fertilize at a rate of no more than ½ pound of nitrogen per 1000 square feet, which can be determined by dividing 50 by the percentage of nitrogen in the fertilizer;

- Apply fertilizer carefully to avoid spreading on impervious surfaces such as paved walkways, patios, driveways, etc., where the nutrient can be easily washed into stormdrains or directly into surface waters;
- To encourage more complete uptake, use slow-release fertilizers that is those that contain 50 percent or more water-insoluble nitrogen (WIN);
- Grass blades retain 30-40 percent of nutrients applied in fertilizers. Reduce fertilizer applications by 30 percent, or eliminate the spring application of fertilizer and leave clippings on the lawn where they will degrade and release stored nutrients back to the soil; and
- Fertilizer should not be applied when rain is expected. Not only does the rain decrease fertilizer effectiveness, it also increases the risk of surface and ground water contamination.

Weed management - A property owner must decide how many weeds can be tolerated before action is taken to eradicate them. To the extent practicable, weeds should be dug or pulled out. If patches of weeds are present, they can be covered for a few days with a black plastic sheet; a technique called solarization. Solarization kills the weeds while leaving the grass intact. If weeds blanket a large enough area, the patch can be covered with clear plastic for several weeks, effectively "cooking" the weeds and their seeds. The bare area left behind after weeding should be reseeded to prevent weeds from growing back. As a last resort, homeowners can use chemical herbicides to spot-treat weeds.

Pest management - Effective pest management begins with maintenance of a healthy, vigorous lawn that is naturally disease resistant. Property owners should monitor plants for obvious damage and check for the presence of pest organisms. Learn to distinguish beneficial insects and arachnids, such as green lacewings, ladybugs, and most spiders, from ones that will damage plants.

When damage is detected or when harmful organisms are present, property owners should determine the level of damage the plant is able to tolerate. No action should be taken if the plant can maintain growth and fertility. If controls are needed, there are a variety of low-impact pest management controls and practices to choose from, including the following:

- Visible insects can be removed by hand (with gloves or tweezers) and placed in soapy water or vegetable oil. Alternatively, insects can be sprayed off a plant with water, or in some cases vacuumed off of larger plants;
- Store-bought traps, such as species-specific, pheromone-based traps or colored sticky cards, can be used;

- Sprinkling the ground surface with abrasive diatomaceous earth can prevent infestations by soft-bodied insects and slugs. Slugs can also be trapped by falling or crawling into small cups set in the ground flush with the surface and filled with beer;
- In cases where microscopic parasites, such as bacteria and fungi, are causing damage to plants, the affected plant material can be removed and disposed of. (Pruning equipment should be disinfected with bleach to prevent spreading the disease organism);
- Small mammals and birds can be excluded using fences, netting, tree trunk guards, and, as a last resort, trapping. (In some areas trapping is illegal. Property owners should check local codes if this type of action is desired); and
- Property owners can encourage/attract beneficial organisms, such as bats, birds, green lacewings, ladybugs, praying mantis, ground beetles, parasitic nematodes, trichogramma wasps, seedhead weevils, and spiders that prey on detrimental pest species. These desirable organisms can be introduced directly or can be attracted to the area by providing food and/or habitat.

If chemical pesticides are used, property owners should try to select the least toxic, water soluble, and volatile pesticides possible. All selected pesticides should be screened for their potential to harm water resources. Although organophosphate pesticides, such as diazinon and chlorpyrifos, are popular because they target a broad range of pests and are less expensive than newer, less toxic pesticides, they rank among the worst killers of wildlife, and often pose the greatest health risk. Synthetic pyrethroids are more selective, and typically much less toxic than organophosphates, yet they can harm beneficial insects. When possible, pesticides that pose the least risk to human health and the environment should be chosen. A list of popular pesticides, along with their uses, their toxicity to humans and wildlife, EPA's toxicity rating, and alternatives to the listed chemicals, is available from *The Audubon Guide to Home Pesticides*, (http://www.audubon.org/bird/pesticides/).

Sensible irrigation - Most New England lawns will survive without irrigation. Grasses will normally go dormant in warm, dry periods (June-September) and resume growth when moister is more plentiful. However, if watering is desired, consider the following points:

Established lawns need no more than one inch of water per week (including precipitation) to prevent dormancy in dry periods. Watering at this rate should wet soil to approximately 4-6 inches and will encourage analogous root growth. If possible, use timers to water before 9:00 a.m., preferably in the early morning to avoid evaporative loss. Use drought-resistant grasses (see "grass selection" above) and cut grass at 2-3 inches to encourage deeper rooting and heartier lawns.

E.2 Best Management Practices Operation, Maintenance, and Inspection Checklists

This section includes sample checklists that can be used during maintenance inspections to ensure that all aspects of a constructed BMP are inspected. These checklists should be modified for a specific BMP that may or may not need all of the maintenance items shown here.

Stormwater Basin/WVTS Operation,
Maintenance, and Management Inspection Checklist

Project

Location:

Site Status:

Date:

Time:

Inspector:

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
1. Embankment and emergency spillway (Annual, After Major Storms)		
1. Vegetation and ground cover adequate		
2. Embankment erosion		
3. Animal burrows		
4. Unauthorized planting		
5. Cracking, bulging, or sliding of dam		
a. Upstream face		
b. Downstream face		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
c. At or beyond toe		
downstream		
upstream		
d. Emergency spillway		
6. Basin, toe & chimney drains clear and functioning		
7. Seeps/leaks on downstream face		
8. Slope protection or riprap failure		
9. Vertical/horizontal alignment of top of dam "As-Built"		
10. Emergency spillway clear of obstructions and debris		
2. Riser and principal spillway (Annual, After Major Storms)		
Type: Reinforced concrete _____ Corrugated pipe _____ Masonry _____ 1. Low-flow orifice obstructed		
2. Low-flow trash rack. a. Debris removal necessary		
b. Corrosion control		
3. Weir trash rack maintenance a. Debris removal necessary		
b. corrosion control		
4. Excessive sediment accumulation inside riser		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
5. Concrete/masonry condition riser and barrels a. cracks or displacement		
b. Minor spalling (<1")		
c. Major spalling (rebars exposed)		
d. Joint failures		
e. Water tightness		
6. Metal pipe condition		
7. Control valve a. Operational/exercised		
b. Chained and locked		
8. Basin drain valve a. Operational/exercised		
b. Chained and locked		
9. Outfall channels functioning		
3. Permanent Pool (WVTS/Wet Basins) (Semi-annually)		
1. Undesirable vegetative growth		
2. Floating or floatable debris removal required		
3. Visible pollution		
4. Shoreline problem		
5. Other (specify)		
4. Sediment Forebays (Semi-annually)		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
1. Sedimentation noted		
2. Sediment cleanout when depth < 50% design depth		
5. Dry Basin Areas (Annual, After Major Storms)		
1. Vegetation adequate		
2. Undesirable vegetative growth		
3. Undesirable woody vegetation		
4. Low-flow channels clear of obstructions		
5. Standing water or wet spots		
6. Sediment and/or trash accumulation		
6. Condition of Outfalls (Annual , After Major Storms)		
1. Riprap failures		
2. Slope erosion		
3. Storm drain pipes		
4.Endwalls / Headwalls		
5. Other (specify)		
7. Other (Semi-annually)		
1. Encroachment on basin, WVTS or easement area		
2. Complaints from residents		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
3. Aesthetics a. Grass growing required		
b. Graffiti removal needed		
c. Other (specify)		
4. Conditions of maintenance access routes		
5. Signs of hydrocarbon build-up		
6. Any public hazards (specify)		
8. Emergent Vegetation (Annual)		
1. Vegetation healthy and growing WVTS maintaining 50% surface area coverage of emergent plants after the second growing season. (If unsatisfactory, reinforcement plantings needed)		
2. Dominant emergent plants: Survival of desired emergent plant species Distribution according to planting plan?		
3. Evidence of invasive species		
4. Maintenance of adequate water depths for desired emergent plant species		
5. Harvesting of emergent plantings needed		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
6. Have sediment accumulations reduced pool volume significantly or are plants "choked" with sediment		
7. Eutrophication level of the WVTS		

Comments:

Actions to be Taken:

Infiltration System Operation, Maintenance, and Management Inspection Checklist

Project:

Location:

Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Annual)		
Trench/chamber or basin surface clear of debris		
Inflow pipes clear of debris		
Overflow spillway clear of debris		
Inlet area clear of debris		
2. Sediment Traps or Forebays (Annual)		
Obviously trapping sediment		
Greater than 50% of storage volume remaining		
3. Dewatering (Annual)		
Trench/chamber or basin dewaters between storms		
4. Sediment Cleanout of Trench/Chamber or Basin (Annual)		

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
No evidence of sedimentation in trench/chamber or basin		
Sediment accumulation doesn't yet require cleanout		
5. Inlets (Annual)		
Good condition		
No evidence of erosion		
6. Outlet/Overflow Spillway (Annual)		
Good condition, no need for repair		
No evidence of erosion		
7. Aggregate Repairs (Annual)		
Surface of aggregate clean		
Top layer of stone does not need replacement		
Trench/Chamber or basin does not need rehabilitation		

Comments:

Actions to be Taken:

Sand/Organic Filter Operation, Maintenance, and Management Inspection Checklist

Project:

Location:

Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Annual, After Major Storms)		
Contributing areas clean of debris		
Filtration facility clean of debris		
Inlet and outlets clear of debris		
2. Oil and Grease (Annual, After Major Storms)		
No evidence of filter surface clogging		
Activities in drainage area minimize oil and grease entry		
3. Vegetation (Semi-annually)		
Contributing drainage area stabilized		
No evidence of erosion		
Area mowed and clipping removed		

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
4. Water Retention Where Required (Annual, After Major Storms)		
Water holding chambers at normal pool		
No evidence of leakage		
5. Sediment Deposition (Annual. After Major Storms)		
Filter chamber free of sediments		
Sedimentation chamber not more than half full of sediments		
6. Structural Components (Annual, After Major Storms)		
No evidence of structural deterioration		
Any grates are in good condition		
No evidence of spalling or cracking of structural parts		
7. Outlet/Overflow Spillway (Annual, After Major Storms)		
Good condition, no need for repairs		
No evidence of erosion (if draining into natural channel)		
8. Overall Function of Facility (Annual, After Major Storms)		
Evidence of flow bypassing facility		
No noticeable odors		

Comments:

Actions to be Taken:

Bioretention Operation, Maintenance, and Management Inspection Checklist

Project:

Location:

Site Status:

Date:

Time:

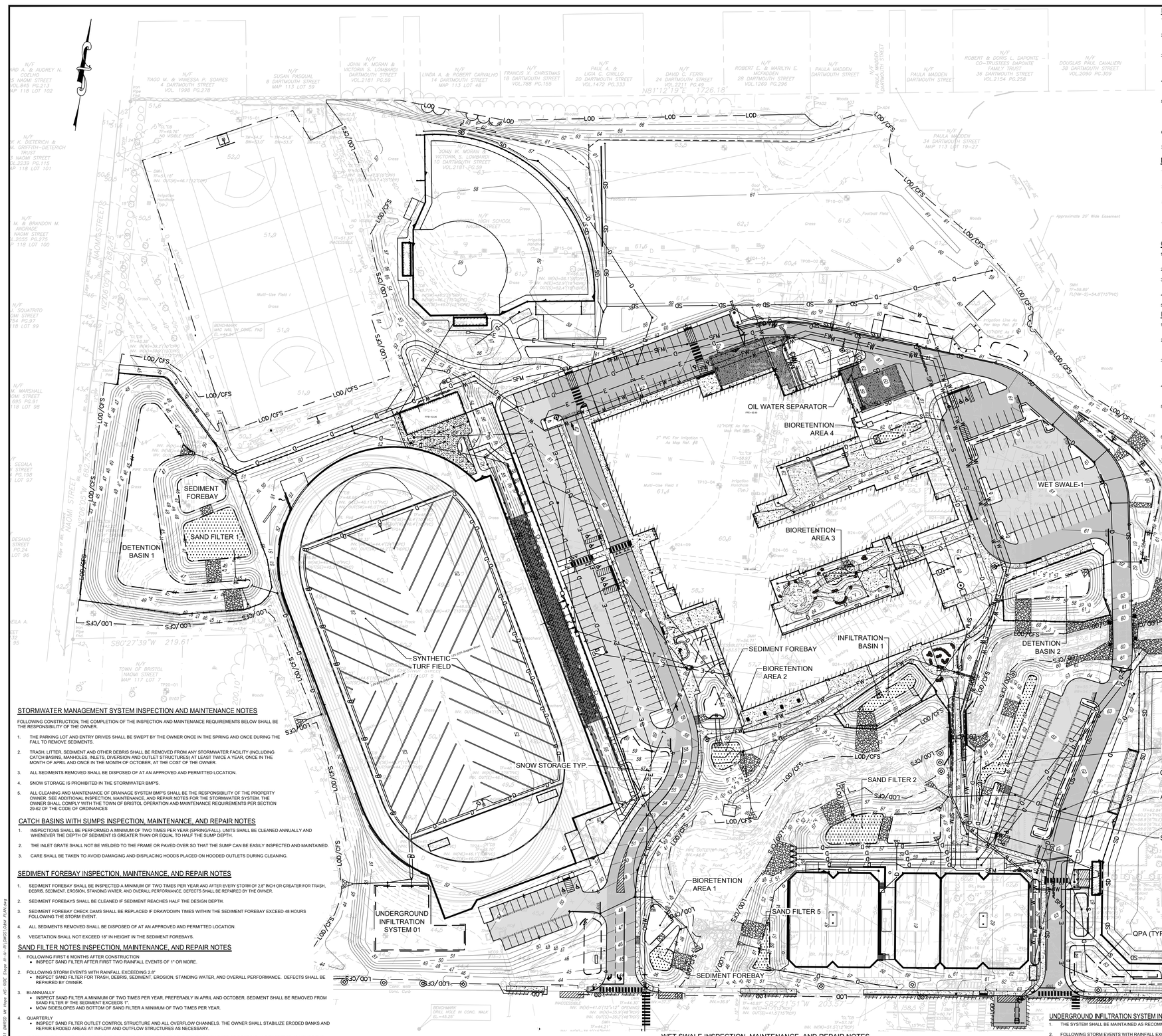
Inspector:

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Annual, After Major Storms)		
Bioretention and contributing areas clean of debris		
No dumping of yard wastes into practice		
Litter (branches, etc.) have been removed		
2. Vegetation (Annual, After Major Storms)		
Plant height not less than design water depth		
Fertilized per specifications		
Plant composition according to approved plans		
No placement of inappropriate plants		
Grass height not greater than 10 inches		

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
No evidence of erosion		
3. Check Dams/Energy Dissipaters/Sumps (Annual, After Major Storms)		
No evidence of sediment buildup		
Sumps should not be more than 50% full of sediment		
No evidence of erosion at downstream toe of drop structure		
4. Dewatering (Semi-annually)		
Dewaters between storms		
No evidence of standing water		
5. Sediment Deposition (Annual, after Major Storms)		
Swale clean of sediments		
Sediments should not be > 20% of swale design depth		
6. Outlet/Overflow Spillway (Annual, After Major Storms)		
Good condition, no need for repair		
No evidence of erosion		
No evidence of any blockages		
7. Integrity of Filter Bed (Annual, After Major Storms)		
Filter bed has not been blocked or filled inappropriately		

Comments:

Actions to be Taken:



BIORETENTION AREA INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT BIORETENTION AREA AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT BIORETENTION AREA FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY OWNER.
3. BI-ANNUALLY
   - INSPECT BIORETENTION AREA A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY IN APRIL AND OCTOBER. SEDIMENT SHALL BE REMOVED FROM BIORETENTION AREA IF THE SEDIMENT EXCEEDS 1".
   - MOW SIDE SLOPES AND BOTTOM OF BIORETENTION AREA A MINIMUM OF TWO TIMES PER YEAR.
4. QUARTERLY
   - INSPECT BIORETENTION AREA OUTLET CONTROL STRUCTURE AND ALL OVERFLOW CHANNELS. THE OWNER SHALL STABILIZE ERODED BANKS AND REPAIR ERODED AREAS AT INFLOW AND OUTFLOW STRUCTURES AS NECESSARY.
5. IF SEDIMENT BUILD-UP HAS LIMITED THE FILTERING CAPABILITIES TO BELOW THE DESIGN RATE OR PONDING HAS EXCEEDED 48 HOURS THE FOLLOWING SHALL BE COMPLETED:
   - THE TOP 6" OF SOIL SHALL BE REMOVED AND DISPOSED AT A PERMITTED LOCATION.
   - THE EXPOSED SURFACE SHALL BE SCARIFIED.
   - THE TOP 6" SHALL BE RESTORED TO THE ORIGINAL DESIGN SPECIFICATIONS WITH A SANDY LOAM TOPSOIL.
6. TRASH AND DEBRIS SHALL BE REMOVED FROM BIORETENTION AREA AS NECESSARY.
7. AUXILIARY DRAIN PIPES WITHIN BIO-01 AND BIO-04 SHALL BE INSPECTED ANNUALLY. THE OWNER SHALL KEEP THE PVC BALL VALVE IN THE CLOSED POSITION AT ALL TIMES EXCEPT WHERE NECESSARY TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES.

DETENTION BASIN INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. SEDIMENT SHALL BE REMOVED FROM THE DETENTION BASIN WHEN THE SEDIMENT VOLUME EXCEEDS 10 PERCENT OF THE TOTAL BASIN VOLUME. THE REMOVED SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED AND PERMITTED LOCATION.
2. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT INFILTRATION PRACTICES AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
3. BI-ANNUALLY
   - INSPECT DETENTION BASIN A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY ONCE IN APRIL AND ONCE IN OCTOBER.
   - MOW SIDE SLOPES AND BOTTOM OF DETENTION BASIN A MINIMUM OF TWO TIMES PER YEAR. THE VEGETATION SHALL NOT EXCEED 18" IN HEIGHT.
4. QUARTERLY
   - THE DETENTION BASIN OUTLET STRUCTURES AND ALL OUTFLOW CHANNELS SHOULD BE INSPECTED QUARTERLY BY THE OWNER.

QUALIFYING PERVIOUS AREA INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. THE QUALIFYING PERVIOUS AREAS (QPA'S) MUST BE INSPECTED A MINIMUM OF TWO TIMES PER YEAR FOR SEDIMENT, PONDING, EROSION, AND VEGETATION.
2. REMOVE ACCUMULATED SEDIMENT FROM THE QPA'S IF SEDIMENT EXCEEDS 1".
3. OWNER SHALL REPAIR ANY SLOPES THAT HAVE BEEN DAMAGED DUE TO EROSION OR OTHER MEANS. OWNER SHALL REPLACE ANY VEGETATION THAT HAS DIED OR BEEN DAMAGED.
4. OWNER SHALL MOW GRASS WITHIN THE QPA A MINIMUM OF TWO TIMES ANNUALLY TO MAINTAIN A MINIMUM GRASS HEIGHT OF 6".
5. TRASH AND DEBRIS SHALL BE REMOVED FROM THE QPA'S AS NECESSARY.

INFILTRATION BASIN INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT INFILTRATION PRACTICES AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT INFILTRATION BASIN FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY OWNER.
3. BI-ANNUALLY
   - INSPECT INFILTRATION BASIN A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY IN APRIL AND OCTOBER. SEDIMENT SHALL BE REMOVED FROM INFILTRATION BASIN IF THE SEDIMENT EXCEEDS 1".
   - MOW SIDESLOPES AND BOTTOM OF INFILTRATION BASIN A MINIMUM OF TWO TIMES PER YEAR.
4. QUARTERLY
   - INSPECT INFILTRATION BASIN OUTLET CONTROL STRUCTURE AND ALL OVERFLOW CHANNELS. THE OWNER SHALL STABILIZE ERODED BANKS AND REPAIR ERODED AREAS AT INFLOW AND OUTFLOW STRUCTURES AS NECESSARY
5. IF SEDIMENT BUILD-UP HAS LIMITED THE INFILTRATION CAPABILITIES TO BELOW THE DESIGN RATE OR PONDING HAS EXCEEDED 48 HOURS THE FOLLOWING SHALL BE COMPLETED:
   - THE TOP 6" OF SOIL SHALL BE REMOVED AND DISPOSED AT A PERMITTED LOCATION.
   - THE EXPOSED SURFACE SHALL BE SCARIFIED.
   - THE BASIN BOTTOM SHALL BE RESTORED TO THE ORIGINAL DESIGN SPECIFICATIONS WITH SANDY LOAM TOPSOIL.
6. TRASH AND DEBRIS SHALL BE REMOVED FROM INFILTRATION BASIN AS NECESSARY.
7. AUXILIARY DRAIN PIPES WITHIN IB-01 SHALL BE INSPECTED ANNUALLY. THE OWNER SHALL KEEP THE PVC BALL VALVE IN THE CLOSED POSITION AT ALL TIMES EXCEPT WHERE NECESSARY TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES.

OILWATER SEPARATOR INSPECTION AND MAINTENANCE NOTES

1. INSPECTIONS SHALL BE PERFORMED A MINIMUM OF 2 TIMES PER YEAR (SPRING/FALL). INSPECT STRUCTURE FOR SEDIMENT BUILDUP, CONTINUOUS FLOW-THROUGH, AND INTEGRITY OF OUTLET TEE TO ENSURE NO DAMAGE.
2. OILWATER SEPARATOR SHALL BE CLEANED BI-ANNUALLY WHENEVER THE DEPTH OF SEDIMENT EXCEEDS 1-FOOT DEEP, OR HALF THE DISTANCE BETWEEN THE BOTTOM OF THE SUMP AND THE BOTTOM OF THE OUTLET TEE. SEDIMENT/OIL/GREASE SHALL BE CLEANED OUT WITH A VACUUM TRUCK AND LEGALLY DISPOSED.
3. CARE SHALL BE TAKEN TO AVOID DAMAGING AND DISPLACING THE OILWATER SEPARATOR OUTLET TEE DURING CLEANINGS.

STORMWATER MANAGEMENT SYSTEM INSPECTION AND MAINTENANCE NOTES

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

1. THE PARKING LOT AND ENTRY DRIVES SHALL BE SWEPT BY THE OWNER ONCE IN THE SPRING AND ONCE DURING THE FALL TO REMOVE SEDIMENTS.
2. TRASH, LITTER, SEDIMENT AND OTHER DEBRIS SHALL BE REMOVED FROM ANY STORMWATER FACILITY (INCLUDING CATCH BASINS, MANHOLES, INLETS, DIVERSION AND OUTLET STRUCTURES) AT LEAST TWICE A YEAR, ONCE IN THE MONTH OF APRIL AND ONCE IN THE MONTH OF OCTOBER, AT THE COST OF THE OWNER.
3. ALL SEDIMENTS REMOVED SHALL BE DISPOSED OF AT AN APPROVED AND PERMITTED LOCATION.
4. SNOW STORAGE IS PROHIBITED IN THE STORMWATER BMP'S.
5. ALL CLEANING AND MAINTENANCE OF DRAINAGE SYSTEM BMP'S SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. SEE ADDITIONAL INSPECTION, MAINTENANCE, AND REPAIR NOTES FOR THE STORMWATER SYSTEM. THE OWNER SHALL COMPLY WITH THE TOWN OF BRISTOL OPERATION AND MAINTENANCE REQUIREMENTS PER SECTION 29-62 OF THE CODE OF ORDINANCES

CATCH BASINS WITH SUMPS INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. INSPECTIONS SHALL BE PERFORMED A MINIMUM OF TWO TIMES PER YEAR (SPRING/FALL). UNITS SHALL BE CLEANED ANNUALLY AND WHENEVER THE DEPTH OF SEDIMENT IS GREATER THAN OR EQUAL TO HALF THE SUMP DEPTH.
2. THE INLET GRATE SHALL NOT BE WELDED TO THE FRAME OR PAVED OVER SO THAT THE SUMP CAN BE EASILY INSPECTED AND MAINTAINED
3. CARE SHALL BE TAKEN TO AVOID DAMAGING AND DISPLACING HOODS PLACED ON HOODED OUTLETS DURING CLEANING.

SEDIMENT FOREBAY INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. SEDIMENT FOREBAY SHALL BE INSPECTED A MINIMUM OF TWO TIMES PER YEAR AND AFTER EVERY STORM OF 2.8" INCH OR GREATER FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY THE OWNER.
2. SEDIMENT FOREBAYS SHALL BE CLEANED IF SEDIMENT REACHES HALF THE DESIGN DEPTH.
3. SEDIMENT FOREBAY CHECK DAMS SHALL BE REPLACED IF DRAWDOWN TIMES WITHIN THE SEDIMENT FOREBAY EXCEED 48 HOURS FOLLOWING THE STORM EVENT.
4. ALL SEDIMENTS REMOVED SHALL BE DISPOSED OF AT AN APPROVED AND PERMITTED LOCATION.
5. VEGETATION SHALL NOT EXCEED 18" IN HEIGHT IN THE SEDIMENT FOREBAYS.

SAND FILTER NOTES INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT SAND FILTER AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT SAND FILTER FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY OWNER.
3. BI-ANNUALLY
   - INSPECT SAND FILTER A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY IN APRIL AND OCTOBER. SEDIMENT SHALL BE REMOVED FROM SAND FILTER IF THE SEDIMENT EXCEEDS 1".
   - MOW SIDESLOPES AND BOTTOM OF SAND FILTER A MINIMUM OF TWO TIMES PER YEAR.
4. QUARTERLY
   - INSPECT SAND FILTER OUTLET CONTROL STRUCTURE AND ALL OVERFLOW CHANNELS. THE OWNER SHALL STABILIZE ERODED BANKS AND REPAIR ERODED AREAS AT INFLOW AND OUTFLOW STRUCTURES AS NECESSARY.
5. IF SEDIMENT BUILD-UP HAS LIMITED THE FILTERING CAPABILITIES TO BELOW THE DESIGN RATE OR PONDING HAS EXCEEDED 48 HOURS THE FOLLOWING SHALL BE COMPLETED:
   - THE TOP 6" OF SOIL SHALL BE REMOVED AND DISPOSED AT A PERMITTED LOCATION.
   - THE EXPOSED SURFACE SHALL BE SCARIFIED.
   - THE TOP 6" SHALL BE RESTORED TO THE ORIGINAL DESIGN SPECIFICATIONS WITH SANDY LOAM TOPSOIL.
6. TRASH AND DEBRIS SHALL BE REMOVED FROM SAND FILTER AS NECESSARY.
7. AUXILIARY DRAIN PIPES WITHIN SF-01, SF-02, SF-03 AND SF-05 SHALL BE INSPECTED ANNUALLY. THE OWNER SHALL KEEP THE PVC BALL VALVE IN THE CLOSED POSITION AT ALL TIMES EXCEPT WHERE NECESSARY TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES.

SYNTHETIC TURF FIELD MANIFOLD SYSTEM INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. THE SYSTEM SHALL BE MAINTAINED AS RECOMMENDED BY THE MANUFACTURER.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT SYSTEM FOR PONDING AND ANY EVIDENCE OF RESTRICTED INFILTRATION CAPACITY.
3. THE FLAT DRAIN AND PERIMETER MANIFOLD TURF INFILTRATION SYSTEM COMPONENTS AREA SHOWN ON ATTACHED PLAN OM-1.

WET SWALE INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. DURING THE SIX MONTHS IMMEDIATELY AFTER CONSTRUCTION, FILTER PRACTICES SHALL BE INSPECTED FOLLOWING AT LEAST THE FIRST TWO PRECIPITATION EVENTS OF AT LEAST 1.0 INCH TO ENSURE THAT THE SYSTEM IS FUNCTIONING PROPERLY. THEREAFTER, INSPECTIONS SHALL BE CONDUCTED ON AN ANNUAL BASIS AND AFTER STORM EVENTS OF GREATER THAN OR EQUAL 2.8" FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE.
2. TRASH AND DEBRIS SHALL BE REMOVED FROM THE FOREBAY AND SWALE SYSTEM AS NECESSARY.
3. MINIMUM VEGETATIVE COVERAGE OF 50% IS NOT ACHIEVED IN THE PLANTED AREAS AFTER THE SECOND GROWING SEASON, A REINFORCEMENT PLANTING IS REQUIRED. VEGETATION SHALL BE PRUNED WHERE DEAD OR DYING BRANCHES ARE OBSERVED.

UNDERGROUND INFILTRATION SYSTEM INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. THE SYSTEM SHALL BE MAINTAINED AS RECOMMENDED BY THE MANUFACTURER.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT INFILTRATION/DETENTION SYSTEM FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY THE OWNER.
3. BI-ANNUALLY
   - INSPECTIONS SHALL BE PERFORMED A MINIMUM OF TWO TIMES PER YEAR ON THE INSPECTION PORTS AND DRAINAGE STRUCTURES OF THE UNDERGROUND INFILTRATION SYSTEM TO ENSURE PROPER OPERATION OF THE SYSTEM.
4. AUXILIARY DRAIN PIPES WITHIN UGB-01 SHALL BE INSPECTED ANNUALLY. THE OWNER SHALL KEEP THE PVC BALL VALVE IN THE CLOSED POSITION AT ALL TIMES EXCEPT WHERE NECESSARY TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=60'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

OPERATION & MAINTENANCE PLAN

DRAWING NO.:
OM-1
SHEET NO. ---- OF 93

J:\JOBS\23__\Job\23099.01 BRPSD MT Hope HS--RIDE Stage 4--3D-4\PDRSD\SAM PLAN.dwg

MT. HOPE HIGH SCHOOL

199 Chestnut Street

Assessor's Plat 117, Lots 3, 4, 5, 6, & 7
Bristol, Rhode Island

OWNER/ APPLICANT:

BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809

CIVIL ENGINEER:

PARE CORPORATION
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LANDSCAPE ARCHITECT:

TRAVERSE
landscape architects
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Providence, RI 02903

WETLAND CONSULTANT:

LEC
LEC ENVIRONMENTAL CONSULTANTS, INC
680 WARREN AVE, UNIT 3
EAST PROVIDENCE, RI 02914
401-685-3109

MECHANICAL/ELECTRICAL/PLUMBING CONSULTANT

CMTA

CMTA
170 MILK STREET
BOSTON, MA 02109



Scale : N.T.S.

PRELIMINARY PLAN SUBMISSION
JANUARY 10, 2025
REVISION 1 FEBRUARY 11, 2025
REVISION 2 JUNE 10, 2025

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REFERENCE

1. PROJECT LOCATION: MT. HOPE HIGH SCHOOL, 199 CHESTNUT ST, BRISTOL, RI 02809.
   ASSESSOR'S MAP 117, LOTS 3, 4, 5, 6, AND 7.
2. EXISTING CONDITIONS MAPPING TAKEN FROM PLAN ENTITLED "MT. HOPE HIGH SCHOOL" PREPARED BY MARTINEZ, COUCH AND ASSOCIATES LLC, DATED 12/23/2024.
3. WETLAND FLAGS IDENTIFYING WETLAND RESOURCE AREAS WERE PLACED BY LEC ENVIRONMENTAL CONSULTANTS ON FEBRUARY 12 AND 28, 2024 AND LOCATED BY MARTINEZ, COUCH AND ASSOCIATES LLC.

GENERAL NOTES

1. PER AVAILABLE RIDEM MAPPING, THE PROJECT SITE IS LOCATED WITHIN A NATURAL HERITAGE AREA. THE PROJECT IS ALSO LOCATED WITHIN THE SILVER CREEK WATERSHED AREA.
2. THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED FEBRUARY 2025 WITH ALL REVISIONS AND ADDENDA. AND THE RHODE ISLAND STANDARD DETAILS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO, ALL WORK SHALL MEET OR EXCEED THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WITH LATEST REVISIONS. THE LATEST REVISION OF THE STANDARD SPECIFICATIONS MAY BE OBTAINED AT THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION.
3. THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE ENGINEER AND OWNER'S REPRESENTATIVE AS REQUIRED.
4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AND/OR BARRIERS AROUND ALL OPEN EXCAVATED AREAS IN ACCORDANCE WITH OSHA FEDERAL, STATE, AND LOCAL REQUIREMENTS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED. NO FIELD ADJUSTMENTS IN THE LOCATION OF SITE ELEMENTS SHALL BE MADE WITHOUT THE ENGINEER'S APPROVAL.
6. IF ANY DEVIATION OR ALTERATION OF THE WORK PROPOSED ON THESE DRAWINGS IS REQUIRED, THE CONTRACTOR SHALL IMMEDIATELY CONTACT AND COORDINATE ANY DEVIATIONS WITH THE ENGINEER AND OWNER.
7. ANY AREA OUTSIDE OF THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
8. ALL SITE WORK SHALL MEET OR EXCEED THE SITE WORK SPECIFICATIONS PREPARED FOR THIS PROJECT.
9. ALL SIGNS SHALL BE REFLECTORIZED TYPE III SHEETING AND CONFORM WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST REVISION.
10. ALL UTILITIES (LOCATION AND ELEVATION) DEPICTED SHALL BE CONSIDERED APPROXIMATE ONLY. BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIG SAFE" AT 1-888-DIG-SAFE (1-888-344-7233) TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES AND THE COST TO REPAIR THE DAMAGES TO INITIAL CONDITIONS, AS DEPICTED ON THE PLANS, SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
11. NO EXCAVATION SHALL BE DONE UNTIL UTILITY COMPANIES ARE PROPERLY NOTIFIED IN ADVANCE. NOTE THAT NOT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL RESPECTIVE UTILITY COMPANIES TO VERIFY AND LOCATE EXISTING UTILITIES.

LAYOUT NOTES

1. ALL LINES ARE PERPENDICULAR OR PARALLEL TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
2. ACCESSIBLE RAMPS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY STANDARDS.
3. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL PERFORM BENCHMARK FIELD LEVEL VERIFICATION AND COORDINATE LAYOUT CHECK. THE CONTRACTOR SHALL CONTACT PARE CORPORATION IF ANY DISCREPANCIES ARE FOUND.
4. DIMENSIONS OF PARKING SPACES AND DRIVEWAYS ARE FROM FACE OF CURB TO FACE OF CURB. DIMENSIONS FROM BUILDING ARE FROM FACE OF BUILDING TO FACE OF CURB.
5. ALIGN WALKWAYS ON DOORWAYS THEY SERVE TO PROVIDE MINIMUM REQUIRED MANEUVERING CLEARANCE IN ACCORDANCE WITH THE AMERICAN WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES.

DEMOLITION NOTES

1. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION OF STRUCTURES, PAVEMENT AND CONCRETE MATERIALS, AND UTILITIES WITH APPROPRIATE PROPOSED SITE GENERAL, GRADING, UTILITY, AND LANDSCAPING DRAWINGS.
2. ALL NOTED UTILITIES TO BE REMOVED AND DISPOSED OF, RELOCATED OR CAPPED REPRESENT ALL KNOWN SITE CONDITIONS TO BE DEMOLISHED. THE CONTRACTOR SHALL COORDINATE ALL UNFORESEEN CONDITIONS WITH THE PROJECT ENGINEER, OWNER AND/OR RESPECTIVE UTILITY COMPANIES PRIOR TO PROCEEDING WITH WORK.
3. WATER, SEWER, DRAINAGE, GAS, AND OTHER SITE UTILITIES SERVICING THE EXISTING FACILITIES ARE TO REMAIN ACTIVE THROUGHOUT CONSTRUCTION. THERE SHALL BE NO INTERRUPTION OF UTILITY SERVICES DURING THE CONSTRUCTION OPERATION WITHOUT APPROVAL FROM THE OWNER.

GRADING AND UTILITY NOTES

1. UNDERGROUND UTILITIES DEPICTED WERE COMPILED FROM AVAILABLE RECORD PLANS AND SHALL BE CONSIDERED APPROXIMATE ONLY. BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIG SAFE" AT 1-888-DIG-SAFE (1-888-344-7233) TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES DEPICTED OR NOT DEPICTED ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS TO REPAIR SUCH DAMAGES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. NO EXCAVATION SHALL BE DONE UNTIL UTILITY COMPANIES ARE PROPERLY NOTIFIED.
2. ALL WORK PERFORMED AND ALL MATERIALS FURNISHED SHALL CONFORM WITH THE LINES AND GRADES ON THE PLANS AND SITE WORK SPECIFICATIONS.
3. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUT NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT AND CURBS SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
4. ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE SURROUNDING SURFACE OR PAVEMENT FINISH GRADE. RIM ELEVATIONS OF STRUCTURES AND MANHOLES ARE APPROXIMATE, FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS.
5. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION OF PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED.
6. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION SHALL BE PROVIDED ON A SKETCH TO SCALE OF THE EXISTING UTILITY WITH TIES TO KNOWN POINTS, PHOTOS AND FURNISHED TO THE ENGINEER FOR RESOLUTION.
7. THE CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION, ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS SHALL BE RESTORED TO ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
8. GAS, ELECTRIC, AND COMMUNICATIONS ROUTING ARE SUBJECT TO REVIEW AND APPROVAL BY APPROPRIATE UTILITY COMPANIES.
9. DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES BY PROVIDING TEMPORARY SUPPORTS OR SHEETING AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
10. ALL GRAVITY SANITARY PIPING SHALL BE SDR-35 PVC. ALL SEWER CONSTRUCTION SHALL CONFORM TO THE TOWN OF BRISTOL SEWER AND SEWAGE DISPOSAL ORDINANCE .
11. ALL WATER LINE BENDS AND TEES SHALL BE REINFORCED WITH THRUST BLOCKS. ALL WATER DISTRIBUTION PIPING AND FITTINGS MUST ADHERE TO THE BRISTOL COUNTY WATER AUTHORITY SPECIFICATIONS AND SHALL BE INSPECTED BEFORE, DURING, AND AFTER CONSTRUCTION PRIOR TO TAPPING THE SERVICE MAIN. THE CONTRACTOR SHALL COORDINATE AND CONFIRM ALL WATER DISTRIBUTION MATERIAL PRODUCTS WITH THE BRISTOL COUNTY WATER AUTHORITY PRIOR TO ORDERING OR PURCHASING PRODUCTS.
12. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
13. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MIN. OF 1/8" PER FOOT UNLESS SPECIFIED OTHERWISE.
14. THE PROPOSED WALKWAYS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM RUNNING SLOPE OF 5% AS SHOWN ON CONSTRUCTION DETAILS AND GRADING PLAN.

STORMWATER MANAGEMENT SYSTEM INSPECTION AND MAINTENANCE NOTES

DURING CONSTRUCTION (CONTRACTOR'S RESPONSIBILITY)

1. THE CONTRACTOR SHALL REMOVE SEDIMENT AND DEBRIS FROM ALL CATCH BASINS, MANHOLES, AND THE DRAINAGE SYSTEM ON A ROUTINE BASIS, IMMEDIATELY FOLLOWING SITE STABILIZATION, AND PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
2. THE CLOSED DRAINAGE SYSTEM AND ASSOCIATED STRUCTURES SHALL BE CLEANED AND FLUSHED BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM UNTIL ACCEPTANCE OF THE SYSTEM BY THE ENGINEER AND THE TOWN OF BRISTOL. FOLLOWING ACCEPTANCE OF THE PROPOSED DRAINAGE SYSTEM, THE OWNER OF THE SITE SHALL BE RESPONSIBLE FOR THE LONG-TERM INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM.
3. ANY ACCUMULATION OF PONDING WATER IN AREAS WITHIN THE LIMITS OF DISTURBANCE, OTHER THAN DESIGNATED AREAS, SHALL BE REMOVED ACCORDINGLY AND PREVENTED IN THE FUTURE.

POST CONSTRUCTION (OWNER'S RESPONSIBILITY)

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

1. THE PARKING LOT AND ENTRY DRIVES SHALL BE SWEPT BY THE OWNER ONCE IN THE SPRING AND ONCE DURING THE FALL TO REMOVE SEDIMENTS.
2. TRASH, LITTER, SEDIMENT AND OTHER DEBRIS SHALL BE REMOVED FROM ANY STORMWATER FACILITY (INCLUDING CATCH BASINS, MANHOLES, INLETS, DIVERSION AND OUTLET STRUCTURES) AT LEAST TWICE A YEAR, ONCE IN THE MONTH OF APRIL AND ONCE IN THE MONTH OF OCTOBER, AT THE COST OF THE OWNER.
3. ALL SEDIMENTS REMOVED SHALL BE DISPOSED OF AT AN APPROVED AND PERMITTED LOCATION.
4. SNOW STORAGE IS PROHIBITED IN THE STORMWATER BMP'S.
5. ALL CLEANING AND MAINTENANCE OF DRAINAGE SYSTEM BMP'S SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. SEE ADDITIONAL INSPECTION, MAINTENANCE, AND REPAIR NOTES FOR THE STORMWATER SYSTEM. THE OWNER SHALL COMPLY WITH THE TOWN OF BRISTOL OPERATION AND MAINTENANCE REQUIREMENTS PER SECTION 29-62 OF THE CODE OF ORDINANCES.

EROSION AND SEDIMENTATION CONTROL NOTES - RHODE ISLAND

1. THE CONTRACTOR AND RELEVANT SUBCONTRACTORS SHALL READ AND UNDERSTAND THE RIPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (GENERAL PERMIT) AND THE SITE SPECIFIC SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC) PREPARED FOR THE PROJECT. ALL EROSION CONTROLS SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST REVISION.
2. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE CONDITIONS ISSUED FOR THE PROJECT BY RIDEM AND THE TOWN OF BRISTOL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH ALL PERMIT REQUIREMENTS AND CONSTRUCTION DOCUMENTS. PER THE TOWN OF BRISTOL'S CODE OF ORDINANCES CHAPTER 29, THE CONTRACTOR SHALL PROVIDE NOTIFICATION OF PROJECT COMPLETION. THE TOWN OF BRISTOL'S BUILDING OFFICIAL SHALL BE NOTIFIED TO MAKE A FINAL INSPECTION OF THE SITE AND SHALL PREPARE A FINAL SUMMARY INSPECTION REPORT OF FINDINGS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING OR INSTALLING ALL TEMPORARY SEDIMENT AND EROSION CONTROLS AS SHOWN ON THESE PLANS AND SHALL MAINTAIN ALL EROSION CONTROL MEASURES AS NECESSARY DURING THE ENTIRE CONSTRUCTION PERIOD.
4. ANTI-TRACKING PADS (R.I. STD. DETAIL 9.9.0) SHALL BE PROVIDED AT ALL POINTS OF VEHICULAR INGRESS AND EGRESS ON THE CONSTRUCTION SITE AND SHALL BE MAINTAINED TO LIMIT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADS. PER THE PROJECT SPECIFICATIONS, THE CONTRACTOR SHALL BE BACKCHARGED IF ALL POINTS OF INGRESS AND EGRESS ARE NOT MAINTAINED.
5. EROSION CONTROL BARRIERS SHALL BE INSTALLED AS SHOWN ON THE EROSION CONTROL PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATIONS.
6. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A WEEKLY BASIS AND AFTER EACH STORM EVENT OF 0.25 INCH OR GREATER DURING CONSTRUCTION TO ENSURE THAT CHANNELS, DITCHES AND PIPES ARE CLEAR OF DEBRIS AND THAT THE EROSION CONTROL BARRIERS ARE INTACT. IDENTIFIED DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.
7. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
8. THE CONTRACTOR SHALL CLEAN AND MAINTAIN EROSION CONTROL BARRIER WHEN SEDIMENT ACCUMULATES TO ONE HALF THE HEIGHT OF THE BARRIER. MATERIAL COLLECTED FROM THE SEDIMENTATION BARRIERS SHALL BE REMOVED AS NECESSARY AND DISPOSED IN AN UPLAND AREA.
9. THE CONTRACTOR SHALL SCHEDULE HIS WORK TO ALLOW THE FINISHED SUBGRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PONDING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO APPLICATION OF SURFACE PAVING. PROVIDE TEMPORARY POSITIVE DRAINAGE, AS REQUIRED, TO STABILIZED DISCHARGE POINTS.
10. INSTALLATION OF THE EROSION CONTROL BARRIERS AS ILLUSTRATED IS INTENDED TO REPRESENT THE MINIMUM SEDIMENTATION CONTROL FACILITIES NECESSARY TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
11. REQUIRED SEDIMENTATION CONTROL FACILITIES MUST BE PROPERLY ESTABLISHED, CLEARLY VISIBLE AND IN OPERATION PRIOR TO INITIATING ANY LAND CLEARING ACTIVITY AND/OR OTHER CONSTRUCTION RELATED WORK. SUCH FACILITIES SHALL REPRESENT THE LIMIT OF WORK. WORKERS SHALL BE INFORMED THAT NO CONSTRUCTION ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK AT ANY TIME THROUGHOUT THE CONSTRUCTION PERIOD.
12. THE CONTRACTOR SHALL MAINTAIN A SUFFICIENT RESERVE OF VARIOUS EROSION CONTROL MATERIALS ONSITE AT ALL TIMES FOR EMERGENCY PURPOSES OR ROUTINE MAINTENANCE.
13. EXISTING AND NEWLY INSTALLED CATCH BASINS AND STORM DRAIN INLETS SHALL BE PROTECTED WITH APPROPRIATE TEMPORARY INLET PROTECTION IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.
14. DEWATERING WASTE WATERS PUMPED FROM EXCAVATIONS SHALL BE CONVEYED BY HOSE TO AN UPLAND AREA AND DISCHARGED INTO STRAW BALE CORRALS OR SEDIMENTATION BAGS. ALL DEWATERING OPERATIONS SHALL BE IN ACCORDANCE WITH STATE REGULATIONS.
15. THE CONTRACTOR SHALL NOT REMOVE ANY TEMPORARY SEDIMENT CONTROL BARRIERS UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.
16. CONSTRUCTION SITE WASTE MATERIALS SHALL BE PROPERLY CONTAINED ONSITE AND DISPOSED OFF SITE AT A LOCATION IN ACCORDANCE WITH THE LOCAL AND STATE REGULATIONS.
17. RIP-RAP OR OTHER ENERGY DISSIPATERS SHALL BE USED WHERE NECESSARY TO PREVENT SCOUR.
18. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS UPON COMPLETION OF WORK IN THAT AREA.
19. ALL DRAINAGE STRUCTURES SHALL BE CLEARED OF ACCUMULATED SEDIMENT PRIOR TO ACCEPTANCE OF FINAL PROJECT.
20. NEWLY VEGETATED AREAS SHALL BE MAINTAINED REGULARLY TO ENSURE STABLE VEGETATED SURFACES.
21. EROSION AND SEDIMENTATION CONTROLS SHALL BE UTILIZED AS SHOWN ON THE PLANS. POTENTIAL EROSION AND SEDIMENTATION PROBLEMS ASSOCIATED WITH THE CONSTRUCTION OF THE PROJECT SHALL BE AVOIDED THROUGH THE PROJECT SCHEDULING AND THE USE OF APPROPRIATE STANDARD CONTROLS (RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK) AS ILLUSTRATED ON THE PROJECT PLANS.
22. WHERE EROSION CONTROLS ARE NEEDED ON IMPERVIOUS SURFACES, THE CONTRACTOR SHALL PROVIDE SAND BAG EROSION CONTROL BARRIER.
23. TEMPORARY DIVERSION (TD) MAY CONSIST OF A DITCH OR SWALE, OR MAY BE ACHIEVED USING WOOD CHIPS, COIR LOGS, OR SIMILAR MATERIALS.
24. TEMPORARY SEDIMENT TRAPS (TST) AND TEMPORARY SWALES (TSW) SHALL BE SIZED BY THE CONTRACTOR USING THE PARAMETERS CONTAINED IN THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.

SEDIMENT FOREBAY INSPECTION, MAINTENANCE, AND REPAIR NOTES

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

1. SEDIMENT FOREBAY SHALL BE INSPECTED A MINIMUM OF TWO TIMES PER YEAR AND AFTER EVERY STORM OF 2.8" INCH OR GREATER FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY THE OWNER.
2. SEDIMENT FOREBAYS SHALL BE CLEANED IF SEDIMENT REACHES HALF THE DESIGN DEPTH.
3. SEDIMENT FOREBAY CHECK DAMS SHALL BE REPLACED IF DRAWDOWN TIMES WITHIN THE SEDIMENT FOREBAY EXCEED 48 HOURS FOLLOWING THE STORM EVENT.
4. ALL SEDIMENTS REMOVED SHALL BE DISPOSED OF AT AN APPROVED AND PERMITTED LOCATION.
5. VEGETATION SHALL NOT EXCEED 18" IN HEIGHT IN THE SEDIMENT FOREBAYS.

SAND FILTER NOTES INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT SAND FILTER AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT SAND FILTER FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY OWNER.
3. BI-ANNUALLY
   - INSPECT SAND FILTER A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY IN APRIL AND OCTOBER. SEDIMENT SHALL BE REMOVED FROM SAND FILTER IF THE SEDIMENT EXCEEDS 1".
   - MOW SIDESLOPES AND BOTTOM OF SAND FILTER A MINIMUM OF TWO TIMES PER YEAR.
4. QUARTERLY
   - INSPECT SAND FILTER OUTLET CONTROL STRUCTURE AND ALL OVERFLOW CHANNELS. THE OWNER SHALL STABILIZE ERODED BANKS AND REPAIR ERODED AREAS AT INFLOW AND OUTFLOW STRUCTURES AS NECESSARY.
5. IF SEDIMENT BUILD-UP HAS LIMITED THE FILTERING CAPABILITIES TO BELOW THE DESIGN RATE OR PONDING HAS EXCEEDED 72 HOURS THE FOLLOWING SHALL BE COMPLETED:
   - THE TOP 6" OF SOIL SHALL BE REMOVED AND DISPOSED AT A PERMITTED LOCATION.
   - THE EXPOSED SURFACE SHALL BE SCARIFIED.
   - THE TOP 6" SHALL BE RESTORED TO THE ORIGINAL DESIGN SPECIFICATIONS WITH ASTM C-33 SAND.
6. TRASH AND DEBRIS SHALL BE REMOVED FROM SAND FILTER AS NECESSARY.
7. AUXILIARY DRAIN PIPES WITHIN SF-01, SF-02, SF-03 AND SF-05 SHALL BE INSPECTED ANNUALLY. THE OWNER SHALL KEEP THE PVC BALL VALVE IN THE CLOSED POSITION AT ALL TIMES EXCEPT WHERE NECESSARY TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES.

BIORETENTION AREA INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT BIORETENTION AREA AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT BIORETENTION AREA FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY OWNER.
3. BI-ANNUALLY
   - INSPECT BIORETENTION AREA A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY IN APRIL AND OCTOBER. SEDIMENT SHALL BE REMOVED FROM BIORETENTION AREA IF THE SEDIMENT EXCEEDS 1".
   - MOW SIDE SLOPES AND BOTTOM OF BIORETENTION AREA A MINIMUM OF TWO TIMES PER YEAR.
4. QUARTERLY
   - INSPECT BIORETENTION AREA OUTLET CONTROL STRUCTURE AND ALL OVERFLOW CHANNELS. THE OWNER SHALL STABILIZE ERODED BANKS AND REPAIR ERODED AREAS AT INFLOW AND OUTFLOW STRUCTURES AS NECESSARY.
5. IF SEDIMENT BUILD-UP HAS LIMITED THE FILTERING CAPABILITIES TO BELOW THE DESIGN RATE OR PONDING HAS EXCEEDED 48 HOURS THE FOLLOWING SHALL BE COMPLETED:
   - THE TOP 6" OF SOIL SHALL BE REMOVED AND DISPOSED AT A PERMITTED LOCATION.
   - THE EXPOSED SURFACE SHALL BE SCARIFIED.
   - THE TOP 6" SHALL BE RESTORED TO THE ORIGINAL DESIGN SPECIFICATIONS WITH A LOAMY SAND TOPSOIL.
6. TRASH AND DEBRIS SHALL BE REMOVED FROM BIORETENTION AREA AS NECESSARY.
7. AUXILIARY DRAIN PIPES WITHIN BIO-01 AND BIO-04 SHALL BE INSPECTED ANNUALLY. THE OWNER SHALL KEEP THE PVC BALL VALVE IN THE CLOSED POSITION AT ALL TIMES EXCEPT WHERE NECESSARY TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES.

DETENTION BASIN INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. SEDIMENT SHALL BE REMOVED FROM THE DETENTION BASIN WHEN THE SEDIMENT VOLUME EXCEEDS 10 PERCENT OF THE TOTAL BASIN VOLUME. THE REMOVED SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED AND PERMITTED LOCATION.
2. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT INFILTRATION PRACTICES AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
3. BI-ANNUALLY
   - INSPECT DETENTION BASIN A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY ONCE IN APRIL AND ONCE IN OCTOBER.
   - MOW SIDE SLOPES AND BOTTOM OF DETENTION BASIN A MINIMUM OF TWO TIMES PER YEAR. THE VEGETATION SHALL NOT EXCEED 18" IN HEIGHT.
4. QUARTERLY
   - THE DETENTION BASIN OUTLET STRUCTURES AND ALL OUTFLOW CHANNELS SHOULD BE INSPECTED QUARTERLY BY THE OWNER.

QUALIFYING PERVIOUS AREA INSPECTION, MAINTENANCE, AND REPAIR NOTES

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

1. THE QUALIFYING PERVIOUS AREAS (QPA'S) MUST BE INSPECTED A MINIMUM OF TWO TIMES PER YEAR FOR SEDIMENT, PONDING, EROSION, AND VEGETATION.
2. REMOVE ACCUMULATED SEDIMENT FROM THE QPA'S IF SEDIMENT EXCEEDS 1".
3. OWNER SHALL REPAIR ANY SLOPES THAT HAVE BEEN DAMAGED DUE TO EROSION OR OTHER MEANS. OWNER SHALL REPLACE ANY VEGETATION THAT HAS DIED OR BEEN DAMAGED.
4. OWNER SHALL MOW GRASS WITHIN THE QPA A MINIMUM OF TWO TIMES ANNUALLY TO MAINTAIN A MINIMUM GRASS HEIGHT OF 6".
5. TRASH AND DEBRIS SHALL BE REMOVED FROM THE QPA'S AS NECESSARY.

WET SWALE INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. DURING THE SIX MONTHS IMMEDIATELY AFTER CONSTRUCTION, FILTER PRACTICES SHALL BE INSPECTED FOLLOWING AT LEAST THE FIRST TWO PRECIPITATION EVENTS OF AT LEAST 1.0 INCH TO ENSURE THAT THE SYSTEM IS FUNCTIONING PROPERLY. THEREAFTER, INSPECTIONS SHALL BE CONDUCTED ON AN ANNUAL BASIS AND AFTER STORM EVENTS OF GREATER THAN OR EQUAL 2.8" FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE.
2. TRASH AND DEBRIS SHALL BE REMOVED FROM THE FOREBAY AND SWALE SYSTEM AS NECESSARY.
3. MINIMUM VEGETATIVE COVERAGE OF 50% IS NOT ACHIEVED IN THE PLANTED AREAS AFTER THE SECOND GROWING SEASON, A REINFORCEMENT PLANTING IS REQUIRED. VEGETATION SHALL BE PRUNED WHERE DEAD OR DYING BRANCHES ARE OBSERVED.

UNDERGROUND INFILTRATION SYSTEM INSPECTION, MAINTENANCE, AND REPAIR NOTES

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

1. THE SYSTEM SHALL BE MAINTAINED AS RECOMMENDED BY THE MANUFACTURER.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT INFILTRATION/DETENTION SYSTEM FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY THE OWNER.
3. BI-ANNUALLY
   - INSPECTIONS SHALL BE PERFORMED A MINIMUM OF TWO TIMES PER YEAR ON THE INSPECTION PORTS AND DRAINAGE STRUCTURES OF THE UNDERGROUND INFILTRATION SYSTEM TO ENSURE PROPER OPERATION OF THE SYSTEM.
4. AUXILIARY DRAIN PIPES WITHIN UGIS-01 SHALL BE INSPECTED ANNUALLY. THE OWNER SHALL KEEP THE PVC BALL VALVE IN THE CLOSED POSITION AT ALL TIMES EXCEPT WHERE NECESSARY TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES.

INFILTRATION BASIN INSPECTION, MAINTENANCE, AND REPAIR NOTES

1. FOLLOWING FIRST 6 MONTHS AFTER CONSTRUCTION
   - INSPECT INFILTRATION PRACTICES AFTER FIRST TWO RAINFALL EVENTS OF 1" OR MORE.
2. FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.8"
   - INSPECT INFILTRATION BASIN FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY OWNER.
3. BI-ANNUALLY
   - INSPECT INFILTRATION BASIN A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY IN APRIL AND OCTOBER. SEDIMENT SHALL BE REMOVED FROM INFILTRATION BASIN IF THE SEDIMENT EXCEEDS 1".
   - MOW SIDESLOPES AND BOTTOM OF INFILTRATION BASIN A MINIMUM OF TWO TIMES PER YEAR.
4. QUARTERLY
   - INSPECT INFILTRATION BASIN OUTLET CONTROL STRUCTURE AND ALL OVERFLOW CHANNELS. THE OWNER SHALL STABILIZE ERODED BANKS AND REPAIR ERODED AREAS AT INFLOW AND OUTFLOW STRUCTURES AS NECESSARY
5. IF SEDIMENT BUILD-UP HAS LIMITED THE INFILTRATION CAPABILITIES TO BELOW THE DESIGN RATE OR PONDING HAS EXCEEDED 48 HOURS THE FOLLOWING SHALL BE COMPLETED:
   - THE

ABBREVIATIONS

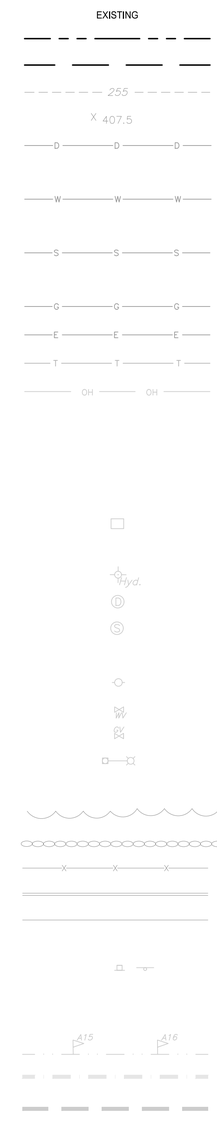
GENERAL	
AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUST
APPROX	APPROXIMATE
AC	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
ASSF	AREA SUBJECT TO STORM FLOWAGE
ATD	ASPHALT TURNDOWN
ATG	ADJUST TO GRADE
BB	BITUMINOUS BERM
BC	BOTTOM OF CURB (FINISHED GRADE ON LOW SIDE OF CURB)
BD	BOUND
BIT	BITUMINOUS
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BMP	BEST MANAGEMENT PRACTICE
BO	BY OTHERS
BOL	BOLLARD
BOS	BOTTOM OF SLOPE
BOT	BOTTOM
BPM	BLACKOUT PAVEMENT MARKING
BR	BRIDGE
BS	BOTTOM OF STAIR (FINISHED GRADE AT BOTTOM STAIR)
BW	BOTTOM OF WALL (FINISHED GRADE ON LOW SIDE OF WALL)
BWL	BROKEN WHITE LINE
BYL	BROKEN YELLOW LINE
C=	CURVE LENGTH
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CCW	CEMENT CONCRETE WALK
CD	CHECK DAM
CE	CONSTRUCTION ENTRANCE
CEM	CEMENT
CFS	COMPOST FILTER SOCK
CG	CLEAR AND GRUB VEGETATION
CH	CHORD LENGTH
CI	CURB INLET
CIP	CAST IRON PIPE
CL	CENTERLINE
CLDI	CEMENT-LINED DUCTILE IRON
CLF	CHAIN LINK FENCE
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CLR	CLEAR
CLS	CLASS
CM	SAWCUT AND MATCH
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CP	CONCRETE PAD
CR GR	CROWN GRADE
CSP	CORRUGATED STEEL PIPE
CSTR	CONCRETE STAIRS
CTE	CONNECT TO EXISTING
CW	CROSSWALK
DEMO	DEMOLITION
DET	DETECTABLE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DIV	DIVERSION
DMH	DRAIN MANHOLE
DTP	DRIPLINE TREE PROTECTION
DWL	DOTTED WHITE LINE
DWLEx	DOTTED WHITE LINE EXTENSION
DBWL	DOUBLE WHITE LINE
DWP	DETECTABLE WARNING PANEL
DYL	DOTTED YELLOW LINE
DYLEx	DOTTED YELLOW LINE EXTENSION
DBYL	DOUBLE YELLOW LINE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (or EL)	ELEVATION
EMB	EMBANKMENT
EMH	ELECTRIC MANHOLE
EOP	EDGE OF PAVEMENT
ETR	EXISTING TO REMAIN. PROTECT DURING CONSTRUCTION.
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FES	FLARED END SECTION
FFE	FINISH FLOOR ELEVATION
FLDSTN	FIELDSTONE
FND	FOUND
FT	FOOT
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
GTD	GRADE TO DRAIN
GV	GATE VALVE
HCPS	HANDICAP ACCESSIBLE PARKING SIGN
HDBC	HEAVY DUTY BITUMINOUS CONCRETE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HDPS	HANDICAP ACCESSIBLE PARKING SIGN
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HMAW	HOT MIXED ASPHALT WALKWAY
HOR	HORIZONTAL
HPR	HEADWALL PROTECTION RACK
HYD	HYDRANT
ID	INSIDE DIAMETER
INV	INVERT
JCT	JUNCTION
L=	LENGTH OF CURVE
LB	LEACH BASIN
LOD	LIMIT OF DISTURBANCE
LP	LOW POINT
LPR	LICENSE PLATE READER
LS	LOAM AND SEED
LSOD	LOAM AND SOD
LT	LEFT
LTP	LIGHT POLE
MAX	MAXIMUM
MB	MAILBOX
MCW	MONOLITHIC CONCRETE WALK
MH	MANHOLE
MIN	MINIMUM
MON	MONITORING
MUTCD	MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OCS	OUTLET CONTROL STRUCTURE
OD	OUTSIDE DIAMETER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OWS	OIL WATER SEPARATOR
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCFES	PRECAST CONCRETE FLARED END SECTION
PCTC	PRECAST CONCRETE TRANSITION CURB
PCR	PEDESTRIAN CURB RAMP
PE	POLYETHYLENE
PERF	PERFORATED
PGL	PROFILE GRADE LINE
PHMA	POROUS HOT MIXED ASPHALT PAVEMENT
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
POC	POINT ON CURVE
POT	POINT ON TANGENT
PM	PAVEMENT MARKING
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVCH	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATER WAY
QPA	QUALIFYING PERVIOUS AREA
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
R=	RADIUS
RA	RAILING
RCP	REINFORCED CONCRETE PIPE
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
RRLS	RIPRAP LEVEL SPREADER
ROW	RIGHT OF WAY
RR	RAILROAD
RRS	RIPRAP SLOPE
RS	RIPRAP SPILLWAY
RT	RIGHT
RTAD	REFER TO ARCHITECTURAL DRAWINGS
RTED	REFER TO ELECTRICAL DRAWINGS
RTFPD	REFER TO FIRE PROTECTION DRAWINGS
RTID	REFER TO IRRIGATION DRAWINGS
RTLD	REFER TO LANDSCAPE DRAWINGS
RTMD	REFER TO MECHANICAL DRAWINGS
RTPD	REFER TO PLUMBING DRAWINGS
RTSD	REFER TO STRUCTURAL DRAWINGS
S=	SLOPE
SB	SAND BAG EROSION CONTROL BARRIER
SDR	STANDARD DIMENSIONAL RATIO
SED	SEDIMENT
SESC	SOIL EROSION AND SEDIMENT CONTROL
SFL	STATE FREEWAY LINE
SFCD	SEDIMENT FOREBAY CHECK DAM
SG	SWING GATE
SHL	STATE HIGHWAY LINE
SHLD	SHOULDER
SHLO	STATE HIGHWAY LAYOUT
SHP	HANDICAP PARKING PAVEMENT MARKING
SM	SEDIMENT MARKER
SMH	SEWER MANHOLE
SSD	STOPPING SIGHT DISTANCE
ST	STREET
STA	STATION
SW	SIDEWALK
SWL	SINGLE SOLID WHITE LINE
SWR	SEWER
SYL	SINGLE SOLID YELLOW LINE
T=	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TD	TEMPORARY DIVERSION
TEMP	TEMPORARY
TC	TOP OF CURB
TDS	TEMPORARY DIVERSION SWALE
TGP	TREE GROUP PROTECTION
TIP	TEMPORARY INLET PROTECTION
TMH	TELEPHONE MANHOLE
TOS	TOP OF SLOPE
TP	TEST PIT
TRAN	TRANSITION
TRM	TURF REINFORCEMENT MAT
TS	TOP OF STAIR (FINISHED GRADE OF TOP STAIR)
TST	TEMPORARY SEDIMENT TRAP
TSW	TEMPORARY SWALE
TW	TOP OF WALL
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
VCC	VERTICAL CONCRETE CURB
VCP	VEHICULAR CONCRETE PAVEMENT
VFC	VITRIFIED CLAY
VEG	VEGETATION
VEH	VEHICULAR
VFS	VEGETATED FILTER STRIP
VGC	VERTICAL GRANITE CURB
VGTC	VERTICAL GRANITE TRANSITION CURB
VLF	VINYL FENCE
w/	WITH
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
WMH	WATER MANHOLE
WPM	WATER PAINT MARK
X-SECT	CROSS SECTION
YD	YARD DRAIN
4DY	4" DOUBLE YELLOW EPOXY RESIN PAVEMENT MARKING
4W	4" SOLID WHITE EPOXY RESIN PAVEMENT MARKING
12W	12" SOLID WHITE EPOXY RESIN PAVEMENT MARKING

RHODE ISLAND STANDARD DETAILS

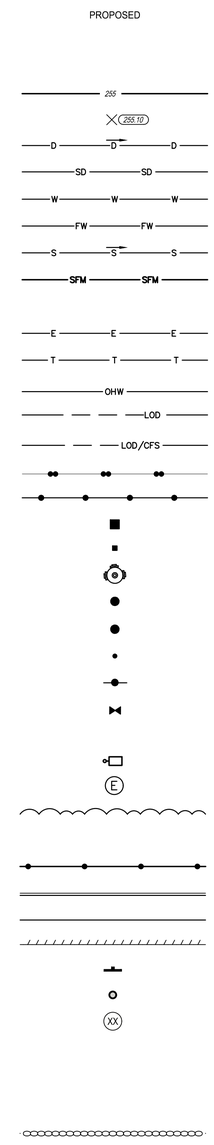
1.1.0	=	UNDERDRAIN
2.1.0	=	CONCRETE HEADWALLS FOR PIPE CULVERTS PRECAST CONCRETE FLARED END SECTION - R.I. STD. 2.3.0
2.2.0A	=	STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS (SHEET 1 OF 2) - R.I. STD. 2.2.0A
2.2.0B	=	STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS (SHEET 2 OF 2) - R.I. STD. 2.2.0B
2.3.0	=	PRECAST CONCRETE FLARED END SECTION - R.I. STD. 2.3.0
4.2.0	=	PRECAST 4'-0" ROUND MANHOLE - R.I. STD. 4.2.0
4.2.1	=	PRECAST 5'-0" ROUND MANHOLE - R.I. STD. 4.2.1
4.2.2	=	PRECAST 6'-0" ROUND MANHOLE - R.I. STD. 4.2.2
4.4.0	=	PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN - R.I. STD. 4.4.0
4.7.2	=	ALTERNATE TOP COVER FOR ROUND PRECAST MANHOLES AND CATCH BASINS - R.I. STD. 4.7.2
5.3.0	=	CATCH BASIN AND MANHOLE STEP - R.I. STD. 5.3.0
7.1.0	=	PRECAST CONCRETE CURB - R.I. STD. 7.1.0
7.1.1	=	3'-0" PRECAST CONCRETE TRANSITION CURB - R.I. STD. 7.1.1
7.1.2	=	6'-0" PRECAST CONCRETE TRANSITION CURB - R.I. STD. 7.1.2
7.1.4	=	PRECAST CONCRETE 2'-0" RADIUS CURB - R.I. STD. 7.1.4
7.1.5	=	PRECAST CONCRETE INLET STONE (FOR SQUARE CATCH BASIN) - R.I. STD. 7.1.5
7.2.0	=	PRECAST CONCRETE SLOPED FACED CURB - R.I. STD. 7.2.0
7.2.2	=	PRECAST CONCRETE TRANSITION CURB - R.I. STD. 7.2.2
7.2.4	=	PRECAST CONCRETE CAR STOPS - R.I. STD. 7.2.4
9.2.0	=	SILT FENCE DETAIL - R.I. STD. 9.2.0
9.7.0	=	DEWATERING BASIN - R.I. STD. 9.7.0
9.9.0	=	CONSTRUCTION ACCESS - R.I. STD. 9.9.0
10.3.0	=	CONCRETE RETAINING WALL DETAIL - R.I. STD. 10.3.0
20.1.0	=	PAVEMENT MARKINGS - ARROWS AND ONLY - R.I. STD. 20.1.0
24.6.0	=	PARKING SIGN MOUNTING DETAIL - R.I. STD. 24.6.0
34.4.0	=	STEEL BACKED TIMBER GUARDRAIL - R.I. STD. 34.4.0
43.1.0M	=	CEMENT CONCRETE SIDEWALK (MODIFIED) - R.I. STD. 43.1.0M
43.2.0	=	BITUMINOUS CONCRETE SIDEWALK - R.I. STD. 43.2.0
43.3.0	=	WHEELCHAIR RAMP - R.I. STD. 43.3.0
43.3.1	=	WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS - R.I. STD. 43.3.1
43.3.2	=	RAMP-LANDING FOR NARROW SIDEWALK - R.I. STD. 43.3.2
47.1.1	=	TRANSVERSE PAVEMENT CUT AND MATCH - R.I. STD. 47.1.1
48.1.0M	=	DETECTABLE WARNING SYSTEM (MODIFIED) - R.I. STD. 48.1.0M

RHODE ISLAND ABBREVIATIONS

GENERAL	
RIDEM	RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
RIDOT	RHODE ISLAND DEPARTMENT OF TRANSPORTATION
RIHP	RHODE ISLAND HIGHWAY PLAT
RIPDES	RHODE ISLAND POLLUTION DISCHARGE ELIMINATION SYSTEM
R.I. STD.	RHODE ISLAND STANDARD



LEGEND



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
04.10.25
REGISTERED PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
LEGEND

DRAWING NO.:
C1.2

SHEET NO. 2 OF 159

Plotted: Jan 10, 2025 - 8:57am By: Anne Klofft
X:\2023\23099.01 Mt. Hope HS\Civil\Plan Set\C1.2 LEGEND.dwg

C2.7, C3.7, C4.7, C5.7, C6.7, & C7.7

C2.8, C3.8, C4.8, C5.8, C6.8, & C7.8

C2.9, C3.9, C4.9, C5.9, C6.9, & C7.9

ZONING TABLE			
ZONE: (PI) PUBLIC INSTITUTIONAL EXISTING USE: SCHOOLS, K-12 PROPOSED USE: SCHOOLS, K-12			
	REQUIRED (PI)+	EXISTING	PROVIDED
MIN. LOT AREA	-	1,935,591 SF	1,935,591 SF
MIN. LOT WIDTH	-	1,106 FT	1,106 FT
MIN. LOT FRONTAGE	-	1,728 FT	1,728 FT
MAX. LOT COVERAGE BY STRUCTURES	-	7.5%	5.2%
MIN. FRONT YARD SETBACK	-	61 FT	347 FT
MIN. SIDE YARD SETBACK	-	1,057 FT	605 FT
MIN. REAR YARD SETBACK	-	70 FT	349 FT
MAX. HEIGHT OF PRINCIPAL STRUCTURES	-	>35 FT	35 FT

\+ PI ZONING DISTRICT DOES NOT HAVE DIMENSIONAL REGULATIONS PER ARTICLE IV.

C2.6, C3.6, C4.6, C5.6, C6.6, & C7.6

C2.5, C3.5, C4.5, C5.5, C6.5, & C7.5

C2.4, C3.4, C4.4, C5.4, C6.4, & C7.4

PARKING SUMMARY			
	REQUIRED**	EXISTING	PROVIDED
STANDARD SPACES (10'x18')	219	275	178
ACCESSIBLE SPACES*	7	6	14
COMPACT SPACES (9'x16')***	-	-	56
TOTAL SPACES	226	281	248

* ADA REQUIREMENTS FOR PARKING LOT: 201 TO 300 TOTAL SPACES = 7 ADA SPACES

** PARKING SPACES REQUIRED BY ZONING ORDINANCE:
"HIGH SCHOOL": ONE PER EIGHT STUDENTS AND ONE PER EMPLOYEE
THE REQUIRED PARKING PER THE CODE OF ORDINANCES:
SCHOOL (832 STUDENTS) 104 SPACES
SCHOOL (122 STAFF) 122 SPACES
TOTAL REQUIRED SPACES = 226 SPACES
MAXIMUM NUMBER OF PARKING SPACES ALLOWED:
226 PARKING SPACES + (226 PARKING SPACES x 10%) = 248 PARKING SPACES

*** PER SECTION 28-251.2.C OF THE CODE OF ORDINANCES, UP TO 25% OF THE TOTAL PARKING SPACES WILL BE SIZED FOR SMALL CAR PARKING SPACES WITH PROPER SIGNAGE.
248 PARKING SPACES X 25% = 62 PARKING SPACES MAX.

NOTE: THERE ARE AN ESTIMATED 88 ONSTREET PARKING SPACES ALONG THE PROPERTY FRONTAGE ON CHESTNUT STREET

C2.1, C3.1, C4.1, C5.1, C6.1, & C7.1

C2.2, C3.2, C4.2, C5.2, C6.2, & C7.2

C2.3, C3.3, C4.3, C5.3, C6.3, & C7.3

Scale: 1"=60'
0 30' 60' 120'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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2	06-02-2025	RIDEM RTC
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PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=60'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
OVERALL PLAN

DRAWING NO.:
C1.3

SHEET NO. 3 OF 159

C:\USERS\JFJOHNSTON\DESKTOP\23099.01_MHHS_R_21-01_STAGE_B\21-01_SHEETS\21-01_PLAN.dwg

EGAN, LINDA K.
9 DARTMOUTH STREET
PLAT 113 LOT 67

CAPPUCCI, RONALD & PATRICIA J. TRUSTEES
9 DARTMOUTH STREET
PLAT 113 LOT 77

CONTE, JAMES VINCENT
15 DARTMOUTH ST
PLAT 113 LOT 86

JOSEPH PALMERI
19 DARTMOUTH STREET
PLAT 113 LOT 95

JOSEPH PALMERI
9 MUNRO LANE
PLAT 113 LOT 97

JOSEPH PALMERI &
MICHELLE LI
25 DARTMOUTH STREET
PLAT 113 LOT 104

GETTINGER, ANDREW TRUSTEE
33 DARTMOUTH STREET
PLAT 113 LOT 110

MELLO, THOMAS J. &
VELEDA-MONICA A. TRUSTEES
35 DARTMOUTH STREET
PLAT 113 LOT 115

CIRILLO, ARTHUR L.
37 DARTMOUTH STREET
PLAT 113 LOT 119

TOWN OF BRISTOL
10 COURT ST
MAP 118 LOT 7

RICHARD A. & AUDREY N. COELHO
25 NAOMI STREET
VOL.845 PG.213
MAP 118 LOT 102

MARK K. DIETERICH &
KAREN M. GRIFFITH–DIETERICH TRUST
23 NAOMI STREET
VOL.2239 PG.115
MAP 118 LOT 101

CASSIE M. & BRANDON M. ANDRADE
21 NAOMI STREET
VOL.2055 PG.275
MAP 118 LOT 100

PETER J. SQUATRITO
19 NAOMI STREET
VOL.754 PG.93
MAP 118 LOT 99

DAVID M. MARSHALL
17 NAOMI STREET
VOL. 695 PG.91
MAP 118 LOT 98

DAVID B. SEGALA
15 NAOMI STREET
VOL.2044 PG.198
MAP 118 LOT 97

PAULA M. DESANO
11 NAOMI STREET
VOL.1661 PG.24
MAP 118 LOT 96

ROBERT C. & SHEILA A. AMARAL
9 NAOMI STREET
VOL.720 PG.132
MAP 118 LOT 95

STEPHEN DEVECCHI & THERESA PADRAO
7 NAOMI STREET
VOL.2206 PG.1
MAP 118 LOT 90

DAVID J. NUNES & ANGELA M. NUNES
81 CHESTNUT ST
MAP 118 LOT 13

JOSEPH L. & LISA SCOLARO
5 NAOMI STREET
VOL.____ PG.____
MAP 118 LOT 91

MATTHEW I. & JENNIFER A. WARD
3 NAOMI STREET
VOL.____ PG.____
MAP 118 LOT 92

BRADLEY J. FRENIERE
101 CHESTNUT ST
MAP 118 LOT 94

CAROMILE CONSTRUCTION INC.
103 CHESTNUT ST
VOL.720 PG.132
MAP 118 LOT 93

TIAGO M. & VANESSA P. SOARES
4 DARTMOUTH STREET
VOL. 1998 PG.278
PLAT 113 LOT 63

SUSAN PASQUAL
8 DARTMOUTH STREET
MAP 113 LOT 59

LINDA A. & ROBERT CARVALHO
14 DARTMOUTH STREET
MAP 113 LOT 48

PAUL A. & LIGIA C. CIRILLO
20 DARTMOUTH STREET
VOL.1472 PG.333
PLAT 113 LOT 38

ROBERT E. & MARILYN E. MCFADDEN
28 DARTMOUTH STREET
VOL.1269 PG.296
PLAT 113 LOT 31

ROBERT & DORIS L. DAPONTE
DAPONTE FAMILY TRUST
36 DARTMOUTH STREET
VOL.2154 PG.258
PLAT 113 LOT 13

DOUGLAS PAUL CAVALIERI
38 DARTMOUTH STREET
VOL.2090 PG.309
PLAT 113 LOT 10

BRISTOL LAND CONSERVANCY TRUST
DARTMOUTH STREET

CAROLINE CAUFMAN, BERRETTO, K. REM–DITUTI, & M HEFFERNAN
18 LEILA JEAN DRIVE
VOL.1884 PG.93
PLAT 108 LOT 49

JONNIE C. & SANDRA GREER
16 LEILA JEAN DRIVE
MAP 108 LOT 50

LUIS FRANCISCO JR & STACY AMARAL MEDEIROS
14 LEILA JEAN DRIVE
VOL.1731 PG.55
PLAT 108 LOT 51

LENA PLACIDO
12 LEILA JEAN DRIVE
MAP 108 LOT 52

FREEDOM ROAD BAPTIST CHURCH
10 LEILA JEAN DRIVE
MAP 108 LOT 53

CÉLESTE BERNARDINO & MATTHEW BENSON
8 LEILA JEAN DRIVE
VOL.1995 PG.56
MAP 118 LOT 54

WETTERLAND, KRIS JR & RENEE B TE
3 LEILA JEAN DRIVE
MAP 108 LOT 55

BERNADETTE M. ALMEDIA
229 CHESTNUT STREET
VOL.1064 PG.217
MAP 118 LOT 22

BOTELHO, GERALDINO A
235 CHESTNUT ST
MAP 108 LOT 21

BRISTOL HIGH SCHOOL
NAOMI STREET
PLAT 117 LOT 4

BRISTOL HIGH SCHOOL
199 CHESTNUT STREET
MAP 117 LOT 5

BRISTOL HIGH SCHOOL
199 CHESTNUT STREET
MAP 117 LOT 6

BRISTOL HIGH SCHOOL
199 CHESTNUT STREET
MAP 117 LOT 3

TOWN OF BRISTOL
NAOMI STREET
MAP 117 LOT 7

ERIC CABRAL
10 NAOMI STREET
VOL.2133 PG.19
PLAT 117 LOT 10

TOWN OF BRISTOL HOUSING AUTHORITY
1014 HOPE STREET
MAP 2 LOT 2

ST. MARYS CHURCH
330 WOOD STREET
VOL.99 PG.231
MAP 2 LOT 3

ST. MARYS CHURCH
330 WOOD STREET
VOL.92 PG.562
MAP 2 LOT 4

ST. MARYS CHURCH
330 WOOD STREET
VOL.85 PG.447
MAP 1 LOT 3

ST. MARYS CHURCH
330 WOOD STREET
VOL.126 PG.462
MAP 1 LOT 2

ST. MARYS CHURCH
330 WOOD STREET
VOL.173 PG.212
MAP 1 LOT 1

TOWN OF BRISTOL
CHESTNUT STREET
MAP 51 LOT 1

TOWN OF BRISTOL
CHESTNUT STREET
MAP 51 LOT 2

R-15 ZONE
OS ZONE
PI ZONE
CHESTNUT STREET
SHERRY AVENUE
DARTMOUTH STREET

LEGEND
- Subject Property
- 200' Radius Limit
- Zoning Boundary
- RIGIS Parcel Data

Scale: 1"=80'
0 40' 80' 160'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
06.10.25

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=80'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

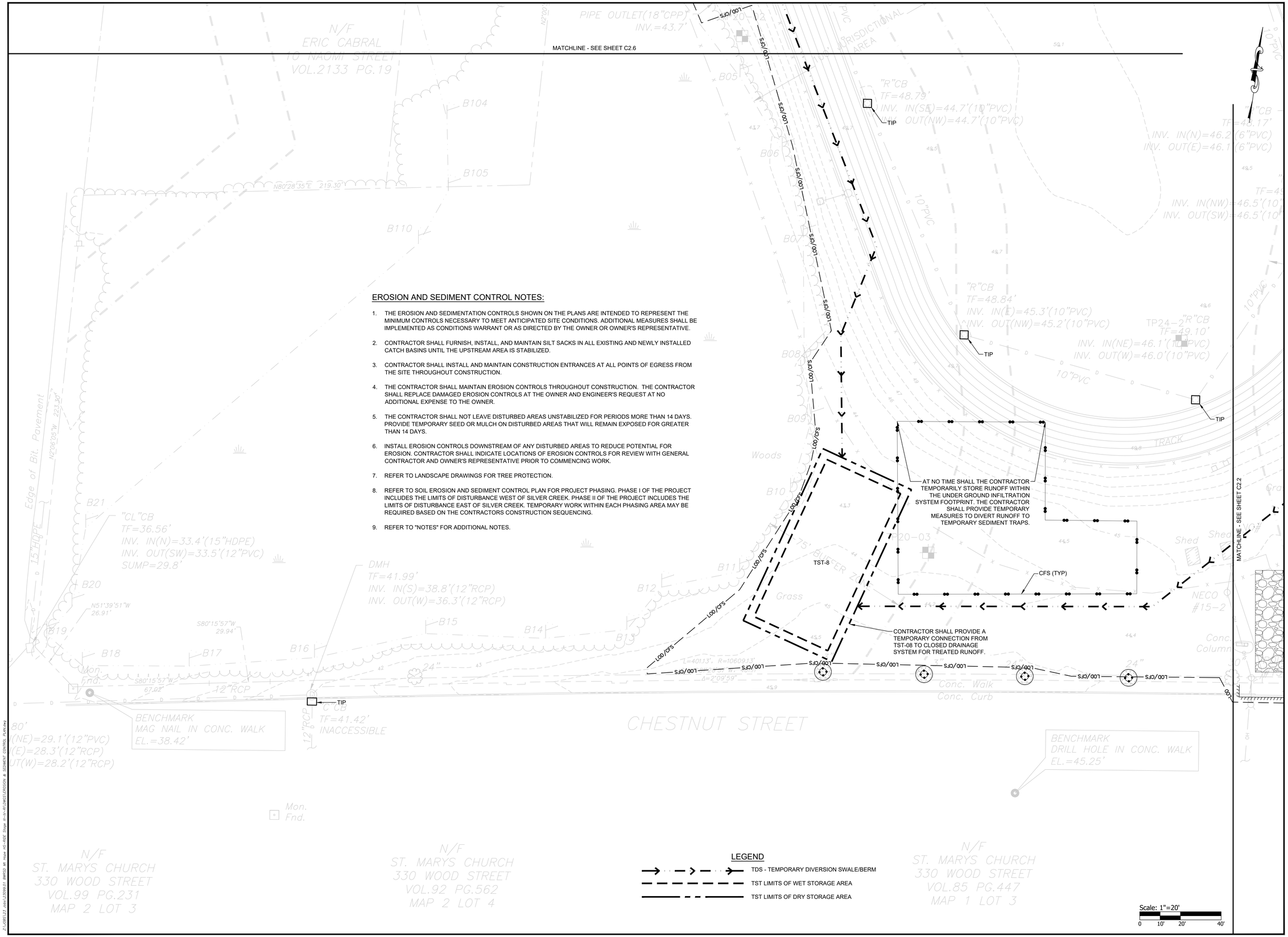
DRAWING TITLE:
VICINITY AND RADIUS MAP

DRAWING NO.:
C1.4

SHEET NO. 4 OF 159

J:\JOBS\23_Jobs\23099.01 BWRSD Mt Hope HS--RIDE Stage 2\--01\DWGS\SITE CONTEXT MAP.dwg

Item C1.



EROSION AND SEDIMENT CONTROL NOTES:

1. THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE PLANS ARE INTENDED TO REPRESENT THE MINIMUM CONTROLS NECESSARY TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
2. CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN SILT SACKS IN ALL EXISTING AND NEWLY INSTALLED CATCH BASINS UNTIL THE UPSTREAM AREA IS STABILIZED.
3. CONTRACTOR SHALL INSTALL AND MAINTAIN CONSTRUCTION ENTRANCES AT ALL POINTS OF EGRESS FROM THE SITE THROUGHOUT CONSTRUCTION.
4. THE CONTRACTOR SHALL MAINTAIN EROSION CONTROLS THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL REPLACE DAMAGED EROSION CONTROLS AT THE OWNER AND ENGINEER'S REQUEST AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. THE CONTRACTOR SHALL NOT LEAVE DISTURBED AREAS UNSTABILIZED FOR PERIODS MORE THAN 14 DAYS. PROVIDE TEMPORARY SEED OR MULCH ON DISTURBED AREAS THAT WILL REMAIN EXPOSED FOR GREATER THAN 14 DAYS.
6. INSTALL EROSION CONTROLS DOWNSTREAM OF ANY DISTURBED AREAS TO REDUCE POTENTIAL FOR EROSION. CONTRACTOR SHALL INDICATE LOCATIONS OF EROSION CONTROLS FOR REVIEW WITH GENERAL CONTRACTOR AND OWNER'S REPRESENTATIVE PRIOR TO COMMENCING WORK.
7. REFER TO LANDSCAPE DRAWINGS FOR TREE PROTECTION.
8. REFER TO SOIL EROSION AND SEDIMENT CONTROL PLAN FOR PROJECT PHASING. PHASE I OF THE PROJECT INCLUDES THE LIMITS OF DISTURBANCE WEST OF SILVER CREEK. PHASE II OF THE PROJECT INCLUDES THE LIMITS OF DISTURBANCE EAST OF SILVER CREEK. TEMPORARY WORK WITHIN EACH PHASING AREA MAY BE REQUIRED BASED ON THE CONTRACTORS CONSTRUCTION SEQUENCING.
9. REFER TO "NOTES" FOR ADDITIONAL NOTES.

LEGEND

- TDS - TEMPORARY DIVERSION SWALE/BERM
- TST LIMITS OF WET STORAGE AREA
- TST LIMITS OF DRY STORAGE AREA

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

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1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

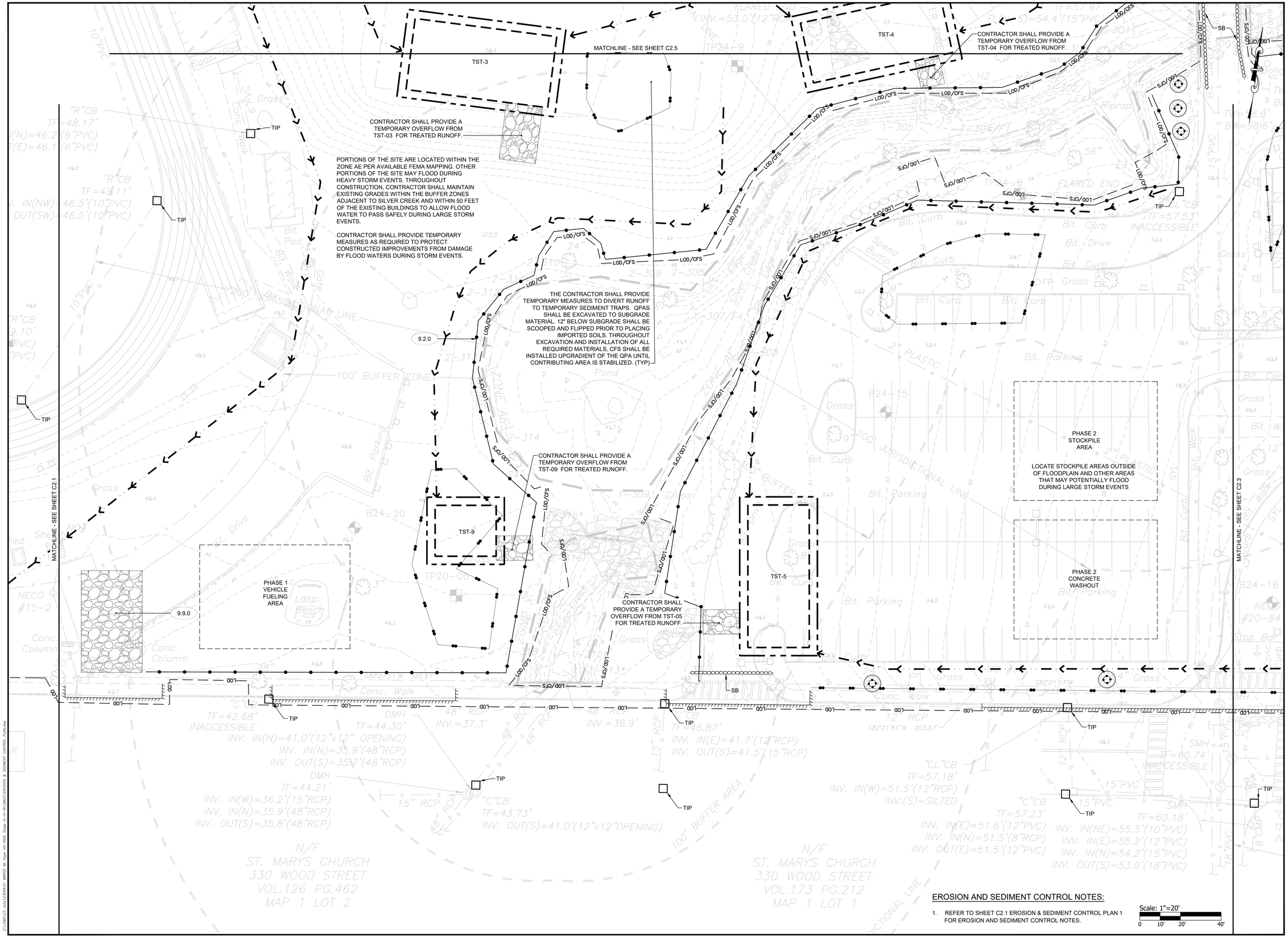
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 1

DRAWING NO.:
C2.1

SHEET NO. 5 OF 159

Item C1.



EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

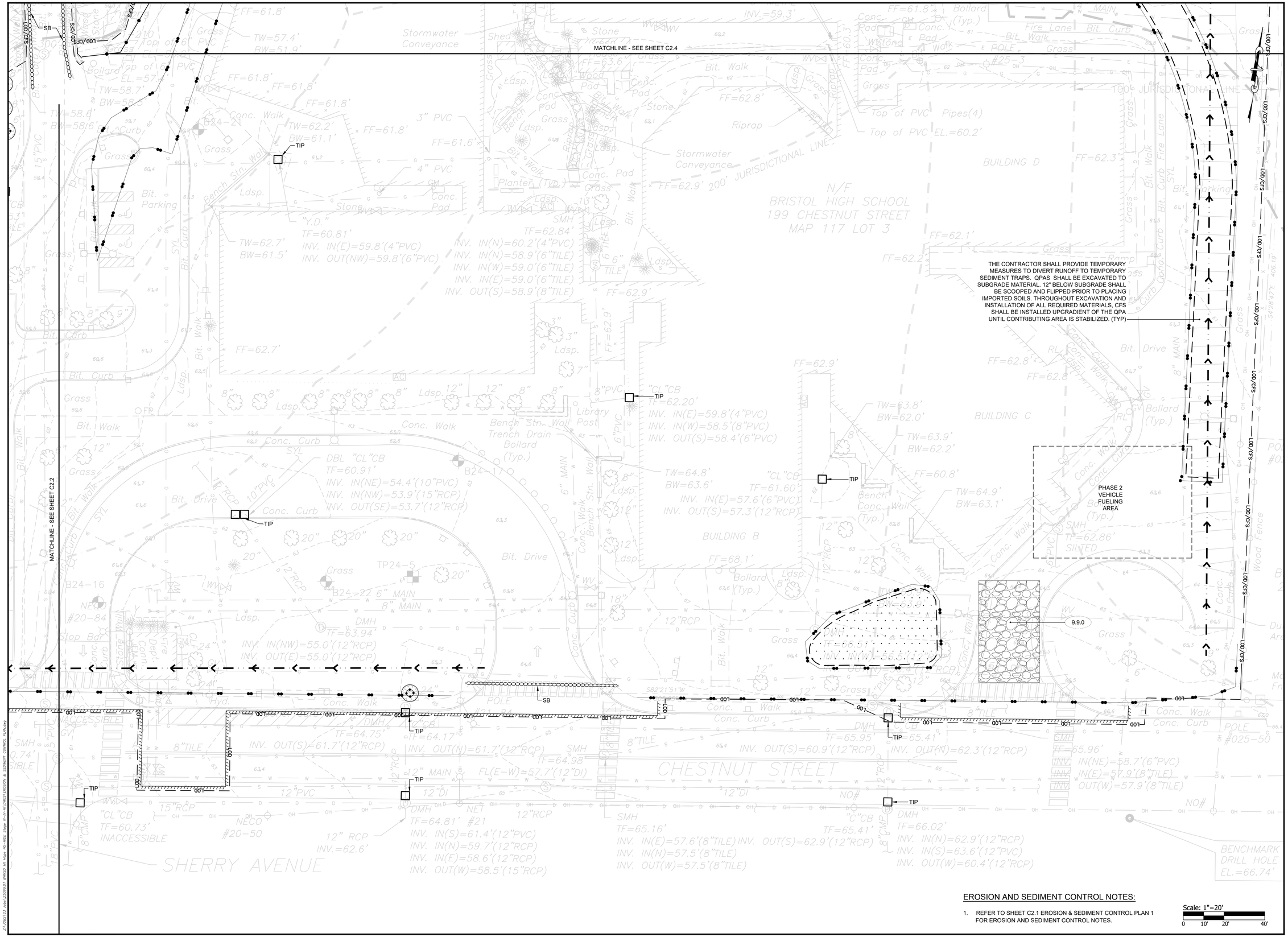
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 2

DRAWING NO.:
C2.2

SHEET NO. 6 OF 159

Item C1.



EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

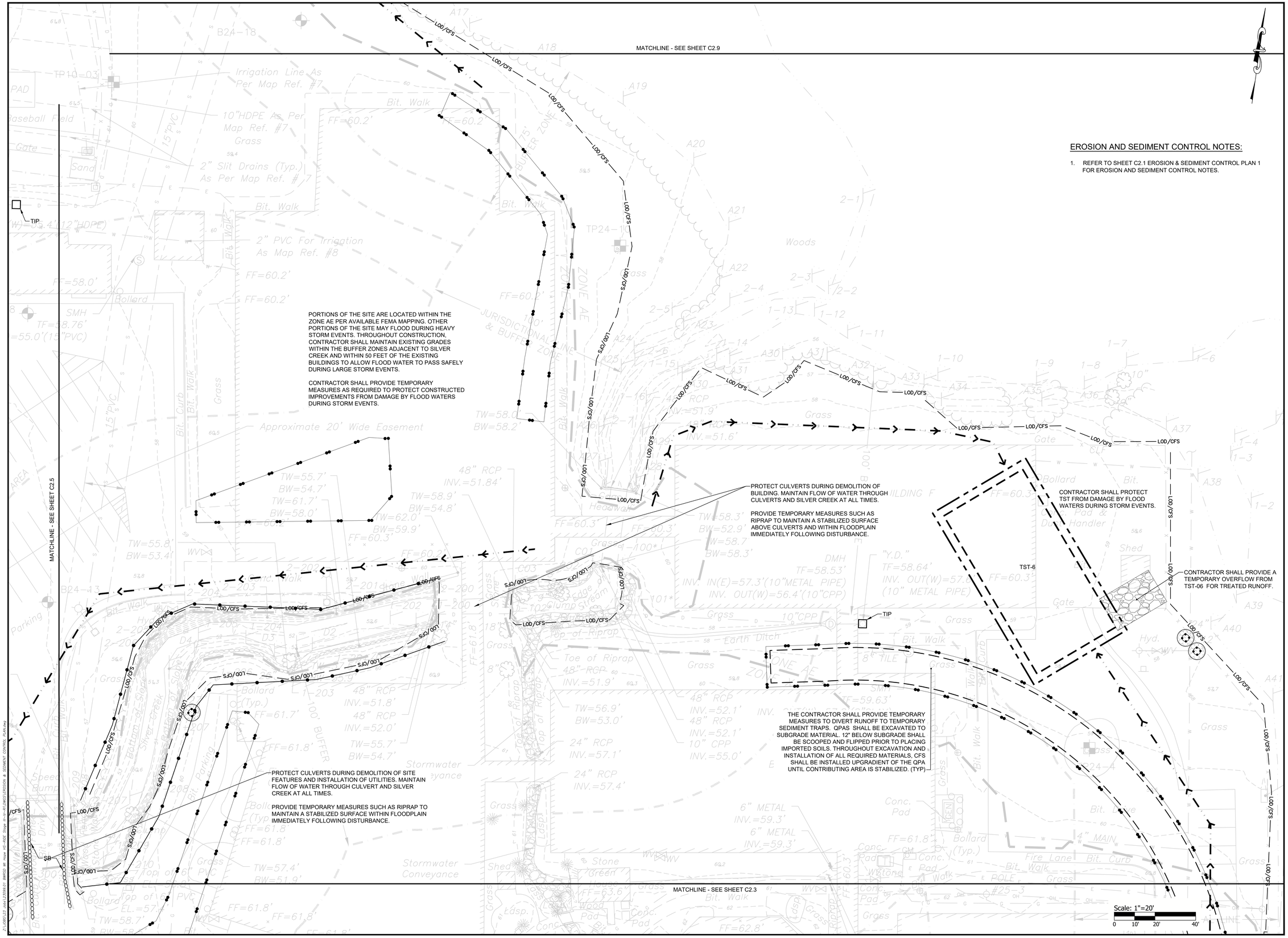
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 3

DRAWING NO.:
C2.3

SHEET NO. 7 OF 159

Item C1.



PORTIONS OF THE SITE ARE LOCATED WITHIN THE ZONE AE PER AVAILABLE FEMA MAPPING. OTHER PORTIONS OF THE SITE MAY FLOOD DURING HEAVY STORM EVENTS. THROUGHOUT CONSTRUCTION, CONTRACTOR SHALL MAINTAIN EXISTING GRADES WITHIN THE BUFFER ZONES ADJACENT TO SILVER CREEK AND WITHIN 50 FEET OF THE EXISTING BUILDINGS TO ALLOW FLOOD WATER TO PASS SAFELY DURING LARGE STORM EVENTS.

CONTRACTOR SHALL PROVIDE TEMPORARY MEASURES AS REQUIRED TO PROTECT CONSTRUCTED IMPROVEMENTS FROM DAMAGE BY FLOOD WATERS DURING STORM EVENTS.

PROTECT CULVERTS DURING DEMOLITION OF BUILDING. MAINTAIN FLOW OF WATER THROUGH CULVERTS AND SILVER CREEK AT ALL TIMES.

PROVIDE TEMPORARY MEASURES SUCH AS RIPRAP TO MAINTAIN A STABILIZED SURFACE ABOVE CULVERTS AND WITHIN FLOODPLAIN IMMEDIATELY FOLLOWING DISTURBANCE.

CONTRACTOR SHALL PROTECT TST FROM DAMAGE BY FLOOD WATERS DURING STORM EVENTS.

CONTRACTOR SHALL PROVIDE A TEMPORARY OVERFLOW FROM TST-06 FOR TREATED RUNOFF.

THE CONTRACTOR SHALL PROVIDE TEMPORARY MEASURES TO DIVERT RUNOFF TO TEMPORARY SEDIMENT TRAPS. QPAS SHALL BE EXCAVATED TO SUBGRADE MATERIAL. 12" BELOW SUBGRADE SHALL BE SCOOPED AND FLIPPED PRIOR TO PLACING IMPORTED SOILS. THROUGHOUT EXCAVATION AND INSTALLATION OF ALL REQUIRED MATERIALS, CFS SHALL BE INSTALLED UPGRADIENT OF THE QPA UNTIL CONTRIBUTING AREA IS STABILIZED. (TYP)

PROTECT CULVERTS DURING DEMOLITION OF SITE FEATURES AND INSTALLATION OF UTILITIES. MAINTAIN FLOW OF WATER THROUGH CULVERT AND SILVER CREEK AT ALL TIMES.

PROVIDE TEMPORARY MEASURES SUCH AS RIPRAP TO MAINTAIN A STABILIZED SURFACE WITHIN FLOODPLAIN IMMEDIATELY FOLLOWING DISTURBANCE.

EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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MT. HOPE HIGH SCHOOL
199 Chestnut Street
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 4

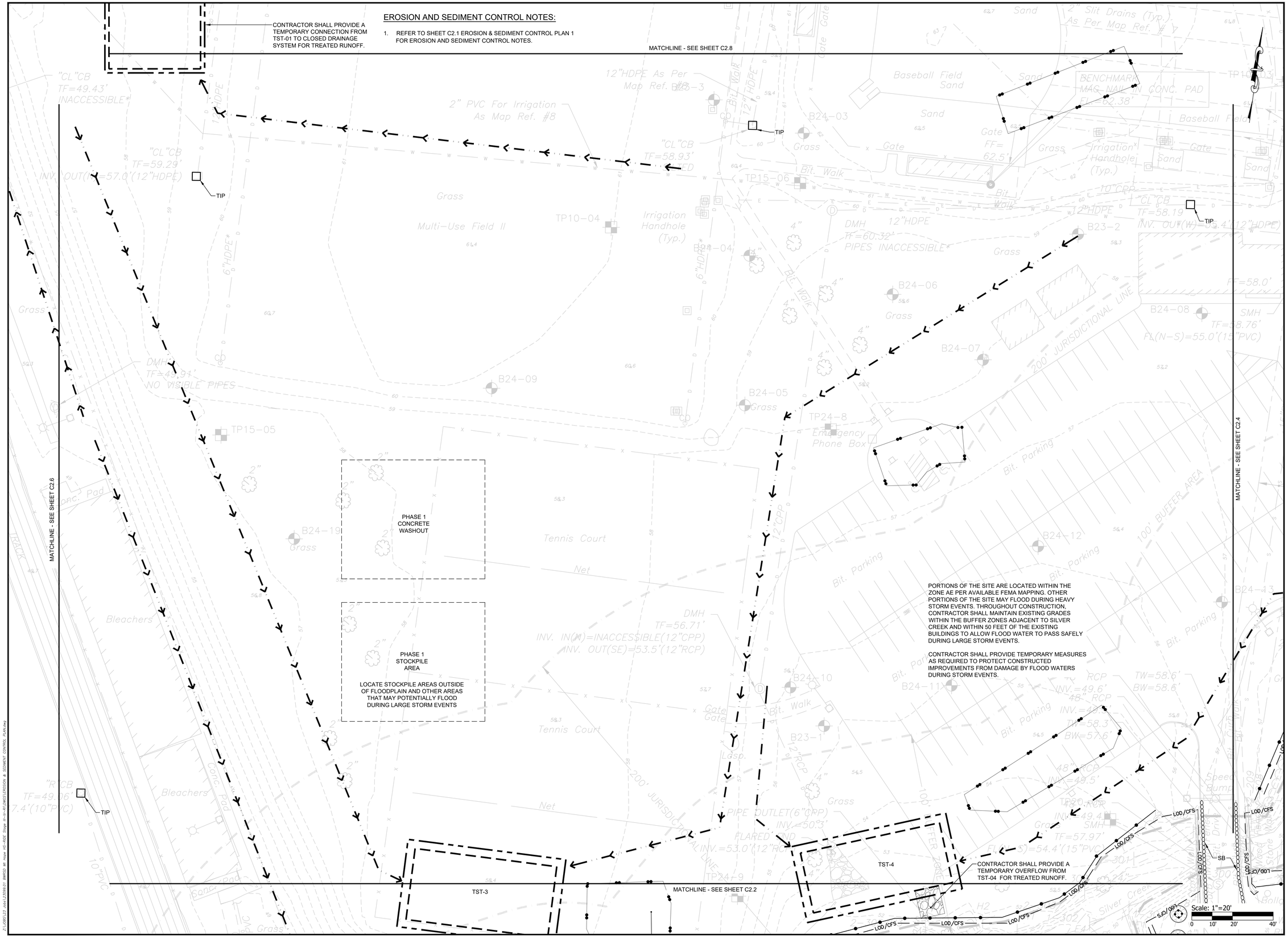
DRAWING NO.:
C2.4

SHEET NO. 8 OF 159

Item C1.

EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

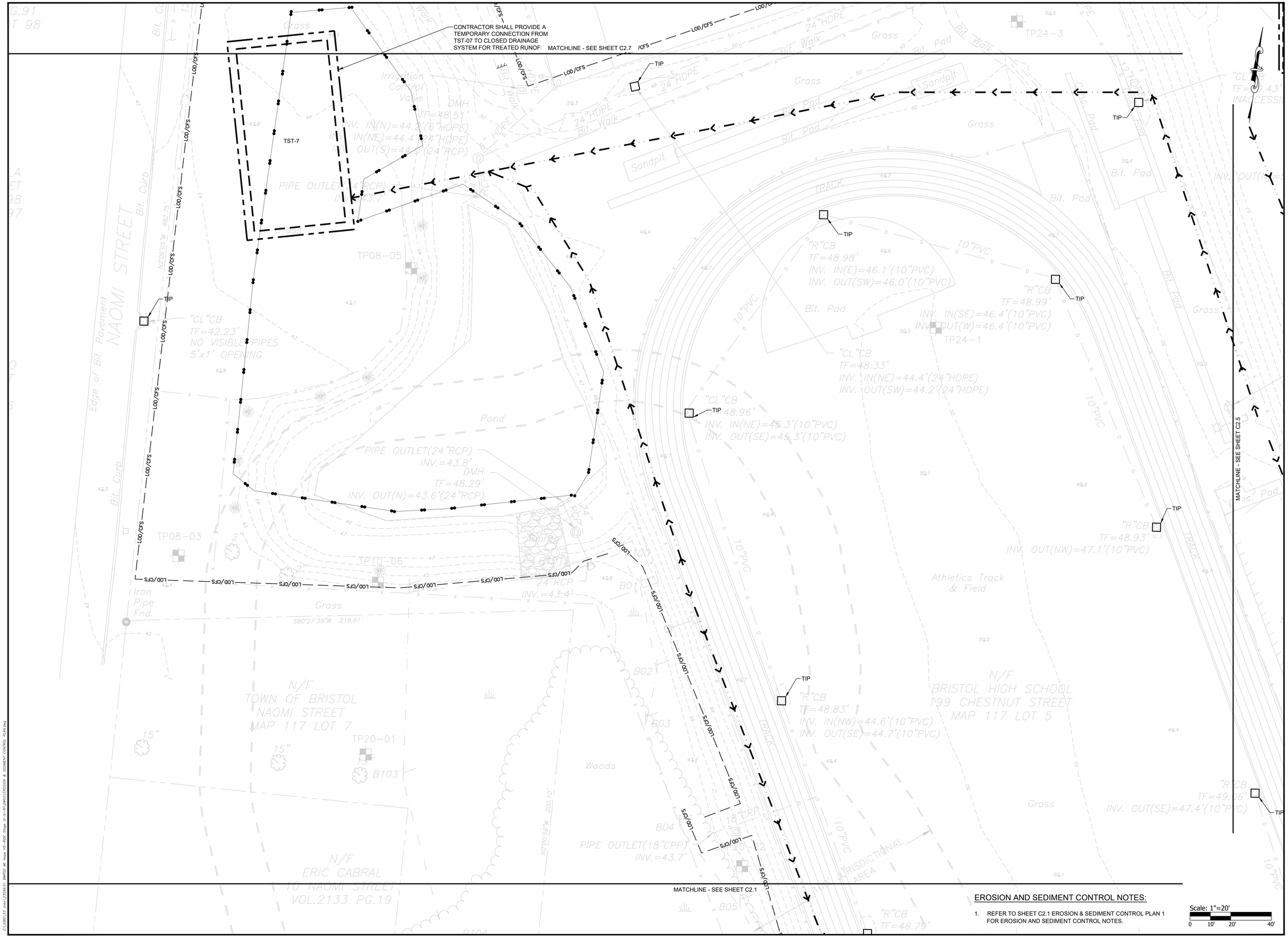
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 5

DRAWING NO.:
C2.5

SHEET NO. 9 OF 159



EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.

Scale: 1"=20'
0 10' 20' 40'

Item C1.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

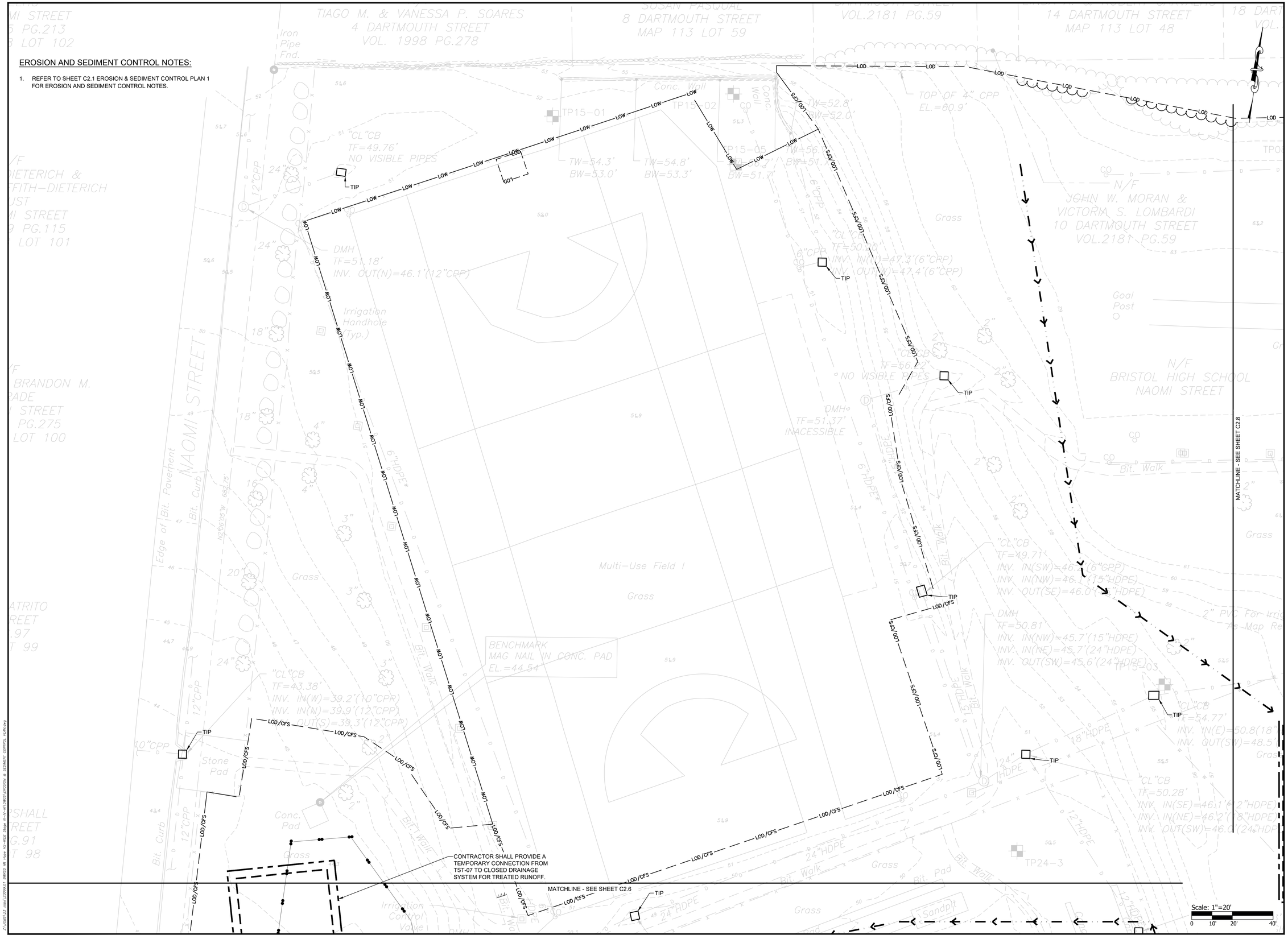
DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 6

DRAWING NO.:
C2.6

SHEET NO. 10 OF 159

EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.



Z:\JOBS\23_plus\23099.01 BMRSD Mt Hope HS-RIDE Stage III-IV-RI\DWG\EROSION & SEDIMENT CONTROL PLAN.dwg

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
04.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

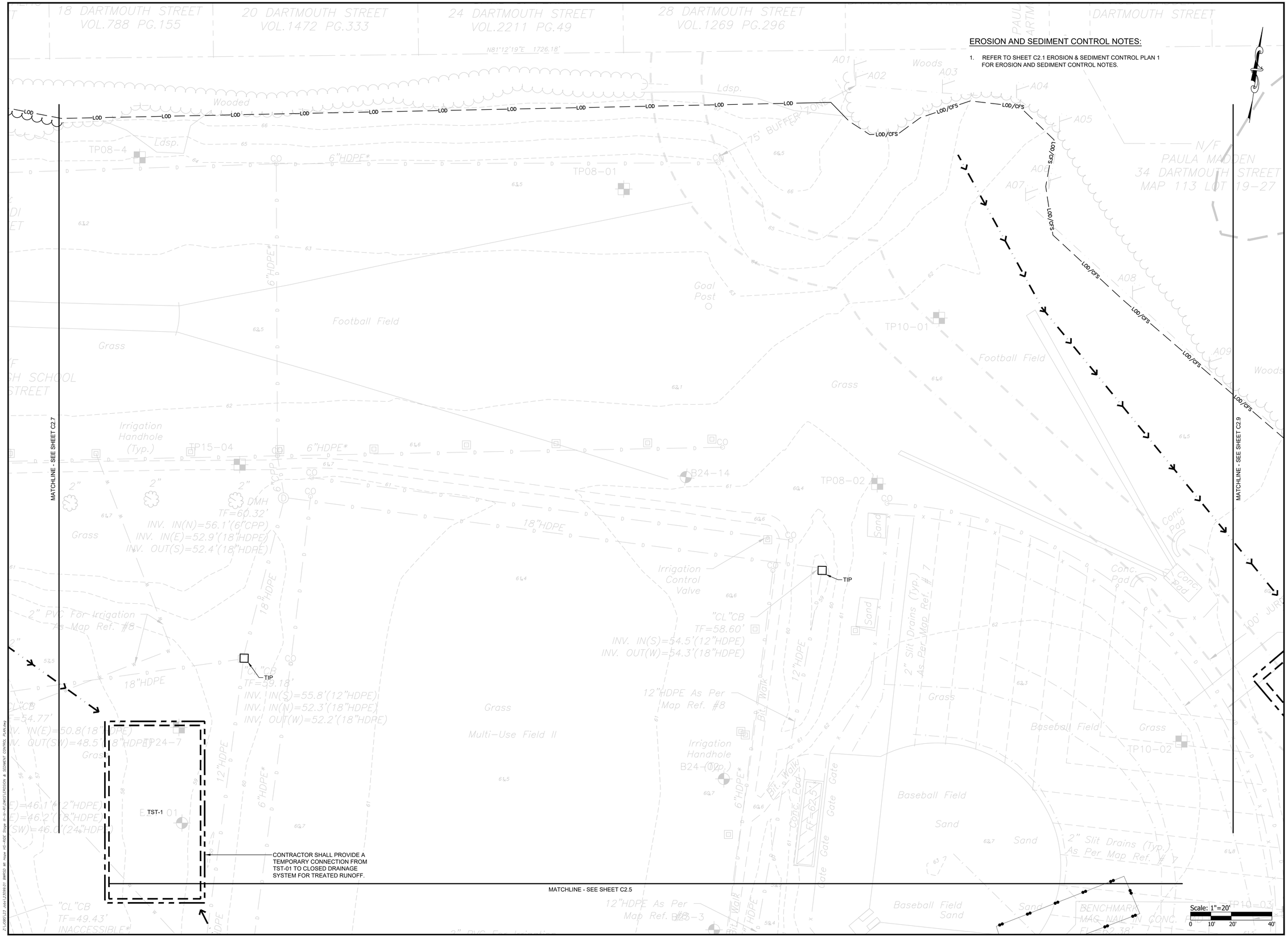
DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 7

DRAWING NO.:
C2.7

SHEET NO. 11 OF 159

EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.



Z:\JOBS\23099.01 Mt Hope HS-RIDE Royal III-IV-RI\DWGS\EROSION & SEDIMENT CONTROL PLAN.dwg

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DAVID L. POTTER
No. 8665
06.10.25
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REVISIONS:

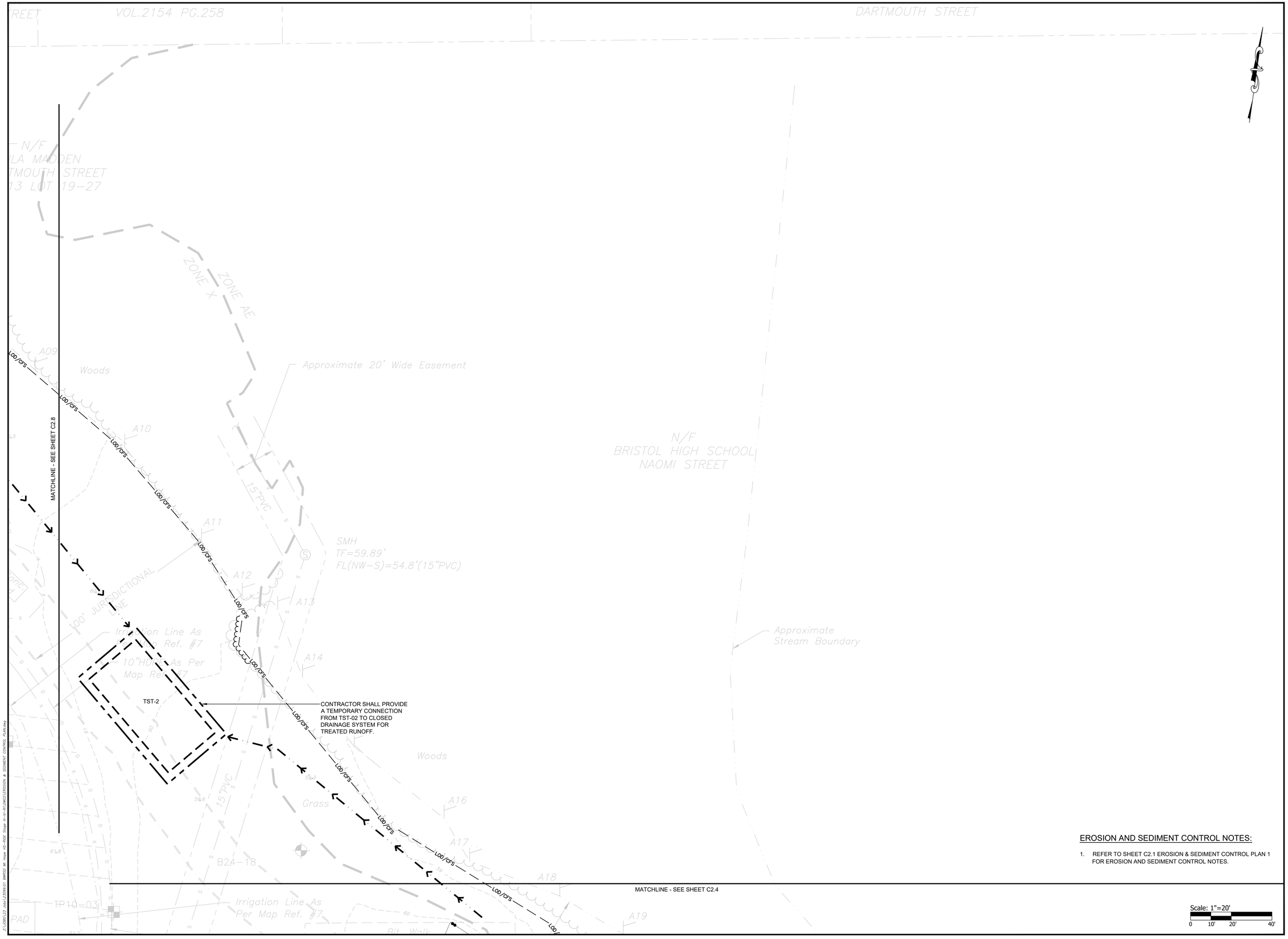
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 8

DRAWING NO.:
C2.8

SHEET NO. 12 OF 159



EROSION AND SEDIMENT CONTROL NOTES:

1. REFER TO SHEET C2.1 EROSION & SEDIMENT CONTROL PLAN 1 FOR EROSION AND SEDIMENT CONTROL NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

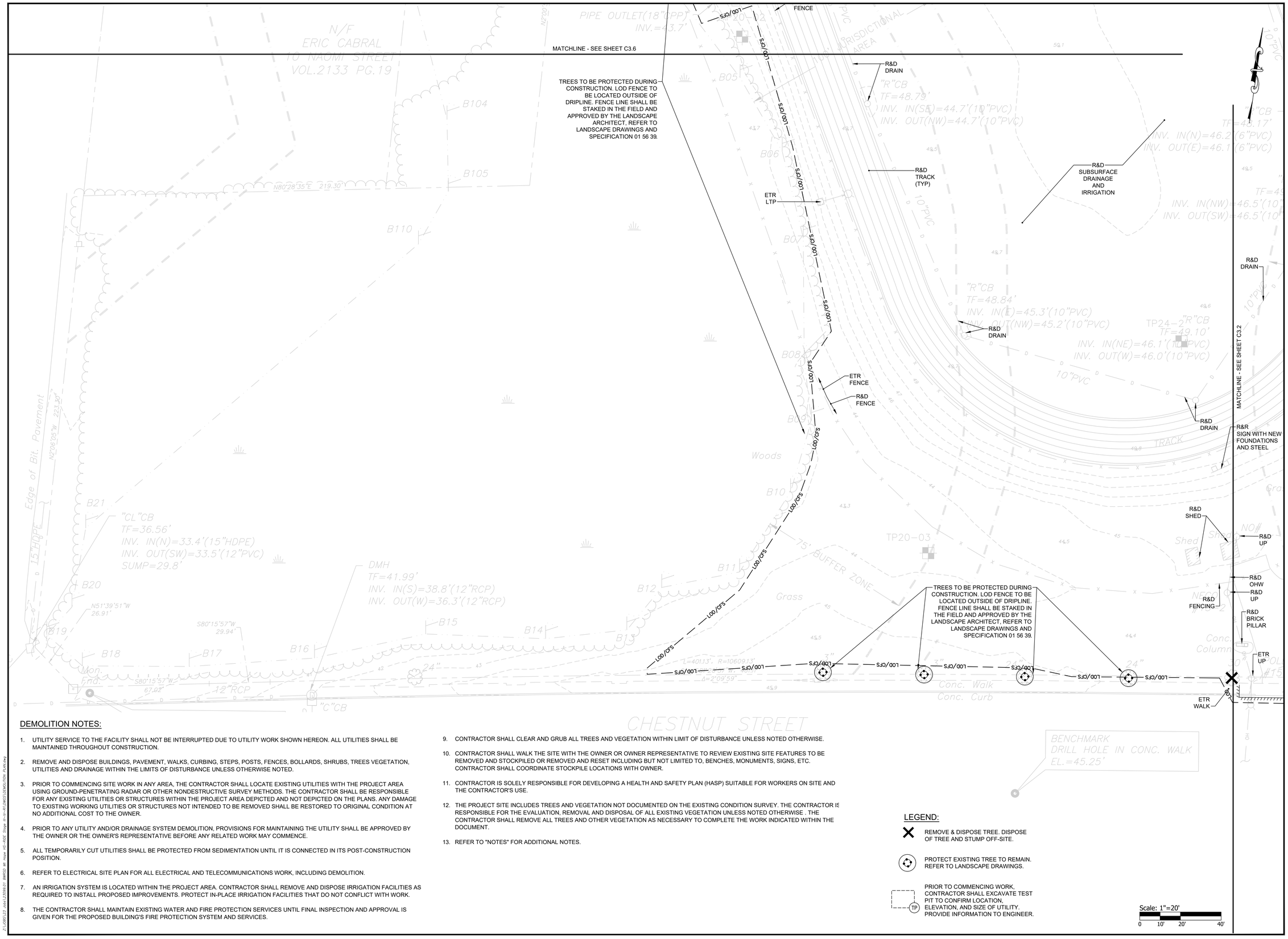
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN 9

DRAWING NO.:
C2.9

SHEET NO. 13 OF 159



DEMOLITION NOTES:

1. UTILITY SERVICE TO THE FACILITY SHALL NOT BE INTERRUPTED DUE TO UTILITY WORK SHOWN HEREON. ALL UTILITIES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
2. REMOVE AND DISPOSE BUILDINGS, PAVEMENT, WALKS, CURBING, STEPS, POSTS, FENCES, BOLLARDS, SHRUBS, TREES VEGETATION, UTILITIES AND DRAINAGE WITHIN THE LIMITS OF DISTURBANCE UNLESS OTHERWISE NOTED.
3. PRIOR TO COMMENCING SITE WORK IN ANY AREA, THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES WITH THE PROJECT AREA USING GROUND-PENETRATING RADAR OR OTHER NONDESTRUCTIVE SURVEY METHODS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXISTING UTILITIES OR STRUCTURES WITHIN THE PROJECT AREA DEPICTED AND NOT DEPICTED ON THE PLANS. ANY DAMAGE TO EXISTING WORKING UTILITIES OR STRUCTURES NOT INTENDED TO BE REMOVED SHALL BE RESTORED TO ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
4. PRIOR TO ANY UTILITY AND/OR DRAINAGE SYSTEM DEMOLITION, PROVISIONS FOR MAINTAINING THE UTILITY SHALL BE APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE BEFORE ANY RELATED WORK MAY COMMENCE.
5. ALL TEMPORARILY CUT UTILITIES SHALL BE PROTECTED FROM SEDIMENTATION UNTIL IT IS CONNECTED IN ITS POST-CONSTRUCTION POSITION.
6. REFER TO ELECTRICAL SITE PLAN FOR ALL ELECTRICAL AND TELECOMMUNICATIONS WORK, INCLUDING DEMOLITION.
7. AN IRRIGATION SYSTEM IS LOCATED WITHIN THE PROJECT AREA. CONTRACTOR SHALL REMOVE AND DISPOSE IRRIGATION FACILITIES AS REQUIRED TO INSTALL PROPOSED IMPROVEMENTS. PROTECT IN-PLACE IRRIGATION FACILITIES THAT DO NOT CONFLICT WITH WORK.
8. THE CONTRACTOR SHALL MAINTAIN EXISTING WATER AND FIRE PROTECTION SERVICES UNTIL FINAL INSPECTION AND APPROVAL IS GIVEN FOR THE PROPOSED BUILDING'S FIRE PROTECTION SYSTEM AND SERVICES.
9. CONTRACTOR SHALL CLEAR AND GRUB ALL TREES AND VEGETATION WITHIN LIMIT OF DISTURBANCE UNLESS NOTED OTHERWISE.
10. CONTRACTOR SHALL WALK THE SITE WITH THE OWNER OR OWNER REPRESENTATIVE TO REVIEW EXISTING SITE FEATURES TO BE REMOVED AND STOCKPILED OR REMOVED AND RESET INCLUDING BUT NOT LIMITED TO, BENCHES, MONUMENTS, SIGNS, ETC. CONTRACTOR SHALL COORDINATE STOCKPILE LOCATIONS WITH OWNER.
11. CONTRACTOR IS SOLELY RESPONSIBLE FOR DEVELOPING A HEALTH AND SAFETY PLAN (HASP) SUITABLE FOR WORKERS ON SITE AND THE CONTRACTOR'S USE.
12. THE PROJECT SITE INCLUDES TREES AND VEGETATION NOT DOCUMENTED ON THE EXISTING CONDITION SURVEY. THE CONTRACTOR IS RESPONSIBLE FOR THE EVALUATION, REMOVAL AND DISPOSAL OF ALL EXISTING VEGETATION UNLESS NOTED OTHERWISE . THE CONTRACTOR SHALL REMOVE ALL TREES AND OTHER VEGETATION AS NECESSARY TO COMPLETE THE WORK INDICATED WITHIN THE DOCUMENT.
13. REFER TO "NOTES" FOR ADDITIONAL NOTES.

LEGEND:

- REMOVE & DISPOSE TREE. DISPOSE OF TREE AND STUMP OFF-SITE.
- PROTECT EXISTING TREE TO REMAIN. REFER TO LANDSCAPE DRAWINGS.
- TP — PRIOR TO COMMENCING WORK, CONTRACTOR SHALL EXCAVATE TEST PIT TO CONFIRM LOCATION, ELEVATION, AND SIZE OF UTILITY. PROVIDE INFORMATION TO ENGINEER.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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CIVIL
06.10.25

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PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 1

DRAWING NO.:
C3.1

SHEET NO. 14 OF 159

Z:\JOBS\23_Jobs\23099.01 BWSD\07 Work Files\05-BIDS Stage (8-1x-A1-D)\MCS\DEMOLITION - PLAN.dwg

MATCHLINE - SEE SHEET C3.5

MATCHLINE - SEE SHEET C3.1

MATCHLINE - SEE SHEET C3.3

R&D BLDG
R&D CP
R&D PVMT
R&D FENCE (TYP)
R&D TENNIS COURT
R&D FENCE
R&D FES
R&D RIPRAP
R&D ROCK (TYP)
R&D DRAIN
R&D CCW
R&D PVMT
R&D SHED
R&D FENCE (TYP)
R&D DRAIN
R&D
R&D BIT WALK
R&D ROCK (TYP)
R&D SHED
R&D FENCE
R&D FENCE
R&D SIGN
R&D DRAIN
R&R SIGN WITH NEW FOUNDATIONS AND STEEL
R&D HMA
R&D SIGN
R&D SHED
R&D UP
R&D OHW
R&D UP
R&D FENCING
R&D BRICK PILLAR
R&D BRICK PILLAR
R&D FENCE
ETR UP
ETR WALK
RTLD R&R MEMORIAL SIGN COORDINATE LOCATION TO BE RESET WITH OWNER
RTLD R&R BENCH COORDINATE LOCATION WITH OWNER
RECONSTRUCT CATCH BASIN, R&D FRAME, GRATE, INLET CURB, AND TOP PORTION OF CATCH BASIN BARREL
ETR DAM
ETR RIPRAP
ETR CURB INLET
ETR MON WELL
ETR CONC WALK
ETR WALL
ETR CONC CURB
R&D RIPRAP
R&D CCW
R&D BIT CURB
ETR DRAIN
R&D SIGN
CM (TYP)
BPM
R&D HMA
R&D BIT CURB
R&D LIGHT POLE
R&D WATER (SEE NOTE 8)
R&D LIGHT POLE
R&D BIT CURB
R&D HMA
R&D LIGHT POLE
R&D BIT CURB
R&D BIT WALK
R&D BIT CURB
R&D WATER (SEE NOTE 8)
R&D LIGHT POLE
R&D LIGHT POLE
R&D BIT WALK
R&D HYDRANT (SEE NOTE 8)
R&D SIGN
R&D SMH FRAME & COVER
ETR SEWER
ETR CONC CURB
ETR DRAIN
ETR SIGN
BPM
ETR CCW
ETR LIGHT POLE
R&D HMA
R&D BIT CURB
R&D SPEED BUMP
R&D HMA
R&D BIT CURB
R&D LIGHT POLE
R&D SIGN
R&D SIGN
R&D BIT CURB
R&D SIGN
R&D LIGHT POLE
R&D SIGN
RTLD R&D WOODEN RAILING POSTS
ETR CONCRETE
R&D SMH FRAME & COVER
ETR CULVERTS
ETR SEWER
ETR HEADWALL
R&D SIGN (TYP)
R&D BIT WALK
R&D BUSHES
ETR SEWER
WA (SEE NOT

TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.

TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.

THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE 15" SEWER SERVICE PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL PROTECT THE EXISTING SEWER DURING TREE REMOVAL, AND LIGHT POLE REMOVAL.

LOD/CFS

DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

Scale: 1"=20'
0 10' 20' 40'

PARE

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SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DEMOLITION PLAN 2

DRAWING NO.:
C3.2

SHEET NO. 15 OF 159

Z:\JOBS\23_xlrefs\23099.01 BWRSD Mt Hope HS-BIDS_Drgs_Bristol\DWG\DEMO\23099.01DEMO1.PLAN.dwg

FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT. REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.

MATCHLINE - SEE SHEET C3.4

MATCHLINE - SEE SHEET C3.2

N/F
BRISTOL HIGH SCHOOL
199 CHESTNUT STREET
MAP 117 LOT 3

CHESTNUT STREET

BUILDING B

BUILDING C

BUILDING D

JURISDICTIONAL LINE

TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.

DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

Scale: 1"=20'
0 10' 20' 40'

Z:\JOBS\23_2\no\23099.01 BWRSD MT Hope HS-BMS\Design\Arch\CAD\DWG\C3.3 PLAN.dwg

PARE

OWNER/APPLICANT:
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exp. 10.25

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CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 3

DRAWING NO.:
C3.3

SHEET NO. 16 OF 159

MATCHLINE - SEE SHEET C3.9

MATCHLINE - SEE SHEET C3.5

MATCHLINE - SEE SHEET C3.3

DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

R&D EQUIPMENT
R&D BIT WALK
THE CONTRACTOR SHALL PROTECT THE EXISTING SEWER DURING SHED DEMOLITION
R&D SHED
R&D DRAIN
RTAD R&D BUILDING
ETR SEWER
R&D WATER
R&D BOL
R&D BIT WALK
ETR SEWER
R&D BIT CURB
RTAD R&D BUILDING
R&D BIT WALK
R&D WELL COORDINATE WITH ENVIRONMENTAL ENGINEER PRIOR TO COMMENCING WORK
REFER TO SECTION 024100 FOR DEMOLITION OF EXISTING BUILDING. CONTRACTOR SHALL DISCONNECT MEMBERS OF CORRIDOR FROM BUILDING TO AVOID DAMAGING CULVERTS DURING DEMOLITION. CONTRACTOR SHALL SELECTIVELY DEMOLISH THE BUILDING TO AVOID DAMAGING CULVERTS. PROVIDE TEMPORARY MEASURES AS REQUIRED TO PROTECT CULVERTS.
R&D BIT WALK
ETR STONEWALL
ETR CULVERTS AND STONE HEADWALLS
ETR CULVERT
R&D STONEWALL TO HEADWALL
ETR STONEWALL
R&D CONC WALK
R&D WATER (SEE NOTE 8)
R&D HYD (SEE NOTE 8)
CUT STONEWALL
R&D LIGHT POLE
R&D CCW
R&D LIGHT POLE
R&D BIT CURB
ETR STONEWALL
R&D BOLLARD (TYP)
R&D HYDRANT (SEE NOTE 8)
R&D BOL
R&D BUILDING
ETR HEADWALLS
R&D HMA
R&D BOL
ETR CULVERTS
ETR HEADWALL
ETR SEWER
R&D BOLLARD
ETR HEADWALL
R&D SIGN
R&D BOL
R&D WATER
ETR STONEWALL
ETR HEADWALL
R&D RIPRAP
ETR RIPRAP OUTSIDE LOD
R&D DRAIN
R&D BIT WALK
R&D SEWER
R&D BIT CURB
R&D BOL
R&D WELL COORDINATE WITH ENVIRONMENTAL ENGINEER PRIOR TO COMMENCING WORK
R&D HMA
R&D GENERATOR
R&D BOL
R&D MONITORING WELL
R&D CP
R&D BIT WALK
R&D BIT CURB
R&D CLF
R&D BOLLARD
R&D CONC PAD
R&D WATER
CUT AND CAP WATER
ABAN WATER IN PLACE
R&S SHED
R&D HYDRANT
R&D SIGN
CUT AND CAP WATER
R&D WATER
R&D PROPANE GAS TANK AND CONCRETE PAD
R&D STONE
R&D SHED
R&D WATER GV
R&D SHED
R&D GAS
R&D RIPRAP
R&D CP
R&D CP
R&D BIT WALK
R&D WATER
R&D CP
R&D MONITORING WELL
R&D BIT WALK
R&D BIT CURB
R&D OHW
R&D UTILITY POLE
R&D ELECTRIC
R&D GAS
R&D UTILITY POLE

TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT, REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.

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Scale: 1"=20'
0 10' 20' 40'

PARE

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235 HIGH STREET
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401-253-4000

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SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 4

DRAWING NO.:
C3.4
SHEET NO. 17 OF 159

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DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

MATCHLINE - SEE SHEET C3.7

RTLD R&R DUGOUT
R&D BACKSTOP
R&D EQUIPMENT
RTID R&D IRRIGATION HANDHOLE (TYP)
R&D DRAIN
R&D BIT PVMT
R&D CP
R&D FENCE
RTLD R&R DUGOUT
R&D ELEC SERVICE
R&D DRAIN
R&D SUBDRAIN
R&D HANDHOLE (TYP)
R&D DRAIN
R&D ROCKS (TYP)
R&D CLEANOUT
R&D FENCE
R&D BIT WALK
R&S EMERGENCY BOX
R&D SIGNS
R&D HMA
R&D DRAIN
R&D SHED
RTAD R&D BUILDING
R&D EQUIPMENT
R&D DRAIN
R&D SUBDRAIN
R&D CLEANOUT
R&S STADIUM LIGHT
R&D CP
R&D TENNIS COURT
R&D BLEACHERS AND CONC PAD
R&D FENCE
R&D DRAIN
R&D LTP
R&D BIT WALK
R&D HMA
R&D BIT BERM
R&D CCW
R&D LIGHT POLE
R&D BIT CURB
R&S STADIUM LIGHT
R&D BLDG
R&D DRAIN
R&D CP
R&D PVMT
R&D FENCE (TYP)
R&D TENNIS COURT
R&D FENCE
R&D RIPRAP
R&D FES
R&D LIGHT POLE
RTLD R&D WOODEN RAILING POSTS
ETR CONCRETE
R&D SMH FRAME & COVER
ETR HEADWALLS
ETR CULVERTS
ETR SEWER
ETR HEADWALL
ETR SEWER
THE CONTRACTOR S PROTECT THE EXIS SEWER DURING DEMOL

MATCHLINE - SEE SHEET C3.6
MATCHLINE - SEE SHEET C3.4
MATCHLINE - SEE SHEET C3.2

LOD/CFS

TREES TO BE PROTECTED DURING CONSTRUCTION. LOD FENCE TO BE LOCATED OUTSIDE OF DRIPLINE. FENCE LINE SHALL BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT. REFER TO LANDSCAPE DRAWINGS AND SPECIFICATION 01 56 39.

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CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

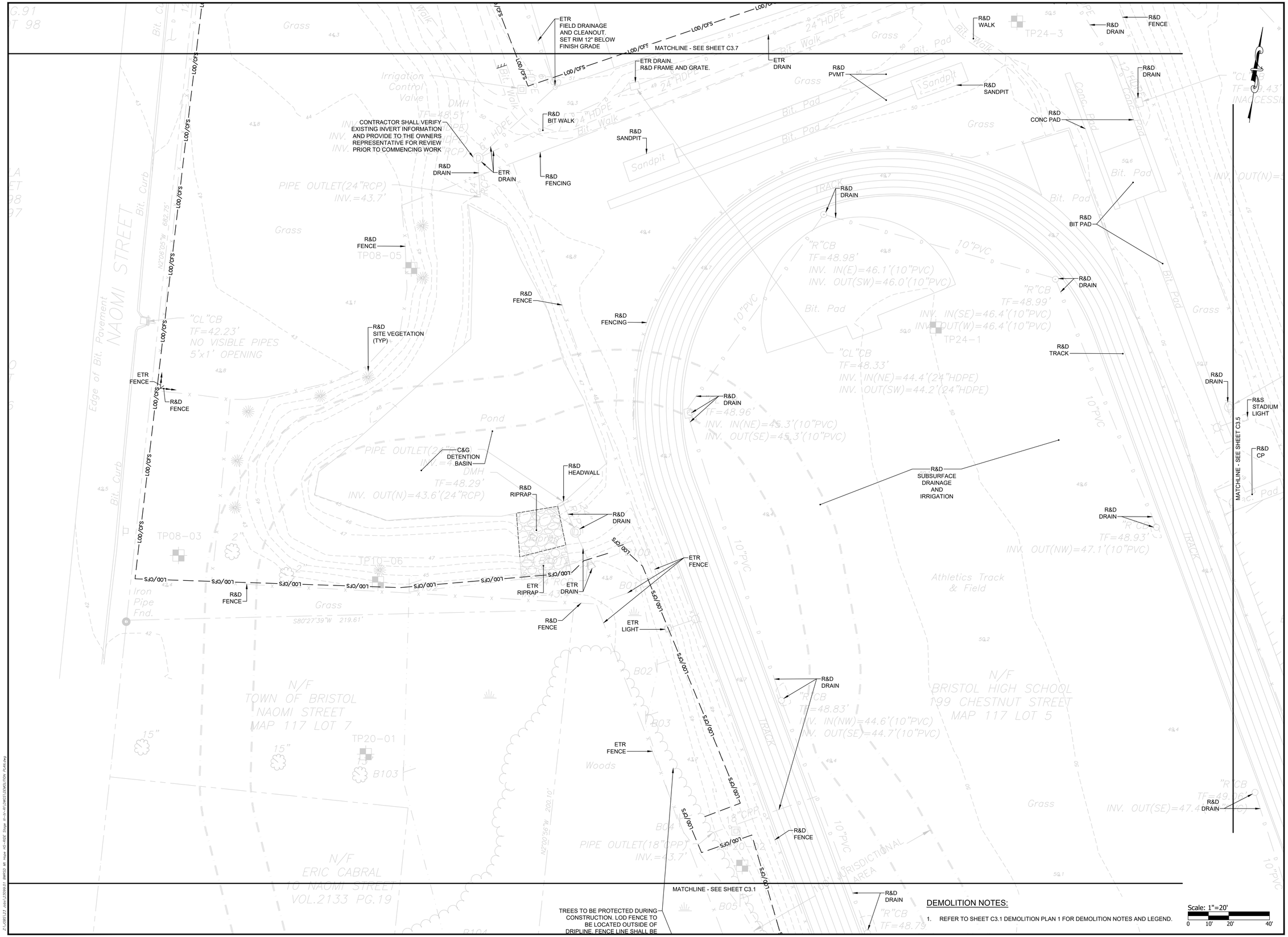
DRAWING TITLE:
DEMOLITION PLAN 5

DRAWING NO.:
C3.5

SHEET NO. 18 OF 159

Z:\J23099.01 John\23099.01 BWRSD Mt Hope HS-BIDC Dwgs 8x-Arch\DWG\DGN\D105x_PLAN.dwg

Item C1.



DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

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CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 6

DRAWING NO.:
C3.6

SHEET NO. 19 OF 159

DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

ETR FIELD DRAINAGE AND CLEANOUT
ETR RETAINING WALL
ETR FENCE AND NETTING
ETR FIELD DRAINAGE AND CLEANOUT
ALL EXISTING TREES IN THIS AREA ARE OUTSIDE OF THE LOD AND THEREFORE ARE EXPECTED TO NOT BE IMPACTED BY CONSTRUCTION
RTID IRRIGATION TO REMAIN
RTLD MULTI-USE FIELD
R&D CLEANOUT
RTLD R&R
ETR DRAIN
R&D SUBDRAIN
R&D BIT WALK
ETR FENCE
CONTRACTOR SHALL NOT ACCESS SITE FROM NAOMI STREET
R&D FENCE
R&D CONC PAD
ETR FIELD DRAINAGE AND CLEANOUT. SET RIM 12" BELOW FINISH GRADE
ETR DRAIN. R&D FRAME AND GRATE.
R&D PVMT
R&D SANDPIT
R&D WALK
CUT AND CAP
CONTRACTOR SHALL VERIFY EXISTING INVERT INFORMATION AND PROVIDE TO THE OWNERS REPRESENTATIVE FOR REVIEW PRIOR TO COMMENCING WORK
RTID R&D IRRIGATION
RTID R&D IRRIGATION HANDHOLE (TYP)
R&D FENCE
R&D DRAIN
MATCHLINE - SEE SHEET C3.6
MATCHLINE - SEE SHEET C3.8

Scale: 1"=20'
0 10' 20' 40'

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DRAWN BY:	AKL
APPROVED BY:	DLP

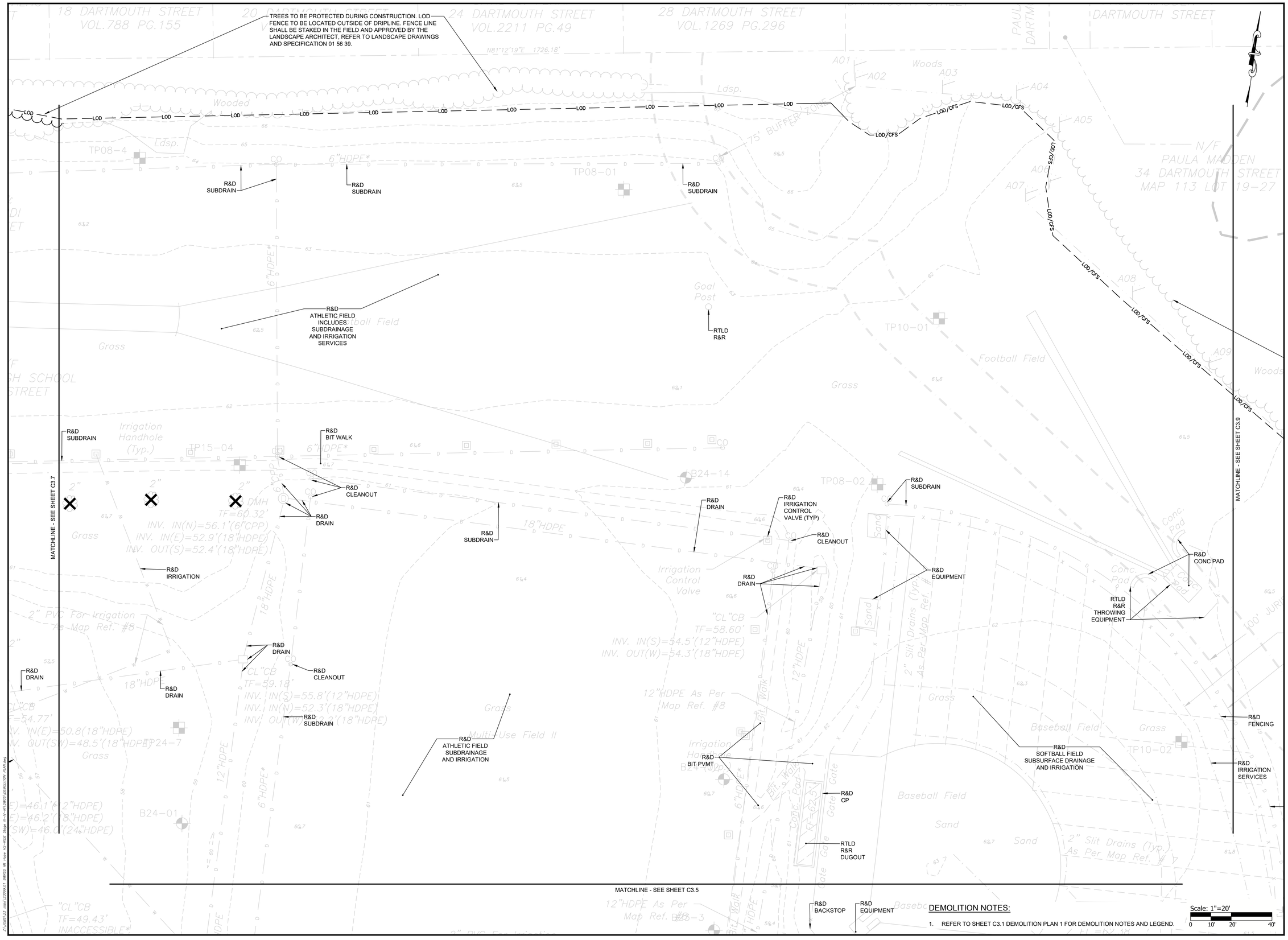
DRAWING TITLE:

DEMOLITION PLAN 7

DRAWING NO.:
C3.7

SHEET NO. 20 OF 159

Z:\JOBS\23_prof\23099.01 BWRSD MT. Hope HS\5-Dsgn\ 05-Arch\CIVIL\DWG\TITLE BLOCK.dwg



DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

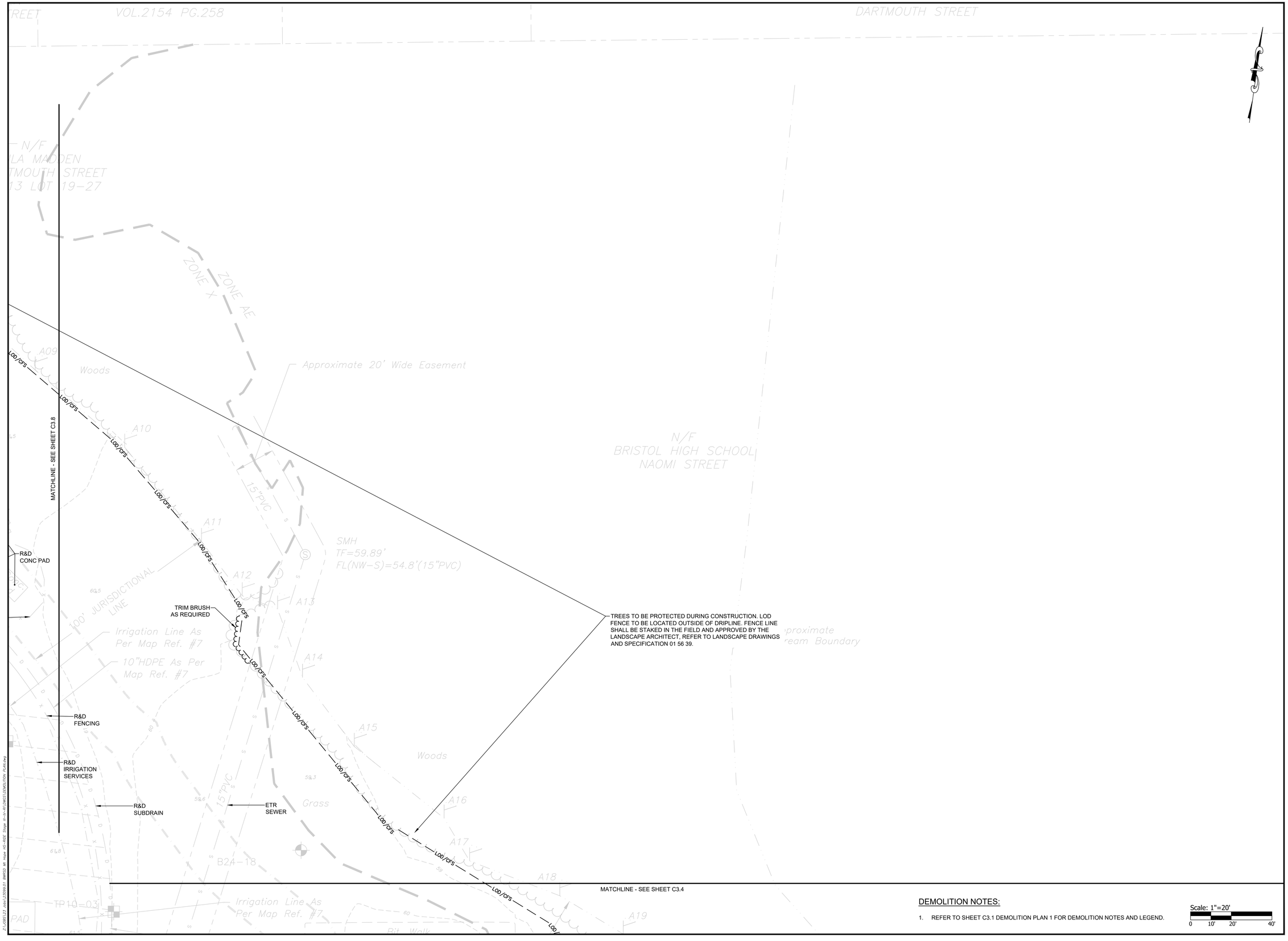
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 8

DRAWING NO.:
C3.8

SHEET NO. 21 OF 159



DEMOLITION NOTES:

1. REFER TO SHEET C3.1 DEMOLITION PLAN 1 FOR DEMOLITION NOTES AND LEGEND.

Scale: 1"=20'
0 10' 20' 40'

PARE

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APPROVED BY:	DLP

DRAWING TITLE:
DEMOLITION PLAN 9

DRAWING NO.:
C3.9

SHEET NO. 22 OF 159



NOTES:

1. CONTRACTOR SHALL PROVIDE LOAM AND SEED ON ALL DISTURBED AREAS UNLESS NOTED OTHERWISE. REFER TO LANDSCAPE DRAWINGS FOR SURFACE COVER IN LANDSCAPED AREAS.
2. ALL ACCESSIBLE RAMPS SHALL BE CONSTRUCTED WITH DETECTABLE WARNING PANELS, RTLD.
3. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL EMPLOY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF RHODE ISLAND TO ESTABLISH CONTROL ON THE SITE AND TO PERFORM FIELD MEASUREMENTS AS REQUIRED TO LAYOUT THE PROPOSED BUILDING AND SITE IMPROVEMENTS. THE CONTRACTOR'S SURVEYOR SHALL COORDINATE THE BUILDING LAYOUT WITH THE PROJECT LAND SURVEYOR TO ACCURATELY LOCATE THE BUILDING ON THE SITE.
4. REFER TO STRUCTURAL DRAWINGS TYPICAL SECTIONS OF ENTRY WAYS. FOR ALL CONCRETE ENTRANCE PAD.
5. ALL PARKING SPACES AND ISLANDS ARE TO BE MARKED WITH 4" THICK WHITE EPOXY PAVEMENT MARKING UNLESS NOTED OTHERWISE. WATERBORNE PAVEMENT MARKINGS ARE NOT ACCEPTABLE. REFER TO PARKING STALL DETAIL.
6. COORDINATE FINAL QUANTITY AND PLACEMENT OF BOLLARDS SURROUNDING TRANSFORMER WITH RHODE ISLAND ENERGY.
7. COORDINATE ALL SIGN PLACEMENT AND SIZE WITH OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
8. REFER TO LANDSCAPE DRAWINGS FOR LAYOUT, DIMENSIONS, AND MATERIAL OF THE WALKS.
9. REFER TO "NOTES" FOR ADDITIONAL NOTES.

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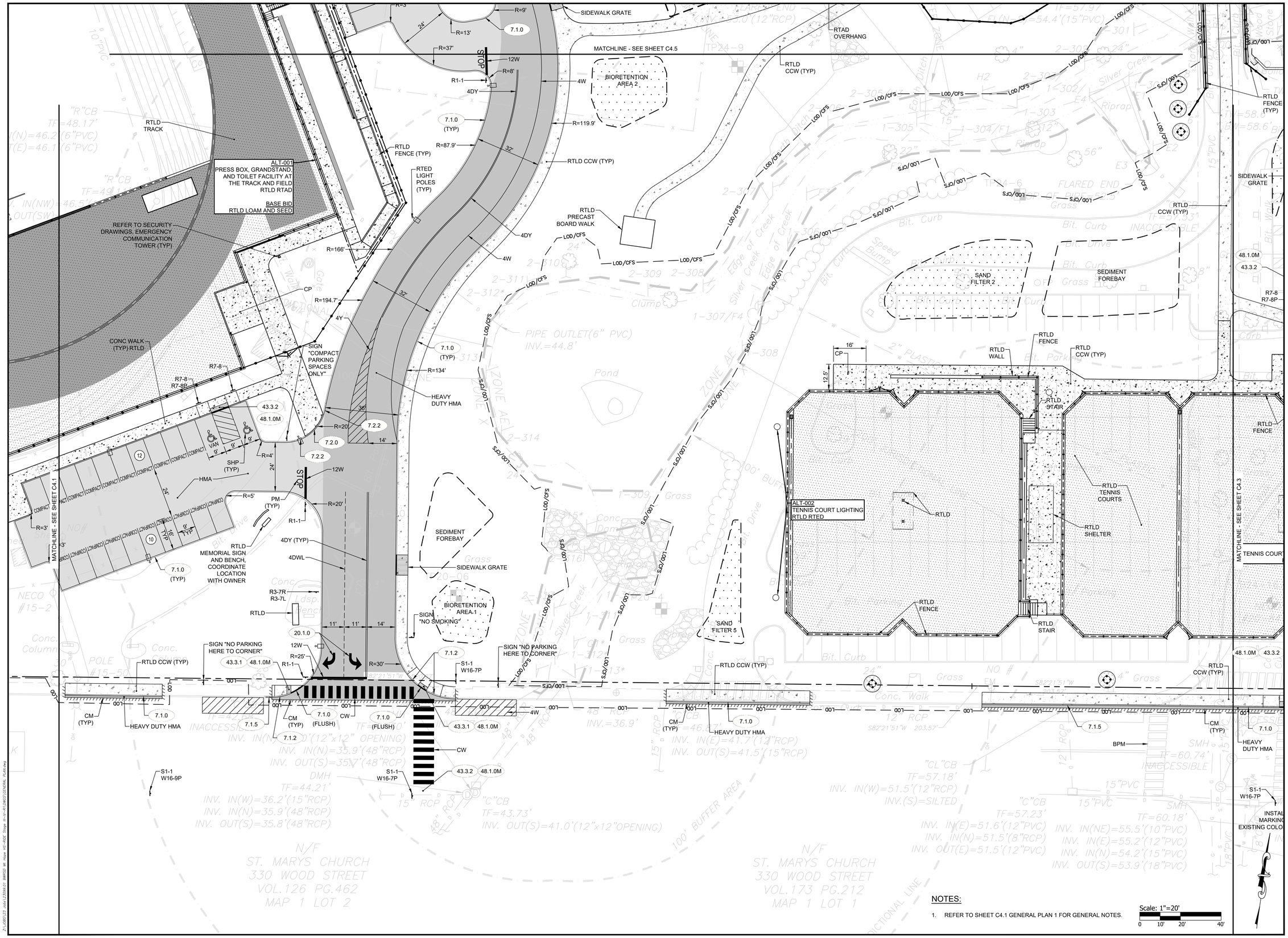
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 1

DRAWING NO.:
C4.1

SHEET NO. 23 OF 159

Item C1.



NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

Scale: 1"=20'

0 10' 20' 40'

PARE

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DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

GENERAL PLAN 2

DRAWING NO.:

C4.2

SHEET NO. 24 OF 159

HEADWALL
SEE SHEET C-602

MATCHLINE - SEE SHEET C4.4

RTLD
CCW (TYP)

RTLD
FENCE
(TYP)

SAND FILTER
3'

R=378'

SIDEWALK
GRATE

7.1.0
(TYP)

R=322'

SEDIMENT
FOREBAY
SHP
(TYP)

48.1.0M
43.3.2

R7-8

R7-8
R7-8P

HMA

R=2'

R=2'

R=10'

R=312'

24'

16' TYP

8' TYP

HEAVY
DUTY HMA

R=287.5'

STOP

"COMPACT PARKING
SPACES ONLY"

CP

17'

19'

R=8'

R1-1

R=312'

CW

S1-1
W16-7P

REFER TO
SECURITY
DRAWINGS,
EMERGENCY
COMMUNICATION
TOWER (TYP)

48.1.0M
43.3.2

RTLD
FENCE

MATCHLINE - SEE SHEET C4.2

RTLD

ALT-002
TENNIS COURT LIGHTING
RTLD RTED

RTLD
FENCE

RTLD

7.1.0

RTLD
ATHLETIC
BUILDING

RTLD
BASEBALL
DUGOUT

BUILDING

ALTERNATE-004
BASEBALL
BATHROOM -RTAD

43.3.0
48.1.0M
S1-1
W16-7P

RTLD
CCW (TYP)

ALTERNATE 003
BASEBALL FIELD INCLUDING ALL
ATHLETIC COMPONENTS, WALKS,
FENCING, IRRIGATION, AND DUGOUTS.
SAND FILTER 4. RTLD

BASE BID: LOAM AND SEED. RTLD.

RTLD
ATHLETIC
FIELD

RTLD
FENCE

RTLD
BASEBALL
BULL PEN

RTLD
BASEBALL
BULL PEN

RTLD
FOUL
POLE

RTLD
BATTING

RTLD
BASEBALL DOUGOUT

SAND FILTER

RTLD
STORAGE
UNITS

24.0'

10.0'

CP

BOL (TYP)
(11)

R1-1

18.8'

7.1.0
(TYP)

QPA

SIGN
"NO PARKING
HERE TO CORNER"

SIGN
"NO SMOKING"

SIGN
"NO PARKING
HERE TO CORNER"

PM (TYP)
R=30'
12W

R=30'

STOP

S1-1
W16-7P

RTLD
CCW (TYP)

48.1.0M
43.3.2

43.3.1
48.1.0M

CM
(TYP)

7.1.0

HEAVY
DUTY HMA

7.1.5

RESET EXISTING
"FLOOD AREA "SIGN

HEAVY
DUTY HMA

BPM

INSTALL PAVEMENT
MARKINGS TO MATCH
EXISTING COLOR AND WIDTH

43.3.2
48.1.0M

100'

S1-1
W16-9P

NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

Scale: 1"=20'
0 10' 20' 40'

ZU-URS1.21 Jobs\23099.01 BWRSD MP Kings HS-RIDE Stops III-Ins-RI\DWGS\GENERAL PLAN.dwg

PARE

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(CIVIL)
06.10.25

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DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

GENERAL PLAN 3

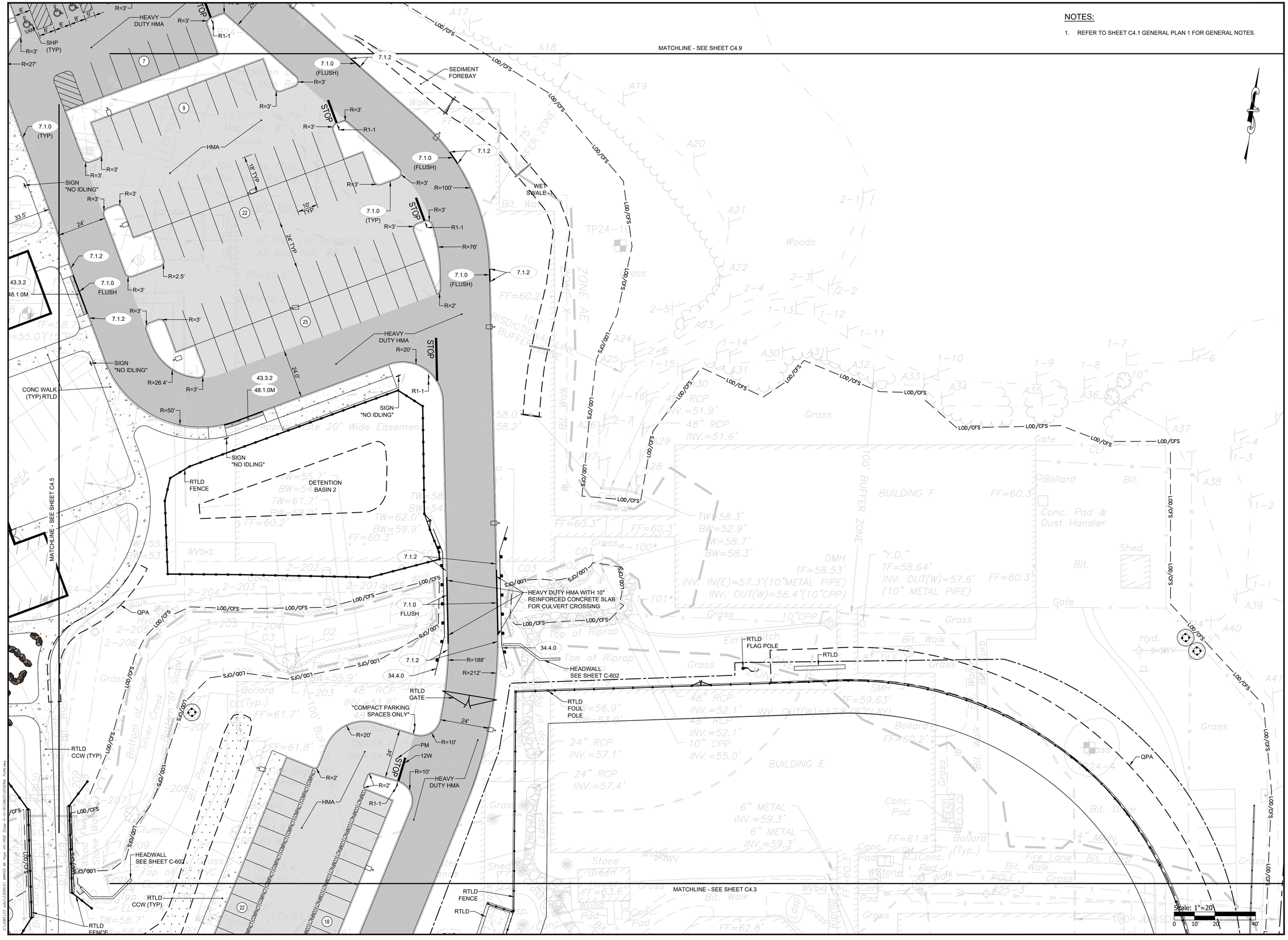
DRAWING NO.:
C4.3

SHEET NO. 25 OF 159

Item C1.

NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.



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CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

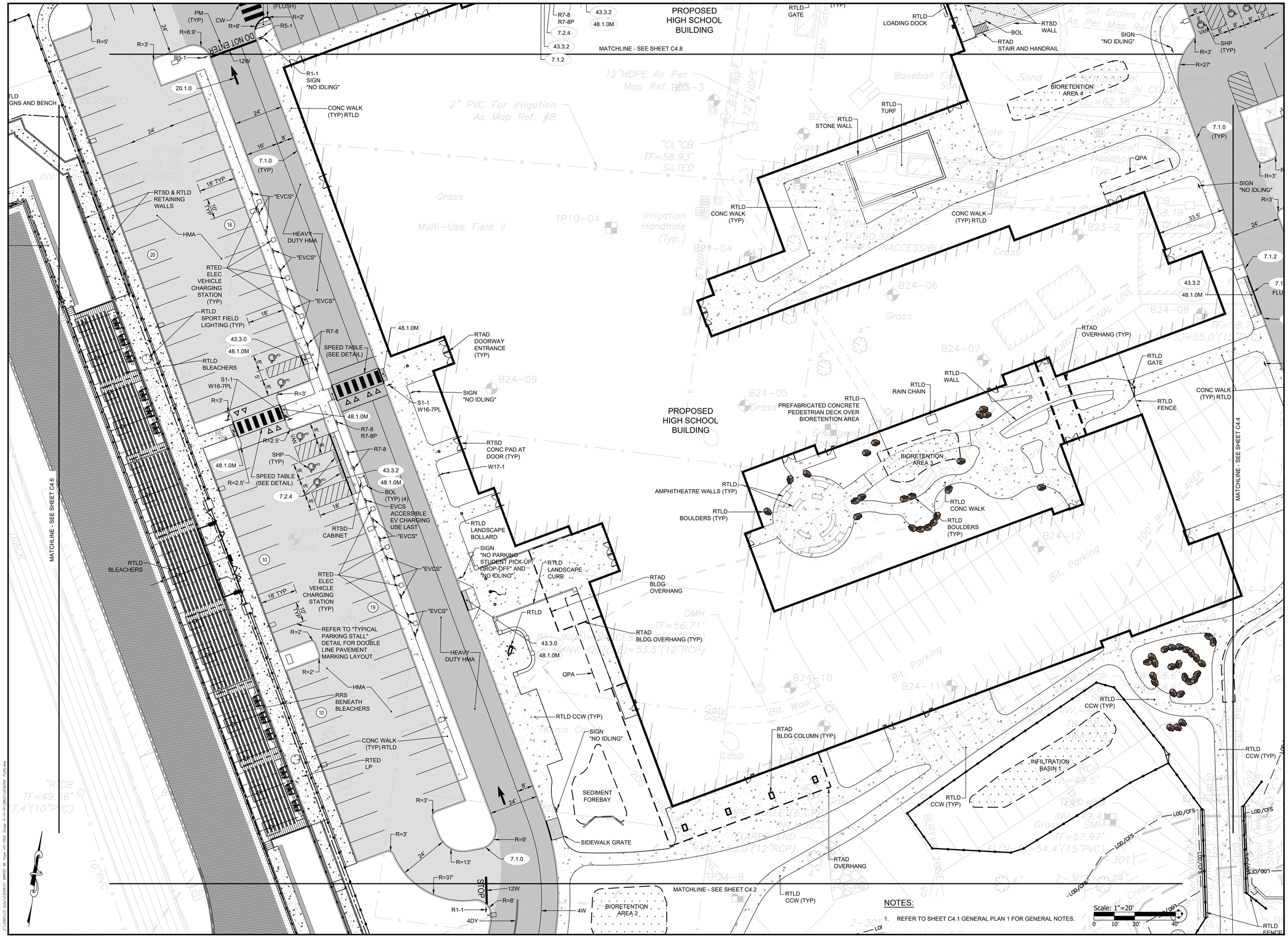
GENERAL PLAN 4

DRAWING NO.:

C4.4

SHEET NO. 26 OF 159

Item C1.



NOTES:

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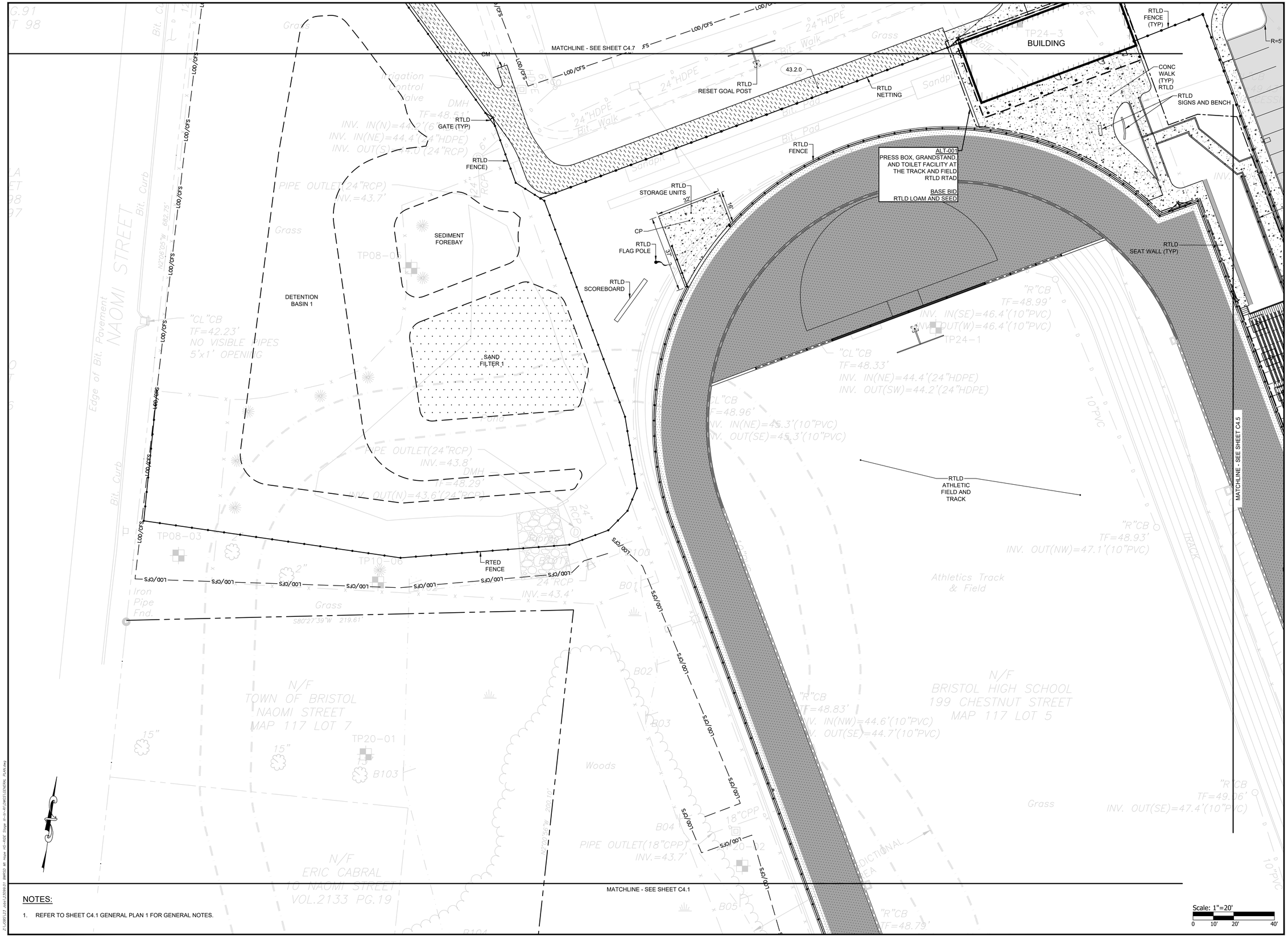
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 5

DRAWING NO.:
C4.5

SHEET NO. 27 OF 159



NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

Item C1.

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BRISTOL, RI 02809
401-253-4000

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DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GENERAL PLAN 6

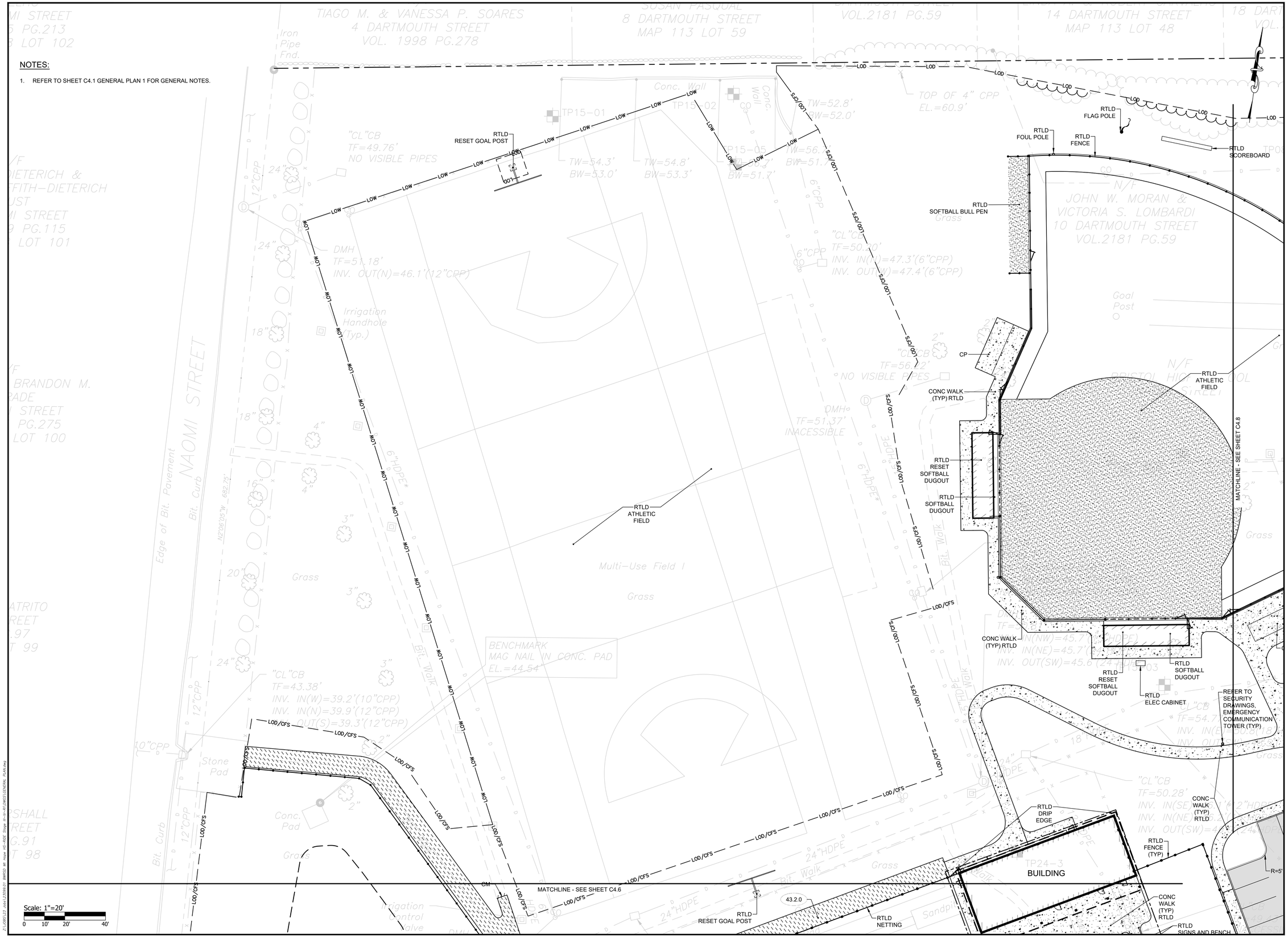
DRAWING NO.:
C4.6

SHEET NO. 28 OF 159

Item C1.

NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.



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DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

GENERAL PLAN 7

DRAWING NO.:

C4.7

SHEET NO. 29 OF 159

NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

PROPOSED HIGH SCHOOL BUILDING

MATCHLINE - SEE SHEET C4.7

MATCHLINE - SEE SHEET C4.5

MATCHLINE - SEE SHEET C4.9

Scale: 1"=20'

0 10' 20' 40'

PARE

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APPROVED BY:	DLP

DRAWING TITLE:

GENERAL PLAN 8

DRAWING NO.:
C4.8

SHEET NO. 30 OF 159

REET

VOL.2154 PG.258

DARTMOUTH STREET

N/F
LA MADDEN
TMOUTH STREET
13 LOT 19-27

ZONE X

ZONE AE

A09

Woods

Approximate 20' Wide Easement

LOD/CFS

A10

N/F
BRISTOL HIGH SCHOOL
NAOMI STREET

15"PVC

A11

SMH
TF=59.89'
FL(NW-S)=54.8'(15"PVC)

A12

A13

MATCHLINE - SEE SHEET C4.8

JURISDICTIONAL LINE

100' JURISDICTIONAL LINE

RTLD
SHOT PUT PAD
AND HAMMER CAGE

Irrigation Line As
Per Map Ref. #7

10"HDPE As Per
Map Ref. #7

A14

Approximate
Stream Boundary

RTED
SITE LIGHTING
(TYP)

A15

SIGN
"AUTHORIZED
VEHICLES ONLY"

R=30'

20'

R=96'

R=100'

23'

Woods

7.2.4

R7-8

7.1.0
(TYP)

7.1.0M

R=2'

A16

Grass

18'

10'

R=3'

5

8'

8'

8'

5'

HEAVY
DUTY HMA

STOP

R=2'

24'

A17

VAN

8'

8'

R=3'

SHP
(TYP)

R1-1

R=3'

R=27'

7

7.1.2

A18

MATCHLINE - SEE SHEET C4.4

7.1.0
(FLUSH)

R=3'

SEDIMENT
FOREBAY

A19

Wall

NOTES:

1. REFER TO SHEET C4.1 GENERAL PLAN 1 FOR GENERAL NOTES.

Scale: 1"=20'
0 10' 20' 40'

Z:\JOBS\23_Jobs\23099.01 BWRSD Mt Hope HS-BISE Show Bristol\BUSINESS\GENERAL PLAN.dwg

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APPROVED BY:	DLP

DRAWING TITLE:

GENERAL PLAN 9

DRAWING NO.:
C4.9

SHEET NO. 31 OF 159

MATCHLINE - SEE SHEET C5.6

MATCHLINE - SEE SHEET C5.2

UNDERGROUND INFILTRATION SYSTEM 01

N/F
ERIC CABRAL
10 NAOMI STREET
VOL.2133 PG.19

"CL"CB
TF=36.56'
INV. IN(N)=33.4'(15"HDPE)
INV. OUT(SW)=33.5'(12"PVC)
SUMP=29.8'

DMH
TF=41.99'
INV. IN(S)=38.8'(12"RCP)
INV. OUT(W)=36.3'(12"RCP)

"C"CB
TF=41.42'
INACCESSIBLE

"R"CB
TF=48.79'
INV. IN(SE)=44.7'(10"PVC)
INV. OUT(NW)=44.7'(10"PVC)

"CB
TF=45.17'
INV. IN(N)=46.2'(6"PVC)
INV. OUT(E)=46.1'(6"PVC)

PIPE OUTLET(18"CPP)
INV.=43.7'

BENCHMARK
MAG NAIL IN CONC. WALK
EL.=45.80'

BENCHMARK
DRILL HOLE IN CONC. WALK
EL.=45.25'

N/F
ST. MARYS CHURCH
330 WOOD STREET
VOL.92 PG.562
MAP 2 LOT 4

N/F
ST. MARYS CHURCH
330 WOOD STREET
VOL.85 PG.447
MAP 1 LOT 3

CHESTNUT STREET

Edge of Bit. Pavement

Woods

Conc. Walk

Conc. Curb

Scale: 1"=20'
0 10' 20' 40'

NOTES:

1. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUT NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT AND CURBS SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
2. ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE SURROUNDING SURFACE OR PAVEMENT FINISH GRADE. RIM ELEVATIONS OF STRUCTURES AND MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS.
3. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MIN. OF 1/8" PER FOOT UNLESS SPECIFIED.
4. THE PROPOSED WALKWAYS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM RUNNING SLOPE OF 5% AS SHOWN ON CONSTRUCTION DETAILS.
5. ALL GRADING AT ACCESSIBLE ROUTES SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA) OF 2010, LATEST EDITION.
6. BASIN BERM SHALL BE CONSTRUCTED WITH COMMON BORROW PLACED IN 12" LEFTS AND COMPACTED TO 95% TO FINISH GRADE. REMOVE ALL EXISTING TOPSOIL AND ORGANIC MATERIAL PRIOR TO CONSTRUCTING BASIN BERM.
7. TURF REINFORCEMENT MAT (TRM) SHALL BE INSTALLED ON ALL SLOPES 3:1 OR GREATER.
8. REFER TO "NOTES" FOR ADDITIONAL NOTES.

Z:_JOBS\23...\plot\23099.01 BWHSD MP Xrefs HS-RIDE Styles IR-Xs-R1.DWG\C1 GRADING PLAN.dwg

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

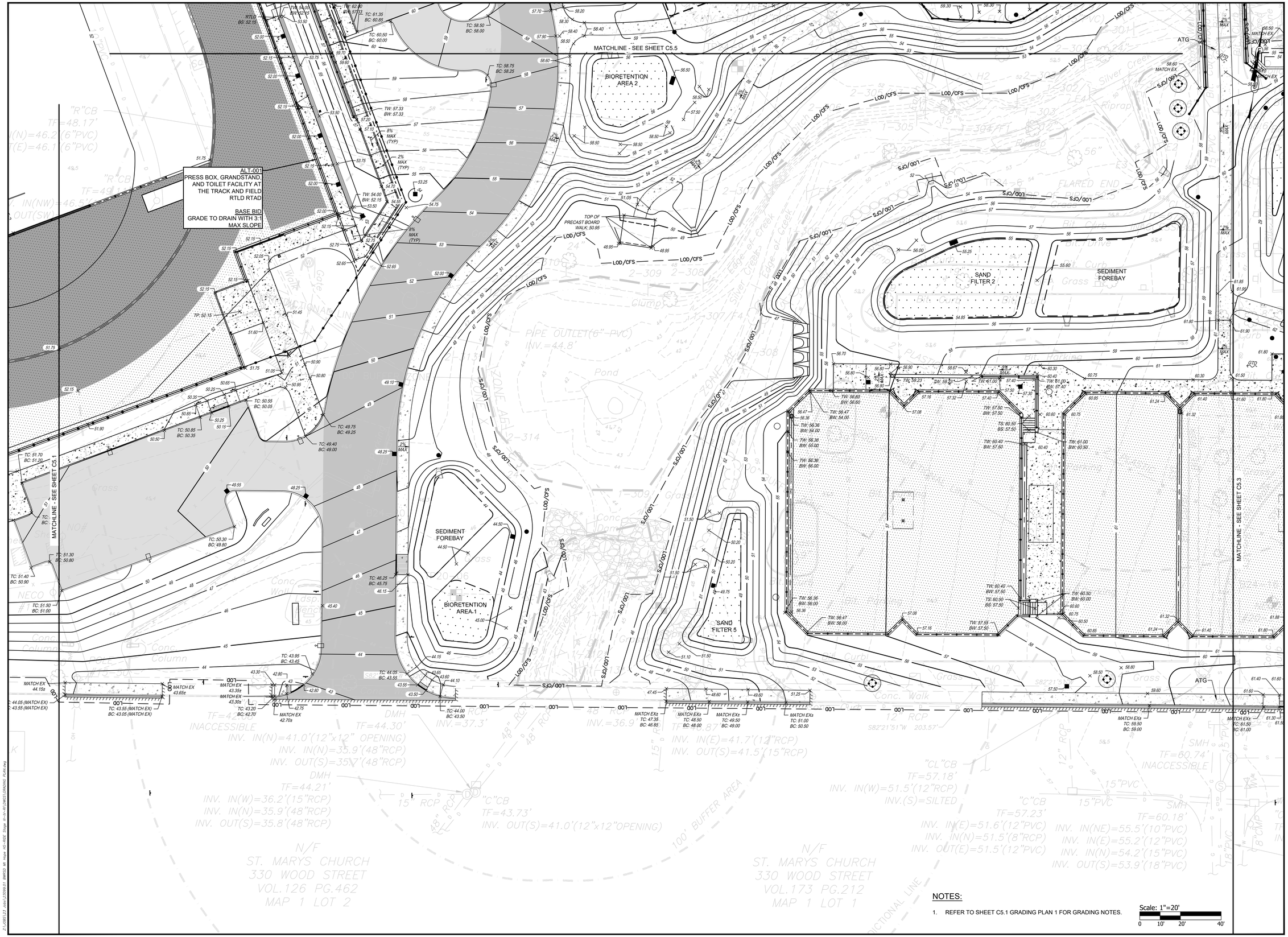
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GRADING PLAN 1

DRAWING NO.:
C5.1

SHEET NO. 32 OF 159

Item C1.



NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.

Scale: 1"=20'

0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

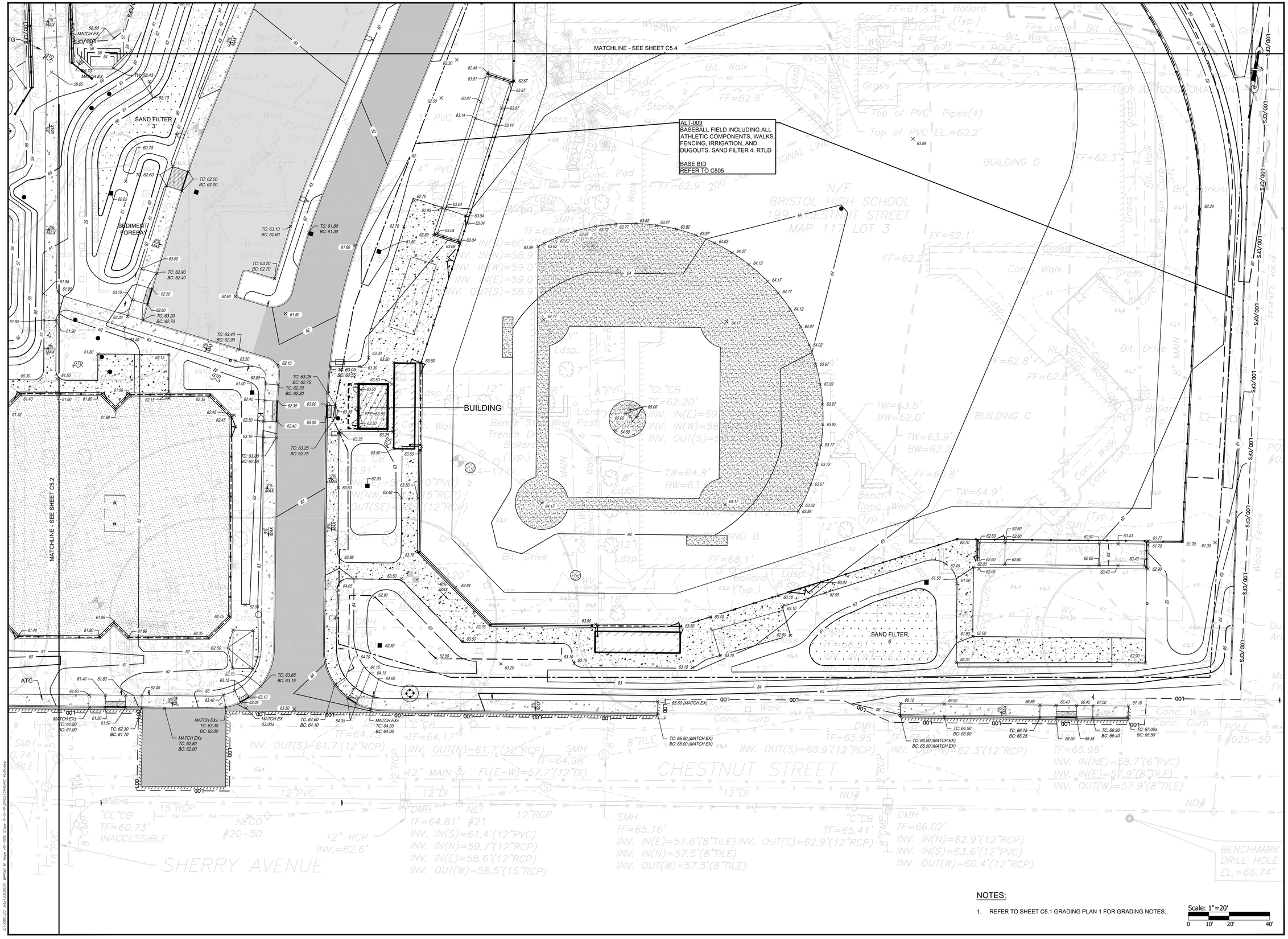
GRADING PLAN 2

DRAWING NO.:

C5.2

SHEET NO. 33 OF 159

Item C1.



NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

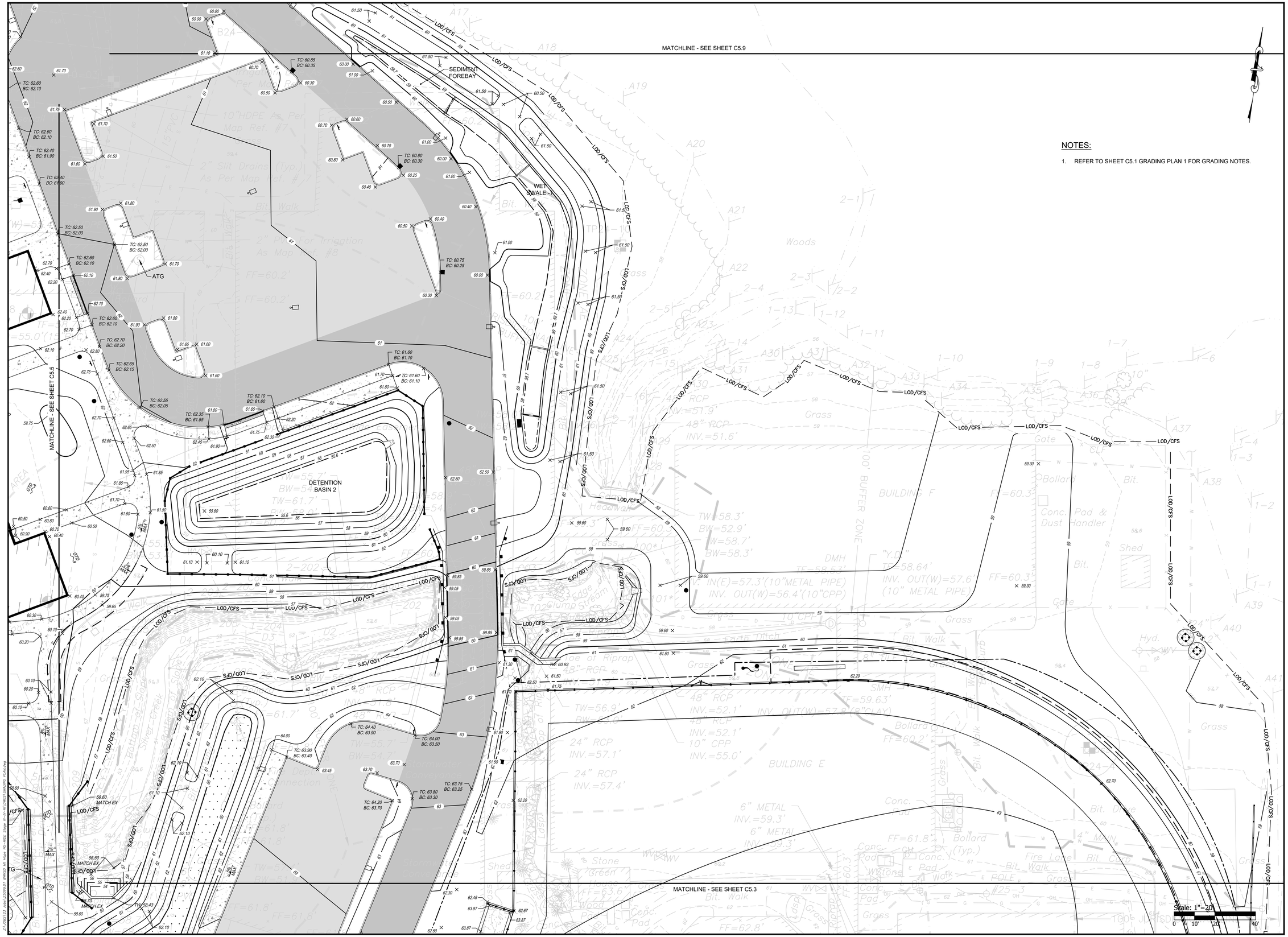
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GRADING PLAN 3

DRAWING NO.:
C5.3

SHEET NO. 34 OF 159

Item C1.



NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

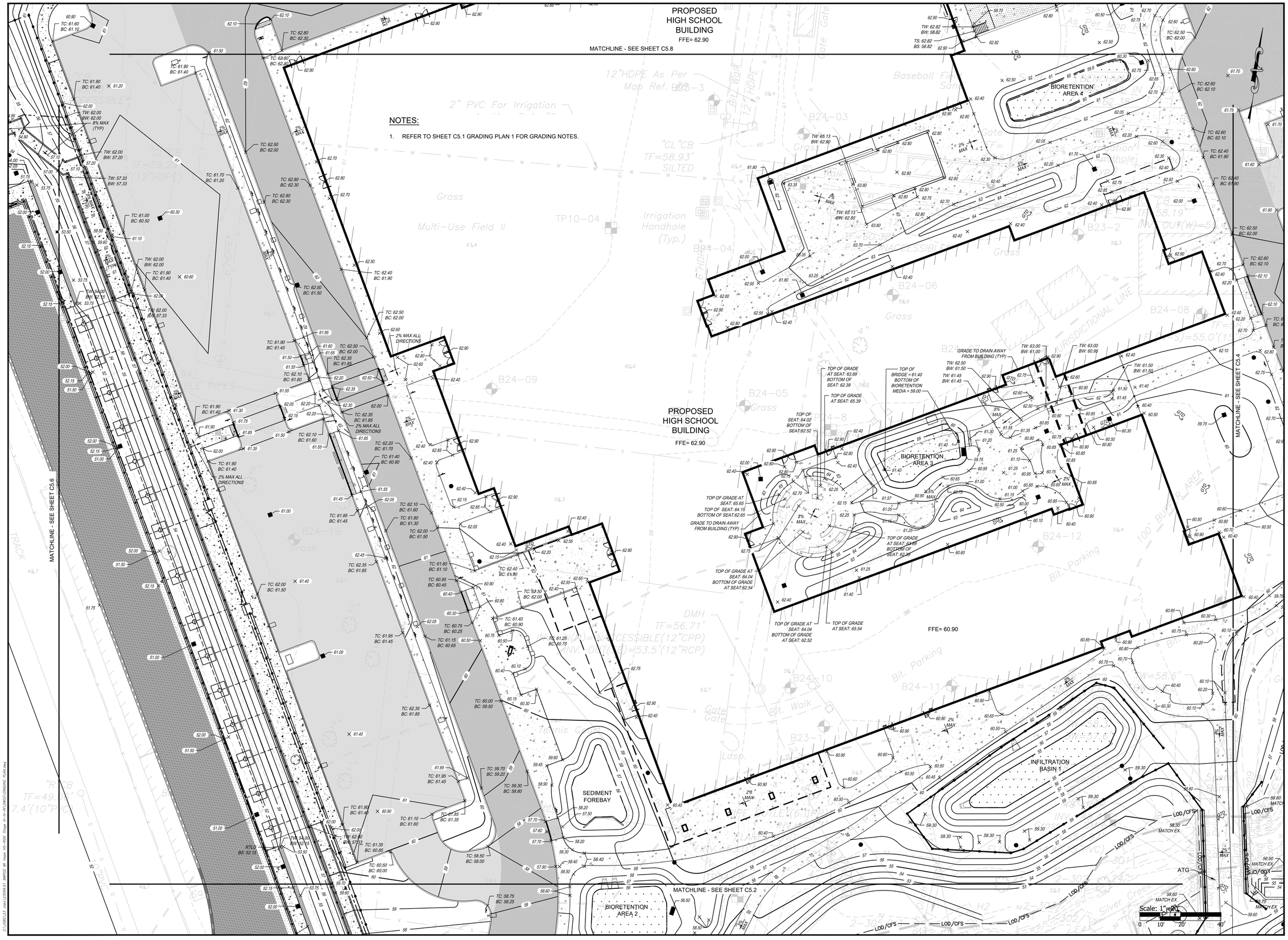
GRADING PLAN 4

DRAWING NO.:

C5.4

SHEET NO. 35 OF 159

Item C1.



NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
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SCALE ADJUSTMENT GUIDE
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DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

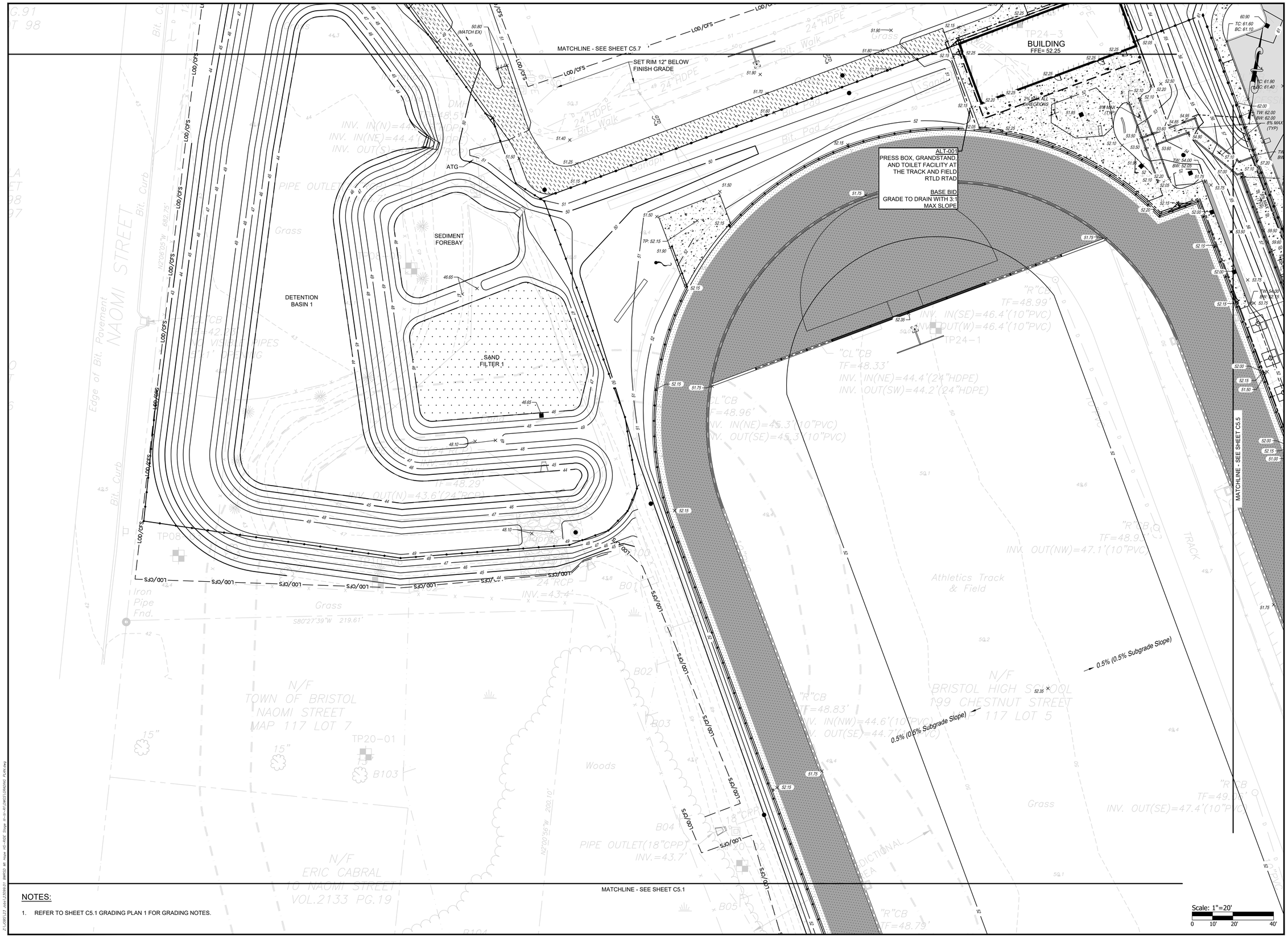
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GRADING PLAN 5

DRAWING NO.:
C5.5

SHEET NO. 36 OF 159

Item C1.



NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
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DAVID L. POTTER
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REVISIONS:

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3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GRADING PLAN 6

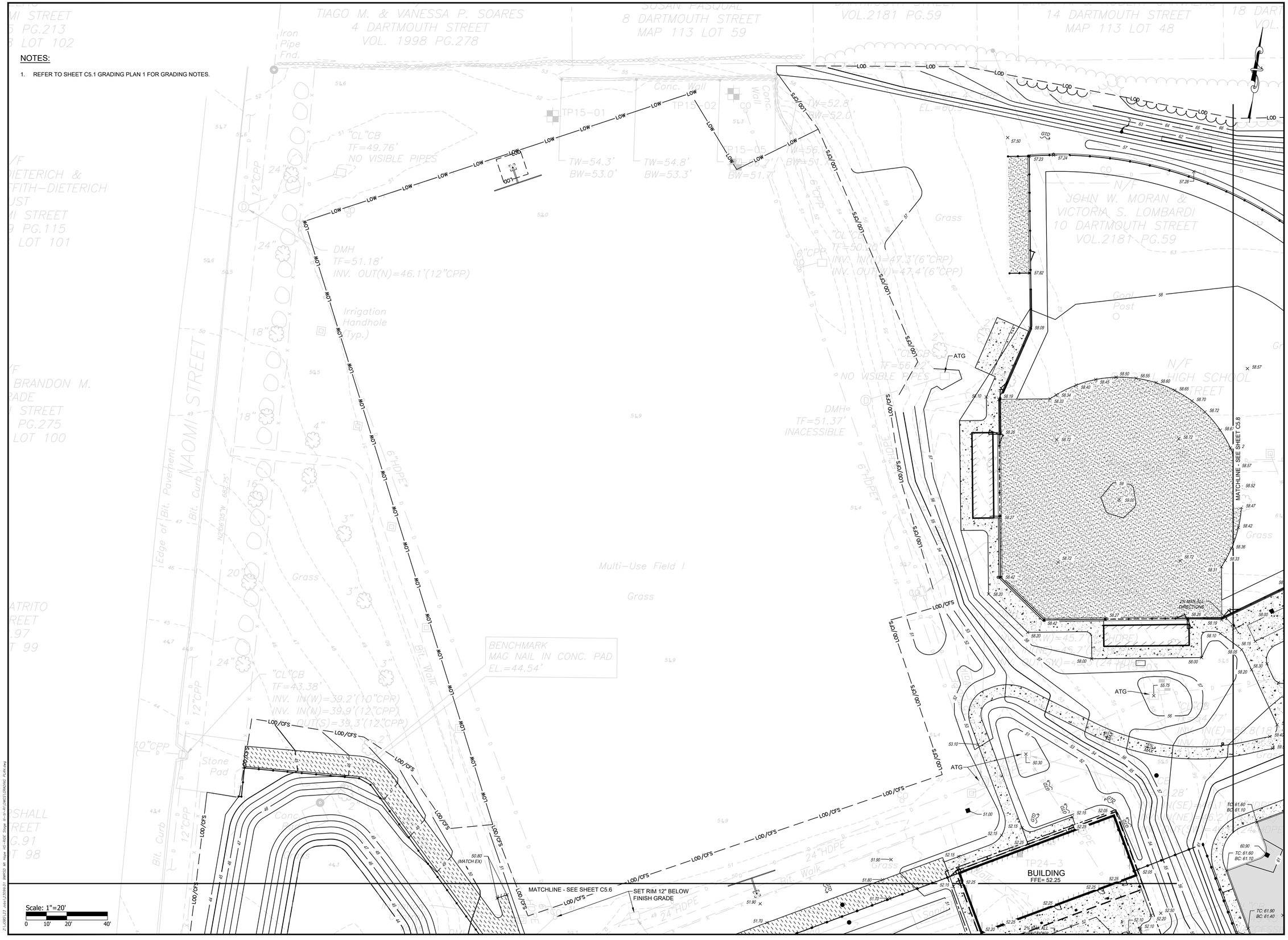
DRAWING NO.:
C5.6

SHEET NO. 37 OF 159

Item C1.

NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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ORIGINAL DRAWING

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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.10.25
REGISTERED
PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

GRADING PLAN 7

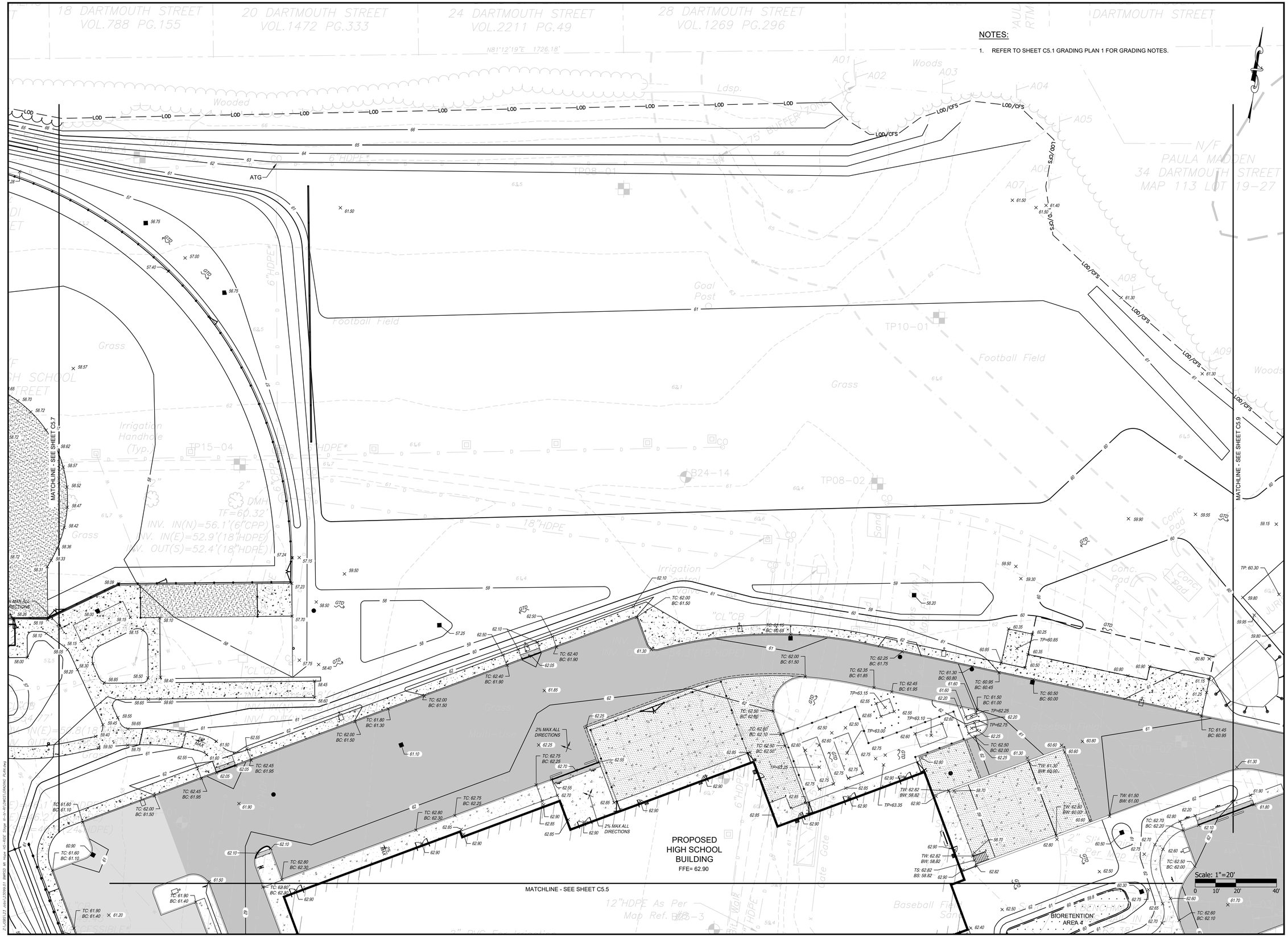
DRAWING NO.:
C5.7

SHEET NO. 38 OF 159

Item C1.

NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
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3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

GRADING PLAN 8

DRAWING NO.:

C5.8

SHEET NO. 39 OF 159



NOTES:

1. REFER TO SHEET C5.1 GRADING PLAN 1 FOR GRADING NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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06.10.25
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CIVIL

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1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
GRADING PLAN 9

DRAWING NO.:
C5.9

SHEET NO. 40 OF 159

Z:\...\23099.01 Johnston\23099.01_BMHSD_MP_Work Area\05-RIDEM_Stone Bin\civil-RI\DWGS\GRADING PLAN.dwg

DRAIN INVERT TABLE

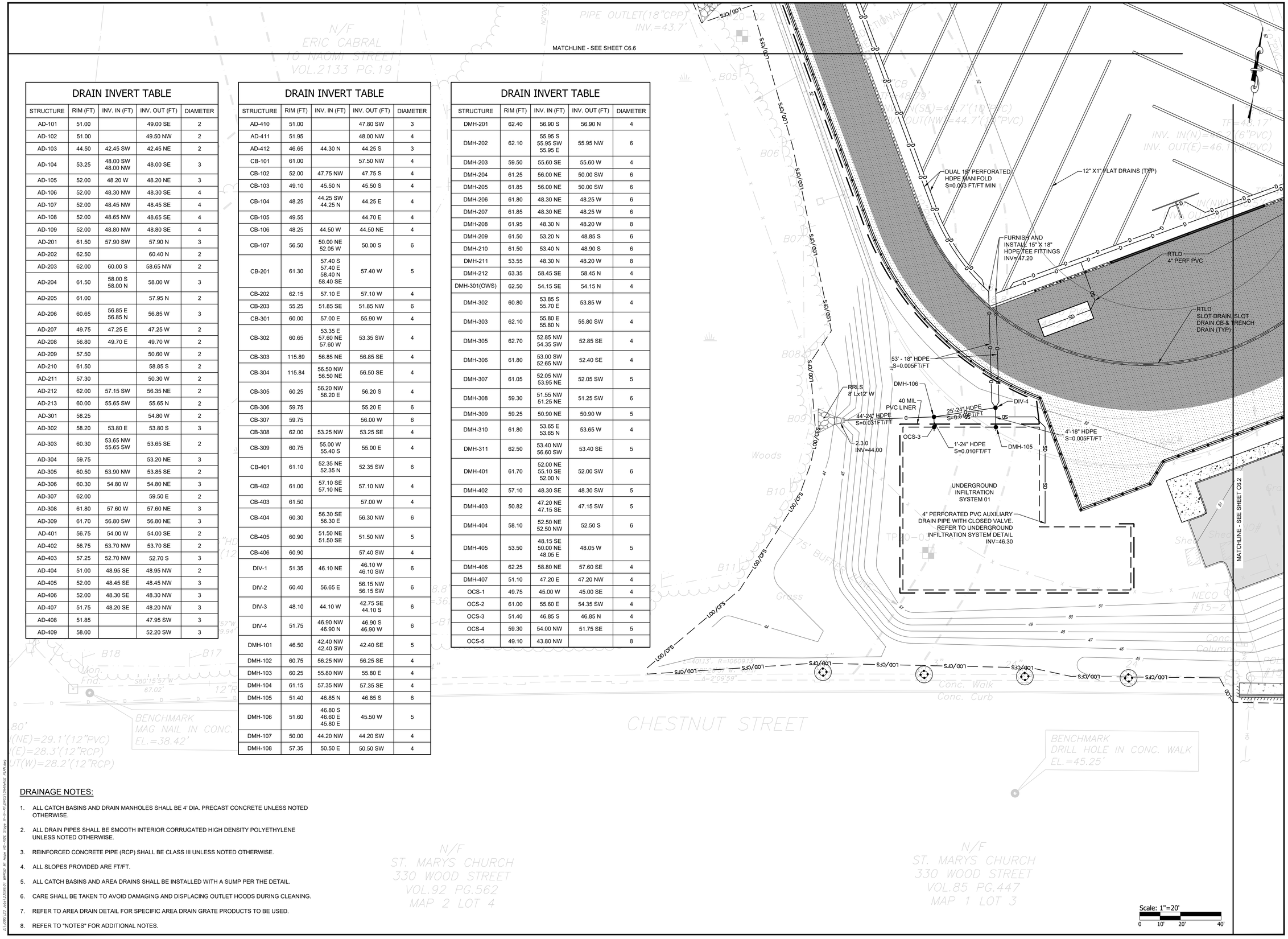
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)	DIAMETER
AD-101	51.00		49.00 SE	2
AD-102	51.00		49.50 NW	2
AD-103	44.50	42.45 SW	42.45 NE	2
AD-104	53.25	48.00 SW 48.00 NW	48.00 SE	3
AD-105	52.00	48.20 W	48.20 NE	3
AD-106	52.00	48.30 NW	48.30 SE	4
AD-107	52.00	48.45 NW	48.45 SE	4
AD-108	52.00	48.65 NW	48.65 SE	4
AD-109	52.00	48.80 NW	48.80 SE	4
AD-201	61.50	57.90 SW	57.90 N	3
AD-202	62.50		60.40 N	2
AD-203	62.00	60.00 S	58.65 NW	2
AD-204	61.50	58.00 S 58.00 N	58.00 W	3
AD-205	61.00		57.95 N	2
AD-206	60.65	56.85 E 56.85 N	56.85 W	3
AD-207	49.75	47.25 E	47.25 W	2
AD-208	56.80	49.70 E	49.70 W	2
AD-209	57.50		50.60 W	2
AD-210	61.50		58.85 S	2
AD-211	57.30		50.30 W	2
AD-212	62.00	57.15 SW	56.35 NE	2
AD-213	60.00	55.65 SW	55.65 N	2
AD-301	58.25		54.80 W	2
AD-302	58.20	53.80 E	53.80 S	3
AD-303	60.30	53.65 NW 55.65 SW	53.65 SE	2
AD-304	59.75		53.20 NE	3
AD-305	60.50	53.90 NW	53.85 SE	2
AD-306	60.30	54.80 W	54.80 NE	3
AD-307	62.00		59.50 E	2
AD-308	61.80	57.60 W	57.60 NE	3
AD-309	61.70	56.80 SW	56.80 NE	3
AD-401	56.75	54.00 W	54.00 SE	2
AD-402	56.75	53.70 NW	53.70 SE	2
AD-403	57.25	52.70 NW	52.70 S	3
AD-404	51.00	48.95 SE	48.95 NW	2
AD-405	52.00	48.45 SE	48.45 NW	3
AD-406	52.00	48.30 SE	48.30 NW	3
AD-407	51.75	48.20 SE	48.20 NW	3
AD-408	51.85		47.95 SW	3
AD-409	58.00		52.20 SW	3

DRAIN INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)	DIAMETER
AD-410	51.00		47.80 SW	3
AD-411	51.95		48.00 NW	4
AD-412	46.65	44.30 N	44.25 S	3
CB-101	61.00		57.50 NW	4
CB-102	52.00	47.75 NW	47.75 S	4
CB-103	49.10	45.50 N	45.50 S	4
CB-104	48.25	44.25 SW 44.25 N	44.25 E	4
CB-105	49.55		44.70 E	4
CB-106	48.25	44.50 W	44.50 NE	4
CB-107	56.50	50.00 NE 52.05 W	50.00 S	6
CB-201	61.30	57.40 S 57.40 E 58.40 N 58.40 SE	57.40 W	5
CB-202	62.15	57.10 E	57.10 W	4
CB-203	55.25	51.85 SE	51.85 NW	6
CB-301	60.00	57.00 E	55.90 W	4
CB-302	60.65	53.35 E 57.60 NE 57.60 W	53.35 SW	4
CB-303	115.89	56.85 NE	56.85 SE	4
CB-304	115.84	56.50 NW 56.50 NE	56.50 SE	4
CB-305	60.25	56.20 NW 56.20 E	56.20 S	4
CB-306	59.75		55.20 E	6
CB-307	59.75		56.00 W	6
CB-308	62.00	53.25 NW	53.25 SE	4
CB-309	60.75	55.00 W 55.40 S	55.00 E	4
CB-401	61.10	52.35 NE 52.35 N	52.35 SW	6
CB-402	61.00	57.10 SE 57.10 NE	57.10 NW	4
CB-403	61.50		57.00 W	4
CB-404	60.30	56.30 SE 56.30 E	56.30 NW	6
CB-405	60.90	51.50 NE 51.50 SE	51.50 NW	5
CB-406	60.90		57.40 SW	4
DIV-1	51.35	46.10 NE	46.10 W 46.10 SW	6
DIV-2	60.40	56.65 E	56.15 NW 56.15 SW	6
DIV-3	48.10	44.10 W	42.75 SE 44.10 S	6
DIV-4	51.75	46.90 NW 46.90 N	46.90 S 46.90 W	6
DMH-101	46.50	42.40 NW 42.40 SW	42.40 SE	5
DMH-102	60.75	56.25 NW	56.25 SE	4
DMH-103	60.25	55.80 NW	55.80 E	4
DMH-104	61.15	57.35 NW	57.35 SE	4
DMH-105	51.40	46.85 N	46.85 S	6
DMH-106	51.60	46.80 S 46.60 E 45.80 E	45.50 W	5
DMH-107	50.00	44.20 NW	44.20 SW	4
DMH-108	57.35	50.50 E	50.50 SW	4

DRAIN INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)	DIAMETER
DMH-201	62.40	56.90 S	56.90 N	4
DMH-202	62.10	55.95 S 55.95 SW 55.95 E	55.95 NW	6
DMH-203	59.50	55.60 SE	55.60 W	4
DMH-204	61.25	56.00 NE	50.00 SW	6
DMH-205	61.85	56.00 NE	50.00 SW	6
DMH-206	61.80	48.30 NE	48.25 W	6
DMH-207	61.85	48.30 NE	48.25 W	6
DMH-208	61.95	48.30 N	48.20 W	8
DMH-209	61.50	53.20 N	48.85 S	6
DMH-210	61.50	53.40 N	48.90 S	6
DMH-211	53.55	48.30 N	48.20 W	8
DMH-212	63.35	58.45 SE	58.45 N	4
DMH-301(OWS)	62.50	54.15 SE	54.15 N	4
DMH-302	60.80	53.85 S 55.70 E	53.85 W	4
DMH-303	62.10	55.80 E 55.80 N	55.80 SW	4
DMH-305	62.70	52.85 NW 54.35 SW	52.85 SE	4
DMH-306	61.80	53.00 SW 52.65 NW	52.40 SE	4
DMH-307	61.05	52.05 NW 53.95 NE	52.05 SW	5
DMH-308	59.30	51.55 NW 51.25 NE	51.25 SW	6
DMH-309	59.25	50.90 NE	50.90 W	5
DMH-310	61.80	53.65 E 53.65 N	53.65 W	4
DMH-311	62.50	53.40 NW 56.60 SW	53.40 SE	5
DMH-401	61.70	52.00 NE 55.10 SE 52.00 N	52.00 SW	6
DMH-402	57.10	48.30 SE	48.30 SW	5
DMH-403	50.82	47.20 NE 47.15 SE	47.15 SW	5
DMH-404	58.10	52.50 NE 52.50 NW	52.50 S	6
DMH-405	53.50	48.15 SE 50.00 NE 48.05 E	48.05 W	5
DMH-406	62.25	58.80 NE	57.60 SE	4
DMH-407	51.10	47.20 E	47.20 NW	4
OCS-1	49.75	45.00 W	45.00 SE	4
OCS-2	61.00	55.60 E	54.35 SW	4
OCS-3	51.40	46.85 S	46.85 N	4
OCS-4	59.30	54.00 NW	51.75 SE	5
OCS-5	49.10	43.80 NW		8



DRAINAGE NOTES:

1. ALL CATCH BASINS AND DRAIN MANHOLES SHALL BE 4' DIA. PRECAST CONCRETE UNLESS NOTED OTHERWISE.
2. ALL DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED HIGH DENSITY POLYETHYLENE UNLESS NOTED OTHERWISE.
3. REINFORCED CONCRETE PIPE (RCP) SHALL BE CLASS III UNLESS NOTED OTHERWISE.
4. ALL SLOPES PROVIDED ARE FT/FT.
5. ALL CATCH BASINS AND AREA DRAINS SHALL BE INSTALLED WITH A SUMP PER THE DETAIL.
6. CARE SHALL BE TAKEN TO AVOID DAMAGING AND DISPLACING OUTLET HOODS DURING CLEANING.
7. REFER TO AREA DRAIN DETAIL FOR SPECIFIC AREA DRAIN GRATE PRODUCTS TO BE USED.
8. REFER TO "NOTES" FOR ADDITIONAL NOTES.

Z:\J-DRS\23 JobsL2\2309.01 BWSD\2 WP Work\05-BIDS Drgs\a- Bid-Iss-Rl\DWGS\DRAINAGE PLAN.dwg

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DAVID L POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 1

DRAWING NO.:
C6.1

SHEET NO. 41 OF 159

26'-12" HDPE S=0.007FT/FT
INV=48.80
AD-109
TOE DRAIN 6" PERFORATED PVC S=0.005 MIN
17'-12" HDPE S=0.007FT/FT
AD-108
CONNECT TO SUBDRAIN
CONNECT TO WALL DRAIN INV=54.00
27'-12" HDPE S=0.006FT/FT
YD-101 RIM: 53.50 INV IN (NW): 48.55 INV OUT (SE): 48.55
AD-107
CONTRACTOR SHALL FURNISH AND INSTALL FENCE FOOTINGS TO AVOID DRAINAGE AND UTILITY PIPES (TYP)
22'-12" HDPE S=0.006FT/FT
6" SCH 40 PVC S=0.005 MIN
AD-106
13'-12" HDPE S=0.007FT/FT
AD-104
AD-105
40'-12" HDPE S=0.006FT/FT
CONNECT TO WALL DRAIN INV=48.30
CB-102
25'-12" HDPE S=0.007FT/FT
RTLD SLOT DRAIN, SLOT DRAIN CB & TRENCH DRAIN (TYP.)
55'-12" HDPE S=0.038FT/FT
CB-103
30'-12" HDPE S=0.037FT/FT
17'-15" HDPE S=0.007FT/FT
DIV-3
CB-104
6'-12" HDPE S=0.009FT/FT
35'-12" HDPE S=0.005FT/FT
44'-12" HDPE S=0.005FT/FT
CB-105
CB-106
2.3.0 INV=44.00
RRLS 4'L X 6'W
SEDIMENT FOREBAY
AD-103
SFCD ELEV=44.45
MATCHLINE - SEE SHEET C6.1
52'-15" HDPE S=0.006FT/FT
SM
4'-12" HDPE S=0.007FT/FT
DMH-101
22'-18" RCP S=0.006FT/FT
2.3.0 INV=42.25
RRLS 6'L9'W
BIORETENTION AREA 1
RS ELEV=45.00
AUXILIARY DRAIN PIPE INV=43.10
30'-12" RCP S=0.000FT/FT
2.3.0 INV=56.00
RRLS 4'L x12' W
DMH-103
144'-18" HDPE S=0.005FT/FT
MATCHLINE - SEE SHEET C6.5
SD
BIORETENTION AREA 2
6" SUBDRAIN INV=52.05
6" SUBDRAIN INV=52.25
CB-107 (DOUBLE)
RS ELEV=57.50
75'-30" RCP S=0.013FT/FT
2.3.0 INV=49.00
RRLS 10'LX15'W
RS ELEV=50.20
2.3.0 INV=49.00
RRLS 4'L6'W/ 49.00
AD-207
2.3.0 INV=47.00
24'-12" HDPE S=0.006FT/FT
AUXILIARY DRAIN PIPE INV=48.00
SAND FILTER 5
RRLS 4'L6'W
2.3.0 INV=49.00
93'-30" RCP S=0.005FT/FT
72'-30" RCP S=0.005FT/FT
DMH-108
DMH-309
RS ELEV=58.40
10'
RRLS (R-7 OVER RS-2)
2.2.0A INV=53.60
16'-48" RCP S=0.021FT/FT
DMH-209
18'-15" HDPE S=0.050FT/FT
RRLS 6'Lx9'W
2.3.0 INV=51.45
113'-48" RCP S=0.005FT/FT
97'-48" RCP S=0.005FT/FT
DIV-2
2.3.0 INV=55.00
12'-12" HDPE S=0.077FT/FT
33'-15" HDPE S=0.011FT/FT
2.3.0 INV=54.85
38'-15" HDPE S=0.005FT/FT
RRLS 4'Lx6'W
CB-203 (DOUBLE)
RS ELEV=56.00
AUXILIARY DRAIN PIPE INV=53.85
SAND FILTER 2
SFCD ELEV=55.60
SEDIMENT FOREBAY
SM
212'-48" RCP S=0.006FT/FT
223'-48" RCP S=0.005FT/FT
RRLS 4'Lx6'W
2.3.0 INV=54.85
DMH-208
DMH-211
DMH-206
DMH-207
RRLS 20'Lx30'W
2.3.0 INV=47.00
AD-208
AD-211
RTLD 8" TRENCH DRAIN RIM=56.36 INV=50.50
73'-12" HDPE S=0.008FT/FT
66'-12" HDPE S=0.010FT/FT
226'-48" RCP S=0.005FT/FT
46'-12" HDPE S=0.011FT/FT
RTLD 8" TRENCH DRAIN RIM=61.35 INV=55.35
102'-12" HDPE S=0.006FT/FT
37'-12" HDPE S=0.007FT/FT
RTLD 8" TRENCH DRAIN RIM=60.55 INV=55.50
230'-48" RCP S=0.005FT/FT
RTLD 8" TRENCH DRAIN RIM=60.55 INV=55.90
RTLD 8" TRENCH DRAIN RIM=56.36 INV=50.00
RTLD 8" TRENCH DRAIN RIM=61.35 INV=55.85
149'-12" HDPE S=0.011FT/FT
AD-209
MATCHLINE - SEE SHEET C6.3
PIPE OUTLET(6" PVC) INV.=44.8'
Pond
ZONE AE
100' BUFFER AREA
N/F ST. MARYS CHURCH 330 WOOD STREET VOL.126 PG.462 MAP 1 LOT 2
N/F ST. MARYS CHURCH 330 WOOD STREET VOL.173 PG.212 MAP 1 LOT 1
S82°21'51"W 203.57'

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
06.10.25

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 2

DRAWING NO.:
C6.2

SHEET NO. 42 OF 159

Z:\...\23099.01 Mt Hope HS--RIDE Stage III--Civil\03 DWG\LDP\MHHC_PLAN.dwg

2.2.0A
INV=53.60

RRS
(R-7
OVER
RS-2)

16'-48" RCP
S=0.021FT/FT

9'-48" RCP
S=0.016FT/FT

DMH-210

DMH-209

113'-48" RCP
S=0.005FT/FT

97'-48" RCP
S=0.005FT/FT

DIV-2

38'-15" HDPE
S=0.005FT/FT

AUXILIARY
DRAIN PIPE
INV=59.00

SAND FILTER
3'

SM

RIPRAP EDGE

CB-202

AD-206

38'-15" HDPE
S=0.006FT/FT

SFCD
ELEV=60.75

SEDIMENT
FOREBAY

323'-48" RCP
S=0.005FT/FT

319'-48" RCP
S=0.005FT/FT

6" PERF PVC
SUBDRAIN

55'-15" HDPE
S=0.005FT/FT

31'-12" HDPE
S=0.017FT/FT

AD-204

CB-201

81'-12" HDPE
S=0.005FT/FT

80'-12" HDPE
S=0.007FT/FT

DMH-208

DMH-211

DMH-206

AD-205

DMH-207

SFM

46'-12" HDPE
S=0.011FT/FT

RTLD
8" TRENCH DRAIN
RIM=61.35
INV=55.35

MATCHLINE - SEE SHEET C6.2

BUILDING

DMH-212

12" ATHLETIC
FIELD SUBDRAIN
S=0.005 MIN

AD-203

33'-12" HDPE
S=0.006FT/FT

6" PERF PVC
SUBDRAIN

77'-12" HDPE
S=0.005FT/FT

RTLD
8" TRENCH DRAIN
RIM=61.35
INV=55.85

INV = 60.80

AD-202

QPA

CO
INV=61.00

TOE DRAIN
6" PERFORATED PVC
S=0.005 MIN

166'-12" HDPE
S=0.005FT/FT

MATCHLINE - SEE SHEET C6.4

183'-12" HDPE
S=0.005FT/FT

ALT 003
BASEBALL FIELD INCLUDING ALL ATHLETIC COMPONENTS, WALKS, FENCING, IRRIGATION, AND DUGOUTS. SAND FILTER 4, RTLD

BASE BID
EXCLUDE ALL DRAIN PIPES, MANHOLES, CATCH BASINS, QPAS, AND SAND FILTER WITHIN LIMITS SHOWN. CAP NEW DRAIN PIPES SHOWN AT LIMIT FOR FUTURE CONNECTION.

DMH-201

SET FRAME AND
COVER 18" BELOW
FINISH GRADE

185'-12" HDPE
S=0.005FT/FT

QPA

12" ATHLETIC
FIELD SUBDRAIN
INV=58.35

CO (TYP)

RTLD
SLIT DRAINS
(TYP)

12" ATHLETIC
FIELD SUBDRAIN
INV=59.00

CO (TYP)

AD-201

SAND FILTER
4

INV=58.15

CO
INV=59.00

INV=58.25

6" PERFORATED
PVC SUBDRAIN
INV=58.50

INV=58.50

6" PERFORATED
PVC PIPE
INV=58.25

TOE DRAIN
6" PERFORATED PVC
S=0.005 MIN

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
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SCHOOL DISTRICT
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BRISTOL, RI 02809
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DAVID L. POTTER
No. 8665
06.10.25
REGISTERED
PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
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3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DRAINAGE PLAN 3

DRAWING NO.:
C6.3

SHEET NO. 43 OF 159

Z:\JOBS\23_01 John\23099.01 BMHSD MP Vistas 405-405E Stage III-dv-R1\DWGS\23099MAP2 PLAN.dwg

MATCHLINE - SEE SHEET C6.9

INV = 57.00
6" PVC
S = 0.005 FT/FT MIN
RIPRAP EDGE
CB-303
6" PERF PVC SUBDRAIN
INV = 57.40
SM
SEDIMENT FOREBAY
WET SWALE SFCD WITH WIER ELEV=59.20
RS ELEV=60.50
38'-12" RCP S=0.006FT/FT
67'-12" HDPE S=0.005FT/FT
6" PERF PVC SUBDRAIN
INV = 57.00
6" PVC
S = 0.005 FT/FT MIN
CB-304
RIPRAP EDGE
WET SWALE 1
6" PERF PVC SUBDRAIN
INV = 57.40
52'-15" HDPE S=0.005FT/FT
6" PERF PVC SUBDRAIN
INV = 57.00
CB-305
RIPRAP EDGE
6" PERF PVC
S = 0.005 FT/FT MIN
6" PERF PVC SUBDRAIN
70'-18" HDPE S=0.005FT/FT
WET SWALE SFCD WITH WEIR (TYP) ELEV=59.20
AD-304 (PROVIDE OUTLET HOOD, SEE NOTE 6)
DMH-305
19'-15" RCP S=0.009FT/FT
THE CONTRACTOR SHALL FURNISH AND INSTALL FENCE FOOTINGS TO AVOID DRAINAGE AND UTILITY PIPES (TYP)
CB-307 (DOUBLE)
DMH-306
32'-18" HDPE S=0.006FT/FT
DMH-303
RRLS 8'Lx12'W
29'-18" RCP S=0.006FT/FT
INV = 59.00
19'-12" HDPE S=0.009FT/FT
64'-18" RCP S=0.005FT/FT
2.3.0 INV=55.60
DETENTION BASIN 2
12'-24" HDPE S=0.025FT/FT
17'-24" HDPE S=0.000FT/FT
2.1.0 INV=55.60
DMH-307
OCS-2
RS ELEV=60.10
RRS (R-8 OVER FS-3)
RRS (R-7 OVER FS-2)
RRS (R-7 OVER FS-2)
RRS (R-8 OVER FS-3)
23'-15" HDPE S=0.005FT/FT
DMH-203
RRLS (R-8 OVER FS-3) 5'LX7'W
2.3.0 INV=55.45
46'-12" HDPE S=0.007FT/FT
4'-48" RCP S=0.014FT/FT
DMH-204
DMH-202
2.2.0A INV=56.10
RRS (R-7 OVER FS-2)
11'-48" RCP S=0.007FT/FT
DMH-205
CO (TYP)
THE CONTRACTOR SHALL FURNISH AND INSTALL FENCE FOOTINGS TO AVOID DRAINAGE AND UTILITY PIPES (TYP)
12" ATHLETIC FIELD SUBDRAIN S=0.005 MIN
QPA
RTLD SLIT DRAINS (TYP)
183'-12" HDPE S=0.005FT/FT
RS ELEV=61.10
AD-210
INV = 60.00
2.2.0A INV=53.60
RRS (R-7 OVER FS-2)
16'-48" RCP S=0.021FT/FT
9'-48" RCP S=0.016FT/FT
DMH-210
323'-48" RCP S=0.005FT/FT
319'-48" RCP S=0.005FT/FT
166'-12" HDPE S=0.005FT/FT
MATCHLINE - SEE SHEET C6.3
MATCHLINE - SEE SHEET C6.5

LOD/CFS

Scale: 1" = 20'
0 10' 20' 40'

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

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199 Chestnut Street
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Bristol, Rhode Island

DAVID L POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
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PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 4

DRAWING NO.:
C6.4

SHEET NO. 44 OF 159

Z:\...\23099.01 - Mt Hope HS--RI\2 Design\ 99--Arch-Rel\ DWG\ DRAINAGE PLAN.dwg

PROPOSED HIGH SCHOOL BUILDING
FFE= 62.90

MATCHLINE - SEE SHEET C6.8

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

PROPOSED HIGH SCHOOL BUILDING
FFE= 62.90

FFE= 60.90

MATCHLINE - SEE SHEET C6.6

MATCHLINE - SEE SHEET C6.4

MATCHLINE - SEE SHEET C6.2

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
RHODE ISLAND
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:

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1	04-17-2025	RIDEM RTC
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PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DRAINAGE PLAN 5

DRAWING NO.:
C6.5

SHEET NO. 45 OF 159

BASE BID
INCLUDE ALL DRAINAGE
SHOWN EXCEPT WALL DRAIN

MATCHLINE - SEE SHEET C6.7

LOD/CFS

REPLACE FRAME AND GRATE WITH FRAME AND COVER. REBUILD STRUCTURE AS REQUIRED TO SET RIM 12" BELOW FINISH GRADE.

CONNECT TO EX DRAIN
INV=44.10

CONNECT TO EX DRAIN
INV=45.80

151'-30" RCP
S=0.007FT/FT

RRLS
12'L X 17'W

2.3.0
INV=44.00

18"-36" RCP
S=0.006FT/FT

31'-36" RCP
S=0.006FT/FT

DIV-1

THE CONTRACTOR SHALL FURNISH AND INSTALL FENCE FOOTINGS TO AVOID DRAINAGE AND UTILITY PIPES (TYP)

SM

2.3.0
INV=46.00

SEDIMENT FOREBAY

RRLS
4'L X 6'W

13'-12" RCP
S=0.005FT/FT

15'

DETENTION BASIN 1

SFCD
ELEV=46.75

SAND FILTER 1

AUXILIARY DRAIN PIPE
INV=45.00'

RS
ELEV=48.10

AD-412

10'

24'-12" HDPE
S=0.010FT/FT

RRLS
4'L X 5.7'W

INV=44.00

2.1.0
INV=45.00

2.1.0
INV=44.00

10'

RS
ELEV=48.10

17'-24" RCP
S=0.009FT/FT

OCS-5

CONNECT TO EXISTING DRAIN
INV=43.80

FES AND RRLS TO REMAIN.
ELEV=43.40

159'-24" RCP
S=0.005FT/FT

31'-24" RCP
S=0.000FT/FT

OCS-1

DMH-403

5'-15" HDPE
S=0.005FT/FT

DMH-407

DUAL 15" PERFORATED HDPE MANIFOLD S=0.0025 MIN

RTLD
SLOT DRAIN, SLOT DRAIN CB & TRENCH DRAIN (TYP)

12" X1" FLAT DRAINS (TYP)

TOE DRAIN
6" PERFORATED PVC
S=0.005 MIN

BUILDING
FFE= 52.25

AD-408
(PROVIDE OUTLET HOOD, SEE NOTE 6)

19'-12" HDPE
S=0.012FT/FT

INV=51.40

DMH-405

INV=47.90'

163'-15" HDPE
S=0.005FT/FT

INV=47.70

8'-12" HDPE
S=0.010FT/FT

AD-411

5'-12" HDPE
S=0.005FT/FT

AD-407
(PROVIDE OUTLET HOOD, SEE NOTE 6)

DUAL 15" HDPE
INV= 49.00

19'-12" HDPE
S=0.005FT/FT

AD-406
(PROVIDE OUTLET HOOD, SEE NOTE 6)

28'-12" HDPE
S=0.005FT/FT

AD-405
(PROVIDE OUTLET HOOD, SEE NOTE 6)

88'-12" HDPE
S=0.006FT/FT

AD-404

CB-405

CONNECT TO WALL DRAIN
INV=58.00

31'-6" SDR 35 PVC
S=0.241FT/FT

INV=48.

(PROVID
HOOD, SE

YD-401
RIM: 53.50
INV IN (SE
INV OUT (N

TOE
6" PE
S=0.0

MATCHLINE - SEE SHEET C6.5

21'-24" RCP
S=0.006FT/FT

DMH-107

2.3.0
INV=44.00

RRLS
10'LX14'W
INV=44.00

0.5% (0.5% Subgrade Slope)

0.5% (0.5% Subgrade Slope)

MATCHLINE - SEE SHEET C6.1

Scale: 1"=20'
0 10' 20' 40'

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

Z:_JOBS\23.01_John\23099.01 BMROD MI Home HDS-BIDE Shops III-An-B\1DWGS\1DRAWGS_PLAN.dwg

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
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DAVID L. POTTER
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06.10.25
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PROJECT NO.:	23099.01
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SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 6

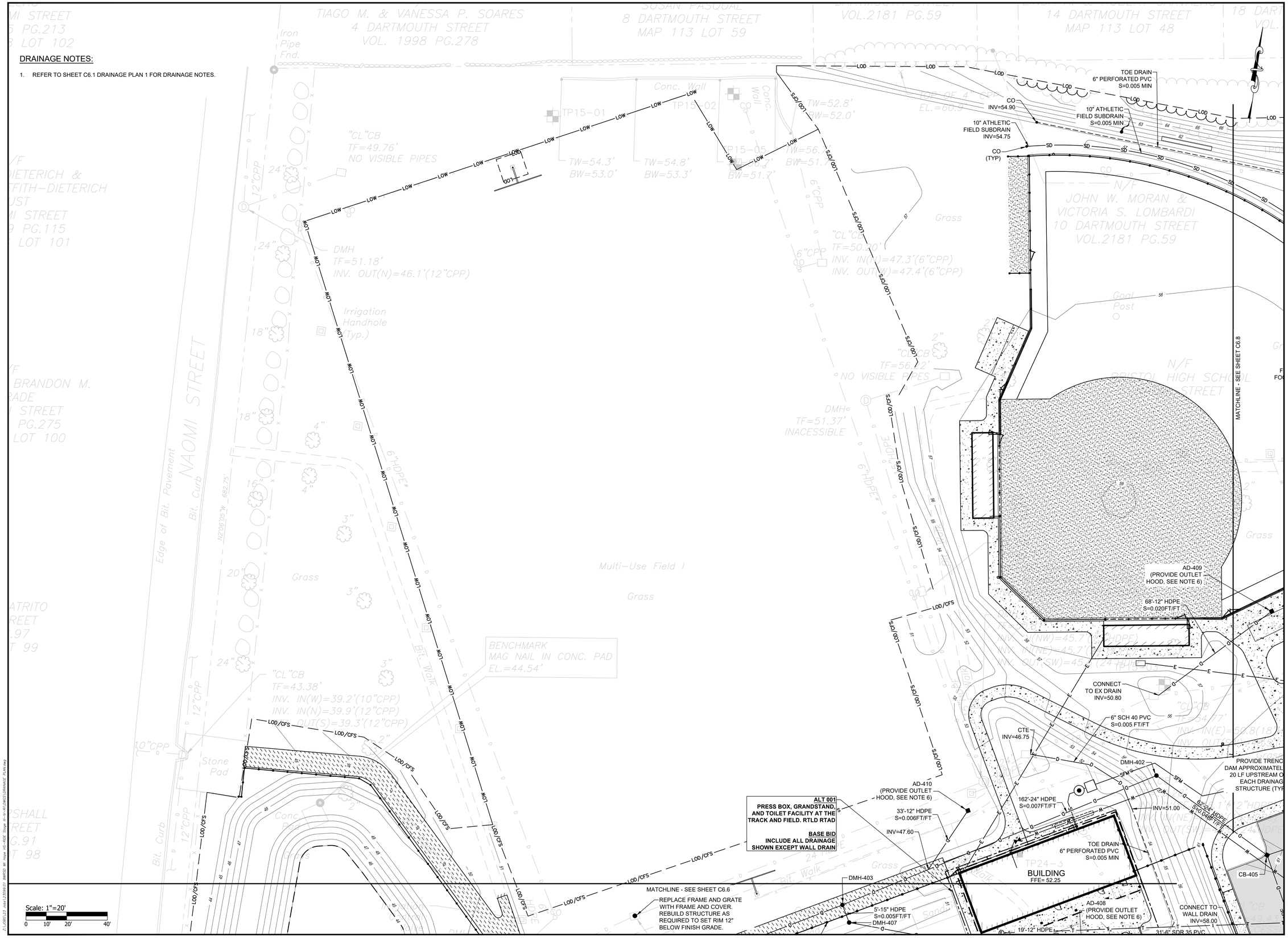
DRAWING NO.:
C6.6

SHEET NO. 46 OF 159

Item C1.

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.



PARE

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PROJECT NO.:	23099.01
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SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DRAINAGE PLAN 7

DRAWING NO.:

C6.7

SHEET NO. 47 OF 159

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

AD-401
AD-402
AD-403 (PROVIDE OUTLET HOOD, SEE NOTE 6)
AD-409 (OUTLET NOTE 6)
AD-301
AD-302
AD-303
AD-305 (PROVIDE OUTLET HOOD, SEE NOTE 6)
CB-401
CB-405
CB-302
CB-301 (PROVIDE OUTLET HOOD, SEE NOTE 6)
DMH-404
DMH-401
DMH-310
DMH-302
DMH-301(OWS)
CO (TYP)
CO INV=55.30
CO INV=60.50
CO INV=54.55
CO INV=54.55
CO INV=54.55
CO INV=54.40
INV=53.80
INV=53.40
INV = 58.30
INV = 58.50
6" ATHLETIC FIELD SUBDRAIN INV=59.10
6" ATHLETIC FIELD SUBDRAIN S=0.005 MIN
10" ATHLETIC FIELD SUBDRAIN INV=54.75
TOE DRAIN 6" PERFORATED PVC S=0.005 MIN
TOE DRAIN 6" PERFORATED PVC S=0.005 MIN
6" ATHLETIC FIELD SUBDRAIN S=0.005 MIN
ATHLETIC FIELD SUBDRAIN INV=57.15
6" PERF PVC SUBDRAIN
6" PERF PVC SUBDRAIN
6" PERFORATED PVC SUBDRAIN S=0.005 MIN
8" TRENCH DRAIN RIM = 58.70 INV = 54.30
6" PERFORATED PVC SUBDRAIN S=0.005 MIN
6" PERFORATED PVC SUBDRAIN S=0.005 MIN
RTLD SLIT DRAINS (TYP)
RTLD SAND CHANNEL DRAIN (TYP)
RTLD SYNTHETIC TURF SYSTEM FOR RECREATIONAL AREA
RTPD ROOF DRAIN INV=57.45
192'-12" HDPE S=0.005FT/FT
198'-12" HDPE S=0.005FT/FT
80'-12" HDPE S=0.006FT/FT
57'-18" HDPE S=0.006FT/FT
86'-18" HDPE S=0.005FT/FT
193'-18" HDPE S=0.005FT/FT
88'-24" HDPE S=0.005FT/FT
61'-24" HDPE S=0.004FT/FT
46'-12" HDPE S=0.048FT/FT
51'-15" HDPE S=0.006FT/FT
28'-15" HDPE S=0.005FT/FT
32'-15" HDPE S=0.006FT/FT
26'-12" HDPE S=0.007FT/FT
48'-12" HDPE S=0.006FT/FT
29'-12" HDPE S=0.007FT/FT
38'-12" RCP S=0.006FT/FT
6'-12" SCH 40 PVC S=0.018FT/FT
81'-6" PVC PERFORATED PIPE S=0.018FT/FT
AUXILIARY DRAIN PIPE INV=58.80
RRA 4'Lx6'W
BIORETENTION AREA 4
QPA
PROVIDE TRENCH DAM APPROXIMATELY 20 LF UPSTREAM OF EACH DRAINAGE STRUCTURE (TYP)
THE CONTRACTOR SHALL FURNISH AND INSTALL FENCE FOOTINGS TO AVOID DRAINAGE AND UTILITY PIPES (TYP)
PROPOSED HIGH SCHOOL BUILDING FFE= 62.90
75' BUFFER ZONE
MATCHLINE - SEE SHEET C6.5
MATCHLINE - SEE SHEET C6.7
MATCHLINE - SEE SHEET C6.9
ONNECT TO WALL DRAIN INV=58.00
35 PVC
Scale: 1"=20'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DRAINAGE PLAN 8

DRAWING NO.:
C6.8
SHEET NO. 48 OF 159

Z:\JOBS\23_jobs\23099.01 BWRSD Mt Hope HS-RIDE Design_In-Ac-80\DWG\DRAINAGE PLAN.dwg

REET VOL.2154 PG.258

DARTMOUTH STREET

N/F
LA MADDEN
TMOUTH STREET
13 LOT 19-27

ZONE X

ZONE AE

A09

Woods

Approximate 20' Wide Easement

A10

N/F
BRISTOL HIGH SCHOOL
NAOMI STREET

MATCHLINE - SEE SHEET C6.8

LOD/CFS

AD-301

A11

SMH
TF=59.89'
FL(NW-S)=54.8'(15"PVC)

A12

A13

JURISDICTIONAL LINE

Irrigation Line As Per Map Ref. #7

10"HDPE As Per Map Ref. #7

A14

6" PERF PVC SUBDRAIN

INV = 58.50

6" PERF PVC SUBDRAIN

A15

Approximate Stream Boundary

Woods

A16

Grass

A17

INV = 57.00

6" PVC
S = 0.005 FT/FT MIN

RIPRAP EDGE

CB-303

6" PERF PVC SUBDRAIN

INV = 57.40

SM

38"-12" RCP
S=0.006FT/FT

WET SWALE
SFCD WITH WIER
ELEV=59.20

SEDIMENT FOREBAY

RS
ELEV=60.50

A18

A19

MATCHLINE - SEE SHEET C6.4

DRAINAGE NOTES:

1. REFER TO SHEET C6.1 DRAINAGE PLAN 1 FOR DRAINAGE NOTES.

Scale: 1"=20'
0 10' 20' 40'

Z:\JOBS\23099.01 Bristol HS Improvements\CAD\Civil\C6.9 DRAINAGE PLAN 9.dwg

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DAVID L. POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
06.10.25

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DRAINAGE PLAN 9

DRAWING NO.:
C6.9
SHEET NO. 49 OF 159

MATCHLINE - SEE SHEET C7.6

MATCHLINE - SEE SHEET C7.2

UNDERGROUND INFILTRATION SYSTEM 01

75' BUFFER ZONE

CHESTNUT STREET

BENCHMARK
MAG NAIL IN CONC. WALK
EL.=38.42'

BENCHMARK
DRILL HOLE IN CONC. WALK
EL.=45.25'

N/F
ERIC CABRAL
10 NAOMI STREET
VOL.2133 PG.19

N/F
ST. MARYS CHURCH
330 WOOD STREET
VOL.85 PG.447
MAP 1 LOT 3

"CL"CB
TF=36.56'
INV. IN(N)=33.4'(15"HDPE)
INV. OUT(SW)=33.5'(12"PVC)
SUMP=29.8'

"C"CB
TF=41.42'
INACCESSIBLE

DMH
TF=41.99'
INV. IN(S)=38.8'(12"RCP)
INV. OUT(W)=36.3'(12"RCP)

PIPE OUTLET(18"CPP)
INV.=43.7'

Scale: 1"=20'
0 10' 20' 40'

UTILITY NOTES:

1. ALL SLOPES PROVIDED ARE FT/FT
2. ALL SEWER MANHOLES SHALL BE 4' DIA. UNLESS NOTED OTHERWISE.
3. REFER TO ELECTRICAL DRAWINGS FOR INFORMATION ON ELECTRIC AND TEL/DATA DUCT BANKS AND STRUCTURES. ALL ELECTRICAL FACILITIES DISPLAYED FOR REFERENCE ONLY.
4. CONTRACTOR SHALL FURNISH AND INSTALL ALL BENDS, TEES, AND FITTINGS ON WATER MAINS AS SERVICES AS REQUIRED.
5. REFER TO IRRIGATION DRAWINGS FOR INFORMATION ON YARD HYDRANTS AND APPURTENANCES.
6. REFER TO "NOTES" FOR ADDITIONAL NOTES.

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
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SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

PARE

OWNER/APPLICANT:
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235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DAVID L POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

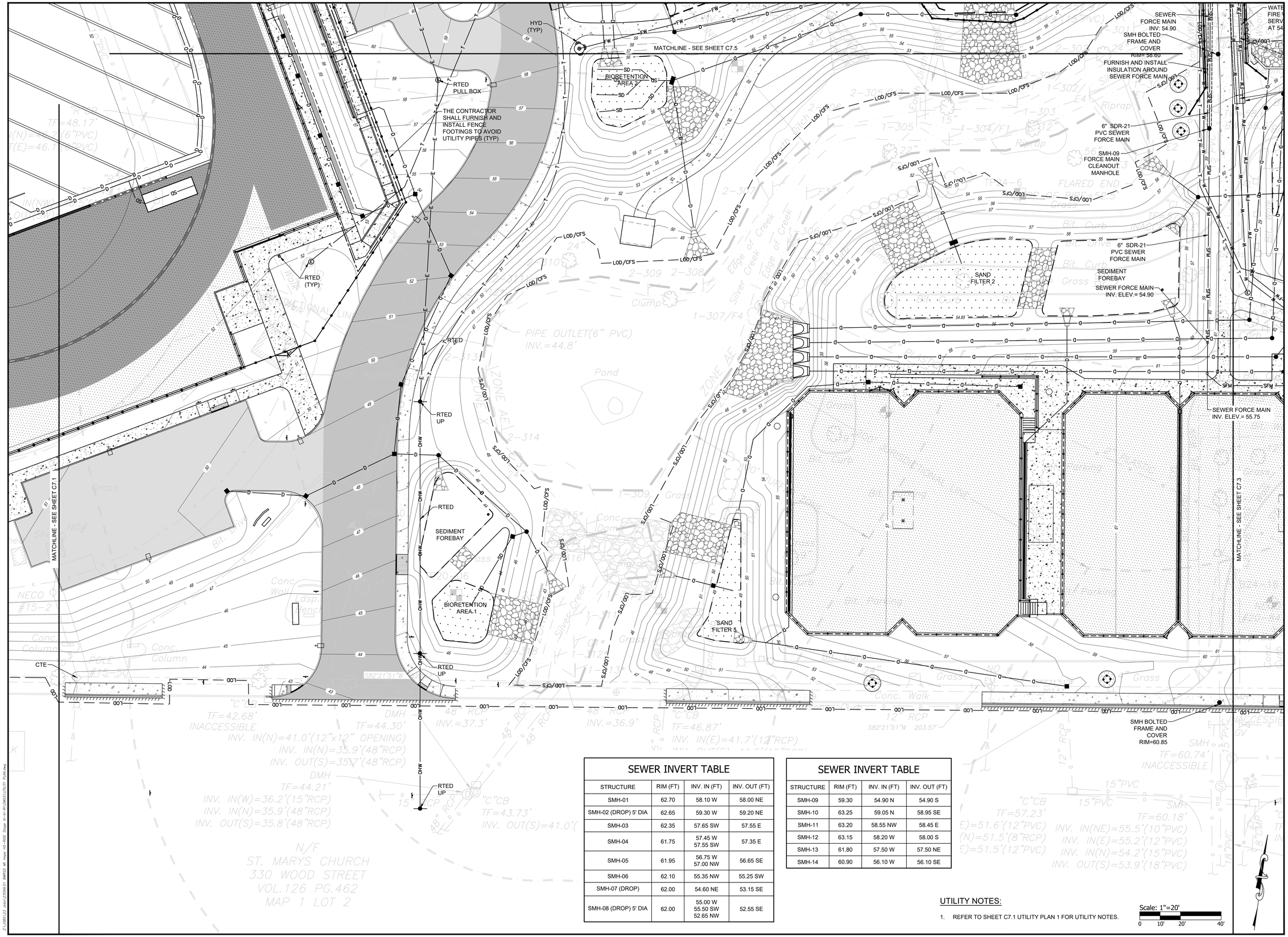
DRAWING TITLE:
UTILITY PLAN 1

DRAWING NO.:
C7.1

SHEET NO. 50 OF 159

Z:\JOBS\23.1 Jobs\23099.01 BWRSD\CAD Files\Civil\Plans\C7.1 UTILITY PLAN.dwg

Item C1.



SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
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SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
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SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
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SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

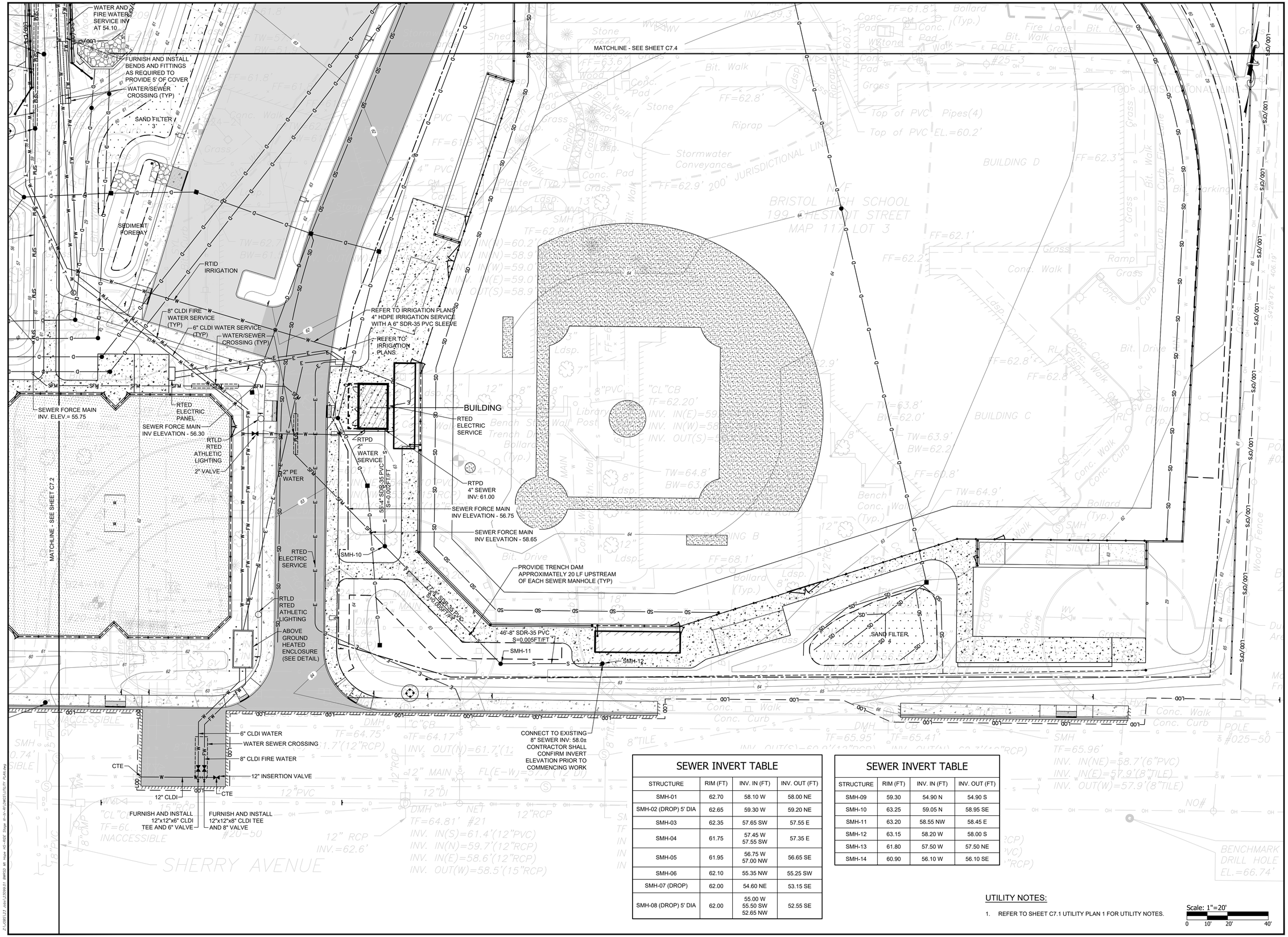
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 2

DRAWING NO.:
C7.2

SHEET NO. 51 OF 159

Item C1.



SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
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SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

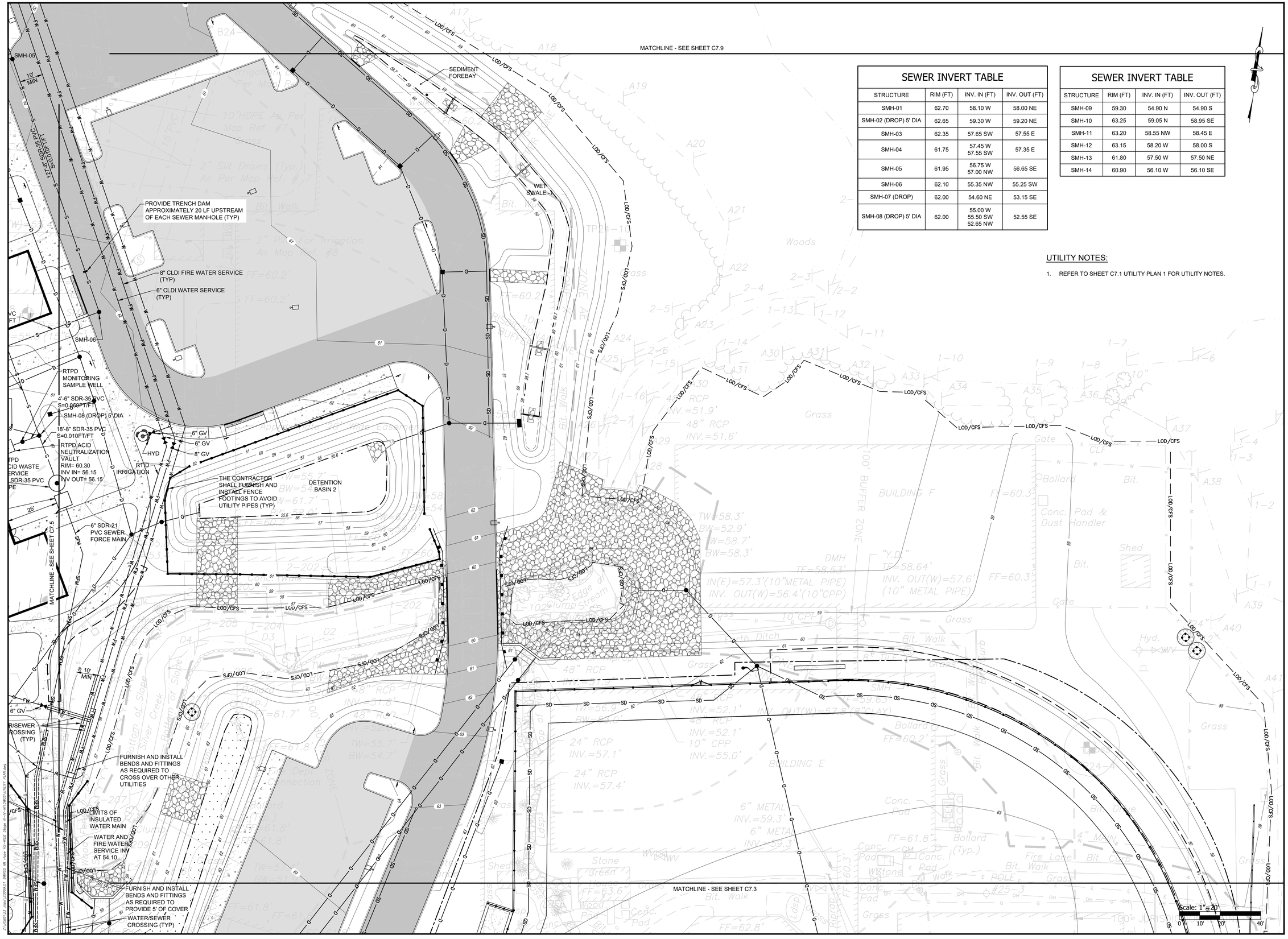
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 3

DRAWING NO.:
C7.3

SHEET NO. 52 OF 159

Item C1.



SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 4

DRAWING NO.:
C7.4

SHEET NO. 53 OF 159

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

MATCHLINE - SEE SHEET C7.8
MATCHLINE - SEE SHEET C7.6
MATCHLINE - SEE SHEET C7.2
MATCHLINE - SEE SHEET C7.4

PROPOSED HIGH SCHOOL BUILDING
FFE= 62.90

PROPOSED HIGH SCHOOL BUILDING
FFE= 60.90

RTED PULL BOX
HYD
6" GV
4" CLDI WATER SERVICE
6"x8" REDUCER
RTED EV CHARGING STATIONS
RTED TELECOM SERVICE
RTED ELECTRIC PANEL
RTED PULL BOX
HYD (TYP)
SEDIMENT FOREBAY
BIORETENTION AREA 2
RTED PULL BOX
6" FIRE WATER SERVICE
6" DOMESTIC WATER SERVICE
RTPD 3" GREASE TRAP VENT INV: 59.50
RTPD 6" SEWER SERVICE INV: 58.16
RTPD 4" GREASE TRAP SERVICE INV: 59.50
SMH-01
SMH-02 (DROP) 5' DIA
RTPD 1,500 GALLON GREASE INTERCEPTOR
SMH-03
37'-6" PVC S=0.009FT/FT
51'-6" SDR-35 PVC S=0.011FT/FT
SMH-04
15'-6" SDR-35 PVC S=0.045FT/FT
SMH-05
RTPD MONITORING SAMPLE WELL
6" INV:57.00
17'-6" SDR-35 PVC S=0.040FT/FT
BIORETENTION AREA 4
10' MIN
127'-6" SDR-35 PVC S=0.015FT/FT
RTPD AW SERVICE 4" SDR-35 PVC PIPE INV=59.56
RTPD 6" SEWER SERVICE
SMH-07 (DROP)
SMH-06
44'-6" SDR-35 PVC S=0.013FT/FT
42'-6" SDR-35 PVC S=0.011FT/FT
6" SDR-35 PVC S=0.01 FT/FT MIN
RTPD MONITORING SAMPLE WELL
4" SDR-35 PVC
RTPD AW SERVICE 4" SDR-35 PVC PIPE INV=59.16
25'-8" SDR-35 PVC S=0.048FT/FT
CO (TYP)
4'-6" SDR-35 PVC S=0.069FT/FT
SMH-08 (DROP)
18'-8" SDR-35 PVC S=0.010FT/FT
RTPD 6" SEWER SERVICE INV: 56.33
RTPD 4" ACID WASTE SERVICE INV: 56.30
RTPD ACID NEUTRALIZATION VAULT RIM= 60.30 INV IN= 56.15 INV OUT= 56.15
RTPD ACID WASTE SERVICE 4" SDR-35 PVC PIPE
RTPD SEWER LIFT STATION 8' DIA WET WELL RIM= 60.40 INV IN= 52.35 INV OUT= 54.90
RTPD SEWER LIFT STATION - VALVE VAULT RIM= 60.55 INV IN= 54.90 INV OUT= 54.90
26'
6" SDR PVC SE FORCE
6" CLDI FIRE WATER SERVICE
10' MIN
6" GV
FURNISH AND INSTALL INSULATION AROUND SEWER FORCE MAIN
WATER/SEWER CROSSING (TYP)
INFILTRATION BASIN 1
INSULATED WATER SERVICE
SEWER FORCE MAIN INV: 54.90
SMH BOLTED FRAME AND COVER RIM= 58.60
FURNISH AND INSTALL INSULATION AROUND SEWER FORCE MAIN
LOD/CFS
LOD/CFS LIMITS INSULA WATER
WATE FIRE SERV AT 54
Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
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235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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DAVID L POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER
CIVIL

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

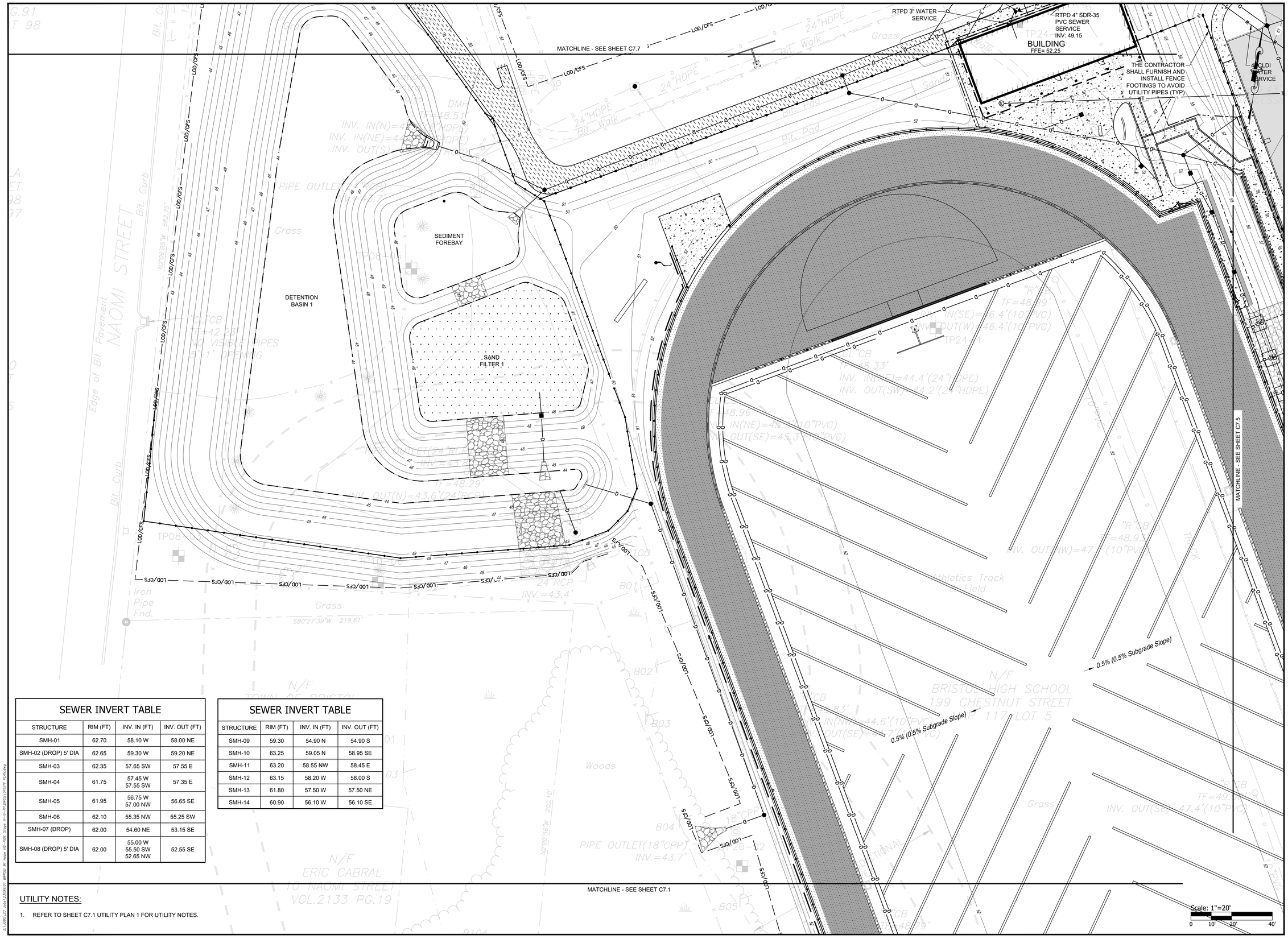
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 5

DRAWING NO.:
C7.5

SHEET NO. 54 OF 159

Z:_JOBS\1.23 Jobs\23099.01 BWRSD\2 Wip Xrefs #05-RIDE Ships #8-Jun-#5-DWGS\1 UTILITY PLAN.dwg



SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

Item C1.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

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0" 1"
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MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 6

DRAWING NO.:
C7.6

SHEET NO. 55 OF 159

SEWER INVERT TABLE

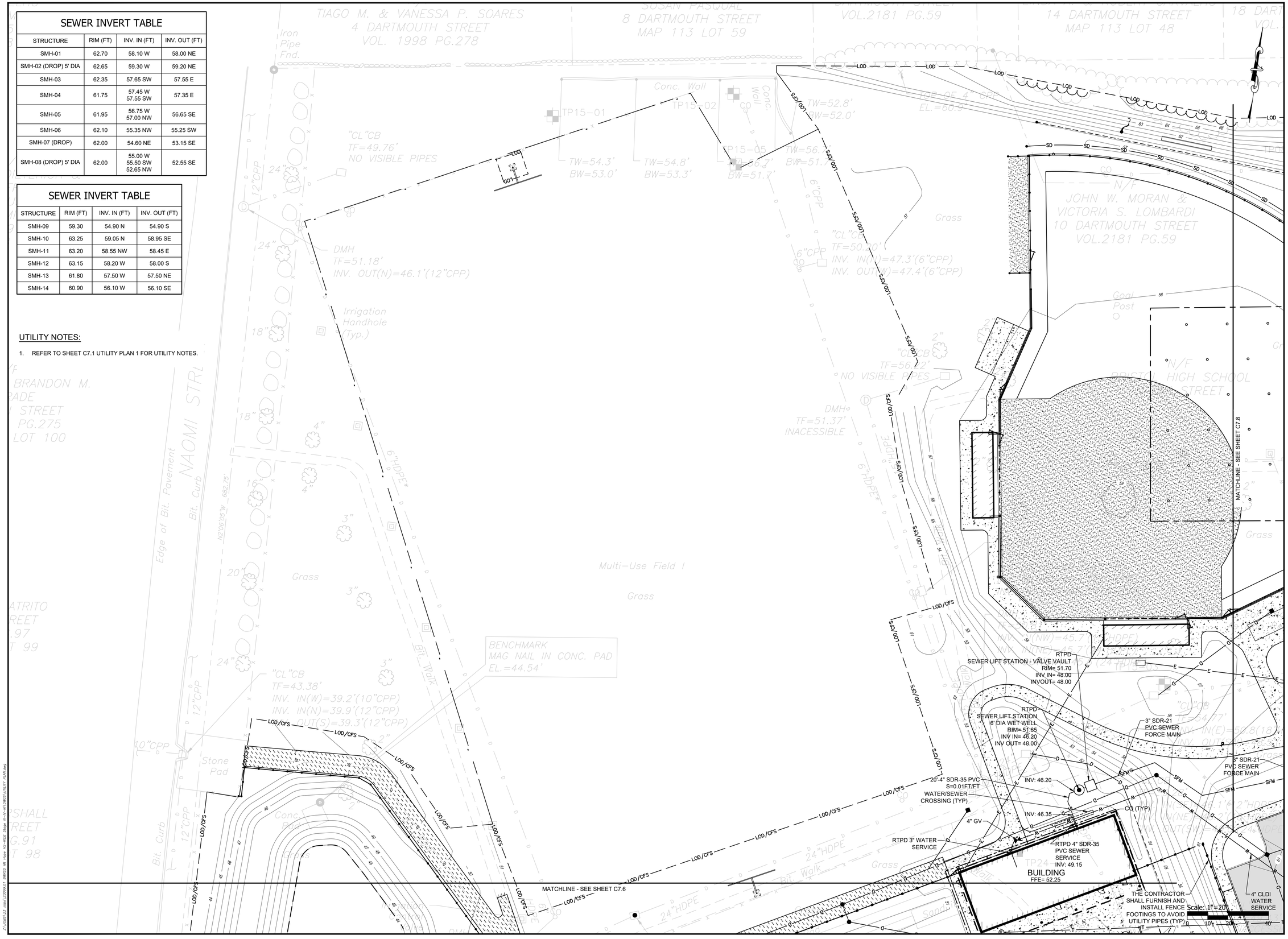
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER
(CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

UTILITY PLAN 7

DRAWING NO.:
C7.7

SHEET NO. 56 OF 159

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SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
SMH-02 (DROP) 5' DIA	62.65	59.30 W	59.20 NE
SMH-03	62.35	57.65 SW	57.55 E
SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

ALT-005
RTMD GEOTHERMAL WELL FIELD, GEOTHERMAL WELLS, GEOTHERMAL VAULT, AND GEOTHERMAL UTILITY CONNECTION

BASE BID
RTLD LOAM AND SEED

PROPOSED HIGH SCHOOL BUILDING
FFE= 62.90

MATCHLINE - SEE SHEET C7.7

MATCHLINE - SEE SHEET C7.9

MATCHLINE - SEE SHEET C7.5

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
Exp. 10.25

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 8

DRAWING NO.:
C7.8
SHEET NO. 57 OF 159

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SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-01	62.70	58.10 W	58.00 NE
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SMH-04	61.75	57.45 W 57.55 SW	57.35 E
SMH-05	61.95	56.75 W 57.00 NW	56.65 SE
SMH-06	62.10	55.35 NW	55.25 SW
SMH-07 (DROP)	62.00	54.60 NE	53.15 SE
SMH-08 (DROP) 5' DIA	62.00	55.00 W 55.50 SW 52.65 NW	52.55 SE

SEWER INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
SMH-09	59.30	54.90 N	54.90 S
SMH-10	63.25	59.05 N	58.95 SE
SMH-11	63.20	58.55 NW	58.45 E
SMH-12	63.15	58.20 W	58.00 S
SMH-13	61.80	57.50 W	57.50 NE
SMH-14	60.90	56.10 W	56.10 SE

UTILITY NOTES:

1. REFER TO SHEET C7.1 UTILITY PLAN 1 FOR UTILITY NOTES.

Scale: 1"=20'
0 10' 20' 40'

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	1"=20'
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
UTILITY PLAN 9

DRAWING NO.:
C7.9
SHEET NO. 58 OF 159

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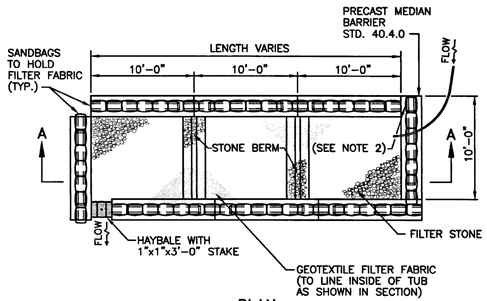
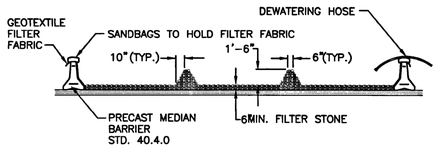


PLAN



SECTION

NOTS:
1. SHALL BE IN ACCORDANCE WITH SECTION 208 OF THE R.I. STANDARD SPECIFICATIONS.
2. PROVIDE ADDITIONAL SAND BAGS AS REQUIRED TO FILL SPACE BETWEEN ADJACENT BARRIERS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

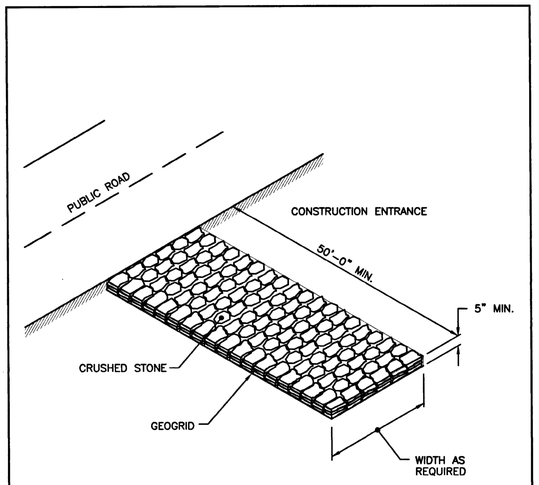
REVISIONS		
NO.	BY	DATE

DEWATERING BASIN

JUNE 15, 1998 — ISSUE DATE

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION

R.I. STANDARD 9.7.0



NOTE:
SHALL BE IN ACCORDANCE WITH SECTION 211 OF THE R.I. STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

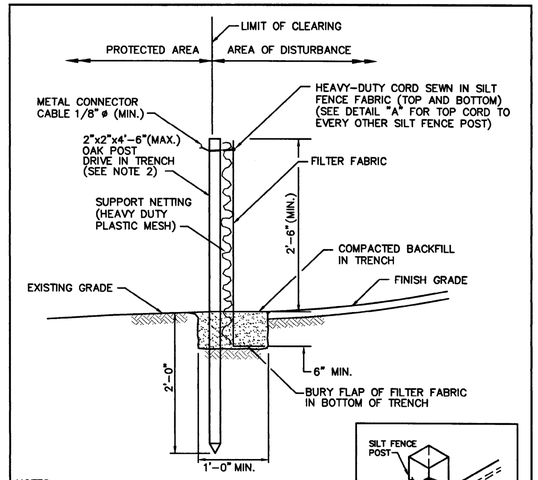
REVISIONS		
NO.	BY	DATE

CONSTRUCTION ACCESS

JUNE 15, 1998 — ISSUE DATE

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION

R.I. STANDARD 9.9.0



DETAIL "A"

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
2. 2"x2"x4'-6"(MAX.) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAX.) O.C. IN WETLAND AREAS AND 4'-0" (MAX.) O.C. IN WETLAND RAVINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
3. 1"x1"x4'-6"(MIN.) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
4. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

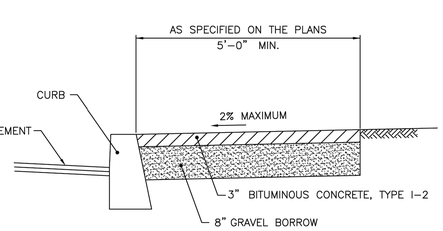
REVISIONS		
NO.	BY	DATE

SILT FENCE DETAIL

JUNE 15, 1998 — ISSUE DATE

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION

R.I. STANDARD 9.2.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. FOR CURB SETTING DETAIL REFERENCE STD. 7.6.0.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

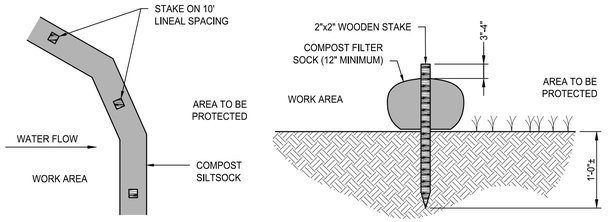
REVISIONS		
NO.	BY	DATE
1	MLP	3/1/05
2	MLP	06/01/10

BITUMINOUS CONCRETE SIDEWALK

JUNE 15, 1998 — ISSUE DATE

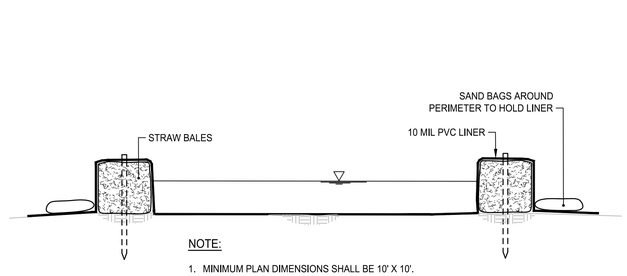
CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION

R.I. STANDARD 43.2.0



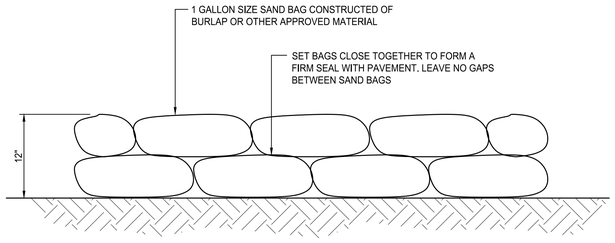
NOTES:
1. COMPOST/ SOIL/ ROCK/ SEED FILL TO MEET APPLICATION REQUIREMENTS.
2. COMPOST MATERIAL TO BE REMOVED OR DISPERSED ON SITE AS DETERMINED BY ENGINEER.
3. IF SOCK NETTING MUST BE JOINED, FIT BEGINNING OF NEW SOCK OVER END OF OLD SOCK, OVERLAPPING BY 2 FEET AND STACK OVERLAP. IF SOCK NETTING IS NOT JOINED, OVERLAP OLD SOCK WITH NEW ONE BY MINIMUM OF 2 FEET.

COMPOST FILTER SOCK DETAIL
NOT TO SCALE

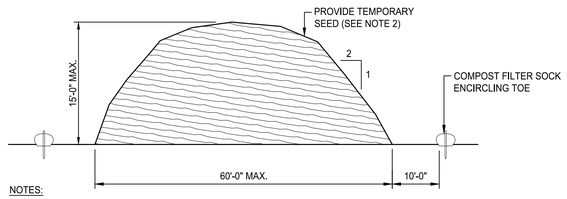


NOTE:
1. MINIMUM PLAN DIMENSIONS SHALL BE 10' X 10'.

CONCRETE WASHOUT FACILITY
NOT TO SCALE

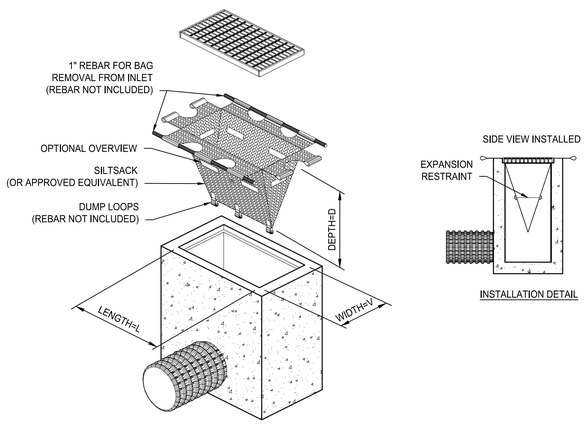


SAND BAG EROSION CONTROL BARRIER
NOT TO SCALE

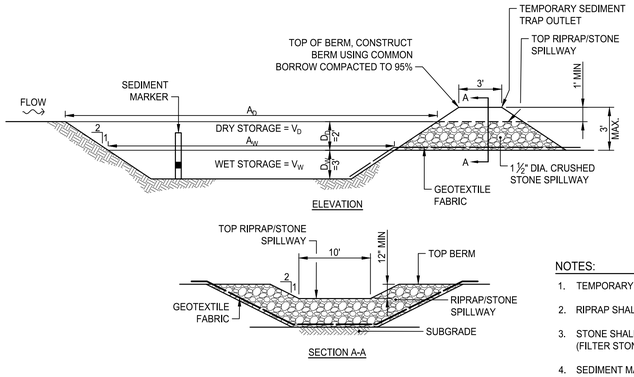


NOTES:
1. STOCKPILE AREA SHALL NOT EXCEED SPECIFIED DIMENSIONS WITHOUT APPROVAL FROM ENGINEER.
2. STOCKPILED ERODIBLE MATERIAL THAT WILL NOT BE USED FOR GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEED IMMEDIATELY FOLLOWING PLACEMENT. USE RIDOT STD. M.18.10.5 SEED MIX.

ERODIBLE MATERIAL STOCKPILE
NOT TO SCALE



TEMPORARY INLET PROTECTION
NOT TO SCALE



TST #	L_W (FT)	W_W (FT)	A_W (SF)	V_W (CF)	V_D (CF)	TOTAL STORAGE $V_W + V_D$ (CF)
TST-1	85	45	3825	9754	8754	18,260
TST-2	61	30	1830	4667	4452	9119
TST-3	70	35	2450	6247	5804	12,052
TST-4	70	30	2100	5355	5064	10,419
TST-5	70	30	2100	5355	5064	10,419
TST-6	90	45	4050	10,327	9244	19,572
TST-7	90	45	4050	10,327	9244	19,572
TST-8	85	40	3400	8670	7864	16,534
TST-9	30	25	750	1913	2004	3,917

NOTES:
1. TEMPORARY SEDIMENT TRAPS SHALL BE CLEANED OR REMOVED EVERY 6 MONTHS.
2. RIPRAP SHALL MEET RIDOT STANDARD SPECIFICATION M.10.03.2.
3. STONE SHALL MEET RIDOT STANDARD SPECIFICATION M.01.09 TABLE I, COLUMN V (FILTER STONE).
4. SEDIMENT MARKER SHALL BE INSTALLED SUCH THAT TOP OF BLACK ENAMEL BAND IS 1.5' FROM THE BOTTOM OF THE SEDIMENT TRAP.

TEMPORARY SEDIMENT TRAP DETAIL
NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER — No. 8665 — REGISTERED PROFESSIONAL ENGINEER (CIVIL) — 06.10.25

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

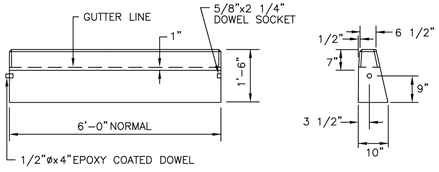
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

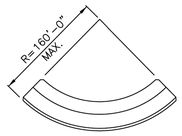
DRAWING TITLE:
DETAILS 1

DRAWING NO.:
C8.1

SHEET NO. 59 OF 159

Z:\...\23099.01 Mt Hope HS-RIDOT Slope Re-Grade\CAD\C8.1_DETAILS.dwg





CIRCULAR CURB

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0".
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0"RADIUS.
5. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

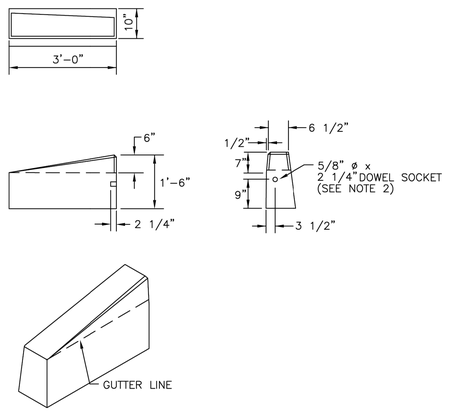
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

PRECAST CONCRETE CURB

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.1.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION, FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ø x 4" EPOXY COATED DOWEL.
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
5. LEFT AND RIGHT SECTIONS SHALL BE INSTALLED AS REQUIRED.

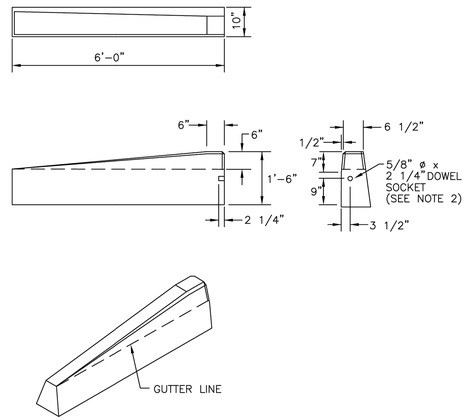
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05
2	MLP	06/01/10

3'-0" PRECAST CONCRETE TRANSITION CURB

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.1.1



NOTES:
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2. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION. FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ø x 4" EPOXY COATED DOWEL.
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

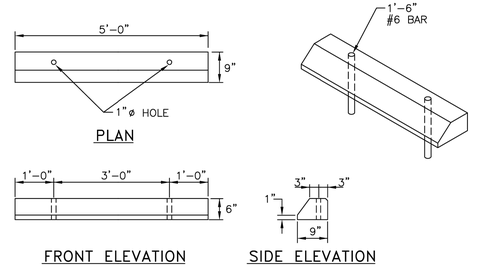
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

6'-0" PRECAST CONCRETE TRANSITION CURB

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.1.2



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. ALL EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
3. ALL SURFACES TO HAVE A SPONGE FLOAT FINISH.

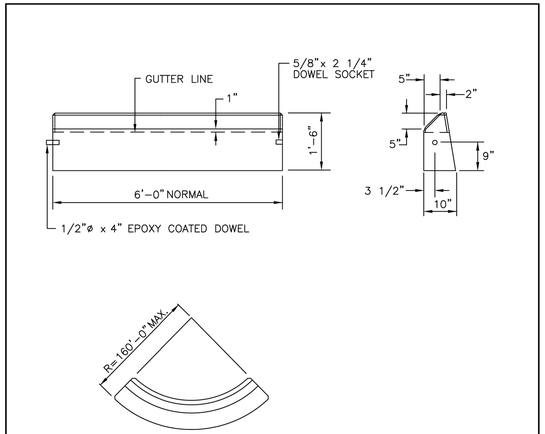
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

PRECAST CONCRETE CAR STOPS

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.2.4



CIRCULAR CURB

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR PIECES TO BE 3'-0".
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
5. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.

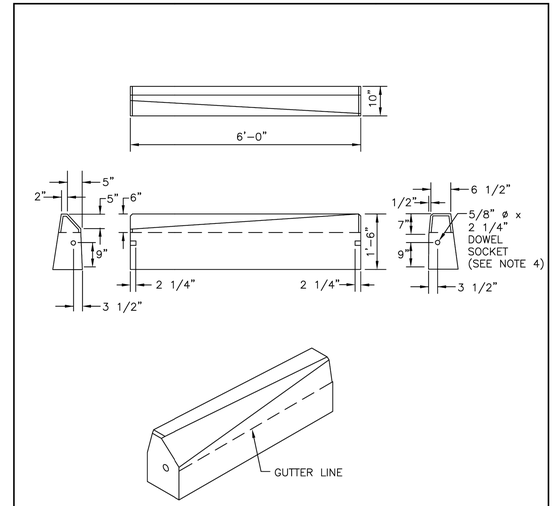
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

PRECAST CONCRETE SLOPED FACE CURB

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.2.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
3. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
4. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION. FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ø x 4" EPOXY COATED DOWEL.

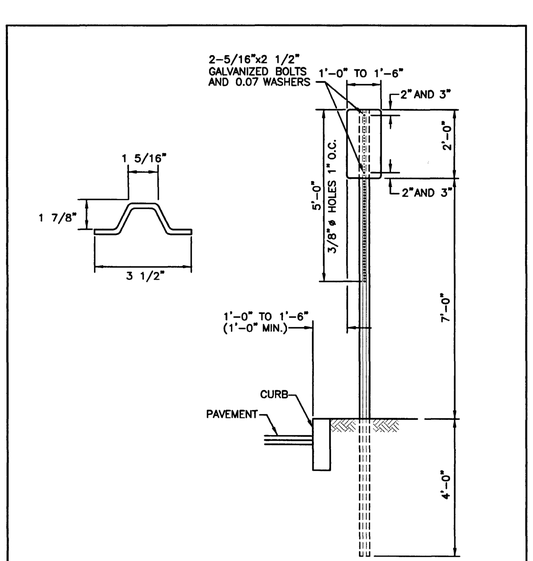
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

PRECAST CONCRETE TRANSITION CURB (VERTICAL FACE TO SLOPED FACE)

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.2.2



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE STANDARD SPECIFICATIONS.
2. PARKING SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOR MORE THAN 45° WITH A LINE PARALLEL TO FLOW OF TRAFFIC, 1'-6" (1'-0" MIN.) FROM EDGE OF CURB FACE.

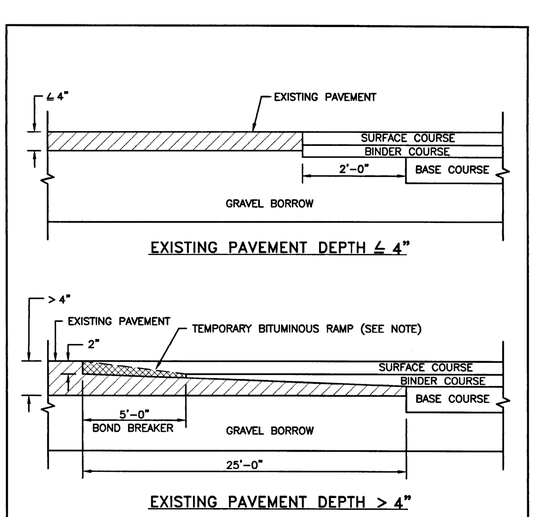
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

PARKING SIGN MOUNTING DETAIL

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 24.6.0



NOTE:
A BOND BREAKER (TAPERED OR EQUIVALENT) WILL BE PLACED 5'-0" FROM THE JOINT AND COVERED WITH THE BINDER COURSE AS THE TEMPORARY RAMP. PRIOR TO PLACING THE SURFACE COURSE, THE BINDER COURSE AND BOND BREAKER WILL BE REMOVED.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

TRANSVERSE PAVEMENT CUT AND MATCH

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 47.1.1

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

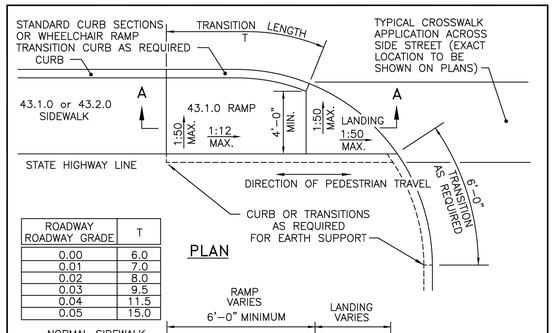
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 2

DRAWING NO.:
C8.2

SHEET NO. 60 OF 159

Z:_JOBS\23099.01 Mt Hope HS-RIDE Stage III-IV-V\01 DWGS\DETAILS.dwg



ROADWAY ROADWAY GRADE	T
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. THIS DETAIL IS TO BE USED ONLY WHEN STATE RIGHT-OF-WAY IS LIMITED TO BACK OF SIDEWALK, AND SIDEWALK IS NARROW WITH NO PEDESTRIAN TRAFFIC FROM SIDE STREET.
3. WHEN ANY OBSTRUCTION LOCATED IN THE SIDEWALK FALLS WITHIN A CROSSWALK AREA, IF POSSIBLE, THE OBSTRUCTION SHALL BE PLACED SUCH THAT IT FALLS OUTSIDE OF THE RAMP.
4. AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK, AND IT IS TO BE CENTERED WHENEVER POSSIBLE.
5. DRAINAGE FACILITIES ARE TO BE LOCATED UP-GRADE OF ALL WHEELCHAIR RAMPS.
6. LOCATION OF WHEELCHAIR RAMPS IS AS SHOWN ON CONTRACT DRAWINGS.
7. ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
8. WHERE THE ROAD PROFILE EXCEEDS 5% THE TRANSITION LENGTH (T) SHALL BE EIGHTEEN FEET (18'-0").
9. THE ENTRANCE OF THE WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
10. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0"(GREATER LENGTHS PREFERRED).
11. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

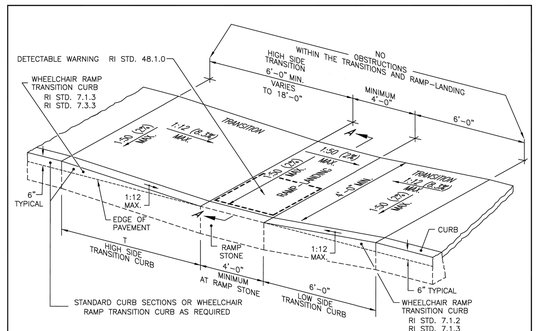
REVISIONS		
NO.	BY	DATE
1	MLP	Dec 2005
2	MLP	Sep 2012

WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS

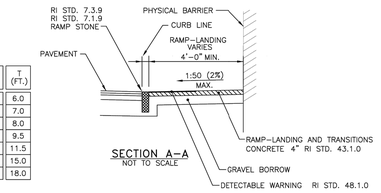
CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 43.3.1

NOTES:
1. FOR ALL LOCATIONS, DETECTABLE WARNING PANELS SHALL BE INSTALLED IN ACCORDANCE WITH LANDSCAPE DRAWINGS AND SPECIFICATION 321212 CONCRETE PAVING.



ISOMETRIC VIEW
NOT TO SCALE



ROADWAY PROFILE GRADE	T (FT.)
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0
> 0.05	18.0

SECTION A-A
NOT TO SCALE

NOTES:
1. THIS DETAIL MAY BE USED WHEN A PHYSICAL BARRIER IS PRESENT AND THERE IS INSUFFICIENT ROOM TO PROPERLY CONSTRUCT AN ADA ACCESSIBLE RAMP AND LANDING; A TECHNICAL INFEASIBILITY FINDING IS REQUIRED.
2. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE RI STANDARD SPECIFICATIONS.
3. THE RAMP-LANDING AND TRANSITIONS SHALL BE FREE OF OBSTRUCTIONS.
4. LOCATION OF THE RAMP-LANDING IS AS SHOWN ON CONTRACT DRAWINGS.
5. AN UNOBSTRUCTED PEDESTRIAN ACCESS ROUTE (PATH OF TRAVEL) WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.
6. THE ENTRANCE OF THE RAMP-LANDING SHALL BE FLUSH WITH THE PAVEMENT.
7. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0"(GREATER LENGTHS PREFERRED).
8. ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
9. DETECTABLE WARNINGS TO BE PAID FOR UNDER SECTION 942 OF THE RI STANDARD SPECIFICATIONS

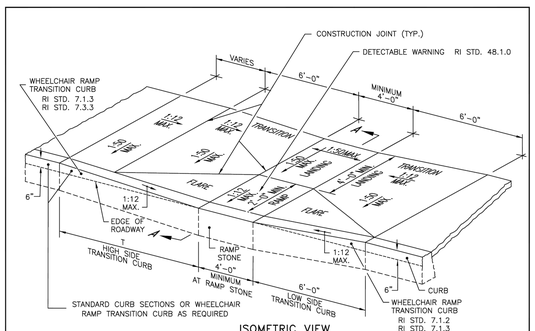
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

RAMP-LANDING FOR NARROW SIDEWALK

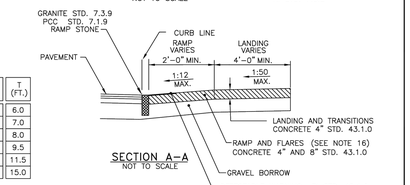
CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — MARCH 31, 2015 ISSUE DATE

R.I. STANDARD 43.3.2

NOTES:
1. FOR ALL LOCATIONS, DETECTABLE WARNING PANELS SHALL BE INSTALLED IN ACCORDANCE WITH LANDSCAPE DRAWINGS AND SPECIFICATION 321212 CONCRETE PAVING.



ISOMETRIC VIEW
NOT TO SCALE



ROADWAY PROFILE GRADE	T (FT.)
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0

SECTION A-A
NOT TO SCALE

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE RI STANDARD SPECIFICATIONS.
2. WHEN ANY OBSTRUCTION LOCATED IN THE SIDEWALK FALLS WITHIN A CROSSWALK AREA, THE WHEELCHAIR RAMP SHALL BE PLACED SUCH THAT THE OBSTRUCTION FALLS OUTSIDE OF THE RAMP.
3. AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK, AND IT IS TO BE CENTERED WHENEVER POSSIBLE.
4. DRAINAGE FACILITIES ARE TO BE LOCATED UP-GRADE OF ALL WHEELCHAIR RAMPS.
5. LOCATION OF WHEELCHAIR RAMPS IS AS SHOWN ON CONTRACT DRAWINGS.
6. IN NO INSTANCE SHALL THE SIDEWALK CROSS SLOPE EXCEED 1:50 EXCEPT WITHIN THE RAMP AREA.
7. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.
8. THE WHEELCHAIR RAMP SLOPE AND SIDE SLOPES (TRANSITIONS), MUST NOT BE STEEPER THAN 1:12. HOWEVER, THESE SLOPES MAY BE FLATTER THAN 1:12 WHEN WARRANTED BY SURROUNDING CONDITIONS.
9. WHERE THE ROAD PROFILE EXCEEDS 5% THE HIGH SIDE TRANSITION LENGTH (T) SHALL BE EIGHTEEN FEET (18'-0").
10. IN NO CASE, WHERE A STOP LINE IS WARRANTED, SHALL A RAMP BE PLACED BEHIND THE STOP LINE.
11. THE ENTRANCE OF THE WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
12. THE WHEELCHAIR RAMP SHALL BE CENTERED RADIALLY, OPPOSITE THE RADIUS POINT WHEN POSSIBLE.
13. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).
14. ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
15. DETECTABLE WARNINGS TO BE PAID FOR UNDER SECTION 942 OF THE RI STANDARD SPECIFICATIONS
16. 8" CONCRETE DEPTH FOR RADIUS WHEELCHAIR RAMPS ONLY. USE 4" DEPTH FOR TANGENT (MID-BLOCK) LOCATIONS.

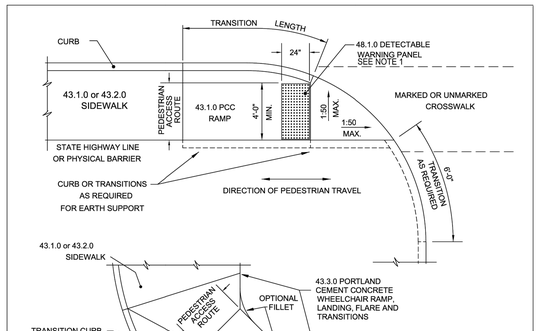
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Oct 2005
2	MLP	Jun 2008
3	MLP	Sep 2012

WHEELCHAIR RAMP

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 43.3.0



NOTES
1. CONTRACTOR SHALL PROVIDE DETECTABLE WARNING PANELS. REFER TO LANDSCAPE SPECIFICATION 321313 CONCRETE PAVING FOR PANEL PRODUCT SPECIFICATIONS.

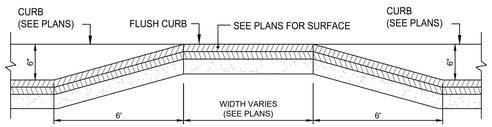
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 2005
2	MLP	Sep 2012

DETECTABLE WARNING PANEL PLACEMENT

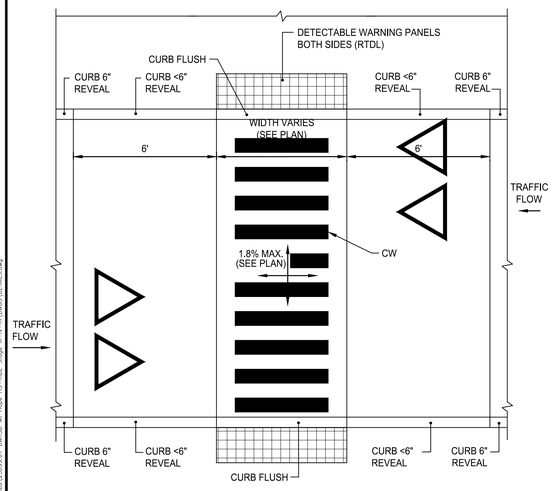
CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 48.1.0M

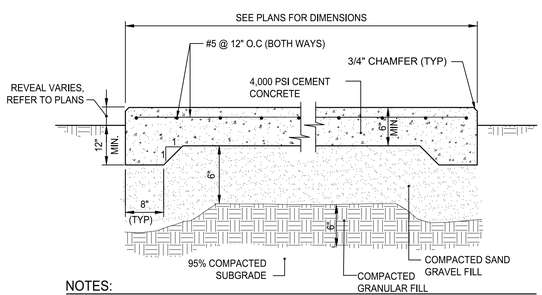


NOTE:
SPEED TABLE TO BE PAINTED WITH WHITE EPOXY RESIN PAVEMENT MARKING

SPEED TABLE SECTION DETAIL
NOT TO SCALE

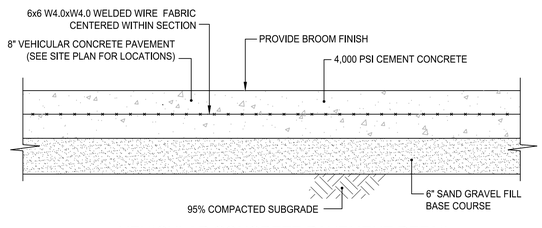


SPEED TABLE PLAN DETAIL
NOT TO SCALE

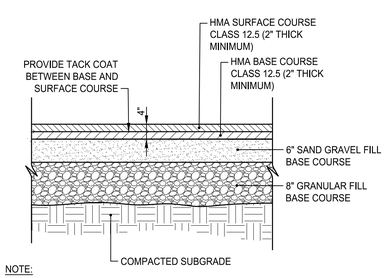


NOTES:
1. REINFORCING TO BE #5 GRADE 60 BARS AND SHALL CONFORM TO ASTM STANDARD A-615 OF THE LATEST DATA. REINFORCING RODS TO BE LOCATED IN THE CENTER OF THE SLAB, WITH A MINIMUM OF 3" CLEARANCE FROM FACE OF CONCRETE.
2. CONTRACTOR SHALL COORDINATE LOCATIONS OF OPENINGS, FENCE POSTS, OR OTHER FEATURES IN SLAB.
3. CONTRACTOR SHALL PROVIDE 8" MIN. CONCRETE PAD THICKNESS WITH 12" CONCRETE HAUNCH AT THE HEATED ENCLOSURE CONCRETE PAD.

CEMENT CONCRETE PAD
NOT TO SCALE

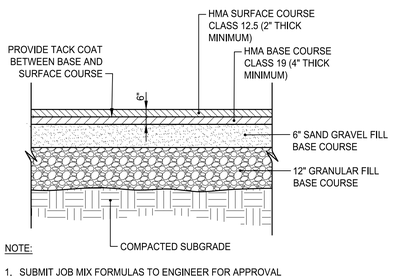


VEHICULAR CONCRETE PAVEMENT DETAIL
NOT TO SCALE



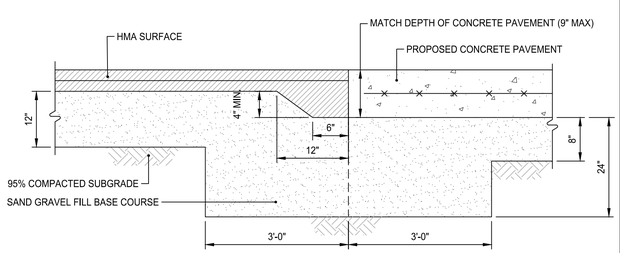
NOTE:
1. SUBMIT JOB MIX FORMULAS TO ENGINEER FOR APPROVAL PRIOR TO PLACEMENT.

HOT MIX ASPHALT PAVEMENT
NOT TO SCALE

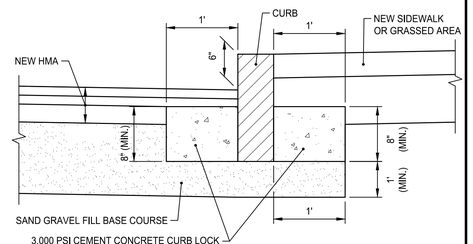


NOTE:
1. SUBMIT JOB MIX FORMULAS TO ENGINEER FOR APPROVAL PRIOR TO PLACEMENT.

HEAVY DUTY HOT MIX ASPHALT PAVEMENT
NOT TO SCALE



ASPHALT TURNDOWN DETAIL
NOT TO SCALE



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. PROVIDE CEMENT CONCRETE CURB LOCK ON ALL CURBS

CURB SETTING DETAIL
NOT TO SCALE

Z:\JOBS\23.01 John\23-01099\23-01099-01.dwg(3D) Mar 10, 2025 - 10:45:40AM Skype ID:live:.cid.0b9f3513d2f4c5.dwg

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
06.10.25

REVISIONS:

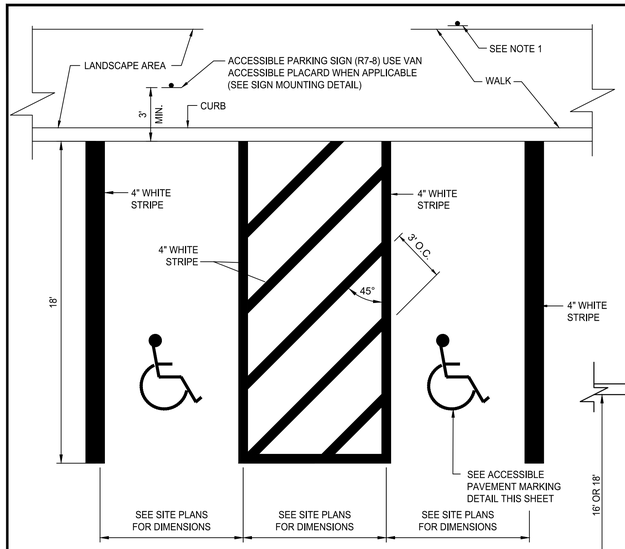
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 3

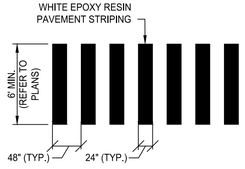
DRAWING NO.:
C8.3

SHEET NO. 61 OF 159

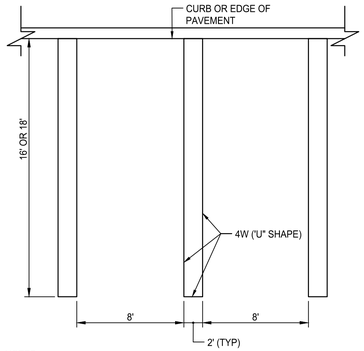


NOTES:
1. WHERE STALLS ABUT SIDEWALK, PARKING SIGNS SHOULD BE PLACED AT BACK EDGE OF SIDEWALK.
2. ALL PAVEMENT MARKINGS TO BE EPOXY RESIN.

ACCESSIBLE PARKING STALLS @ 90°
NOT TO SCALE

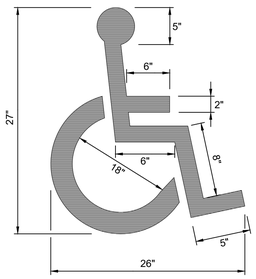


TYPICAL CROSSWALK DETAIL
NOT TO SCALE



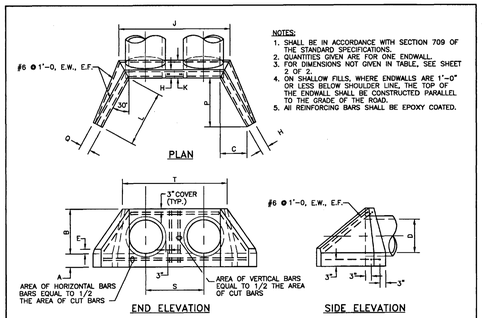
NOTES:
1. ALL PARKING PAVEMENT MARKINGS SHALL BE EPOXY RESIN, CONFORMING TO THE SPECIFICATIONS.
2. PAVEMENT MARKINGS SHALL BE INSTALLED PER SEC. 28-251.2.B OF THE TOWN OF BRISTOL CODE OF ORDINANCES.
3. REFER TO GENERAL PLANS FOR PAVEMENT MARKING TEXT WITHIN COMPACT PARKING SPACES. PAVEMENT MARKINGS SHALL USE 12" HEIGHT EPOXY RESIN. PAVEMENT MARKING LETTERS SHALL BE CENTERED IN THE STALL AND ALIGNED WITH THE END OF THE STALL STRIPING.

TYPICAL PARKING STALL
NOT TO SCALE



NOTE:
ACCESSIBLE PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE RULES & REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT.

ACCESSIBLE PAVEMENT MARKING
NOT TO SCALE



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 709 OF THE STANDARD SPECIFICATIONS.
2. QUANTITIES GIVEN ARE FOR ONE ENDWALL.
3. FOR DIMENSIONS NOT GIVEN IN TABLE, SEE SHEET 2 OF 2.
4. ON SHALLOW FILLS, WHERE ENDWALLS ARE 1'-0" OR LESS BELOW SHOULDER LINE, THE TOP OF THE ENDWALL SHALL BE CONSTRUCTED PARALLEL TO THE GRADE OF THE ROAD.
5. All REINFORCING BARS SHALL BE EPOXY COATED.

FOR CORRUGATED METAL PIPE

DIAMETER OF PIPE	S	T	FILL SLOPE 1 1/2:1 CU. YD. CONCRETE ONE DOUBLE ENDWALL	FILL SLOPE 1 1/2:1 INCREASE CU. YD. FOR EACH ADDITIONAL PIPE	FILL SLOPE 2:1 CU. YD. CONCRETE ONE DOUBLE ENDWALL	FILL SLOPE 2:1 INCREASE CU. YD. FOR EACH ADDITIONAL PIPE
3'-6"	5'-3 1/2"	8'-9 1/2"	5.1	1.3	5.8	1.3
4'-0"	6'-0 1/2"	10'-0 1/2"	6.3	1.7	7.2	1.4
4'-6"	6'-9 1/2"	11'-3 1/2"	8.3	2.1	8.4	2.1
5'-0"	7'-6 1/2"	12'-6 1/2"	10.4	2.7	11.8	2.4
5'-6"	8'-3 1/2"	13'-9 1/2"	12.8	3.3	14.6	3.9
6'-0"	9'-0 1/2"	16'-0 1/2"	16.7	4.1	17.9	4.1
6'-6"	9'-9 1/2"	16'-3 1/2"	19.0	5.0	21.7	4.9
7'-0"	10'-6 1/2"	17'-6 1/2"	22.8	6.0	26.0	5.1

FOR CONCRETE PIPE

DIAMETER OF PIPE	S	T	FILL SLOPE 1 1/2:1 CU. YD. CONCRETE ONE DOUBLE ENDWALL	FILL SLOPE 1 1/2:1 INCREASE CU. YD. FOR EACH ADDITIONAL PIPE	FILL SLOPE 2:1 CU. YD. CONCRETE ONE DOUBLE ENDWALL	FILL SLOPE 2:1 INCREASE CU. YD. FOR EACH ADDITIONAL PIPE
3'-6"	6'-0"	9'-6"	4.1	1.3	5.5	1.3
4'-0"	6'-10"	10'-10"	6.0	1.6	6.9	1.6
4'-6"	7'-0"	12'-2"	7.7	2.1	8.8	2.1
5'-0"	8'-6"	13'-6"	9.7	2.6	11.2	2.6
5'-6"	9'-4"	14'-10"	12.1	3.3	13.9	3.3
6'-0"	10'-2"	16'-2"	14.7	4.0	16.9	4.0
6'-6"	11'-0"	17'-6"	17.7	4.8	20.4	4.8
7'-0"	11'-10"	18'-10"	21.2	5.7	24.4	5.7

SHEET 1 OF 2

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS

Joseph H. Capaldi, CHIEF ENGINEER, DIVISION OF TRANSPORTATION — Edmund Parker Jr., CHIEF DESIGN ENGINEER, TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 2.2.0A

TABLE OF DIMENSIONS AND CONCRETE VOLUMES PER HEADWALL FOR 3'-6" TO 7'-0" CIRCULAR PIPE CULVERTS

DIAMETER OF PIPE		3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
FOR 1 1/2:1 FILL SLOPE	A	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"
	B	4'-4"	4'-10"	5'-4"	5'-10"	6'-4"	6'-10"	7'-4"	7'-10"
	C	3'-3 3/4"	3'-9"	4'-2 1/4"	4'-7"	5'-0 5/8"	5'-5 3/4"	5'-11"	6'-4 1/4"
	D	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
	E	0'-6"	0'-6"	0'-6"	0'-6"	0'-6"	0'-6"	0'-6"	0'-6"
	H	0'-10"	0'-10"	0'-11"	1'-0"	1'-1"	1'-2"	1'-3"	1'-4"
	J	11'-8 1/2"	13'-2 1/4"	14'-9 1/4"	16'-4"	17'-11"	19'-8"	21'-0 3/4"	22'-7 5/8"
	K	1'-11"	2'-0 1/2"	2'-3"	2'-5 1/2"	2'-8"	2'-10 1/2"	3'-1"	3'-3 1/2"
	L	6'-7 5/8"	7'-6"	8'-4 1/2"	9'-2 7/8"	10'-1 1/4"	10'-11 5/8"	11'-10"	12'-8 3/8"
	P	5'-9"	6'-6"	7'-3"	8'-0"	8'-9"	9'-6"	10'-3"	11'-0"
	Q	0'-11 1/2"	1'-0 1/2"	1'-1 1/2"	1'-2 1/2"	1'-3 1/2"	1'-4 1/2"	1'-5 1/2"	
	CU. YD. CONC.	3.6	4.4	5.7	7.1	8.8	10.8	12.9	15.4
	CONC. PIPE C.M. PIPE	3.8	4.7	6.1	7.7	9.5	11.7	14.4	16.7
FOR 2:1 FILL SLOPE	C	4'-4"	4'-10 7/8"	5'-5 3/4"	6'-0 3/4"	6'-7 5/8"	7'-2 5/8"	7'-9 1/2"	8'-4 1/2"
	J	11'-8 1/4"	13'-2"	14'-9"	16'-3 3/4"	17'-10 3/4"	19'-5 1/2"	21'-0 1/2"	22'-7 1/8"
	L	8'-0"	8'-9 3/4"	10'-11 5/8"	12'-1 1/2"	13'-3 3/8"	14'-5 1/4"	15'-7"	16'-9"
	P	7'-6"	8'-6"	9'-6"	10'-6"	11'-6"	12'-6"	13'-6"	14'-6"
	CU. YD. CONC.	4.3	5.3	6.8	8.6	10.7	13.0	15.7	18.7
	CONC. PIPE C.M. PIPE	4.5	5.6	7.2	9.1	11.4	13.9	16.8	20.0

NOTE:
FOR ALL DIMENSIONS NOT SHOWN, SEE VALUES LISTED ABOVE FOR 1 1/2:1 FILL SLOPE

SHEET 2 OF 2

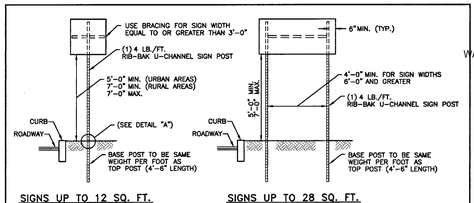
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

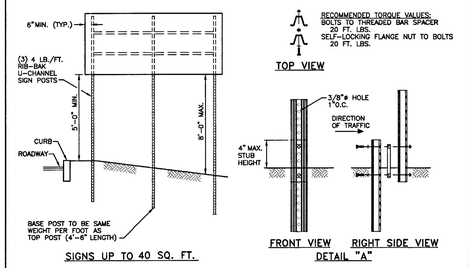
REVISIONS NO.	BY	DATE

STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS

Joseph H. Capaldi, CHIEF ENGINEER, DIVISION OF TRANSPORTATION — Edmund Parker Jr., CHIEF DESIGN ENGINEER, TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 2.2.0B





INSTALLATION PROCEDURE:
1. REMOVE A SPACE FULL OF SOIL (APPROXIMATELY 2" DEEP) FROM WHERE THE BASE POST WILL BE LOCATED.
2. DRIVE THE BASE POST IN THE CENTER OF THE HOLE JUST CREATED, TO WITHIN 4" OF GRADE LEVEL.
3. PLACE ONE BOLT AND FLAT WASHER IN THE TOP HOLE OF THE BASE POST. (IF THE TOP HOLE ON THE BASE POST, OR THE BOTTOM HOLE ON THE TOP POST IS LESS THAN 3/4" FROM END OF THE POST USE THE SECOND AND SIXTH HOLES.) WITH THE THREADED BAR SPACER ALIGNED WITH TOP HOLE ON THE BACK SIDE OF THE BASE POST, SECURELY TIGHTEN THE BOLT TO 20 FT. LBS. OF TORQUE. REPEAT THIS PROCESS FOR THE LOWER BOLT.
4. NEST THE TOP POST OVER THE PROTRUDING BOLTS ON THE BASE POST. PLACE A SELF-LOCKING FLANGE NUT ON EACH BOLT AND TIGHTEN SECURELY TO 20 FT. LBS. OF TORQUE.
5. REPLACE SOIL REMOVED IN STEP 1.
6. IN TRIPLE POST INSTALLATIONS USING 4 LB./FT. POSTS IN WEAK SOIL, A 1'-0"W x 6"H SOIL PLATE IS REQUIRED.

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE R.I. STANDARD SPECIFICATIONS.
2. THE SILVER ANODIZED BAR SPACER IS FOR USE WITH 2, 2.5 AND 2.75 LB./FT. RIB-BAK POST GRADE SP-80 ONLY.
3. THE GOLD ANODIZED BAR SPACER IS FOR USE WITH 3 AND 4 LB./FT. RIB-BAK POST GRADE SP-80 ONLY.
4. INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS.
5. FOR SIGNS GREATER THAN 40 SQ. FT., REFER TO STD. 30.1.0, 30.1.1, 30.2.0, 30.2.1, 30.3.0, 30.3.1, 30.4.0, 30.4.1, 30.4.2 AND 30.4.3

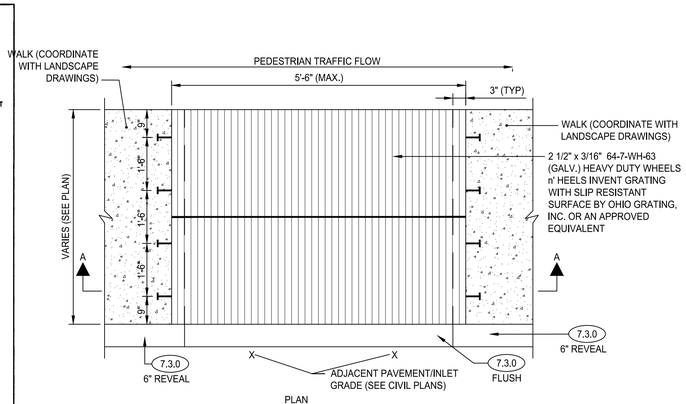
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

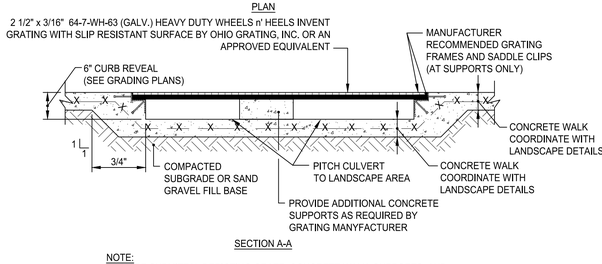
REVISIONS NO.	BY	DATE

SIGN POST SELECTION AND INSTALLATION DETAILS U-CHANNEL POST (SIGNS UP TO 8'-0"Wx4'-0"H)

Joseph H. Capaldi, CHIEF ENGINEER, DIVISION OF TRANSPORTATION — Edmund Parker Jr., CHIEF DESIGN ENGINEER, TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 24.2.0



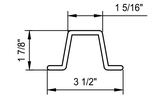


NOTE:
PROVIDE SUBMITTAL DEPICTING GRATE, CONCRETE WALK, SUPPORTS, AND OTHER INFORMATION FOR REVIEW BY OWNER'S REPRESENTATIVE

SIDEWALK GRATE
NOT TO SCALE

R7-8
12"x18"

R7-8P
12"x 6"



PARKING SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOR MORE THAN 45° IN A LINE PARALLEL TO THE FLOW OF TRAFFIC.

NOTE:
5/16" x 2-1/2" GALVANIZED BOLTS & WASHERS

STEEL SPECIFICATION - A.S.T.M. DESIGNATION A499-64 ZINC (HOT GALVANIZED) SPECIFIED BY- A.S.T.M. A 123.

WT./FT.	3.00 #	
Mom. Ix-x	0.484in	4
Sec Mod x-x	0.569in	3
Mon Iy-y	0.886in	4
Sec Mod y-y	0.506in	3

NOTES:
1. ALL LAG SCREWS, BOLTS AND WASHERS SHALL BE GALVANIZED 5/16"x2 1/2" LONG UNLESS OTHERWISE NOTED.
2. WASHERS SHALL BE 0.07" THICK.
3. ALL SIGN COLORS, RADII AND BORDERS AS SPECIFIED IN "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE STANDARD SPECIFICATIONS.
5. PARKING SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOT MORE THAN 45° WITH A LINE PARALLEL TO FLOW OF TRAFFIC, 1'-6" (1'-0" MIN.) FROM THE EDGE OF CURB FACE.
6. ALL ACCESSIBLE PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE RULES & REGULATIONS AS SPECIFIED BY THE AMERICAN DISABILITIES ACT (ADA).
7. SIGN(S) SHALL BE LOCATED SO THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.
8. FOR ACCESSIBLE VAN SPACE USE SIGN AS DETAILED.
9. FOR ACCESSIBLE SPACE FOR AUTOMOBILES USE ONLY HANDICAPPED PARKING SIGN.

ACCESSIBLE SIGN MOUNTING
NOT TO SCALE

LEGEND	DESIGNATION	SIZE
STOP	R1-1	(30" x 30")
RIGHT LANE MUST TURN RIGHT	R3-7R	(30" x 30")
LEFT LANE MUST TURN LEFT	R3-7L	(30" x 30")
DO NOT ENTER	R5-1	(24" x 24")
RESERVED PARKING	R7-8	(12" x 18")
VAN ACCESSIBLE	R7-8P	(12" x 6")
NO PARKING HERE TO CORNER	R7-11	(12" x 18")
	W16-7P(L)	(12" x 24")
	S1-1	(30" x 30")
AHEAD	W16-9P	(12" x 24")
	W17-1	(24" x 24")
	GENERAL DIRECTIONAL SIGN, REFER TO PLANS FOR TEXT	(30" x 24") OR AS REQUIRED
NO IDLING	NO IDLING	(12" x 18")
NO SMOKING	NO SMOKING	(24" x 36")
ELECTRIC VEHICLE PARKING AND CHARGING STATION	EVCS	(12" x 18")
ACCESSIBLE EV CHARGING USE LAST	ACCESSIBLE EV CHARGING USE LAST	(12" x 6")

NOTES:
1. SIGNS SHALL BE CONSTRUCTED OF TYPE III REFLECTORIZED SHEETING AND IN ACCORDANCE WITH MUTCD REQUIREMENTS, LATEST REVISION.
2. THE CONTRACTOR SHALL SUBMIT SAMPLE SIGNS TO THE OWNER FOR APPROVAL PRIOR TO FURNISHING.
3. LETTERS, COLOR, AND FONT FOR NON-STANDARD SIGNS SHALL BE SELECTED BY THE OWNER.
4. ALL SIGN MOUNTING SHALL CONFORM TO R.I. STD. DETAIL 24.2.0 EXCEPT R7-8 AND R7-8P. R7-8 AND R7-8P SHALL CONFORM TO ACCESSIBLE SIGN MOUNTING DETAIL.

SIGN SCHEDULE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

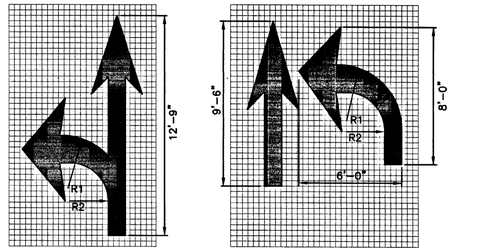
MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
04.10.25

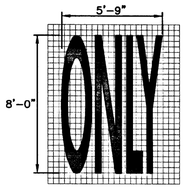
REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP
DRAWING TITLE:	DETAILS 4
DRAWING NO.:	C8.4
SHEET NO.	62 OF 159

Z:\JOBS\23 Jobs\23099.01 BWRSD MP Move HS-MS\C Design Phase\Civil\DWG\SITE\DETAILS.dwg



R1 = 3'-2"
R2 = 2'-2"



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION T.20 OF THE R.I. STANDARD SPECIFICATIONS.
2. THE LONGITUDINAL SPACE BETWEEN WORD OR SYMBOL MESSAGES, INCLUDING ARROWS, SHOULD BE AT LEAST FOUR TIMES THE HEIGHT OF THE CHARACTER FOR LOW SPEED ROADS BUT NOT MORE THAN TEN TIMES THE HEIGHT OF THE CHARACTER UNDER ANY CONDITIONS.
3. THE SPACING OF THE PAVEMENT MARKINGS WILL BE AS SHOWN ON THE PLAN AND AS PER THE MUTCD.
4. SYMBOLS AND WORDS SHALL MEET THE REQUIREMENTS OF THE FHWA "STANDARD ALPHABET AND SYMBOLS FOR HIGHWAY PAVEMENT MARKINGS.

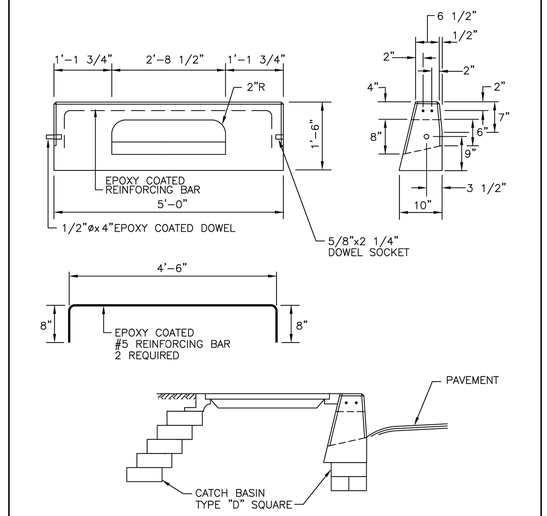
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

PAVEMENT MARKINGS
ARROWS AND ONLY

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 20.1.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
3. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

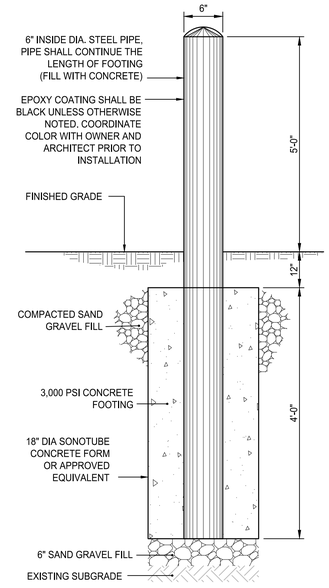
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

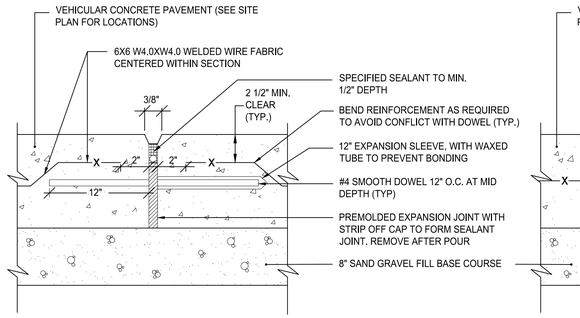
PRECAST CONCRETE INLET STONE
(FOR SQUARE CATCH BASIN)

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

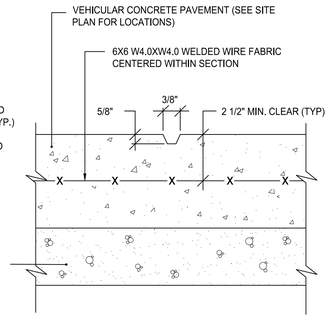
R.I. STANDARD 7.1.5

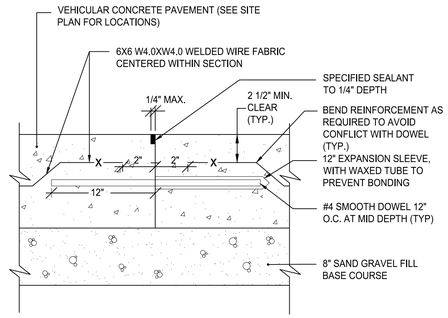


BOLLARD DETAIL
NOT TO SCALE



CONTROL JOINT AT 15' O.C. (MAX)



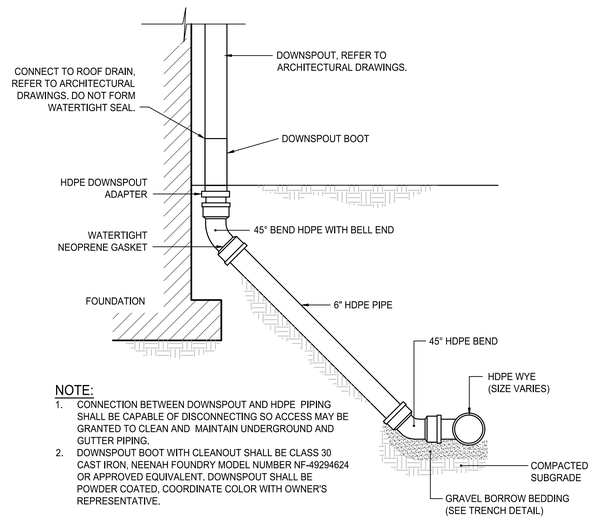


CONSTRUCTION JOINT (TYP)

NOTES:

1. EXPANSION JOINTS (E.J.) SHALL BE LOCATED AROUND ALL DRAIN STRUCTURES AND SITE FEATURES WITHIN THE VEHICULAR CONCRETE PAVEMENT. NO EXPANSION JOINTS AGAINST CURBING.
2. CONTROL JOINTS (C.J.) SHALL BE SPACED AT 15' O.C. MAX.
3. PRIOR TO COMMENCING WORK, PROVIDE SUBMITTAL DEPICTING LAYOUT OF EXPANSION, CONTROL, AND CONSTRUCTION JOINT LAYOUT AND SPACING FOR REVIEW BY OWNER'S REPRESENTATIVE.

EXPANSION, CONTROL, AND CONSTRUCTION JOINTS FOR VEHICULAR CONCRETE PAVING
NOT TO SCALE



NOTE:
1. CONNECTION BETWEEN DOWNSPOUT AND HDPE PIPING SHALL BE CAPABLE OF DISCONNECTING SO ACCESS MAY BE GRANTED TO CLEAN AND MAINTAIN UNDERGROUND AND GUTTER PIPING.
2. DOWNSPOUT BOOT WITH CLEANOUT SHALL BE CLASS 30 CAST IRON, NEENAH FOUNDRY MODEL NUMBER NF-49294624 OR APPROVED EQUIVALENT. DOWNSPOUT SHALL BE POWDER COATED, COORDINATE COLOR WITH OWNER'S REPRESENTATIVE.

DOWNSPOUT DETAIL
NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
06.10.25

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

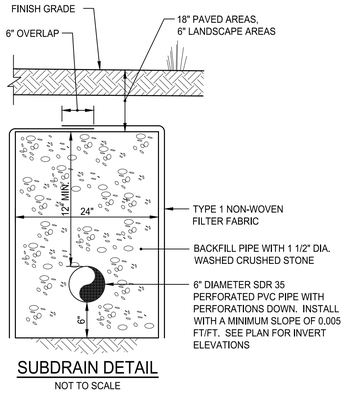
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 5

DRAWING NO.:
C8.5

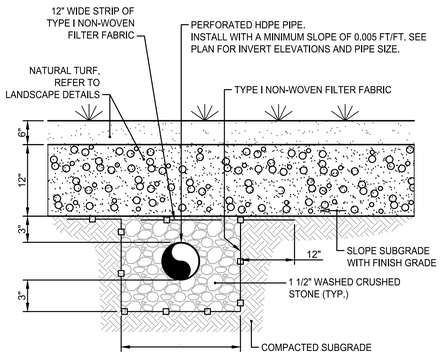
SHEET NO. 63 OF 159

Z:\JOBS\23_Jobs\23099.01 BWRSD\2 MP Hope HS-RIDE Stage III-IV-RI DWGS\C8\C8.5.dwg



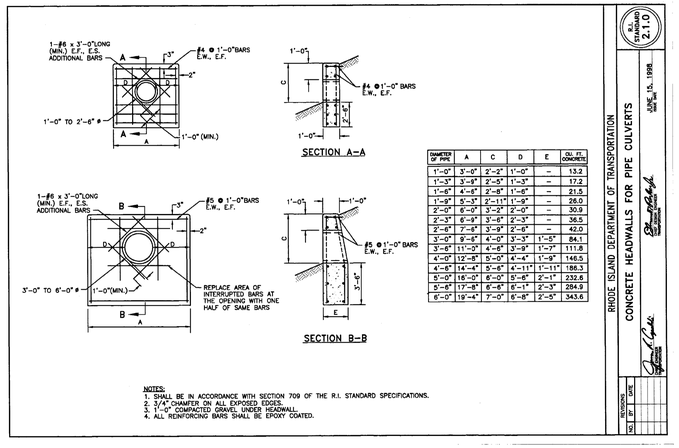
SUBDRAIN DETAIL

NOT TO SCALE



ATHETIC FIELD SUBDRAIN DETAIL

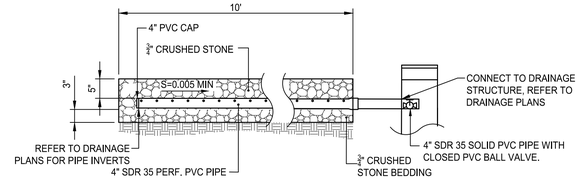
NOT TO SCALE



DIAMETER OF PIPE	A	C	D	E	CU. FT. CONCRETE
1'-0"	3'-0"	2'-2"	1'-0"	–	13.2
1'-3"	3'-9"	2'-5"	1'-3"	–	17.2
1'-6"	4'-6"	2'-8"	1'-6"	–	21.5
1'-9"	5'-3"	2'-11"	1'-9"	–	26.0
2'-0"	6'-0"	3'-2"	2'-0"	–	30.9
2'-3"	6'-9"	3'-5"	2'-3"	–	36.5
2'-6"	7'-6"	3'-9"	2'-6"	–	42.0
3'-0"	9'-6"	4'-0"	3'-3"	1'-5"	84.1
3'-6"	11'-0"	4'-6"	3'-9"	1'-7"	111.8
4'-0"	12'-8"	5'-0"	4'-6"	1'-9"	146.5
4'-6"	14'-4"	5'-6"	4'-11"	1'-11"	186.3
5'-0"	16'-0"	6'-0"	5'-6"	2'-1"	232.6
5'-6"	17'-8"	6'-6"	6'-1"	2'-3"	284.9
6'-0"	19'-4"	7'-0"	6'-8"	2'-5"	343.6

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 709 OF THE R.I. STANDARD SPECIFICATIONS.
2. 3/4" CHAMFER ON ALL EXPOSED EDGES.
3. 1'-0" COMPACTED GRAVEL UNDER HEADWALL.
4. ALL REINFORCING BARS SHALL BE EPOXY COATED.

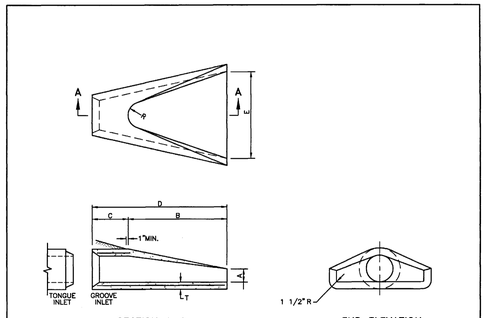
RHODE ISLAND DEPARTMENT OF TRANSPORTATION
CONCRETE HEADWALLS FOR PIPE CULVERTS
R.I. STANDARD 2.1.0
JUNE 15, 1998 ISSUE DATE
Jon K. Cipolla, CHIEF ENGINEER OPERATIONS
Edmund M. Parker Jr., CHIEF DESIGN ENGINEER TRANSPORTATION
REVISIONS: NO. | BY | DATE



NOTE: PVC BALL VALVE SHALL REMAIN IN THE CLOSED POSITION WHEN INSTALLED AND POST CONSTRUCTION. AS REQUIRED THE OWNER SHALL OPEN THE VALVE TO PERFORM AN IMMEDIATE DRAIN-DOWN OPERATION FOR MAINTENANCE PURPOSES ONLY.

AUXILIARY DRAIN PIPE WITH CLOSED VALVE FOR STORMWATER MANAGEMENT AREAS DETAIL

NOT TO SCALE

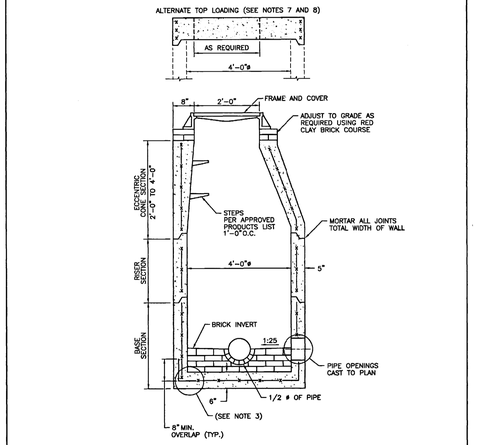


SECTION A-A — END ELEVATION

DIA.	DIMENSIONS A	B	C	D	E	R	T	REINFORCEMENT: ONE LAYER REINFORCEMENT IN CENTER OF WALL — MIN. AREA OF EACH WAY (SQ. IN./FT.)
1'-0"	4"	2'-0"	4'-0 7/8"	6'-0 7/8"	2'-0"	9"	2"	0.048
1'-3"	6"	2'-3"	3'-10"	6'-1"	2'-6"	11"	2 1/4"	0.054
1'-6"	9"	2'-5"	3'-10"	6'-1"	3'-0"	12"	2 1/2"	0.060
2'-0"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	1'-2"	3"	0.072
2'-6"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	1'-3"	3 1/2"	0.084
3'-0"	1'-3"	5'-3"	2'-10 3/4"	6'-1 3/4"	6'-0"	1'-5"	4"	0.096
3'-6"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	1'-10"	4 1/2"	0.108
4'-0"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	1'-10"	5"	0.120
4'-6"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"	2'-0"	5 1/2"	0.132
5'-0"	2'-6"	5'-0"	3'-3"	8'-3"	8'-0"	2'-0"	6"	0.144

NOTE: SHALL BE IN ACCORDANCE WITH SECTION 701 OF THE R.I. STANDARD SPECIFICATIONS.

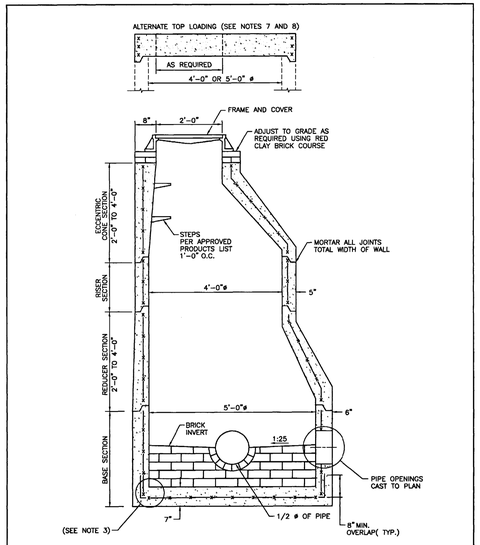
RHODE ISLAND DEPARTMENT OF TRANSPORTATION
PRECAST CONCRETE FLARED END SECTION
R.I. STANDARD 2.3.0
JUNE 15, 1998 ISSUE DATE
Jon K. Cipolla, CHIEF ENGINEER OPERATIONS
Edmund M. Parker Jr., CHIEF DESIGN ENGINEER TRANSPORTATION
REVISIONS: NO. | BY | DATE



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED = 0.12 SQ. IN./LIN. FT. MINIMUM.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
4. ONE POUR MONOLITHIC BASE SECTION.
5. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
6. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
7. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
8. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
9. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
PRECAST 4'-0" ROUND MANHOLE
R.I. STANDARD 4.2.0
JUNE 15, 1998 ISSUE DATE
Jon K. Cipolla, CHIEF ENGINEER OPERATIONS
Edmund M. Parker Jr., CHIEF DESIGN ENGINEER TRANSPORTATION
REVISIONS: NO. | BY | DATE

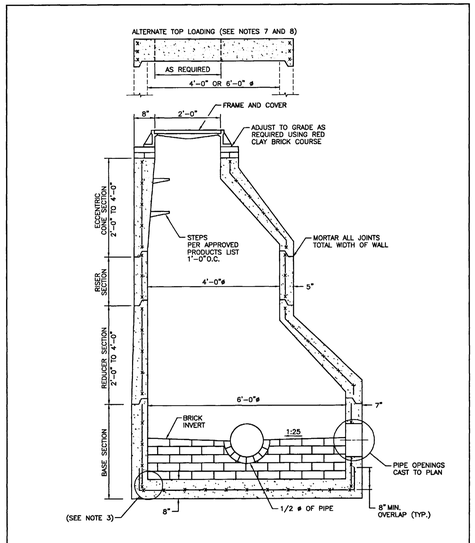
NOTES:
1. DAMP PROOFING COMPOUND SHALL BE APPLIED ON EXTERIOR WALLS



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED = 0.15 SQ. IN./LIN. FT. MINIMUM.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
4. ONE POUR MONOLITHIC BASE SECTION.
5. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
6. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
7. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
8. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
9. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
PRECAST 5'-0" ROUND MANHOLE
R.I. STANDARD 4.2.1
JUNE 15, 1998 ISSUE DATE
Jon K. Cipolla, CHIEF ENGINEER OPERATIONS
Edmund M. Parker Jr., CHIEF DESIGN ENGINEER TRANSPORTATION
REVISIONS: NO. | BY | DATE

NOTES:
1. DAMP PROOFING COMPOUND SHALL BE APPLIED ON EXTERIOR WALLS



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
4. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
5. ONE POUR MONOLITHIC BASE SECTION.
6. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
7. CORBEL MADE OF RED CLAY BRICK WILL BE PERMITTED FOR THE "CONE SECTION" OF THE 4'-0"CATCH BASIN ONLY.
8. FOR CATCH BASIN TYPES "D" AND "F" STEPS MUST BE INSTALLED ON THE CURB SIDE OF THE STRUCTURE.
9. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.
10. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
11. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
12. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

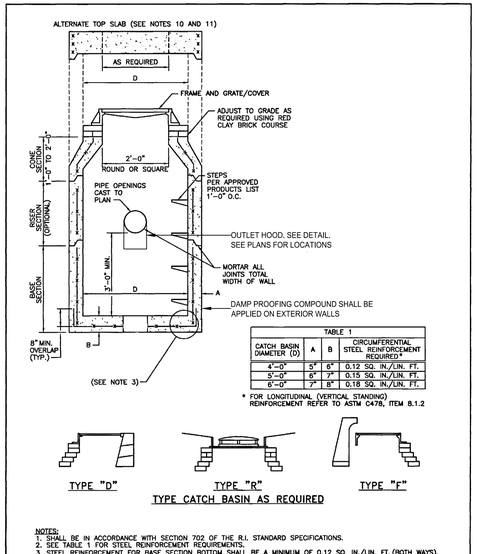


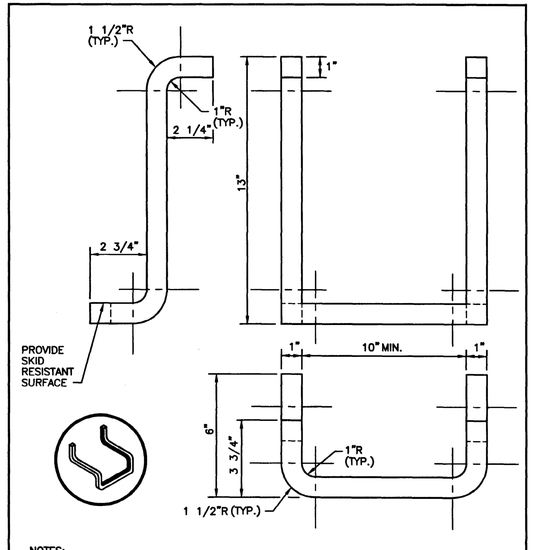
TABLE 1 — CATCH BASIN DIAMETER (D)	A	B	CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED*
4'-0"	5"	6"	0.12 SQ. IN./LIN. FT.
5'-0"	6"	7"	0.15 SQ. IN./LIN. FT.
6'-0"	7"	8"	0.18 SQ. IN./LIN. FT.

* FOR LONGITUDINAL (VERTICAL STANDING) REINFORCEMENT REFER TO ASTM C478, ITEM 8.1.2

TYPE CATCH BASIN AS REQUIRED

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
4. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
5. ONE POUR MONOLITHIC BASE SECTION.
6. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
7. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.
8. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
9. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
10. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN
R.I. STANDARD 4.4.0M
JUNE 15, 1998 ISSUE DATE
Jon K. Cipolla, CHIEF ENGINEER OPERATIONS
Edmund M. Parker Jr., CHIEF DESIGN ENGINEER TRANSPORTATION
REVISIONS: NO. | BY | DATE



NOTES:
1. STEPS SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.
2. CROSS SECTION AREA MAY BE REDUCED UPON SUBMISSION OF CERTIFIED LOAD TESTS. STEPS MUST SUPPORT 300 LBS.
3. STOCK SHOWN IS 1" SQUARE WHICH MAY BE REPLACED BY 1" DIAMETER.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
CATCH BASIN AND MANHOLE STEP
R.I. STANDARD 5.3.0
JUNE 15, 1998 ISSUE DATE
Jon K. Cipolla, CHIEF ENGINEER TRANSPORTATION
Edmund M. Parker Jr., CHIEF DESIGN ENGINEER TRANSPORTATION
REVISIONS: NO. | BY | DATE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

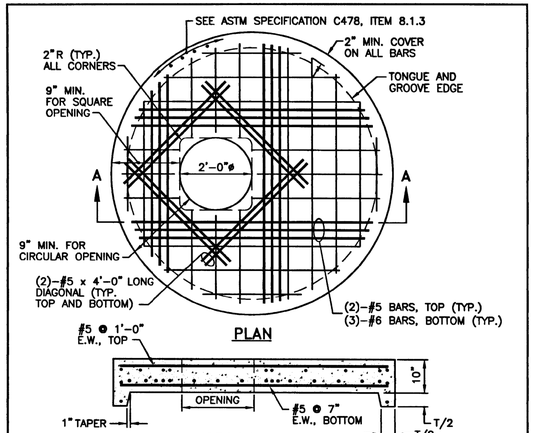
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 6

DRAWING NO.:
C8.6

SHEET NO. 64 OF 159

Z:\JOBS\23.1 Johnd\23099.01 BWRSD\01 MP Hope HS-RIDE Steps III-Ins-RI\DWGS\1ACTIVE\5.dwg



NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
3. THE CENTER LINE OF THE OPENING MUST BE WITHIN 2" FROM THE STEPS.
4. ALTERNATE TOP COVER IS STEEL REINFORCED TO MEET OR EXCEED H-25 OR HS-25 LOADINGS WITH EARTH PRESSURES INCLUDED. THIS IMPLIES THAT THE TOP SLAB IS DESIGNED FOR AXLE LOADS OF NO MORE THAN 20 TONS.
5. ALL REBAR SHALL HAVE A MINIMUM OF 2" CLEARANCE FROM OPENING.
6. ALL REBARS IN THE BOTTOM MAT ARE #5 @ 2", BOTH WAYS, WITH 2" MINIMUM COVER, EXCEPT FOR REBARS ADJACENT TO THE OPENING. THESE BARS SHALL BE (3)-#6 SHOWN WITH A HEAVIER LINE FOR CLARITY). REBARS IN THE TOP MAT ARE #5 @ 1'-0", BOTH WAYS, WITH 2" MINIMUM COVER, EXCEPT FOR REBARS ADJACENT TO THE OPENING. THESE BARS SHALL BE (2)-#5 BARS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

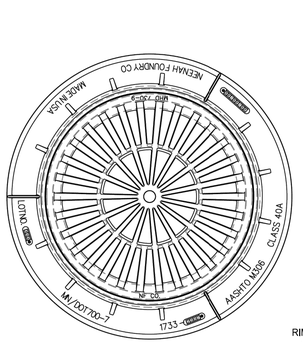
REVISIONS		
NO.	BY	DATE

ALTERNATE TOP COVER FOR ROUND PRECAST MANHOLES AND CATCH BASINS

JUNE 15, 1998 ISSUE DATE

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION

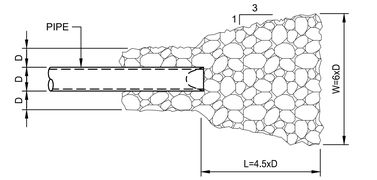
R.I. STANDARD 4.7.2



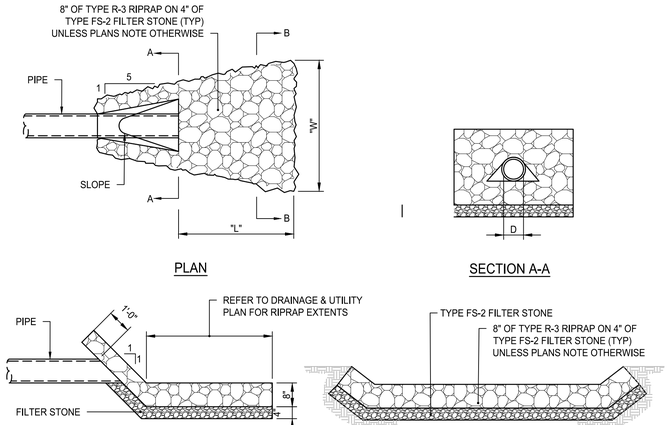
NOTES:

1. NEENA FOUNDRY R2561 OR APPROVED EQUIVALENT.
2. FRAME AND GRATE SHALL MEET H-20 LOADING CRITERIA.
3. ALL LIFTING HOLES TO BE PLUGGED IN AND OUT WITH HYDRAULIC CEMENT.
4. REFER TO DRAINAGE PLANS FOR STRUCTURES WITH DOME GRATES.

DOME GRATE DETAIL
NOT TO SCALE



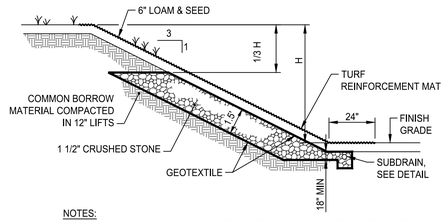
RIPRAP APRON
NOT TO SCALE



NOTE:

1. REFER TO DRAINAGE PLANS FOR RIPRAP AND FILTER STONE SIZE. PROVIDE STONE SIZES DEPICTED ON DETAIL UNLESS PLANS NOTE OTHERWISE.

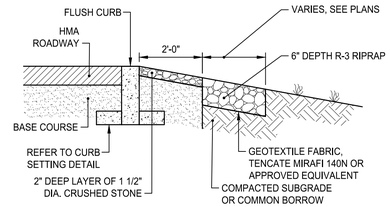
RIPRAP LEVEL SPREADER
NOT TO SCALE



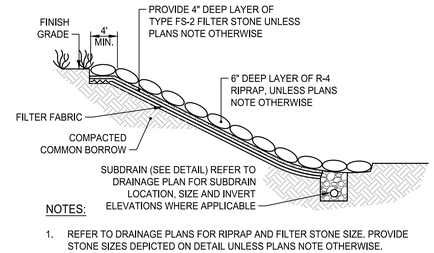
NOTES:

1. PROVIDE TOE DRAIN AT ALL SLOPES WHERE GROUNDWATER IS PRESENT.
2. REFER TO DRAWINGS FOR SUBDRAIN ELEVATIONS.

TOE DRAIN DETAIL
NOT TO SCALE



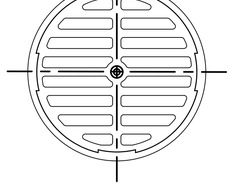
RIPRAP EDGE
NOT TO SCALE



NOTES:

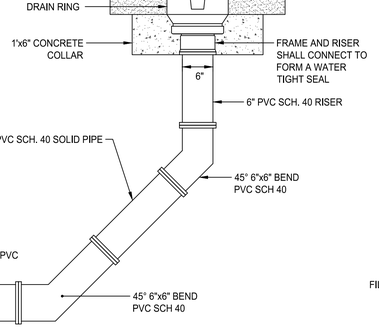
1. REFER TO DRAINAGE PLANS FOR RIPRAP AND FILTER STONE SIZE. PROVIDE STONE SIZES DEPICTED ON DETAIL UNLESS PLANS NOTE OTHERWISE.

RIPRAP SLOPE
NOT TO SCALE

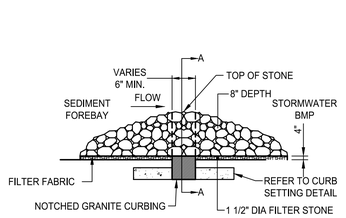


NOTES:

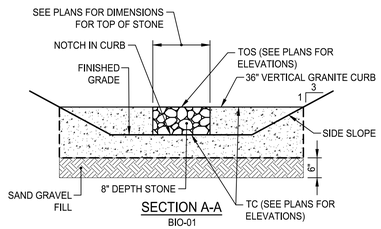
1. MATERIALS SHALL CONFORM TO ASTM A 536 GRADE 70-50-05.
2. CASTING SHALL BE FURNISHED WITH A BLACK PAINT.
3. GRATE SHALL BE ADA COMPLIANT.
4. GRATE SHALL BE NYLOPLAST 0899CGBL OR APPROVED EQUIVALENT.

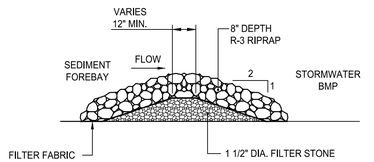


YARD DRAIN DETAIL
NOT TO SCALE



SEDIMENT FOREBAY CHECK DAM WITH WEIR
NOT TO SCALE

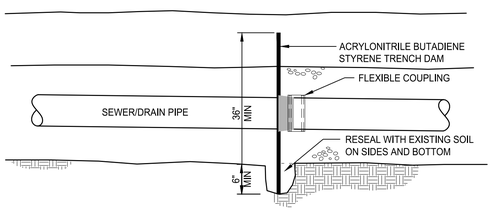


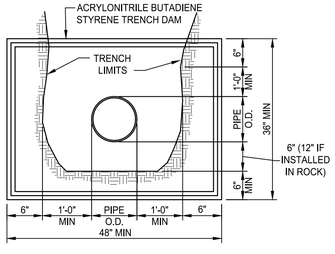


NOTES:

1. REFER TO RIDOT STANDARD SPECIFICATIONS SECTION M01.10 FOR FILTER STONE GRADATION.

SEDIMENT FOREBAY CHECK DAM
NOT TO SCALE

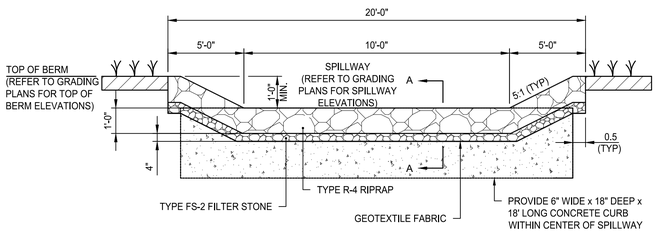




NOTES:

1. INSTALL TRENCH DAM EVERY 300 FEET ALONG PIPE AND 20 FT PRIOR TO EACH STRUCTURE.

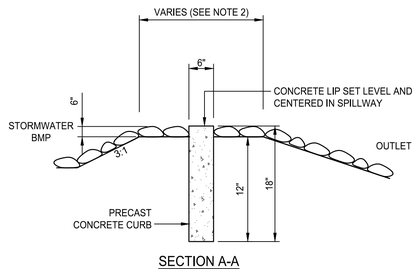
TRENCH DAM
NOT TO SCALE



NOTES:

1. CONTRACTOR SHALL FILL VOIDS BETWEEN CURB SECTIONS WITH MORTAR
2. BASIN BERM WIDTHS SHALL BE A MINIMUM OF 5' WIDE FOR BIORETENTION AREAS, AND SAND FILTERS. BASIN BERM WIDTHS SHALL BE A MINIMUM OF 10' WIDE FOR DETENTION BASINS AND INFILTRATION BASINS.

RIPRAP SPILLWAY DETAIL
NOT TO SCALE



SECTION A-A

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

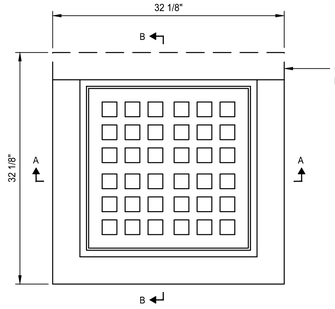
MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
04.10.25

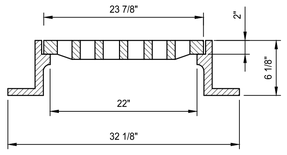
REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP
DRAWING TITLE:	DETAILS 7
DRAWING NO.:	C8.7
SHEET NO.	65 OF 159

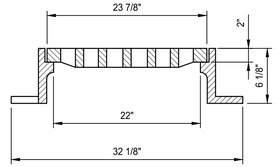
Z:\JOBS\23_plus\23099.01 BMROS Mt Hope HS-RIDE Slope Rvsn-RI\DWG\DETAILS.dwg



PLAN



SECTION A-A



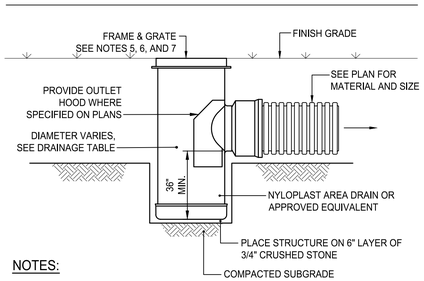
SECTION B-B

NOTES:

1. NEENAH FOUNDRY R-3405-A OR APPROVED EQUIVALENT.
2. FRAME AND GRATE SHALL MEET H-20 LOADING CRITERIA.

SQUARE CATCH BASIN FRAME & GRATE

NOT TO SCALE

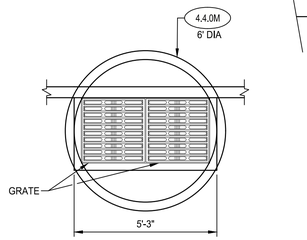


NOTES:

1. DRAIN BASIN SHALL BE CUSTOM MANUFACTURED FOR THE PROJECT WITH THE INLETS AND OUTLETS REQUIRED.
2. STRUCTURES SHALL BE CONSTRUCTED TO WITHSTAND LOADS IMPOSED BY CONSTRUCTION VEHICLES.
3. DRAIN BASIN SHALL BE CONSTRUCTED OF HIGH DENSITY POLYETHYLENE.
4. FRAME AND GRATE SHALL BE CONSTRUCTED OF DUCTILE IRON AND CONFORM TO ASTM A536 GRADE 70-50-05. GRATES SHALL BE NYLOPLAST 2499CGS OR APPROVED EQUIVALENT. CONTRACTOR SHALL PROVIDE THE SPECIFIED GRATE UNLESS OTHERWISE NOTED.
5. PROVIDE 24" DOME GRATE AT AD-101, AD-102, AD-103, AD-104, AD-201, AD-202, AD-203, AD-204, AD-205, AD-206, AD-207, AD-208, AD-210, AD-212, AD-301, AD-302, AD-303, AD-304, AD-305, AD-306, AD-307, AD-308, AD-309, AD-401, AD-402, AD-403, AD-404, AD-407 . PROVIDE NYLOPLAST 2499CGD OR APPROVED EQUIVALENT.
6. PROVIDE 24" PEDESTRIAN GRATE AT AD-408, PROVIDE NYLOPLAST 2499CGP OR APPROVED EQUIVALENT. FRAME AND GRATE SHALL BE ADA COMPLIANT.
7. PROVIDE 12" PEDESTRIAN GRATE WITH A CAP STYLE REDUCER AT AD-105, AD-106, AD-107, AD-108, AD-109, AD-208, AD-211, AD-405, AD-406, AD-409 . PROVIDE NYLOPLAST 1299 CGPL OR APPROVED EQUALIVALENT. CAP STYLE REDUCER SHALL BE 12" TO 24" REDUCER MANUFACTURED BY NYLOPLAST OR APPROVED EQUIVALENT.
8. SAND FILTER-01 OVERFLOW DRAINAGE STRUCTURE (AD-412) SHALL HAVE A NEENAH FOUNDRY10" DIA. GRATE, MODEL #1291-5626 OR APPROVED EQUIVALENT. GRATE SHALL BE H-20 LOAD RATING AND COMPATIBLE WITH THE AREA DRAIN PRODUCT SPECIFIED. CONTRACTOR SHALL PROVIDE A CAP STYLE 12" TO 24" REDUCER WITH A DUCTILE IRON BASE PLATE MANUFACTURED BY NYLOPLAST OR APPROVED EQUIVALENT
9. REFER TO DRAINAGE PLANS FOR STRUCTURE DIAMETER.

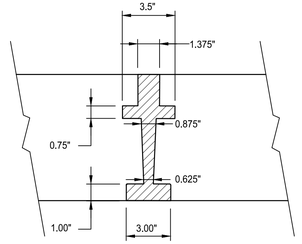
AREA DRAIN DETAIL

NOT TO SCALE

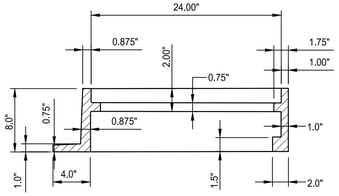


NOTE:
PROVIDE TYPE "F" CATCH BASIN ALONG ENTIRE LENGTH OF GRATE FOR CATCH BASINS PROPOSED ALONG CURB.

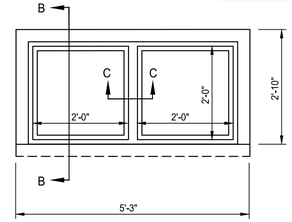
PLAN



SECTION C - C



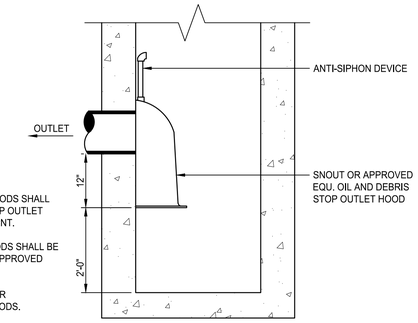
SECTION B - B



FRAME FOR DOUBLE GRATE CATCH BASIN

DOUBLE GRATE CATCH BASIN

NOT TO SCALE

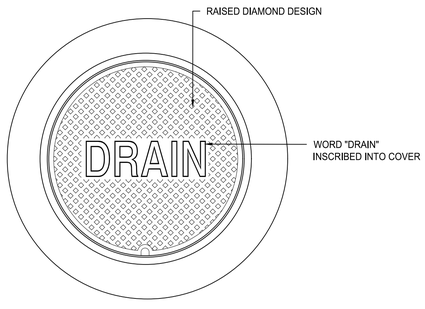


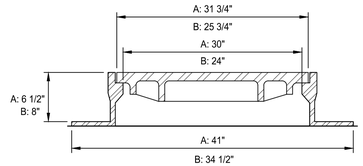
NOTES:

1. FOR CATCH BASINS OUTLET HOODS SHALL BE SNOUT OIL AND DEBRIS STOP OUTLET HOOD OR APPROVED EQUIVALENT.
2. FOR AREA DRAINS OUTLET HOODS SHALL BE NYLOPLAST ENVIROHOOD OR APPROVED EQUIVALENT.
3. REFER TO DRAINAGE PLANS FOR STRUCTURES WITH OUTLET HOODS.

DEEP SUMP WITH OUTLET HOOD DETAIL

NOT TO SCALE



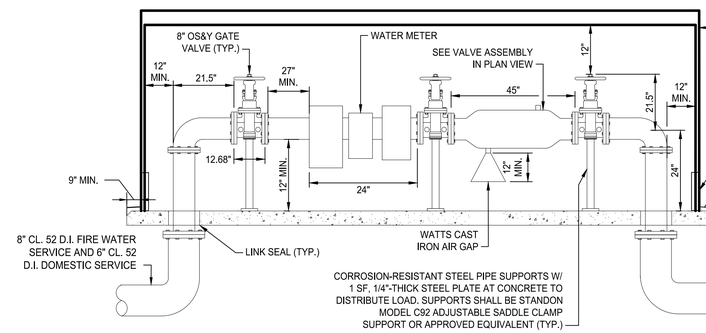


NOTES:

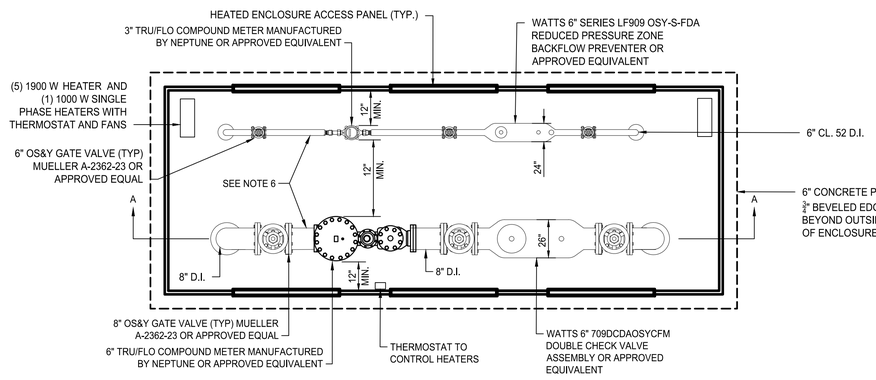
1. ALL FRAMES AND COVERS SHALL MEET H-20 LOADING CRITERIA.
2. PROVIDE:
   A: 30" DIA. DRAIN MANHOLE FRAME AND COVER SHALL BE NEENAH FOUNDRY, INC. MODEL #R-1557 OR APPROVED EQUIVALENT.
   B: 24" DIA. DRAIN MANHOLE FRAME AND COVER SHALL BE NEENAH FOUNDRY, INC. MODEL #R-1556 OR APPROVED EQUIVALENT.
3. ALL DRAIN MANHOLES SHALL HAVE 24" DIA. DRAIN MANHOLE COVER UNLESS NOTED OTHERWISE.

DRAIN MANHOLE FRAME & COVER

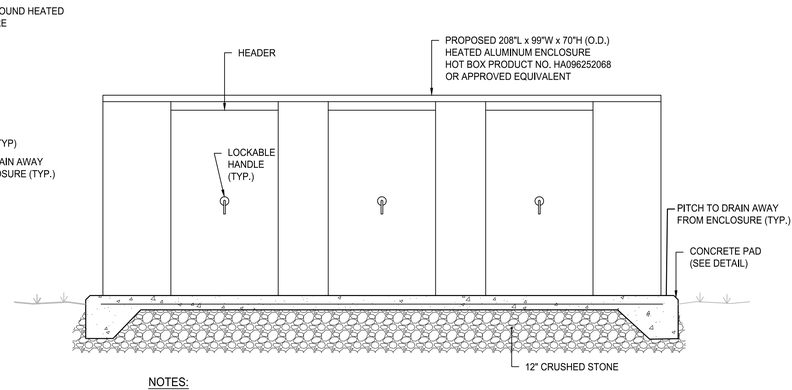
NOT TO SCALE



SECTION A-A



PLAN VIEW



NOTES:

1. ALL INTERIOR PIPING SHALL BE CLASS 53 DUCTILE IRON WITH FLANGED JOINTS.
2. ALL BURIED PIPING SHALL BE CLASS 52 CEMENT-LINED DUCTILE IRON WITH MECHANICAL JOINTS.
3. ALL EXPOSED METAL SURFACES TO BE BONDED BY ELECTRICIAN PER NATIONAL ELECTRIC CODE.
4. CONTRACTOR SHALL SUPPORT ALL INTERIOR PIPING WITH PIPE SUPPORTS, NO LESS THAN 3 SUPPORTS PER LINE.
5. COMPONENTS OF ENCLOSURE INCLUDING BUT NOT LIMITED TO ACCESS PANELS AND ANCHORS, QUANTITIES AND SPACING PER MANUFACTURER'S RECOMMENDATIONS.
6. PIPE DIAMETERS OF STRAIGHT RUN PIPE SHALL BE PROVIDED BEFORE METER/STRAINER ASSEMBLY.
7. THE VAULT SHALL BE AN INSULATED HEATED ENCLOSURE OF ALUMINUM CONSTRUCTION AND SHALL COMPLY WITH ASSE 1060, CLASS I.
8. THE VAULT INTERIOR DIMENSIONS SHALL BE APPROPRIATELY SIZED BY THE MANUFACTURER BASED ON INTERIOR PIPING ITEMS.
9. THE ENCLOSURE MUST BE CAPABLE OF MAINTAINING A MINIMUM TEMPERATURE OF 40°F (4°C) AND SHALL BE SUPPORTED BY A CONCRETE PAD IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
10. HEATED ENCLOSURE SHALL BE MANUFACTURED BY HOT BOX OR APPROVED EQUIVALENT.

ELEVATION VIEW

ABOVE GROUND HEATED ENCLOSURE

NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
06.10.25

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

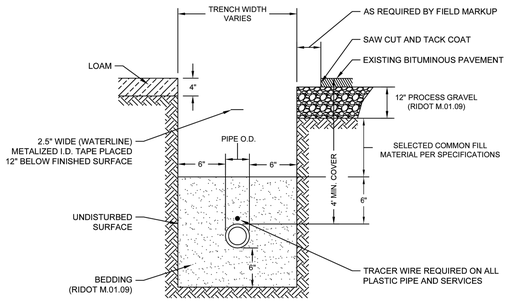
DRAWING TITLE:

DETAILS 8

DRAWING NO.:
C8.8

SHEET NO. 66 OF 159

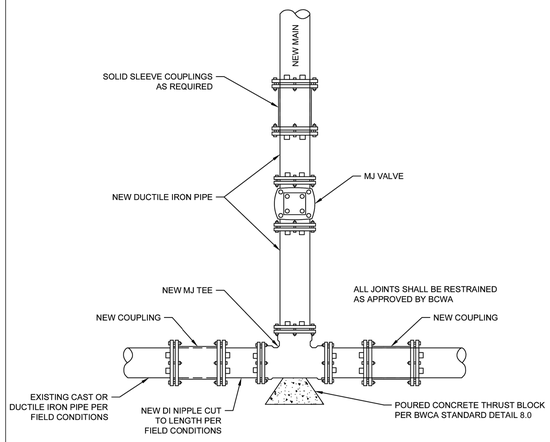
Z:\JOBS\23_jobs\23099.01_BMRSD_MH Hope HS-RIDE Stage III-IV-RI\CIVIL\DETAILS.dwg



NOTES:

1. ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS AND SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
2. ROADWAY AND SIDEWALK RESTORATION SHALL BE PERFORMED IN ACCORDANCE WITH ALL MUNICIPAL OR RIDOT PERMIT REQUIREMENTS.
3. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

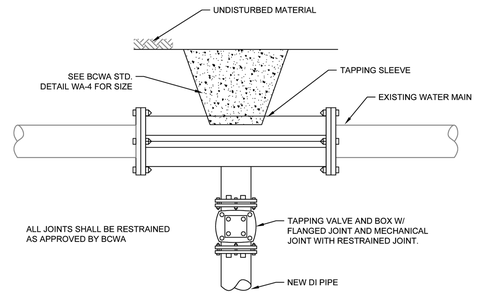
BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL, COUNTY WATER AUTHORITY	DETAIL No.	W-1	
TRENCH DETAIL				
NOT TO SCALE				



NOTES:

1. ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
2. ALL WORK AND MATERIALS SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
3. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

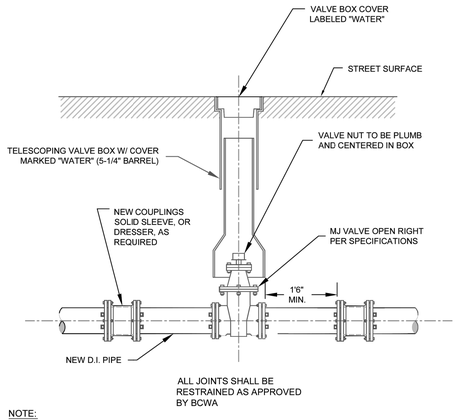
BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL, COUNTY WATER AUTHORITY	DETAIL No.	W-3	
NEW TEE IN EXISTING MAIN DETAIL				
NOT TO SCALE				



NOTES:

1. TAPPING SLEEVE, VALVE AND PIPE TO BE DISINFECTED WITH CHLORINE SOLUTION PRIOR TO INSTALL.
2. TAPPING SLEEVE TO BE PRESSURE TESTED USING AIR PRIOR TO TAPPING PIPE.
3. ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
4. THRUST BLOCK PER BCWA SPECIFICATIONS. SEE BCWA STANDARD DETAIL 8.0.
5. ALL WORK AND MATERIALS SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
6. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

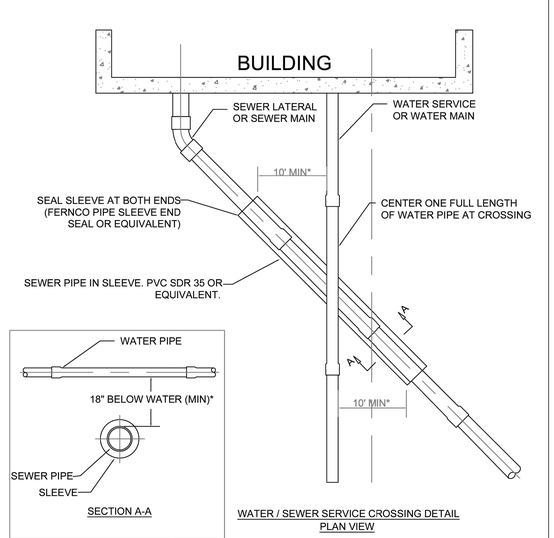
BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL, COUNTY WATER AUTHORITY	DETAIL No.	W-4	
TAPPING SLEEVE AND VALVE				
NOT TO SCALE				



NOTE:

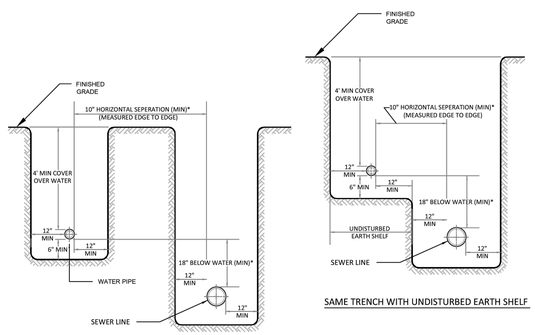
1.) ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
2.) ALL WORK AND MATERIALS SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
3.) WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL, COUNTY WATER AUTHORITY	DETAIL No.	W-5	
NEW MJ VALVE, INSTALLED IN EXISTING MAIN				
NOT TO SCALE				



WATER / SEWER SERVICE CROSSING DETAIL
PLAN VIEW

IF THE 18 INCH MINIMUM VERTICAL SEPARATION CANNOT BE MAINTAINED, CONSTRUCT SEWER USING AWWA APPROVED WATER MAIN PIPE AND PRESSURE TEST TO 150psi. FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING, MEASURED PARALLEL TO THE WATER PIPE, OR ENCASE SEWER PIPE IN PVC SLEEVE.



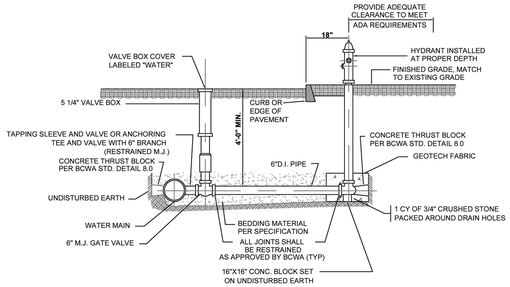
SAME TRENCH WITH UNDISTURBED EARTH SHELF

SEPARATE TRENCHES (PREFERRED)

NOTES:
1. THE VERTICAL SEPARATION BETWEEN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE A MINIMUM OF 18 INCHES.
2. THE HORIZONTAL SEPARATION BETWEEN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE A MINIMUM OF 10 FEET.
3. IF 1 OR 2 CANNOT BE MAINTAINED THE PROPOSED UTILITY SHALL BE INSTALLED WITHIN A CARRIER PIPE UPON WRITTEN APPROVAL BY THE BCWA.
4. SEWER MAIN AND SERVICES ARE NOT ALLOWED TO CROSS OVER THE TOP OF WATER MAIN.
5. CONCRETE ENCASEMENT IS NOT ALLOWED.

BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL, COUNTY WATER AUTHORITY	DETAIL No.	W-8	
WATER/SEWER CROSSING				
NOT TO SCALE				

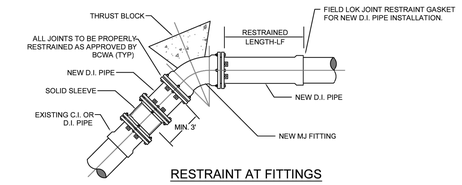
BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL, COUNTY WATER AUTHORITY	DETAIL No.	W-9	
UTILITY SEPARATION NEW CONSTRUCTION				
NOT TO SCALE				



NOTES:

1. ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
2. ALL WORK SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
3. HYDRANT MUST BE BURIED TO MANUFACTURERS PROPER DEPTH (BURY LINE) TO ALLOW SUFFICIENT CLEARANCE TO BOLTJNBOLT THE UPPER BARREL AND SAFETY FLANGES AND FOR PROPER BREAK AWAY FUNCTION.
4. USE APPROVED JOINT RESTRAINT GLANDS AND THRUST BLOCKS. THRUST BLOCKING SHALL HAVE A MINIMUM OF 3 SQUARE FEET AGAINST UNDISTURBED EARTH.
5. BARRINGTON HYDRANTS TO BE (OPEN LEFT), 4-1/2" PUMPER NOZZLE WITH CAP THREAD G.A.N.S., TWO 2-1/2" HOSE NOZZLES WITH CAPS , THREAD G.A.N.S., 6" M.J. CONNECTION WITH ACCESSORIES, OPERATING AND CAP NUTS TO BE 1-3/8" POINT TO FLAT POINT PENTAGON.
6. BRISTOL & WARREN HYDRANTS TO BE (OPEN LEFT), 4" PUMPER NOZZLE WITH CAP THREAD G.A 7-465., TWO 2-1/2" HOSE NOZZLES WITH CAPS, THREAD G.A.N.S., 6" M.J. CONNECTION WITH ACCESSORIES, OPERATING AND CAP NUTS TO BE 1-3/8" POINT TO FLAT POINT PENTAGON.
7. FACTORY APPLIED PAINT: BARREL & HEAD - SAFETY YELLOW; BONNET AND CAPS - SILVER ALUMINUM
8. ALL HYDRANTS SHALL HAVE A 5 1/4" DIAMETER MAIN VALVE.
9. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL, COUNTY WATER AUTHORITY	DETAIL No.	WA-2	
HYDRANT DETAIL				
NOT TO SCALE				



RESTRAINT AT FITTINGS

MINIMUM SURFACE AREA OF CONCRETE THRUST BLOCK AGAINST UNDISTURBED EARTH – IN S.F. (SQUARE FEET)
MINIMUM RESTRAINED LENGTH OF PIPE ON EITHER SIDE OF FITTING – IN L.F. (LINEAR FEET)

PIPE SIZE	PLUG		TEE		90° BEND		45° BEND		22 1/2° BEND		11 1/2° BEND	
	SF	LF	SF	LF	SF	LF	SF	LF	SF	LF	SF	LF
6"	2.8	46	2.8	40	4.0	22	2.1	9	1.1	5	1.0	3
8"	4.8	60	4.8	54	6.8	29	3.7	12	1.9	6	1.0	3
10"	7.3	72	7.3	66	10.3	34	5.6	15	2.8	7	1.4	4
12"	10.3	85	10.3	79	14.5	40	7.9	17	4.0	8	2.0	4
16"	17.8	109	17.8	109	25.2	51	13.6	22	7.0	11	3.5	6
20"	27.5	131	27.5	126	38.9	62	21.0	26	10.7	13	5.4	7
24"	39.2	154	39.2	148	55.4	72	30.0	30	15.3	15	7.7	8

1. ALL CONCRETE TO BE CLASS B (AE)
2. THE "SF" VALUES IN THE ABOVE TABLE ARE BASED ON 3000 p.s.f. SOIL BEARING CAPACITY, 150 p.s.i. TEST PRESSURE AND A 1.5 FACTOR OF SAFETY.
3. THE "LF" VALUES IN THE ABOVE TABLE ARE BASED ON A TYPE 3 LAYING CONDITION, A SAND SILT SOIL DESIGNATION, A 5 FOOT RUN LENGTH, 150 P.S.I. TEST PRESSURE AND A 1.5 FACTOR OF SAFETY AS USED IN THE "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" COMPUTER PROGRAM BY THE DUCTILE IRON PIPE RESEARCH ASSOCIATION.
4. IF SOIL CONDITIONS OR EXCAVATION LIMITS ENCOUNTERED DURING CONSTRUCTION MAKE IT UNFEASIBLE TO PLACE THRUST BLOCKS AGAINST UNDISTURBED EARTH OF THE PROPER BEARING CAPACITY, THE CONTRACTOR SHALL DESIGN AND PLACE SPECIAL REACTION BLOCKS OF SUFFICIENT WEIGHT TO RESIST FULL THRUST UNDER ALL CONDITIONS. THE DESIGN SHALL BE SUBJECT TO BCWA APPROVAL.
5. MINIMUM SURFACE AREAS SHALL BE INCREASED BY 50% IF DEEMED NECESSARY BY THE ENGINEER.
6. A MECHANICAL JOINT RESTRAINT SYSTEM MUST BE USED FOR VERTICAL BENDS.
7. AT THE DISCRETION OF THE ENGINEER, A JOINT RESTRAINT SYSTEM MAY BE SUBSTITUTED FOR OR USED IN COMBINATION WITH PROPER THRUST BLOCKING.
8. A 48 HR. CURING PERIOD MUST BE GIVEN BEFORE FULL LINE PRESSURE CAN BE APPLIED TO NEW CONCRETE THRUST BLOCKS.
9. THRUST BLOCK DESIGN FOR PIPE LARGER THAN 24" SHALL BE REVIEWED ON AN INDIVIDUAL BASIS BY THE BCWA.
10. THE RESTRAINED LENGTH IS BASED ON DUCTILE IRON PIPE WITH 4 FOOT COVER. IF THE DEPTH VARIES, OR THE DUCTILE IRON PIPE IS POLY WRAPPED THE RESTRAINED LENGTH MUST BE RE-CALCULATED.
11. WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

BRISTOL COUNTY WATER AUTHORITY		SECTION WATER MAIN INSTALLATION	DECEMBER 2018	REVISIONS: 1/2018 - CONVERTED TO AUTOCAD
450 CHILD STREET, WARREN, RHODE ISLAND	BRISTOL, COUNTY WATER AUTHORITY	DETAIL No.	WA-4	
THRUST BLOCK				
NOT TO SCALE				

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 9

DRAWING NO.:
C8.9

SHEET NO. 67 OF 159

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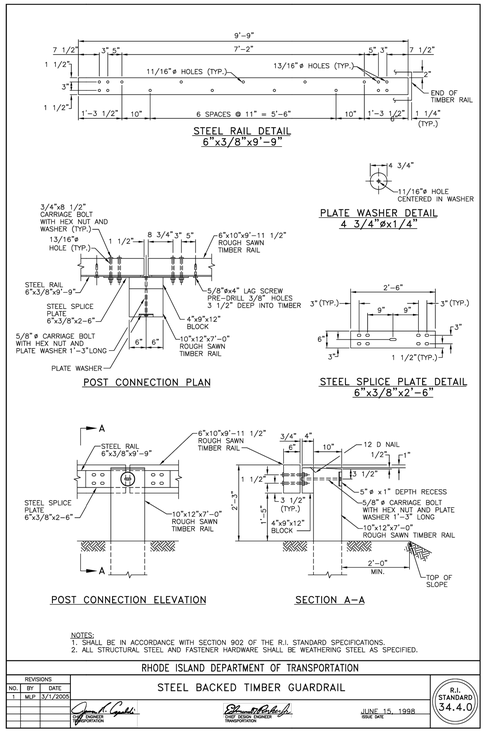


NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 902 OF THE R.I. STANDARD SPECIFICATIONS.
2. ALL STRUCTURAL STEEL AND FASTENER HARDWARE SHALL BE WEATHERING STEEL AS SPECIFIED.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

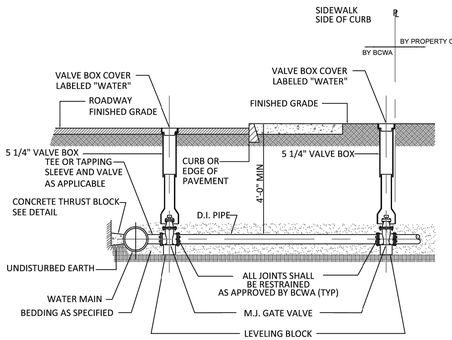
REVISIONS		
NO.	BY	DATE
1	MLP	3/1/2005

STEEL BACKED TIMBER GUARDRAIL

R.I. STANDARD 34.4.0

JUNE 15, 1998 ISSUE DATE

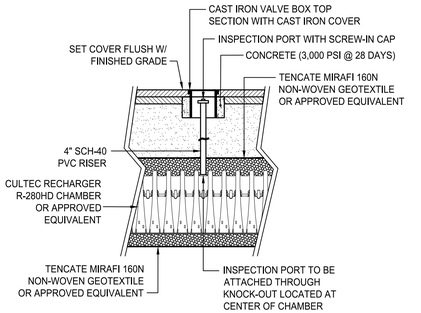
NOTES:
1. FOR ALL LOCATIONS, DETECTABLE WARNING PANELS SHALL BE INSTALLED IN ACCORDANCE WITH LANDSCAPE DRAWINGS AND SPECIFICATION 321212 CONCRETE PAVING



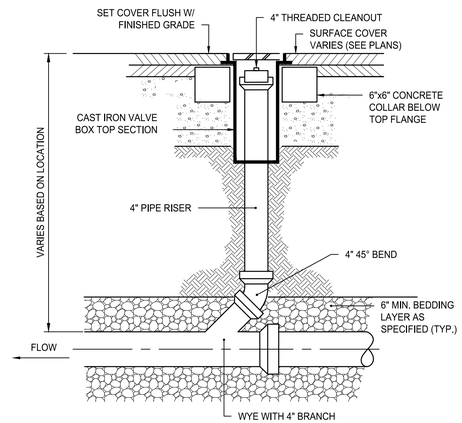
NOTE:

1.) ALL SERVICE MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
2.) SERVICE LINE FROM GATE BOX TO BUILDING SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
3.) TAPPING SLEEVE TO BE PRESSURE TESTED PRIOR TO INSTALLATION.
4.) STREET SIDE OF SERVICE TO BE INSTALLED FIRST, LOCATION TO BE DETERMINED BY BCWA.
5.) WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

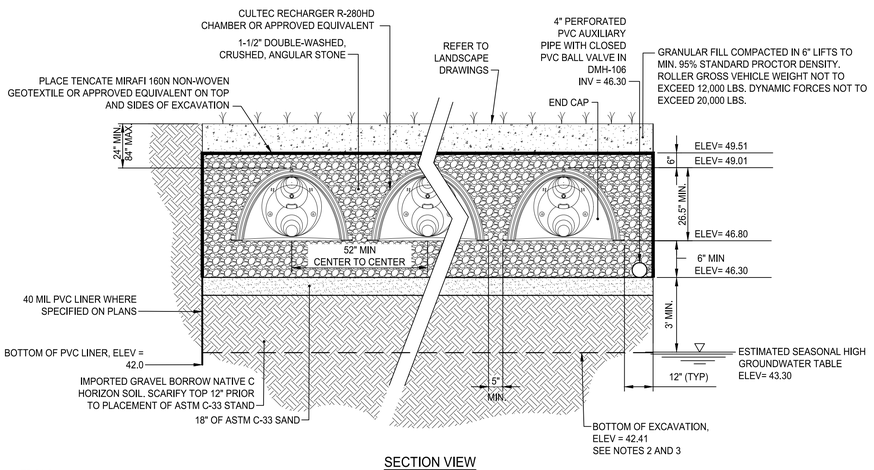
BRISTOL COUNTY WATER AUTHORITY		SECTION	DECEMBER 2018	REVISIONS
400 CHILD STREET, WARREN, RHODE ISLAND	BCWA BRISTOL COUNTY WATER AUTHORITY	WATER MAIN INSTALLATION		1/1/2018 - CONVERTED TO AUTOCAD
WATER SERVICE CONNECTION GREATER THAN 4-INCHES		DETAIL No.		
NOT TO SCALE		WA-7		



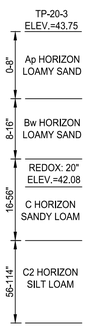
INSPECTION PORT DETAIL
NOT TO SCALE



CLEANOUT DETAIL
NOT TO SCALE



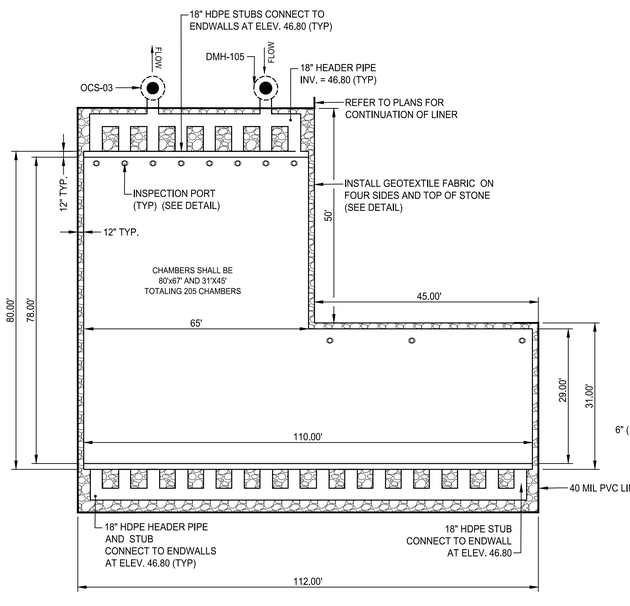
SECTION VIEW



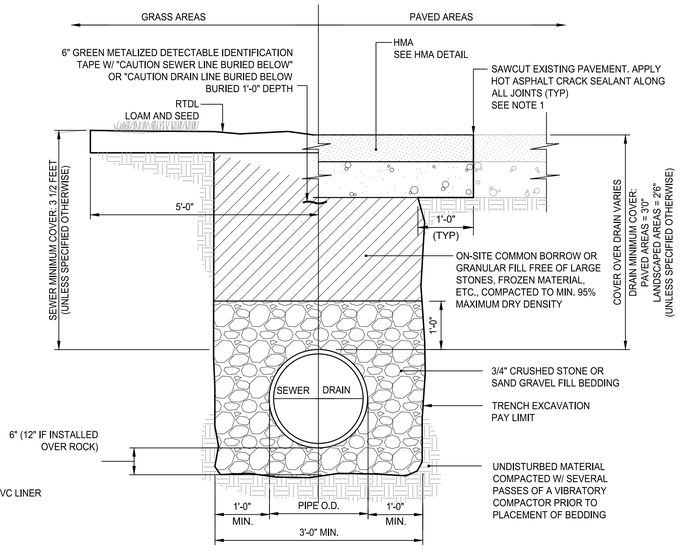
NOTES:

1. CONTRACTOR SHALL TAKE PRECAUTION NOT TO COMPACT SUBGRADE.
2. CONTRACTOR SHALL EXCAVATE TO C-HORIZON SOILS WITHIN LIMITS OF INFILTRATION. CONTRACTOR SHALL EXCAVATE TO B-HORIZON SOILS OUTSIDE OF LIMITS OF INFILTRATION.
3. GRAVEL BORROW MATERIAL UNDER UGIS SHALL CONFORM TO A USDA LOAMY SAND OR SANDY LOAM SOIL TEXTURE. CONTRACTOR SHALL SEND A SAMPLE TO THE ENGINEER TO CLASSIFY THE USDA SOIL TEXTURE AS PART OF THE SUBMITTAL.
4. CONTRACTOR SHALL NOT PLACE OR OPERATE HEAVY MACHINERY ON SUBGRADE OF INFILTRATING AREAS.
5. CONTRACTOR SHALL NOTIFY ENGINEER (48 HRS MIN) PRIOR TO EXPOSING SUBGRADE TO SCHEDULE SUBGRADE OBSERVATION.
6. ONCE CONTRACTOR HAS SUBGRADE EXPOSED, THE ENGINEER SHALL BE CONTACTED FOR SUBGRADE OBSERVATION.
7. CONSTRUCTION OF THE SYSTEM SHALL NOT PROCEED FURTHER UNTIL ENGINEER OBSERVES SUBGRADE, STOCKPILED CRUSHED STONE PRIOR TO INSTALLATION.
8. CONTRACTOR SHALL INSTALL UNDERGROUND INFILTRATION SYSTEM PER MANUFACTURERS RECOMMENDATIONS.
9. ESHGWT AS DETERMINED BY INTERPOLATING THE GROUNDWATER OBSERVED AT TP-20-3

UNDERGROUND INFILTRATION SYSTEM
NOT TO SCALE



PLAN VIEW



NOTES:

1. WHERE THE DISTANCE BETWEEN THE SAWCUT AND EDGE OF PAVEMENT IS 3' OR LESS, THE CONTRACTOR SHALL REPLACE THE PAVEMENT FROM THE TRENCH EDGE TO THE EXISTING EDGE OF PAVEMENT.
2. 3/4" DIA. CRUSHED STONE SHALL BE USED AS BEDDING WHERE TRENCH IS BELOW THE GROUND WATER TABLE.

GRAVITY SEWER/DRAIN TRENCH DETAIL
NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
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Bristol, Rhode Island

DAVID L. POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
exp. 10.31.25

REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

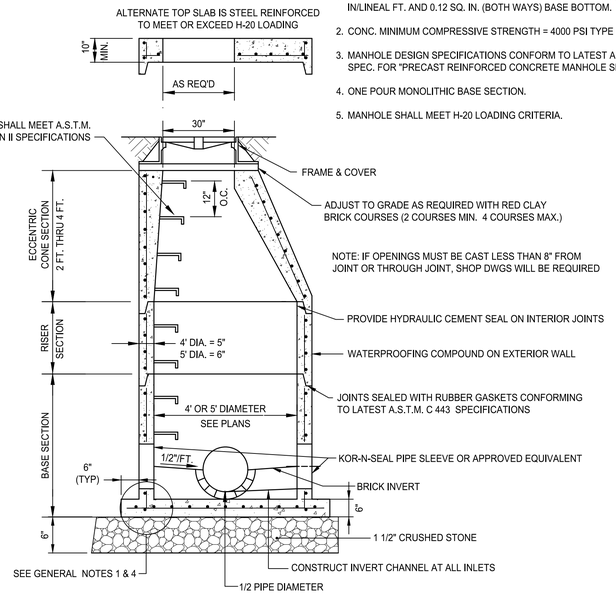
DRAWING TITLE:
DETAILS 10

DRAWING NO.:
C8.10
SHEET NO. 68 OF 159

Z:\...\23099.01 - Mt Hope HS - RIDEP Stage III-A\--RI\DWGS\DETAILS.dwg

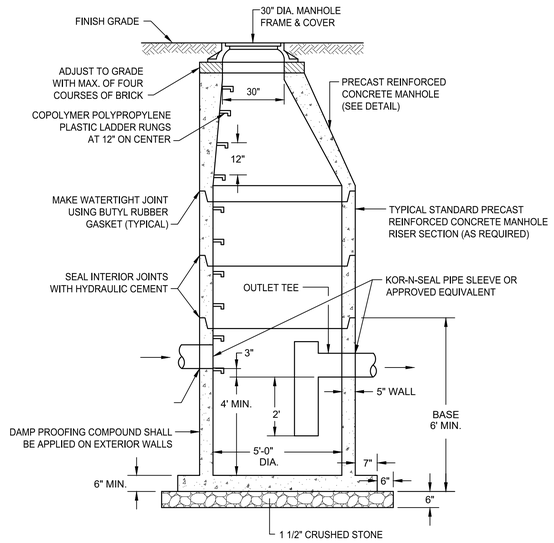
GENERAL NOTES:

1. REINFORCING STEEL CONFORMS TO LATEST A.S.T.M. A 185 SPEC. 0.12 SQ. IN/LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
2. CONC. MINIMUM COMPRESSIVE STRENGTH = 4000 PSI TYPE III CEMENT.
3. MANHOLE DESIGN SPECIFICATIONS CONFORM TO LATEST A.S.T.M. C 478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
4. ONE POUR MONOLITHIC BASE SECTION.
5. MANHOLE SHALL MEET H-20 LOADING CRITERIA.



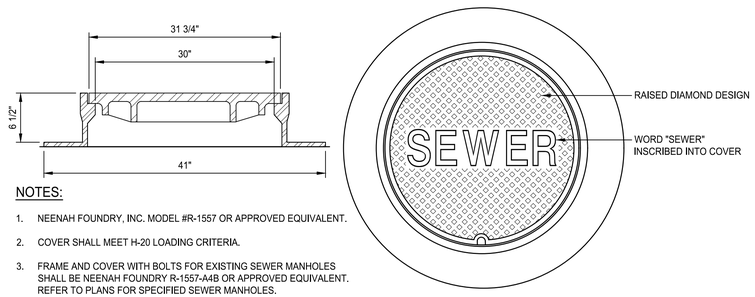
TYPICAL SEWER MANHOLE DETAIL

NOT TO SCALE



PRECAST CONCRETE OIL WATER SEPARATOR (OWS)

NOT TO SCALE

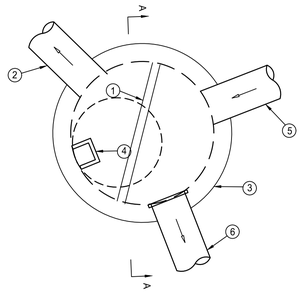


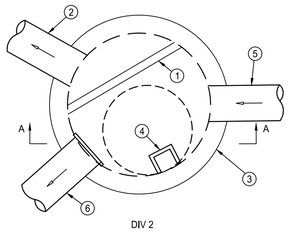
NOTES:

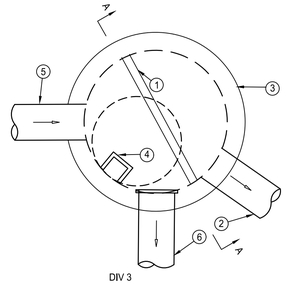
1. NEENAH FOUNDRY, INC. MODEL #R-1557 OR APPROVED EQUIVALENT.
2. COVER SHALL MEET H-20 LOADING CRITERIA.
3. FRAME AND COVER WITH BOLTS FOR EXISTING SEWER MANHOLES SHALL BE NEENAH FOUNDRY R-1557-A4B OR APPROVED EQUIVALENT. REFER TO PLANS FOR SPECIFIED SEWER MANHOLES.

SANITARY MANHOLE FRAME & COVER

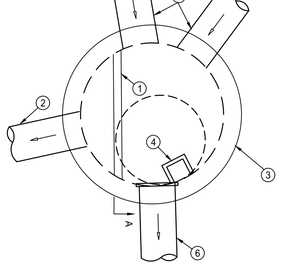
NOT TO SCALE

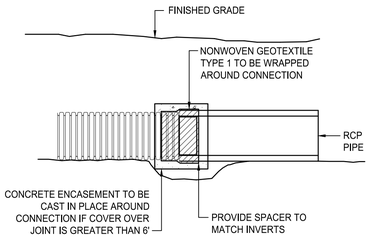


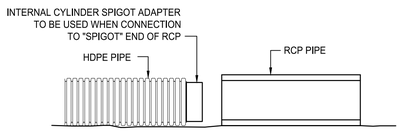




	Ⓐ	Ⓑ	Ⓒ
DIV-1	46.10	11	47.00
DIV-2	56.15	8	56.80
DIV-3	44.10	9	44.85
DIV-4	46.90	18	48.40





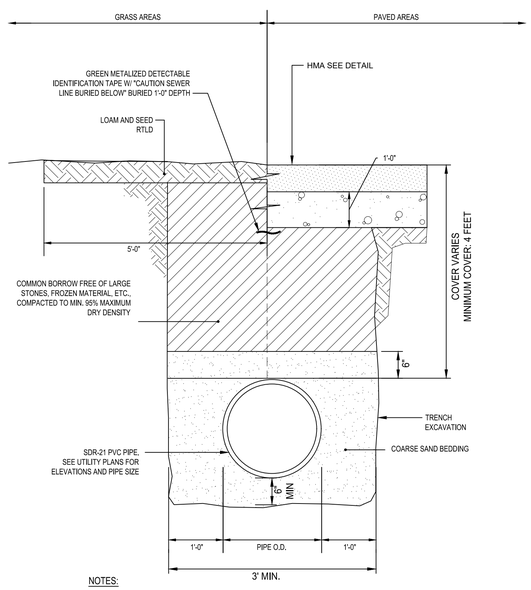


NOTES:

1. INTERNAL CYLINDER ADAPTER TO BE WELDED TO HDPE, OUTSIDE DIAMETER TO BE INSERTED INTO INSIDE DIAMETER OF CONCRETE PIPE.
2. NON-WOVEN GEOTEXTILE TO BE WRAPPED AROUND CONNECTION WITH FULL SEAM OVERLAP TO PROVIDE FULL PROTECTION FROM SOIL INTRUSION.
3. CONNECTION TO BE MADE IN ACCORDANCE WITH PIPE MANUFACTURER'S REQUIREMENTS.
4. INTERNAL CYLINDER SPIGOT ADAPTER NOT REQUIRED IF HDPE IS CONNECTION TO "BELL" END OF RCP.

HDPE/RCP PIPE JOINT

NOT TO SCALE

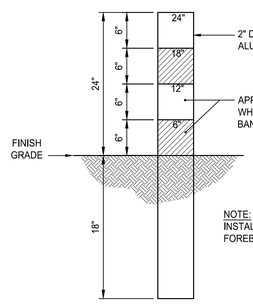


NOTES:

1. FOR PIPE INSTALLATION IN ROCK OR LEDGE MINIMUM TRENCH WIDTH SHOULD EQUAL THE DIAMETER OF THE PIPE PLUS 18 INCHES ON EACH SIDE.

TYPICAL SEWER FORCE MAIN TRENCH DETAIL

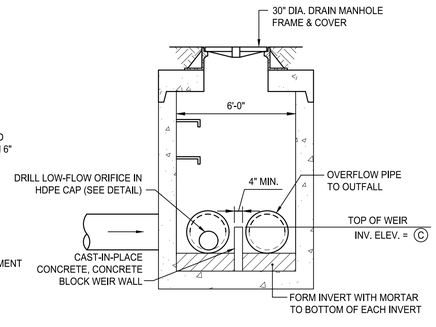
NOT TO SCALE



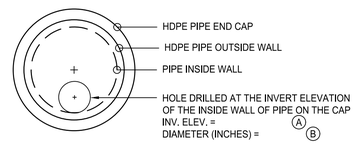
NOTE:
INSTALL IN ALL SEDIMENT FOREBAYS.

SEDIMENT MARKER DETAIL

NOT TO SCALE



SECTION A-A DIVERSION WEIR WALL ELEVATION



CAP ELEVATION

TYPICAL NOTES LEGEND

1. CAST IN PLACE CONCRETE DIVERSION WEIR WALL (4" WIDE)
2. OVERFLOW PIPE TO OUTFALL
3. PRECAST 6' DIAMETER MANHOLE (RIDOT STANDARD 4.2.2)
4. PROVIDE STEPS PER RIDOT STANDARD 4.2.1
5. PIPE IN
6. PIPE WITH CAP AND LOW FLOW WATER QUALITY ORIFICE (REFER TO CAP DETAIL) TO BIORETENTION AREA / SAND FILTER

TYPICAL DIVERSION MANHOLE DETAIL

NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
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DAVID L. POTTER
No. 8665
06.10.25
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

REVISIONS:

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SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DETAILS 11

DRAWING NO.:
C8.11

SHEET NO. 69 OF 159

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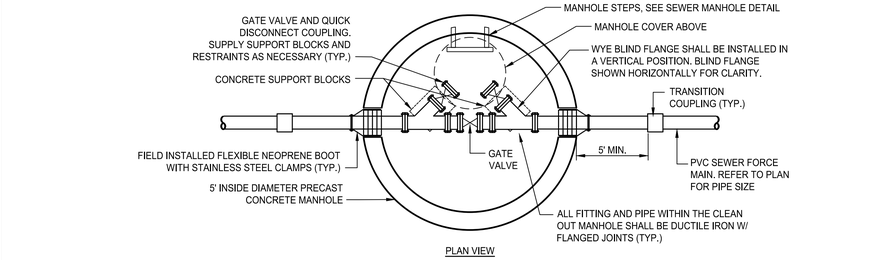
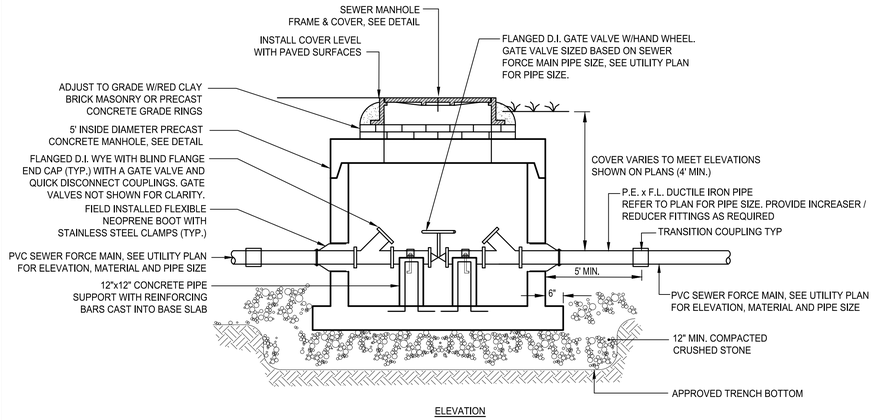


PLAN VIEW



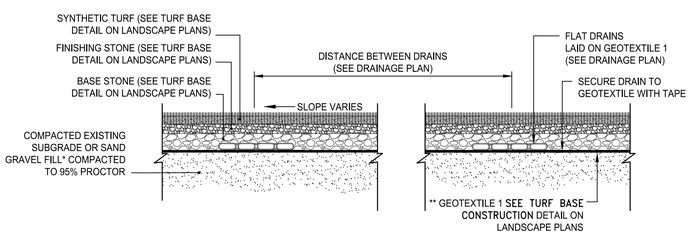
ELEVATION

NOTES:

1. MATERIAL BENEATH AND SURROUNDING EACH MANHOLE SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY.
2. ALL JOINTS BETWEEN MANHOLE SECTIONS SHALL BE SEALED WITH A BITUMASTIC SEALANT. ALL EXTERIOR JOINTS SHALL BE PARGED.

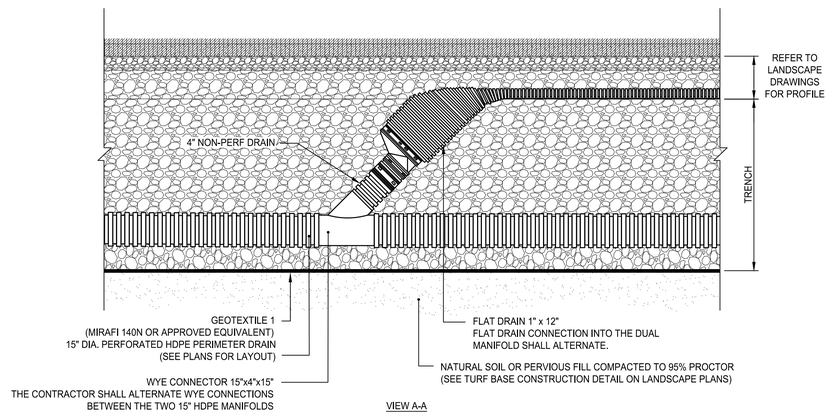
FORCE MAIN CLEANOUT MANHOLE

NOT TO SCALE



FLAT DRAINS UNDER SYNTHETIC TURF FIELD

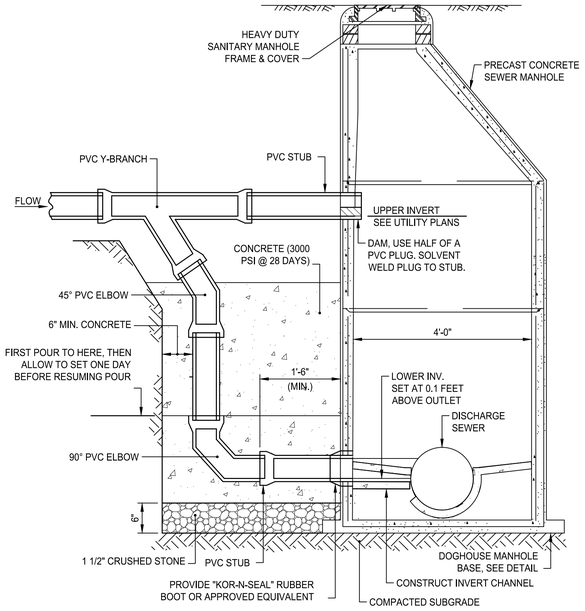
NOT TO SCALE



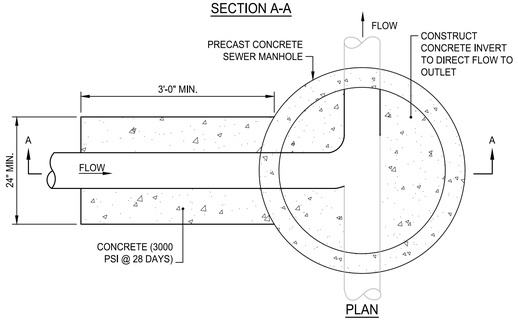
VIEW A-A

CONNECTION BETWEEN FLAT DRAIN & PERIMETER OR COLLECTOR DRAIN

NOT TO SCALE



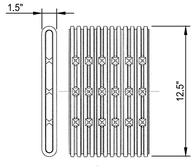
SECTION A-A



PLAN

OUTSIDE DROP MANHOLE DETAIL

NOT TO SCALE



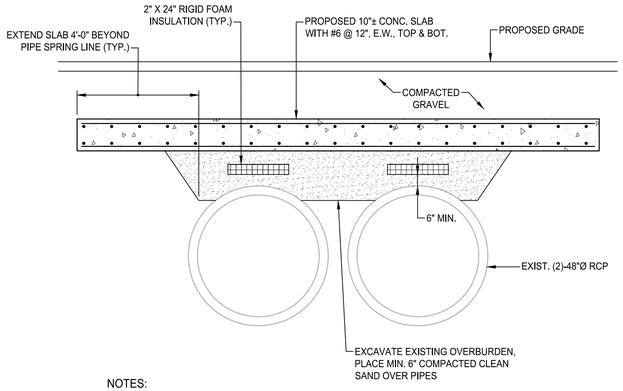
SLOT LENGTH (AVG), IN.= 1.125
SLOT WIDTH (AVG), IN.= 0.125
WATER INLET AREA (APPROX), IN.^{2}/FT = 20

Fabric Properties	Test Method	Minimum Average Roll Values
Grab Tensile Strength (lbs.) (weakest principle direction)	ASTM D4632	120
Grab Elongation (%) (weakest principle direction)	ASTM D4633	60
Trapezoidal Tear (lbs.) (weakest principle direction)	ASTM D4533	40
Puncture (lbs.)	ASTM D3786	30
Permittivity (sec^{-1})	ASTM D4491	0.7
AOS (U.S. Sieve Size)	ASTM D4751	60
U.V. Resistance	ASTM D4355	70

NOTES:
1. DRAIN SHALL HAVE ANNULAR INTERIOR AND EXTERIOR CORRUGATIONS AND SHALL MEET ASTM D7001.
2. OUTSIDE DIMENSIONS SHALL BE 1.5" THICK BY 12.5" WIDE. SHALL HAVE INTERNAL BRACING ADJOINING EACH LONG WALL TO PREVENT CRUSHING UNDER TYPICAL LOADING.
3. ALL PIPE AND FITTINGS SHALL BE MADE OF POLYETHYLENE WITH A MINIMUM CELL CLASSIFICATION OF 424420C AS DEFINED AND DESCRIBED IN ASTM D3350.
4. DRAIN SHALL BE WRAPPED AS REQUIRED IN GEOTEXTILE FABRIC PER MANUFACTURER'S RECOMMENDATIONS.

FLAT DRAIN

NOT TO SCALE

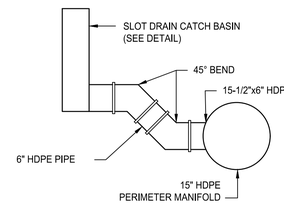


NOTES:

1. THIS DETAIL IS PROVIDED FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL INCLUDE COST FOR DESIGN AND INSTALLATION OF CROSSING IN BASE BID.
2. CONTRACTOR SHALL HIRE A STRUCTURAL ENGINEER TO PREPARE DESIGN DRAWINGS AND CALCULATIONS FOR A PROPOSED ROADWAY CROSSING OVER EXISTING 48" DIAMETER CULVERT PIPES.
3. ROADWAY CROSSING SHALL BE DESIGNED TO WITHSTAND H-20 LOADING CRITERIA, DISPERSE LOADS OFF EXISTING CULVERTS, AND AVOID DAMAGE TO EXISTING CULVERT PIPES. ROADWAY CROSSING IS WITHIN THE EXISTING FLOOD ZONE AND SHALL BE CAPABLE OF WITHSTANDING INUNDATION AND FORCES EXERTED BY SILVER CREEK DURING STORM EVENTS.
4. CONTRACTOR SHALL PROVIDE SUBMITTAL STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF RHODE ISLAND INCLUDING CALCULATIONS, PLANS, SECTION AND DETAILS FOR REVIEW BY THE OWNER'S REPRESENTATIVE.
5. CONTRACTOR SHALL SELECTIVELY DEMOLISH EXISTING FOUNDATION OVER EXISTING CULVERTS. CONTRACTOR SHALL PHOTODOCUMENT CULVERT PIPES BEFORE AND AFTER CONSTRUCTION TO CONFIRM THERE IS NO DAMAGE TO PIPES. COPY OF PHOTODOCUMENTATION SHALL BE PROVIDED TO OWNER'S REPRESENTATIVE.
6. SUBMITTAL SHALL DEPICT PORTIONS OF EXISTING FOUNDATION TO BE REMOVED AND PORTIONS OF FOUNDATION THAT WILL REMAIN IN PLACE.
7. 7. CONTRACTOR IS MADE AWARE THAT THE CROSSING IS WITHIN A FLOOD ZONE. DURING CONSTRUCTION, CONTRACTOR IS RESPONSIBLE TO ENSURE THAT PROPOSED IMPROVEMENTS ARE PROTECTED FROM FLOODING WITHIN SILVER CREEK.

HEAVY DUTY HOT MIX ASPHALT WITH 10" REINFORCED CONCRETE SLAB FOR CULVERT CROSSING

NOT TO SCALE



ATHLETIC FIELD SLOT DRAIN CONNECTION TO PERIMETER MANIFOLD

NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
10.25

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

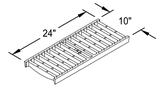
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:
DETAILS 12

DRAWING NO.:
C8.12

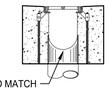
SHEET NO. 70 OF 159

Z:\JOBS\23_Jobs\23099.01 BWRSD Mt Hope HS-RIDE Design\04-Civil\01DWGS\DETAILS.dwg



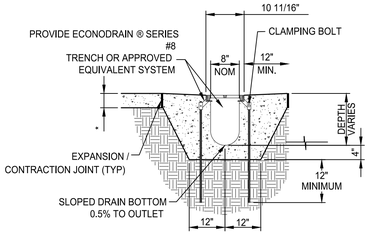
- STANDARD -
H-20 CAST IRON GRATE
55% OPEN AREA
65.8 SQ. INCHES PER LINEAR FOOT

GRATE DETAIL

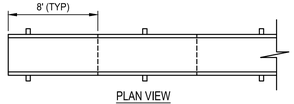


CUT OUTLET PIPE TO MATCH PROFILE OF TRENCH DRAIN

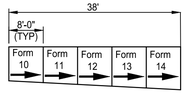
OUTLET FROM END OF TRENCH



SHALLOW EPS FORMS		
EPS FORM	DEPTH MIN	DEPTH MAX
10	8"	8 1/2"
11	8 1/2"	9"
12	9"	9 1/2"
13	9 1/2"	10"
14	10"	10 1/2"



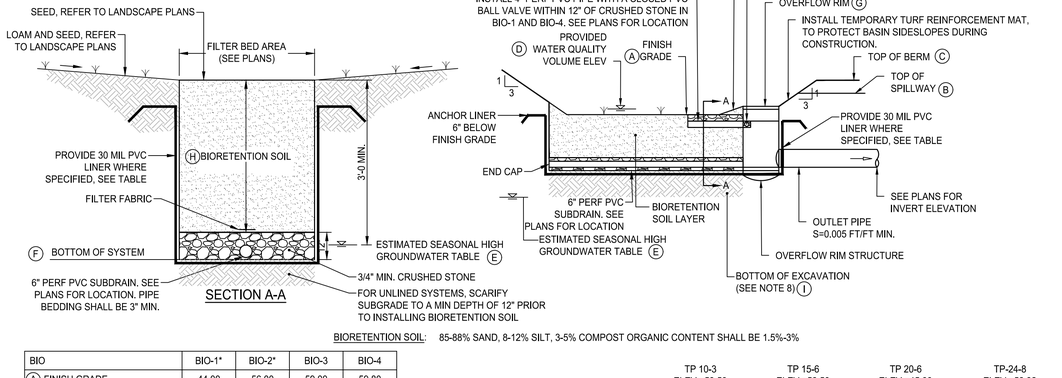
PLAN VIEW



SECTION

CONSTRUCTION NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
2. SECURE OUTLET PIPE PRIOR TO CONCRETING OPERATIONS.
3. TRENCH DRAIN AND GRATE SHALL BE RATED TO WITHSTAND H-20 LOADING CRITERIA.
4. REFER TO LANDSCAPING DRAWINGS FOR ATHLETIC TRENCH DRAINS.

TRENCH DRAIN DETAIL
NOT TO SCALE



SECTION A-A

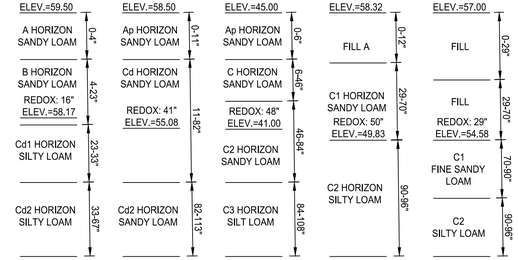
BIORETENTION SOIL: 85-88% SAND, 8-12% SILT, 3-5% COMPOST ORGANIC CONTENT SHALL BE 1.5%-3%

BIO	BIO-1*	BIO-2*	BIO-3	BIO-4
(A) FINISH GRADE	44.00	56.00	59.00	59.80
(B) TOP OF SPILLWAY	45.00	57.50	N/A	N/A
(C) TOP OF BERM	46.00	58.50	61.50	62.00
(D) PROVIDED WQV	44.50	54.66	58.91	58.42
(E) ESTIMATED SEASONAL HIGH GROUNDWATER TABLE	41.00	54.58	56.37	56.68
(F) BOTTOM OF SYSTEM	42.00	52.00	55.25	56.80
(G) OVERFLOW RIM	44.50	56.50	59.75	60.30
TEST PITS REFERENCED	TP 20-6	TP 24-9	TP 24-8	TP 10-3 TP 15-6
(H) BIORETENTION MEDIA DEPTH	24"	36"	33"	36"
(I) BOTTOM OF EXCAVATION	41.20	52.00	55.25	56.50
IS THE SYSTEM LINED?	NO	YES	YES	NO
DOES THE SYSTEM HAVE A SUBDRAIN?	NO	YES	YES	NO
DOES THE SYSTEM HAVE A AUXILIARY DRAIN PIPE?	YES	NO	NO	YES

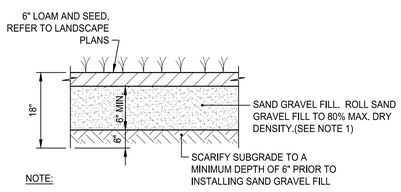
* SIDEWALK GRATE

NOTES:
1. ESHGWT WAS DETERMINED BY TEST PIT DATA PERFORMED ON FEBRUARY 22, 2010, JULY 23, 2015, OCTOBER 9, 2020, AND JULY 18, 2024.

BIORETENTION DETAIL
NOT TO SCALE

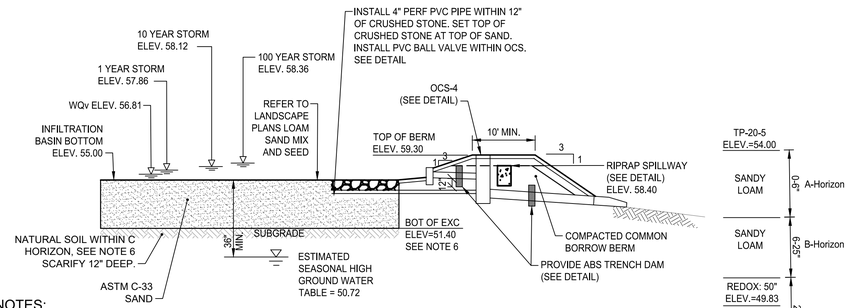


BIORENTION NOTES:
1. ABSOLUTELY NO RUNOFF SHALL ENTER THE BIORETENTION AREA UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.
2. CONSTRUCTION EQUIPMENT AND TRAFFIC SHALL BE RESTRICTED FROM TRAVELING OVER THE SAND FILTER AREA TO MINIMIZE COMPACTION OF THE SOILS.
3. IF NECESSARY, UTILIZE LIGHT-TRACKED EQUIPMENT WHEN EXCAVATING WITHIN THE BMP AREA TO AVOID COMPACTION OF THE BASIN FLOOR.
4. INITIAL EXCAVATION SHALL BE CARRIED TO WITHIN 1 FOOT OF THE SUBGRADE ELEVATION. FINAL EXCAVATION TO THE BASIN SUBGRADE SHALL BE DEFERRED UNTIL ALL UPSTREAM DISTURBED AREAS HAVE BEEN STABILIZED OR PROTECTED.
5. CONTRACTOR SHALL CONTACT THE ENGINEER 48 HOURS PRIOR TO EXPOSING THE SUBGRADE TO COORDINATE ENGINEER'S OBSERVATION OF SUBGRADE.
6. CONSTRUCTION OF THE SYSTEM SHALL NOT PROCEED FURTHER UNTIL ENGINEER OBSERVES SUBGRADE AND BACKFILL MEDIA PRIOR TO INSTALLATION.
7. ESHGWT FOR BIO-04 WAS DETERMINED BY INTERPOLATING THE GROUNDWATER OBSERVED AT TP-10-3 AND TP-15-6.
8. THE CONTRACTOR SHALL EXCAVATE EXISTING SUBGRADE PER THE SPECIFIED ELEVATION. THE CONTRACTOR SHALL BACKFILL EXCAVATED MATERIAL WITH ASTM C-33 SAND.



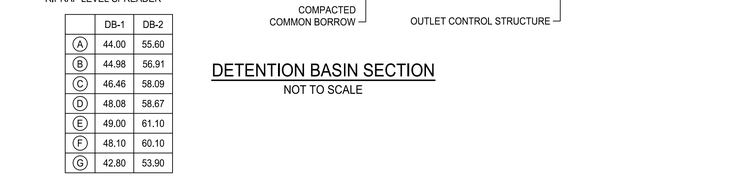
NOTE:
1. IF SOIL IN THE QPA HAS BEEN COMPACTED, THE SOIL MUST BE SUITABLY AMENDED, TILLED, AND RE-VEGETATED ONCE CONSTRUCTION IS COMPLETE.

QUALIFYING PERVIOUS AREA DETAIL
NOT TO SCALE



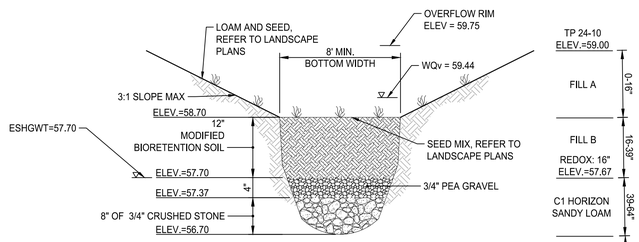
NOTES:
1. DO NOT COMPACT OR RUN HEAVY MACHINERY WITHIN BASIN.
2. ONCE CONTRACTOR HAS SUBGRADE EXPOSED, THE ENGINEER SHALL BE CONTACTED FOR OBSERVATION.
3. INFILTRATION BASIN SUBGRADE SHALL BE SCARIFIED 12" DEEP PRIOR TO PLACEMENT OF SAND LAYER.
4. RUNOFF SHALL NOT BE DIRECTED INTO THE BASIN UNTIL THE VEGETATION ON THE SIDE SLOPES HAS ESTABLISHED AND ALL UPSTREAM AREAS ARE STABILIZED.
5. BASIN BERM SHALL BE CONSTRUCTED WITH COMMON BORROW PLACED IN 12" LIFTS AND COMPACTED TO 95% TO FINISH GRADE. REMOVE ALL EXISTING TOPSOIL AND ORGANIC MATERIAL PRIOR TO CONSTRUCTION OF BASIN BERM. COMMON BORROW SHALL EXTEND 12" BELOW BASIN BOTTOM.
6. CONTRACTOR SHALL EXCAVATE ACROSS THE BASIN BOTTOM AS REQUIRED TO FULLY REMOVE THE 'A' AND 'B'-HORIZON SOILS. ASTM C-33 SAND SHALL BE PLACED TO PROPOSED SUBGRADE.
7. ESHGWT WAS DETERMINED BY INTERPOLATING THE GROUNDWATER OBSERVED AT TP-20-5.

INFILTRATION BASIN SECTION
NOT TO SCALE



	DB-1	DB-2
(A)	44.00	55.60
(B)	44.98	56.91
(C)	46.46	58.09
(D)	48.08	58.67
(E)	49.00	61.10
(F)	48.10	60.10
(G)	42.80	53.90

DETENTION BASIN SECTION
NOT TO SCALE



MODIFIED BIORETENTION SOIL: 75-80% SAND, 20-25% COMPOST SHALL BE WELL-AGED LEAF COMPOST

NOTES:
1. THE CONTRACTOR SHALL EXCAVATE ACROSS THE SWALE BOTTOM AS REQUIRED TO FULLY REMOVE THE 'A' AND 'B'-HORIZON SOILS. ASTM C-33 SAND SHALL BE PLACED TO PROPOSED SUBGRADE.
2. SEE PLANS FOR LOCATION AND INVERTS OF CATCH BASINS.
3. ESHGWT AS DETERMINED BY INTERPOLATING THE GROUNDWATER OBSERVATIONS OBSERVED ON JULY 18, 2024 AND FEBRUARY 22, 2010.

WET SWALE
NOT TO SCALE

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
04.10.25

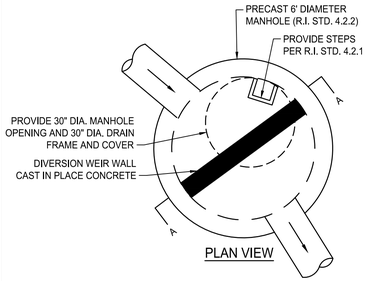
REVISIONS:		
	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

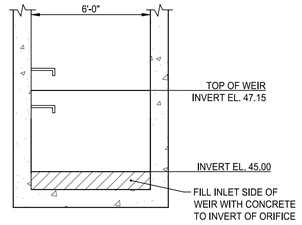
DRAWING TITLE:
DETAILS 13

DRAWING NO.:
C8.13
SHEET NO. 71 OF 159

Z:\JOBS\23_obs\23099.01 BMROS at Hope HS-ROE Slope Rv-Kv-DMC\10\TAU.dwg



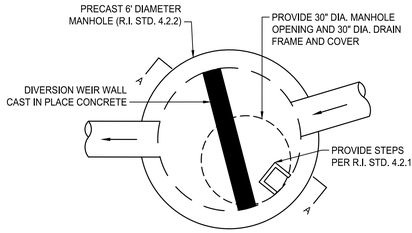
PLAN VIEW



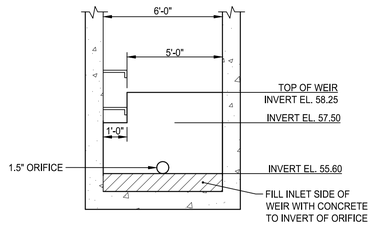
SECTION A-A WEIR WALL ELEVATION

OUTLET CONTROL STRUCTURE (OCS-1)

NOT TO SCALE



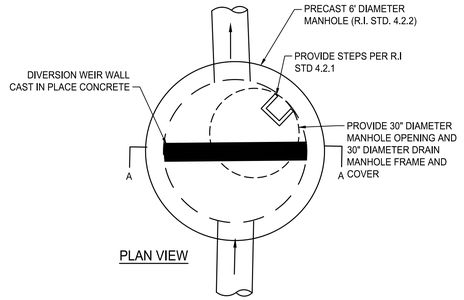
PLAN VIEW



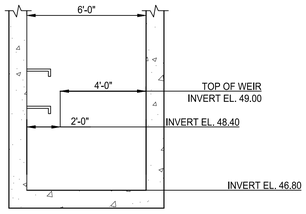
SECTION A-A WEIR WALL ELEVATION

OUTLET CONTROL STRUCTURE (OCS-2)

NOT TO SCALE



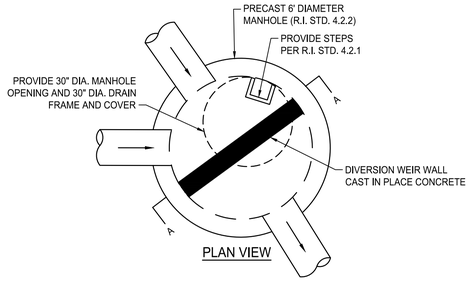
PLAN VIEW



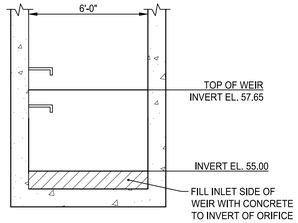
SECTION A-A WEIR WALL ELEVATION

OUTLET CONTROL STRUCTURE (OCS-03)

NOT TO SCALE



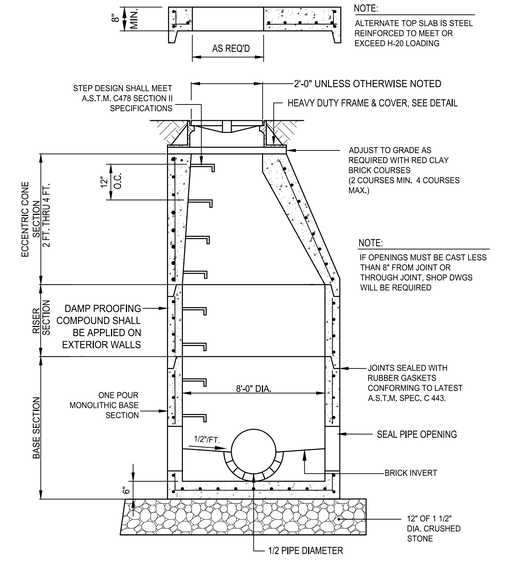
PLAN VIEW



SECTION A-A WEIR WALL ELEVATION

OUTLET CONTROL STRUCTURE (OCS-4)

NOT TO SCALE

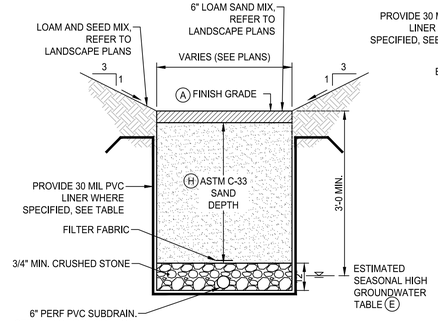


NOTES:

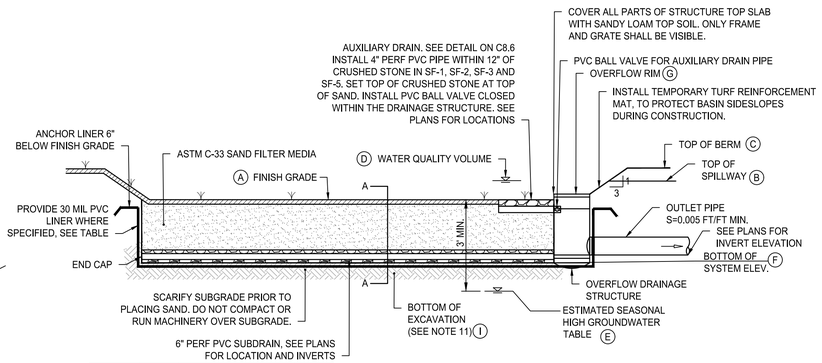
1. CONCRETE: 5,000 PSI MINIMUM STRENGTH AFTER 28 DAYS.
2. DESIGN LOADING: AASHTO HS20-44, 0 TO 5 FEET COVER.
3. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60. STEEL REINFORCEMENT SHALL BE MINIMUM OF 0.15 SQ IN/LF.
4. STRUCTURE SHALL CUSTOM MANUFACTURED FOR THE PROHJECT INLETS AND OUTLET.

8' DIA DRAIN MANHOLE DETAIL

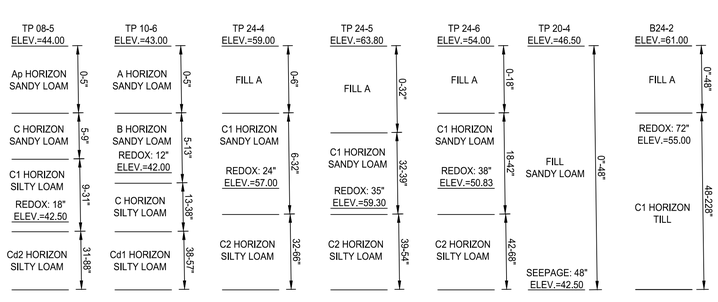
NOT TO SCALE



SECTION A-A

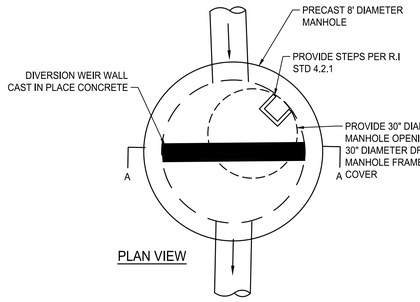


SAND FILTER	SF-1	SF-2	SF-3	SF-4	SF-5
A	46.00	54.85	60.00	61.00	49.00
B	48.10	56.00	61.10	N/A	50.2
C	49.00	57.00	62.00	62.00	51.50
D	46.63	55.02	57.97	59.00	49.35
E	42.50	51.83	53.30	63.40	45.40
F	42.50	51.85	57.00	58.00	46.00
G	46.65	55.25	60.65	61.50	49.75
H	36"	30"	30"	18"	30"
I	41.50	50.50	52.75	58.00	42.50
TEST PIT	TP 08-5 TP 10-6	TP 24-6	TP 24-4 TP 24-6 TP 20-05	TP 24-5 TP 24-4	TP20-4
LINED	NO	NO	NO	YES	NO
SUBDRAIN	NO	NO	NO	YES	NO
AUXILIARY DRAIN	YES	YES	YES	YES	YES

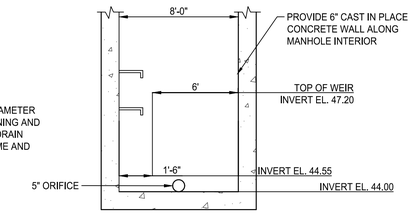


SAND FILTER DETAIL

NOT TO SCALE



PLAN VIEW



SECTION A-A WEIR WALL ELEVATION

OUTLET CONTROL STRUCTURE (OCS-05)

NOT TO SCALE

SAND FILTER NOTES:

1. ABSOLUTELY NO RUNOFF SHALL ENTER THE SAND FILTER AREA UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.
2. CONSTRUCTION EQUIPMENT AND TRAFFIC SHALL BE RESTRICTED FROM TRAVELING OVER THE SAND FILTER AREA TO MINIMIZE COMPACTION OF THE SOILS.
3. IF NECESSARY, UTILIZE LIGHT-TRACKED EQUIPMENT WHEN EXCAVATING WITHIN THE SAND FILTER AREA TO AVOID COMPACTION OF THE BASIN FLOOR.
4. INITIAL EXCAVATION SHALL BE CARRIED TO WITHIN 1 FOOT OF THE SUBGRADE ELEVATION. FINAL EXCAVATION TO THE BASIN SUBGRADE SHALL BE DEFERRED UNTIL ALL UPSTREAM DISTURBED AREAS HAVE BEEN STABILIZED OR PROTECTED.
5. CONTRACTOR SHALL CONTACT THE ENGINEER 48 HOURS PRIOR TO EXPOSING THE SUBGRADE TO COORDINATE ENGINEER'S OBSERVATION OF SUBGRADE.
6. CONSTRUCTION OF THE SYSTEM SHALL NOT COMMENCE UNTIL ENGINEER OBSERVES SUBGRADE AND BACKFILL MEDIA AND GRANTS PERMISSION TO PROCEED.
7. SEED WITHIN SAND FILTER SHALL BE NATIVE SEED MIX PER R.I. STD. M.18.10.6.
8. SCREENED LOAM SHALL PLACED ABOVE THE SAND FILTER MEDIA SHALL CONFORM TO "LOAMY SAND" PER USDA TEXTURAL CLASSIFICATION SYSTEM.
9. ESHGWT WAS DETERMINED BY FROM TEST PIT DATA PERFORMED ON NOVEMBER 17, 2008, FEBRUARY 22, 2010, JULY 23, 2015, OCTOBER 9, 2020 AND JULY 18, 2024.
10. SAND FILTER-01 OVERFLOW DRAINAGE STRUCTURE (AD-412) SHALL HAVE A NEENAH FOUNDRY10" DIA. GRATE, MODEL #1291-5626 OR APPROVED EQUIVALENT. GRATE SHALL BE H-20 LOAD RATING AND COMPATIBLE WITH THE AREA DRAIN PRODUCT SPECIFIED. CONTRACTOR SHALL PROVIDE A CAP STYLE 12" TO 24" REDUCER WITH A DUCTILE IRON BASE PLATE MANUFACTURED BY NYLOPLAST OR APPROVED EQUIVALENT
11. THE CONTRACTOR SHALL EXCAVATE EXISTING SUB GRADE PER THE SPECIFIED ELEVATION. THE CONTRACTOR SHALL BACK FILL EXCAVATED MATERIAL WITH ASTM C-33 SAND.

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

DAVID L. POTTER
No. 8665
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
10.25

REVISIONS:

	02-11-2025	PRELIM PLAN RTC
1	04-17-2025	RIDEM RTC
2	06-02-2025	RIDEM RTC
3	06-10-2025	PRELIM PLAN RTC

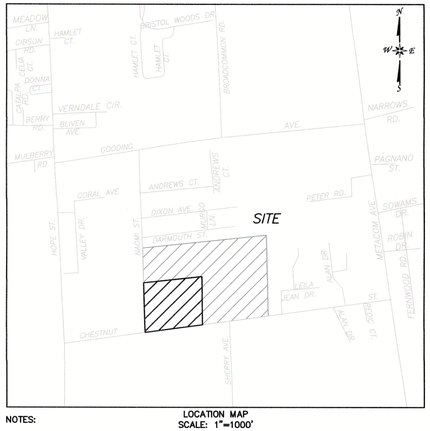
PROJECT NO.:	23099.01
DATE:	JANUARY 10, 2025
SCALE:	NOT TO SCALE
DESIGNED BY:	ACB
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP

DRAWING TITLE:

DETAILS 14

DRAWING NO.:
C8.14
SHEET NO. 72 OF 159

Z:\JOBS\23099.01 Mt Hope HS-RIDE Phase III-IV-RI\DWGS\C8\C8.14.dwg



LOCATION MAP
SCALE: 1"=1000'

NOTES:

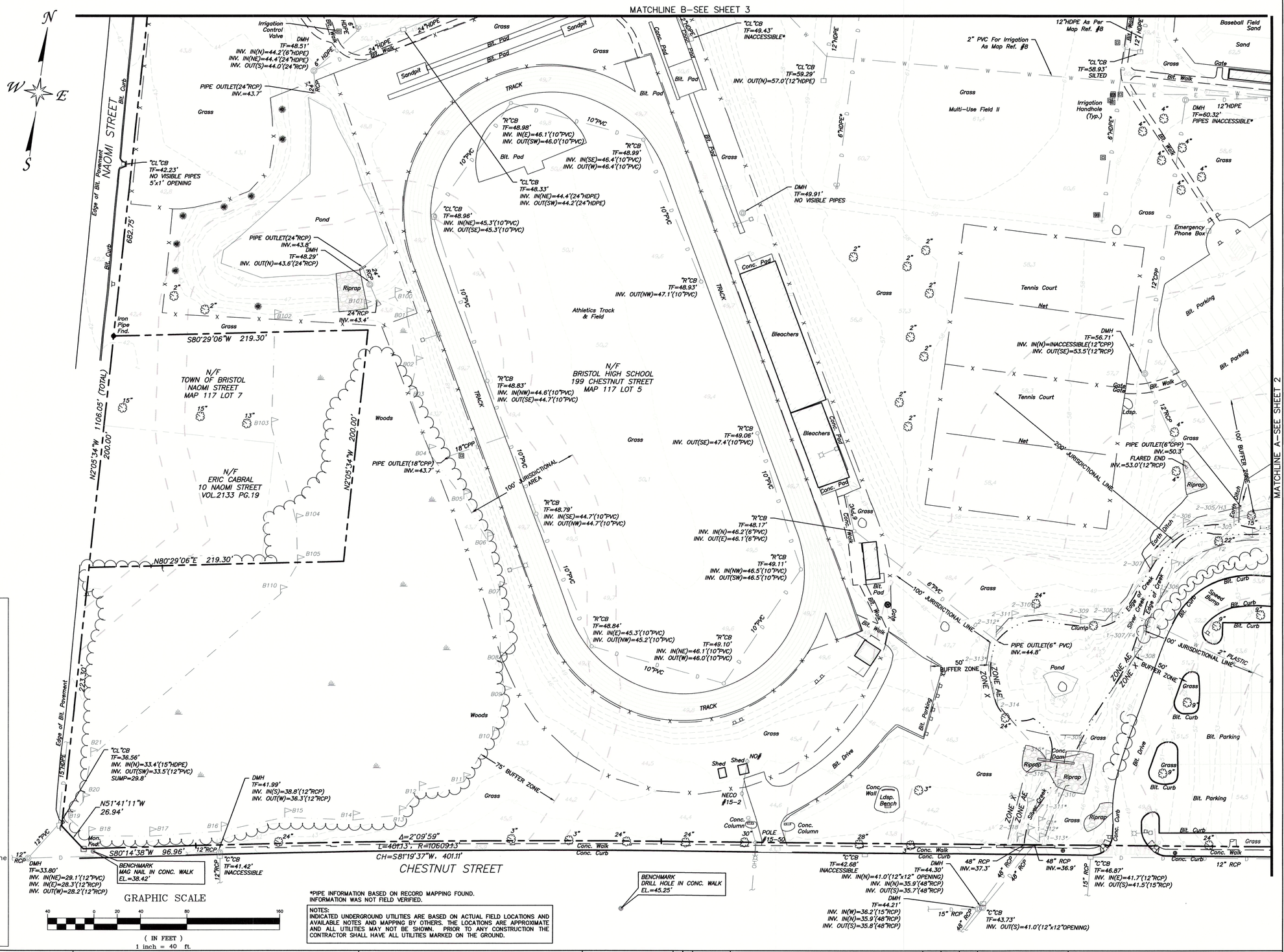
1) THIS SURVEY AND MAP HAS BEEN PREPARED TO HORIZONTAL ACCURACY CLASS I, TOPOGRAPHIC ACCURACY OF CLASS III AND IS INTENDED TO BE USED TO DEPICT EXISTING CONDITIONS.
2) NORTH ORIENTATION AND COORDINATES REFER TO RHODE ISLAND STATE PLANE COORDINATE SYSTEM NAD 83.
3) ELEVATIONS ARE BASED ON NAVD 88 OBTAINED UTILIZING RTK GPS METHODS, OBSERVATIONS MADE ON 01-25-2024.
4) PARCEL OWNER OF RECORD: TOWN OF BRISTOL.
5) PARCEL ID MAP 117, BLOCKS 3,4,5 & 6, TOWN OF BRISTOL ASSESSOR'S MAPPING, RHODE ISLAND.
6) PARCEL IS IN THE PI (PUBLIC INSTITUTIONAL) ZONING DISTRICT.
7) WETLAND FLAGS(WF*) DEPICTED HEREON BASED ON FIELD NOTES AND NOT LOCATED USING CONVENTIONAL SURVEY METHODS.
8) PARCELS ARE IN ZONE X FLOOD HAZARD ZONES (AREA OF OF MINIMAL FLOOD HAZARD) AND ZONE AE AS DEPICTED ON THE FLOOD INSURANCE RATE MAP, TOWN OF BRISTOL, RHODE ISLAND, BRISTOL COUNTY, PANEL 11 OF 18, COMMUNITY PANEL NUMBER 440010011H, EFFECTIVE DATE JULY 7, 2014 BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
9) NOT ALL IMPROVEMENTS ARE SHOWN.

MAP REFERENCES:

1) "BRISTOL WARREN HIGH SCHOOL, BRISTOL, RHODE ISLAND", SCALE: 1"=40', PREPARED BY: MARK W. HUTCHINS & ASSOCIATES, INC. AND DATED: 3-5-1993.
2) "EXISTING CONDITIONS PLAN, ADMINISTRATIVE SUBDIVISION FOR TOWN OF BRISTOL", SCALE: 1"=40', PREPARED BY: BARKER LAND SURVEYING, INC. AND DATED: 6-20-2020.
3) "MINOR SUBDIVISION, MAJOR LAND DEVELOPMENT-FINAL SUBDIVISION RESIDENTIAL HOUSING PROJECT-CHESTNUT PLACE, PLAT 118, LOTS 14, 18, 88 & 89, BRISTOL, RHODE ISLAND," SCALE: 1"=40', PREPARED BY: SITE ENGINEERING INC. AND DATED: 7-2-2014.
4) "PLAN OF SURVEY OF LAND, PREPARED FOR RONALD & LINDA W. ALEGRIA ET. UX. 19 DARTMOUTH STREET, BRISTOL, RHODE ISLAND 02809", SCALE: 1"=30', PREPARED BY: JOHN BRAGA & ASSOCIATES, INC. AND DATED: 9-23-2008.
5) "BOUNDARY & TOPOGRAPHIC SURVEY PLAN, ROCKWELL SCHOOL, APP 66 LOT 2 & 38 - HOPE STREET BRISTOL, RHODE ISLAND", SCALE: 1"=20', PREPARED BY: WATERMAN ENGINEERING CO. AND DATED: 5-6-2005.
6) "LAYOUT & MATERIALS PLAN, ROCKWELL ELEMENTARY SCHOOL BRISTOL, RI", SCALE: 1"=20', PREPARED BY:MOUNT VERNON GROUP INC. DATED: JULY 1, 2005 AND LAST REVISED: 4-4-2006.
7) "MOUNT HOPE HIGH SCHOOL, PHASE 3 SOFTBALL FIELD, 199 CHESTNUT STREET, BRISTOL RHODE ISLAND, ASBUILT PLAN," SCALE: 1"=20', PREPARED BY: R.A.D. SPORTS AND DATED: JULY 23, 2020.
8) "ATHLETIC FIELDS DRAINAGE IMPROVEMENTS, MT. HOPE HIGH SCHOOL-PHASE III, A.P. 117 LOTS 4, 5, 6 & 10, 199 CHESTNUT STREET BRISTOL, RHODE ISLAND," SCALE:1"=40', SHEET: C5.1, PREPARED BY: PARE CORPORATION AND DATED: MAY 2, 2019.

SYMBOLS LEGEND

Utility Pole	"Y.D." Yard Drain
Light Pole	"R" Round Catch Basin
Utility Pole w/Light	"C" Catch Basin
Guy Anchor	"CL" Catch Basin
Deciduous Tree	Drainage Manhole
Bush	Sewer Manhole
Stump	Electric Manhole
Water Gate	Electric Box
Gas Gate	Fire Hydrant
Benchmark	Flared End
Iron Pipe Found	Spot Grade
Monument Found	Contour Line
Post	Treeline
Sign	Guardrail
Double Sign	Hedgerow
Boulder/Rock	Chain Link Fence (CLF)
Monitoring Well	Wood Fence
Electric Meter	Stone Wall
Gas Meter	Property Line
Transformer	Solid Yellow Line (SYL)
Cleanout	Underground Gas Line
Cleanout Not Found	Underground Storm Drain Line
Handhole	Underground Water Line
Wetland Flag	Underground Sewer Line
Wetland Flag (See Note 7)	Underground Electric Line
Water Well	Overhead Wires
Handicap Symbol	Wetland Boundary
Flag Pole	Irrigation Line
Manhole	
AC Unit	



GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

*PIPE INFORMATION BASED ON RECORD MAPPING FOUND. INFORMATION WAS NOT FIELD VERIFIED.

NOTES:
INDICATED UNDERGROUND UTILITIES ARE BASED ON ACTUAL FIELD LOCATIONS AND AVAILABLE NOTES AND MAPPING BY OTHERS. THE LOCATIONS ARE APPROXIMATE AND ALL UTILITIES MAY NOT BE SHOWN. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL HAVE ALL UTILITIES MARKED ON THE GROUND.

MCA
MARTINEZ COUCH & ASSOCIATES LLC
ENGINEERING • LAND SURVEYING • ENVIRONMENTAL CONSTRUCTION INSPECTION • GIS • WASTEWATER

1084 Cromwell Avenue, Suite A-2
Rocky Hill, CT 06067
Telephone: (860) 436-4364
Fax: (860) 436-4626

www.martinezcouch.com

MOUNT HOPE HIGH SCHOOL
199 CHESTNUT STREET

BRISTOL, RHODE ISLAND

PREPARED FOR: PERKINS EASTMAN

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 25, 2015, AS FOLLOWS:

TOPOGRAPHIC SURVEY - CLASS III
THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS: TO DEPICT EXISTING TOPOGRAPHIC CONDITIONS.

DAVID A. ANNINO P.L.S. #1963, COA #LS-A711 DATE 1/24/2024
THIS MAP IS NOT VALID WITHOUT A LIVE SIGNATURE AND SEAL

DAVID A. ANNINO
STATE OF RHODE ISLAND
No. 1963
PROFESSIONAL LAND SURVEYOR

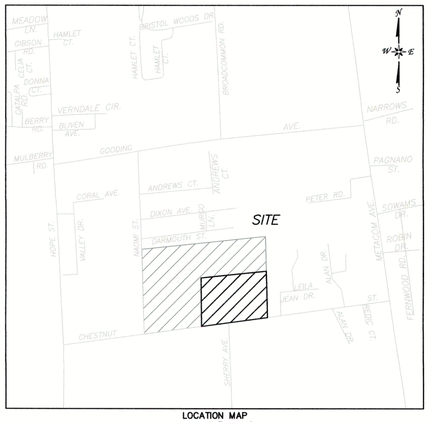
NO.	DATE	REVISIONS	BY	CHK	APPV
△					
△					
△					
△					
△					

DRAWN BY: HS | CHECKED BY: JPB | SCALE: 1"=40' | DATE: 01-24-2024

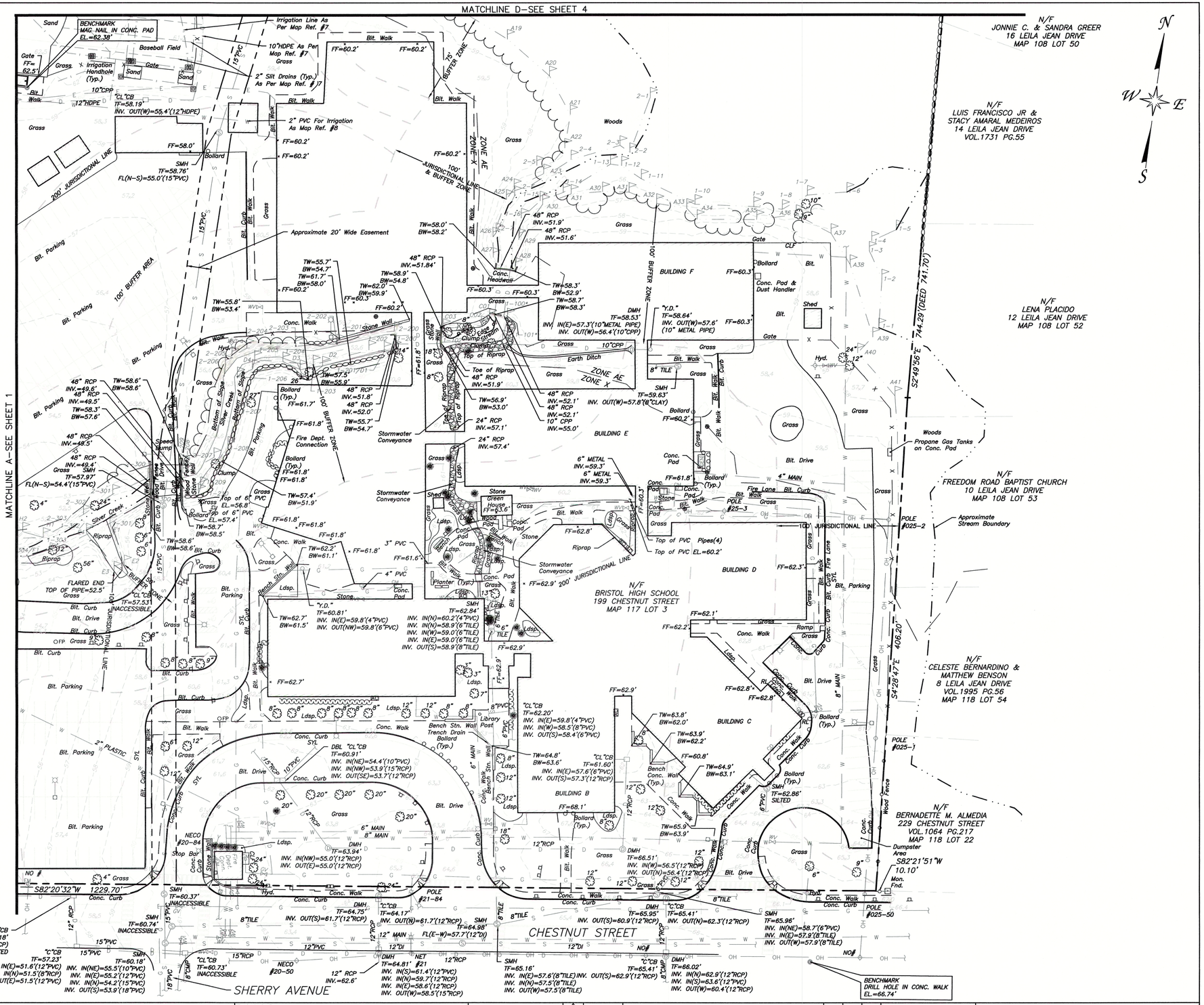
FEATURE LOCATION SURVEY

DATA ACCUMULATION PLAN

JOB NO.	DRAWING NUMBER	SHEET
2023-194	2023-194 MOUNT HOPE SCHOOL-RI.DWG	1 OF 4



LOCATION MAP
SCALE: 1"=1000'



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(IN FEET)
1 inch = 40 ft.

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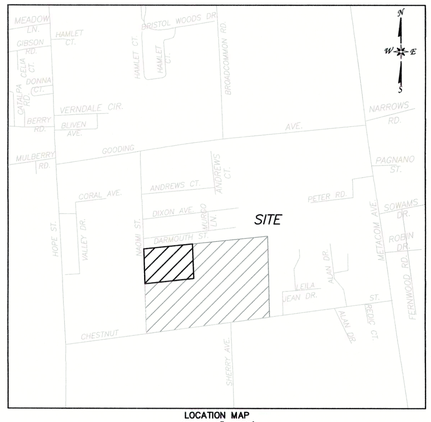
JOB NO.	DRAWING NUMBER	SHEET
2023-194	2023-194 MOUNT HOPE SCHOOL-RI.DWG	2 OF 4



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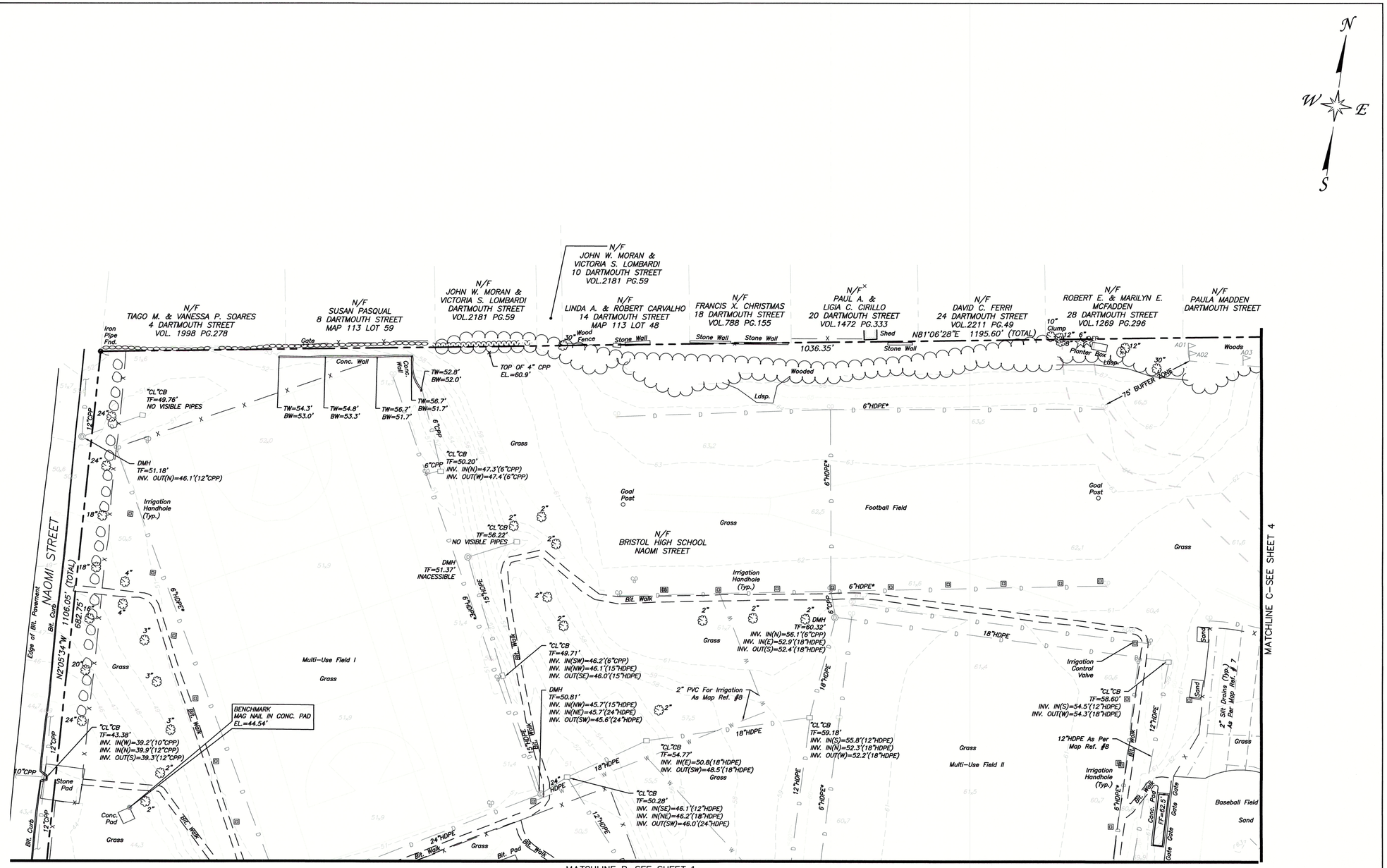

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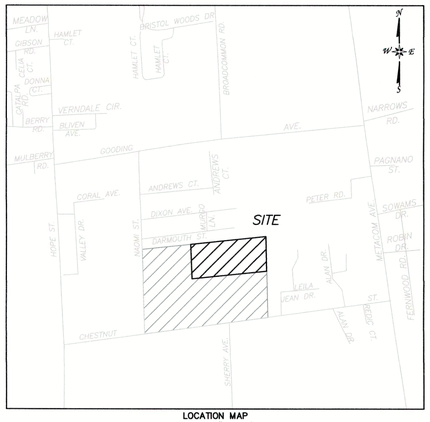

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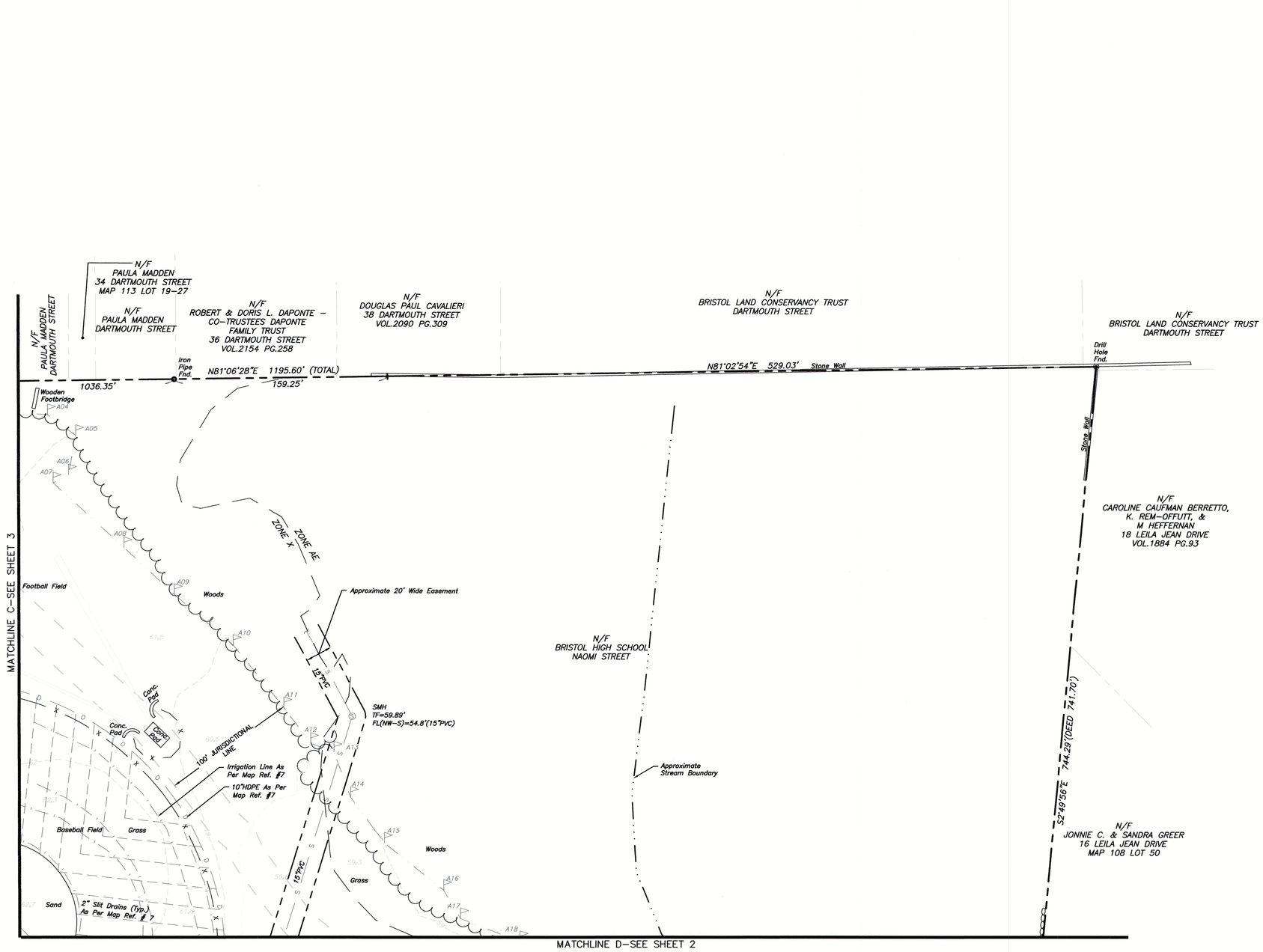

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FEATURE LOCATION SURVEY

DATA ACCUMULATION PLAN

JOB NO.	DRAWING NUMBER	SHEET
2023-194	2023-194 MOUNT HOPE SCHOOL-RI.DWG	4 OF 4

GENERAL INFORMATION

1. SITE SAFETY AND PEDESTRIAN SAFETY IS OF EXTREME IMPORTANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXECUTING THE WORK IN A SAFE MANNER AND WILL BE EXPECTED TO WORK OFF HOURS AS REQUIRED TO ACCOMMODATE CAMPUS ACTIVITIES WHILE MAINTAINING THE PROJECT SCHEDULE.
2. CONTRACTOR TO COORDINATE WITH PUBLIC SAFETY AND PARKING THROUGH THE CONSTRUCTION MANAGER.
3. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL OSHA REGULATIONS, COMPLIANCE IS MANDATORY.
4. SITE FENCING SHALL BE ERECTED AND MAINTAINED BY THE CONTRACTOR AND APPROVED BY THE OWNER PRIOR TO THE COMMENCEMENT OF WORK.
5. VEHICULAR TRAFFIC OR PARKING OF CONSTRUCTION VEHICLES UNDER THE DRIP LINES (IN OR OUT OF THE CONSTRUCTION LIMITS) OF TREES IS STRICTLY PROHIBITED AND VEHICLES MAY BE TOWED. REFER TO TREE PROTECTION DETAILS AND SPECIFICATIONS.
6. UNFORESEEN CONDITIONS ARE INHERENT TO UNDERGROUND WORK AND ARE TO BE EXPECTED WITH THIS PROJECT. THE CONTRACTOR WILL RESPOND TO UNFORESEEN CONDITIONS AND PROVIDE THE NEEDED MANPOWER AND EQUIPMENT NECESSARY TO COMPLETE THE PROJECT BY THE CONTRACT COMPLETION DATE.
7. STAKING SHALL BE PROVIDED AND PAID FOR BY THE CONTRACTOR. STAKING TO BE PERFORMED BY LICENSED LAND SURVEYOR.
8. SITE CLEAN-UP SHALL BE PERFORMED ON A DAILY BASIS. SIDEWALKS, PARKING LOTS, ROADWAYS, ETC. SHALL BE KEPT CLEAN AT ALL TIMES.
9. ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THIS PROJECT BUT NOT SET FORTH AS A SPECIFIC BID ITEM, SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THE COMPLETION OF THIS WORK.
10. REPAIR OR REPLACE EXISTING FACILITIES (CURBS, PAVEMENT, UTILITIES, ETC.) TO REMAIN, AT NO ADDITIONAL EXPENSE TO THE OWNER.
11. IT IS INTENDED THAT ALL COSTS OF MATERIALS, EQUIPMENT, TOOLS, LABOR AND INCIDENTALS BE PAID FOR UNDER THE ITEMS LISTED ON THE BIDDER'S PROPOSAL. BEFORE SUBMITTING A BID ON THIS PROJECT, THE CONTRACTOR SHALL EXAMINE ALL DRAWINGS, SPECIFICATIONS, SPECIAL PROVISIONS AND THE JOB SITE. IF ANY DISCREPANCIES OR DELETIONS OCCUR IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPORT SAME TO THE OWNERS REPRESENTATIVE IN WRITING AND OBTAIN WRITTEN CLARIFICATION AND/OR INSTRUCTIONS ON HOW TO PROCEED.
12. WORK WHICH DOES NOT CONFORM TO THE REQUIREMENTS OF THE CONTRACT WILL BE CONSIDERED UNACCEPTABLE. UNACCEPTABLE WORK, WHETHER THE RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE MATERIALS, DAMAGE THROUGH CARELESSNESS OR ANY OTHER CAUSE, FOUND TO EXIST PRIOR TO THE FINAL ACCEPTANCE OF THE WORK, SHALL BE REMOVED AND REPLACED IN AN ACCEPTABLE MANNER, AS REQUIRED BY THE OWNERS REPRESENTATIVE OR LANDSCAPE ARCHITECT AT THE CONTRACTOR'S EXPENSE. WORK DONE CONTRARY TO THE INSTRUCTIONS. WORK DONE BEYOND THE LINES SHOWN ON THE PLANS OR ANY EXTRA WORK DONE WITHOUT AUTHORITY WILL NOT BE PAID FOR.
13. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE TOTAL SCOPE OF WORK AND ALL REQUIRED COORDINATION PRIOR TO SUBMITTING THEIR BID PROPOSAL, AND PRIOR TO COMMENCING WORK.
14. THE LOCATIONS OF ALL KNOWN UNDERGROUND UTILITIES ARE NOTED ON THE DRAWINGS. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS SHOWN ON THESE PLANS, IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION, SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES IN THE FIELD.THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIG SAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE EXACT FIELD LOCATION OF UTILITIES. THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED, IN WRITING, OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTIONS TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.

MATERIAL NOTES:

1. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ELEMENTS INCLUDING UTILITY LOCATIONS AND REQUIRED SLEEVING PRIOR TO INSTALLATION. VERIFY CRITICAL DIMENSIONS, REFERENCE POINT LOCATIONS AND CONSTRUCTION CONDITIONS PRIOR TO INITIATING CONSTRUCTION. TEMPORARY BENCHMARKS OR REFERENCE POINTS SHALL BE SET BY THE CONTRACTOR AS NECESSARY. NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHOULD ANY DISCREPANCY ARISE AND REDIRECT WORK TO AVOID DELAYS.
2. THE INTERFACE OF ALL PROPOSED IMPROVEMENTS TO EXISTING SHALL CONFORM AND BE SMOOTH AND UNIFORM.
3. ALL CHANGES IN SURFACE MATERIALS SHALL NOT HAVE A VERTICAL LEVEL CHANGE EXCEEDING 1/4" ABOVE FINISHED FLOOR OR 1/2" BEVELED WITH A MAXIMUM SLOPE OF 1:2.
4. REFER TO ARCHITECTURAL PLANS FOR ALL BUILDINGS.
5. REFER TO LANDSCAPE PLANS AND DETAILS FOR PLANTING AND PLANTING RELATED AMENITIES.
6. REFER TO CIVIL PLANS FOR INFORMATION REGARDING ROADWAY, CURBS, PAVEMENT STRIPING, TRAFFIC SIGNS, CROSSWALKS, UTILITIES, DRAINAGE, STORMWATER, GRADING, AND PHASING PLANS.
7. REFER TO ELECTRICAL PLANS FOR SITE LIGHTING, POWER AND COMMUNICATIONS INFORMATION SHOWN ON THIS PLAN. SITE LIGHTING IS FOR REFERENCE ONLY.
8. CONTRACTOR IS RESPONSIBLE FOR QUANTITIES OF ALL MATERIALS. ANY DISCREPANCIES BETWEEN PLAN AND SCHEDULE SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT.

ALTERNATE NOTES:

ADD ALTERNATE #1: ADD PRESS BOX, GRANDSTAND AND TOILET FACILITY AT THE TRACK AND FIELD (BASE SCOPE INCLUDES INFRASTRUCTURE FOR PRESS BOX AND TOILET BUILDING)

ADD ALTERNATE #2: ADD LIGHTING AT THE TENNIS COURTS (BASE SCOPE INCLUDES INFRASTRUCTURE)

ADD ALTERNATE #3: ADD BASEBALL FIELD INCLUDING IRRIGATION, FIELD FENCING, BACKSTOPS, DUGOUTS, BULL PEN, SCOREBOARD, STORAGE AND ASSOCIATED WALKS

ADD ALTERNATE #4: ADD TOILET FACILITY BUILDING TO BASEBALL FIELD INCLUDING CONCRETE PAD (BASE SCOPE INCLUDES INFRASTRUCTURE)

LAYOUT NOTES:

1. ALL LINES ARE PERPENDICULAR OR PARALLEL TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
2. AUTOCAD PLANS OR ADDITIONAL COORDINATES WILL BE PROVIDED AFTER THE AWARD OF THE BID.

LAYOUT LEGEND:

CENTER LINE (TYPE)

NORTHING/EASTING POINT

TYPICAL DIMENSION — 1'-0"

RADII DIMENSION — R4"

PROPOSED ANGLE BETWEEN ELEMENTS — 45°

POINT OF BEGINNING

REFERENCE NOTES SCHEDULE

SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	
Athletic and Recreational Safety Netting					
	13-28-16A	12' Break-away Netting	160 lf	7/LA-305	
	13-28-16B	25' Break-away Netting	286 lf	7/LA-305	
	13-28-16C	25' Breakaway safety netting with 6' Chain Link Fence	289 lf	8/LA-304	
	13-28-16D	40' Softball Netted Backstop with padded knee wall and screened back with logo	90 lf	1/LA-303	
	13-28-16E	40' Netted Baseball Backstop with 42" padded knee wall and screened back with logo	150 lf	2/LA-307	
	13-28-16F	25' Netting with 42" padded knee rail	162 lf	4/LA-306	
SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	Alternate #
32 EXTERIOR IMPROVEMENTS					
	32-12-17A	Asphalt for Athletic Track	61,571 sf	2/LA-301	
	32-12-17B	Tennis Surfacing and Asphalt	32,256 sf	2/LA-309	
	32-12-18	Asphalt walkway	4,436 sf		Per Civil
CONCRETE PAVING					
	32-13-13	Concrete Paving	69,167 sf	1/L-301	
	32-13-13A	Concrete Paving	3,486 sf	1/L-301	ADD ALT #1 Bleacher, Pressbox, Support Building
	32-13-13B	Concrete Paving	9,200 sf	1/L-301	Add Alt #3 Baseball Field
	32-13-14	Exposed Aggregate Concrete Paving	3,828 sf	4/L-301	
AGGREGATE SURFACE					
	32-15-40	Crushed Stone Surfacing	471 sf	5/L-301	
CURBS AND GUTTERS					
	32-16-13	Granite Landscape Curb	370 lf	6/L-301	
	32-16-14	Flush Concrete Curb	114 lf	2/L-305	
	32-16-41	Turf Field End Curb	410 lf	13/LA-301	
ATHLETIC AND RECREATIONAL SURFACING					
	32-18-13	Synthetic Turf for Recreation Area	894 sf	5/L-305	
	32-18-23	Synthetic Turf Athletic Field Profile	91,928 sf	1/LA-301	
	32-18-24A	Baseball/Softball Infield Surfacing	25,418 sf	4/LA-302	
	32-18-24B	Warning Track	25,805 sf	8/LA-302	
	32-18-25	Track Surfacing	53,036 sf	2/LA-301	
FENCES AND GATES					
	32-31-13A	4' Black Chain Link Fence	2,978 lf	2/LA-304	
	32-31-13B	6' Black Chain Link Fence	1,309 lf	3/LA-304	
	32-31-13C	8' Black Chain Link Fence	144 lf	9/LA-304	
	32-31-13D	10' Black Chain Link Fence	914 lf	/	
	32-31-16	4' Wire Mesh Fence	847 lf	3/LA-305	
	32-31-16A	4' Wire Mesh Fence Mounted	522 lf	3/LA-305	
	32-31-16B	8' Wire Mesh Fence	334 lf	4/LA-305	
	32-31-19	6' Decorative Fence	1,237 lf	2/LA-305	
	32-31-23	8' PVC Fence	343 lf	6/LA-304	
RETAINING WALLS					
	32-32-13A	Poured in Place Concrete Retaining Wall A	99 lf	2/L-244	
	32-32-13B	Poured in Place Concrete Retaining Wall B	99 lf	3/L-244	
	32-32-13C	Poured in Place Concrete Retaining Wall C	140 lf	1/L-244	
	32-32-13D	Poured in Place Concrete Retaining Wall D	23 lf	2/L-244	
	32-32-13E	Poured in Place Concrete Retaining Wall E	404 lf	3/L-245	
	32-32-13F	Poured in Place Concrete Retaining Wall F	93 lf	2/L-245	ADD ALT #1 Bleacher, Pressbox, Support Building
	32-32-13G	Poured in Place Concrete Retaining Wall G	60 lf	7/L-301	
	32-32-13H	Poured in Place Concrete Seat wall H	102 lf	2/L-245	
	32-32-13I	Poured in Place Concrete Seat wall I	65 lf	2/L-245	
SITE FURNISHINGS					
	32-33-00A	Flagpole	4	1/L-302	
	32-33-00B	Bike Rack	62	2/L-302	
	32-33-00C	Bench	7	3/L-302	
	32-33-00D	Square Table and Chairs	3	4/L-302	
	32-33-00E	Litter/Recycle Receptacle	11	5/L-302	
	32-33-00F	Bollard	8	6/L-302	
	32-33-00G	Raised Planter	2	7/L-302	
	32-33-00H	ADA Raised Planter	2	7/L-302	
	32-33-00I	Lounge Chair	12	8/L-302	
	32-33-00J	Picnic Table	8	9/L-302	
	32-33-00K	Picnic Bench A	12	9/L-302	
	32-33-00L	Picnic Bench B	4	9/L-302	
	32-33-00M	ADA Patio Seating System	2	10/L-302	
	32-33-00N	Patio Seating System	5	10/L-302	
	32-33-00O	Cafe Table Set A	2	11/L-302	
	32-33-00P	Cafe Table Set B	3	11/L-302	
	32-33-00Q	Cafe Table Set C	3	11/L-302	
	32-33-00R	Athletic Litter/ Recycle Receptacle	16	15/L-302	
	32-34-13	Precast Concrete Boardwalk Paving	1,039 sf	4/L-304	
SODDING					
	32-92-23	Sodded Athletic Field Profile	209,148 sf	1/LA-302	
	32-92-24	LOWER ATHLETIC FIELD IMPROVEMENTS	87,946 sf		
PLANTING ACCESSORIES					
	32-94-50A	Landscape Boulder	46	12/L-301	
SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	
33 UTILITIES					
D	33-40-00A	Natural Grass Athletic Field Collector Drain	2,382 lf	3/LA-302	
	33-41-16	12" Flat panel subdrain (see civil for details and specifications)	3,978 lf		
D	33-41-16B	Perimeter collector drain see (civil for specifications)	2,340 lf	3/LA-301	
	33-41-17	2" Sand Channel Drains for Athletic Fields	13,059 lf	2/LA-302	
	33-42-40A	Track Slot Drain	748 lf	8/LA-301	
	33-42-40B	Trench Drain - Track	554 lf	7/LA-301	
	33-42-40C	Trench Drain - Tennis	277 lf	1/LA-309	

PARE

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199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KATE MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

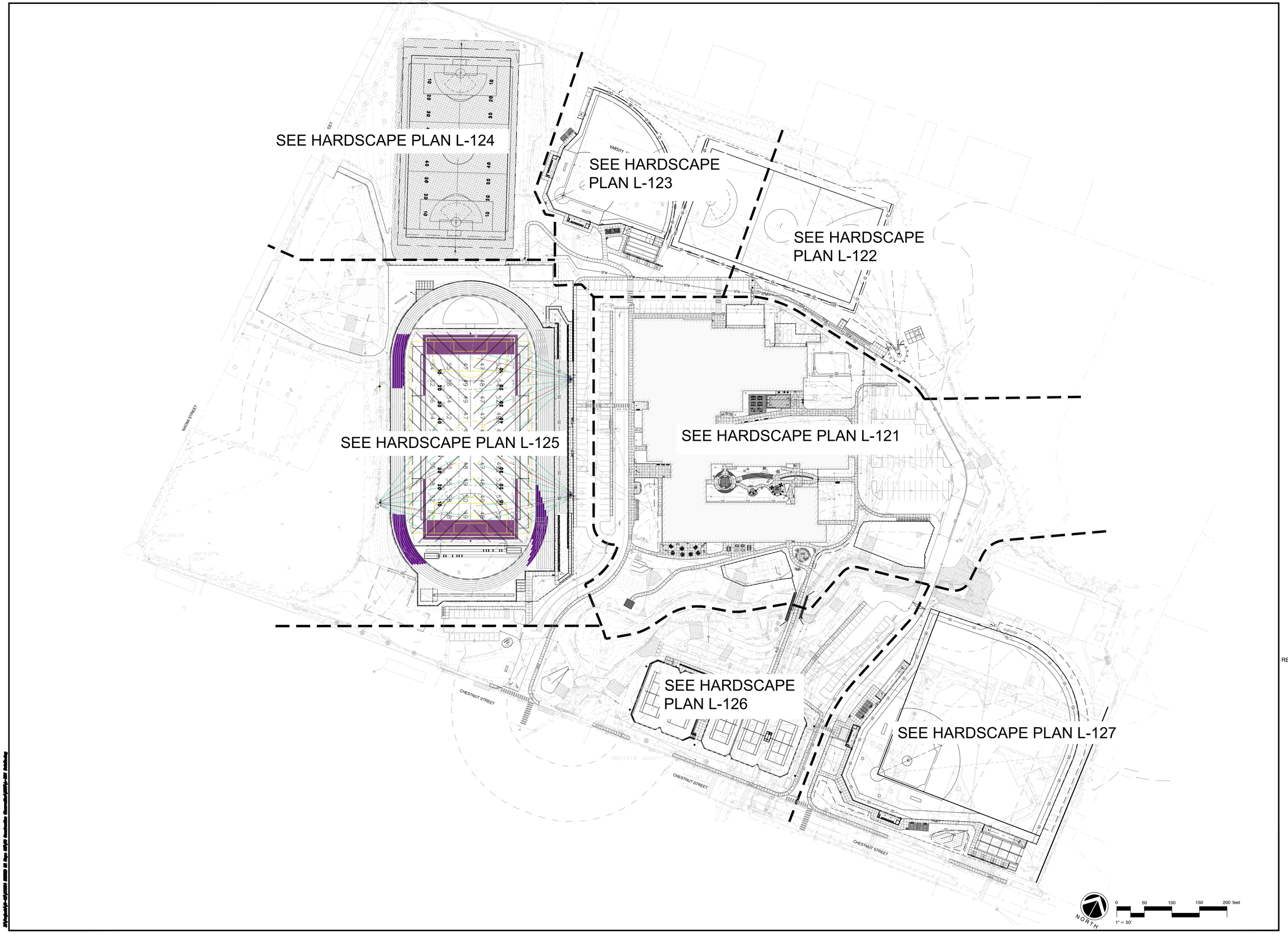
DRAWING TITLE:
GENERAL NOTES AND SCHEDULES

DRAWING NO.:
L-100

SHEET NO. 77 OF 159

Plotted: 6/10/2025 10:08:38 AM By: Elizabeth Lamontagne
X:\Projects\23099.01 Mt Hope HS\Landscape\Drawings\L-100.dwg

Item C1.



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REGISTERED LANDSCAPE ARCHITECT
KRIS MITCHELL BRADNER
No. 428

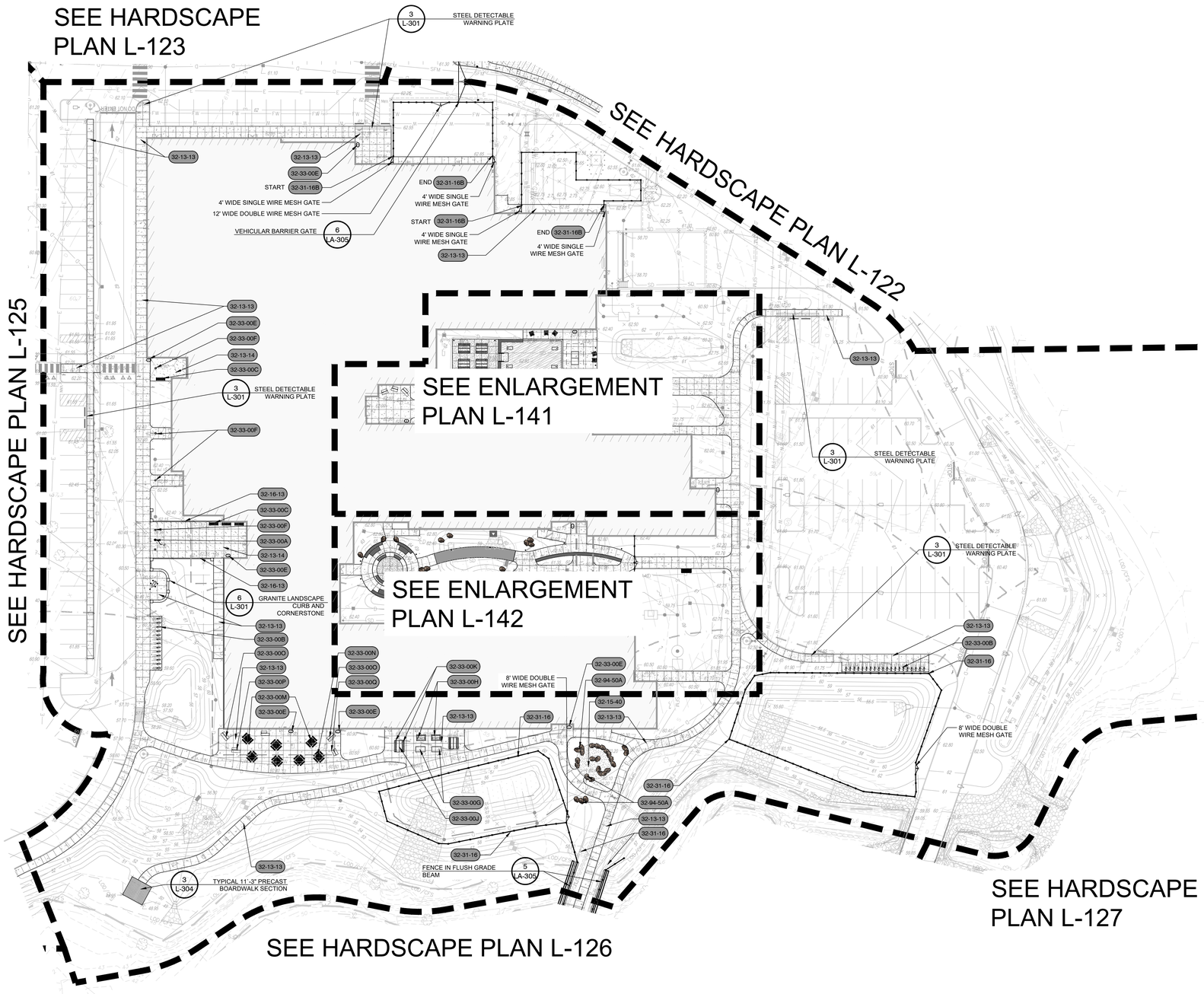
REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
OVERALL HARDSCAPE REFERENCE PLAN

DRAWING NO.:
L-101

SHEET NO. 78 OF 159



REFERENCE NOTES SCHEDULE L-121

SYMBOL	CODE	DESCRIPTION	DETAIL
CONCRETE PAVING			
	32-13-13	Concrete Paving	1/L-301
	32-13-14	Exposed Aggregate Concrete Paving	4/L-301
AGGREGATE SURFACE			
	32-15-40	Crushed Stone Surfacing	5/L-301
CURBS AND GUTTERS			
	32-16-13	Granite Landscape Curb	6/L-301
	32-16-14	Flush Concrete Curb	2/L-305
FENCES AND GATES			
	32-31-16	4' Wire Mesh Fence	3/LA-305
	32-31-16A	4' Wire Mesh Fence Mounted	3/LA-305
	32-31-16B	8' Wire Mesh Fence	4/LA-305
SITE FURNISHINGS			
	32-33-00A	Flagpole	1/L-302
	32-33-00B	Bike Rack	2/L-302
	32-33-00C	Bench	3/L-302
	32-33-00E	Litter/Recycle Receptacle	5/L-302
	32-33-00F	Bollard	6/L-302
	32-33-00G	Raised Planter	7/L-302
	32-33-00H	ADA Raised Planter	7/L-302
	32-33-00J	Picnic Table	9/L-302
	32-33-00K	Picnic Bench A	9/L-302
	32-33-00M	ADA Patio Seating System	10/L-302
	32-33-00N	Patio Seating System	10/L-302
	32-33-00O	Cafe Table Set A	11/L-302
	32-33-00P	Cafe Table Set B	11/L-302
	32-33-00Q	Cafe Table Set C	11/L-302
	32-34-13	Precast Concrete Boardwalk Paving	4/L-304
PLANTING ACCESSORIES			
	32-94-50A	Landscape Boulder	12/L-301

SEE CIVIL PLANS FOR ROADS, CURBS, PARKING, PAVEMENT MARKINGS, TRAFFIC SIGNS, UTILITIES, STORMWATER, AND DRAINAGE.

NORTH

0 30 60 90 120 feet

1" = 30'

PARE

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REGISTERED LANDSCAPE ARCHITECT
KATE MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
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DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
HARDSCAPE PLAN

DRAWING NO.:
L-121
SHEET NO. 79 OF 159

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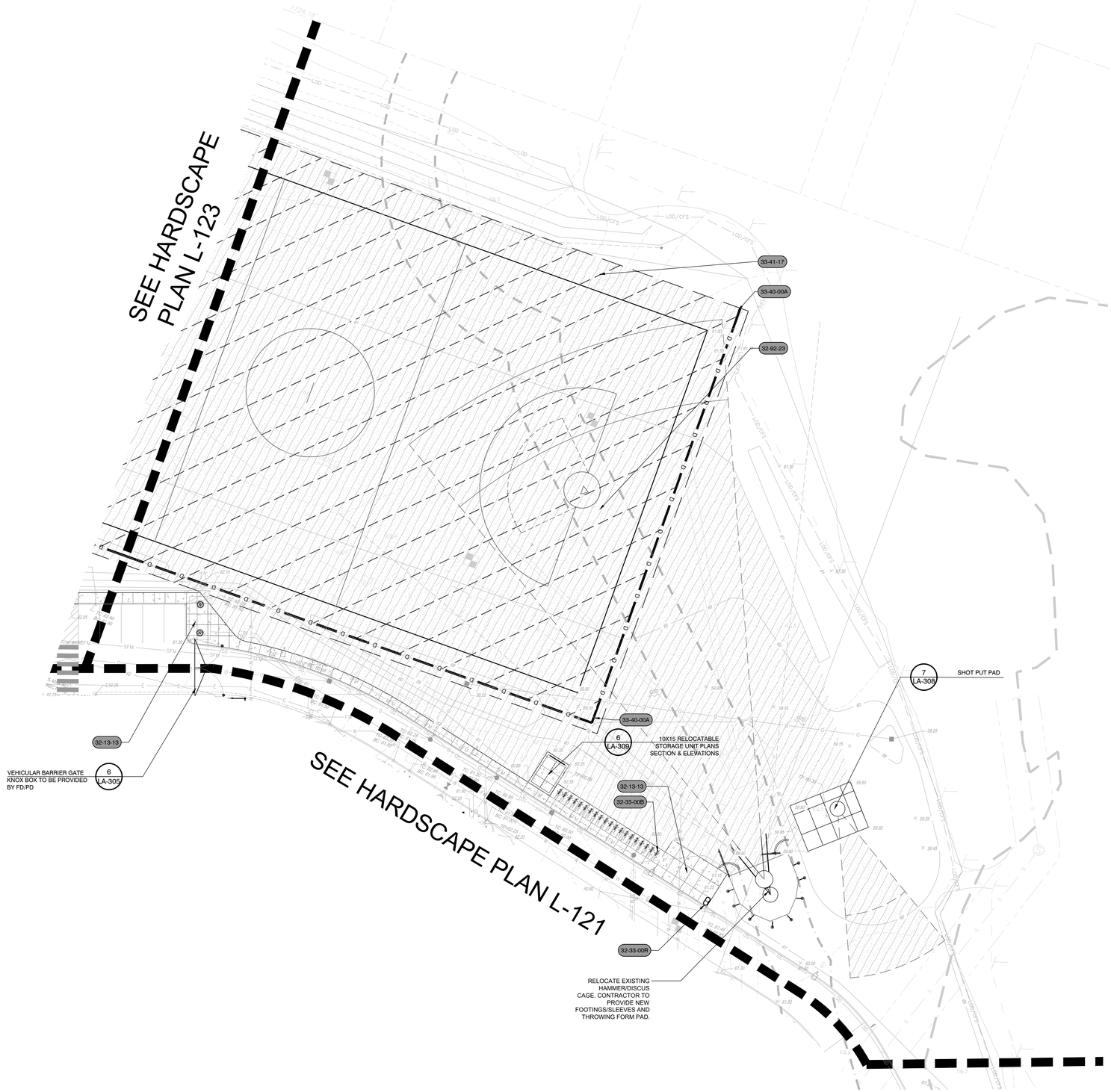

REFERENCE NOTES SCHEDULE L-122

SYMBOL	CODE	DESCRIPTION	DETAIL
CONCRETE PAVING			
	32-13-13	Concrete Paving	1/L-301
SITE FURNISHINGS			
	32-33-00B	Bike Rack	2/L-302
	32-33-00R	Athletic Litter/ Recycle Receptacle	15/L-302
SODDING			
	32-92-23	Sodded Athletic Field Profile	1/LA-302
33 UTILITIES			
D D	33-40-00A	Natural Grass Athletic Field Collector Drain	3/LA-302
	33-41-17	2" Sand Channel Drains for Athletic Fields	2/LA-302

SEE CIVIL PLANS FOR ROADS, CURBS, PARKING, PAVEMENT MARKINGS, TRAFFIC SIGNS, UTILITIES, STORMWATER, AND DRAINAGE.

NORTH

0 20 40 60 80 feet

1" = 20'

PARE

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Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KEITH MITCHELL GRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
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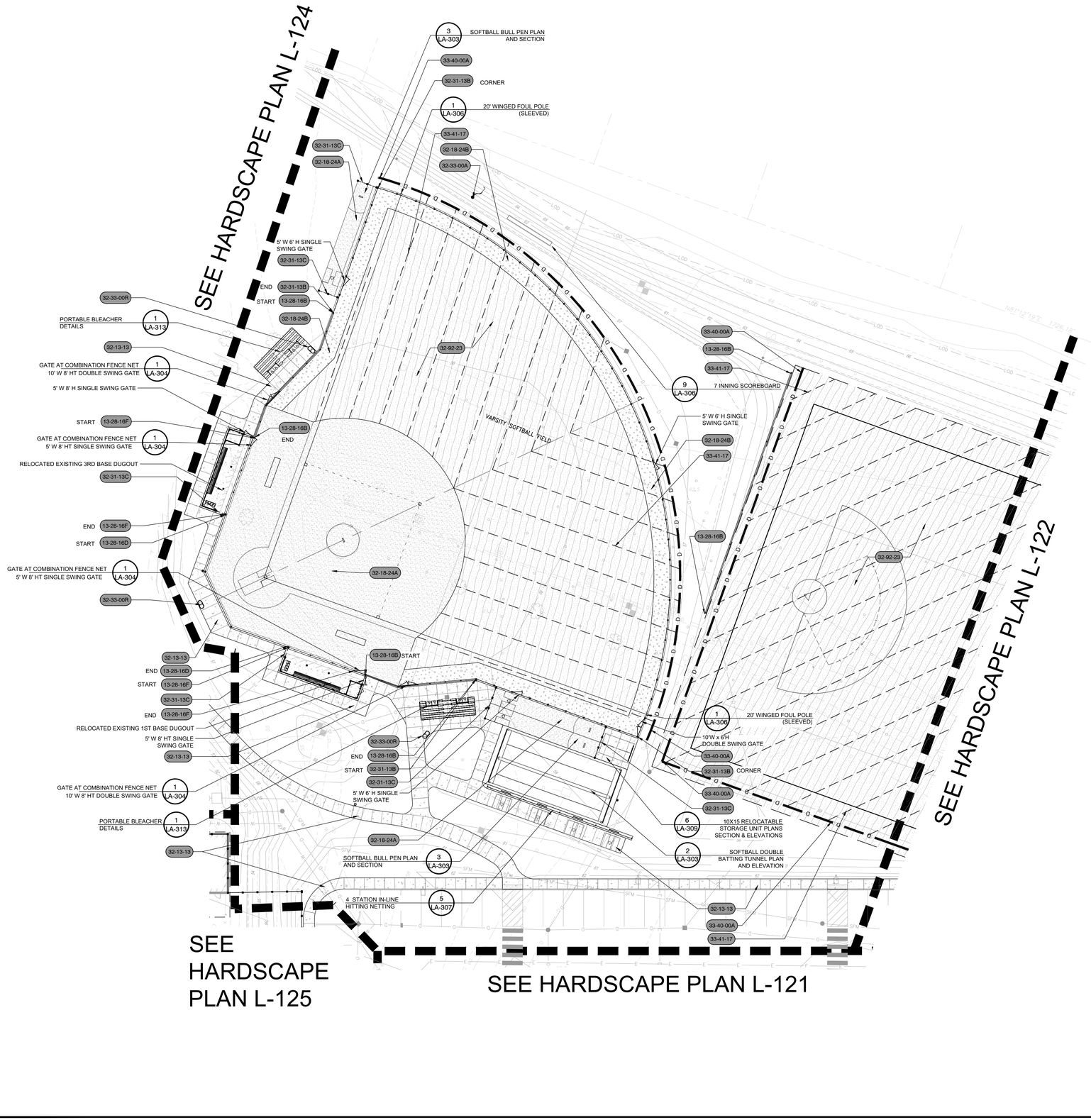
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
HARDSCAPE PLAN

DRAWING NO.:
L-122
SHEET NO. 80 OF 159

Plotted: 6/10/2025 2:09:38 PM By: Elizabeth Lamontagne
Drawing: L-122 Last Saved By: Elizabeth Lamontagne



REFERENCE NOTES SCHEDULE L-123

SYMBOL	CODE	DESCRIPTION	DETAIL
Athletic and Recreational Safety Netting			
	13-28-16B	25' Break-away Netting	7/LA-305
	13-28-16D	40' Softball Netted Backstop with padded knee wall and screened back with logo	1/LA-303
	13-28-16F	25' Netting with 42" padded knee rail	4/LA-306
32 EXTERIOR IMPROVEMENTS			
	32-13-13	Concrete Paving	1/L-301
ATHLETIC AND RECREATIONAL SURFACING			
	32-18-24A	Baseball/Softball Infield Surfacing	4/LA-302
	32-18-24B	Warning Track	8/LA-302
FENCES AND GATES			
	32-31-13B	6' Black Chain Link Fence	3/LA-304
	32-31-13C	8' Black Chian Link Fence	9/LA-304
SITE FURNISHINGS			
	32-33-00A	Flagpole	1/L-302
	32-33-00R	Athletic Litter/ Recycle Receptacle	15/L-302
SODDING			
	32-92-23	Sodded Athletic Field Profile	1/LA-302
33 UTILITIES			
D D	33-40-00A	Natural Grass Athletic Field Collector Drain	3/LA-302
	33-41-17	2" Sand Channel Drains for Athletic Fields	2/LA-302

SEE CIVIL PLANS FOR ROADS, CURBS, PARKING, PAVEMENT MARKINGS, TRAFFIC SIGNS, UTILITIES, STORMWATER, AND DRAINAGE.

NORTH

0 20 40 60 80 feet

1" = 20'

PARE

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REGISTERED LANDSCAPE ARCHITECT KYLE MITCHELL BRADNER No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
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DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
HARDSCAPE PLAN

DRAWING NO.:
L-123
SHEET NO. 81 OF 159

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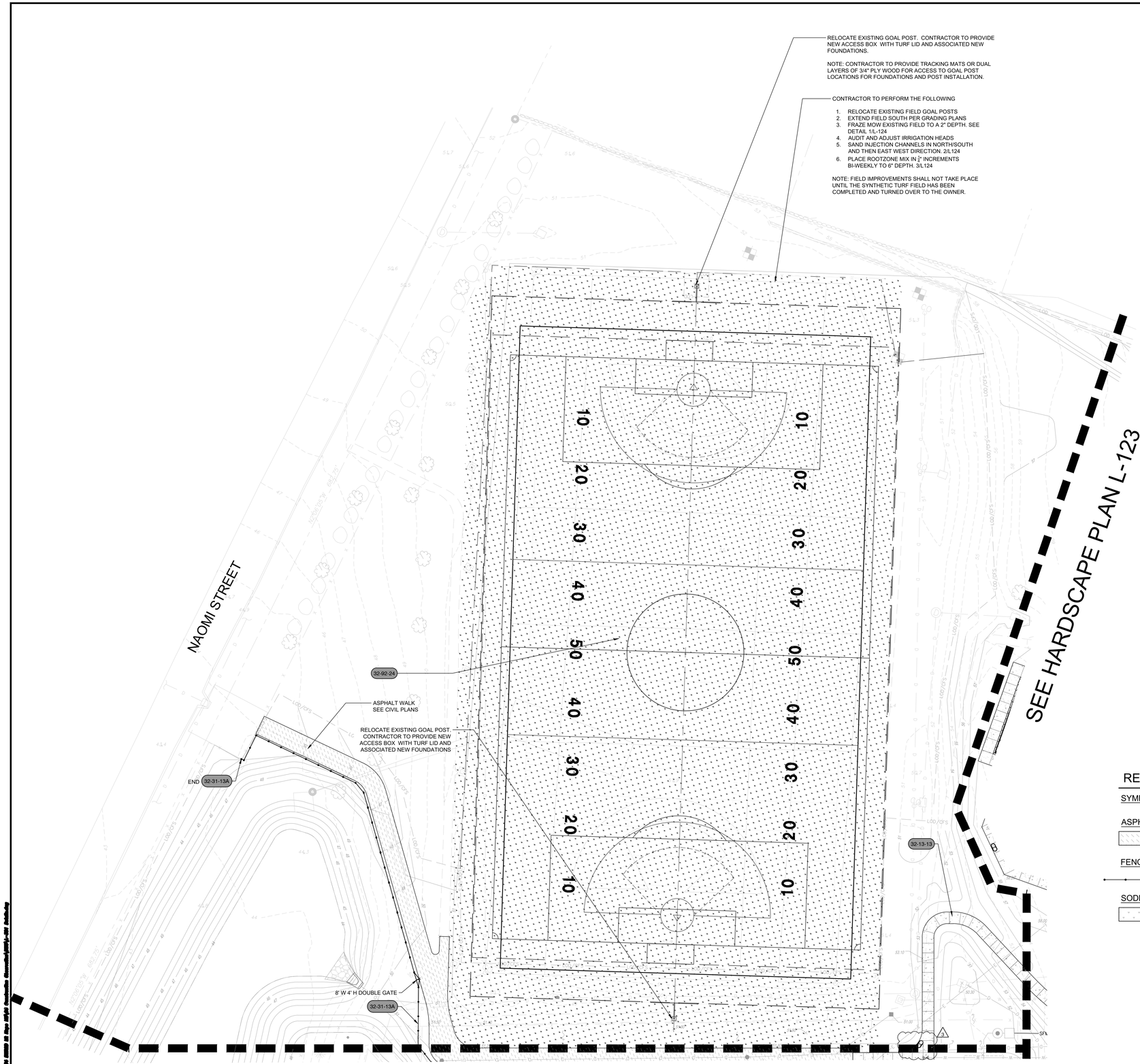
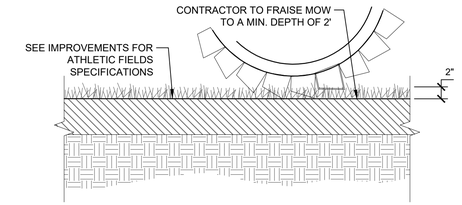
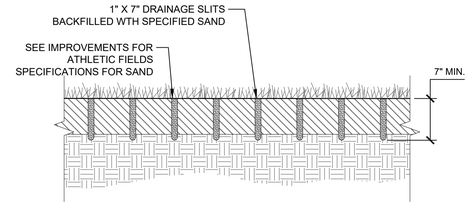




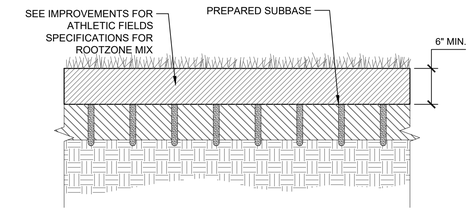
NOTES:
1. SEE PLANS FOR LIMITS OF FRAISE MOWING AREA.
2. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR WITH 6 INCHES LOAM AND SEED.
3. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE SAND TOP DRESSING SEE SPECIFICATION 32 91 04.

1 VEGETATION AND ROOTZONE REMOVAL
1" = 1'-0"



NOTES:
1. SEE PLANS FOR LIMITS OF DRAINAGE CHANNELS AREA.
2. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR WITH 6 INCHES LOAM AND SEED.
3. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED/SOD.

2 DRAINAGE CHANNELS
1" = 1'-0"



NOTES:
1. LIMITS OF ROOTZONE MIX TO MATCH SAND DRAINAGE. CONTRACTOR TO TIE GRADE INTO EXISTING GRADE AT EDGES.
2. CONTRACTOR TO FINE GRADE THE FIELD TO MATCH THE SUBBASE OF THE FIELD.
3. CONTRACTOR TO ADJUST EXISTING IRRIGATION HEADS TO MATCH NEW FINISHED GRADE.
4. CONTRACTOR TO SEED, FERTILIZE, AND WATER AS OUTLINED IN THE IMPROVEMENTS FOR ATHLETIC FIELDS SPECIFICATION.

3 ROOTZONE MIX
1" = 1'-0"

REFERENCE NOTES SCHEDULE L-124

SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	Alternate #
ASPHALT PAVING					
	32-12-18	Asphalt walkway	4,436 sf		Per Civil
FENCES AND GATES					
	32-31-13A	4' Black Chain Link Fence	1,381 lf	2/LA-304	
SODDING					
	32-92-24	LOWER ATHLETIC FIELD IMPROVEMENTS	87,946 sf		

SEE CIVIL PLANS FOR ROADS, CURBS, PARKING, PAVEMENT MARKINGS, TRAFFIC SIGNS, UTILITIES, STORMWATER, AND DRAINAGE.

NORTH

0 20 40 60 80 feet
1" = 20'

PARE

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BRISTOL, RI 02809
401-253-4000

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REGISTERED LANDSCAPE ARCHITECT
KYLE MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
HARDSCAPE PLAN

DRAWING NO.:
L-124
SHEET NO. 82 OF 159

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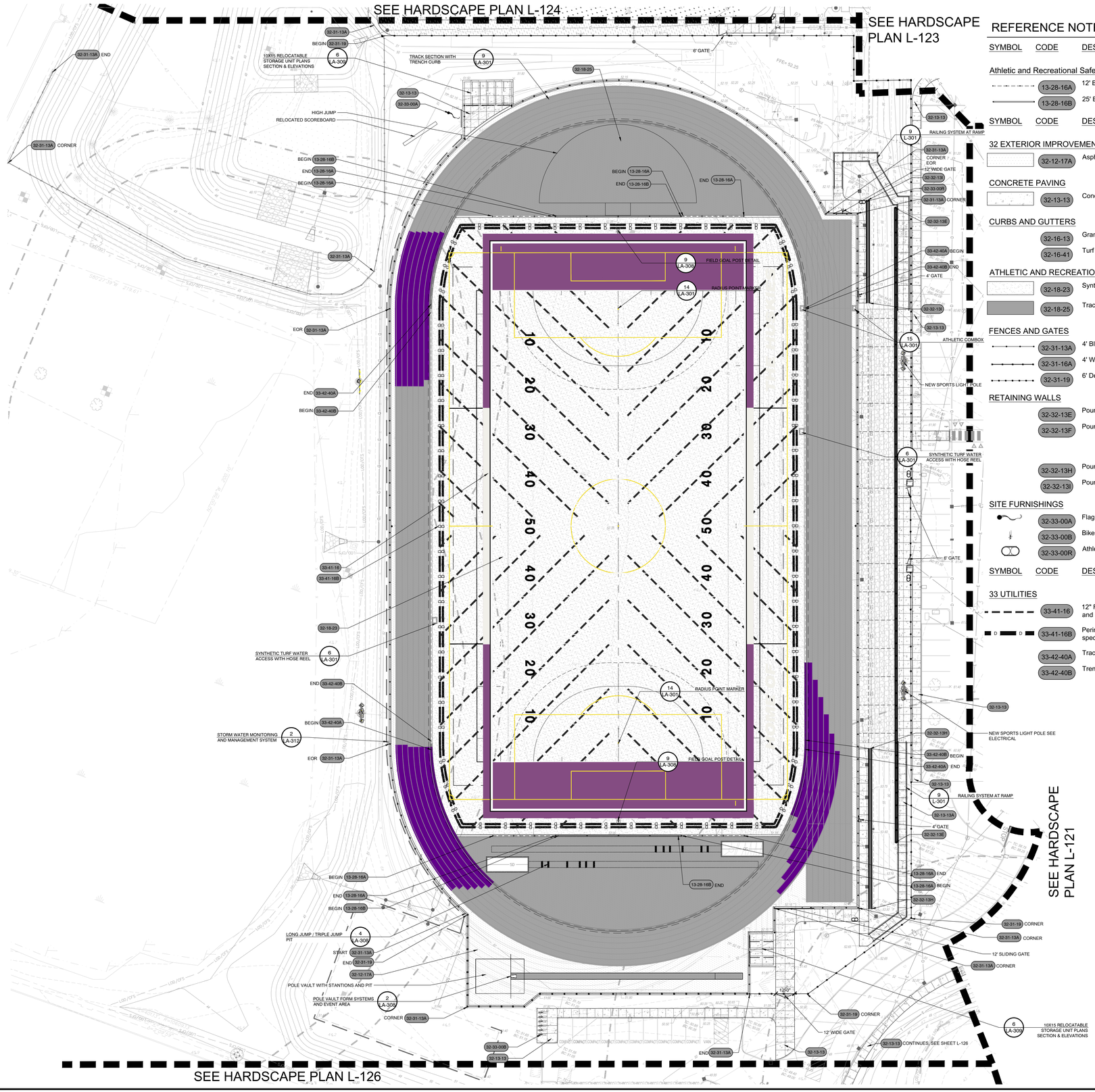

REFERENCE NOTES SCHEDULE L-125

SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	
Athletic and Recreational Safety Netting					
	13-28-16A	12' Break-away Netting	160 lf	7/LA-305	
	13-28-16B	25' Break-away Netting	160 lf	7/LA-305	
SYMBOL	**CODE**	**DESCRIPTION**	**QTY**	**DETAIL**	**Alternate #**
32 EXTERIOR IMPROVEMENTS					
	32-12-17A	Asphalt for Athletic Track	61,571 sf	2/LA-301	
CONCRETE PAVING					
	32-13-13	Concrete Paving	13,090 sf	1/L-301	
CURBS AND GUTTERS					
	32-16-13	Granite Landscape Curb	63 lf	6/L-301	
	32-16-41	Turf Field End Curb	410 lf	13/LA-301	
ATHLETIC AND RECREATIONAL SURFACING					
	32-18-23	Synthetic Turf Athletic Field Profile	91,928 sf	1/LA-301	
	32-18-25	Track Surfacing	53,036 sf	2/LA-301	
FENCES AND GATES					
	32-31-13A	4' Black Chain Link Fence	1,448 lf	2/LA-304	
	32-31-16A	4' Wire Mesh Fence Mounted	404 lf	3/LA-305	
	32-31-19	6' Decorative Fence	1,235 lf	2/LA-305	
RETAINING WALLS					
	32-32-13E	Poured in Place Concrete Retaining Wall E	404 lf	3/L-245	
	32-32-13F	Poured in Place Concrete Retaining Wall F	93 lf	2/L-245	ADD ALT #1 Bleacher, Pressbox, Support Building
	32-32-13H	Poured in Place Concrete Seat wall H	102 lf	2/L-245	
	32-32-13I	Poured in Place Concrete Seat wall I	65 lf	2/L-245	
SITE FURNISHINGS					
	32-33-00A	Flagpole	1	1/L-302	
	32-33-00B	Bike Rack	6	2/L-302	
	32-33-00R	Athletic Litter/ Recycle Receptacle	4	15/L-302	
SYMBOL	**CODE**	**DESCRIPTION**	**QTY**	**DETAIL**	
33 UTILITIES					
	33-41-16	12" Flat panel subdrain (see civil for details and specifications)	3,913 lf		
	33-41-16B	Perimeter collector drain see (civil for specifications)	2,340 lf	3/LA-301	
	33-42-40A	Track Slot Drain	748 lf	8/LA-301	
	33-42-40B	Trench Drain - Track	554 lf	7/LA-301	

SEE CIVIL PLANS FOR ROADS, CURBS, PARKING, PAVEMENT MARKINGS, TRAFFIC SIGNS, UTILITIES, STORMWATER, AND DRAINAGE.

NORTH

0 20 40 60 80 feet

1" = 20'

PARE

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KATE MITCHELL BRADNER
No. 428

REVISIONS:

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DATE:	JUNE 10, 2025
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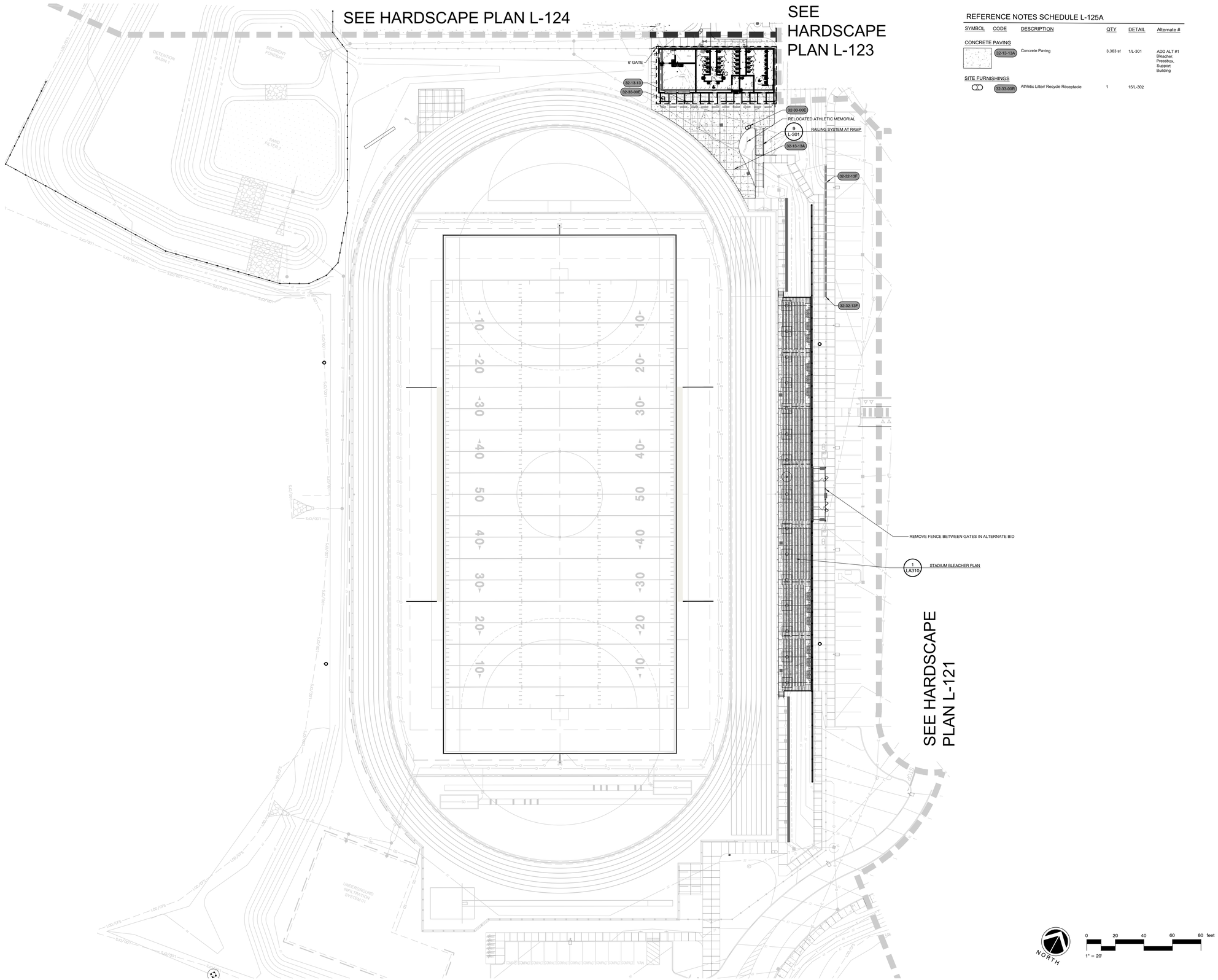
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
HARDSCAPE PLAN

DRAWING NO.:
L-125
SHEET NO. 83 OF 159

Z:\Projects\P-23099 MHS @ Hope HS\P-23099 Assessors Plat 12, Lot 3, 4, 5, 6 & 7 Bristol, Rhode Island\Drawings\L-125 Hardscape Plan.dwg

Item C1.



REFERENCE NOTES SCHEDULE L-125A

SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	Alternate #
CONCRETE PAVING					
	32-13-13A	Concrete Paving	3,363 sf	1/L-301	ADD ALT #1 Bleacher, Pressbox, Support Building
SITE FURNISHINGS					
	32-33-00R	Athletic Litter/ Recycle Receptacle	1	15/L-302	

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
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401-253-4000

TRAVERSE
landscape architects
150 Chestnut Street, 4th Floor
Providence, RI 02903
401-383-4950
www.traversela.com

SCALE ADJUSTMENT GUIDE
0" 1"
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MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KRIS MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
HARDSCAPE PLAN

DRAWING NO.:
L-125A

SHEET NO. 84 OF 159

REFERENCE NOTES SCHEDULE L-126

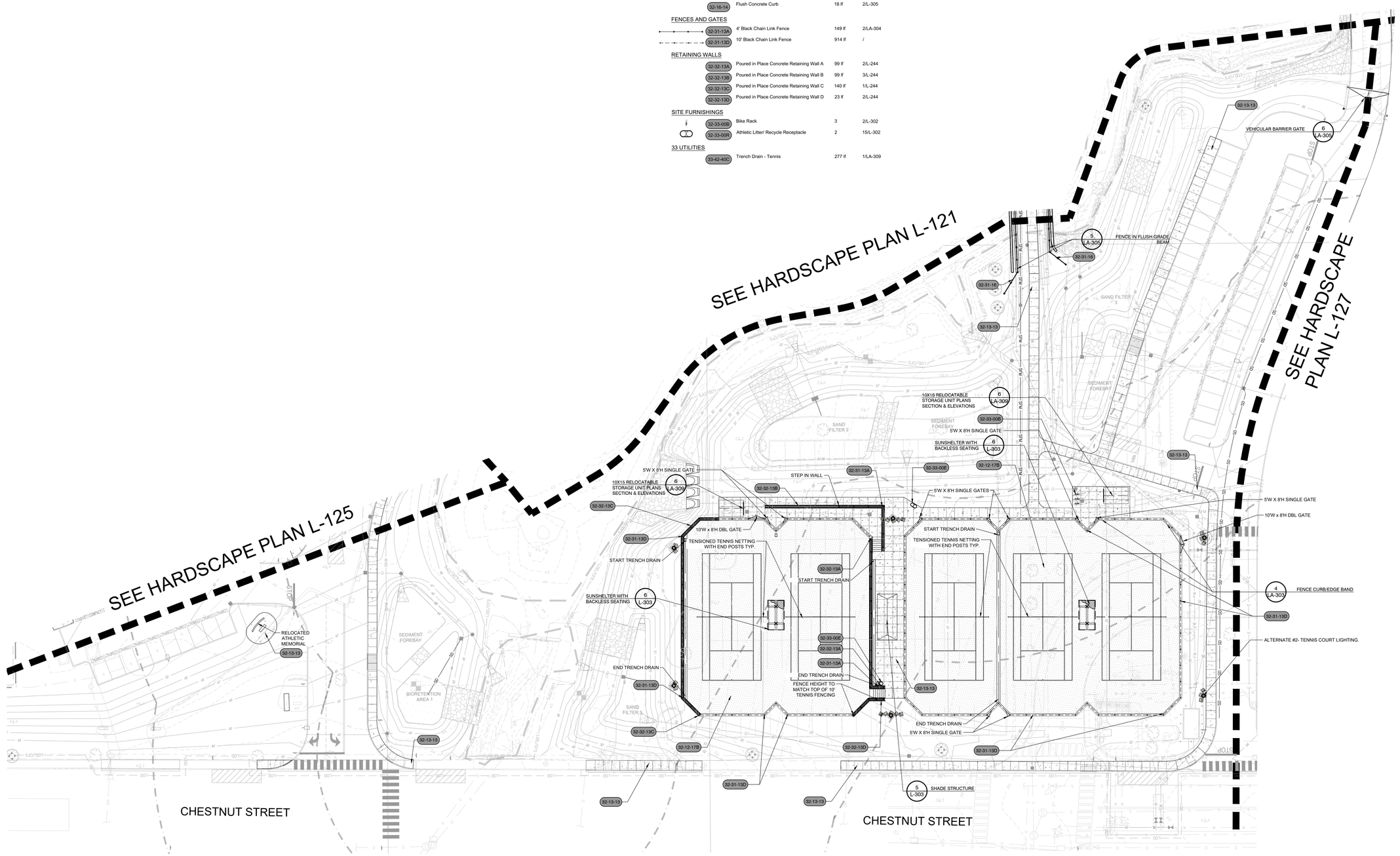
SYMBOL	CODE	DESCRIPTION	QTY	DETAIL
ASPHALT PAVING				
	32-12-17B	Tennis Surfacing and Asphalt	32,256 sf	2/LA-309
CONCRETE PAVING				
	32-13-13	Concrete Paving	10,364 sf	1/L-301
CURBS AND GUTTERS				
	32-16-14	Flush Concrete Curb	18 lf	2/L-305
FENCES AND GATES				
	32-31-13A	4' Black Chain Link Fence	149 lf	2/LA-304
	32-31-13D	10' Black Chain Link Fence	914 lf	/
RETAINING WALLS				
	32-32-13A	Poured in Place Concrete Retaining Wall A	99 lf	2/L-244
	32-32-13B	Poured in Place Concrete Retaining Wall B	99 lf	3/L-244
	32-32-13C	Poured in Place Concrete Retaining Wall C	140 lf	1/L-244
	32-32-13D	Poured in Place Concrete Retaining Wall D	23 lf	2/L-244
SITE FURNISHINGS				
	32-33-00B	Bike Rack	3	2/L-302
	32-33-00R	Athletic Litter/ Recycle Receptacle	2	15/L-302
33 UTILITIES				
	33-42-40C	Trench Drain - Tennis	277 lf	1/LA-309

SEE CIVIL PLANS FOR ROADS, CURBS, PARKING, PAVEMENT MARKINGS, TRAFFIC SIGNS, UTILITIES, STORMWATER, AND DRAINAGE.

NORTH

0 20 40 60 80 feet

1" = 20'



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MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 112, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KIM MITCHELL GRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
HARDSCAPE PLAN

DRAWING NO.:
L-126
SHEET NO. 85 OF 159

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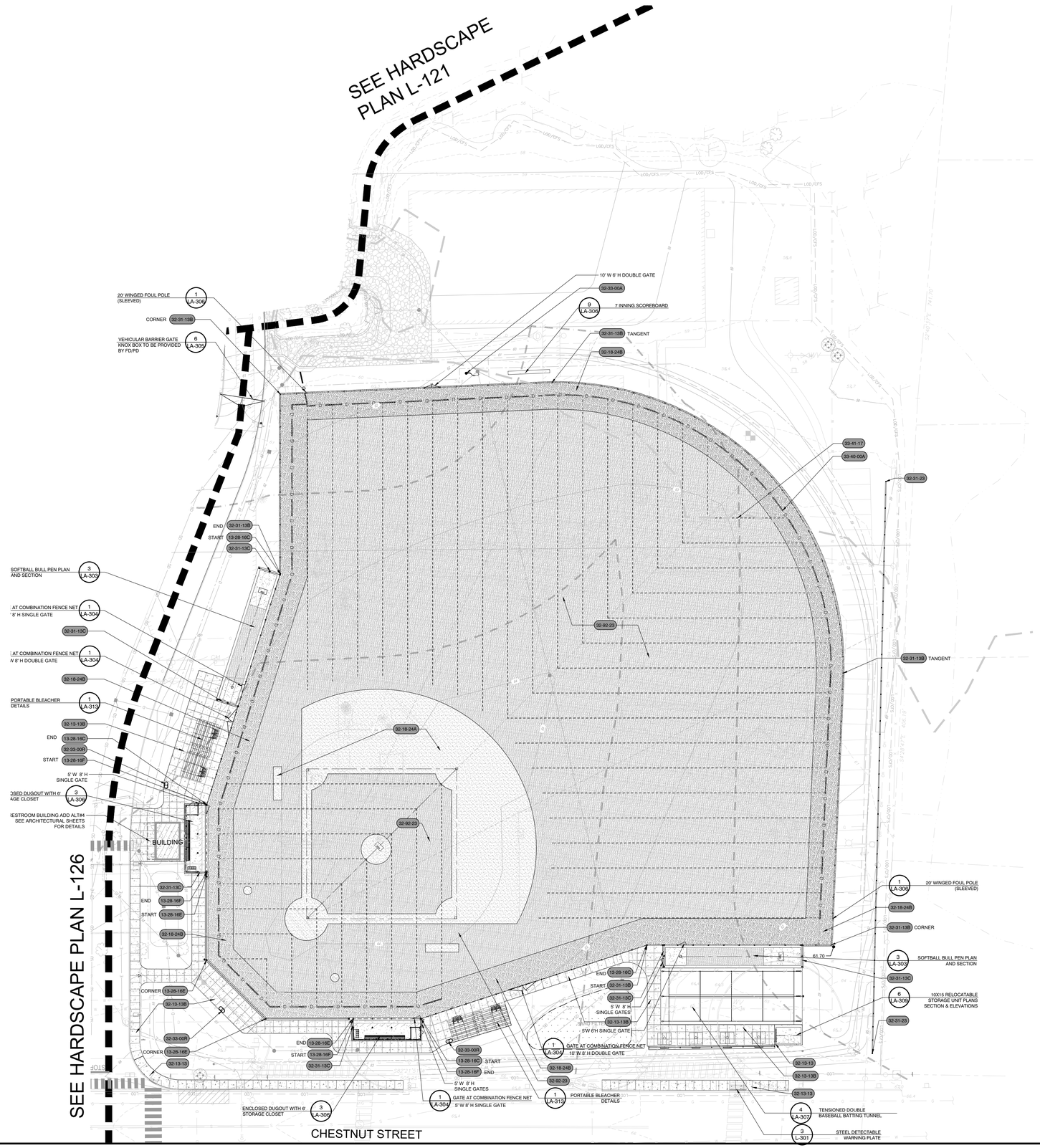

NOTES:
1.ALL 6' SIDEWALK SHOWN AT THE BACK OF ROADWAY CURB SHALL BE BASE BID.
2.ALL OTHER WORK SHOWN ON THIS SHEET SHALL BE PART OF ALTERNATE BID #3.
3.SEE CIVIL FOR BASE BID GRADING AND UTILITIES. SEED ALL DISTURBED AREAS AS PART OF BASE BID.

REFERENCE NOTES SCHEDULE L-127

SYMBOL	CODE	DESCRIPTION	DETAIL	Alternate #
Athletic and Recreational Safety Netting				
	13-28-16C	25' Breakaway safety netting with 6' Chain Link Fence	8/LA-304	
	13-28-16E	40' Netted Baseball Backstop with 42" padded knee wall and screened back with logo	2/LA-307	
	13-28-16F	25' Netting with 42" padded knee rail	4/LA-306	
32 EXTERIOR IMPROVEMENTS				
	32-13-13	Concrete Paving	1/L-301	
	32-13-13B	Concrete Paving	1/L-301	Add Alt #3 Baseball Field
ATHLETIC AND RECREATIONAL SURFACING				
	32-18-24A	Baseball/Softball Infield Surfacing	4/LA-302	
	32-18-24B	Warning Track	8/LA-302	
FENCES AND GATES				
	32-31-13B	6' Black Chain Link Fence	3/LA-304	
	32-31-13C	8' Black Chian Link Fence	9/LA-304	
	32-31-23	8' PVC Fence	6/LA-304	
SITE FURNISHINGS				
	32-33-00A	Flagpole	1/L-302	
	32-33-00R	Athletic Litter/ Recycle Receptacle	15/L-302	
SODDING				
	32-92-23	Sodded Athletic Field Profile	1/LA-302	
33 UTILITIES				
D — D	33-40-00A	Natural Grass Athletic Field Collector Drain	3/LA-302	
	33-41-17	2" Sand Channel Drains for Athletic Fields	2/LA-302	

SEE CIVIL PLANS FOR ROADS, CURBS, PARKING, PAVEMENT MARKINGS, TRAFFIC SIGNS, UTILITIES, STORMWATER, AND DRAINAGE.

NORTH

0 20 40 60 80 feet

1" = 20'

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BRISTOL, RI 02809
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JOHN MITCHELL GARDNER
No. 428

REVISIONS:

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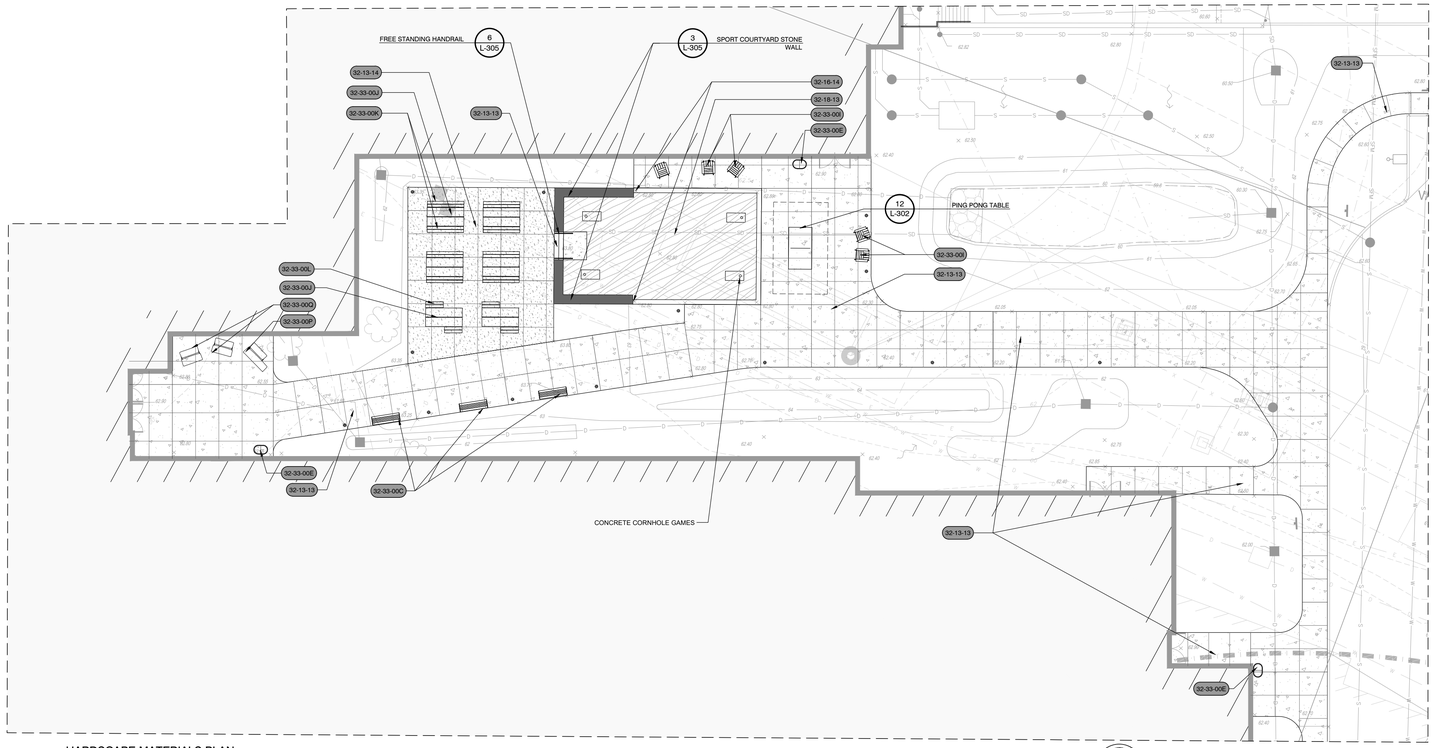
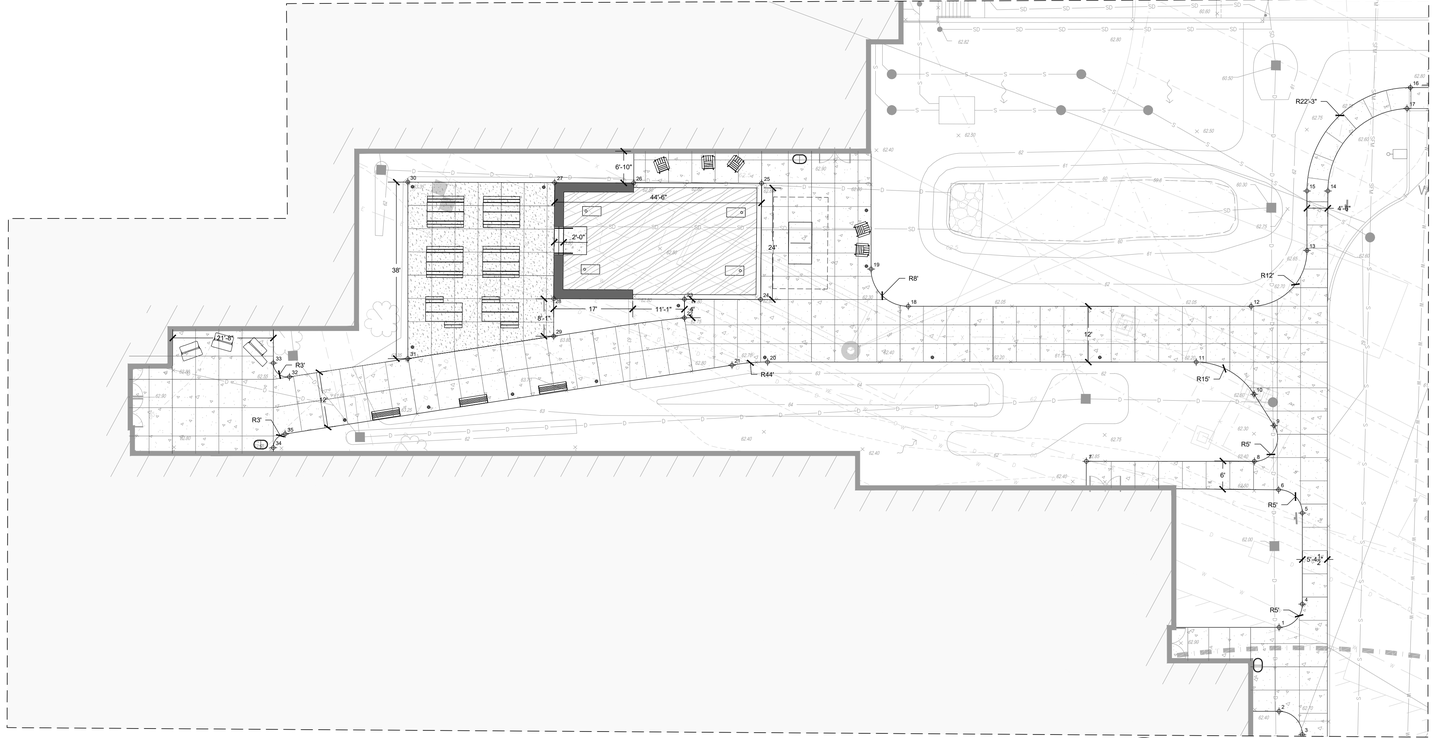
HARDSCAPE PLAN

DRAWING NO.:
L-127
SHEET NO. 86 OF 159

Plotted: 6/10/2025 2:38 PM by Erik Lindholm Document path: L:\Projects\23099.01 Mt Hope HS\Construction Documents\Drawings\L-127 Hardscape.dwg



HARDSCAPE MATERIALS PLAN



HARDSCAPE LAYOUT PLAN

REFERENCE NOTES SCHEDULE L-141

SYMBOL	CODE	DESCRIPTION	DETAIL
CONCRETE PAVING			
	32-13-13	Concrete Paving	1/L-301
	32-13-14	Exposed Aggregate Concrete Paving	4/L-301
CURBS AND GUTTERS			
	32-16-14	Flush Concrete Curb	2/L-305
ATHLETIC AND RECREATIONAL SURFACING			
	32-18-13	Synthetic Turf for Recreation Area	5/L-305
SITE FURNISHINGS			
	32-33-00C	Bench	3/L-302
	32-33-00E	Litter/Recycle Receptacle	5/L-302
	32-33-00I	Lounge Chair	8/L-302
	32-33-00J	Picnic Table	9/L-302
	32-33-00K	Picnic Bench A	9/L-302
	32-33-00L	Picnic Bench B	9/L-302
	32-33-00P	Cafe Table Set B	11/L-302
	32-33-00Q	Cafe Table Set C	11/L-302

NOTE: REFER STONE WALL DETAILS TO 3/ L-305

NORTHING/EASTING POINT SCHEDULE

POINT	DESCRIPTION	NORTHING	EASTING
1		N 220633.5434	E 390706.1809
2		N 220617.6779	E 390714.8014
3		N 220615.6716	E 390721.5818
4		N 220640.3238	E 390708.1872
5		N 220657.5332	E 390698.8366
6		N 220659.4853	E 390691.9590
7		N 220645.1308	E 390652.7349
8		N 220662.3817	E 390684.4844
9		N 220671.1498	E 390684.5184
10		N 220675.0107	E 390677.5424
11		N 220675.1590	E 390663.2901
12		N 220691.3484	E 390667.9455
13		N 220707.6211	E 390672.7596
14		N 220721.0052	E 390670.6088
15		N 220718.8568	E 390666.6547
16		N 220749.0299	E 390675.5825
17		N 220744.7178	E 390677.0719
18		N 220656.1478	E 390603.1698
19		N 220659.3582	E 390592.3211
20		N 220631.1638	E 390582.3208
21		N 220626.9373	E 390575.9206
22		N 220630.9983	E 390562.0607
23		N 220634.5102	E 390560.1694
24		N 220642.2841	E 390574.5902
25		N 220664.3385	E 390562.8452
26		N 220651.2829	E 390538.6366
27		N 220643.2195	E 390523.6761
28		N 220621.1751	E 390535.4144
29		N 220614.1072	E 390539.2553
30		N 220628.2434	E 390495.8841
31		N 220594.8875	E 390514.0079
32		N 220579.2904	E 390493.5192
33		N 220580.2452	E 390489.0660
34		N 220564.2482	E 390497.7387
35		N 220568.0512	E 390498.5663

SEE CIVIL PLANS FOR ROADS, CURBS, PARKING, PAVEMENT MARKINGS, TRAFFIC SIGNS, UTILITIES, STORMWATER, AND DRAINAGE.

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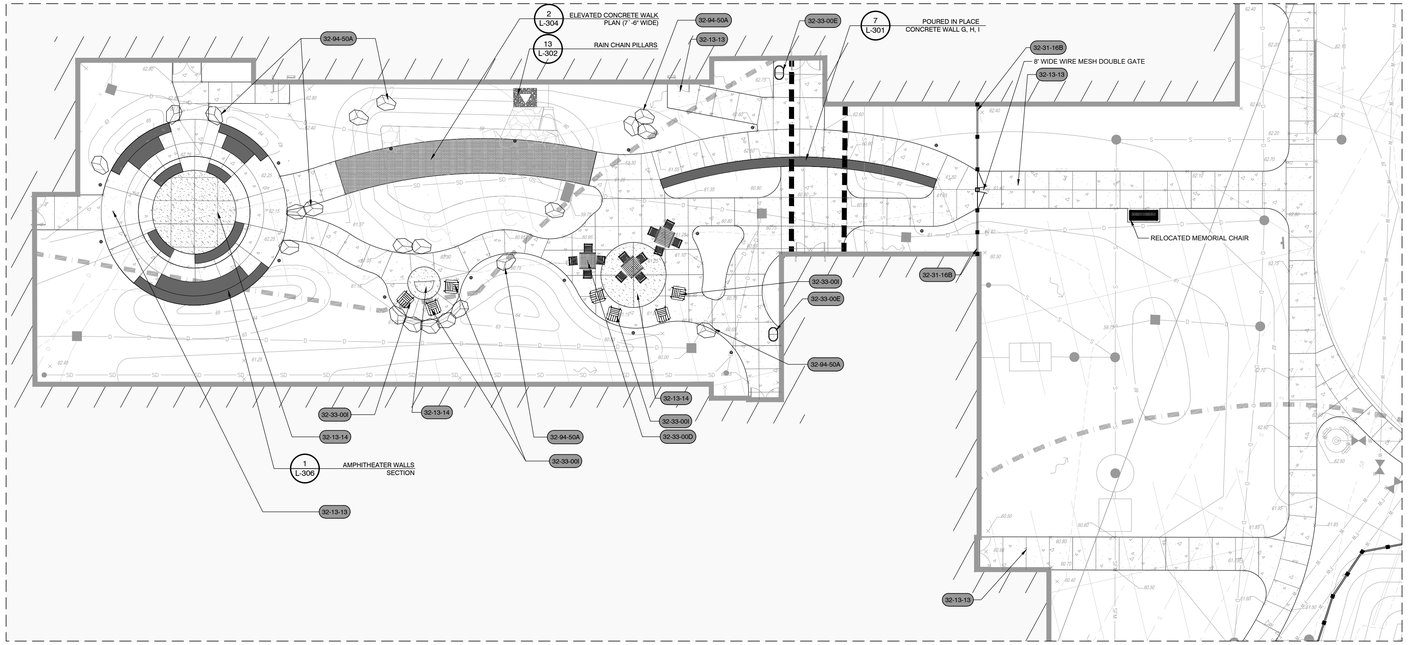
HARDSCAPE ENLARGEMENT PLAN

DRAWING NO.:
L-141

SHEET NO. 87 OF 159



HARDSCAPE MATERIALS PLAN



REFERENCE NOTES SCHEDULE L-142

SYMBOL	CODE	DESCRIPTION	DETAIL
CONCRETE PAVING			
	32-13-13	Concrete Paving	1/L-301
	32-13-14	Exposed Aggregate Concrete Paving	4/L-301
FENCES AND GATES			
	32-31-16B	8' Wire Mesh Fence	4/LA-305
RETAINING WALLS			
	32-32-13G	Poured in Place Concrete Retaining Wall G	7/L-301
SITE FURNISHINGS			
	32-33-00G	Square Table and Chairs	4/L-302
	32-33-00E	Litter/Recycle Receptacle	5/L-302
	32-33-00J	Lounge Chair	8/L-302
	32-34-13	Precast Concrete Boardwalk Paving	4/L-304
PLANTING ACCESSORIES			
	32-94-50A	Landscape Boulder	12/L-301

NORTHING/EASTING POINT SCHEDULE

POINT	DESCRIPTION	NORTHING	EASTING
1		N 220516.6615	E 390769.6882
2		N 220508.1115	E 390768.8696
3		N 220503.9797	E 390776.1699
4		N 220523.4420	E 390771.6944
5		N 220530.6047	E 390774.6310
6		N 220540.2964	E 390769.3651
7		N 220547.4106	E 390775.3879
8		N 220576.4577	E 390742.8885
9		N 220578.8174	E 390735.9160
10		N 220585.8468	E 390732.0966
11		N 220592.6273	E 390734.1029
12		N 220615.6716	E 390721.5818
13		N 220556.2492	E 390677.6303
14		N 220549.2226	E 390681.4482
15		N 220544.3907	E 390678.3462
16		N 220550.5607	E 390670.7680
17		N 220548.5920	E 390671.1208
18		N 220541.1941	E 390674.7836
19		N 220545.2327	E 390669.5659
20		N 220534.5494	E 390662.3147
21		N 220539.6872	E 390659.1867
22		N 220540.4689	E 390654.2890
23		N 220528.9759	E 390659.8127
24		N 220535.5070	E 390640.8136
25		N 220528.6960	E 390638.8593
26		N 220521.0140	E 390637.3529
27		N 220518.9627	E 390640.3007
28		N 220507.7526	E 390642.2031
29		N 220506.0275	E 390637.5751
30		N 220514.1564	E 390631.1181
31		N 220517.6169	E 390631.1914
32		N 220520.2875	E 390623.6082
33		N 220520.7254	E 390620.0128
34		N 220522.0882	E 390618.5490
35		N 220494.2789	E 390632.7962
36		N 220492.3951	E 390614.4552
37		N 220501.3387	E 390623.3268
38		N 220509.6273	E 390609.8112
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40		N 220498.3932	E 390599.9634
41		N 220488.6574	E 390593.4243
42		N 220491.7847	E 390589.3164
43		N 220480.3868	E 390592.3231
44		N 220472.7204	E 390578.8607
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46		N 220474.4988	E 390565.3267
47		N 220479.9773	E 390565.8124
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49		N 220471.8907	E 390553.6340
50		N 220468.1008	E 390533.8969
51		N 220470.5474	E 390542.5596
52		N 220471.0904	E 390544.4844
53		N 220460.2587	E 390538.3107
54		N 220458.5156	E 390539.2913
55		N 220465.5393	E 390551.7147
56		N 220465.2545	E 390553.6940

POINT	DESCRIPTION	NORTHING	EASTING
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58		N 220462.6770	E 390547.8825
59		N 220453.1039	E 390534.0822
60		N 220450.1041	E 390534.1190
61		N 220450.4980	E 390530.1469
62		N 220448.5417	E 390529.7300
63		N 220459.1043	E 390534.0085
64		N 220457.1034	E 390534.0330
65		N 220460.9649	E 390528.4169
66		N 220459.3799	E 390527.1998
67		N 220455.4168	E 390518.4359
68		N 220462.0042	E 390514.8505
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70		N 220469.8836	E 390523.0438
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72		N 220475.9910	E 390526.2302
73		N 220470.5317	E 390519.0958
74		N 220471.0168	E 390516.1356
75		N 220467.5253	E 390515.9071
76		N 220467.4611	E 390513.9062
77		N 220482.3966	E 390519.9107
78		N 220480.9679	E 390521.3088
79		N 220478.7005	E 390519.3497
80		N 220476.9347	E 390521.7737
81		N 220478.8716	E 390531.6556
82		N 220476.9147	E 390532.0633
83		N 220478.5917	E 390537.2112
84		N 220476.6838	E 390536.6100
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86		N 220485.7246	E 390530.2281
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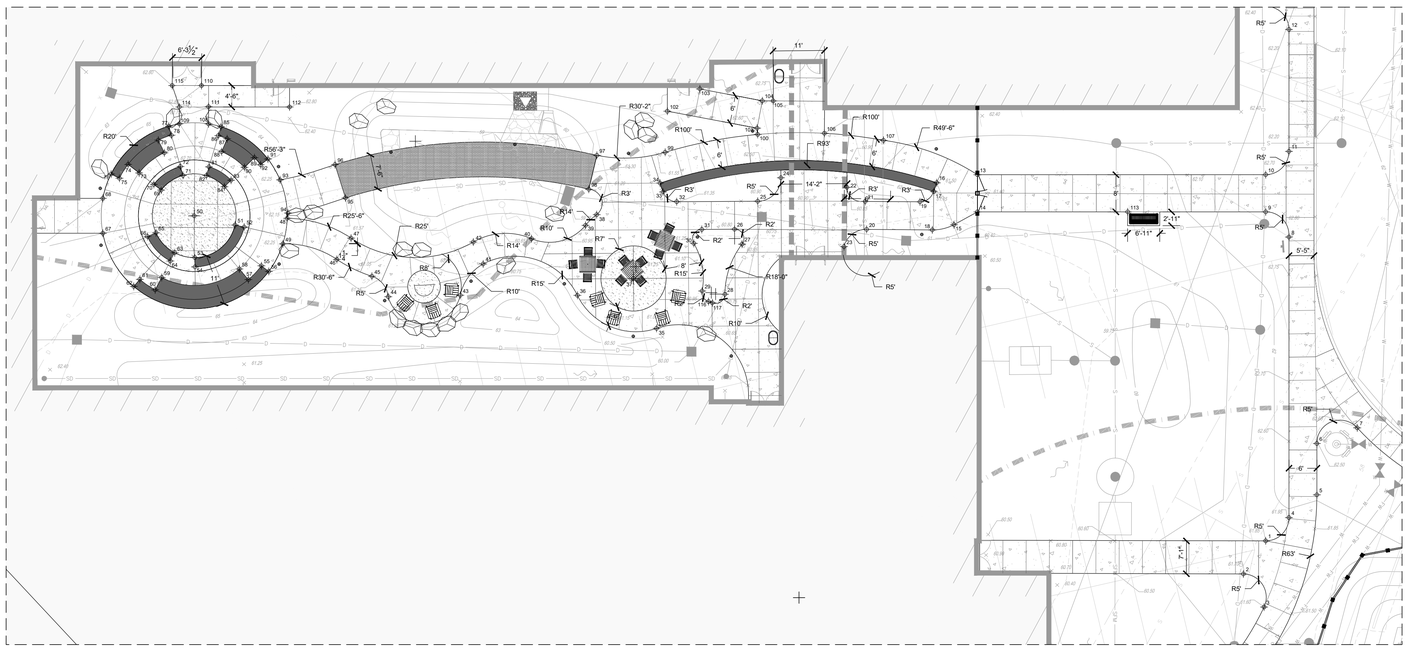
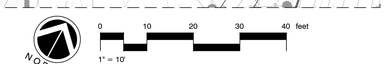
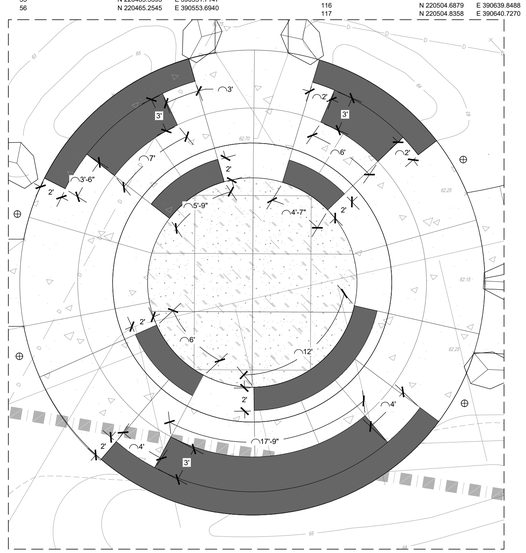
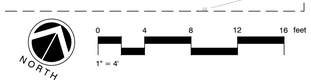


HARDSCAPE LAYOUT PLAN





LAYOUT PLAN ENLARGEMENT



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KIRK MITCHELL GRADNER
No. 428

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DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
HARDSCAPE ENLARGEMENT PLAN

DRAWING NO.:
L-142

SHEET NO. 88 OF 159

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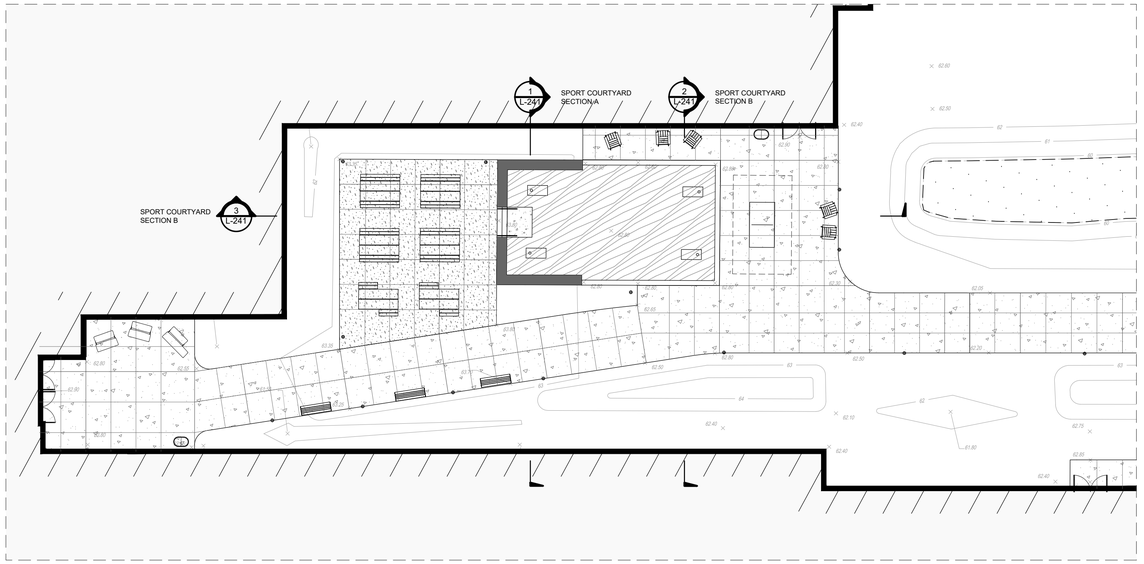
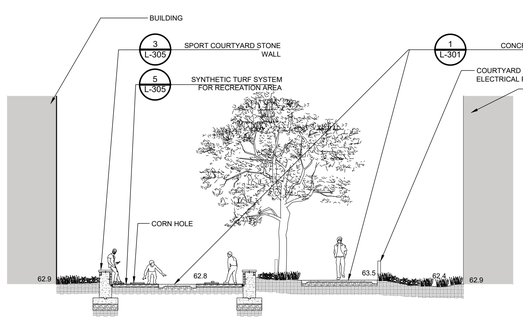
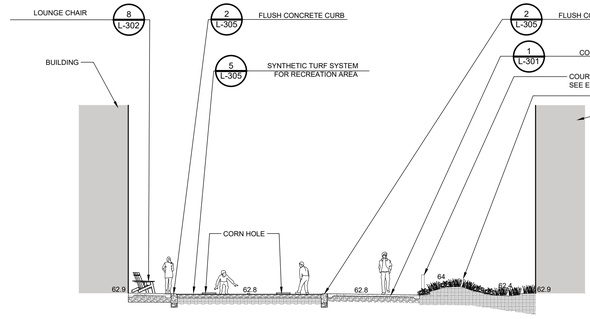


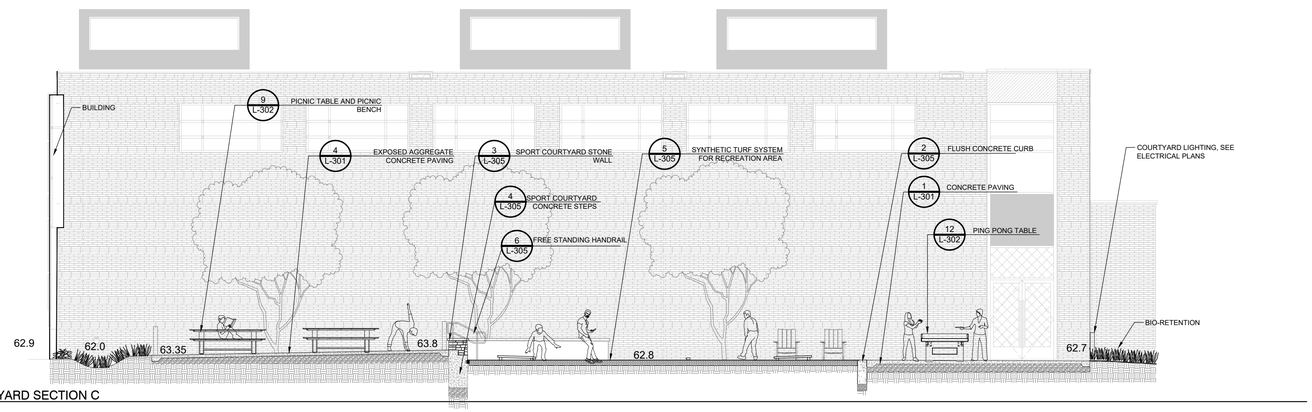
KEY PLAN



1 SPORT COURTYARD SECTION A
1/8" = 1'-0"



2 SPORT COURTYARD SECTION B
1/8" = 1'-0"



3 SPORT COURTYARD SECTION C
3/16" = 1'-0"

PARE

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SCHOOL DISTRICT
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401-253-4000

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SCALE ADJUSTMENT GUIDE
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MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 112, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
JOSE MITCHELL SPADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
SECTION
ELEVATION

DRAWING NO.:
L-241
SHEET NO. 89 OF 159

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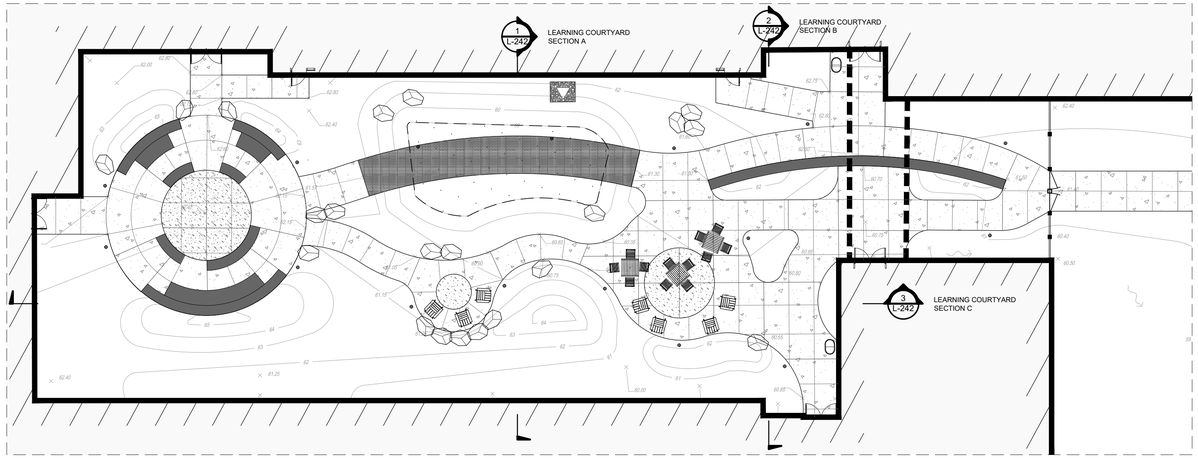
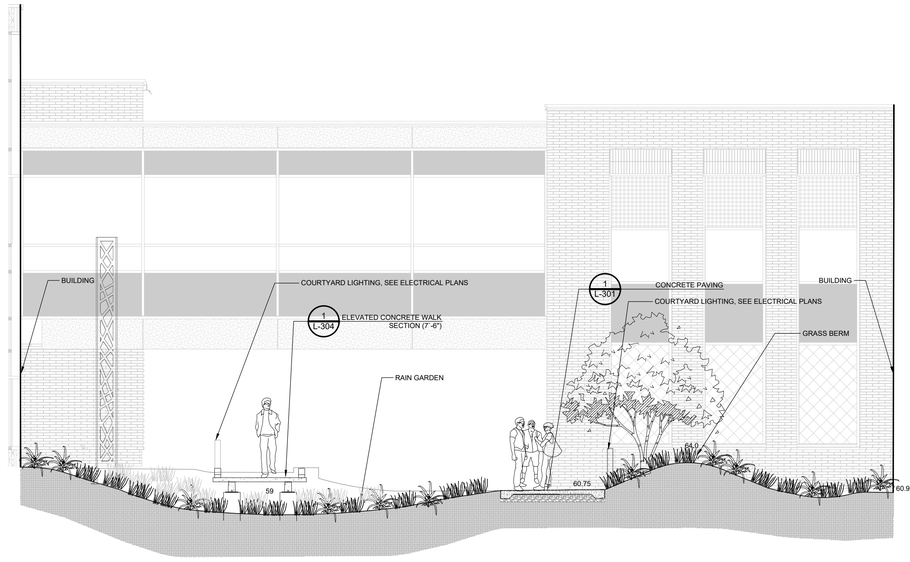


KEY PLAN

0 10 20 30 40 feet

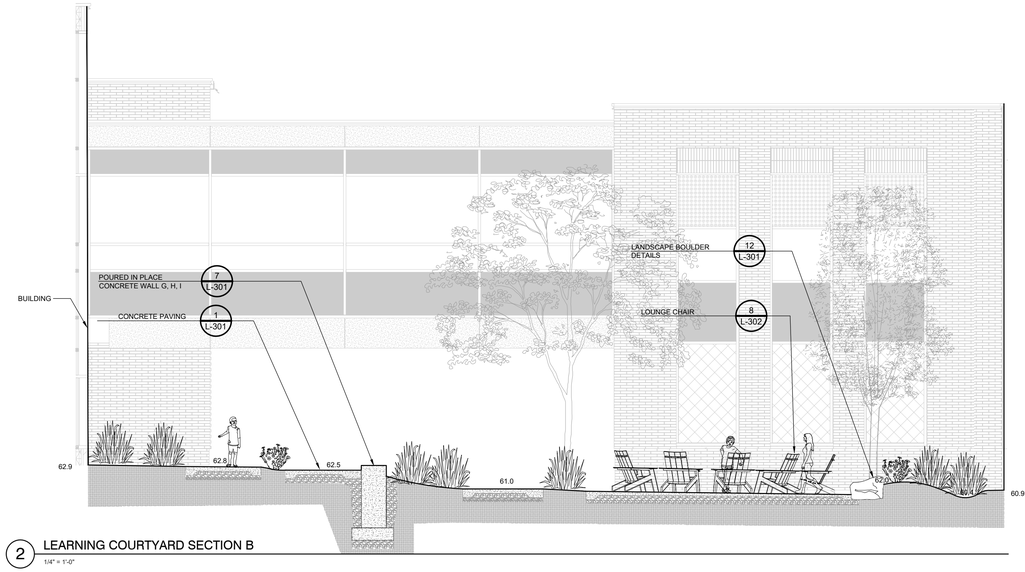
1" = 10'

NORTH



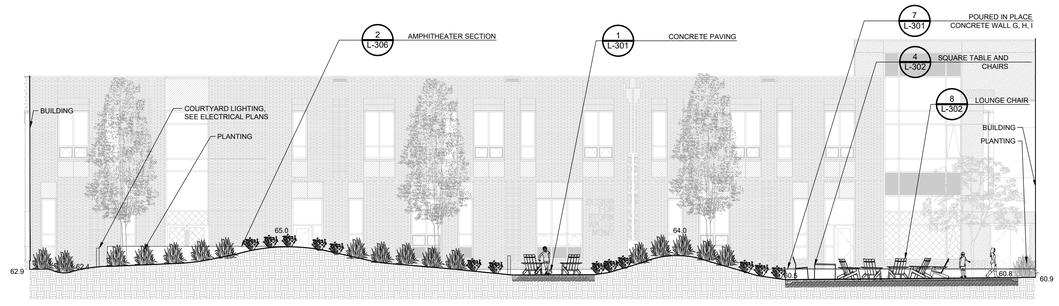
1 LEARNING COURTYARD SECTION A

1/4" = 1'-0"



2 LEARNING COURTYARD SECTION B

1/4" = 1'-0"



3 LEARNING COURTYARD SECTION C

1/8" = 1'-0"

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REGISTERED LANDSCAPE ARCHITECT
KYLE MITCHELL BRADNER
No. 428

REVISIONS:

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DATE:	JUNE 10, 2025
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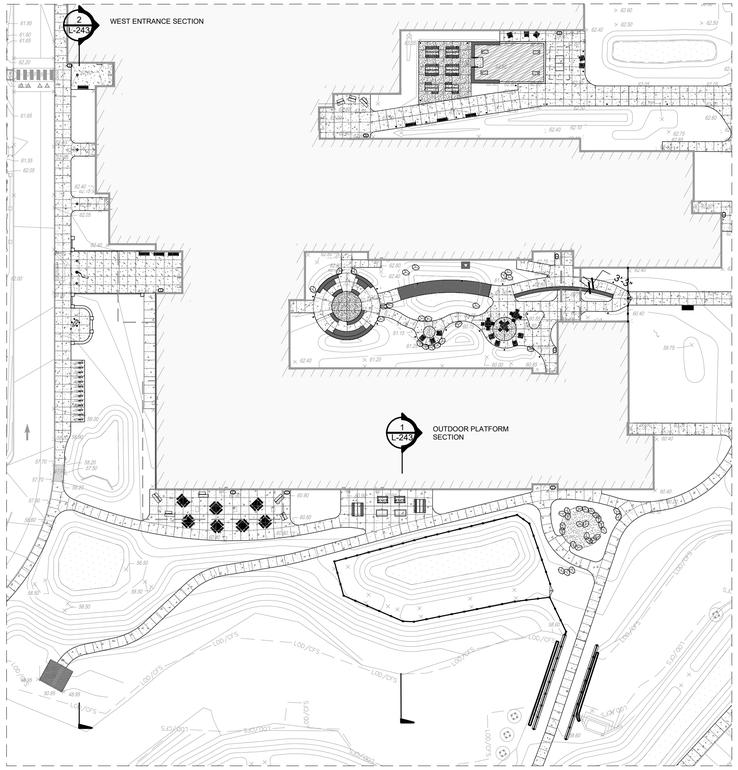
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
SECTION
ELEVATION

DRAWING NO.:
L-242

SHEET NO. 90 OF 159

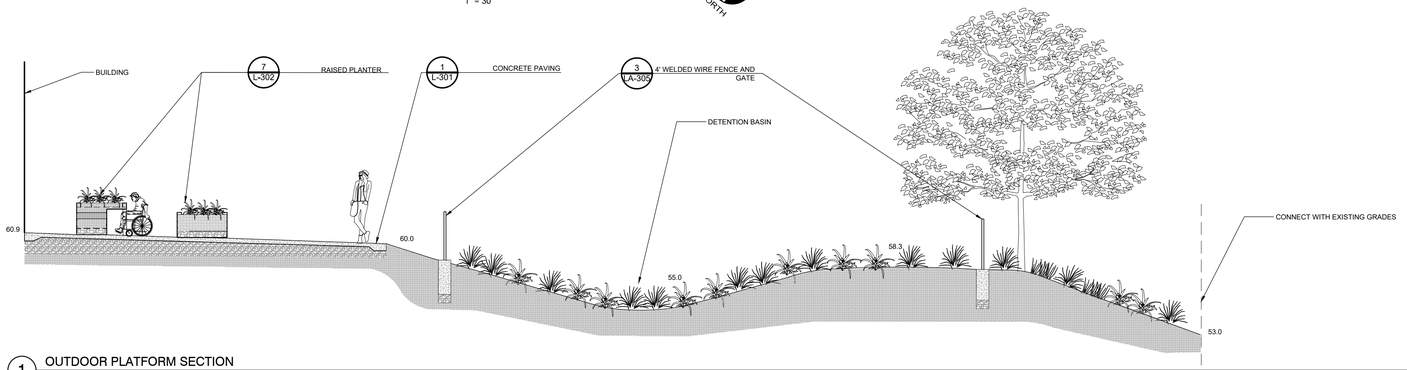


KEY PLAN

0 10 60 90 120 feet

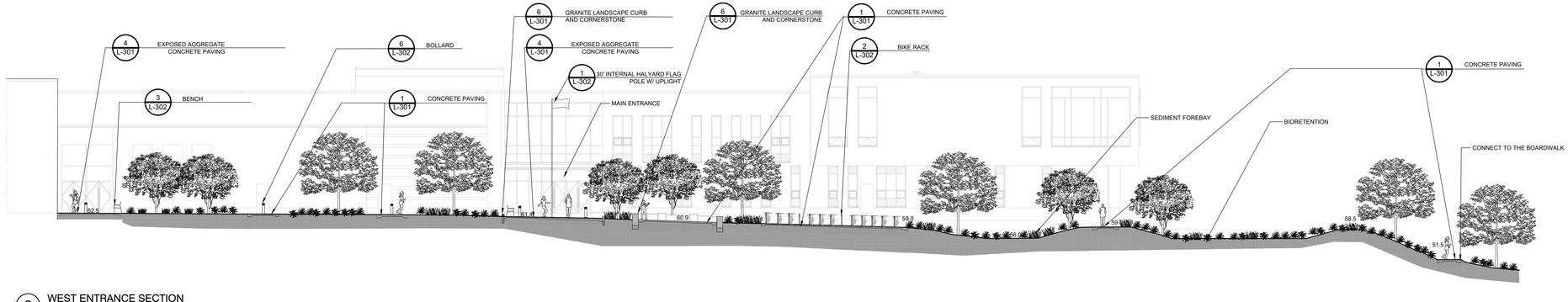
1" = 30'

NORTH



1 OUTDOOR PLATFORM SECTION

1/4" = 1'-0"



2 WEST ENTRANCE SECTION

3/32" = 1'-0"

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SECTION ELEVATION

DRAWING NO.:
L-243
SHEET NO. 91 OF 159

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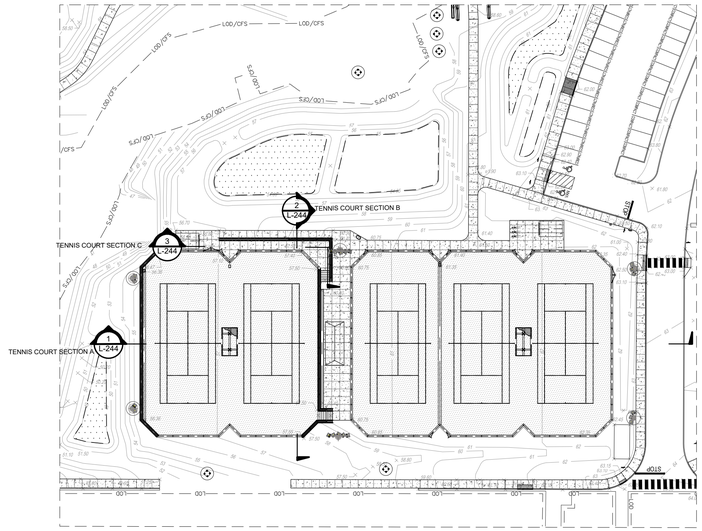
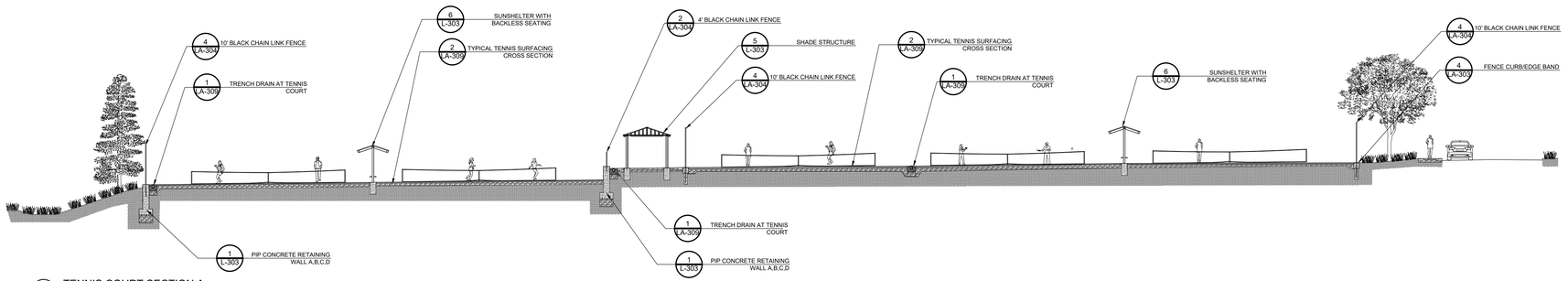


KEY PLAN

0 30 60 90 120 feet

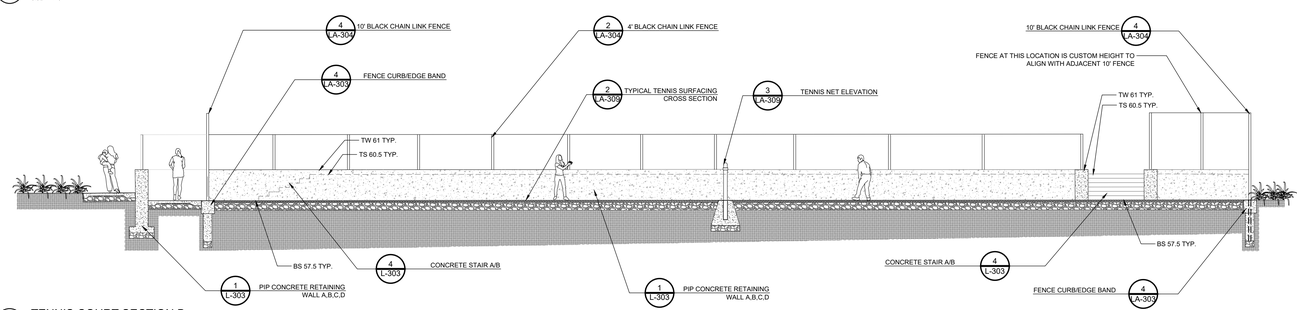
1" = 30'

NORTH



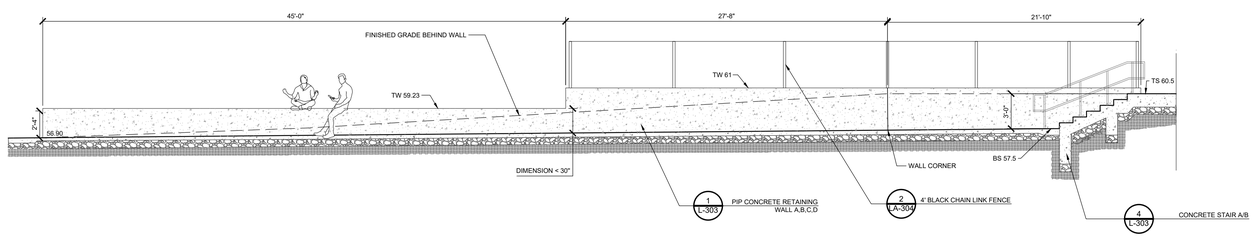
1 TENNIS COURT SECTION A

3/32" = 1'-0"



2 TENNIS COURT SECTION B

3/16" = 1'-0"



3 TENNIS COURT SECTION C

1/4" = 1'-0"

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KIM MITCHELL BRADNER
No. 428

REVISIONS:

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DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
SECTION ELEVATION

DRAWING NO.:
L-244

SHEET NO. 92 OF 159

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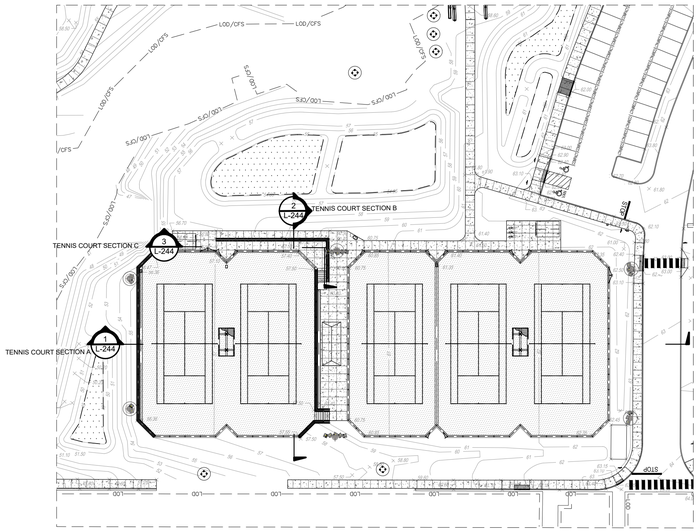
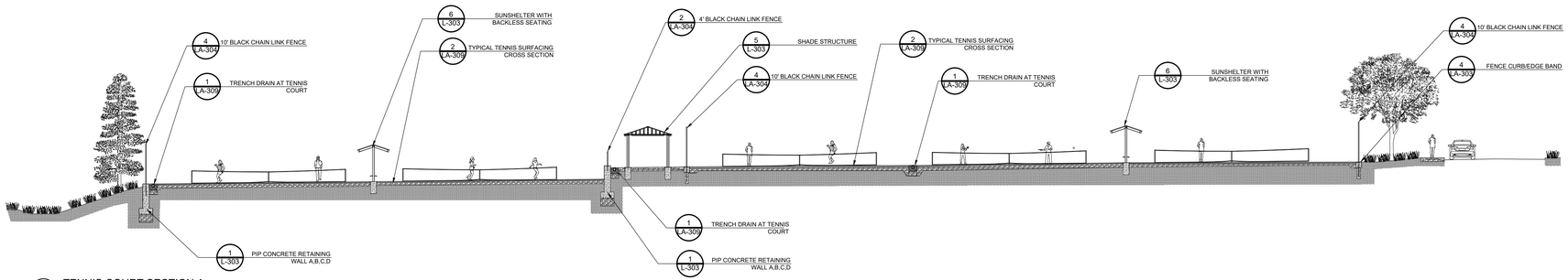


KEY PLAN

0 30 60 90 120 feet

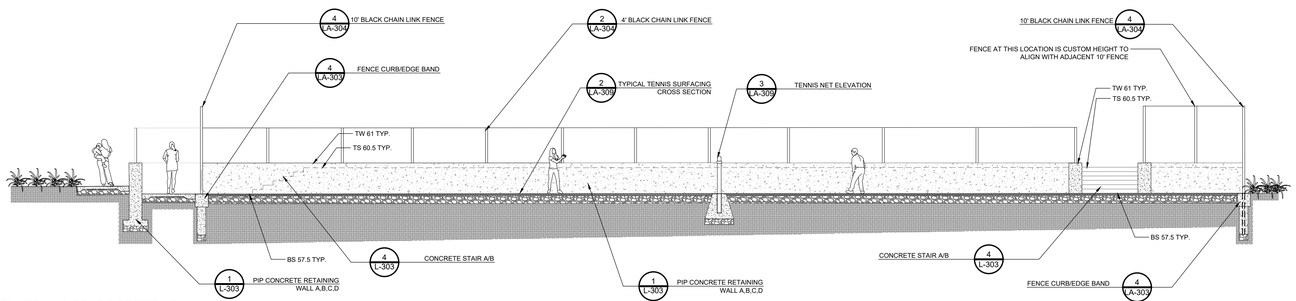
1" = 30'

NORTH



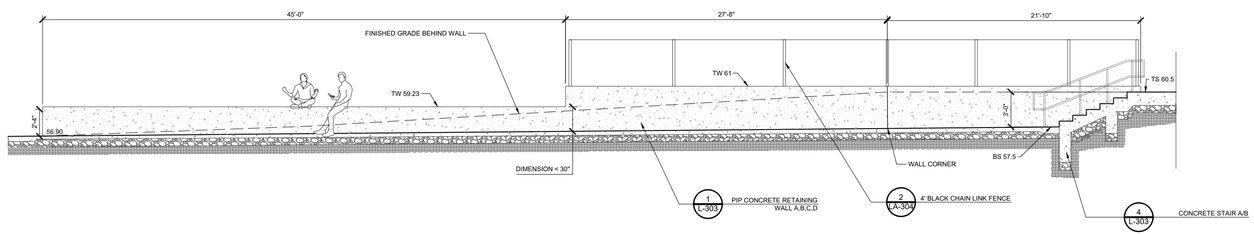
1 TENNIS COURT SECTION A

3/32" = 1'-0"



2 TENNIS COURT SECTION B

3/16" = 1'-0"



3 TENNIS COURT SECTION C

1/4" = 1'-0"

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REGISTERED LANDSCAPE ARCHITECT
KIMBERLY MITCHELL GRADNER
No. 428

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DRAWING TITLE:
SECTION ELEVATION

DRAWING NO.:
L-245

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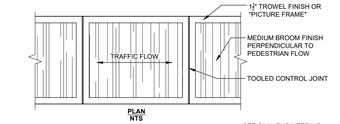
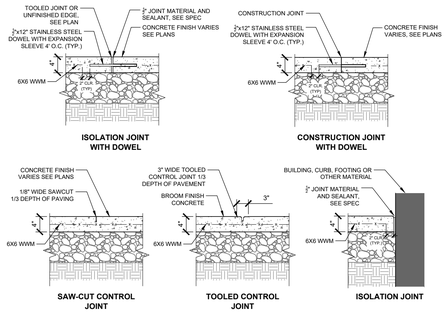
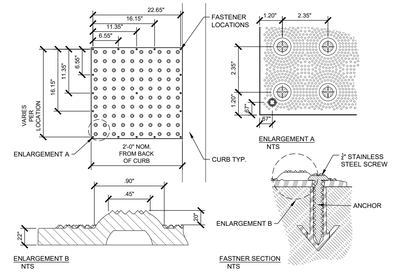


NOTES:
1. JOINTS SHALL BE TOOLED PER DETAILS AND SHALL BE PLACED AS FOLLOWS UNLESS OTHERWISE NOTED ON THE PLANS.
2. ISOLATION JOINTS SHALL BE INSTALLED AS NOTED ON THE PLANS.
3. CONTROL JOINTS SHALL BE PLACED AS NOTED ON THE PLANS.
4. BROOM FINISH SHALL BE PERPENDICULAR TO PEDESTRIAN TRAFFIC FLOW UNLESS OTHERWISE NOTED ON THE PLANS.

1 CONCRETE PAVING
1" = 1'-0"

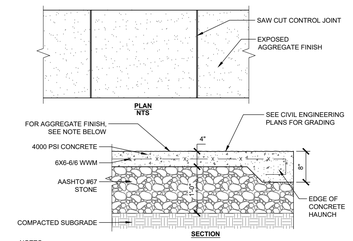


2 CONCRETE PAVEMENT JOINTS
1" = 1'-0"



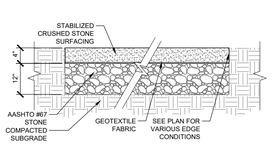
NOTES:
1. ALL DETECTABLE WARNING PLATES TO MEET MAAB REQUIREMENTS.
2. SEE CIVIL DETAILS FOR STANDARD CURB CUT.
3. SEE SPECIFICATIONS FOR MATERIAL AND MANUFACTURER.
4. DETECTABLE WARNING PLATES SHALL BE ABLE TO BE PLACED ON A RADIUS.

3 STEEL DETECTABLE WARNING PLATE
1" = 1'-0"



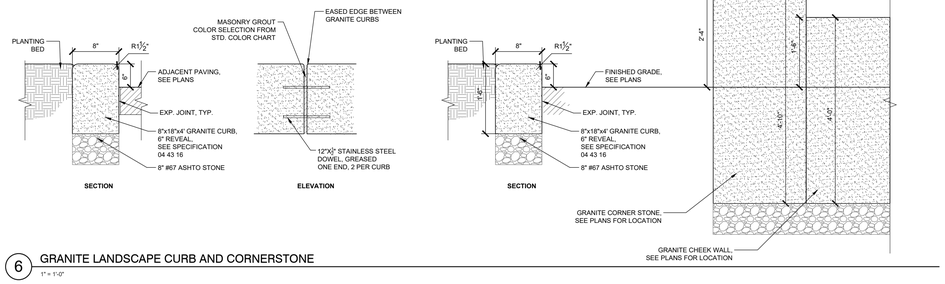
NOTES:
1. SEE SPECIFICATIONS FOR AGGREGATE SIZE, COLOR, SHAPE AND SAMPLE REQUIREMENTS FOR EXPOSED AGGREGATE SURFACE.
2. ISOLATION JOINTS SHALL BE INSTALLED AS NOTED ON THE PLANS.
3. SAWCUT CONTROL JOINTS SHALL BE PLACED AS NOTED ON THE PLANS FOR EXPOSED AGGREGATE PAVING.
4. THOROUGHLY WASH AND CLEAN ALL SURFACES AND REMOVE ALL DEBRIS AFTER SAWCUTTING.

4 EXPOSED AGGREGATE CONCRETE PAVING
1" = 1'-0"

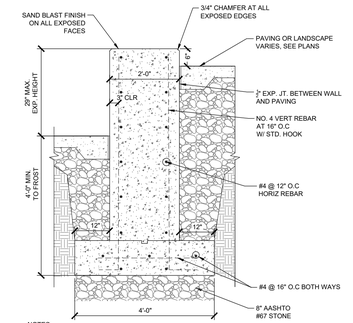


NOTES:
1. STONE SHALL BE PULVERIZED STONE LOCALLY-SOURCED, SEE SPEC 32 15 40.
2. SEE SPECIFICATION FOR MORE STONE AGGREGATE CRITERIA.
3. SEE PLANS FOR LOCATION AND LAYOUT

5 CRUSHED STONE SURFACING
1" = 1'-0"

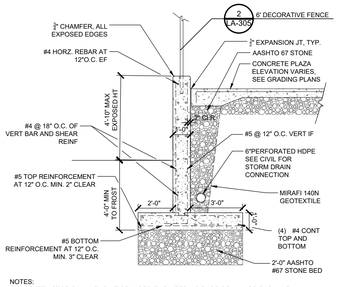


6 GRANITE LANDSCAPE CURB AND CORNERSTONE
1" = 1'-0"



NOTES:
1. CONTRACTOR SHALL SUBMIT STAMPED ENGINEERING SHOP DRAWINGS SHOWING ALL REINFORCEMENT, FOOTING DEPTHS INDICATING FINISHED GRADE AT FRONT, TOP AND BACK OF WALLS.
2. EXPOSED WALL SURFACES SHALL RECEIVE A MEDIUM SANDBLAST FINISH, CONTRACTOR SHALL PROVIDE MOCKUP FOR APPROVAL.

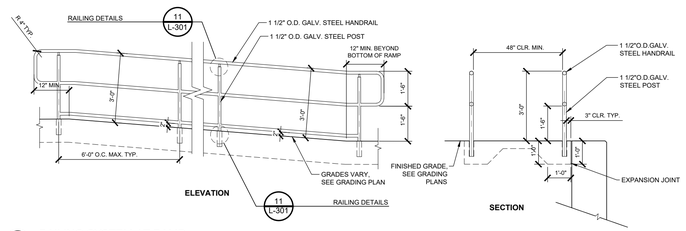
7 POURED IN PLACE CONCRETE WALL G, H, I
3/4" = 1'-0"



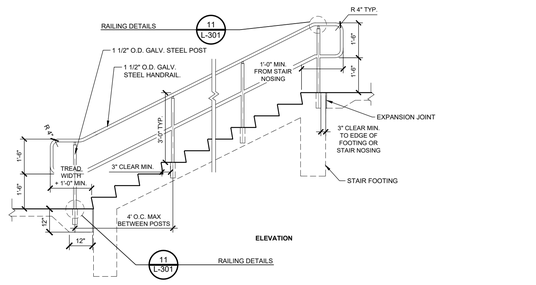
NOTES:
1. CONTRACTOR SHALL SUBMIT STAMPED ENGINEERING SHOP DRAWINGS SHOWING ALL REINFORCEMENT, FOOTING DEPTHS INDICATING FINISHED GRADE AT FRONT, TOP AND BACK OF WALLS.
2. EXPOSED WALL SURFACES SHALL RECEIVE A MEDIUM SANDBLAST FINISH, CONTRACTOR SHALL PROVIDE MOCKUP FOR APPROVAL.
3. CONTROL JOINT APPROX. EVERY 20', EXPANSION JOINTS APPROX. EVERY 40', REFER TO STRUCTURAL PLAN, S 300, FOR JOINT DETAILS.

8 POURED IN PLACE CONCRETE WALL F
3/8" = 1'-0"

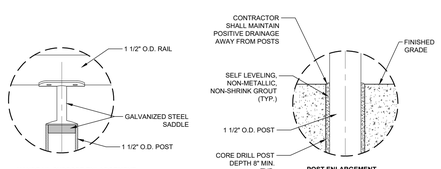
RAILING SYSTEM NOTES:
1. RAILING SYSTEMS FOR RAMPS AND STEPS SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
2. RAILING SYSTEMS SHALL BE GALVANIZED STEEL.
3. POSTS SHALL BE PLUMB. RAILS AND HAND GRIPS SHALL SLOPE WITH STAIR NOSINGS OR RAMP SLOPES.
4. CONTRACTOR SHALL PROVIDE FULL SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF RHODE ISLAND. SHOP DRAWINGS SHALL INDICATE FINISHED GRADE AND AS-BUILT DIMENSIONS OF STEPS AND RAMPS.
5. RAILING SYSTEMS SHALL COMPLY WITH 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN GUIDELINES AND MEET LIVE AND STATIC LOADS PER IBC BUILDING CODE.
6. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.



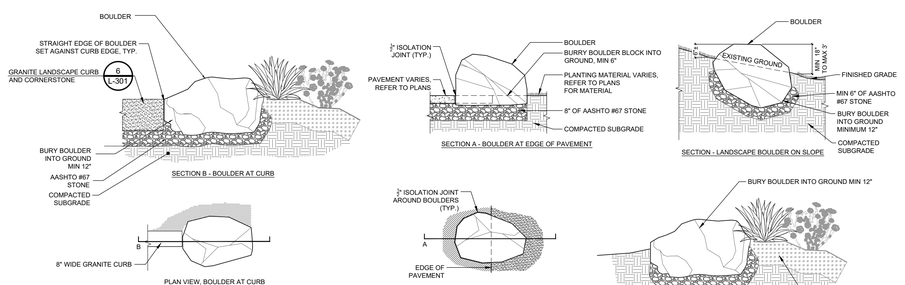
9 RAILING SYSTEM AT RAMP
1/2" = 1'-0"



10 RAILING SYSTEM AT STAIRS
1/2" = 1'-0"



11 RAILING DETAILS
1/2" = 1'-0"



NOTES:
1. BOULDER LOCATIONS SHALL BE FIELD VERIFIED BY LANDSCAPE ARCHITECT PRIOR TO FINAL INSTALLATION.
2. SEE SPECIFICATIONS FOR BOULDER TYPE, COLOR, JOINT MATERIAL, ETC.
3. BOULDERS SHALL BE 24" MIN TO 48" MAX IN ANY DIRECTION, NATURALLY ROUNDED.

12 LANDSCAPE BOULDER DETAILS
1/2" = 1'-0"

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DRAWING TITLE:
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SHEET NO. 94 OF 159

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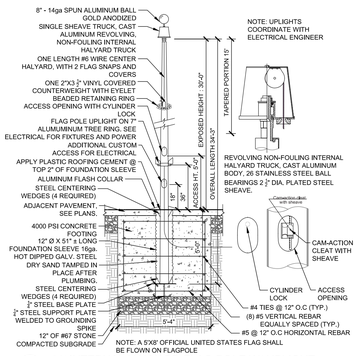
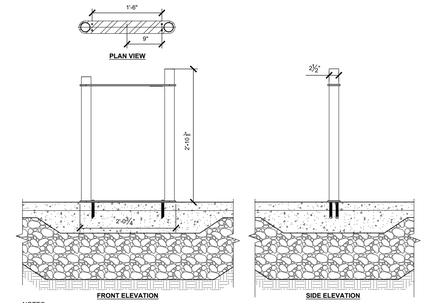
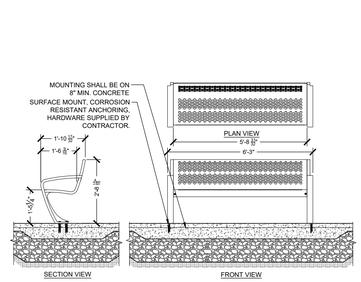


1 30' INTERNAL HALYARD FLAG POLE W/ UPLIGHT
3/8" = 1'-0"



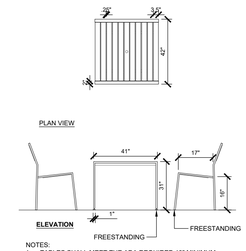
NOTES:
1. BIKE RACK SHALL BE SURFACE MOUNTED AT LOCATION SHOWN ON PLANS.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

2 BIKE RACK
1" = 1'-0"



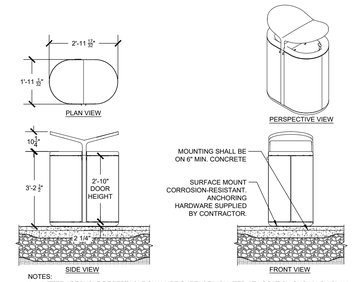
NOTES:
1. BENCH SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS AND SHALL BE SURFACE MOUNT.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

3 BENCH
1/2" = 1'-0"



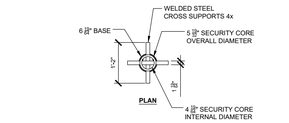
NOTES:
1. TABLES SHALL MEET THE ADA REQUIRED 19" MINIMUM KNEE/TOE CLEARANCE DEPTH
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

4 SQUARE TABLE AND CHAIRS
1/4" = 1'-0"



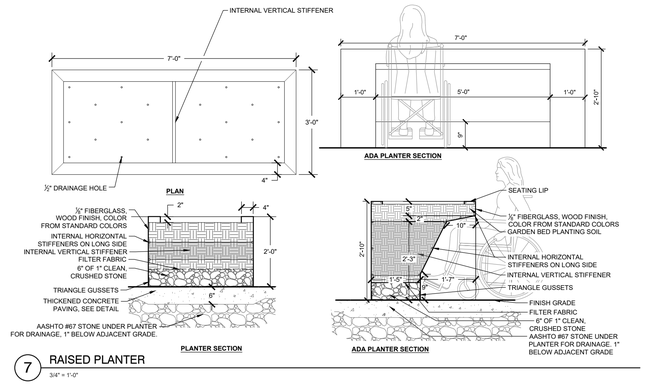
NOTES:
1. LITTER / RECYCLE RECEPTACLE SHALL BE SURFACE MOUNTED AT LOCATION SHOWN ON PLAN.
2. INCLUDE RECYCLE ACESSORIES FOR RECYCLING RECEPTACLE.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH
5. SEE SPECIFICATIONS FOR LID AND PLAQUE OPTIONS.

5 LITTER AND RECYCLING RECEPTACLE
1/2" = 1'-0"

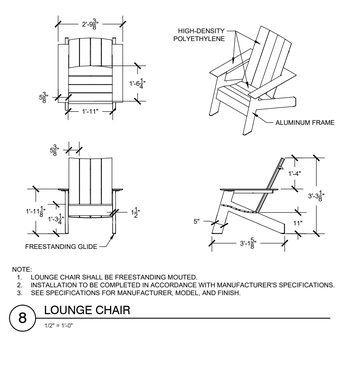


NOTES:
1. BOLLARD SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

6 BOLLARD
3/4" = 1'-0"

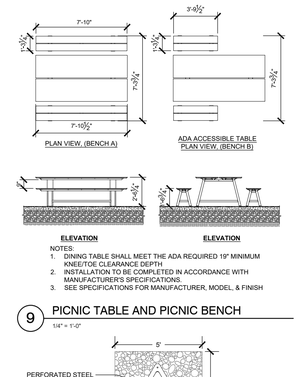


7 RAISED PLANTER
3/4" = 1'-0"



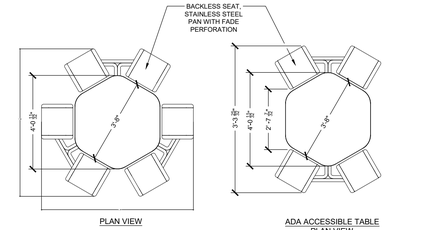
NOTE:
1. LOUNGE CHAIR SHALL BE FREESTANDING MOUTED.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, AND FINISH.

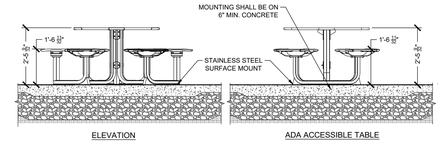
8 LOUNGE CHAIR
1/2" = 1'-0"



NOTES:
1. DINING TABLE SHALL MEET THE ADA REQUIRED 19" MINIMUM KNEE/TOE CLEARANCE DEPTH
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

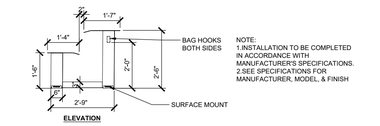
9 PICNIC TABLE AND PICNIC BENCH
1/4" = 1'-0"



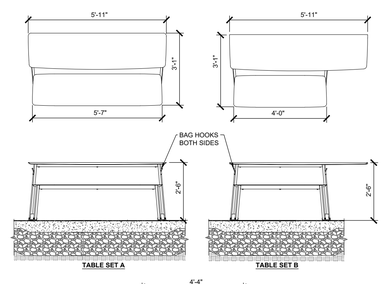


NOTES:
1. TABLE SHALL BE SURFACE MOUNTED AT LOCATIONS SHOWN ON PLAN.
2. TABLE SHALL MEET THE ADA REQUIRED 19" MINIMUM KNEE/TOE CLEARANCE DEPTH
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

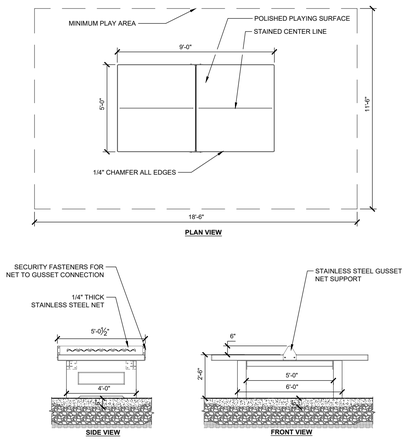
10 PATIO SEATING SYSTEM
1/2" = 1'-0"



NOTE:
1.INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2.SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

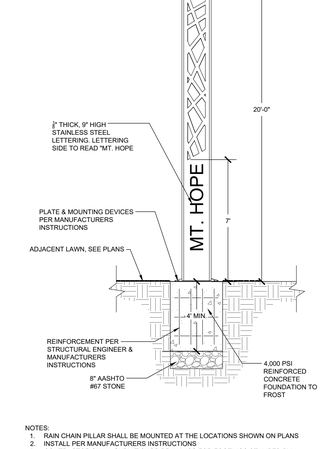


11 CAFE TABLE SET
1/2" = 1'-0"
P-EDU-BWRMH-255



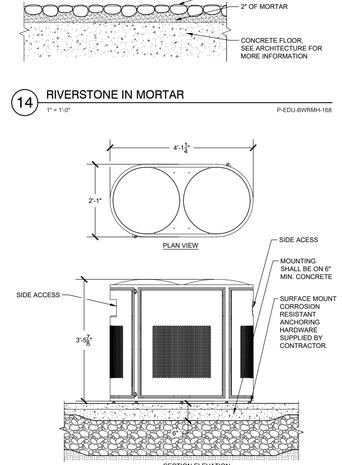
NOTES:
1. TABLES SHALL SURFACE MOUNTED AT LOCATION SHOWN ON PLANS.
2. MOUNTING HARDWARE SHALL BE TAMPER PROOF.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, AND FINISH.

12 PING PONG TABLE
3/8" = 1'-0"
P-EDU-BWRMH-284



NOTES:
1. RAIN CHAIN PILLAR SHALL BE MOUNTED AT THE LOCATIONS SHOWN ON PLANS
2. INSTALL PER MANUFACTURERS INSTRUCTIONS
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR FOOTINGS STAMPED BY A LICENCED RI STRUCTURAL ENGINEER.
4. SEE SPECIFICATION FOR MAKE, MODEL, MOUNTING AND COLOR
5. FINISH TO BE POWDERCOATED CUSTOM RAL COLOR PER SELECTION BY OWNERSHIP.

13 RAIN CHAIN PILLARS
3/8" = 1'-0"
P-EDU-BWRMH-290



NOTES:
1. LITTER / RECYCLE RECEPTACLE SHALL BE SURFACE MOUNTED AT LOCATION SHOWN ON PLAN.
2. INCLUDE RECYCLE ACESSORIES FOR RECYCLING RECEPTACLE.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH
5. SEE SPECIFICATIONS FOR LID AND PLAQUE OPTIONS.

14 RIVERSTONE IN MORTAR
1" = 1'-0"
P-EDU-BWRMH-168

15 ATHLETIC LITTER/RECYCLE RECEPTACLE
3/4" = 1'-0"
P-EDU-BWRMH-303

PARE

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Providence, RI 02903
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SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KEITH MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.:
L-302
SHEET NO. 95 OF 159

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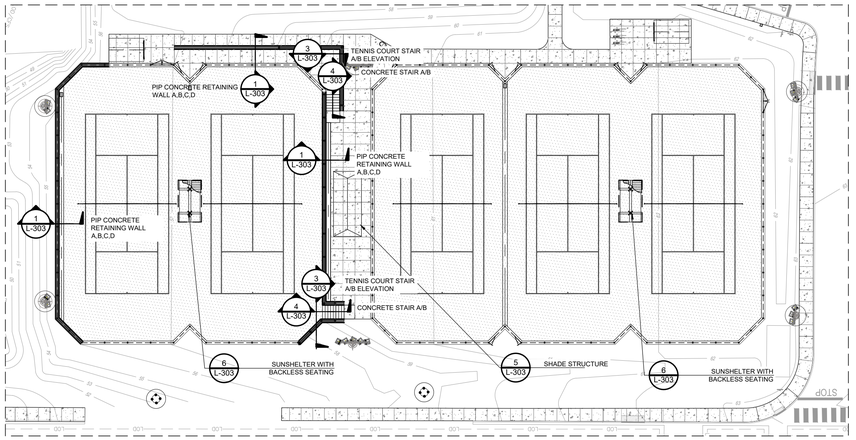
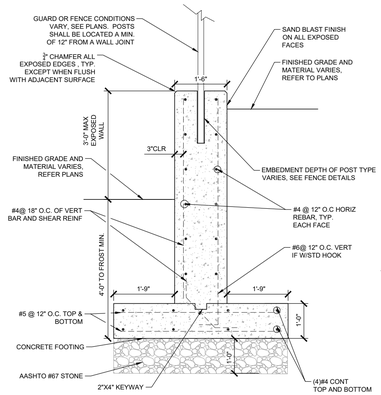
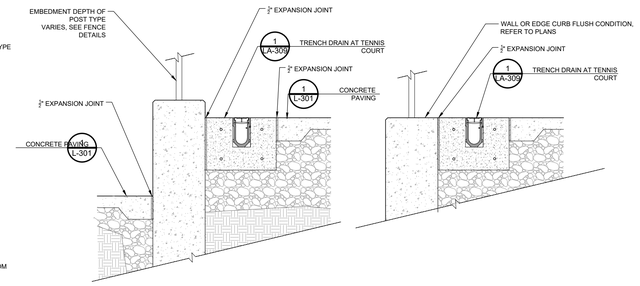


KEY PLAN



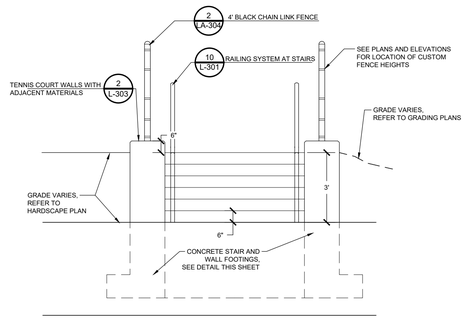
NOTES:
1. CONTRACTOR SHALL SUBMIT STAMPED ENGINEERING SHOP DRAWINGS SHOWING ALL REINFORCEMENT, FOOTING DEPTHS INDICATING FINISHED GRADE AT FRONT, TOP AND BACK OF WALLS
2. EXPOSED WALL SURFACES SHALL RECEIVE A MEDIUM SANDBLAST FINISH, CONTRACTOR SHALL PROVIDE MOCKUP FOR APPROVAL.
3. CONTROL JOINT APPROX. EVERY 20', EXPANSION JOINTS APPROX. EVERY 40',REFER TO STRUCTURAL PLAN, S 300, FOR JOINT DETAILS.

1 PIP CONCRETE RETAINING WALL A,B,C,D
3/4" = 1'-0"

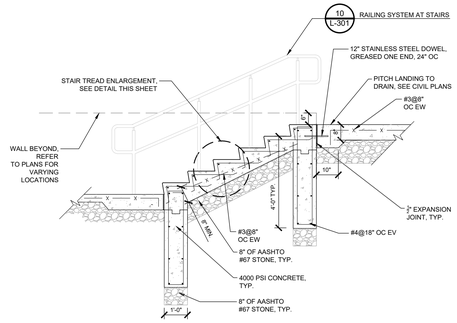


NOTES:
1. CONTRACTOR TO SUBMIT STAMPED STRUCTURAL SHOP DRAWINGS SHOWING ALL REINFORCEMENT, FOOTING DEPTHS INDICATING FINISHED GRADING AT FRONT, TOP AND BACK OF WALLS

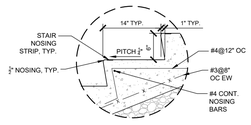
2 TENNIS COURT WALLS WITH ADJACENT MATERIALS
3/4" = 1'-0"



3 TENNIS COURT STAIR A/B ELEVATION
1/2" = 1'-0"
P-EDU-BWRMH-278

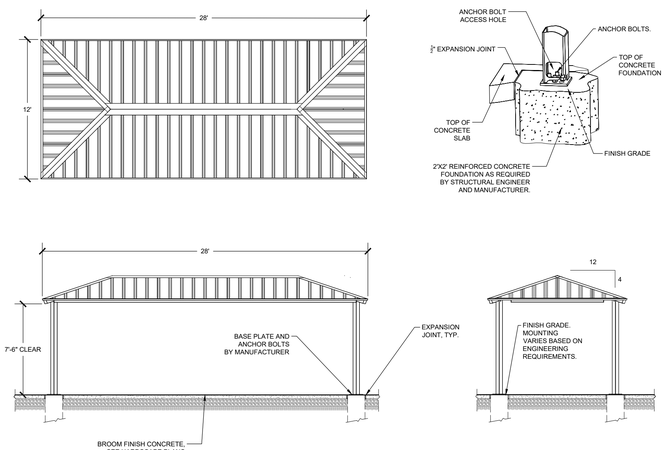


SECTION



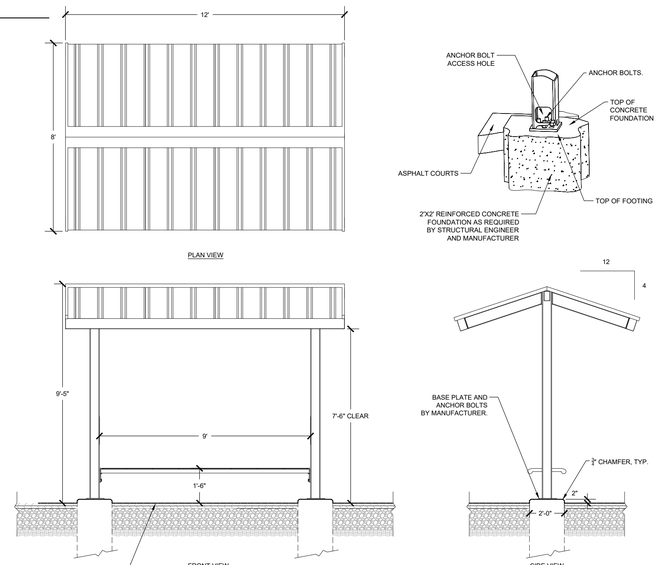
STAIR TREAD ENLARGEMENT
N.T.S.

4 CONCRETE STAIR A/B
1/2" = 1'-0"



NOTES:
1. CONTRACTOR SHALL SUPPLY SHOP DRAWINGS STAMPED BY A CURRENT LICENSED ENGINEER IN RHODE ISLAND.
2. CONTRACTOR MAY SUGGEST AND ALTERNATE FOUNDATION DETAIL PENDING IT IS REVIEWED AND STAMPED BY A RI LICENSED STRUCTURAL ENGINEER.
3. OWNER SHALL HAVE FINAL APPROVALS ON ALL COLORS.

5 SHADE STRUCTURE
1/4" = 1'-0"
P-EDU-BWRMH-264



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2. CONTRACTOR MAY SUGGEST AND ALTERNATE FOUNDATION DETAIL PENDING IT IS REVIEWED AND STAMPED BY A RI LICENSED STRUCTURAL ENGINEER.
3. OWNER SHALL HAVE FINAL APPROVALS ON ALL COLORS.

6 SUNSHELTER WITH BACKLESS SEATING
1/2" = 1'-0"
P-EDU-BWRMH-266

PARE

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SHEET NO. 96 OF 159

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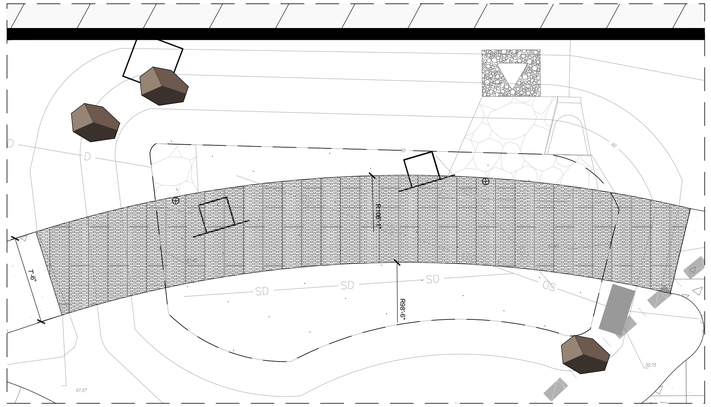
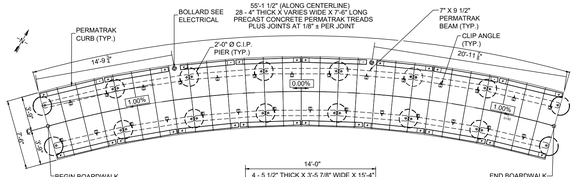
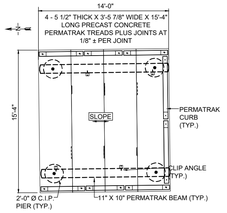
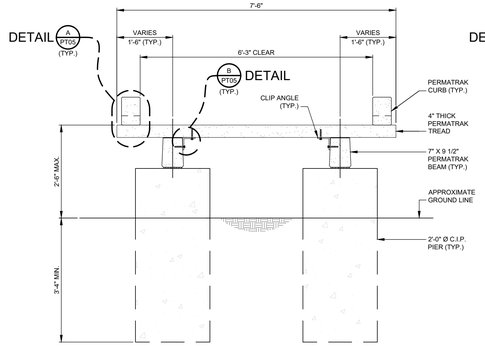


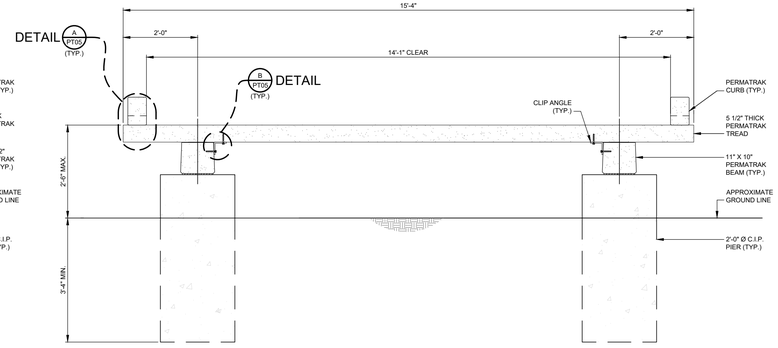
KEY PLAN

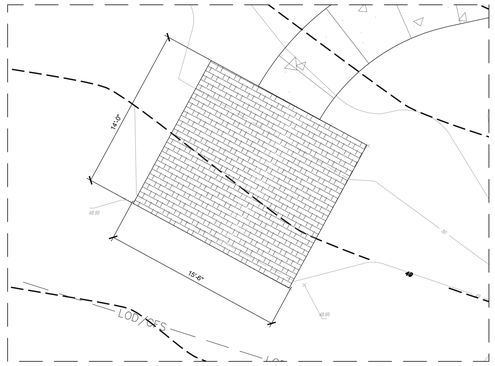
0 4 8 12 16 feet
1/4" = 1'-0"
NORTH









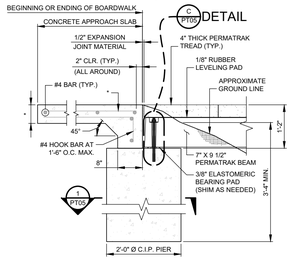


KEY PLAN

0 4 8 12 16 feet
1/4" = 1'-0"
NORTH

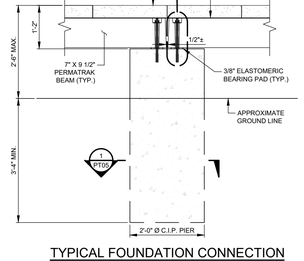
* SEE SITE DRAWINGS FOR DIMENSIONING, REINFORCEMENT, AND CONCRETE MATERIAL REQUIREMENTS OF APPROACH SLAB.

NOTE: CURB NOT SHOWN FOR CLARITY



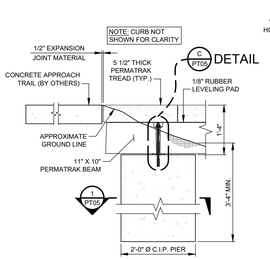
TYPICAL APPROACH AT BOARDWALK
SCALE: N.T.S

NOTE: CURB NOT SHOWN FOR CLARITY

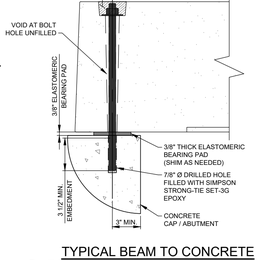


TYPICAL FOUNDATION CONNECTION DETAIL AT BOARDWALK
SCALE: N.T.S

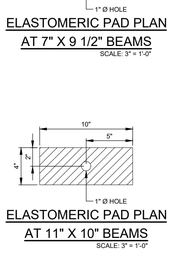
NOTE: CURB NOT SHOWN FOR CLARITY



APPROACH AT PLATFROM
SCALE: N.T.S



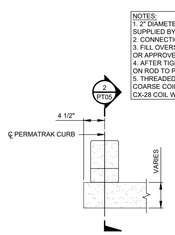
C PT05 TYPICAL BEAM TO CONCRETE FOUNDATION CONNECTION DETAIL
SCALE: N.T.S.

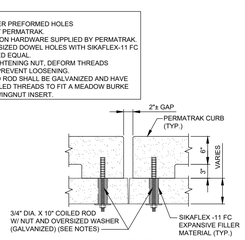


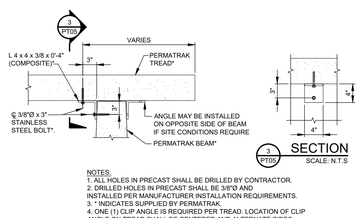
ELASTOMERIC PAD PLAN AT 7" X 9 1/2" BEAMS
SCALE: 3" = 1'-0"

ELASTOMERIC PAD PLAN AT 11" X 10" BEAMS
SCALE: 3" = 1'-0"

NOTES:
1. 2" DIAMETER PREFORMED HOLES SUPPLIED BY PERMATRAK.
2. CONNECTION HARDWARE SUPPLIED BY PERMATRAK.
3. FILL OVERSIZED DOWEL HOLES WITH SIKAFLEX-11 FC OR APPROVED EQUAL.
4. AFTER TIGHTENING NUT, DEFORM THREADS ON ROD TO PREVENT LOOSENING.
5. THREADED ROD SHALL BE GALVANIZED AND HAVE COARSE COILED THREADS TO FIT A MEADOW BURKE CX-28 COIL WINGNUT INSERT.

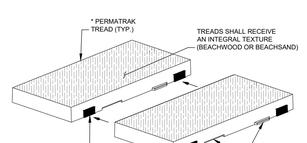




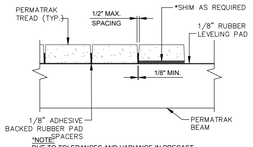


NOTES:
1. ALL HOLES IN PRECAST SHALL BE DRILLED BY CONTRACTOR.
2. DRILLED HOLES IN PRECAST SHALL BE 3/8"Ø AND INSTALLED PER MANUFACTURER INSTALLATION REQUIREMENTS.
3. * INDICATES SUPPLIED BY PERMATRAK.
4. ONE (1) CLIP ANGLE IS REQUIRED PER TREAD. LOCATION OF CLIP ANGLE ON TREAD SHALL BE CENTERED AND ALTERNATE SIDES FROM TREAD TO TREAD. SEE PLAN VIEW ON PT02

6 PT05 TREAD TO BEAM CONNECTION
SCALE: N.T.S.

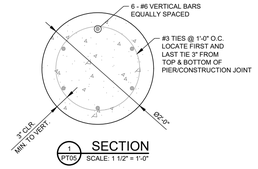


TYPICAL TREAD RUBBER SPACING DETAIL
SCALE: N.T.S.



*NOTE: SPACERS DUE TO TOLERANCES AND VARIANCE IN PRECAST PRODUCTION AND INSTALLATION ACCURACY, SHIMS MAY BE REQUIRED. ADDITIONAL RUBBER LEVELING PADS MAY BE USED FOR SHIMMING.

TYPICAL SHIM (UNDER TREAD) & TREAD SPACING DETAIL
SCALE: N.T.S.



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SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

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Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KATE MICHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
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DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
SITE DETAILS

DRAWING NO.:
L-304
SHEET NO. 97 OF 159

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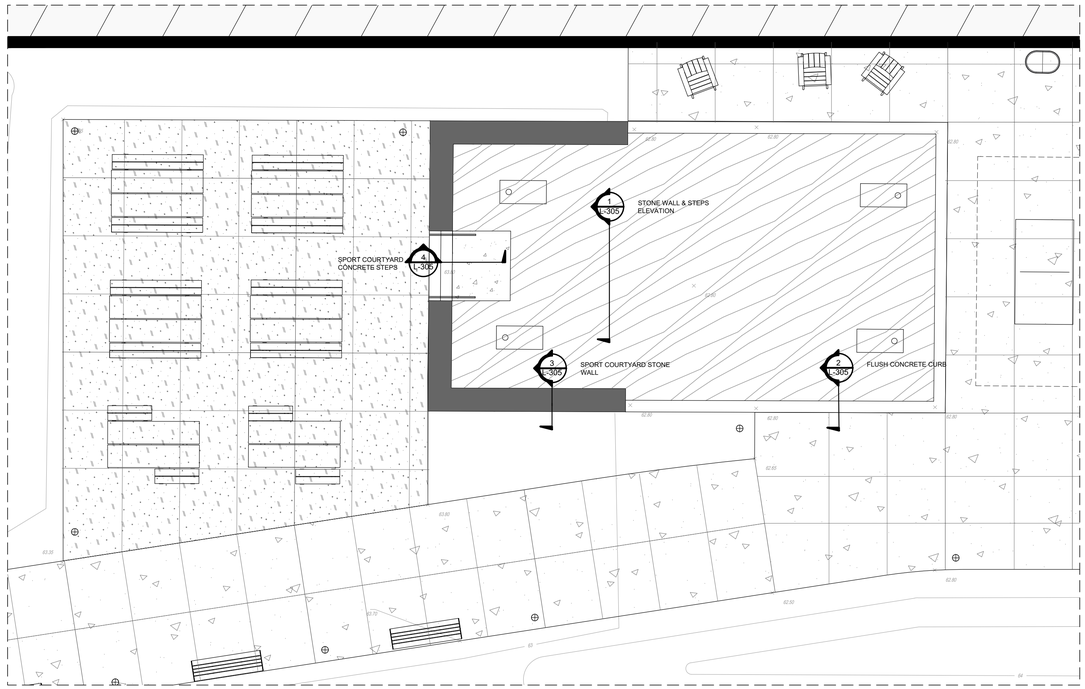
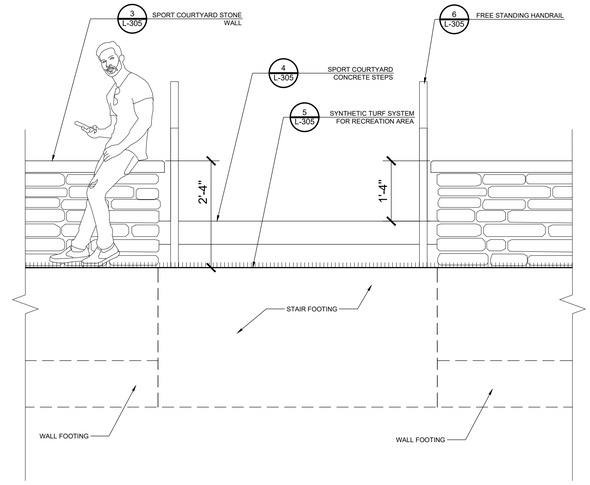
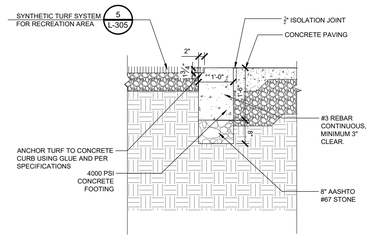


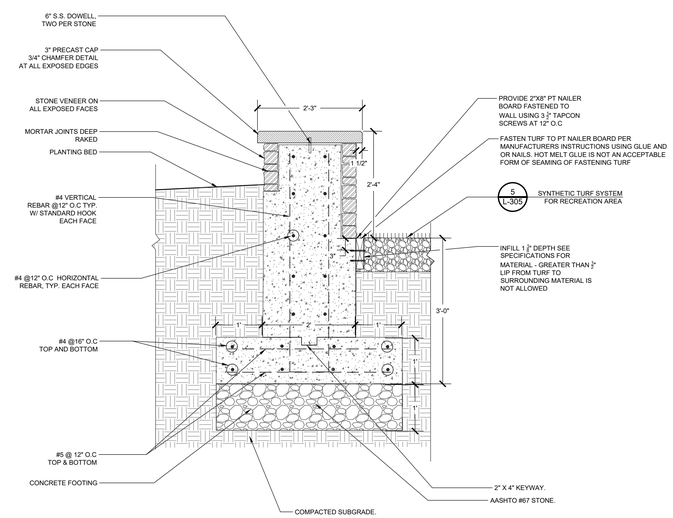
KEY PLAN



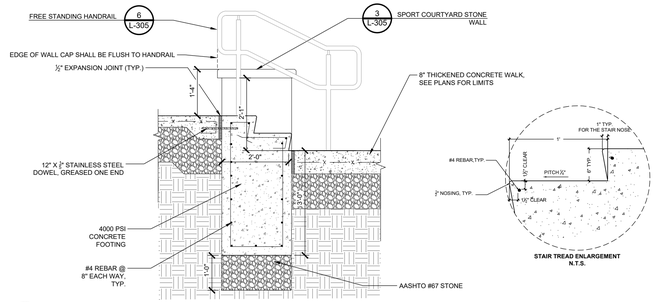
1 STONE WALL & STEPS ELEVATION
1" = 1'-0"



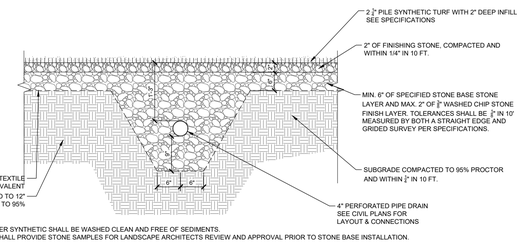
2 FLUSH CONCRETE CURB
3/4" = 1'-0"



3 SPORT COURTYARD STONE WALL
1" = 1'-0"

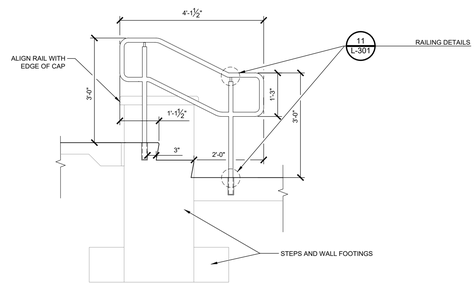


4 SPORT COURTYARD CONCRETE STEPS
3/4" = 1'-0"



NOTE:
1. ALL STONE UNDER SYNTHETIC SHALL BE WASHED CLEAN AND FREE OF SEDIMENTS.
2. CONTRACTOR SHALL PROVIDE STONE SAMPLES FOR LANDSCAPE ARCHITECTS REVIEW AND APPROVAL PRIOR TO STONE BASE INSTALLATION.

5 SYNTHETIC TURF SYSTEM FOR RECREATION AREA
1" = 1'-0"



6 FREE STANDING HANDRAIL
3/4" = 1'-0"

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SITE DETAILS

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L-305
SHEET NO. 98 OF 159

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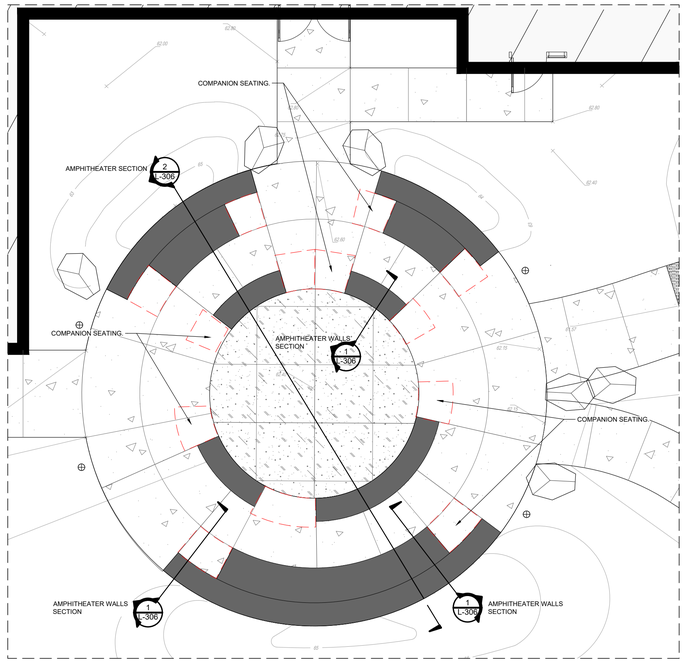
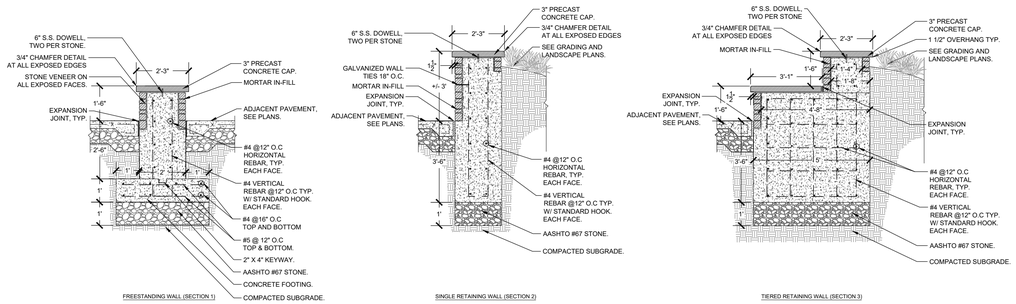


KEY PLAN

0 4 8 12 16 feet

1" = 4'

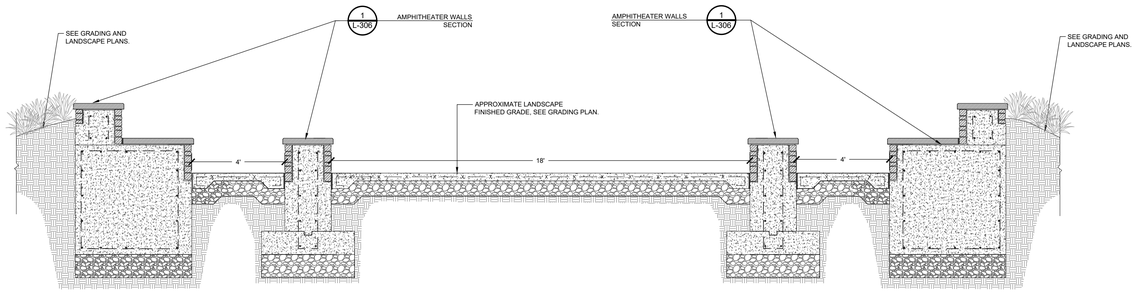
NORTH



1 AMPHITHEATER WALLS SECTION

1/2" = 1'-0"

P-EDU-BWRMH-261



2 AMPHITHEATER SECTION

1/2" = 1'-0"

P-EDU-BWRMH-262



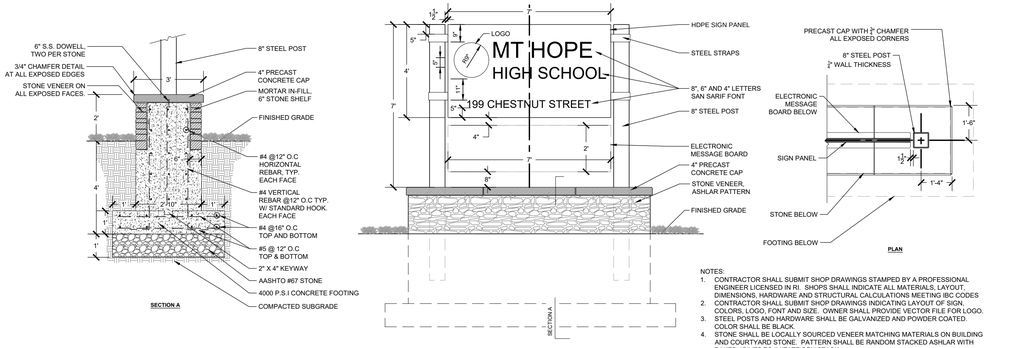
AMPHITEATRE WALLS IMAGE 1



AMPHITEATRE WALLS IMAGE 2



AMPHITEATRE WALLS IMAGE 3



NOTES:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN RI. SHOPS SHALL INDICATE ALL MATERIALS, LAYOUT, DIMENSIONS, HARDWARE AND STRUCTURAL CALCULATIONS MEETING IBC CODES
2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING LAYOUT OF SIGN, COLORS, LOGO, FONT AND SIZE. OWNER SHALL PROVIDE VECTOR FILE FOR LOGO.
3. STEEL POSTS AND HARDWARE SHALL BE GALVANIZED AND POWDER COATED. COLOR SHALL BE BLACK.
4. STONE SHALL BE LOCALLY SOURCED VENEER MATCHING MATERIALS ON BUILDING AND COURTYARD STONE. PATTERN SHALL BE RANDOM STACKED ASHLAR WITH RAKED JOINTS TO IMITATE DRY STACK.
5. ARCHITECTURAL PRECAST CAP SHALL MATCH BUILDING MATERIAL.
6. REFER TO ELECTRICAL PLANS FOR POWER AND DATA TO MESSAGE BOARD.

3 MT HOPE ENTRANCE SIGN

1/2" = 1'-0"

P-EDU-BWRMH-302

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L-306

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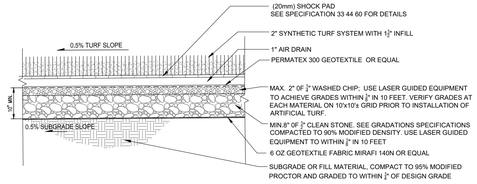
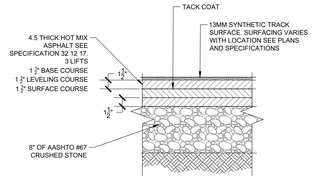
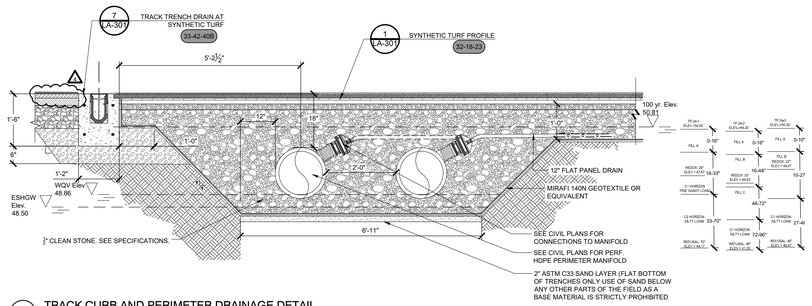


NOTE:
1. ALL STONES UNDER SYNTHETIC SHALL BE WASHED CLEAN AND FREE OF SEDIMENTS.
2. CONTRACTOR SHALL PROVIDE STONE SAMPLES FOR LANDSCAPE ARCHITECTS REVIEW AND APPROVAL PRIOR TO STONE BASE INSTALLATION.

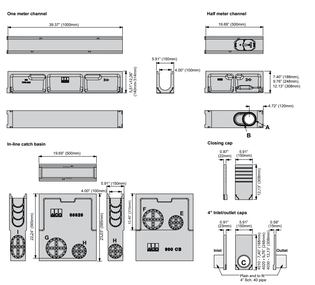
1 SYNTHETIC TURF PROFILE
1" = 1'-0"



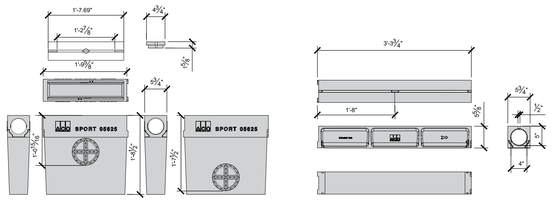
2 TRACK SURFACING PROFILE
1 1/2" = 1'-0"



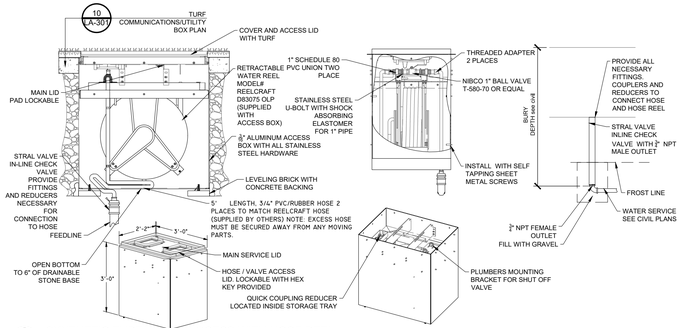
3 TRACK CURB AND PERIMETER DRAINAGE DETAIL
3/4" = 1'-0"



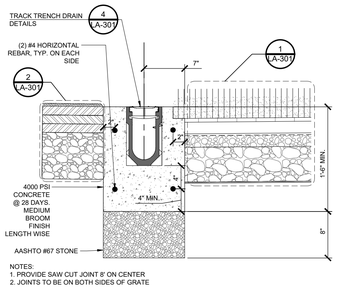
4 TRACK TRENCH DRAIN DETAILS
3/4" = 1'-0"



5 TRACK SLOT DRAIN DETAILS
1" = 1'-0"

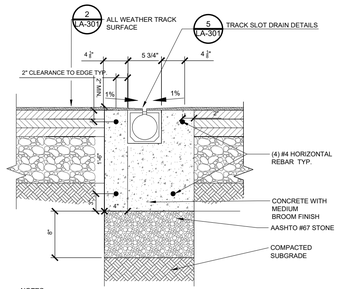


6 SYNTHETIC TURF WATER ACCESS WITH HOSE REEL
1/2" = 1'-0"



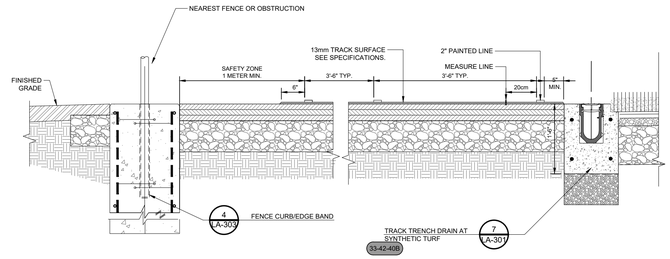
NOTES:
1. PROVIDE SAW CUT JOINT 8' ON CENTER
2. JOINTS TO BE ON BOTH SIDES OF GRATE

7 TRACK TRENCH DRAIN AT SYNTHETIC TURF
1 1/2" = 1'-0"

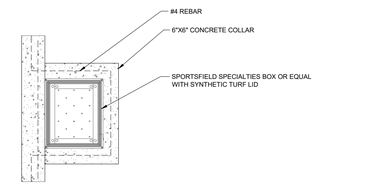


NOTES:
1. CONCRETE BEDDING SHALL HAVE SAW CUT JOINTS AT BOTH ENDS OF DRAIN SEGMENTS.
2. CONCRETE FINISH FOR TRACK SLOT AND TRENCH DRAINS SHALL BE MEDIUM BROOM.

8 TRACK SLOT DRAIN
1 1/2" = 1'-0"

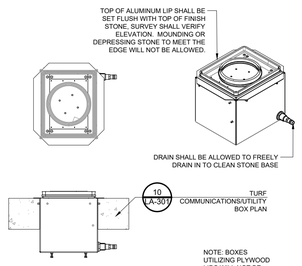


9 TRACK SECTION WITH TRENCH CURB
1" = 1'-0"

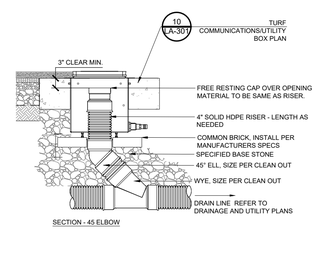


PLAN VIEW

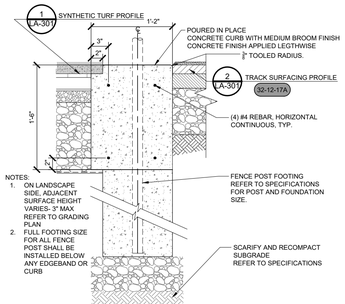
10 TURF COMMUNICATIONS/UTILITY BOX PLAN
1" = 1'-0"



11 ALUMINUM UTILITY BOX WITH INFILL RETAINER
1" = 1'-0"

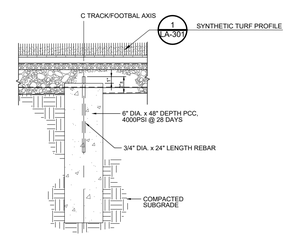


12 SYNTHETIC TURF STORM CLEANOUT
1" = 1'-0"

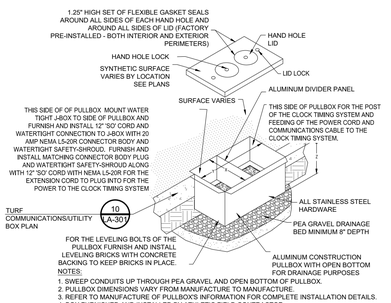


NOTES:
1. ON LANDSCAPE SIDE, ADJACENT SURFACE HEIGHT VARIES- 3" MAX REFER TO GRADING PLAN
2. FULL FOOTING SIZE FOR ALL FENCE POST SHALL BE INSTALLED BELOW ANY EDGEBAND OR CURB

13 14" TURF CURB WITH FENCE OR NET
1 1/2" = 1'-0"



14 RADIUS POINT MARKER
3/4" = 1'-0"



NOTES:
1. SWEEP CONDUITS UP THROUGH PEA GRAVEL AND OPEN BOTTOM OF PULLBOX.
2. PULLBOX DIMENSIONS VARY FROM MANUFACTURE TO MANUFACTURE.
3. REFER TO MANUFACTURE OF PULLBOXS INFORMATION FOR COMPLETE INSTALLATION DETAILS.
4. BOX FURNISHED AND INSTALLED BY ATHLETIC FIELD CONTRACTOR

15 ATHLETIC COMBOX
1" = 1'-0"

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ATHLETIC DETAILS

DRAWING NO.:
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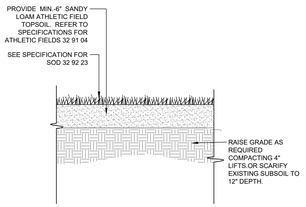
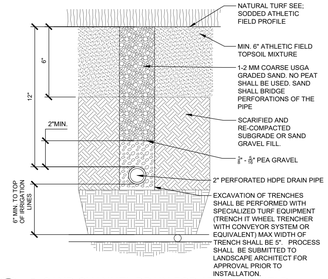
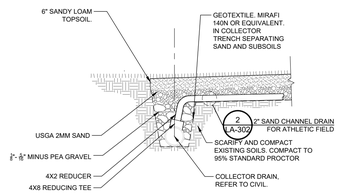
SHEET NO. 100 OF 159



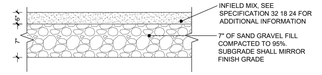
1 SODDED ATHLETIC FIELD PROFILE
1" = 1'-0"



2 2" SAND CHANNEL DRAIN FOR ATHLETIC FIELD
3" = 1'-0"

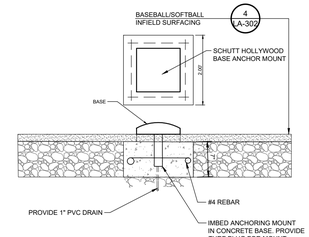


3 NATURAL GRASS ATHLETIC FIELD COLLECTOR DRAIN
1/2" = 1'-0"

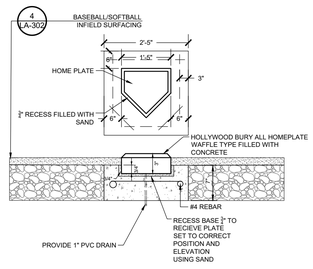


NOTE: SEE SPECIFICATIONS FOR TOLERANCES. THE GENERAL CONTRACTOR SHALL EMPLOY OR ENGAGE A CERTIFIED BUILDER FOR ALL ATHLETIC FIELD CONSTRUCTION INCLUDING THE SUBRADE AND SUBBASE OF ALL ATHLETIC CONSTRUCTION (TENNIS, TRACK OR FIELD) AS CERTIFIED BY THE AMERICAN SPORTS BUILDERS ASSOCIATION WHO WILL BE PRESENT ON SITE THROUGHOUT THE PROJECT TO SUPERVISE AND INSPECT ALL PHASES OF THE (TENNIS, TRACK AND FIELDS) CONSTRUCTION. THE IDENTITY OF THE CERTIFIED BUILDERS AND DOCUMENTATION OF THEIR CREDENTIALS WILL BE PROVIDED WITH THE BID DOCUMENTS.

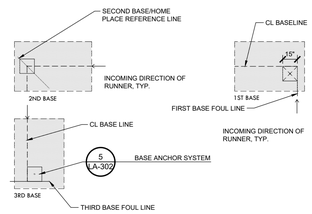
4 BASEBALL/SOFTBALL INFIELD SURFACING
1" = 1'-0"



5 BASE ANCHOR SYSTEM
3/4" = 1'-0"

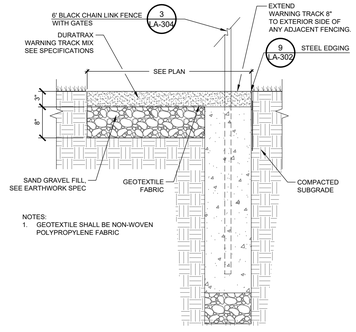


6 HOME PLATE BASE ANCHOR SYSTEM
3/4" = 1'-0"



1. DETAIL PROVIDED FOR LOCATION ONLY.

7 BASE ANCHOR LOCATIONS
1/4" = 1'-0"



NOTES:
1. GEOTEXTILE SHALL BE NON-WOVEN POLYPROPYLENE FABRIC

8 WARNING TRACK SECTION
1" = 1'-0"

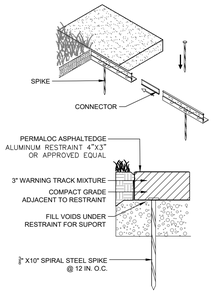
SIZE: ALL 8' (2.44 M) LENGTHS W/ 0.210" (5.33 MM)

ALL 8' (2.44 M) LENGTHS w/ 0.210" (5.33 MM) THICK EXPOSED TOP LIP

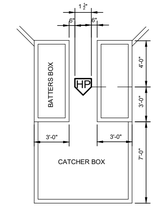
□ 4"X 3" (102 MM X 76 MM)

FINISH LEGEND:
(MF) MILL FINISH-NATURAL ALUMINUM

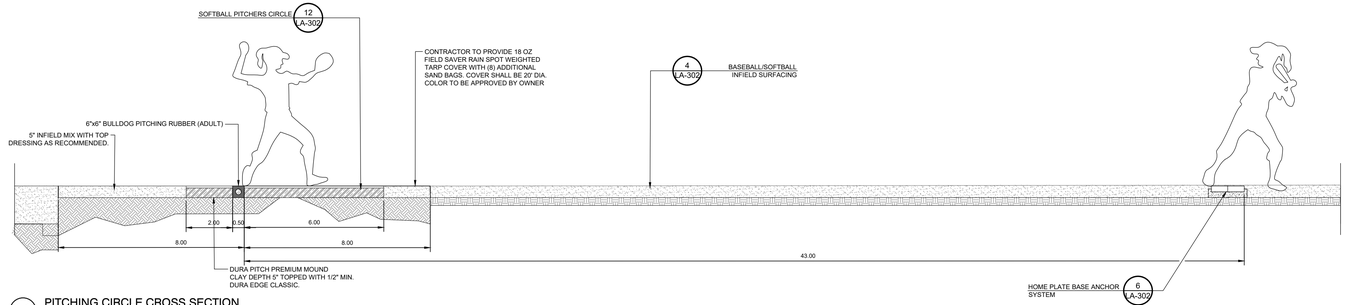
NOTES:
1. INSTALLATION PER MANUFACTURER'S INSTALLATION GUIDELINES
2. 8'-0" (2.44 M) SECTIONS CONNECTED WITH 4" (102 MM) SLIDING CONNECTOR.
3. CORNERS: NOTCH BASE ONLY AND FORM A CONTINUOUS CORNER.



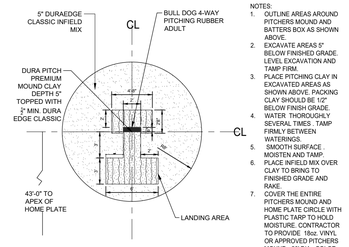
9 STEEL EDGING
1 1/2" = 1'-0"



10 SOFTBALL BATTERS BOX DETAIL
1/4" = 1'-0"



11 PITCHING CIRCLE CROSS SECTION
1/2" = 1'-0"

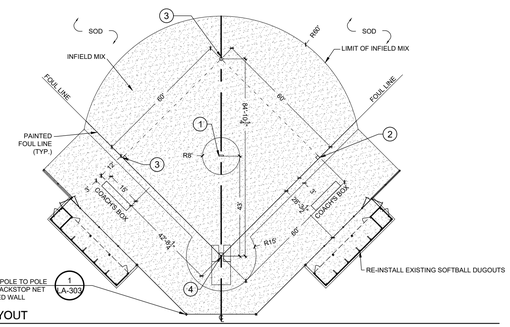


NOTES:
1. OUTLINE AREAS AROUND PITCHERS MOUND AND BATTERS BOX AS SHOWN ABOVE.
2. EXCAVATE AREAS 5" BELOW FINISHED GRADE. LEVEL EXCAVATION AND TAMP FIRM.
3. PLACE PITCHING CLAY IN EXCAVATED AREAS AS SHOWN ABOVE. PACKING CLAY SHOULD BE 1/2" BELOW FINISH GRADE.
4. WATER THOROUGHLY SEVERAL TIMES . TAMP FIRMLY BETWEEN WATERINGS.
5. SMOOTH SURFACE . MOISTEN AND TAMP.
6. PLACE INFIELD MIX OVER CLAY TO BRING TO FINISHED GRADE AND RAKE.
7. COVER THE ENTIRE PITCHERS MOUND AND HOME PLATE CIRCLE WITH PLASTIC TARP TO HOLD MOISTURE. CONTRACTOR TO PROVIDE 18oz VINYL OR APPROVED PITCHERS MOUND - 20' DIA. COLOR TO BE APPROVED BY OWNER.

12 SOFTBALL PITCHERS CIRCLE
3/16" = 1'-0"

NOTES:
1.ALL CHAIN LINK FENCE FABRIC SHALL BE FASTENED ON THE INSIDE OF THE POSTS THROUGHOUT THE SOFTBALL FACILITY
2. 4" O.D. YELLOW PROTECTIVE FENCE GUARD SHALL BE INSTALLED ON ALL 6' AND LOWER CHAIN LINK FENCING ALONG BALLFIELD TO LIMITS SHOWN ON PLANS INCLUDING REMOVABLE FENCING.

1. Softball Pitchers Circle
2. Double First Base with Anchor System
3. Single Base with Anchor System
4. Home Plate with Anchor System



13 SOFTBALL INFIELD LAYOUT
1" = 20'

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

TRAVERSE landscape architects
150 Chestnut Street, 4th Floor
Providence, RI 02903
401-383-4950
www.traversela.com

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KIMBERLY MITCHELL BRADNER
No. 428

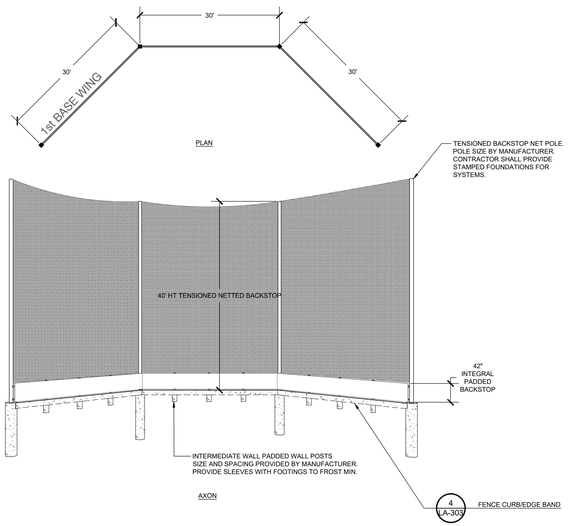
REVISIONS:

PROJECT NO.: 23099.01
DATE: JUNE 10, 2025
SCALE:
DESIGNED BY: DP
CHECKED BY:
DRAWN BY: EL
APPROVED BY: KB

DRAWING TITLE:
ATHLETIC DETAILS

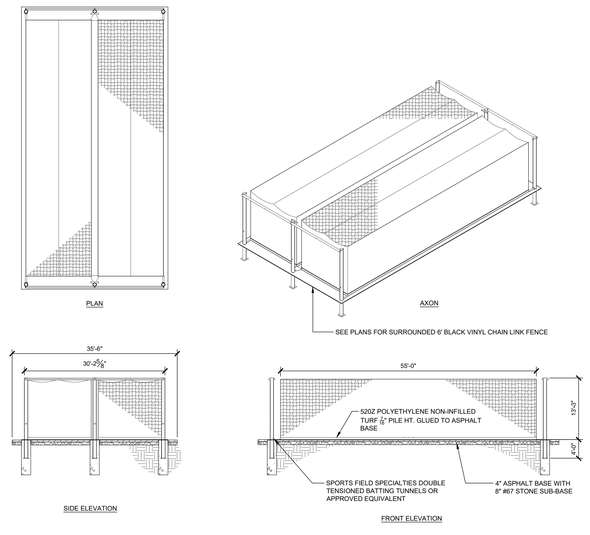
DRAWING NO.:
LA-302
SHEET NO. 101 OF 159

Drawings, Ideas & Designs Included Herein Are The Property Of Traverse Landscape Architects



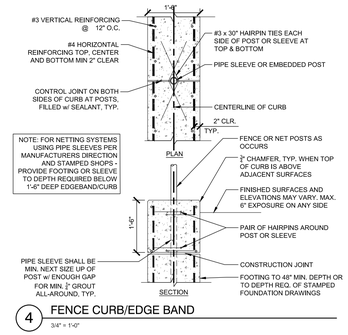
1 TENSIONED POLE TO POLE SOFTBALL BACKSTOP NET WITH PADDED WALL

1" = 10'



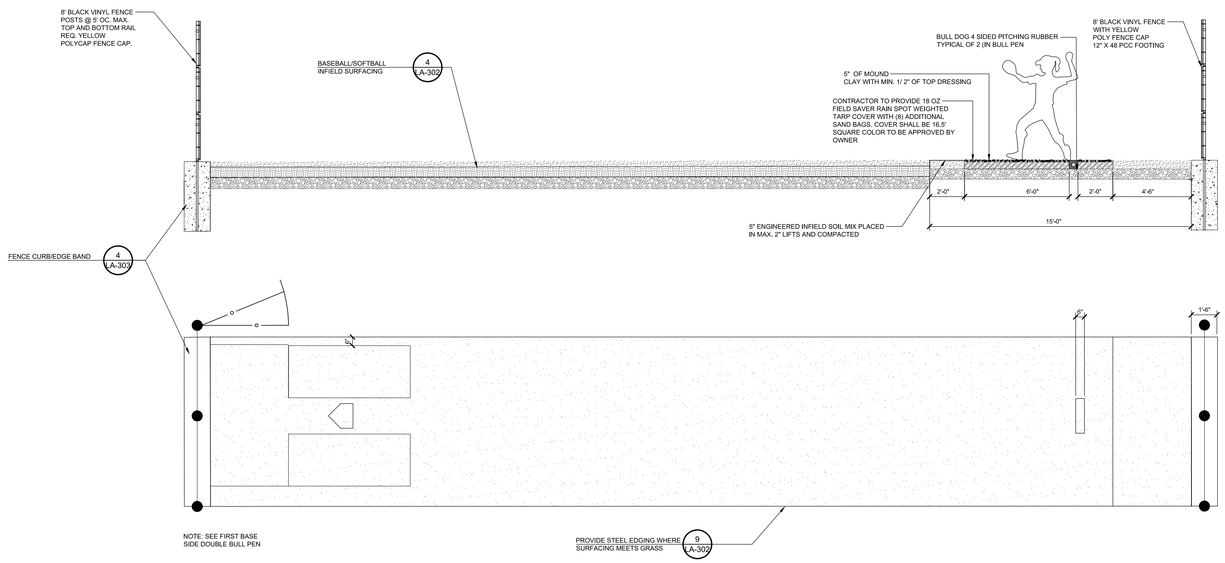
2 SOFTBALL DOUBLE BATTING TUNNEL PLAN AND ELEVATION

1" = 10'



4 FENCE CURB/EDGE BAND

3/4" = 1'-0"



3 SOFTBALL BULL PEN PLAN AND SECTION

3/8" = 1'-0"

PARE

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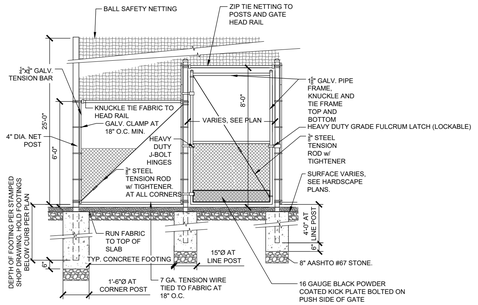
DRAWING TITLE:
ATHLETIC DETAILS

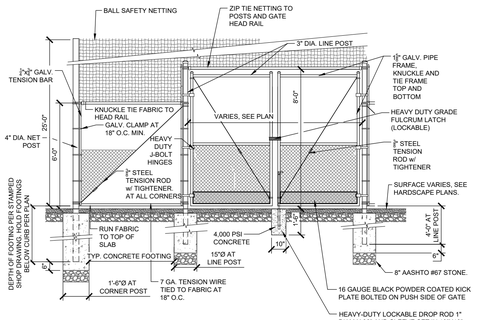
DRAWING NO.:
LA-303

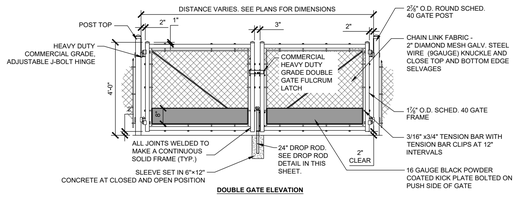
SHEET NO. 102 OF 159

Plotted: 6/10/2025 2:09:38 PM By: Emily Lacoste C:\Users\elacoste\Documents\23099.01_MHHS_Athletics_central_EL.rvt

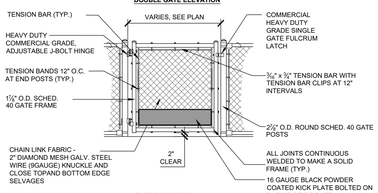


1 GATE AT COMBINATION FENCE NET
3/8" = 1'-0"

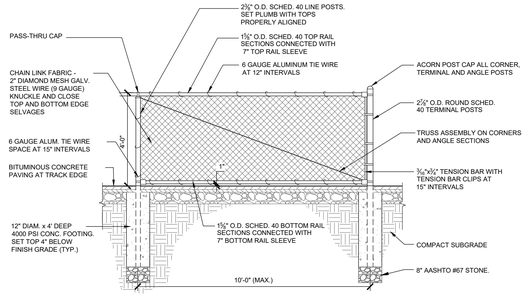




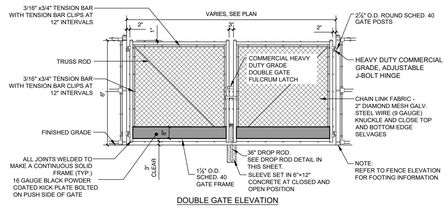
DOUBLE GATE ELEVATION



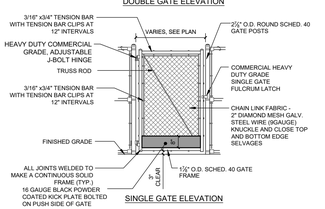
GATE ELEVATION



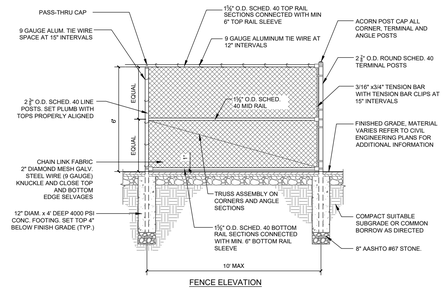
2 4' BLACK CHAIN LINK FENCE
1/2" = 1'-0"



DOUBLE GATE ELEVATION

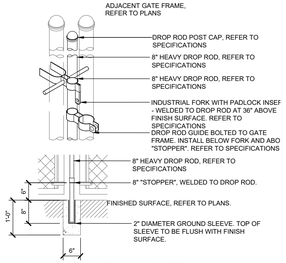


SINGLE GATE ELEVATION

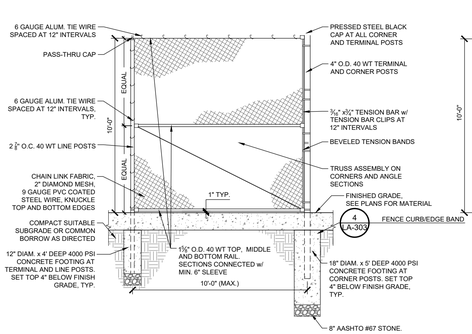


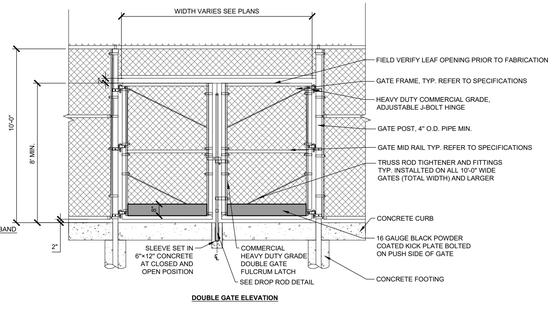
FENCE ELEVATION

3 6' BLACK CHAIN LINK FENCE WITH GATES
3/8" = 1'-0"

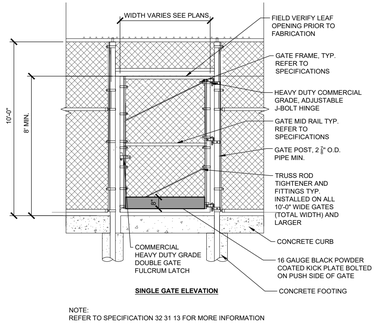


5 DROP ROD DETAIL FOR ALL GATES
3/4" = 1'-0"





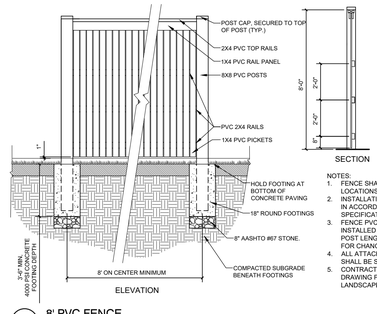
DOUBLE GATE ELEVATION



SINGLE GATE ELEVATION

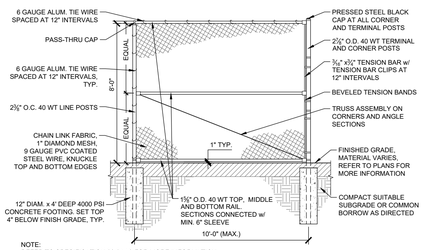
NOTE:
REFER TO SPECIFICATION 32 31 13 FOR MORE INFORMATION

4 10' BLACK CHAIN LINK FENCE
3/8" = 1'-0"



NOTES:
1. FENCE SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH PLANS AND SPECIFICATIONS
3. FENCE PVC PANELS SHALL BE INSTALLED LEVEL AND PLUMB. POST LENGTHS SHALL ACCOUNT FOR CHANGE IN GRADE
4. ALL ATTACHMENT HARDWARE SHALL BE STAINLESS STEEL
5. CONTRACTOR TO PROVIDE SHOP DRAWING FOR APPROVAL BY LANDSCAPE ARCHITECT

6 8' PVC FENCE
3/8" = 1'-0"



NOTE:
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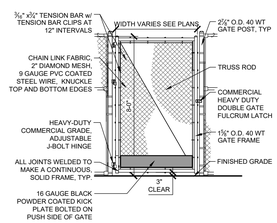
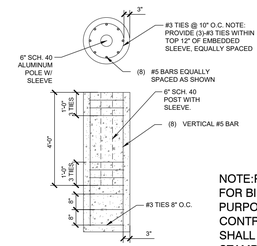


SINGLE GATE ELEVATION

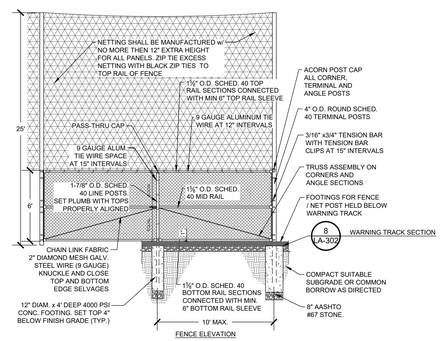
NOTE:
REFER TO SPECIFICATION 32 31 13 FOR MORE INFORMATION

9 8' BLACK CHAIN LINK FENCE
3/8" = 1'-0"



NOTE:PIER SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL SUBMITT STAMPED FOUNDATIONS FOR ALL IN GROUND EQUIPMENT

7 NET POLE FOOTING DETAIL
1/2" = 1'-0"



FENCE ELEVATION

8 25' BALL SAFETY NETTING W/ INTEGRAL 6' CHAIN LINK
1/4" = 1'-0"

PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
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REGISTERED LANDSCAPE ARCHITECT
KEVIN MITCHELL GRADNER
No. 428

RE/VISIONS:

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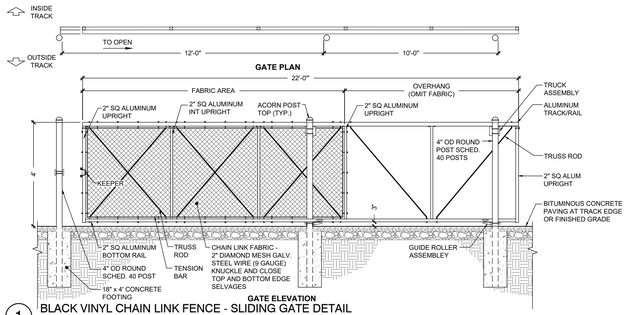
DRAWING TITLE:
ATHLETIC DETAILS

DRAWING NO.:
LA-304

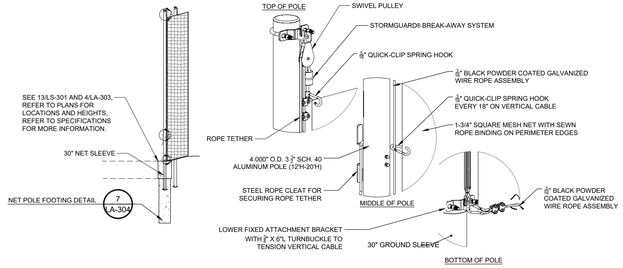
SHEET NO. 103 OF 159

Drawings & Specifications as the AIA Standards document are instruments of service



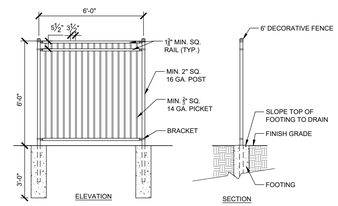
1 BLACK VINYL CHAIN LINK FENCE - SLIDING GATE DETAIL

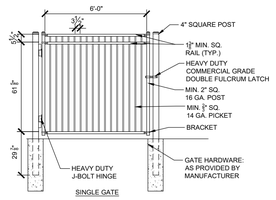
3/8" = 1'-0" P-EDU-BWRMH-120

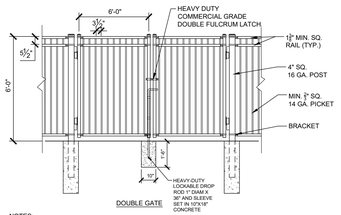


7 BREAKAWAY BALL SAFETY NETTING SYSTEM

1/4" = 1'-0"



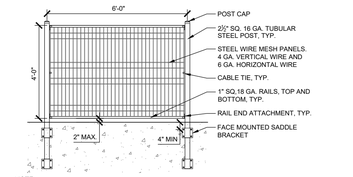




NOTES:
1. DECORATIVE FENCE SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH

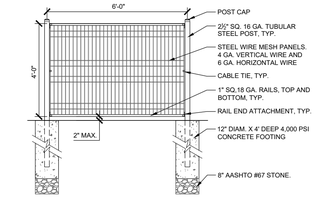
2 6' DECORATIVE FENCE

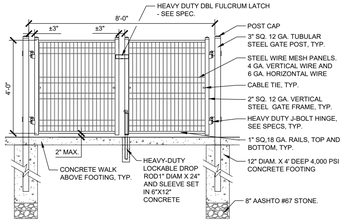
3/8" = 1'-0" P-EDU-BWRMH-126



NOTE:
1. CONTRACTOR SHALL SUBMIT STAMPED SHOP DRAWING BY REGISTERED ENGINEER IN RI SHOWING ALL CONNECTION, ANCHORING, AND HARDWARE, MEETING LIVE AND STATIC LOADS PER IBC BUILDING CODE FOR GUARDRAILS.

32 31 16A - WALL MOUNTED

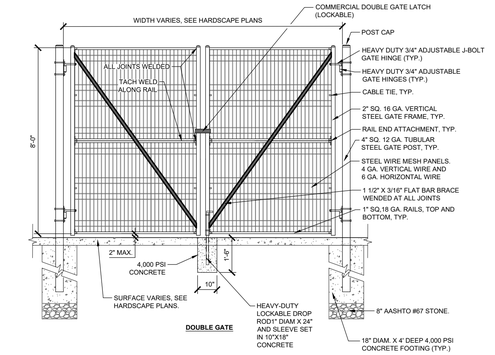


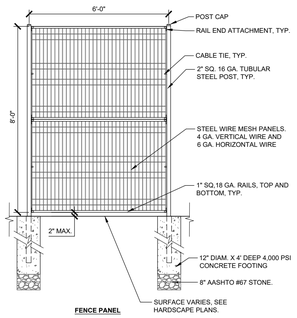


NOTES:
1. WELDED WIRE GATE SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
2. SEE SPECIFICATION 32 31 16 FOR MANUFACTURER, MODEL, FINISH AND HARDWARE.

3 4' WELDED WIRE FENCE AND GATE

1/2" = 1'-0"

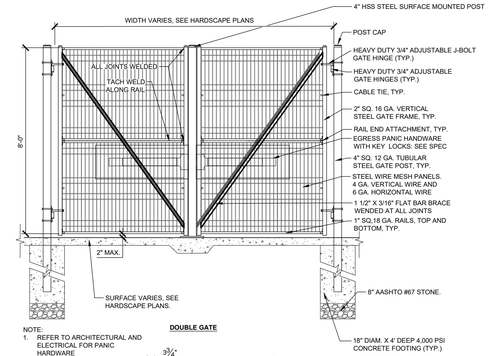




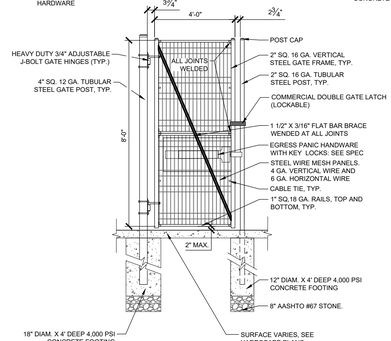
NOTES:
1. WELDED WIRE GATE SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS.
2. SEE SPECIFICATION 32 31 16 FOR MANUFACTURER, MODEL, FINISH AND HARDWARE.

4 8' WELDED WIRE FENCE AND GATES

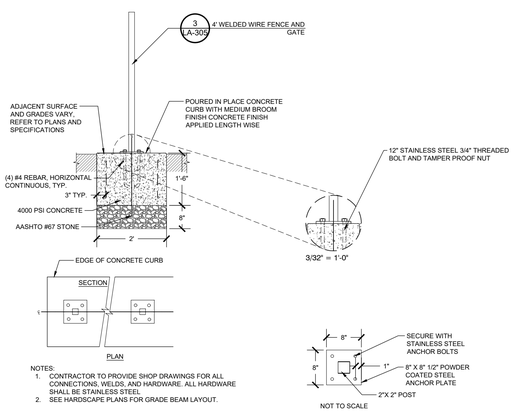
1/2" = 1'-0"



NOTE:
1. REFER TO ARCHITECTURAL AND ELECTRICAL FOR PANIC HARDWARE



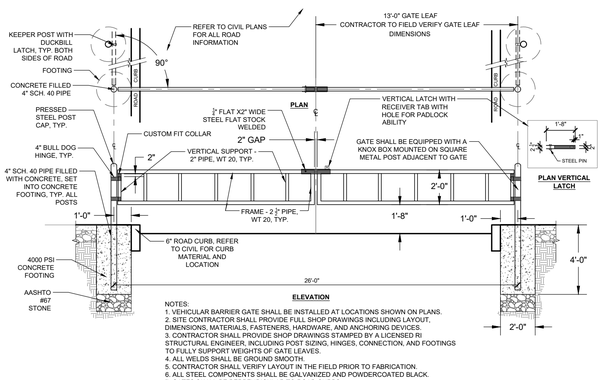
NOTE:
1. REFER TO ARCHITECTURAL AND ELECTRICAL FOR PANIC HARDWARE



NOTES:
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL CONNECTIONS, WELDS, AND HARDWARE. ALL HARDWARE SHALL BE STAINLESS STEEL.
2. SEE HARDSCAPE PLANS FOR GRADE BEAM LAYOUT.

5 FENCE IN FLUSH GRADE BEAM

3/4" = 1'-0" P-EDU-BWRMH-289



NOTES:
1. VEHICULAR BARRIER GATE SHALL BE INSTALLED AT LOCATIONS SHOWN ON PLANS.
2. SITE CONTRACTOR SHALL PROVIDE FULL SHOP DRAWINGS INCLUDING LAYOUT, DIMENSIONS, MATERIALS, FASTENERS, HARDWARE, AND ANCHORING DEVICES.
3. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS STAMPED BY A LICENSED RI STRUCTURAL ENGINEER, INCLUDING POST SIZING, HINGES, CONNECTION, AND FOOTINGS TO FULLY SUPPORT WEIGHTS OF GATE LEAVES.
4. ALL WELDS SHALL BE GROUND SMOOTH.
5. CONTRACTOR SHALL VERIFY LAYOUT IN THE FIELD PRIOR TO FABRICATION.
6. ALL STEEL COMPONENTS SHALL BE GALVANIZED AND POWDERCOATED BLACK.
7. GATES SHALL BE PERPENDICULAR TO ROAD CURBS.
8. REFER TO EARTHWORK SPECIFICATION FOR THE BASE MATERIAL.

6 VEHICULAR BARRIER GATE

3/8" = 1'-0"

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0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

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199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
MITCHELL SPADER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
ATHLETIC DETAILS

DRAWING NO.:
LA-305
SHEET NO. 104 OF 159

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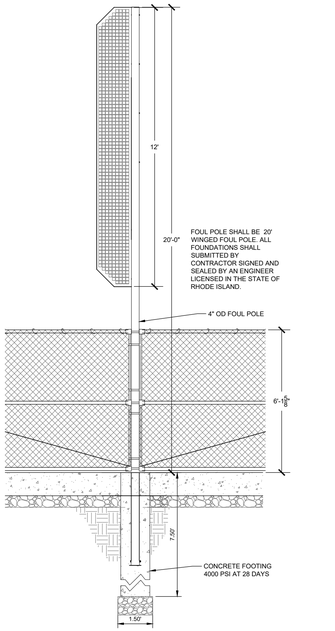
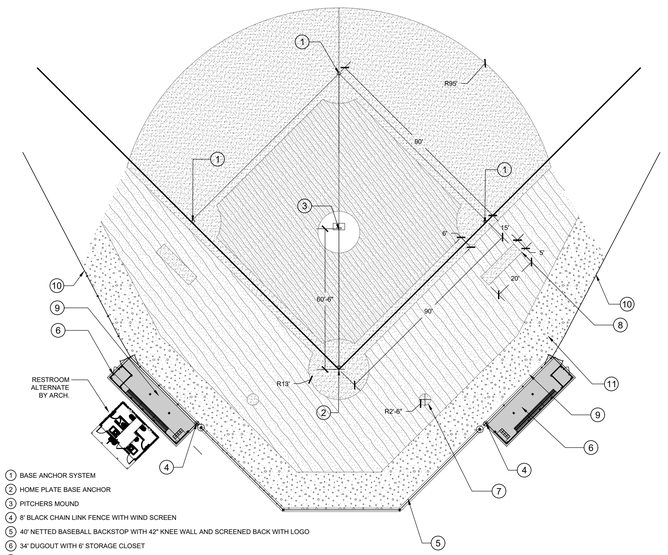
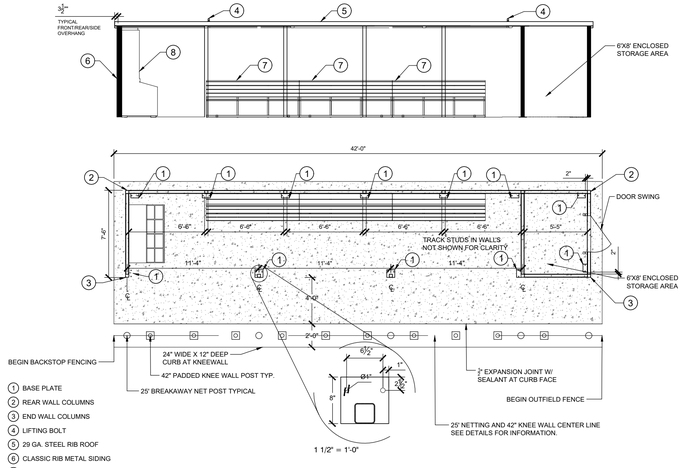


1 20' WINGED FOUL POLE (SLEEVED)
1/2" = 1'-0"



1. BASE ANCHOR SYSTEM
2. HOME PLATE BASE ANCHOR
3. PITCHERS MOUND
4. 8' BLACK CHAIN LINK FENCE WITH WIND SCREEN
5. 40' NETTED BASEBALL BACKSTOP WITH 42" KNEE WALL AND SCREENED BACK WITH LOGO
6. 34' DUGOUT WITH 6' STORAGE CLOSET
7. ON DECK CIRCLE
8. COACHES BOX
9. 25' NETTING WITH 42" PADDED KNEE WALL AT DUGOUTS
10. 25' NETTING WITH 6' BLACK CHAIN LINK FENCE ALONG BASELINES
11. WARNING TRACK

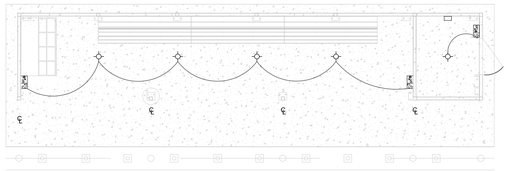
2 BASEBALL INFIELD LAYOUT
1" = 20'



1. BASE PLATE
2. REAR WALL COLUMNS
3. END WALL COLUMNS
4. LIFTING BOLT
5. 29 GA. STEEL RIB ROOF
6. CLASSIC RIB METAL SIDING
7. TWO TIER POLYBOARD TEAM BENCH SEE SPEC. 11 68 00
8. HELMET/BAT RACK SEE SPEC 11 68 00

1 1/2" = 1'-0"

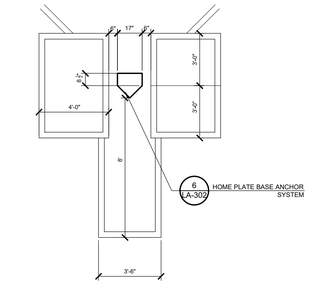
NOTES:
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL FOOTINGS FOUNDATIONS AND CONNECTIONS STAMPED BY A LICENSED ENGINEER IN THE STATE OF RHODE ISLAND.
2. BASIS OF DESIGN SPORTSFIELD SPECIALTIES



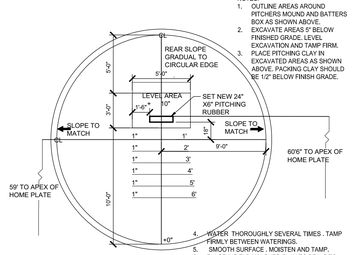
DUGOUT ELECTRICAL NOTES
1. ALL ELECTRICAL TO BE INSTALLED PER NEC 2011
2. ALL WIRING TO BE THHN #12 COPPER INSIDE ¾" OR ¾" EMT CONDUIT
3. SEE ELECTRICAL PLANS FOR BREAKER SIZE, PANEL SIZE AND ALL FINAL HOOKUPS

- 20A 120V SINGLE POLE TOGGLE SWITCH WEATHER TIGHT ENCLOSURE
- 3-WAY SWITCH, WEATHER TIGHT ENCLOSURE
- OVERHEAD INDUSTRIAL DUTY WIRE CAGE PROTECTED FLUSH MOUNT LIGHT FIXTURE (WEATHER TIGHT, 150WATTS)
- 20A 120V DUPLEX WEATHER RESISTANT RECEPTACLE WITH GFCI PROTECTION WEATHER TIGHT ENCLOSURE
- JUNCTION BOX ONSITE CONNECTION

3 ENCLOSED DUGOUT WITH 6' STORAGE CLOSET
1/4" = 1'-0"
P-EDU-BWRMH-130

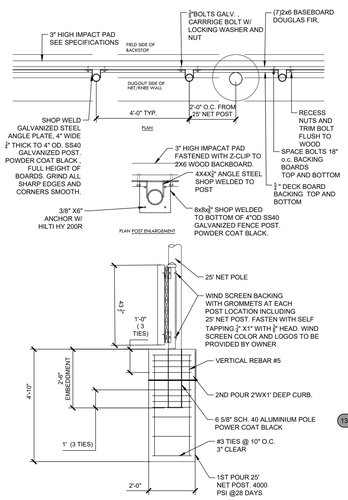


5 BASEBALL BATTERS BOX
3/8" = 1'-0"

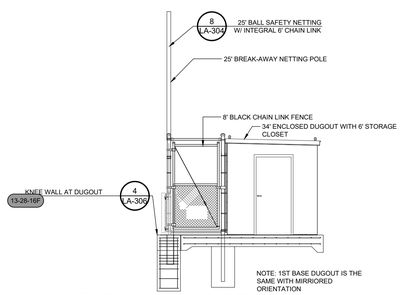


NOTES:
1. OUTLINE AREAS AROUND PITCHERS MOUND AND BATTERS BOX AS SHOWN ABOVE.
2. EXCAVATE AREAS 5" BELOW FINISHED GRADE. LEVEL EXCAVATION AND TAMP FIRM.
3. PLACE PITCHING CLAY IN EXCAVATED AREAS AS SHOWN ABOVE. PACKING CLAY SHOULD BE 1/2" BELOW FINISH GRADE.
4. WATER THOROUGHLY SEVERAL TIMES . TAMP FIRMLY BETWEEN WATERINGS.
5. SMOOTH SURFACE , MOISTEN AND TAMP.
6. PLACE INFIELD MIX OVER CLAY TO BRING TO FINISHED GRADE AND RAKE.
7. COVER THE ENTIRE PITCHERS MOUND AND HOME PLATE CIRCLE WITH PLASTIC TARP TO HOLD MOISTURE. CONTRACTOR TO PROVIDE 16oz. VINYL OR APPROVED PITCHERS MOUND - 20' DIA., COLOR TO BE APPROVED BY OWNER.

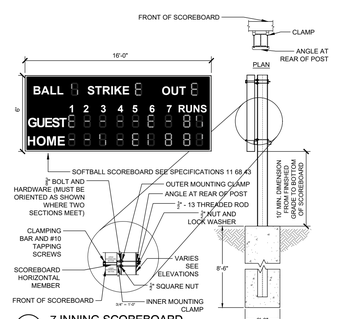
6 PITCHERS MOUND PLAN
1/4" = 1'-0"



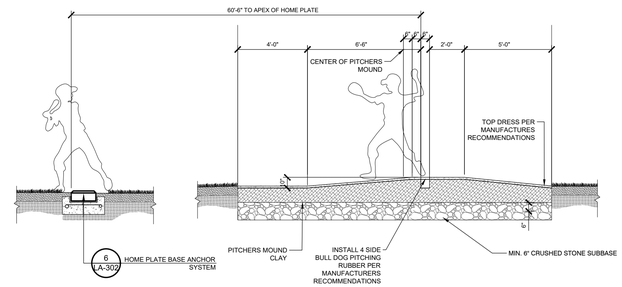
4 KNEE WALL AT DUGOUT
1/2" = 1'-0"



8 DUGOUT ELEVATION (3RD BASE)
1/4" = 1'-0"



9 7 INNING SCOREBOARD
1/4" = 1'-0"
P-EDU-BWRMH-BASE-114



7 PITCHERS MOUND SECTION
3/8" = 1'-0"

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No. 428

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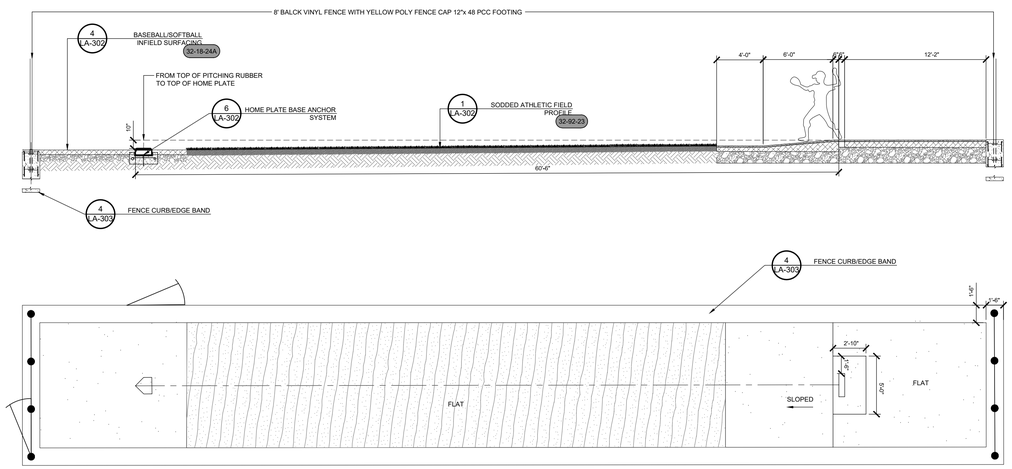
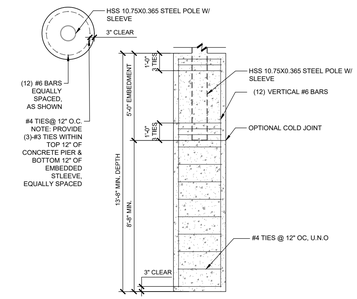
ATHLETIC DETAILS

DRAWING NO.:
LA-306

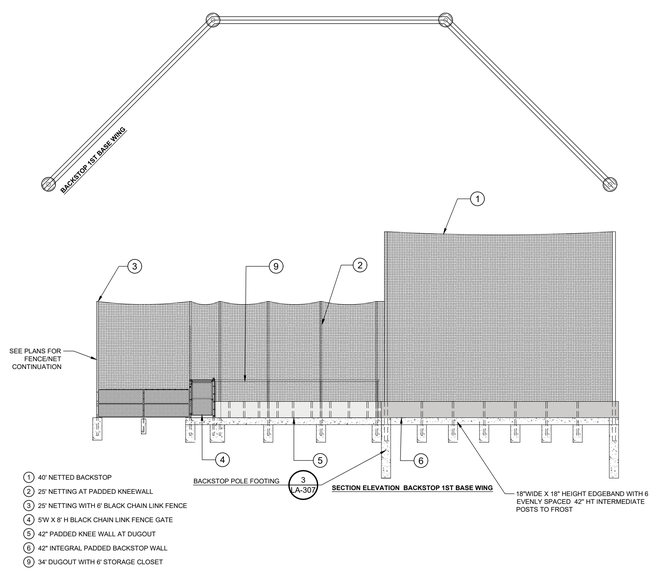
SHEET NO. 105 OF 159



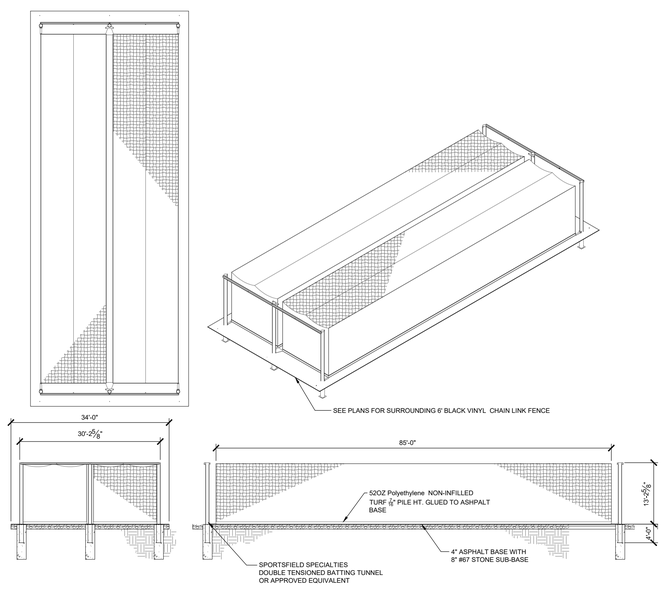
1 BASEBALL BULL PEN PLAN AND SECTION
1/4" = 1'-0"



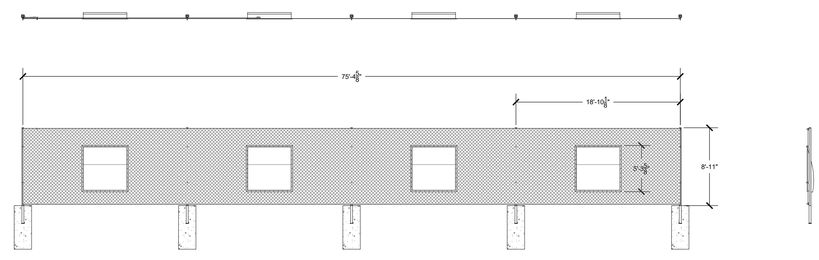
3 BACKSTOP POLE FOOTING
3/8" = 1'-0"



2 40' BASEBALL BACKSTOP PLAN AND ELEVATION
1" = 10'



4 TENSIONED DOUBLE BASEBALL BATTING TUNNEL
1" = 10'



5 4 STATION IN-LINE HITTING NETTING
3/16" = 1'-0"

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KRIS MITCHELL BRADNER
No. 428

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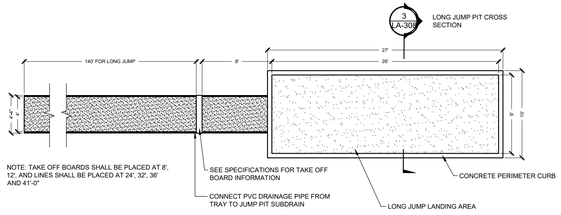
ATHLETIC DETAILS

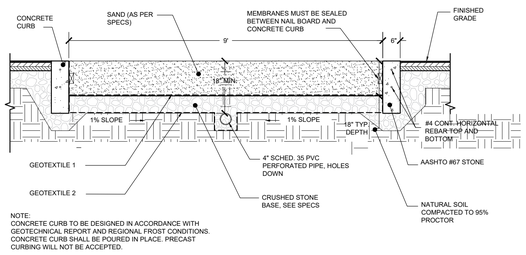
DRAWING NO.:
LA-307

SHEET NO. 106 OF 159



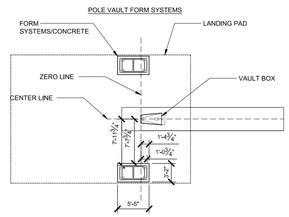
4 LONG JUMP / TRIPLE JUMP PIT

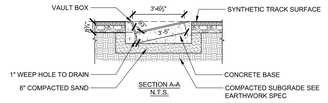
3/16" = 1'-0" P-EDU-BWRMH-TRAC-59

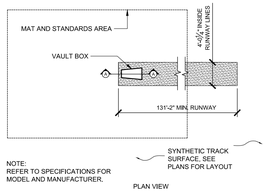


3 LONG JUMP PIT CROSS SECTION

3/4" = 1'-0" P-EDU-BWRMH-TRAC-66

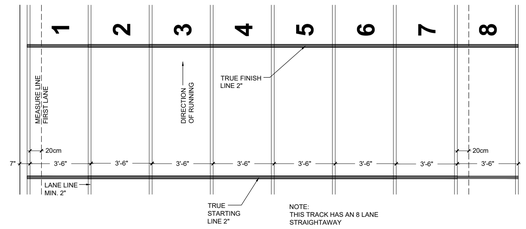






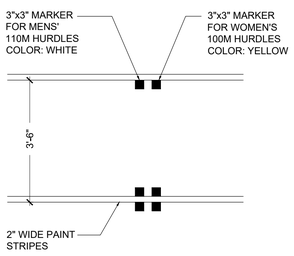
2 POLE VAULT FORM SYSTEMS AND EVENT AREA

1/8" = 1'-0" P-EDU-BWRMH-TRAC-86



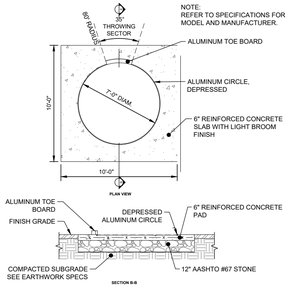
6 HIGH SCHOOL TRACK LANE STRIPING

3/8" = 1'-0" P-EDU-BWRMH-TRAC-05



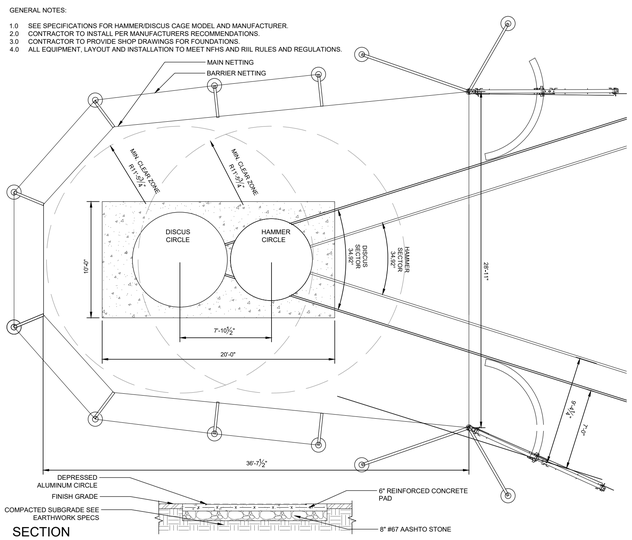
5 HS TRACK LANE STRIPING - HURDLES

3/4" = 1'-0" P-EDU-BWRMH-TRAC-56



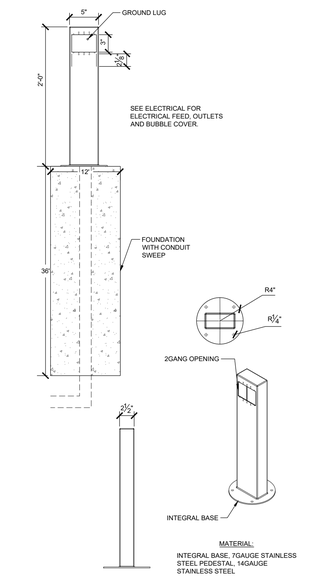
7 SHOT PUT PAD

1/4" = 1'-0" P-EDU-BWRMH-136



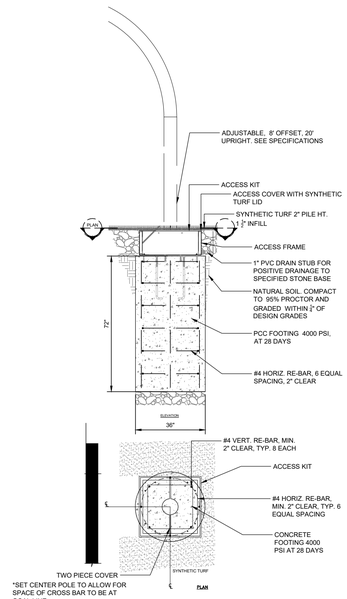
1 DUAL RING DISCUS/HAMMER CAGE

1/4" = 1'-0"



8 24' PEDOC BASE WITH INEGRAL BASE

1 1/2" = 1'-0" P-EDU-BWRMH-189



*SET CENTER POLE TO ALLOW FOR SPACE OF CROSS BAR TO BE AT GOAL LINE
* CONTRACTOR RESPONSIBLE FOR FINAL GOAL POST LAYOUT AND STAMPED FOOTING DRAWINGS BY A LICENSED ENGINEER IN THE STATE OF IOWA

9 FIELD GOAL POST DETAIL

1/2" = 1'-0" P-EDU-BWRMH-151

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SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
ATHLETIC DETAILS

DRAWING NO.:
LA-308
SHEET NO. 107 OF 159

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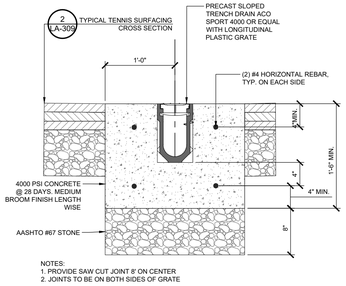
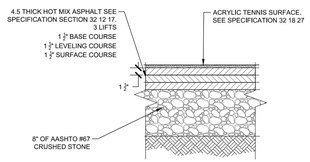


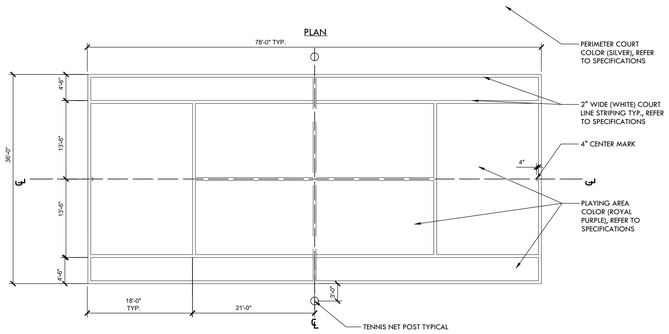
1 TRENCH DRAIN AT TENNIS COURT

1 1/2" = 1'-0"



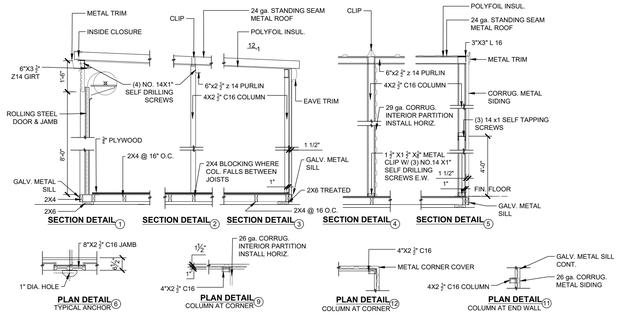
2 TYPICAL TENNIS SURFACING CROSS SECTION

1 1/2" = 1'-0"



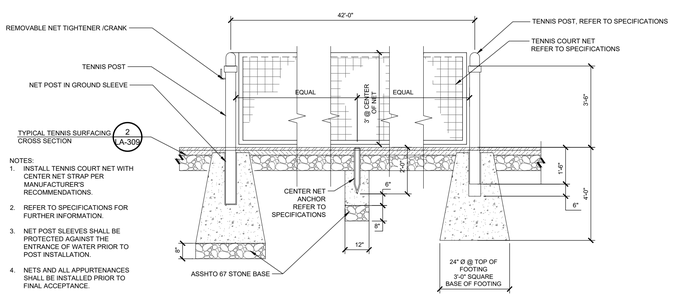
4 TENNIS COURT LAYOUT

1/8" = 1'-0"



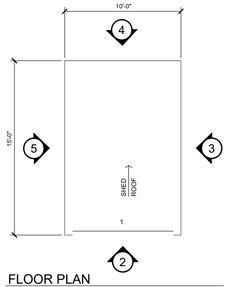
5 10X15 TYP. RELOCATABLE STORAGE UNIT DETAILS

1/2" = 1'-0"

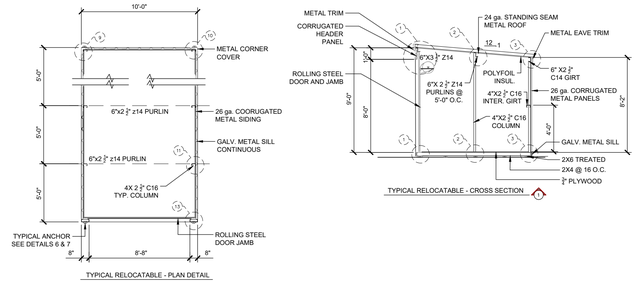


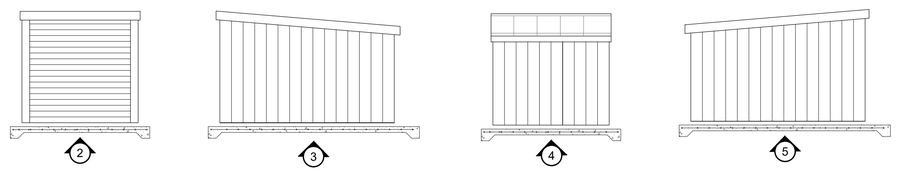
3 TENNIS NET ELEVATION

1/2" = 1'-0"



FLOOR PLAN





6 10X15 RELOCATABLE STORAGE UNIT PLANS SECTION & ELEVATIONS

1/4" = 1'-0"

PARE

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SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

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ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island



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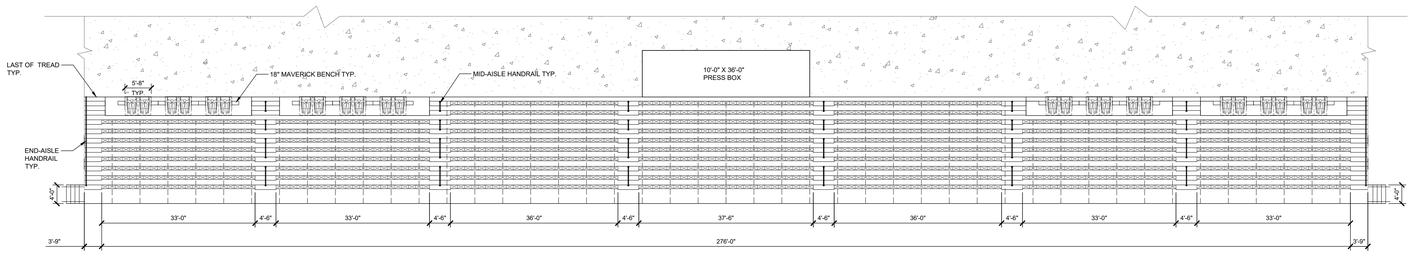
LA-309
SHEET NO. 108 OF 159

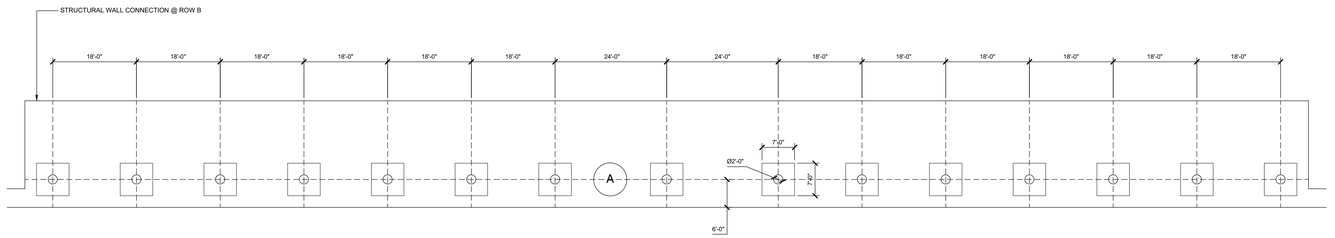
Plotted: 6/10/2025 8:38 PM by DP Autodesk Docs://23099.01 Mt Hope HS/23099.01 Mt Hope HS_Athletic_Detailing.rvt



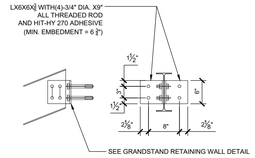
1 STADIUM BLEACHER PLAN
1" = 10'

SEATING LAYOUT

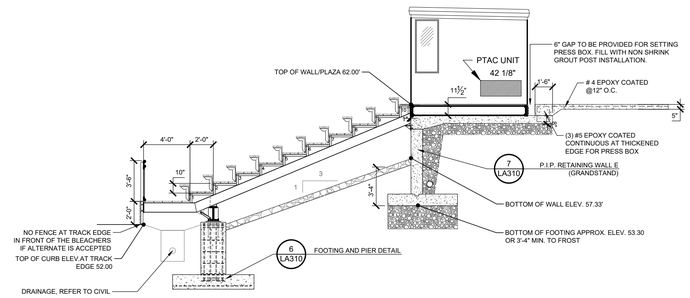
SEAT COUNT INFORMATION	
18" BENCH SEATS	1434
18" MAVERICK BENCH	24
33" WHEELCHAIR SPACES	24
TOTAL SEAT COUNT	**1482**



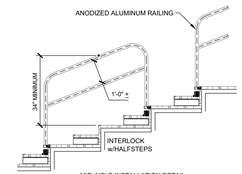
2 BLEACHER GRANDSTAND FOOTING LAYOUT
1" = 10'



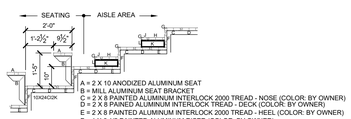
5 GRANDSTAND STEEL TO WALL CONNECTION
1" = 1'-0"



3 STADIUM BLEACHER SECTION
1/4" = 1'-0"

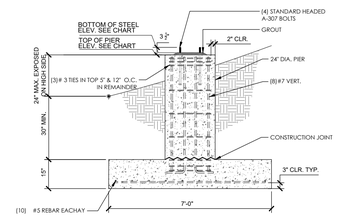


MID-AISLE INSTALLATION DETAIL

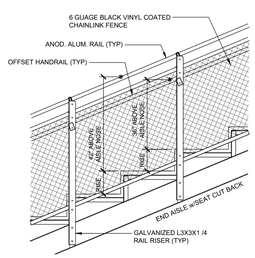


A = 2 X 10 ANODIZED ALUMINUM SEAT
B = MILL ALUMINUM SEAT BRACKET
C = 2 X 8 PAINTED ALUMINUM INTERLOCK 2000 TREAD - NOSE (COLOR: BY OWNER)
D = 2 X 8 PAINED ALUMINUM INTERLOCK TREAD - DECK (COLOR: BY OWNER)
E = 2 X 8 PAINTED ALUMINUM INTERLOCK 2000 TREAD - HEEL (COLOR: BY OWNER)
F = 1 X 6 1/2 PAINTED ALUMINUM RISER (COLOR: BY OWNER)
G = 1 X 1 PAINTED ALUMINUM CONTRASTING NOSING (BLACK)
H = 2 X 8 MILL ALUM. INTERLOCK HALFSTEP - DECK
J = 2 X 4 MILL ALUM. INTERLOCK HALFSTEP - NOSE W/RISER
K = 3 1/2" MILL ALUMINUM HALFSTEP BRACKET
L = 2 3/4 PAINTED ALUMINUM INTERLOCK STEP RISER (COLOR: BY OWNER)

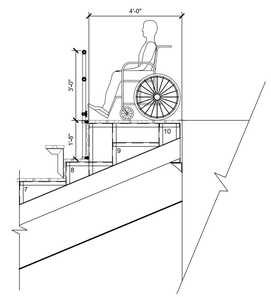
PLANK ARRANGEMENT
10" RISE X 24" TREAD



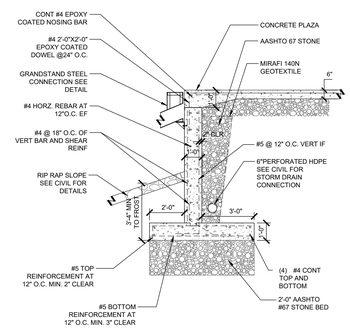
6 FOOTING AND PIER DETAIL
1/2" = 1'-0"



SIDE RAILING @ END AISLE



SECTION VIEW @ WC AREA



7 P.I.P. RETAINING WALL E (GRANDSTAND)
3/8" = 1'-0"

PARE

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0" 1"
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REGISTERED LANDSCAPE ARCHITECT
KIM MITCHELL BRADNER
No. 428

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DRAWING NO.:
LA-310
SHEET NO. 109 OF 159

Plotted: 6/10/2025 2:33 PM By: Emily Lacoste S:\Projects\23099.01 Mt. Hope HS\CAD Files\Bristol_Athletic.dwg

U.L. LISTED (PANELBOARDS NO.67) — COPPER BUSBAR

CENTER SCHEDULE
GENERAL ELECTRIC #TLM1620 (OR EQUAL FOR REQUIRED LOAD)

PANEL: LP 200 AMP RATED - 32 CIRCUIT W/ EQUIPMENT GROUND 240/208/120 :VOLTS 1 PH. 3-WIRE

MOUNTING: FLUSH ☐ SURFACE ☒ — 10KAIC — 100 AMP MAIN BREAKER

	BREAKER SIZE	BREAKER POLE	CIRC. #	BUS A	BUS B	CIRC. #	BREAKER SIZE	BREAKER POLE	
DUPLEX WALL RECEPTACLE FRONT WALL	20	1	1			2	20	1	WR-GFCO DUPLEX RECPT. ROOFTOP
							20		
DUPLEX WALL RECEPTACLE FRONT WALL	20	1	3			4		2	PTAC UNIT #1
DUPLEX WALL RECEPTACLE FRONT WALL	20	1	5			6	20		PTAC UNIT #1
LIGHTS	20	1	7			8		2	PTAC UNIT #2
LIGHTS	20	1	9			10	20		PTAC UNIT #2
LIGHTS	20	1	11			12		2	PTAC UNIT #3
DUPLEX RECEPTACLE BACK WALL	20	1	13			14			PTAC UNIT #3
DUPLEX RECEPTACLE BACK WALL	20	1	15			16	20	1	SPARE
DUPLEX RECEPTACLE BACK WALL	20	1	17			18	20	1	SPARE
DUPLEX RECEPTACLE BACK WALL	20	1	19			20	20	1	SPARE
(2) DUPLEX RECEPTACLE FRONT WALL	20	1	21			22			SPACE
(2) DUPLEX RECEPTACLE FRONT WALL	20	1	23			24			SPACE
(2) DUPLEX RECEPTACLE FRONT WALL	20	1	25			26			SPACE
SPARE	20	1	27			28			SPACE
SPACE			29			30			SPACE
SPACE			31			32			SPACE

CONDUIT WILL BE 1/2" EMT, 1/2" STEELFLEX, OR SURFACE RACEWAY UNLESS OTHERWISE NOTED

WIRING ON 20A BREAKERS WILL BE #12 = THWN - THHN

EQUIPMENT GROUND RUN IN ALL CONDUITS OR NON-METALLIC SURFACE RACEWAYS

PANEL FEEDER, NEUTRAL, BONDING, AND GROUNDING TO BE ACCORDING TO APPLICABLE CODES ADOPTED BY THE LOCAL AHJ ON SITE BY ELECTRICAL CONTRACTOR.

PTAC UNIT

PTAC UNIT
Amana #DCP123A35AA OR EQUAL — ROOMS 12'-0" OR LESS
12,000 BTU COOL / 12,000 BTU EHEAT
5.6A COOL / 15.4 A EHEAT - 208/230V.
Requires 2P 20 breaker

PTAC UNIT
Amana #DCP153A35AA OR EQUAL — ROOMS LARGER THAN 12'-0"
14,000 BTU COOL / 12,000 BTU EHEAT
7.0 A COOL / 15.4 A EHEAT - 208/230V.
Requires 2P 20 Breaker

FIELD INSTALLED

20A. 250V. SINGLE POWER RECPT. (NEMA 6-20R FOR PTAC UNIT)

20A. 125V. DUPLEX RECPT. (WR-GFCI WHERE NOTED)

LUTRON MAESTRO MS-Z101-LA 120-277V. OR EQUAL
OCCUPANCY/SINGLE POLE/MULTI-LOCATION
8A AUTO-ON/AUTO-OFF OR MANUAL-ON/AUTO-OFF
0-10V IEC 60629 SINKING CONTROL LED DIMMER

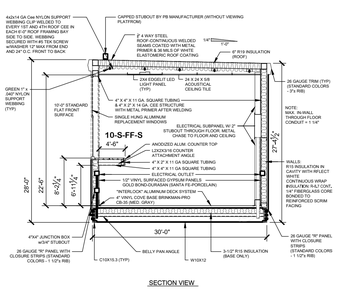
4X4X2 1/8" JUNCTION BOX W/ 3/4" C STUBOUT UNDER FLOOR W/P ON ROOF STUBBED INTO CEILING SPACE FOR USE BY OTHERS

2'X4' EDGELIT LED PANEL LIGHT
RAB LIGHTING EZPANFA2X4LD10
0.26A @ 120V INPUT WATTS: 30W OR EQUAL

WP OUTDOOR 26W. LED WALL PACK LIGHT w/PHOTOCELL

BATTERY BACK UP EMERGENCY/EXIT 7W. LED LIGHT. CONNECT TO LIGHT CIRCUIT AHEAD OF SWITCH. NEC 700.12 (F)

1 PRESS BOX LOAD CENTER SCHEDULE
1/4" = 1'-0"

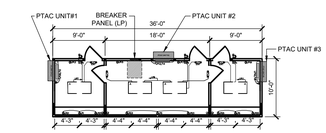


SECTION VIEW

2 PRESS BOX SECTION
1/8" = 1'-0"

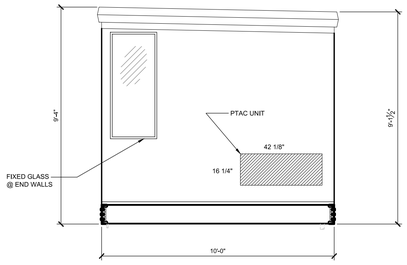


ROOF LAYOUT

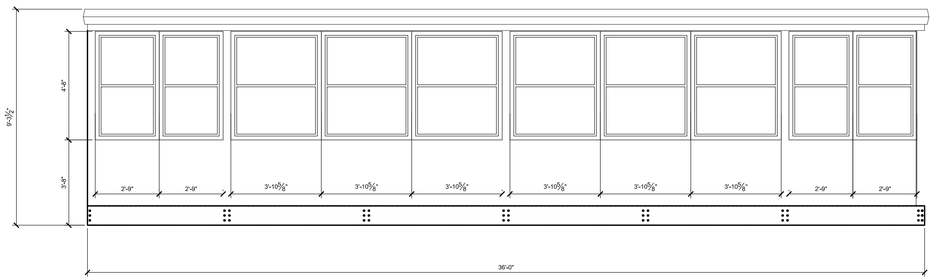


PLAN VIEW

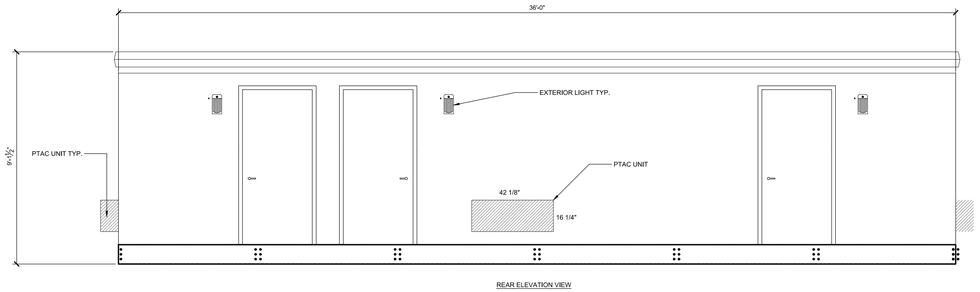
3 PRESS BOX ROOF AND PLAN
1/8" = 1'-0"



SIDE VIEW



FRONT ELEVATION VIEW



REAR ELEVATION VIEW

4 PRESS BOX ELEVATION
1/2" = 1'-0"

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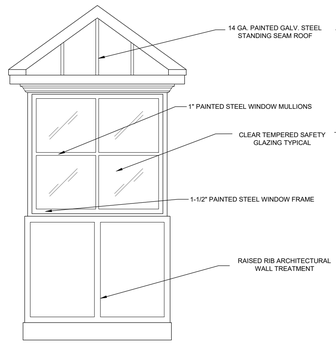
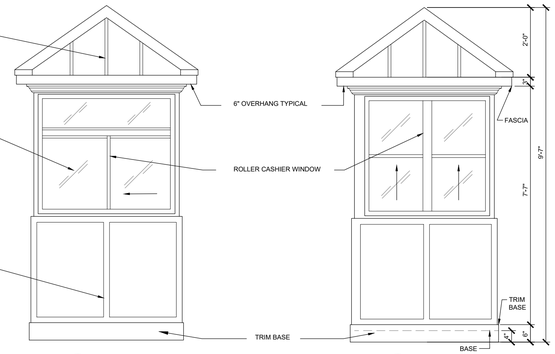
LA-311

SHEET NO. 110 OF 159

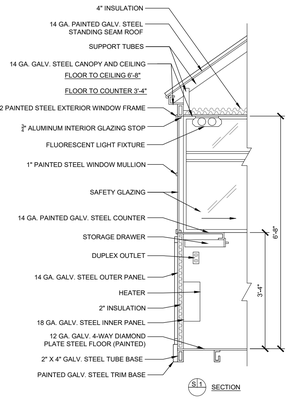


E2 ELEVATION



E3 ELEVATION

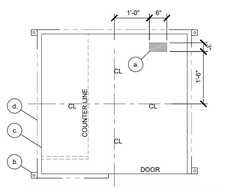
E4 ELEVATION



S1 SECTION



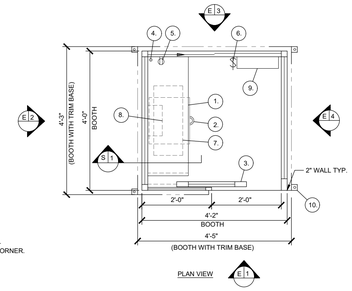
E1 ELEVATION



NOTE: PROVIDE 120/240V. 1Ø-3 WIRE SERVICE WITH GROUND.

SERVICE ENTRANCE/ANCHOR BOLT LAYOUT

a. 3" X 6" SLOT IN FLOOR FOR ELECTRIC SERVICE ENTRANCE TO C.B. PANEL ABOVE.
b. 2" X 2" X ¼" MIN. ANCHOR CLIP WITH ¾" ANCHOR BOLT HOLE, 4-REQ'D, ONE EACH CORNER. ANCHOR BOOTH AFTER FINAL LOCATION. ANCHOR BOLTS NOT INCLUDED.
c. OUTER EDGE OF BASE
d. OUTER EDGE OF TRIM BASE



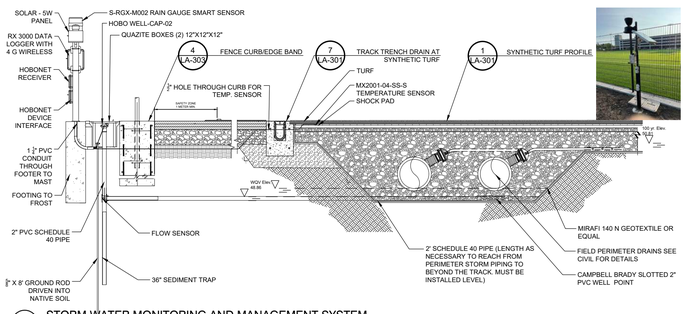
PLAN VIEW

1. COUNTER- 16' DEEP PAINTED GALVANIZED STEEL
2. PAINTED STORAGE DRAWER BENEATH COUNTER.
3. DOOR- 24' WIDE, SLIDING STEEL WITH WEATHER-STRIPPING, BALL BEARING HANGERS, SAFETY GLAZING, HEAVY DUTY TRACK, HOOK BOLT LOCK, & HARDWARE.
4. 1-1/4" HOLE IN COUNTER FOR DROP CORDS TO OUTLET.
5. DUPLEX OUTLET- MOUNTED BELOW COUNTER.
6. LIGHT SWITCH FOR INTERIOR OFFICE LIGHT.
7. LIGHT- FLUORESCENT LIGHT FIXTURE WITH LENS.
8. HEATER- 120V./1,500 WATT FAN FORCED WITH INTEGRAL THERMOSTAT CONTROL.
9. C.B. PANEL- 2' X 2' X ¼" MIN. STEEL WELDED TO BASE AT GRADE WITH ¾" ANCHOR BOLT HOLE.

NOTES: TICKET BOOTH UNITS ARE GALVANIZED STEEL CONSTRUCTION, FACTORY ASSEMBLED AND DELIVERED SET UP. FAILURE TO SECURELY ANCHOR BOOTH MAY RESULT IN OVERTURNING OF UNIT AND SERIOUS INJURY TO OCCUPANT

A. GLAZING TO BE CLEAR TEMPERED SAFETY GLAZING WITH 1-1/2" PAINTED STEEL WINDOW FRAMES, 1" PAINTED STEEL WINDOW MULLIONS, AND ¾" ALUMINUM INTERIOR GLAZING STOPS.
B. PAINT- A RUST INHIBITIVE PRIMER WITH AN INDUSTRIAL FINISH.
C. ELECTRICAL- ALL WIRING BY MANUFACTUER TO BE #13(MIN) STRANDED COPPER, THHN ENCLOSED IN ¾"(MIN) E.M.T. PER NATIONAL ELECTRIC CODE. FITTINGS, FIXTURES & DEVICES ARE U.L. LABELED. ALL WIRING TO TERMINATE AT C.B. PANEL. ALL CIRCUITS HAVE GREEN GROUND WIRE.
D. BOOTH WILL HAVE A 6" CANOPY OVERHANG ON ALL SIDES.
E. NO LIFTING RING(S) ARE PROVIDED IN ROOF.

1 TICKETBOOTH DETAILS
3/4" = 1'-0"



2 STORM WATER MONITORING AND MANAGEMENT SYSTEM
1/2" = 1'-0"

FOOTBALL POLE FOUNDATION SCHEDULE

POLE DESIGNATION	FORCES (1).			DRILLED PIER		
	MOMENT (M) FT-LBS	SHEAR (V) LBS	VERTICAL (P) LBS	DIAMETER INCHES	EMBEDMENT DEPTH	CONCRETE BACKFILL CUBIC YDS (2.)
F1, F2	141,502	2,749	3,462	36	16'-0"	2.8

1. ASD LOAD COMBINATION D + 0.6W VERTICAL FORCE IS WEIGHT OF DRESSED POLE (DOES NOT INCLUDE PRECAST BASE WEIGHT).
2. MINIMUM CONCRETE BACKFILL VOLUME, SITE CONDITIONS MAY REQUIRE ADDITIONAL BACKFILL.
3. POTENTIAL FOR ENCOUNTERING BOULDERS OR WEATHER BEDROCK BEFORE REACHING EMBEDMENT DEPTH. ROCK AUGERING EQUIPMENT MAY BE REQUIRED

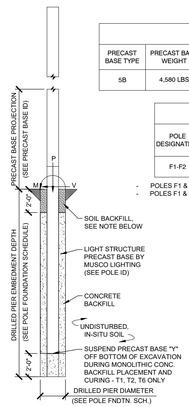
FOOTBALL PRECAST BASE IDENTIFICATION

PRECAST BASE TYPE	PRECAST BASE WEIGHT	PRECAST BASE LENGTH	PROJECTION ABOVE GRADE	STANDARD EMBEDMENT	OUTSIDE DIAMETER
5B	4,580 LBS	23'-11"	7'-11"	16'-0"	1'-6 1/4"

FOOTBALL PRECAST IDENTIFICATION

POLE DESIGNATION	POLE TYPE	PRECAST BASE TYPE	FIXTURE CONFIGURATION (FIX. PER XARM)	FIXTURE AND ACCESSORIES EPA (SQ FT)
F1-F2	LSS80B	5B	11 (4+4)	28

- POLES F1 & F2 HAVE (2) MUSCO LED FIXTURES AT 25'-0" AGL INCLUDED ABOVE.
- POLES F1 & F2 HAVE (1) CREE OSQ FIXTURE AT 25'-0" AGL (BACKSIDE) INCLUDED ABOVE.



POLE FOUNDATION ELEV.

SOIL BACKFILL NOTE:
THE TOP TWO FEET OF ANNULUS SHALL BE BACKFILLED WITH SOIL, WITH A CLASSIFICATION OF CLASS 5 (TABLE 1806.2) OR BETTER. COMPACTION, 95% FOR COHESIVE SOIL AND 98% FOR A COHESIONLESS SOIL BASED UPON STANDARD PROCTOR TESTING (ASTM D698).

TENNIS POLE FOUNDATION SCHEDULE

POLE DESIGNATION	FORCES (1).			DRILLED PIER			
	MOMENT (M) FT-LBS	SHEAR (V) LBS	VERTICAL (P) LBS	DIAMETER INCHES	EMBEDMENT DEPTH	SUSPENSION "Y" (2.)	CONCRETE BACKFILL CUBIC YDS (3.)
T1	14,694	588	501	36	9'-0"	T-0"	1.8
T2(FS.)	51,312	1,308	1,371	36	13'-0"	T-0"	2.6
T3,T4	38,592	1,043	931	36	10'-0"	NA	1.9
T5	51,312	1,308	1,371	36	12'-0"	NA	2.3
T6	14,694	588	501	36	10'-0"	2'-0"	2.0

1. ASD LOAD COMBINATION D + 0.6W VERTICAL FORCE IS WEIGHT OF DRESSED POLE (DOES NOT INCLUDE PRECAST BASE WEIGHT).
2. SUSPEND PRECAST BASE "Y" OFF THE BOTTOM OF THE EXCAVATION DURING MONOLITHIC CONCRETE BACKFILL PLACEMENT AND CURING. NA = NOT APPLICABLE, SUSPENSION NOT REQUIRED.
3. MINIMUM CONCRETE BACKFILL VOLUME, SITE CONDITIONS MAY REQUIRE ADDITIONAL BACKFILL.
4. POTENTIAL FOR ENCOUNTERING BOULDERS OR WEATHER BEDROCK BEFORE REACHING EMBEDMENT DEPTH. ROCK AUGERING EQUIPMENT MAY BE REQUIRED
5. ALTERNATE FOR T2 ONLY: 48" DIAMETER AND 12'-0" EMBEDMENT WITH NO SUSPENSION OF 3B PRECAST BASE.

TENNIS PRECAST BASE IDENTIFICATION

PRECAST BASE TYPE	PRECAST BASE WEIGHT	PRECAST BASE LENGTH	PROJECTION ABOVE GRADE	STANDARD EMBEDMENT	OUTSIDE DIAMETER
1B	920 LBS	15'-2"	7'-2"	8'-0"	9.56"
2B	1690 LBS	17'-3"	7'-3"	10'-0"	12"
3B	2470 LBS	20'-0"	8'-0"	12'-0"	13.38"

TENNIS PRECAST IDENTIFICATION

POLE DESIGNATION	POLE TYPE	PRECAST BASE TYPE	FIXTURE CONFIGURATION (FIX. PER XARM)	FIXTURE AND ACCESSORIES EPA (SQ FT)
T1,T6	LSS40A	1B	2(2)	4.8
T2,T5	LSS60B	3B	5(5)	12.7
T3,T4	LSS60AA	2B	3(3)	8.1

DESIGN NOTES

DESIGN PARAMETERS:
WIND: V = 128 MPH, Vasd = 99 MPH (EXPOSURE C, RISK CATEGORY II) PER INTERNATIONAL BUILDING CODE, 2018 EDITION (ASCE 7-16).

GEOTECHNICAL PARAMETERS:
ALLOWABLE END BEARING SOIL PRESSURE: 4,000 PSF
ALLOWABLE LATERAL SOIL BEARING PRESSURE:
FOOTBALL LIGHTING:
0 PSF/FT (GRADE TO -2'-0"); 150 PSF/FT (-2'-0" TO -4'-0");
200 PSF/FT (-4'-0" TO -8'-0"); 300 PSF/FT (BELOW -8'-0")
TENNIS LIGHTING:
0 PSF/FT (GRADE TO -2'-0"); VARIES BY LOCATION, SEE SOIL BORINGS (BELOW -2'-0")
IN ACCORDANCE WITH THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODE, CHAPTER 18.

DESIGN SOIL PARAMETERS ARE AS NOTED. ACTUAL ALLOWABLE SOIL PARAMETERS MUST BE VERIFIED ON SITE. REFERENCE GEOTECHNICAL REPORT, PROJECT NO.23099.01, PREPARED BY PARE CORPORATION; FOXBORO, MA.

A GEOTECHNICAL ENGINEER OR REPRESENTATIVE OF IS RECOMMENDED (NOT REQUIRED) TO BE AVAILABLE AT THE TIME OF THE FOUNDATION INSTALLATION TO VERIFY THE SOIL DESIGN PARAMETERS AND TO PROVIDE ASSISTANCE IF ANY PROBLEMS ARISE IN FOUNDATION INSTALLATION.

ENCOUNTERING SOIL FORMATIONS THAT WILL REQUIRE SPECIAL DESIGN CONSIDERATIONS OR EXCAVATION PROCEDURES MAY OCCUR. POLE FOUNDATIONS WILL NEED TO BE ANALYZED ACCORDING TO THE SOIL CONDITIONS THAT EXIST. IF ANY DISCREPANCIES OR INCONSISTENCIES ARISE, NOTIFY THE ENGINEER OF SUCH DISCREPANCIES. FOUNDATIONS WILL THEN BE REVISED ACCORDINGLY. REVISIONS WILL BE ANALYZED PER RECOMMENDATIONS DIRECTED BY A REGISTERED ENGINEER.

ALL EXCAVATIONS MUST BE FREE OF LOOSE SOIL AND DEBRIS PRIOR TO FOUNDATION INSTALLATION AND CONCRETE BACKFILL PLACEMENT. TEMPORARY CASINGS OR DRILLERS SLURRY MAY BE USED TO STABILIZE THE EXCAVATION DURING INSTALLATION. CASINGS MUST BE REMOVED DURING CONCRETE BACKFILL PLACEMENT. CONCRETE BACKFILL MUST BE PLACED WITH A TREMIE WHEN SLURRY OR WATER IS PRESENT WITHIN THE EXCAVATION.

CONTRACTOR MUST BE FAMILIAR WITH THE COMPLETE SOIL INVESTIGATION REPORT AND BORINGS, AND CONTACT THE GEOTECHNICAL FIRM (IF NECESSARY) TO UNDERSTAND THE SOIL CONDITIONS AND THE POSSIBILITY OF GROUND WATER PUMPING AND EXCAVATION STABILIZATION OR BRACING DURING PRECAST BASE INSTALLATION AND PLACEMENT OF CONCRETE BACKFILL.

CONCRETE:
CONCRETE SHALL BE AIR-ENTRAINED AND HAVE A MINIMUM COMPRESSIVE DESIGN STRENGTH AT 28 DAYS OF 3,000 PSI. 3,000 PSI CONCRETE SPECIFIED FOR EARLY POLE ERECTION, ACTUAL REQUIRED MINIMUM ALLOWABLE CONCRETE STRENGTH IS 1,000 PSI. ALL PIERS AND CONCRETE BACKFILL MUST BEAR ON AND AGAINST FIRM UNDISTURBED SOIL.

GENERAL NOTES:
FIXTURES MUST BE LOCATED TO MAINTAIN 10'-0" MINIMUM HORIZONTAL CLEARANCE FROM ANY OBSTRUCTION. ENGINEER MUST BE NOTIFIED IF FOUNDATIONS ARE NEAR ANY RETAINING WALLS OR WITHIN NEAR ANY SLOPES STEEPER THAN 3H: 1V. POLES, FIXTURES, PRECAST BASES, ELECTRICAL ITEMS AND INSTALLATION PER MUSCO LIGHTING.

3 MUSCO LIGHTING FOUNDATIONS
1/4" = 1'-0"

P-EDU-BWRMH-304

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SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

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199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KEITH MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
ATHLETIC DETAILS

DRAWING NO.:
LA-312
SHEET NO. 111 OF 159

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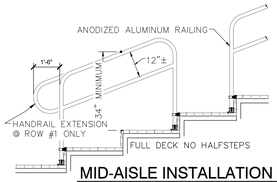
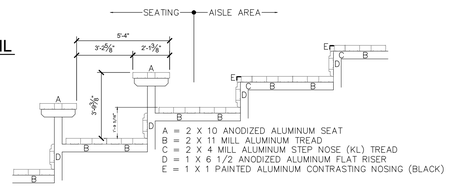
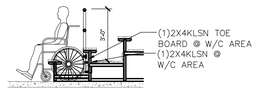


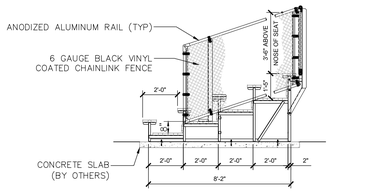
MID-AISLE INSTALLATION DETAIL
NOT TO SCALE



PLANK ARRANGEMENT
NOT TO SCALE 8" RISE X 24" TREAD

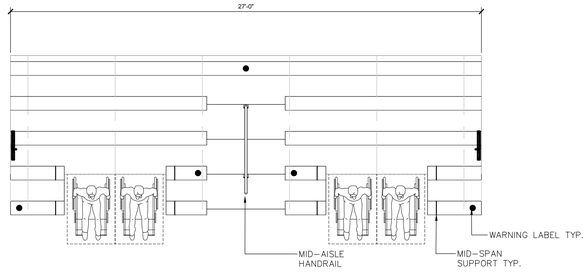


NON-ELEVATED W/C AREA
SCALE:3/8"=1'-0"

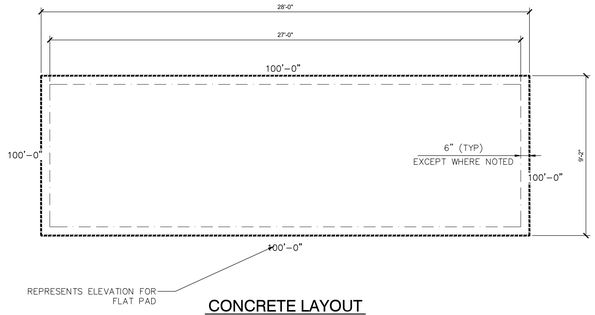


SIDE VIEW: 5 ROW NON - ELEVATED
SCALE:3/8"=1'-0"

58 TOTAL NET 18" SEATS
4 TOTAL NET 33" WHEELCHAIR SPACES
62 TOTAL SEATING CAPACITY



SEATING LAYOUT
SCALE:3/8"=1'-0"



CONCRETE LAYOUT
SCALE:3/8"=1'-0"

1 PORTABLE BLEACHER DETAILS
3/8" = 1'-0"



5 TENNIS WEST FENCE GRAPHIC INTERIOR
1" = 10'



4 TENNIS SOUTH FENCE GRAPHIC
1" = 10'

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ASSESSORS PLAT 112, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island



REVISIONS:

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APPROVED BY:	KB

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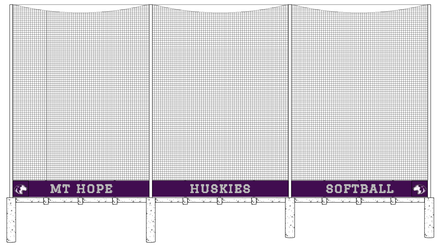
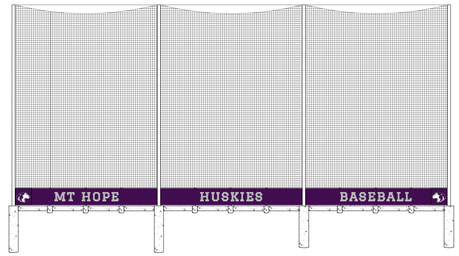
ATHLETIC DETAILS

DRAWING NO.:
LA-313
SHEET NO. 112 OF 159

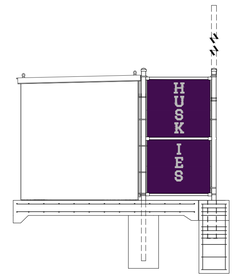
Plotted: 6/10/2025 3:08 PM By: Emily Lacasse Bluebeam: Emily Lacasse



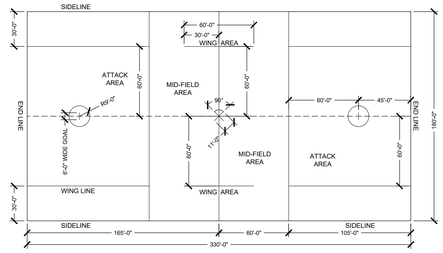
1 SOFTBALL BACKSTOP DETAIL
1" = 10'



2 BASEBALL BACKSTOP GRAPHIC
3/4" = 1'-0"

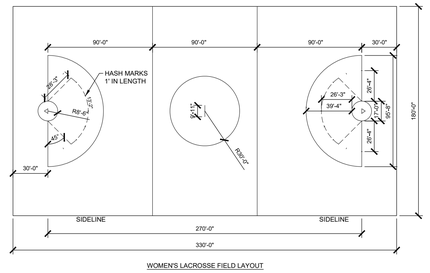


3 BASEBALL DUGOUT FENCE GRAPHIC
1/4" = 1'-0"



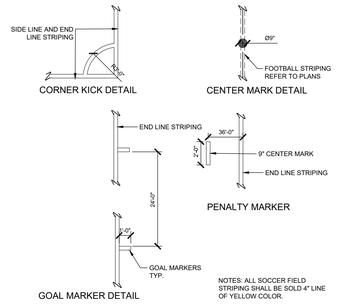
MENS LACROSSE FIELD LAYOUT

4 MENS LACROSSE FIELD LAYOUT
1" = 40'

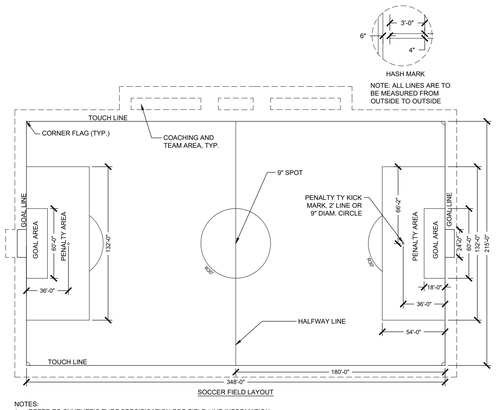


WOMEN'S LACROSSE FIELD LAYOUT

5 WOMEN'S LACROSSE FIELD LAYOUT
1" = 40'



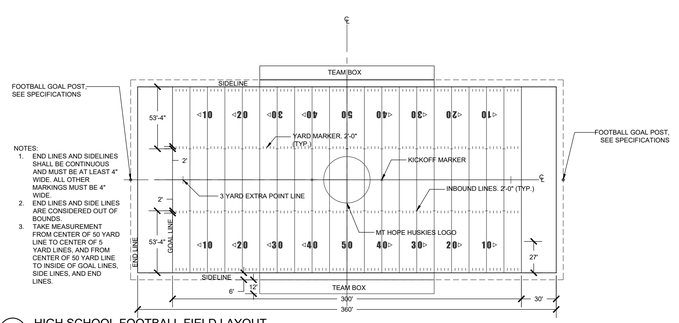
6 SOCCER MARKINGS
1/4" = 1'-0"



SOCCER FIELD LAYOUT

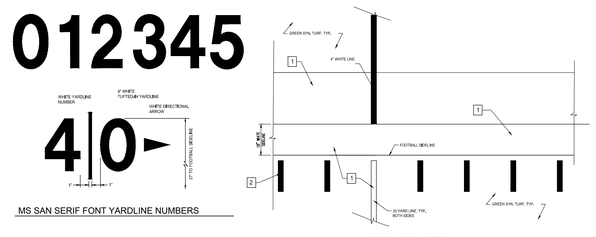
NOTES:
1. REFER TO SYNTHETIC TURF SPECIFICATION FOR FIELD LINE INFORMATION

7 SOCCER FIELD LAYOUT
1" = 40'

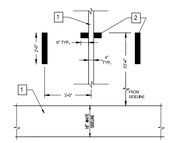


NOTES:
1. END LINES AND SIDELINES SHALL BE CONTINUOUS AND MUST BE AT LEAST 4" WIDE. ALL OTHER MARKINGS MUST BE 4" WIDE.
2. END LINES AND SIDE LINES ARE CONSIDERED OUT OF BOUNDS.
3. TAKE MEASUREMENT FROM CENTER OF 50 YARD LINE TO CENTER OF 5 YARD LINES, AND FROM CENTER OF 50 YARD LINE TO INSIDE OF GOAL LINES, SIDE LINES, AND END LINES.

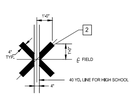
8 HIGH SCHOOL FOOTBALL FIELD LAYOUT
1" = 40'



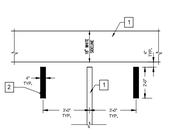
COACH BOX DETAIL



INBOUNDS LINES LAYOUT



KICK-OFF MARKER LAYOUT



SIDE LINE / CHAIN MARKER LAYOUT

FOOTBALL AND SOCCER LAYOUT NOTES:

1 SIDELINES, YARDLINES, PERIMETER BORDER ARE TUFTDAN WHITE LINES.FOOTBALL TUFTDAN GREEN END ZONE AREA, YELLOW LINES ON GREEN TUFTDAN PER DETAILS, CONTRACTOR TO SUBMIT COLOR SAMPLES.

2 YARDLINE NUMBERS, DIRECTIONAL ARROWS, INBOUNDS LINES, SHORT YARD MARKERS, KICKOFF MARKER, EXTRA POINT MARKERS, OUTLINE AT PLAYER TEAM BOXES, ARE WHITE PAINTED TURF BY CONTRACTOR, (FOOTBALL)

3 9" DIAMETER YELLOW PAINT SPOT AT SOCCER MIDFIELD AND TWO PENALTY KICK SPOT SEE LAYOUT.

FOLLOW SYNTHETIC TURF MANUFACTURER'S RECOMMENDATION FOR PAINTING OF MENS AND WOMENS LACROSSE, AND FIELD HOCKEY AND FOR ALL REQUIRED YELLOW IN LINE TURF ON SOCCER FIELD. SEE SOCCER LAYOUT PLAN.

9 TYPICAL SYNTHETIC TURF MARKING DETAILS
3/4" = 1'-0"

P-EDU-BWRMH-156

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REGISTERED LANDSCAPE ARCHITECT
JOHN MITCHELL GRADNER
No. 428

REVISIONS:

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APPROVED BY:	KB

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DRAWING NO.:
LA-314
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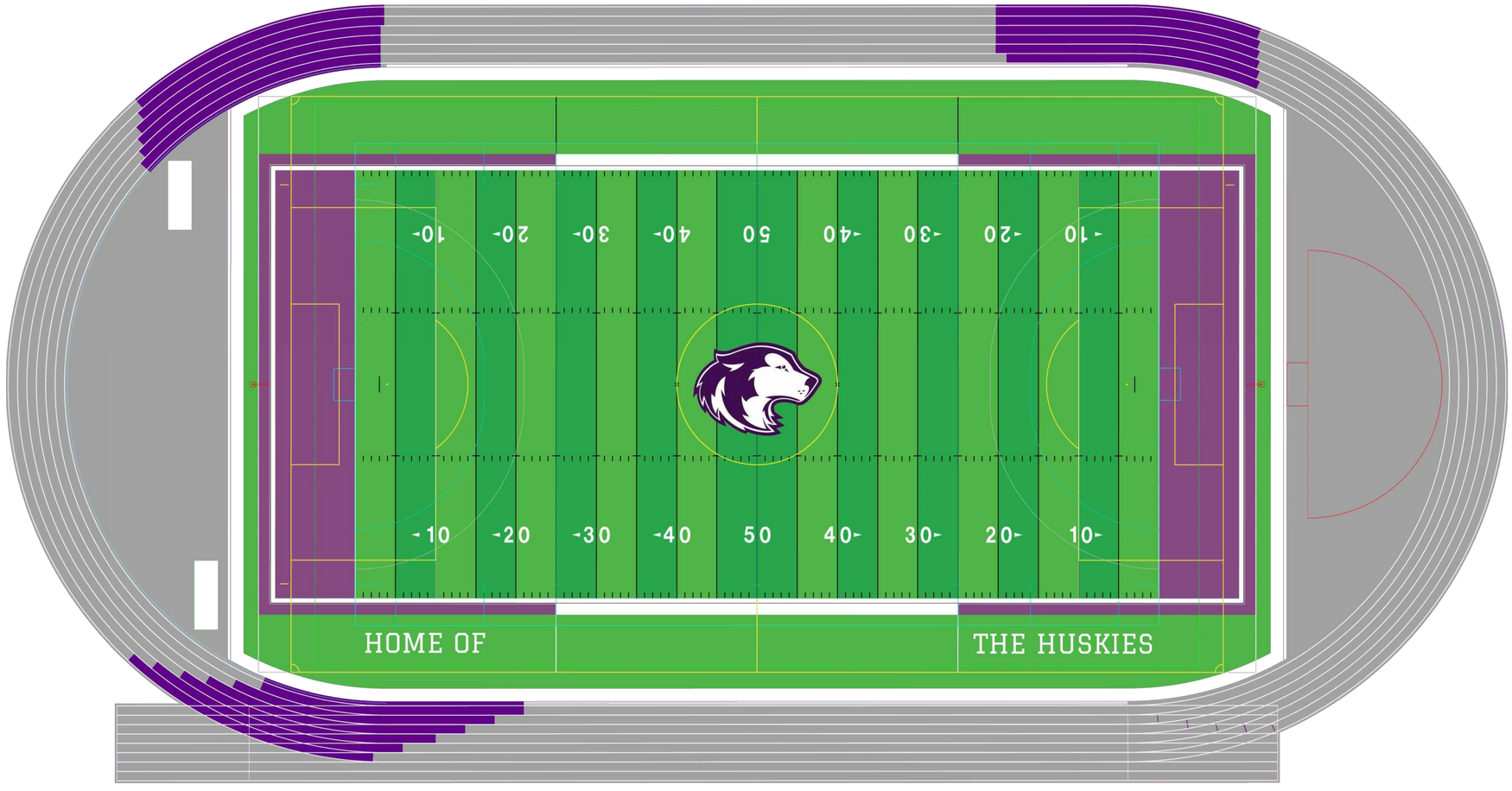

1 TRACK AND FIELD GRAPHIC LAYOUT
1" = 10'

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REGISTERED LANDSCAPE ARCHITECT
KIM MITCHELL BRADNER
No. 428

REVISIONS:

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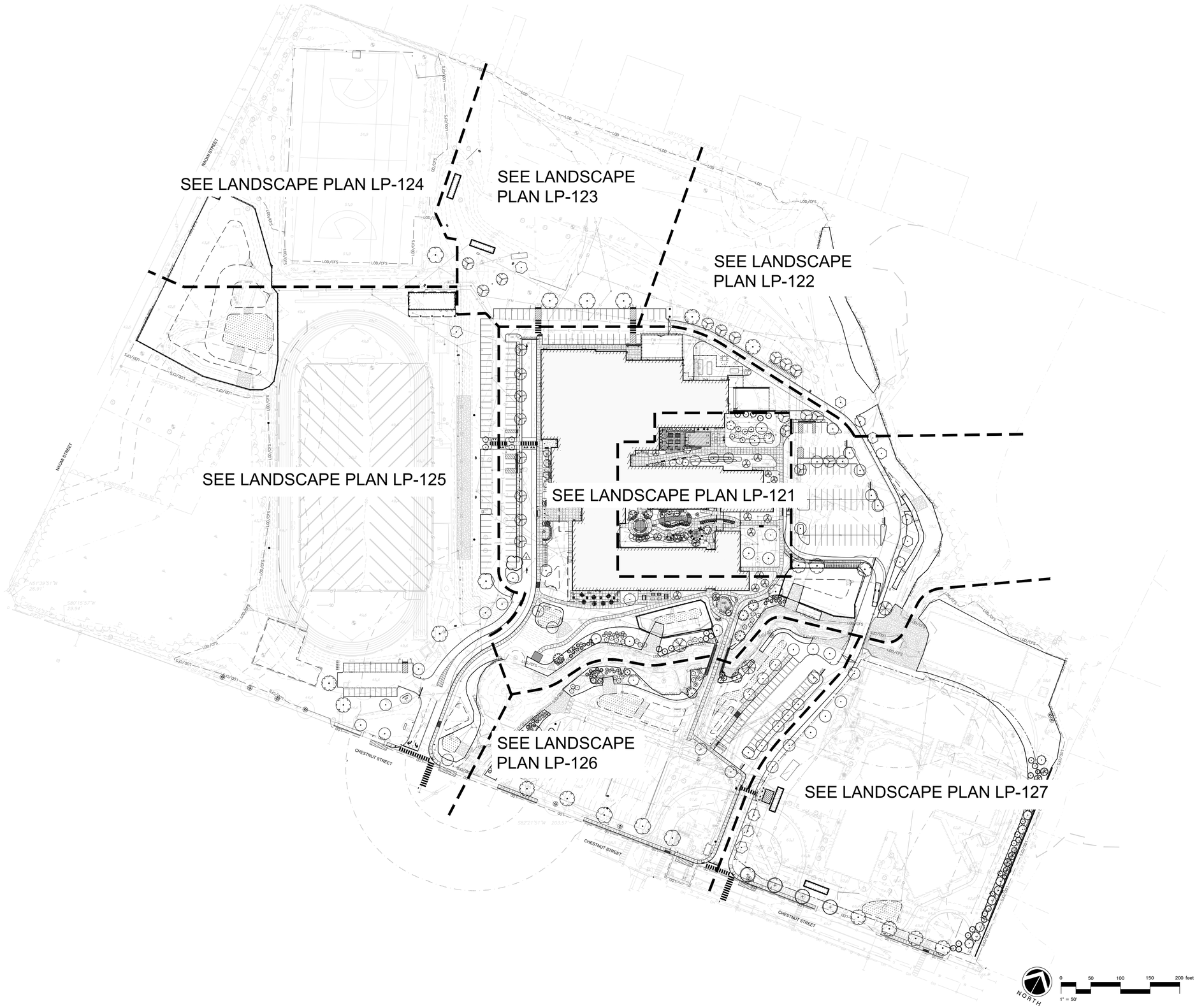
ATHLETIC DETAILS

DRAWING NO.:
LA-315

SHEET NO. 114 OF 159

Item C1.



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ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KRIS MITCHELL BRADNER
No. 428

REVISIONS:

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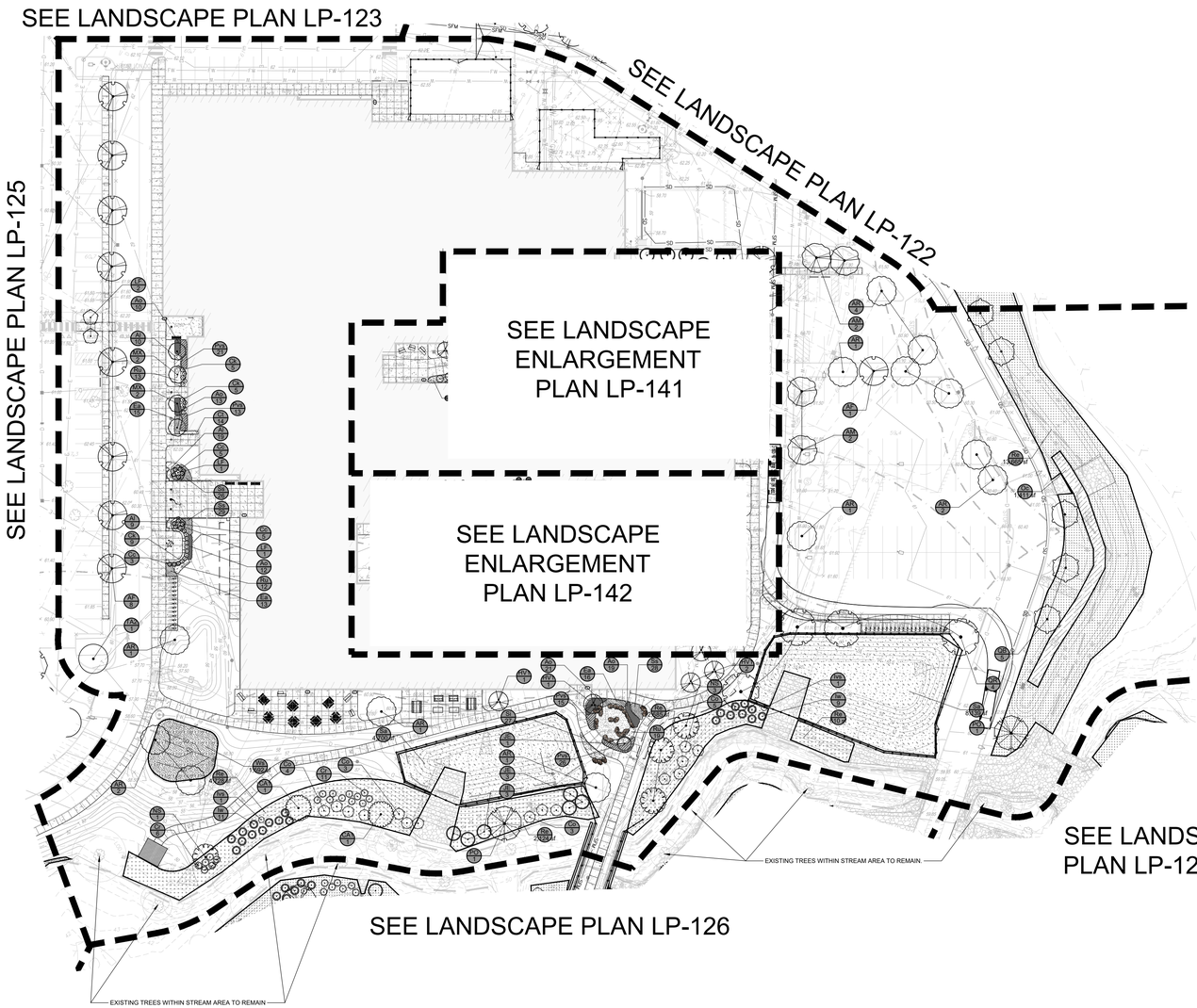
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
OVERALL PLANTING PLAN

DRAWING NO.:
LP-101

SHEET NO. 115 OF 159



PLANT SCHEDULE LP-121

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES						
	AR	17	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
	AM	4	Acer rubrum 'Autumn Flame' / Autumn Flame Red Maple	B&B	2"-2.5" Cal.	
	AF	11	Acer rubrum 'Frank Jr.' / Redpointe® Maple	B&B	2"-2.5" Cal.	
	BW	11	Betula populifolia 'Whitespire' / Whitespire Gray Birch	#7		6'-7' H
	CA1	2	Carpinus caroliniana / Musclewood	B&B	1.5"-2" Cal.	
	CC2	7	Cercis canadensis / Eastern Redbud	B&B	2"-2.5" Cal.	
	CC1	2	Cercis canadensis 'Forest Pansy' / Forest Pansy Eastern Redbud	Multi-stem B&B	2"-2.5" Cal.	
	HV2	6	Hamamelis vernalis / Ozark Witchhazel	Multi-stem B&B		6'-7' H
	HV1	12	Hamamelis virginiana / Common Witch Hazel	Multi-stem B&B		7'-8' H
	JH	6	Juniperus chinensis 'Hetzii' / Hetzi Juniper	B&B		6'-7' H
	JE	12	Juniperus virginiana / Eastern Redcedar	B&B		7'-8' H
	LF	4	Liriodendron tulipifera 'Fastigiata' / Columnar Tulip Poplar	B&B	2"-2.5" Cal.	
	MX	7	Magnolia x 'Jane' / Jane Magnolia	B&B	2.5"-3" CAL.	
	NS	4	Nyssa sylvatica / Tupelo	B&B	2"-2.5" Cal.	
	NC	5	Nyssa sylvatica `Northern Splendor` / Northern Splendor Tupelo	B&B	2.5"-3"	
	PO	2	Platanus occidentalis / American Sycamore	B&B	2"-2.5" Cal.	
	QB	5	Quercus bicolor / Swamp White Oak	B&B	2"-2.5" Cal.	
	QR	4	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.	
	TA2	1	Tilia americana / American Linden	B&B	2.5"-3" CAL.	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS					
	Co	15	Cephalanthus occidentalis / Buttonbush	#3	
	Cc	13	Clethra alnifolia 'Crystalina' / Sugartina® Summersweet	#5	
	Cr	17	Cornus sericea / Red Twig Dogwood	#3	
	Cf2	23	Cornus sericea 'Farrow' / Arctic Fire® Red Twig Dogwood	#3	
	Ck	19	Cornus sericea 'Kelseyi' / Kelsey's Dwarf Red Twig Dogwood	#3	
	Hi2	11	Hydrangea serrata `MAKO` / Tuff Stuff™ Hydrangea	#5	
	Ii	35	Ilex glabra 'Compacta' / Compact Inkberry	#5	
	Iw	20	Ilex verticillata / Winterberry	#3	
	Ivs	2	Ilex verticillata 'Southern Gentleman' / Southern Gentleman Winterberry	#3	
	Rl	3	Rhododendron x `Lee`s Dark Purple / Lee`s Dark Purple Rhododendron	B & B	2'-3' H
	Rp	16	Rhododendron x 'Purple Gem' / Purple Gem Rhododendron	#5	2'-3' H
	To	4	Thuja occidentalis `Hetz Midget` / Hetz`s Midget Arborvitae	#5	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
PERENNIALS/GRASSES					
	Al	66	Anemone x hybrida 'Lucky Charm' / Lucky Charm Japanese Anemone	#1	24" o.c.
	Ao	124	Aster oblongifolius `Raydon`s Favorite` / Raydon`s Favorite Fall Aster	#1	24" o.c.
	Bs	24	Boltonia asteroides 'Snowbank' / Snowbank False Aster	#1	24" o.c.
	Ct	159	Carex tenuiculmis 'Cappuccino' / Cappuccino Sedge	#1	18" o.c.
	Ea	95	Echinacea x `Balsomrosa` / Sombrero® Rosada Coneflower	#1	24" o.c.
	Ep	21	Eupatorium fistulosum 'JoJo' / JoJo Joe Pye Weed	#1	24" o.c.
	Hr	35	Helleborus x hybridus `RD09` / FrostKiss™ Pippa`s Purple Hellebore	#1	24" o.c.
	Ht	20	Hosta x 'T Rex' / T Rex Hosta	#1	36" o.c.
	Iv	30	Iris versicolor / Blue Flag	#1	24" o.c.
	Ms	19	Matteuccia struthiopteris / Ostrich Fern	#1	36" o.c.
	Pvs	75	Panicum virgatum `Shenandoah` / Shenandoah Switch Grass	#1	24" o.c.
	Pm	10	Physostegia virginiana `Miss Manners` / Miss Manners Obedient Plant	#1	24" o.c.
	Ru	152	Rudbeckia x 'American Gold Rush' / American Gold Rush Coneflower	#1	24" o.c.
	Sc2	63	Salvia nemorosa 'Caradonna' / Cardonna Meadow Sage	#1	24" o.c.
	Ss	293	Schizachyrium scoparium `The Blues` / The Blues Little Bluestem	#2	18" o.c.
	Si	97	Sorghastrum nutans 'Indian Steel' / Indian Steel Indian Grass	#1	24" o.c.

SEED MIXES			
Re	23,812 sf	/ RESTORATION SEED MIX	seed
Sa	12,839 sf	/ DETENTION BASIN SEED MIX	seed
Oc	1,411 sf	/ OPEN CHANNEL SEED MIX	seed
Ws	3,289 sf	/ WILDFLOWER SEED MIX	seed

NORTH

0 30 60 90 120 feet

1" = 30'

PARE

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Bristol, Rhode Island

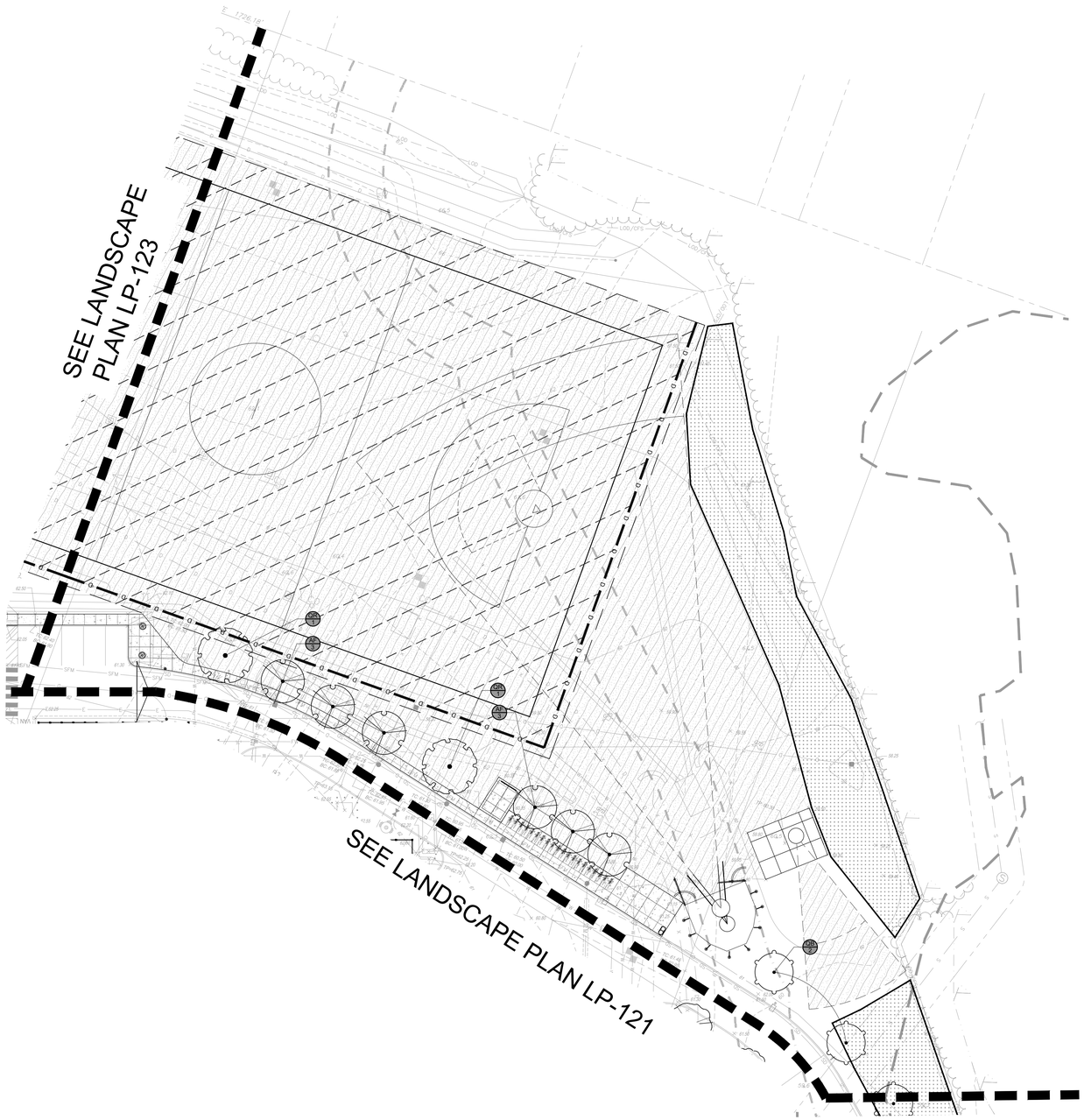
REGISTERED LANDSCAPE ARCHITECT
KEITH MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.: 23099.01
DATE: JUNE 10, 2025
SCALE:
DESIGNED BY: DP
CHECKED BY:
DRAWN BY: EL
APPROVED BY: KB

DRAWING TITLE:
PLANTING PLAN

DRAWING NO.:
LP-121
SHEET NO. 116 OF 159



PLANT SCHEDULE LP-122

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL
TREES					
	AF	6	Acer rubrum 'Frank Jr.' / Redpointe® Maple	B&B	2"-2.5" Cal.
	QB	2	Quercus bicolor / Swamp White Oak	B&B	2"-2.5" Cal.
	QR	2	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
SEED MIXES					
	Re	7,985 sf	/ RESTORATION SEED MIX	seed	

NORTH

0 20 40 60 80 feet

1" = 20'

PARE

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Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KATE MITCHELL SPADNER
No. 428

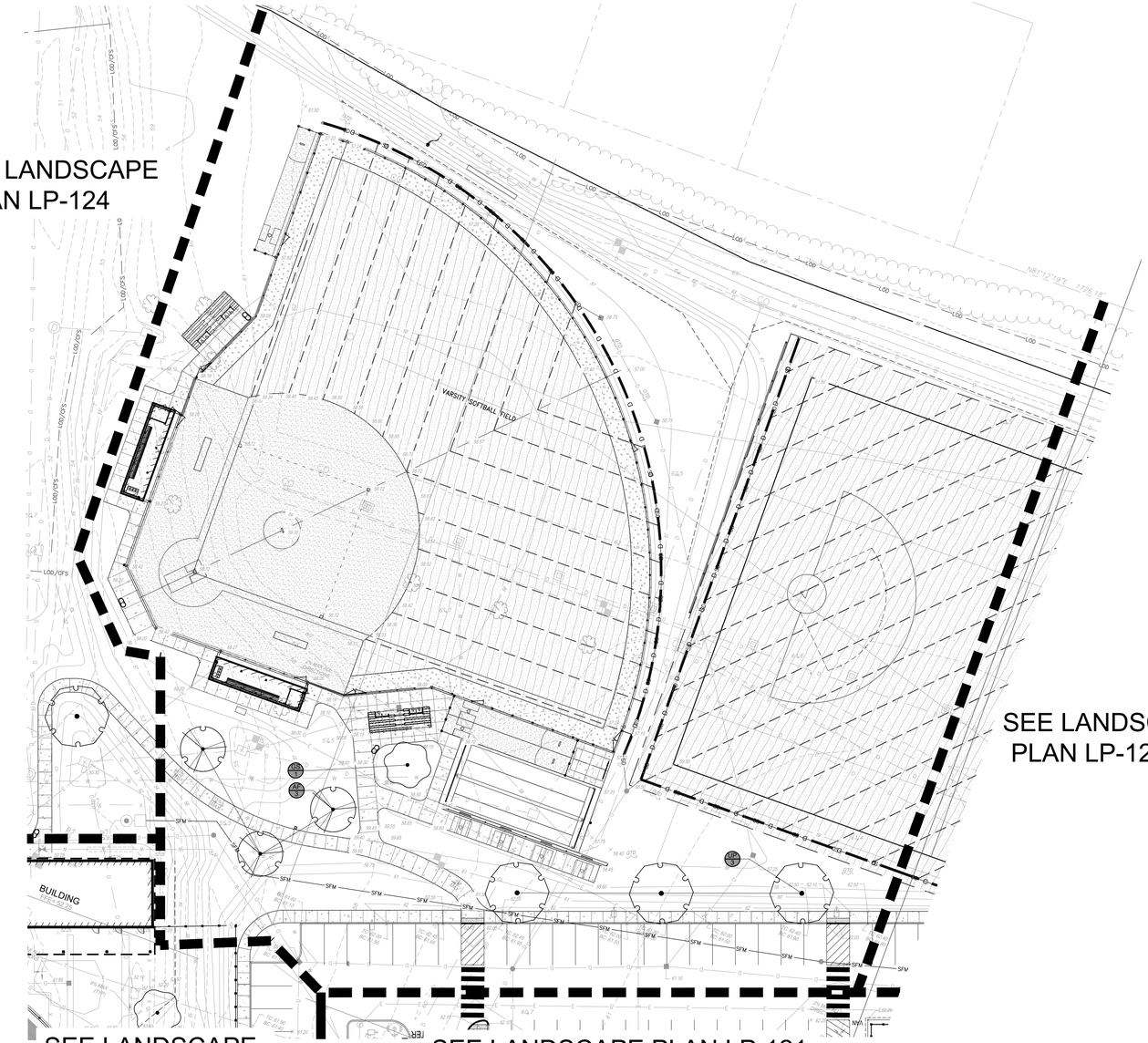
REVISIONS:

PROJECT NO.: 23099.01
DATE: JUNE 10, 2025
SCALE:
DESIGNED BY: DP
CHECKED BY:
DRAWN BY: EL
APPROVED BY: KB

DRAWING TITLE:
PLANTING PLAN

DRAWING NO.:
LP-122
SHEET NO. 117 OF 159

Plotted: 6/10/2025 8:38 AM By: KATE MARCHESSEAULT Xref: Drawing1.dwg, 23099.01 Base.dwg, 23099.01 Topo.dwg, 23099.01 Bldg.dwg



PLANT SCHEDULE LP-123

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL
TREES					
	AF	3	Acer rubrum 'Frank Jr.' / Redpointe® Maple	B&B	2"-2.5" Cal.
	GS	1	Gleditsia triacanthos inermis 'Shademaster' / Shademaster Honey Locust	B&B	2"-2.5" Cal.
	UP	3	Ulmus americana 'Princeton' / Princeton American Elm	B&B	2"-2.5" Cal.

NORTH

0 20 40 60 80 feet

1" = 20'

PARE

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REGISTERED LANDSCAPE ARCHITECT
KIM MITCHELL BRADNER
No. 428

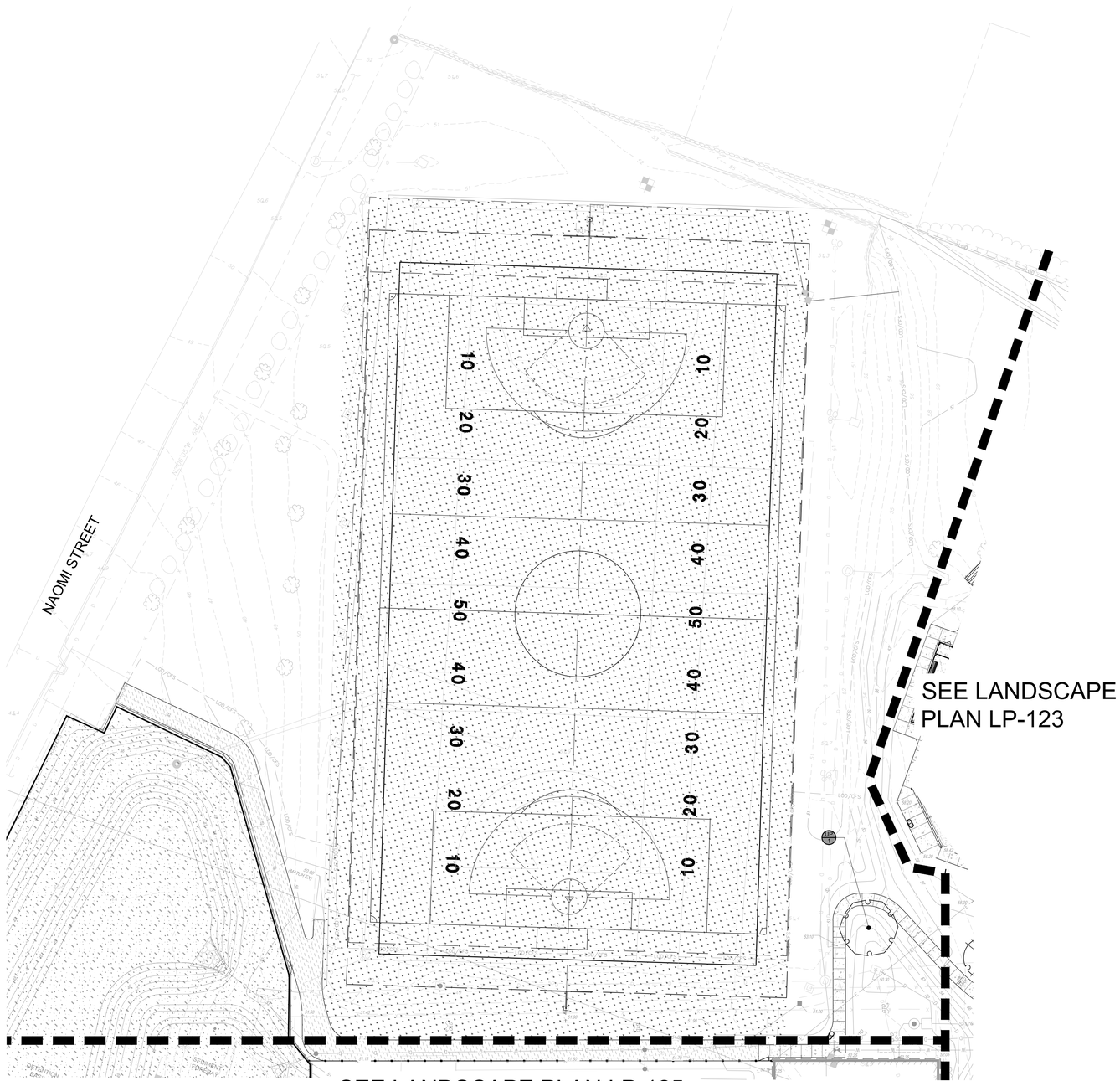
REVISIONS:

PROJECT NO.: 23099.01
DATE: JUNE 10, 2025
SCALE:
DESIGNED BY: DP
CHECKED BY:
DRAWN BY: EL
APPROVED BY: KB

DRAWING TITLE:
PLANTING PLAN

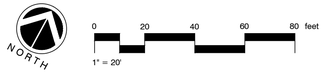
DRAWING NO.:
LP-123
SHEET NO. 118 OF 159

Bradner, Kim on Thu, 06/26/2025 - 08:38 Revit Architecture Student/Faculty - Not Publishable



PLANT SCHEDULE LP-124

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL
TREES					
	UP	1	Ulmus americana 'Princeton' / Princeton American Elm	B&B	2"-2.5" Cal.



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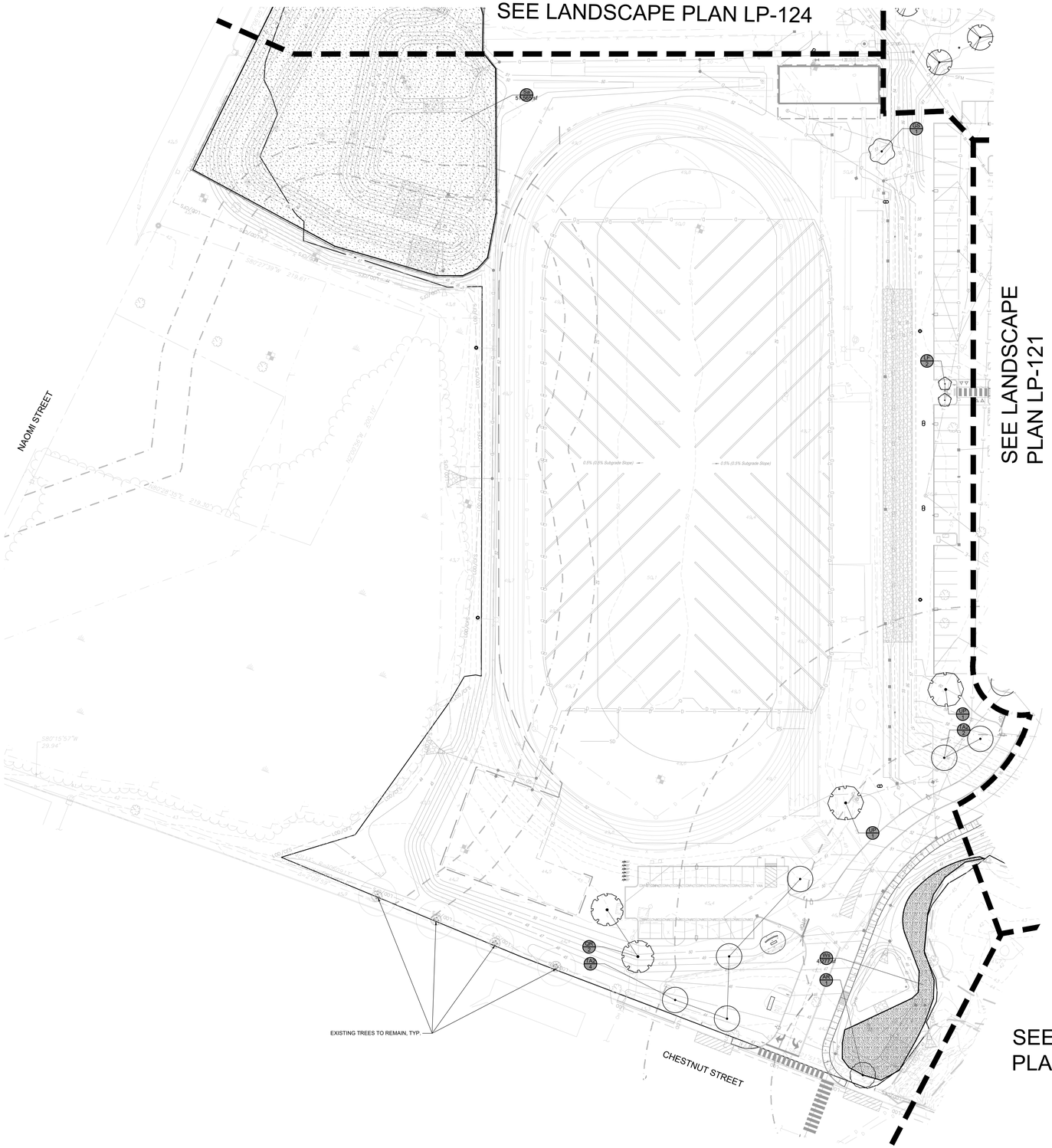
DRAWING TITLE:
PLANTING PLAN

DRAWING NO.:
LP-124

SHEET NO. 119 OF 159



PLANT SCHEDULE LP-125

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME
TREES			
	AR	1	Acer rubrum / Red Maple
	GS	1	Gleditsia triacanthos inermis `Shademaster` / Shademaster Honey Locust
	LF	2	Liriodendron tulipifera 'Fastigiata' / Columnar Tulip Poplar
	QR	2	Quercus rubra / Northern Red Oak
	TA2	6	Tilia americana / American Linden
	UP	2	Ulmus americana 'Princeton' / Princeton American Elm

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME
SEED MIXES			
	Sa	51,565 sf	/ DETENTION BASIN SEED MIX
	Ws	4,277 sf	/ WILDFLOWER SEED MIX

NORTH

0 20 40 60 80 feet

1" = 20'

PARE

OWNER/APPLICANT:
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Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KATE MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
PLANTING PLAN

DRAWING NO.:
LP-125

SHEET NO. 120 OF 159

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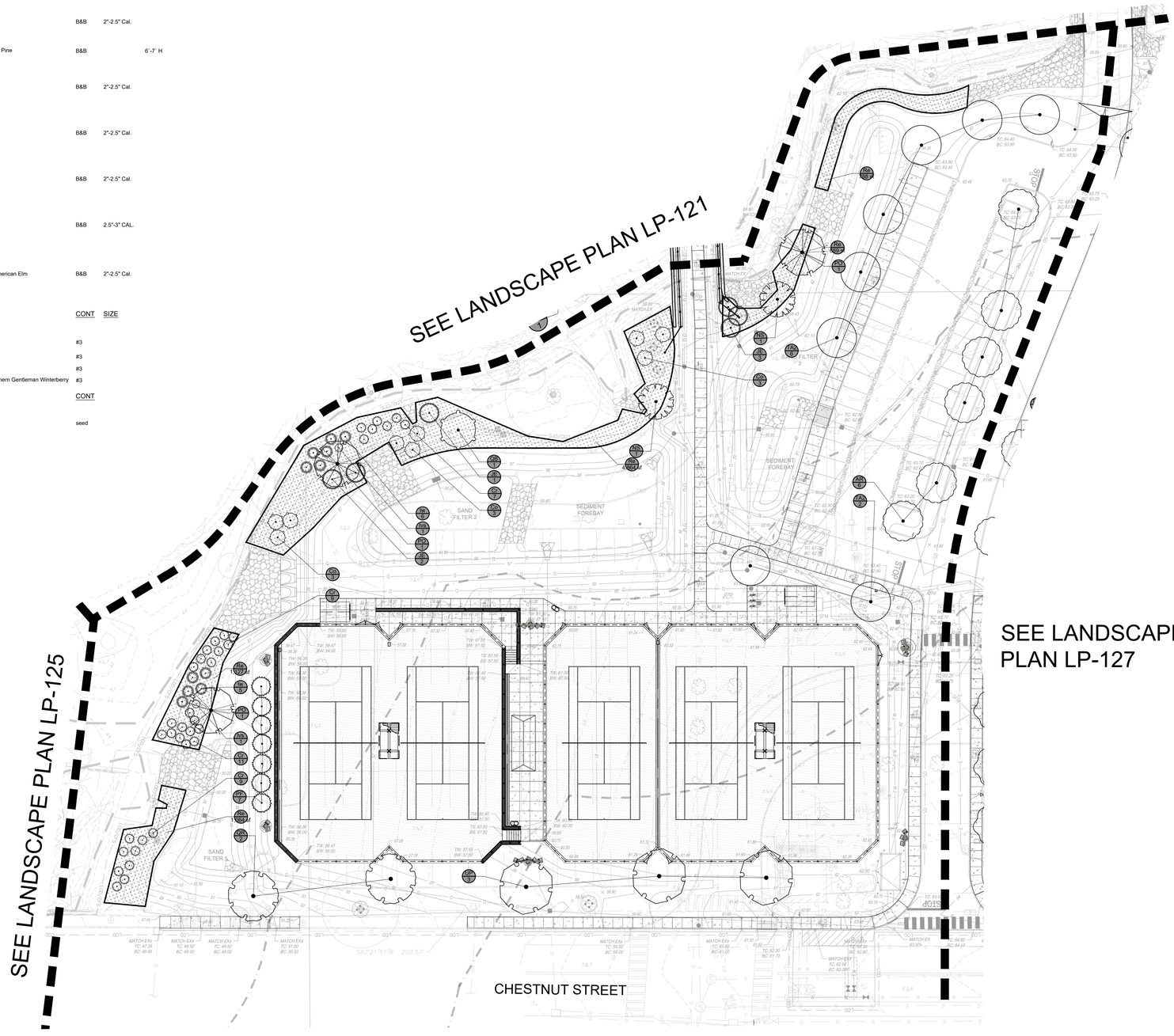
PLANT SCHEDULE LP-126

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES						
	AR	6	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
	JE	6	Juniperus virginiana / Eastern Redcedar	B&B		7'-8' H
	NS	2	Nyssa sylvatica / Tupelo	B&B	2"-2.5" Cal.	
	PF	7	Pinus strobus 'Fastigiata' / Pyramidal White Pine	B&B		6'-7' H
	PO	3	Platanus occidentalis / American Sycamore	B&B	2"-2.5" Cal.	
	QB	1	Quercus bicolor / Swamp White Oak	B&B	2"-2.5" Cal.	
	QR	2	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.	
	TA2	8	Tilia americana / American Linden	B&B	2.5"-3" CAL.	
	UP	3	Ulmus americana 'Princeton' / Princeton American Elm	B&B	2"-2.5" Cal.	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS					
	Co	9	Cephalanthus occidentalis / Buttonbush	#3	
	Cr	36	Cornus sericea / Red Twig Dogwood	#3	
	Iw	11	Ilex verticillata / Winterberry	#3	
	Ivs	2	Ilex verticillata 'Southern Gentleman' / Southern Gentleman Winterberry	#3	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT
SEED MIXES				
	Re	8,512 sf	/ RESTORATION SEED MIX	seed



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REGISTERED LANDSCAPE ARCHITECT
MITCHELL BRADNER
No. 428

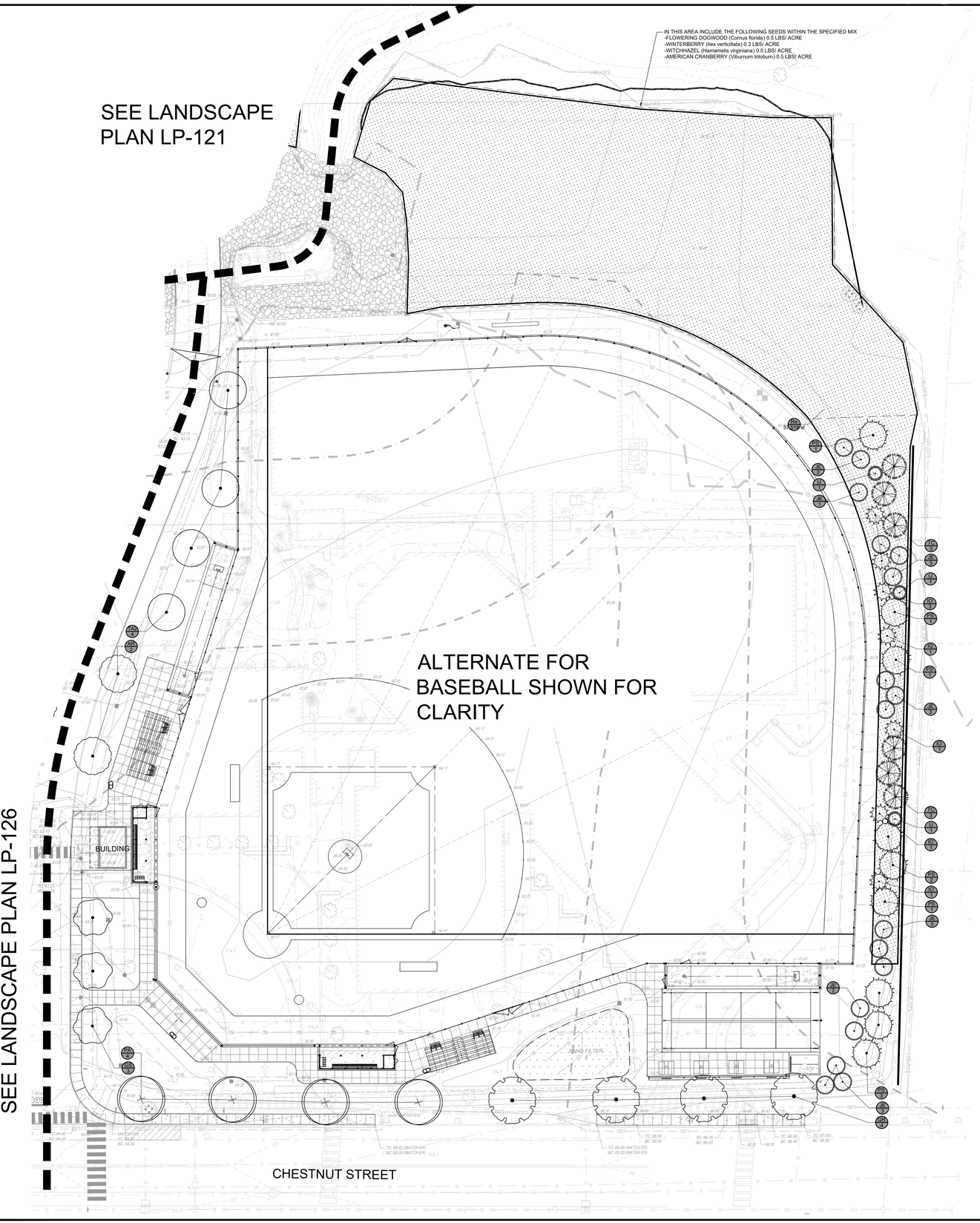
REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
PLANTING PLAN

DRAWING NO.:
LP-126
SHEET NO. 121 OF 159

Item C1.



PLANT SCHEDULE LP-127

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES						
	AR	2	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
	GS	3	Gleditsia triacanthos inermis 'Shademaster' / Shademaster Honey Locust	B&B	2"-2.5" Cal.	
	IO	7	Ilex opaca / American Holly	B&B		5'-6' H
	IJ	3	Ilex opaca 'Jersey Knight' / Jersey Knight American Holly	B&B		4'-5' H
	JE	17	Juniperus virginiana / Eastern Redcedar	B&B		7'-8' H
	PS	9	Pinus strobus / White Pine	B&B		8'-10' H
	PA	4	Platanus x acerifolia 'Bloodgood' / Bloodgood London Plane Tree	B&B	2.5"-3" Cal.	
	QR	4	Quercus rubra / Northern Red Oak	B&B	2"-2.5" Cal.	
	TA2	4	Tilia americana / American Linden	B&B	2.5"-3" CAL.	
	TC	6	Tsuga canadensis / Eastern Hemlock	B&B		7'-8' H

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
SEED MIXES					
	Re	37,518 sf	/ RESTORATION SEED MIX	seed	

NORTH

0 20 40 60 80 feet

1" = 20'

PARE

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REGISTERED LANDSCAPE ARCHITECT
KRIS MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
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APPROVED BY:	KB

DRAWING TITLE:
PLANTING PLAN

DRAWING NO.:
LP-127

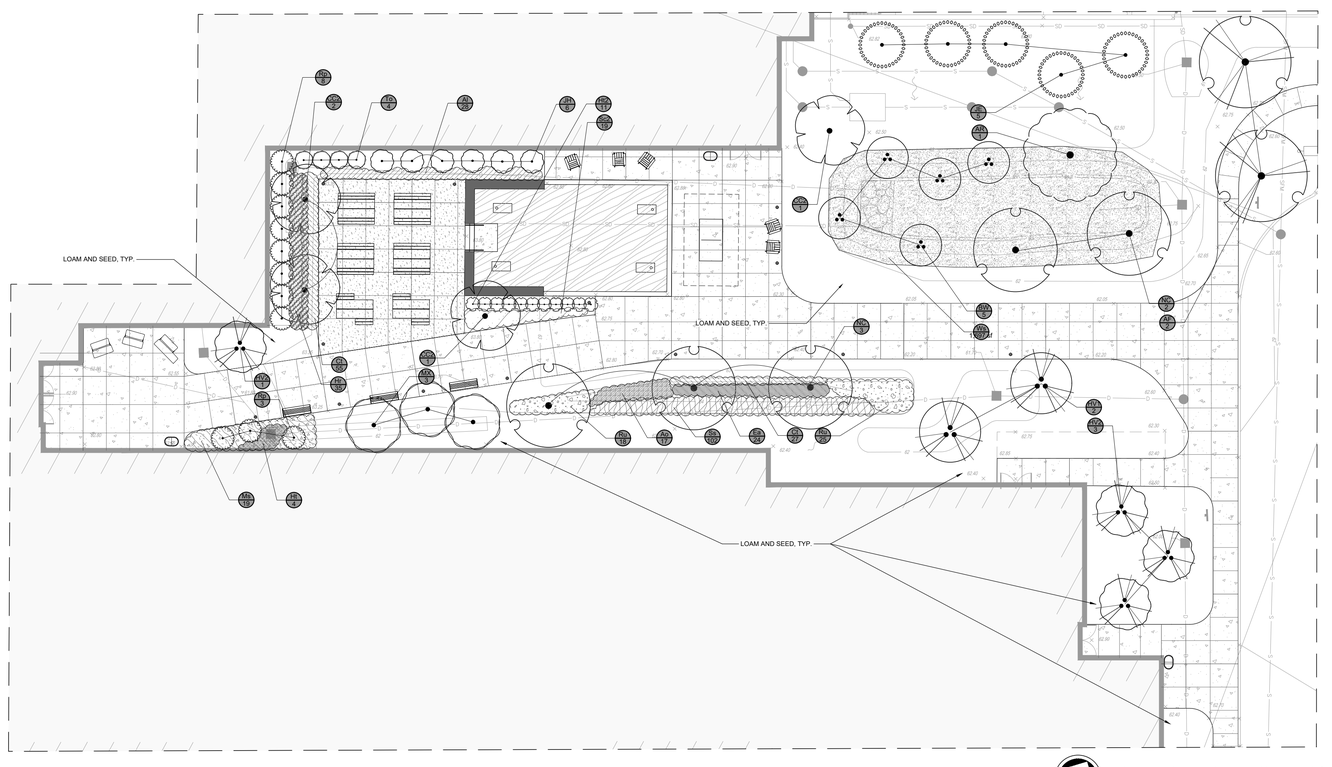
SHEET NO. 122 OF 159

PLANT SCHEDULE LP-141

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES						
	AR	1	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
	AF	2	Acer rubrum 'Frank Jr.' / Redpointe® Maple	B&B	2"-2.5" Cal.	
	BW	5	Betula populifolia 'Whitespire' / Whitespire Gray Birch	#7		6`-7` H
	CC2	4	Cercis canadensis / Eastern Redbud	B&B	2"-2.5" Cal.	
	HV2	4	Hamamelis vernalis / Ozark Witchhazel	Multi-stem B&B		6`-7` H
	HV1	2	Hamamelis virginiana / Common Witch Hazel	Multi-stem B&B		7`-8` H
	JH	6	Juniperus chinensis 'Hetzii' / Hetzi Juniper	B&B		6`-7` H
	JE	5	Juniperus virginiana / Eastern Redcedar	B&B		7`-8` H
	MX	3	Magnolia x 'Jane' / Jane Magnolia	B&B	2.5"-3" CAL.	
	NC	5	Nyssa sylvatica `Northern Splendor` / Northern Splendor Tupelo	B&B	2.5"-3"	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS					
	Ht2	11	Hydrangea serrata `MAK20` / Tuff Stuff™ Hydrangea	#5	
	Rp	11	Rhododendron x 'Purple Gem' / Purple Gem Rhododendron	#5	2`-3` H
	To	4	Thuja occidentalis `Hetz Midget` / Hetz`s Midget Arborvitae	#5	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
PERENNIALS/GRASSES					
	Al	28	Anemone x hybrida 'Lucky Charm' / Lucky Charm Japanese Anemone	#1	24" o.c.
	Ao	17	Aster oblongifolius `Raydon`s Favorite` / Raydon`s Favorite Fall Aster	#1	24" o.c.
	Ct	82	Carex tenuiculmis 'Cappuccino' / Cappuccino Sedge	#1	18" o.c.
	Ea	24	Echinacea x `Balsomrosa` / Sombrero® Rosada Coneflower	#1	24" o.c.
	Hr	35	Helleborus x hybridus `RD09` / FrostKiss™ Pippa`s Purple Hellebore	#1	24" o.c.
	Ht	4	Hosta x 'T Rex' / T Rex Hosta	#1	36" o.c.
	Ms	19	Matteuccia struthiopteris / Ostrich Fern	#1	36" o.c.
	Ru	43	Rudbeckia x 'American Gold Rush' / American Gold Rush Coneflower	#1	24" o.c.
	Sc2	19	Salvia nemorosa 'Caradonna' / Cardonna Meadow Sage	#1	24" o.c.
	Ss	102	Schizachyrium scoparium `The Blues` / The Blues Little Bluestem	#2	18" o.c.
SEED MIXES					
	Ws	1,697 sf	/ WILDFLOWER SEED MIX	seed	



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Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KIMBERLY MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
ENLARGEMENT PLAN

DRAWING NO.:
LP-141
SHEET NO. 123 OF 159

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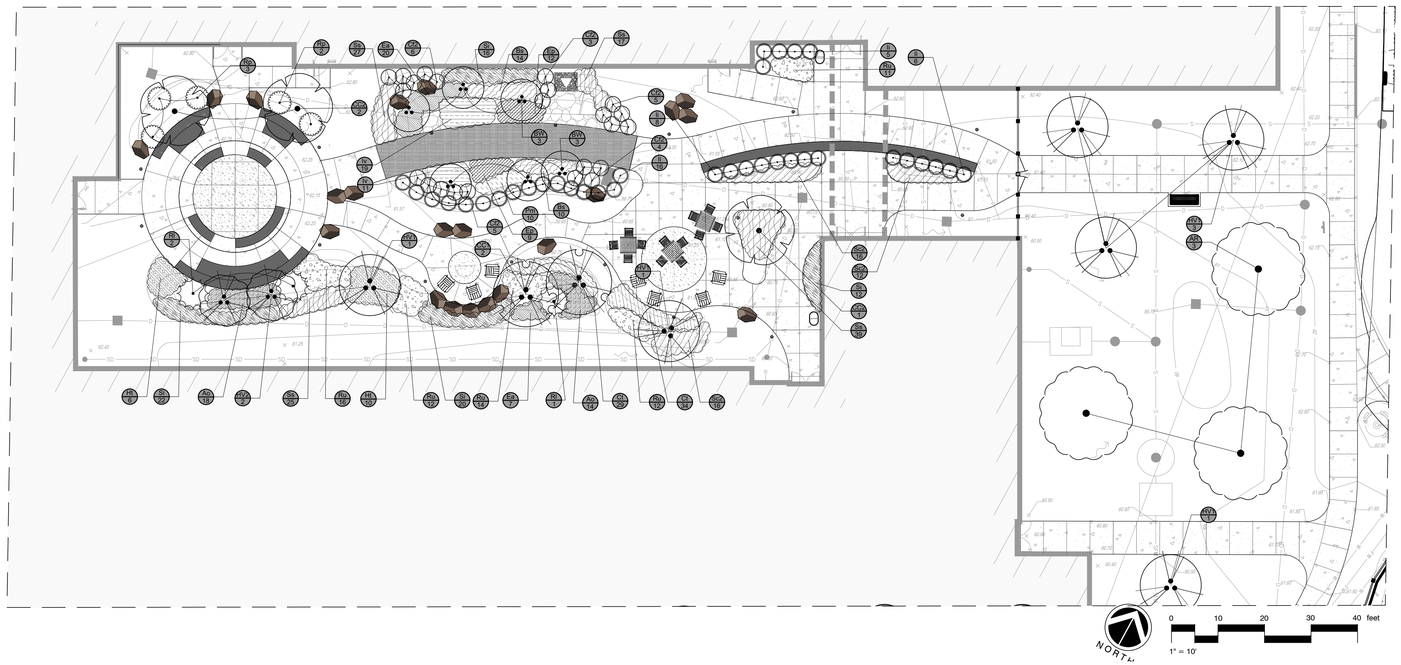
PLANT SCHEDULE LP-142

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
TREES						
	AR	3	Acer rubrum / Red Maple	B&B	2"-2.5" Cal.	
	BW	6	Betula populifolia 'Whitespire' / Whitespire Gray Birch	#7		6'-7' H
	CC2	3	Cercis canadensis / Eastern Redbud	B&B	2"-2.5" Cal.	
	CC1	2	Cercis canadensis 'Forest Pansy' / Forest Pansy Eastern Redbud	Multi-stem B&B	2"-2.5" Cal.	
	HV2	2	Hamamelis vernalis / Ozark Witchhazel	Multi-stem B&B		6'-7' H
	HV1	6	Hamamelis virginiana / Common Witch Hazel	Multi-stem B&B		7'-8' H

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
SHRUBS					
	Cf2	23	Cornus sericea 'Farrow' / Arctic Fire® Red Twig Dogwood	#3	
	Ii	35	Ilex glabra 'Compacta' / Compact Inkberry	#5	
	Rl	3	Rhododendron x `Lee`s Dark Purple / Lee`s Dark Purple Rhododendron	B & B	2`-3` H
	Rp	5	Rhododendron x 'Purple Gem' / Purple Gem Rhododendron	#5	2`-3` H

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
PERENNIALS/GRASSES					
	Ao	32	Aster oblongifolius `Raydon`s Favorite` / Raydon`s Favorite Fall Aster	#1	24" o.c.
	Bs	24	Boltonia asteroides 'Snowbank' / Snowbank False Aster	#1	24" o.c.
	Ct	63	Carex tenuiculmis "Cappuccino" / Cappuccino Sedge	#1	18" o.c.
	Ea	27	Echinacea x `Balsomrosa` / Sombrero® Rosada Coneflower	#1	24" o.c.
	Ep	21	Eupatorium fistulosum 'JoJo' / JoJo Joe Pye Weed	#1	24" o.c.
	Ht	16	Hosta x 'T Rex' / T Rex Hosta	#1	36" o.c.
	Iv	30	Iris versicolor / Blue Flag	#1	24" o.c.
	Pm	10	Physostegia virginiana `Miss Manners` / Miss Manners Obedient Plant	#1	24" o.c.
	Ru	65	Rudbeckia x 'American Gold Rush' / American Gold Rush Coneflower	#1	24" o.c.
	Sc2	44	Salvia nemorosa 'Caradonna' / Cardonna Meadow Sage	#1	24" o.c.
	Ss	108	Schizachyrium scoparium `The Blues` / The Blues Little Bluestem	#2	18" o.c.
	Si	70	Sorghastrum nutans 'Indian Steel' / Indian Steel Indian Grass	#1	24" o.c.



PARE

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL
SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

TRAVERSE
landscape architects
150 Chestnut Street, 4th Floor
Providence, RI 02903
401-383-4950
www.traversela.com

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON
ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island

REGISTERED LANDSCAPE ARCHITECT
KEITH MITCHELL BRADNER
No. 428

REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
ENLARGEMENT
PLAN

DRAWING NO.:
LP-142
SHEET NO. 124 OF 159

Plotted: 6/10/2025 8:55:55 AM By: Elise Lamb
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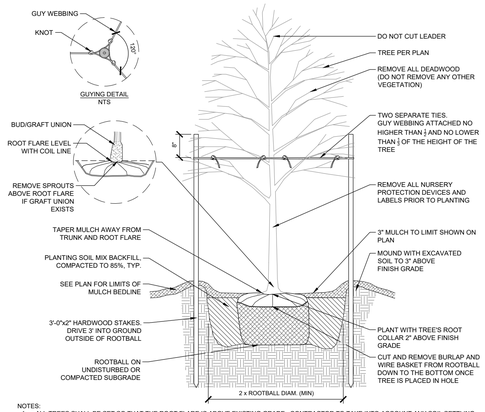
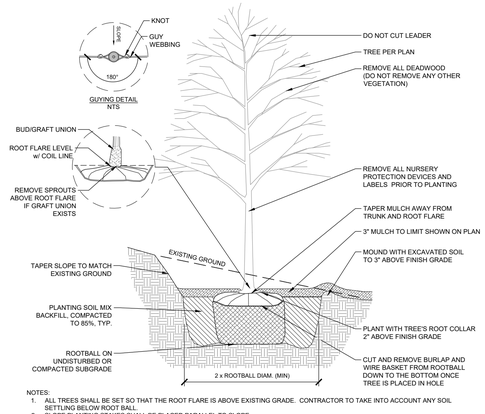


NOTES:
1. ALL TREES SHALL BE SET SO THAT THE ROOT FLARE IS ABOVE EXISTING GRADE. CONTRACTOR TO TAKE INTO ACCOUNT ANY SOIL SETTLING BELOW ROOT BALL.
2. AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.
3. ALL TREES NOT LOCATED WITHIN A LARGER MULCHED PLANTING BED SHALL RECEIVE A 5' DIAMETER MULCH BED AROUND THE BASE OF THE TREE. IN NO INSTANCE SHALL MULCH BE PILED UP AROUND THE ROOT FLARE.

1 DECIDUOUS TREE PLANTING AND STAKING
3/4" = 1'-0"



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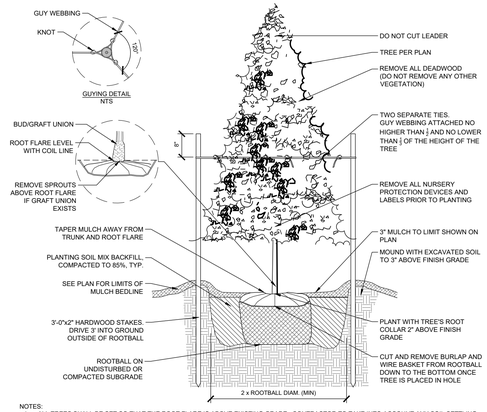

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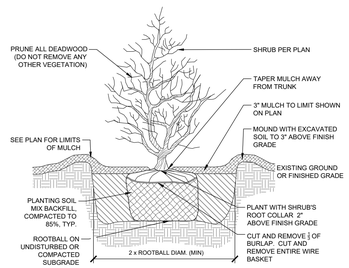
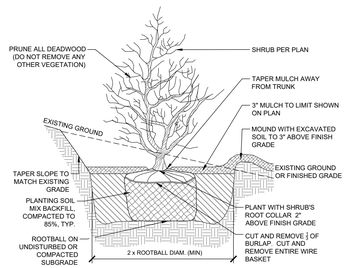
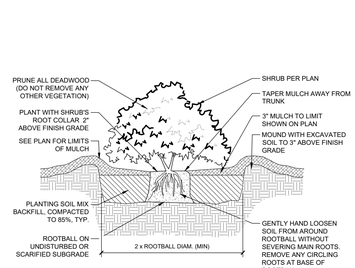
3 EVERGREEN TREE PLANTING AND STAKING
3/4" = 1'-0"



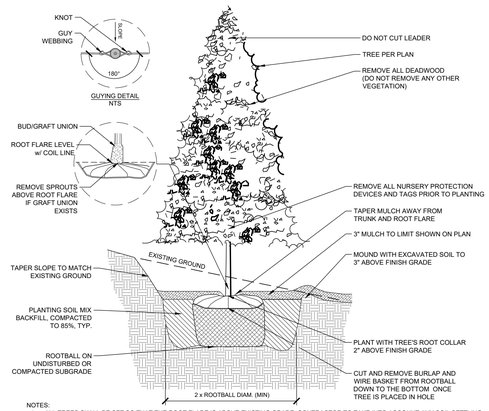
5 SHRUB PLANTING
1" = 1'-0"



6 SHRUB PLANTING ON SLOPE
1" = 1'-0"



7 CONTAINER GROWN SHRUB PLANTING
1" = 1'-0"



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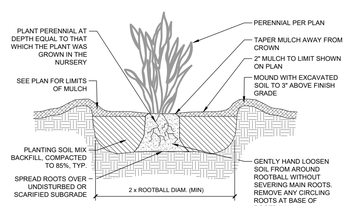
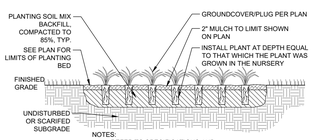
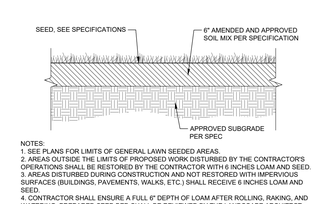


8 GRASS OR PERENNIAL PLANTING
1" = 1'-0"



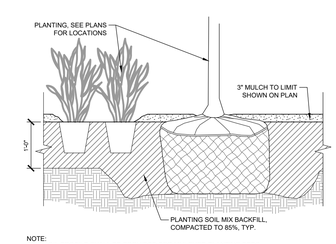
NOTES:
1. REFER TO SPECIFICATIONS AND DETAILS FOR SOIL DEPTHS.

9 GROUNDCOVER & PLUG PLANTING
1" = 1'-0"



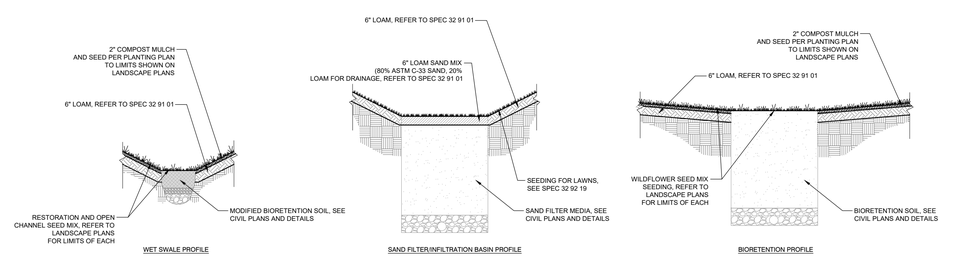
NOTES:
1. SEE PLANS FOR LIMITS OF GENERAL LAWN SEEDED AREAS.
2. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR WITH 6 INCHES LOAM AND SEED.
3. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED.
4. CONTRACTOR SHALL ENSURE A FULL 6" DEPTH OF LOAM AFTER ROLLING, RAKING, AND WATERING. PREPARED SEED BED SHALL BE REVIEWED BY THE LANDSCAPE ARCHITECT PRIOR TO SEEDING ACTIVITIES.

10 LOAM & SEED
1" = 1'-0"



NOTE:
THIS SOIL PROFILE SHALL BE PROVIDED FOR MULCHED PLANTING BEDS.

11 SOIL PROFILE FOR PLANTING BEDS
1" = 1'-0"



12 INFILTRATION BASIN, SAND FILTER, WET SWALE AND BIORETENTION SURFACE PROFILES
3/8" = 1'-0"

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PARE

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BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
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TRAVERSE
landscape architects
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0" 1"
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MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSORS PLAT 12, LOTS 3, 4, 5, 6 & 7
Bristol, Rhode Island



REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 10, 2025
SCALE:	
DESIGNED BY:	DP
CHECKED BY:	
DRAWN BY:	EL
APPROVED BY:	KB

DRAWING TITLE:
ENLARGEMENT PLAN

DRAWING NO.:
LP-301
SHEET NO. 125 OF 159



1 Photometrics - Area A
SCALE: 1" = 40'-0"
0 20' 40' 80' 120' 160'

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
PARKING1	+	2.5 fc	5.2 fc	0.6 fc	8.7:1	4.2:1
PARKING2	+	2.3 fc	5.7 fc	0.5 fc	11.4:1	4.6:1
ROAD	+	1.9 fc	5.5 fc	0.2 fc	27.5:1	9.5:1
PARKING		2.4 fc	5.7 fc	0.5 fc	11.4:1	4.7:1

ELECTRICAL SITE NOTES

A DO NOT SCALE FROM ELECTRICAL DRAWINGS. FIELD VERIFY REQUIRED DIMENSIONS AND COORDINATE WITH CIVIL DRAWINGS AND SURVEYS.

B REFER ALSO TO ALL OTHER PLANS AND THE SPECIFICATION, BUT ESPECIALLY TO: THE SITE SURVEY, THE ARCHITECTURAL SITE PLAN, THE SITE GRADING PLAN, THE PLANTING PLAN (WHERE AVAILABLE), FOUNDATION PLAN(S), APPROPRIATE MECHANICAL & ELECTRICAL FLOOR PLANS FOR SERVICE CONTINUATIONS, THE SITE UTILITY PLAN - MECHANICAL & ELECTRICAL. WHERE THERE ARE CONFLICTS AMONG THESE PLANS AND/OR RELATED SPECIFICATIONS, ADVISE THESE ENGINEERS AT LEAST TEN DAYS PRIOR TO SUBMISSION OF BIDS.

C ALL FEES AND ANY OTHER COSTS TO UTILITY COMPANIES, MUNICIPALITIES, INSPECTORS, REVIEWING AGENCIES, ETC. ARE TO BE INCLUDED AS A PART OF THIS CONTRACT.

D FEDERAL, STATE, LOCAL, MUNICIPALITY AND UTILITY COMPANY CODES, RULES, REGULATIONS AND REQUIREMENTS APPLY UNLESS EXCEEDED BY THIS DESIGN.

E WHEN INTERRUPTION OF AN EXISTING UTILITY OR SERVICE IS PLANNED OR OCCURS ACCIDENTALLY, THE CONTRACTOR(S) SHALL WORK CONTINUOUSLY AS NEEDED TO RESTORE SAME PROVIDING PREMIUM TIME AS NEEDED AT NO INCREASE IN THE CONTRACT PRICE.

F LOCATIONS, DEPTHS, MATERIAL TYPES, ELEVATIONS, ETC. OF ALL APPURTENANCES, LINES, BUILDINGS, ETC. INDICATED ON THESE DRAWINGS WERE TAKEN FROM VARIOUS SOURCES, ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO SUBSTANTIAL VARIATION FROM EXISTING CONDITIONS, EXISTING UTILITIES LOCATIONS MAY VARY. CONSEQUENTLY ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND/OR LOCAL RULES, REGULATIONS, STANDARDS AND SAFETY REQUIREMENTS.

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H UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY. IF ANY VARIATION OCCURS, CONSULT THE ENGINEER. CONTRACTOR SHALL VISIT THE SITE AND FIELD VERIFY THE ROUTING OF ALL UTILITIES NEW AND EXISTING PRIOR TO SUBMISSION OF BIDS. SUBMISSION OF A BID PROPOSAL INDICATES THAT THE CONTRACTOR IS FULLY AWARE OF ALL OBSTRUCTIONS AND WILL INSTALL ALL OF THE NEW UTILITIES WITHOUT REQUESTS FOR ANY ADDITIONAL CHANGES.

I PROVIDE GALVANIZED RIGID CONDUIT FOR EXTERIOR UNDERGROUND TRANSITIONS TO ABOVE GRADE; EXTEND CONDUIT A MINIMUM OF 6" ABOVE GRADE.

J CONTRACTOR SHALL PERFORM A SMOKE TEST ON ALL CONDUITS INSTALLED ON SITE AND SHALL TAKE ALL NECESSARY CORRECTIVE ACTION IF NOT FOUND IN COMPLIANCE WITH FACILITY STANDARDS.

K CONTRACTOR SHALL CONTACT ENGINEER FOR INSPECTION OF TRENCHES PRIOR TO INSTALLATION OF CONDUITS OR RACEWAYS. PROVIDE PHOTOS UPON REQUEST.

L CONTRACTOR SHALL CUT AND PATCH ALL PAVEMENT, CURBING, ETC. AS REQUIRED FOR WORK. CONTRACTOR SHALL REPAIR ALL LANDSCAPING THAT IS DAMAGED FOR WORK, FINISH GRADE, SEED AND STRAW ALL DISTURBED GREEN SPACES. ALL PATCH AND REPAIR WORK SHALL BE IN ACCORDANCE WITH BOTH CIVIL AND LANDSCAPE DRAWINGS AND SPECIFICATIONS.

M COORDINATE UNDERGROUND ELECTRICAL WITH ALL LANDSCAPING AND FENCING. ADJUST ELECTRICAL LINES TO AVOID CONFLICTS. REFER TO LANDSCAPING PLANS FOR FURTHER INFORMATION. AVOID ROUTING UNDERGROUND CONDUITS UNDER ROADWAYS OR PARKING LOTS, CROSS ROADWAYS WITH UNDERGROUND CONDUITS AT 90 ANGLES WHERE POSSIBLE.

N PLANNED INTERRUPTION OF ANY SERVICE SHALL BE COORDINATED WITH THE APPROPRIATE MUNICIPALITY OR UTILITY COMPANY, THE ARCHITECT, AND THE BUILDING OPERATORS AT LEASTE ONE WEEK IN ADVANCE OF ANTICIPATED INTERRUPTION. A SCHEDULE FOR THESE OUTAGES SHALL BE DEVELOPED AND AGREED UPON BETWEEN THE PARTIES MENTIONED TO AVOID UNNECESSARY INCONVENIENCE TO THE OWNER OR ANY AFFECTED PARTY. NOTIFY THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED FROM THEM AT LEAST TWO WEEKS IN ADVANCE IN WRITING AND INSURE THAT THEY DO NOT DELAY WORK.

O THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE DRAWINGS ARE APPROXIMATE ONLY.

P THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY EXCAVATION WORK REQUIRED TO LOCATE UNDERGROUND UTILITIES. THE CONTRACTOR IS ALSO REQUIRED TO NOTIFY ANY OTHER AFFECTED UTILITY OWNERS PRIOR TO DIGGING. IN THE EVENT OF ACCIDENTAL INTERRUPTION OF SERVICE, CONTRACTOR WILL IMMEDIATELY NOTIFY THE OTHER UTILITY OWNERS.

Q THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD OTHER EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE OTHER UTILITIES. THE UTILITY WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT.

R CONTRACTOR SHALL PAY ALL TAP FEES, UTILITY COST, UTILITY CONNECTION COSTS, METER FEES, EXTENSION AND DEVELOPMENT CHARGES. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

S CONTRACTOR RESPONSIBLE FOR MAINTAINING DOWNSTREAM SERVICE FROM REMOVED EQUIPMENT ON SITE, INCLUDING BUT NOT LIMITED TO SITE LIGHTING, TRANSFORMERS, ETC

T WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE CONTRACTOR SHALL ENSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE CIRCUITS SHALL REMAIN IN "PRE-DEMOLITION" WORKING ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN, BE SWITCHED TO OFF POSITION, AND BE LABELED AS SPARES IN THEIR PANELS. PROVIDE NEW TYPEWRITTEN DIRECTORIES FOR ALL PANELS AFFECTED.

U REMOVE ALL ASSOCIATED BACKBOXES, CONDUIT AND CONDUCTORS FOR DEVICES/FIXTURES/ETC. BEING REMOVED (BACK TO SOURCE), WHETHER INDICATED OR NOT (UON).

V COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH OWNER. TURN OVER ITEMS REMOVED TO OWNER AT THEIR OPTION.

W COORDINATE WITH OTHER TRADES FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL DEVICES AND CONNECTIONS ASSOCIATED WITH THEIR EQUIPMENT.

X REFER TO DRAWING G-001.1 FOR DESCRIPTION OF ALL ALTERNATES.

Y PROVIDE 2#8 & 1#10G IN 1" CONDUIT FOR ALL BRANCH CIRCUITS U.O.N.

CMTA

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BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

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ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

ROBERT HANS
No. 13915
REGISTERED PROFESSIONAL ENGINEER ELECTRICAL

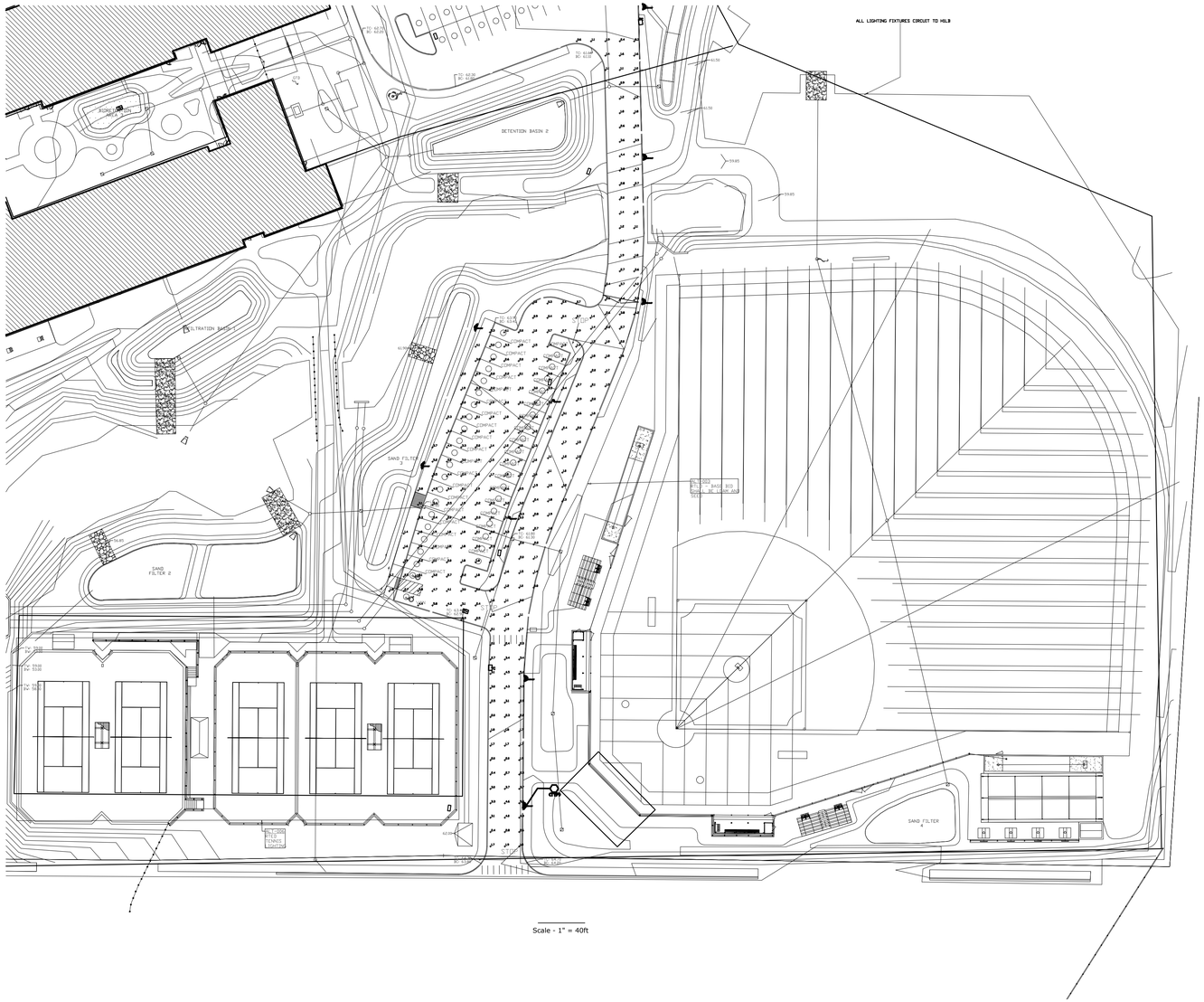
REVISIONS:

PROJECT NO.:	23099.01
DATE:	JUNE 23, 2025
SCALE:	
DESIGNED BY:	ACB
CHECKED BY:	
DRAWN BY:	AKL
APPROVED BY:	

DRAWING TITLE:
PHOTOMETRICS - AREA A

DRAWING NO.:
E-101A
SHEET NO. 145 OF 159

Autodesk Docs://Bristol Warren/BWK23-01 - Bristol Warren - Mount Hope HS_CMTA_Central.RVT - 2023.rvt
6/23/2025 3:17:55 PM



Scale - 1" = 40ft

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Road	+	2.2 fc	5.5 fc	0.4 fc	13.8:1	5.5:1
Parking Lot	+	1.9 fc	5.5 fc	0.1 fc	55.0:1	19.0:1

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F LOCATIONS, DEPTHS, MATERIAL TYPES, ELEVATIONS, ETC. OF ALL APPURTENANCES, LINES, BUILDINGS, ETC. INDICATED ON THESE DRAWINGS WERE TAKEN FROM VARIOUS SOURCES, ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO SUBSTANTIAL VARIATION FROM EXISTING CONDITIONS, EXISTING UTILITIES LOCATIONS MAY VARY. CONSEQUENTLY ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND/OR LOCAL RULES, REGULATIONS, STANDARDS AND SAFETY REQUIREMENTS.

G PROVIDE LONG RADIUS ELBOWS FOR UNDERGROUND CONDUIT BENDS. WHERE SERVING A UTILITY OWNED TRANSFORMER, THE UTILTY STANDARDS SHALL TAKE PRECEDENCE.

H UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY. IF ANY VARIATION OCCURS, CONSULT THE ENGINEER. CONTRACTOR SHALL VISIT THE SITE AND FIELD VERIFY THE ROUTING OF ALL UTILITIES NEW AND EXISTING PRIOR TO SUBMISSION OF BIDS. SUBMISSION OF A BID PROPOSAL INDICATES THAT THE CONTRACTOR IS FULLY AWARE OF ALL OBSTRUCTIONS AND WILL INSTALL ALL OF THE NEW UTILITIES WITHOUT REQUESTS FOR ANY ADDITIONAL CHANGES.

I PROVIDE GALVANIZED RIGID CONDUIT FOR EXTERIOR UNDERGROUND TRANSITIONS TO ABOVE GRADE; EXTEND CONDUIT A MINIMUM OF 6" ABOVE GRADE.

J CONTRACTOR SHALL PERFORM A SMOKE TEST ON ALL CONDUITS INSTALLED ON SITE AND SHALL TAKE ALL NECESSARY CORRECTIVE ACTION IF NOT FOUND IN COMPLIANCE WITH FACILITY STANDARDS.

K CONTRACTOR SHALL CONTACT ENGINEER FOR INSPECTION OF TRENCHES PRIOR TO INSTALLATION OF CONDUITS OR RACEWAYS. PROVIDE PHOTOS UPON REQUEST.

L CONTRACTOR SHALL CUT AND PATCH ALL PAVEMENT, CURBING, ETC. AS REQUIRED FOR WORK. CONTRACTOR SHALL REPAIR ALL LANDSCAPING THAT IS DAMAGED FOR WORK. FINISH GRADE, SEED AND STRAW ALL DISTURBED GREEN SPACES. ALL PATCH AND REPAIR WORK SHALL BE IN ACCORDANCE WITH BOTH CIVIL AND LANDSCAPE DRAWINGS AND SPECIFICATIONS.

M COORDINATE UNDERGROUND ELECTRICAL WITH ALL LANDSCAPING AND FENCING, ADJUST ELECTRICAL LINES TO AVOID CONFLICTS. REFER TO LANDSCAPING PLANS FOR FURTHER INFORMATION. AVOID ROUTING UNDERGROUND CONDUITS UNDER ROADWAYS OR PARKING LOTS. CROSS ROADWAYS WITH UNDERGROUND CONDUITS AT 90 ANGLES WHERE POSSIBLE.

N PLANNED INTERRUPTION OF ANY SERVICE SHALL BE COORDINATED WITH THE APPROPRIATE MUNICIPALITY OR UTILITY COMPANY, THE ARCHITECT, AND THE BUILDING OPERATORS AT LEASTE ONE WEEK IN ADVANCE OF ANTICIPATED INTERRUPTION. A SCHEDULE FOR THESE OUTAGES SHALL BE DEVELOPED AND AGREED UPON BETWEEN THE PARTIES MENTIONED TO AVOID UNNECESSARY INCONVENIENCE TO THE OWNER OR ANY AFFECTED PARTY. NOTIFY THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED FROM THEM AT LEAST TWO WEEKS IN ADVANCE IN WRITING AND INSURE THAT THEY DO NOT DELAY WORK.

O THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE DRAWINGS ARE APPROXIMATE ONLY.

P THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY EXCAVATION WORK REQUIRED TO LOCATE UNDERGROUND UTILITIES. THE CONTRACTOR IS ALSO REQUIRED TO NOTIFY ANY OTHER AFFECTED UTILITY OWNERS PRIOR TO DIGGING. IN THE EVENT OF ACCIDENTAL INTERRUPTION OF SERVICE, CONTRACTOR WILL IMMEDIATELY NOTIFY THE OTHER UTILITY OWNERS.

Q THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD OTHER EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE OTHER UTILITIES. THE UTILITY WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT.

R CONTRACTOR SHALL PAY ALL TAP FEES, UTILITY COST, UTILITY CONNECTION COSTS, METER FEES, EXTENSION AND DEVELOPMENT CHARGES. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

S THE UTILITY WILL PROVIDE STAKING DATA INCLUDING NORTHING AND EASTING DATA AS REQUIRED OR SHOWN ON DRAWINGS.

T REATTACH ALL TAPS AND TRANSFORMERS AS TO MAINTAIN EXISTING PHASE CONNECTIONS.

U CONTRACTOR RESPONSIBLE FOR MAINTAINING DOWNSTREAM SERVICE FROM REMOVED EQUIPMENT ON SITE, INCLUDING BUT NOT LIMITED TO SITE LIGHTING, TRANSFORMERS, ETC.

V WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE CONTRACTOR SHALL ENSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE CIRCUITS SHALL REMAIN IN "PRE-DEMOLITION" WORKING ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN, BE SWITCHED TO OFF POSITION, AND BE LABELED AS SPARES IN THEIR PANELS. PROVIDE NEW TYPEWRITTEN DIRECTORIES FOR ALL PANELS AFFECTED.

W REMOVE ALL ASSOCIATED BACKBOXES, CONDUIT AND CONDUCTORS FOR DEVICES/FIXTURES/ETC. BEING REMOVED (BACK TO SOURCE), WHETHER INDICATED OR NOT (UON).

X COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH OWNER. TURN OVER ITEMS REMOVED TO OWNER AT THEIR OPTION.

Y COORDINATE WITH OTHER TRADES FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL DEVICES AND CONNECTIONS ASSOCIATED WITH THEIR EQUIPMENT.

TAGGED NOTES

1 LITHONIA EXTERIOR FIXTURE CAT. #DSX1 LED P6 40K 80CRI T5W OR APPROVED EQUAL.

CMTA

OWNER/APPLICANT:
BRISTOL WARREN REGIONAL SCHOOL DISTRICT
235 HIGH STREET
BRISTOL, RI 02809
401-253-4000

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

MT. HOPE HIGH SCHOOL
199 Chestnut Street
ASSESSOR'S PLAT 117, LOTS 3, 4, 5, 6, & 7
Bristol, Rhode Island

ROBERT HANS
No. 13915
REGISTERED PROFESSIONAL ENGINEER ELECTRICAL

REVISIONS:

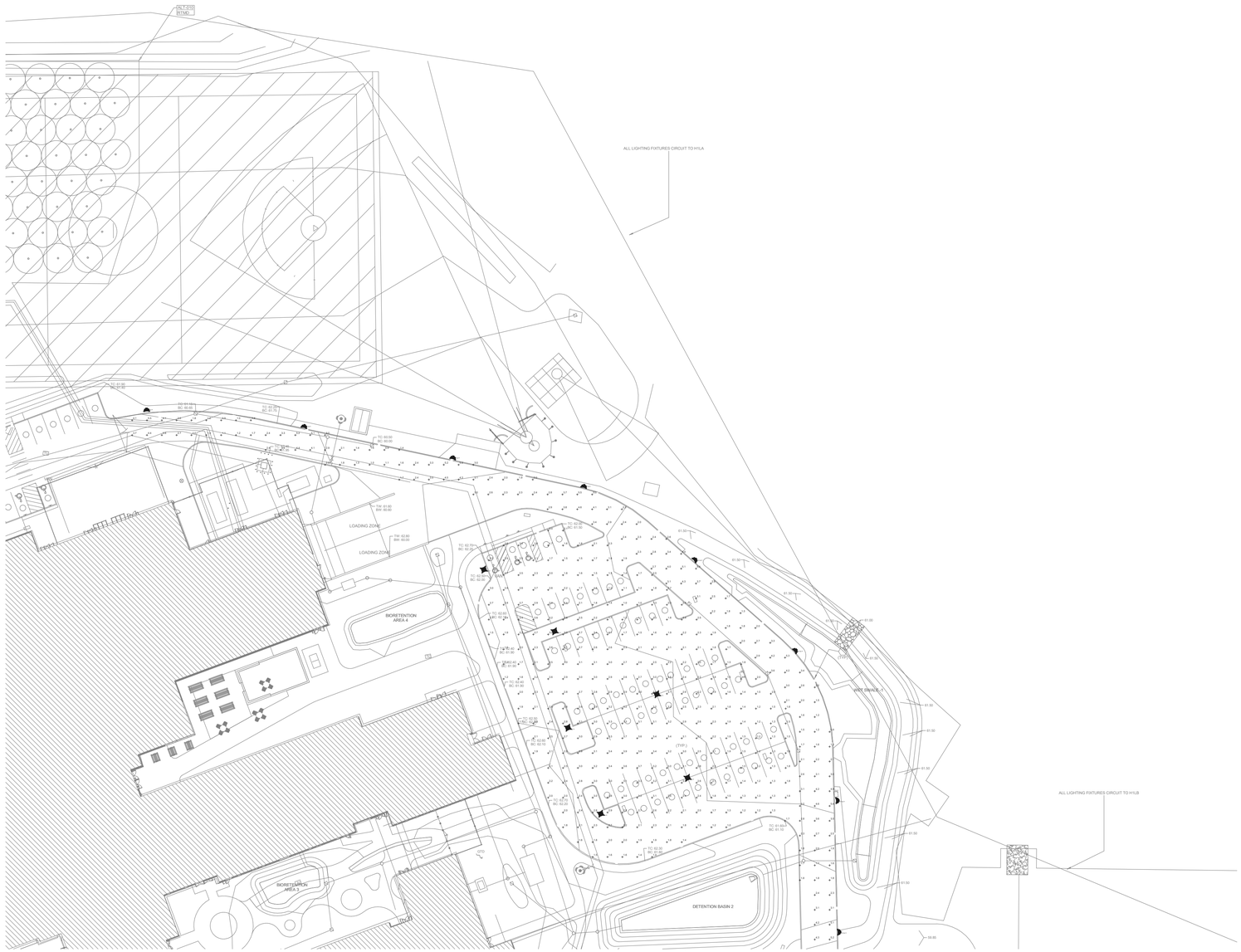
PROJECT NO.:	23099.01
DATE:	JUNE 23, 2025
SCALE:	
DESIGNED BY:	ACB
CHECKED BY:	
DRAWN BY:	AKL
APPROVED BY:	

DRAWING TITLE:
ELECTRICAL SITE PLAN - LIGHTING - B

DRAWING NO.:
E-101B

SHEET NO. 146 OF 159

M:\Projects\Town of Bristol-Warren\BWK23 - Bristol Warren K-12 School Rennovation\01 Mount Hope HS\9 Cad\5 CAD\2025.01.06 Light Pole Location To Traverse\E-1018.dwg


ALT 2/20
R17HO
ALL LIGHTING FIXTURES CIRCUIT TO H1LA
ALL LIGHTING FIXTURES CIRCUIT TO H1LB
LOADING ZONE
LOADING ZONE
BIORETENTION AREA 4
BIORETENTION AREA 5
DETENTION BASIN 2
WET BASIN 1
TW: 61.60
BW: 60.60
TW: 62.80
BW: 60.80
TC: 62.70
BC: 62.20
TC: 62.60
BC: 61.60
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BC: 61.10
TC: 61.60
BC: 61.00
TC: 62.60
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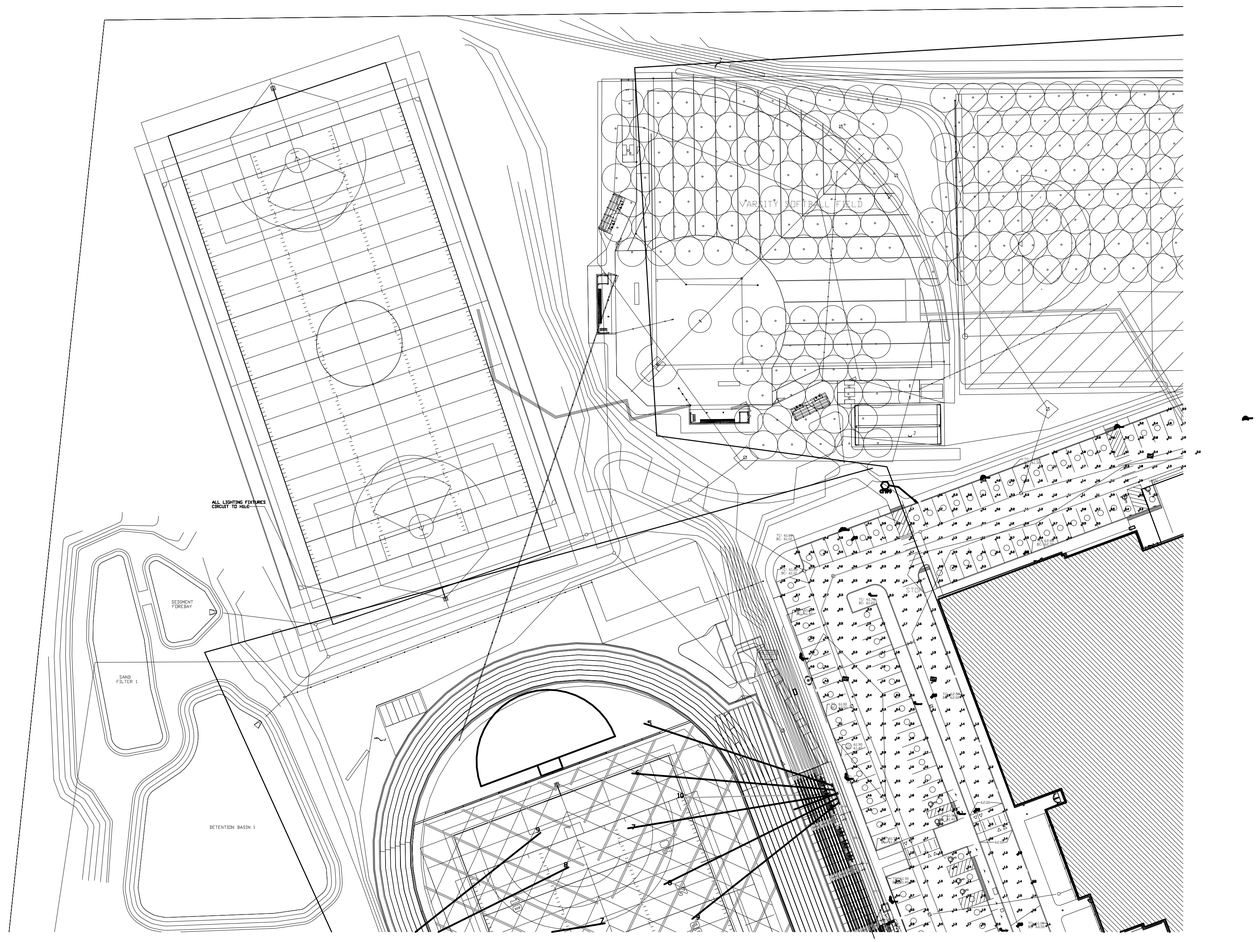
BC: 62.00
TC: 62.60
BC: 62


ALL LIGHTING FIXTURES CIRCUIT TO HALT
SEDIMENT FOREBAY
SAND FILTER 1
DETENTION BASIN 1
VARSITY SOFTBALL FIELD
BASEBALL FIELD
SCHOOL
PARKING
SCHOOL
PARKING
SCHOOL
PARKING

Town of Bristol, Rhode Island

Department of Community Development

10 Court Street
Bristol, RI 02809
bristolri.gov
401-253-7000

June 30, 2025

TO: Planning Board

FROM: Diane M. Wiliamson, Director

RE: Ramos Landscaping Concept Review

The above pre-application/concept review submission is before you for review.

The TRC has met and their meeting notes are attached for your information.

As you know, the Planning Board doesn't take action on a concept review which is intended for the Board to give guidance to the applicant.

Town of Bristol, Rhode Island

Department of Community Development

10 Court Street
Bristol, RI 02809
www.bristolri.gov
401-253-7000

TECHNICAL REVIEW COMMITTEE & PLANNING BOARD MEETING

The meeting was held on **Tuesday, June 17th, 2025** at 10:30 am
at 235 High Street, 1st Floor Conference Room, Department of Community Development
The Technical Review Committee held a meeting for the purpose of review of the application for **Pre-application / Concept Review for a Minor Land Development/Unified Development Proposal for David Ramos to operate and construct a building for a Contract Construction Use in a General Business (GB) zoning district which also requires a Special Use Permit.**

Present for the Town of Bristol:
Diane Williamson, Director of Community Development & TRC member
Edward M. Tanner, Zoning Officer/Principal Planner & TRC member
Stephen Greenleaf, Building Official
Charles Millard, Planning Board Chairman & TRC member
Michael Sousa, Alternate Planning Board member & TRC member
Amy Goins, Town Solicitor
Captain Roman Wozny, BPD
Lt. Medeiros, BPD

Present for the Applicant:
David Ramos, Applicant
Tom Principe, Principe Engineering
Attorney Matt Landry

There was a previous TRC meeting on 7/30/2024.
Matt Landry, attorney for the applicant, summarized the property and recent history, the previous TRC meeting, building & zoning violations, the applicant's appeal to the Zoning Board. The zoning board set a time to apply with the planning board for within 60 days. The Planning board is not in an enforcement role in this application.

Lots 15 & 16 – together or separate – previous zoning certificate: lot 15 to north, lot 16 to south, looking to lawfully permit uses on both properties

Applicant is proposing construction of a new building on lot 16 and continued storage use on lot 15.

Needs a special use permit and development review – unified development.

Plans will comply with zoning dimensional requirement for setbacks and buffers. The only zoning relief needed will be the special use permit to operate contract construction services business in the General Business (GB) zone.

Wetland buffers and boundary delineations were discussed. RIDEM staff have been out to the site recently and there are no concerns.

Reviewed plans submitted with application:
- Proposed 3,500 sq ft building
- Wetlands to east and south, reviewed with RIDEM regulations
- Proposed asphalt paving
- Drainage system: bioretention proposed with full planting plan
- Evergreen plantings & screening on east side between the site and the neighbors, no additional clearing of the property proposed
- 50' setback from Metacom Avenue is maximum, not the minimum so building could be shifted towards Metacom Avenue from what is shown on concept plan

Reviewed the Metacom Avenue overlay requirements: shifting buildings to west towards Metacom will also bring it further from neighbors.

Type of work in the building was discussed.

Existing tent structures on north lot 15 were discussed. They will be removed from the site with construction of the new building.

Parking: proposed one space/1,000 square feet of gross floor area for warehouse use. TRC believes it is a service building use so should be 1/300 square feet per zoning ordinance.

Existing water and sewer service are available at the site. overhead electric.

Applicant will need a wetlands permit from RIDEM and a physical alteration permit from RIDOT.

TRC would like to see a plan for the north lot 15 also to show the uses there and delineate limits of the work. Future plans and limits of disturbance will be set and it will avoid future dispute about what will happen on the property. Show north lot 15 and the extent of the existing buffer of trees – woods are to remain.

Bins for storage of stone and earth material will be placed and provide a more permanent divider.

Applicant discussed planting of a vegetated buffer on both sides of the east property line at lot 16 to help neighbors as neighbors are at a higher elevation. TRC supports this but will need neighbor permission.

Timeframe for work was discussed. Planning board application timeline and process for removal of building violations.

Building code violations requires that the existing tent building on lot 15 come down and that will happen. Applicant will commit to removal of the tent building prior to the July 2025 planning board meeting.

Berm along Metacom Avenue on north lot 15 to remain as a buffer for passing vehicles.

TRC will not require any additional improvements on north lot.

July 10th planning board meeting is target for concept review on the developmental review and special use permit application. TRC discussed the need for concrete dates and deadlines to ensure compliance.

TRC discussed public notice and the need for working with neighbors and providing proper buffers and screening.

RIDEM correspondence regarding wetlands inspection should be submitted also.

Plans should show proposed uses and locations on north lot 15 along with limits of disturbance and locations of earth berms and bins of materials.

Application for a Minor Land Development and unified development could be heard and scheduled for the September 11, 2025 planning board meeting for a public hearing. Preliminary review to be approved by the planning board. Final review to be approved administratively. There is an August 8, 2025 deadline to apply for the September planning board meeting.

Hours of operation & number of employees should be discussed in the application for a special use permit. Revised plan renderings should be submitted that show realistic conditions on the property. Application should include a narrative describing the proposal and proposed activities at the site.

Meeting adjourned at 11:30 am.

Notes by Ed Tanner

BLISH & CAVANAGH LLP
COUNSELLORS AT LAW

Joseph V. Cavanagh, Jr.
William R. Landry
Edmund L. Alves, Jr.
Scott T. Spear
Mary Cavanagh Dunn
Joseph V. Cavanagh, III
Christopher J. O'Connor
Matthew J. Landry

Stephen I. Rosenbaum
Of Counsel

John H. Blish
(1986-2007)

Commerce Center
30 Exchange Terrace
Providence, RI 02903-1765

Tel (401) 831-8900
Fax (401) 751-7542
www.blishcavlaw.com

June 6th, 2025

Diane M. Williamson
Director of Community Development
Town of Bristol
235 High Street
1st Floor
Bristol, RI 02809

RE: Pre-Application Submission; 670-688 Metacom Avenue

Dear Ms. Williamson:

Enclosed please find the Pre-Application Submission on behalf of David Ramos concerning property at 670-688 Metacom Avenue including:

1) Pre-Application Form
2) Pre-Application Checklist;
3) Project Narrative;
4) Five (5) Full-sized plan sets (Principe Engineering)
5) One (1) reduced copy (Principe Plan Set)
6) Architectural Renderings;
7) Supplemental materials as required

Please do not hesitate to contact my office if you require anything additional.

Sincerely,

Matthew J. Landry, Esq.

Project Narrative

The Subject Property consists of two parcels of land situated at 670-688 Metacom Avenue. The properties are more particularly described as Lots 15 and 16 on Town of Bristol Tax Assessor's Plat 12 and are comprised of approximately 1.5 acres (Lot 15) and 31,403 s.f. (Lot 16), respectively. The properties are situated within the General Business (GB) Zoning District and are within the limits of the Metacom Avenue Overlay District. The Owner/Applicants are David Ramos (Lot 15) and Lionel Ramos (Lot 16).

The existing site conditions include use for landscaping materials and equipment storage associated with a landscaping operation situated on Lot 16. The Applicant is proposing to construct a warehouse/garage on Lot 16 to be utilized for equipment storage, office space and supporting uses for the landscaping operation. Lot 15 will continue to be used for landscaping and materials storage as is permitted as a lawful nonconforming use of the property. In conjunction with this Pre-Application Submission, the Applicant and his team have submitted an existing and proposed conditions plan (See Principe Engineering Plan Set dated 6.3.25), to depict the intended use of the site. The Plans conform to the guidelines and parameters set forth in the Metacom Avenue Overlay District, specifically related to landscaping buffers and setbacks, and the Applicant does not anticipate seeking waivers from those regulations.

The purpose of this Pre-Application Submission is to gather feedback and input from the Town and members of the Planning Board prior to moving forward with a formal development plan review application.

APPLICATION FORM AND SUBMISSION CHECKLIST FOR PREAPPLICATION CONFERENCE AND CONCEPT REVIEW

Preapplication Conference - An initial meeting between developers and the Town which affords developers the opportunity to present their proposals informally and to receive comments and directions from the Town and other agencies.

Concept Plan - A drawing with accompanying information showing the basic elements of a proposed land development plan or subdivision as used for pre-application meeting and early discussions, and classification of the project within the approval process.

The following completed application form and Items A, B, and C from the attached checklist shall be submitted to the Administrative Officer for a meeting with the Technical Review Committee (TRC).

Date of Submission _____ TRC Meeting Date_____

APPLICATION FORM

1. Name, address, and telephone number of the property owner:_____
David Ramos (Lot 15); 12 Ruth Avenue, Bristol, RI; Lionel Ramos (Lot 16)9 Scott Ln, Bristol, RI 401-867-1126

2. Name, address and telephone number of the applicant (If different from owner, a written, notarized confirmation from the property owner authorizing the applicant to make this submission shall also be submitted):_____
_____

3. Assessor's plat and lot number(s):AP 128, Lot 15 & 16

4. Zoning district(s), including any special Town or State overlay districts (i.e. Historic District, CRMC Jurisdiction, etc.):GB; Metacom Ave Overlay District

5. Area of the parcel:64,406 (Lot 15); 31,403sf (Lot 16)

6. Proposed number of buildable lots, dwellings or other proposed improvements:1 Building Proposed

7. Name and owner of existing streets or rights-of-way adjacent to the parcel:

Metacom Avenue (State Road)	_____
_____	_____
_____	_____

SUBMISSION CHECKLIST
PREAPPLICATION CONFERENCE AND CONCEPT REVIEW

	Date & Initials of Reviewer
A. Plan of Existing Conditions - Five (5) blueline or photocopies of the subject property no larger than 24" x 36" as it currently exists including locations and dimensions of existing lots if the proposed subdivision constitutes a replat or if the development consists of several lots and all natural features such as existing contours at five (5) foot intervals.	✓
B. Concept Plans - Five (5) blueline or photocopies no larger than 24" x 36" of the concept plan for the development showing, at a minimum, the following information:	
1. Name of proposed subdivision or development;	N/A
2. Name and address of the property owner and applicant;	✓
3. Name, address, and telephone number of preparer;	✓
4. Date plan prepared, with revision date(s) (if any):	✓
5. Graphic scale and north arrow;	✓
6. Assessor's Plat and lot number(s) of the subject property;	✓
7. Zoning district(s) of the subject property. If more than one district, zoning boundary lines must be shown;	✓
8. Perimeter boundary lines of the entire tract under the applicant's ownership;	✓
9. Area of the subject property and proposed number of buildable lots, dwellings or other proposed improvements;	✓
10. Location, names, and pavement and right-of-way widths of existing streets adjacent to the subject property;	✓
11. Names of abutting property owners and property owners immediately across any adjacent streets;	
12. Location and dimension of existing easements and rights-of-way adjacent to or within the subject property, if any;	✓
13. Notation of existing ground cover and approximate location of wooded areas (if any);	✓
14. Approximate location of wetlands, watercourses or coastal features, and other significant natural or manmade features (i.e. stonewalls) within and immediately adjacent to the subdivision parcel, if any;	✓
15. Location and approximate size of existing buildings on or immediately adjacent to the subject property, if any; including, historic designation, if applicable;	✓
16. Proposed improvements including streets, lots, lot lines with approximate lot areas and dimensions and building envelopes;	✓
17. A notation of the existing on-site utilities (gas, water, sewer, electric), if any;	✓
18. Proposed connections with existing water supply and sanitary sewer systems, or a notation that wells and ISDS are proposed;	✓
19.Provisions for collecting and discharging stormwater;	✓

SUBMISSION CHECKLIST, CONT.

	Date & Initials of Reviewer
20. Notation on the plan if the subject property is located within any of the following areas: Town Overlay Districts, Special Flood Hazard Areas, or Coastal Resources Management Council jurisdiction.	✓
C. Supporting Materials -	
1. One (1) copy of a narrative report providing the general description of the existing physical environment and existing use(s) of the property; and, the general description of the uses and type of development proposed by the applicant;	MTL ✓
2. A reduced copy of plans required in Items A and B above (minimum size 8 1/2" x 11", maximum size 11"x 17");	
3. Completed Application Form.	✓

PRE-APPLICATION REVIEW

FOR

668 METACOM AVENUE

ASSESSORS MAP 128 PARCEL 16

IN

BRISTOL, RHODE ISLAND

Thomas J. Principe, III
REGISTERED PROFESSIONAL ENGINEER

PRINCIPE COMPANY ESTABLISHED IN 1981

APPLICANT:
DAVID J. RAMOS
12 RUTH AVENUE
BRISTOL, RI 02809

OWNER:
LIONEL J. RAMOS
9 SCOTT LANE
BRISTOL, RI 02809

PREPARED BY:

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
27 SAKONNET RIDGE DRIVE
TIVERTON, RHODE ISLAND 02878
401.816.5385
INFO@PRINCIPECOMPANY.COM
WWW.PRINCIPECOMPANY.COM

JUNE 03, 2025

DRAWING ISSUE:

- ☐ CONCEPT
- ☐ CUSTOMER APPROVAL
- ☒ PERMITTING
- ☐ CONSTRUCTION
- ☐ AS-BUILT
- ☐ OTHER:

ONLY PLANS ISSUED FOR CONSTRUCTION SHALL BE USED FOR CONSTRUCTION

LIST OF DRAWINGS

1) TITLE SHEET
2) EXISTING CONDITIONS PLAN
3) PROPOSED LAYOUT PLAN
4) DRAINAGE & GRADING PLAN
5) CONSTRUCTION DETAILS – 1

STREET INDEX
METACOM AVENUE
(PUBLIC– STATE HIGHWAY)

SOIL REFERENCE:
NRCS WEB SOIL SURVEY:
PmA – PITTSTOWN SILT LOAM (0–3% SLOPES) [27" GWT]
St – STISSING VERY STONY SILT LOAM [9" GWT]
CoC – CANTON–CHARLTON–ROCK OUTCROP COMPLEX (3–15% SLOPES)
DATE ACCESSED: 03/25/24

PLAN REFERENCE:
1.) EXISTING CONDITIONS TAKEN FROM CLASS I SURVEY PLAN ENTITLED:
"EXISTING CONDITIONS PLAN FOR DAVID J. RAMOS & LIONEL J. RAMOS"
AP 128 LOT 15 & 16 IN BRISTOL, RI
DATE: 03/27/2024
PREPARED BY: PRINCIPE COMPANY, INC. – SURVEYING DIVISION
SIGNED BY: STEPHEN T. LONG, PLS NO. 1930



SITE LOCUS
NOT TO SCALE

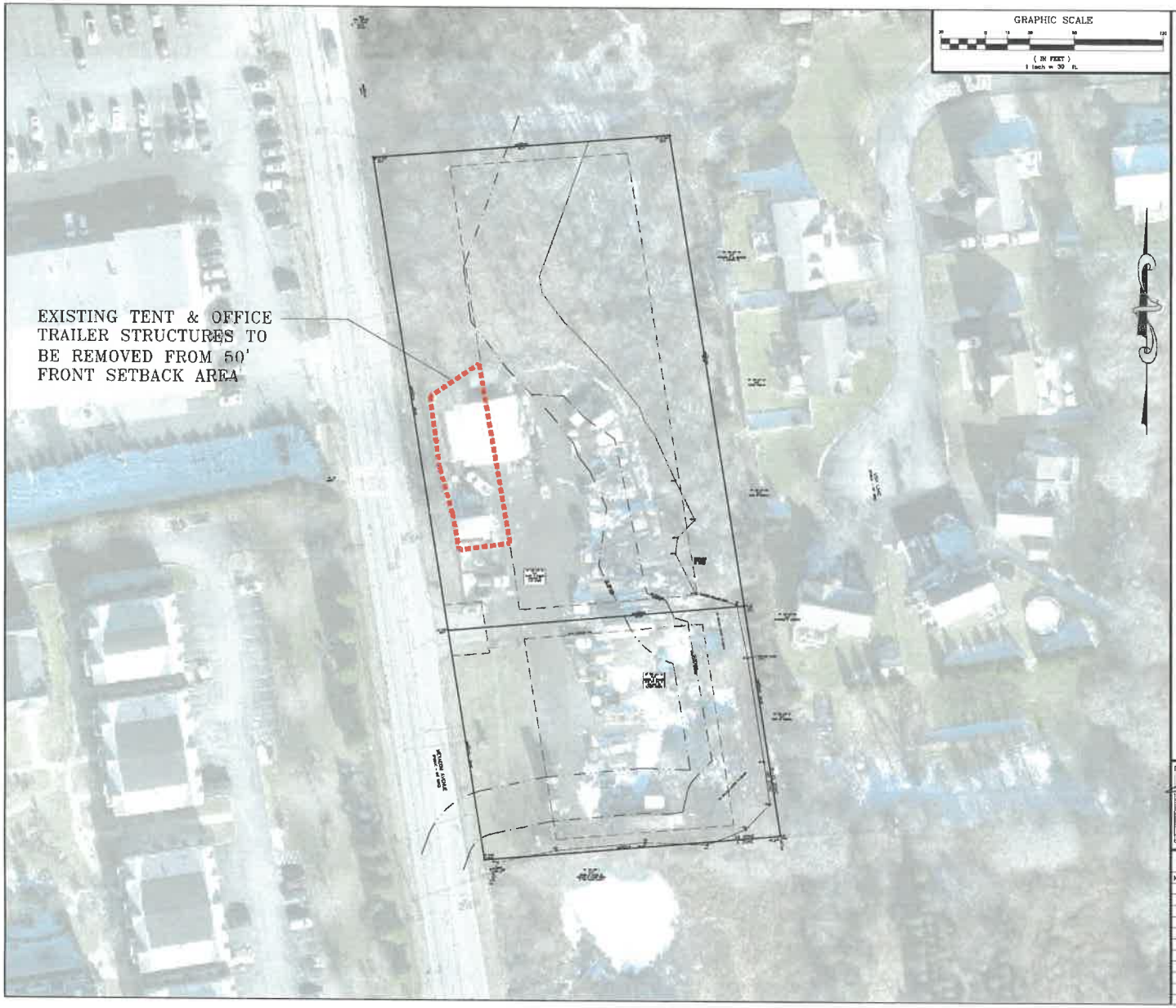
ZONING – GB
ROUTE 136 (METACOM AVENUE) OVERLAY
DIMENSIONAL REQUIREMENTS
MIN. LOT AREA: 10,000 SF
MIN. LOT WIDTH: 100 FT
MIN. FRONT YARD: 30 FT
MIN. REAR YARD: 30 FT
MIN. SIDE YARD: 10 FT
MAX. BLDG. LOT COV.: 40%
MAX. TOTAL LOT COV.: 70%
MIN. DIST. FROM RES. ZONE: 25 FT
MAX. FLOOR AREA RATIO: 0.5

GENERAL NOTES:

1. THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATE AVAILABLE INFORMATION. THE UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE ALL INCLUSIVE. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, BOTH OVERHEAD AND UNDERGROUND, AND "DIG-SAFE" MU BE NOTIFIED PRIOR TO COMMENCING ANY CONSTRUCTION OPERATIONS. RESTORATION AND REPAIR OF DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL CO THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR TOWN WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEA 72 HOURS IN ADVANCE.
2. THIS SITE LIES IN ZONE X AS SHOWN ON THE FIRM MAP FOR THE CITY OF BRISTOL, RI COMMUNITY PANEL NO.44001C0011H, MAP REVISED JULY 7, 2014.
3. THERE ARE NO KNOWN EASEMENTS OR RIGHTS OF WAY WITHIN OR ADJACENT TO THIS PARCEL UNLESS OTHERWISE SHOWN.
4. THE CONTOURS SHOWN HEREIN ARE BASED UPON THE NAVD88 DATUM.
5. THERE ARE UNDERGROUND UTILITIES LOCATED WITHIN METACOM AVENUE ALONG THIS PARCELS FRONTAGE.

LEGEND

	EXISTING	PROPOSED
PERIMETER LINE		
ABUTTER LINE		
EDGE OF PAVEMENT		
FENCE		
EASEMENT		
CONTOUR		87
UTILITY POLE		
TEST HOLE		
SAWCUT		
BUILDING SETBACK		
OVERHEAD WIRE		OHW
CATCH BASIN		
DRAIN MANHOLE		
DRAIN LINE		D D
WATER LINE		W W
WATER GATE VALVE		
WELL		
SEWER LINE		S S
WETLAND FLAG		
SIGN		
DOWNSPOUT		
LIGHT POST		
STONEWALL		
COMPOST FILTER SOCK		
RIDOT STD 9.9.0 CONSTRUCTION ACCESS		



GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

PLAN NOTES:

1. CONTRACTOR TO VERIFY BENCHMARK AND EXISTING CONDITIONS PRIOR TO COMMENCING CONSTRUCTION AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.

2. PLAN IS TO BE USED SOLELY FOR THE USE OF THE SOIL EROSION, RUNOFF AND SEDIMENT CONTROL ORDINANCE FOR THE TOWN OF BRISTOL AND IS NOT AUTHORIZED FOR ANY OTHER USE. CONTRACTOR TO STRICTLY ADHERE TO BRISTOL'S SOIL EROSION, RUNOFF, AND SEDIMENT CONTROL ORDINANCE AT ALL TIMES DURING CONSTRUCTION.

RIDEM AERIAL REFERENCE:

WINTER 2024 AERIAL FROM RIDEM/RIGIS WEBSITE
DATE ACCESSED: 08/05/25

ZONING – GB

ROUTE 136 (METACOM AVENUE) OVERLAY

DIMENSIONAL REQUIREMENTS	EXISTING
MIN. LOT AREA: 10,000 SF	31,403 SF
MIN. LOT WIDTH: 100 FT	157.0 FT
MIN. FRONT YARD: 50 FT	N/A
MIN. REAR YARD: 30 FT	N/A
MIN. SIDE YARD: 10 FT	N/A
MAX. BLDG. LOT COV.: 40%	N/A
MAX. TOTAL LOT COV.: 70%	N/A
MIN. DIST. FROM RES. ZONE: 25 FT	N/A
MAX. FLOOR AREA RATIO: 0.5	N/A

APPLICANT:
DAVID J. RAMOS
12 RUTH AVENUE
BRISTOL, RI 02809

OWNER:
LIONEL J. RAMOS
9 SCOTT LANE
BRISTOL, RI 02809

EXISTING CONDITIONS

Thomas J. Principe, III
REGISTERED PROFESSIONAL ENGINEER

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
27 SAKONNET RIDGE DRIVE
TIVERTON, RI 02878
401.816.5365
WWW.PRINCIPECOMPANY.COM

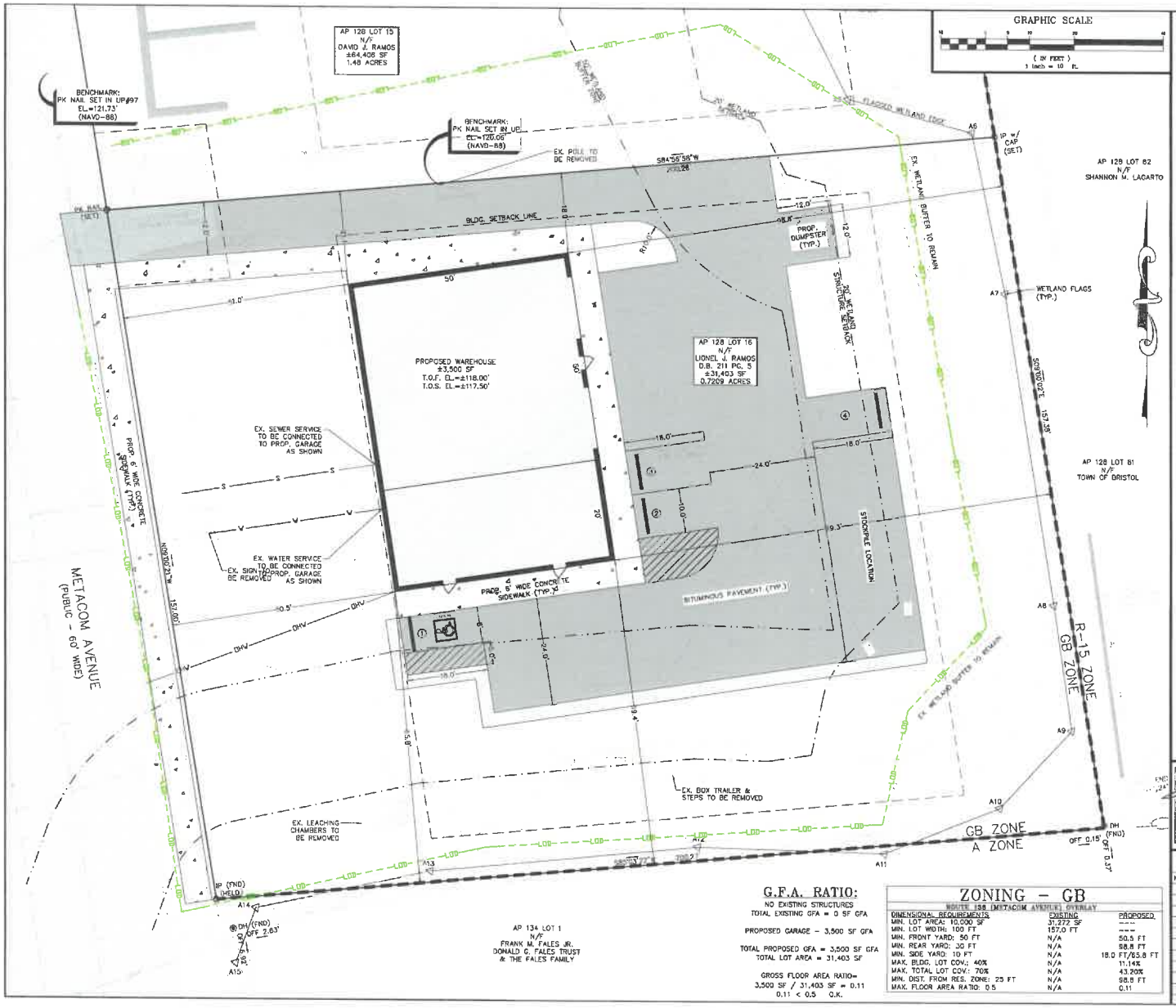
REVISIONS

No.	DATE	DRWN	CHKD

PRE-APPLICATION REVIEW
for
668 METACOM AVENUE
AP 128 LOT 16
in
BRISTOL, RHODE ISLAND

SCALE: 1" = 30'	SHEET NO: 2 of 5	
DRAWN BY: KAB	DESIGN BY: KAB	CHECKED BY: TJP
DATE: 08/03/2025	PROJECT NO.: ERSC-2024-2	

Item C2.



GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

PLAN NOTES:

1. CONTRACTOR TO VERIFY BENCHMARK AND EXISTING CONDITIONS PRIOR TO COMMENCING CONSTRUCTION AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.

2. PLAN IS TO BE USED SOLELY FOR THE USE OF THE SOIL EROSION, RUNOFF AND SEDIMENT CONTROL ORDINANCE FOR THE TOWN OF BRISTOL AND IS NOT AUTHORIZED FOR ANY OTHER USE. CONTRACTOR TO STRICTLY ADHERE TO BRISTOL'S SOIL EROSION, RUNOFF, AND SEDIMENT CONTROL ORDINANCE AT ALL TIMES DURING CONSTRUCTION.

3. SEE ADDITIONAL NOTES ON SHEET 2 OF 2, WHICH NEED TO BE STRICTLY ADHERED TO AS WELL.

ARCHITECT NOTE:

IT IS THE RESPONSIBILITY OF THE ARCHITECT TO FINALIZE SITE LAYOUT & COORDINATE ELEMENTS WITH ENGINEER PRIOR TO CONSTRUCTION. FINAL GRADING & LAYOUT SHALL BE COORDINATED AND VERIFIED THROUGH ARCHITECT DRAWINGS.

BUILDING LOT COVERAGE:

NO EXISTING STRUCTURES
TOTAL EXISTING LOT COVERAGE = 0 SF

PROPOSED GARAGE - 3,500 SF

TOTAL PROPOSED LOT COVERAGE = 3,500 SF
TOTAL LOT AREA = 31,403 SF

LOT COVERAGE=
3,500 SF / 31,403 SF X 100% = 11.14%
11.14% TOTAL LOT COVERAGE < 25% O.K.

TOTAL LOT COVERAGE:

EXISTING GRAVEL PARKING AREA - 12,973 SF
TOTAL EXISTING LOT COVERAGE = 12,973 SF

PROPOSED BUILDING = 3,500 SF
PROPOSED ON-SITE SIDEWALK = 1,472 SF
PROPOSED PAVEMENT = 8,593 SF

TOTAL PROPOSED LOT COVERAGE = 13,565 SF
TOTAL LOT AREA = 31,403 SF

LOT COVERAGE=
13,565 SF / 31,403 SF X 100% = 43.20%
43.20% TOTAL LOT COVERAGE < 70% O.K.

PARKING REQUIREMENTS:

MECHANICAL EQUIPMENT REPAIR
[OTHER BUSINESS & COMMERCIAL SERVICE USE]
1 SPOT / 1,000 SF GFA REQ.
3,500 SF PROPOSED x 1 SPOT/1,000 SF GFA = 3.5 REQ.
3,000-19,999 SF GFA = 1 LOADING SPACE REQ.

TOTAL PARKING SPOTS REQUIRED = 3.5
TOTAL PARKING SPOTS PROVIDED = 5

G.F.A. RATIO:

NO EXISTING STRUCTURES
TOTAL EXISTING GFA = 0 SF GFA

PROPOSED GARAGE - 3,500 SF GFA

TOTAL PROPOSED GFA = 3,500 SF GFA
TOTAL LOT AREA = 31,403 SF

GROSS FLOOR AREA RATIO=
3,500 SF / 31,403 SF = 0.11
0.11 < 0.5 O.K.

ZONING - GB

ROUTE 136 (METACOM AVENUE) OVERLAY

DIMENSIONAL REQUIREMENTS	EXISTING	PROPOSED
MIN. LOT AREA: 10,000 SF	31,272 SF	---
MIN. LOT WIDTH: 100 FT	157.0 FT	---
MIN. FRONT YARD: 50 FT	N/A	50.5 FT
MIN. REAR YARD: 30 FT	N/A	98.8 FT
MIN. SIDE YARD: 10 FT	N/A	18.0 FT/65.8 FT
MAX. BLDG. LOT COV.: 40%	N/A	11.14%
MAX. TOTAL LOT COV.: 70%	N/A	43.20%
MIN. DIST. FROM RES. ZONE: 25 FT	N/A	98.8 FT
MAX. FLOOR AREA RATIO: 0.5	N/A	0.11

APPLICANT:
DAVID J. RAMOS
12 RUTH AVENUE
BRISTOL, RI 02809

OWNER:
LIONEL J. RAMOS
9 SCOTT LANE
BRISTOL, RI 02809

PROPOSED LAYOUT PLAN

Thomas J. Principe, III
REGISTERED PROFESSIONAL ENGINEER

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
27 SAKONNET RIDGE DRIVE
TIVERTON, RI 02878
401.816.9385
WWW.PRINCIPECOMPANY.COM

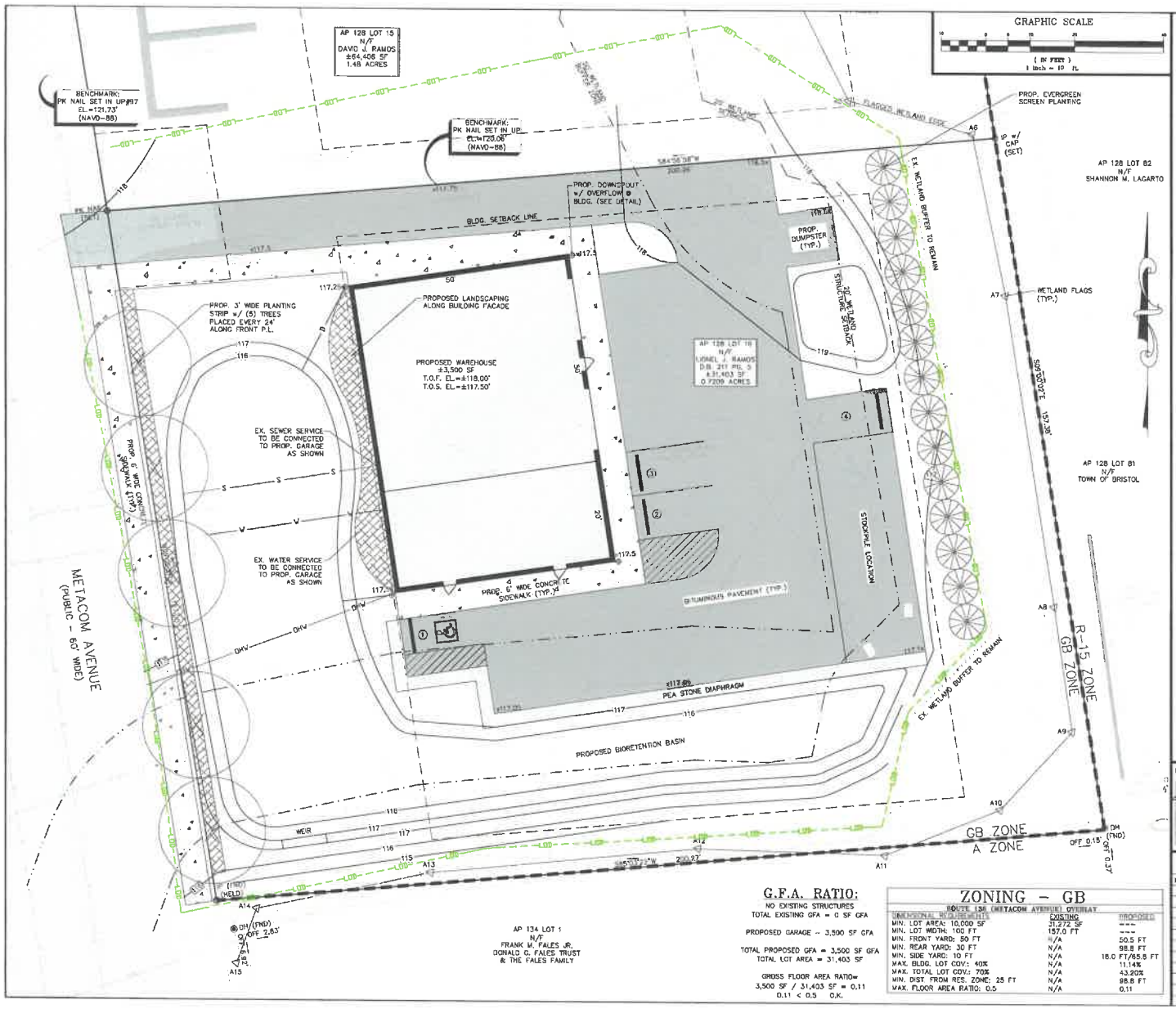
REVISIONS

No.	DATE	DRWN	CHKD

PRE-APPLICATION REVIEW
for
660 METACOM AVENUE
AP 128 LOT 16
in
BRISTOL, RHODE ISLAND

SCALE: 1" = 10'	SHEET NO: 3 of 5	
DRAWN BY: KAB	DESIGN BY: KAB	CHECKED BY: TJP
DATE: 06/03/2025	PROJECT NO.: ERSD-2024-2	

Item C2.



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43.20% TOTAL LOT COVERAGE < 70% O.K.

PARKING REQUIREMENTS:

WAREHOUSE USE
1 SPOT / 1,000 SF GFA REQ.
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ZONING - GB

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OWNER:
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DRAINAGE & GRADING PLAN

Thomas J. Principe, III
REGISTERED PROFESSIONAL ENGINEER

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
27 SAKONNET RIDGE DRIVE
TIVERTON, RI 02878
401.816.5385
WWW.PRINCIPECOMPANY.COM

REVISIONS

No.	DATE	DRWN	CHKD

PRE-APPLICATION REVIEW
for
668 METACOM AVENUE
AP 128 LOT 16
in
BRISTOL, RHODE ISLAND

SCALE: 1" = 10'	SHEET NO: 4 of 5	
DRAWN BY: KAB	DESIGN BY: KAB	CHECKED BY: TJP
DATE: 06/03/2025	PROJECT NO.: ERSC-2024-2	

Item C2.

GENERAL NOTES

1. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY THE STATE OF RHODE ISLAND AND THE MUNICIPALITY PRIOR TO COMMENCING ANY WORK.
2. IT SHALL ALSO BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITIES, STRUCTURES, AND ABUTTING PROPERTIES. THE COST OF ANY REPAIR OR REPLACEMENT OF DAMAGED ITEMS SHALL BE BORNE BY THE CONTRACTOR.
3. BEFORE STARTING ANY CONSTRUCTION THE CONTRACTOR SHALL COORDINATE INSTALLATION OF ANY HYDRANTS, WATER MAINS, BLOWOFF ASSEMBLIES, FITTINGS, AND VALVES WITH THE LOCAL WATER DEPARTMENT AS TO TYPE AND MANUFACTURER.
4. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE MUNICIPAL ENGINEERING DEPARTMENT AND ALL UTILITY INSTALLATIONS AND INSPECTIONS WITH THE APPROPRIATE UTILITY COMPANY. A 48 HOUR ADVANCE NOTICE IS REQUIRED BEFORE WORK COMMENCEMENT.
5. ALL WORK PERFORMED HEREIN SHALL BE GOVERNED BY THE "RI STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (REVISION OF 1997)" WITH ALL CORRECTIONS AND ADDENDA AND THE 1874 R.I. STANDARD DETAILS WITH ALL CORRECTIONS AND ADDENDA AND THE TOWN OF BRISTOL STANDARD SPECIFICATIONS AND DETAILS.
6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR QUANTITY TAKE-OFF IN COMPUTING ANY ESTIMATES.
7. EMBANKMENT SLOPES AND ALL DISTURBED AREAS ARE TO RECEIVE 4" OF TOPSOIL AND SEEDED. SEE EROSION CONTROL PROGRAM
8. UNLESS OTHERWISE SPECIFIED, ALL STORM DRAINS SHALL BE REINFORCED CONCRETE CLASS III PIPE.
9. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION INDICATED ON THESE PLANS. THAT INCLUDES ANY CONSTRUCTION TO BRING UTILITIES TO SITE, ANY REPAIRS, ANY TRENCHING REQUIRED, HYDRANTS, ANY AND ALL CONSTRUCTION FOR ACCEPTANCE OF ROADS AND EASEMENTS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEDIMENTATION AND EROSION CONTROLS.
11. THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR. "DIG SAFE" SHALL BE CONTACTED BY THE CONTRACTOR AS PART OF THIS VERIFICATION.
12. IN ALL EXCAVATION AND PLACEMENT OF FILL, THE CONTRACTOR SHALL PERFORM THE WORK IN FULL COMPLIANCE WITH THE R.I. STANDARD SPECIFICATION SECTION 202.
13. ALL WATER MAINS SHALL BE DEFLECTED ALONG A CURVE WITH A MINIMUM RADIUS OF 250' AT ANY LOCATION WHERE THIS IS NOT POSSIBLE, PROPER BENDS AND FITTINGS SHALL BE USED.
14. ALL EXCESS SOIL, STUMPS, TREES, ROCKS, BOULDERS, AND OTHER REFUSE SHALL BE DISCARDED OFF SITE, IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.

EROSION CONTROL & SOIL STABILIZATION PROGRAM

1. DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON
2. ALL DISTURBED SLOPES, EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15, SHALL BE SEEDED OR PROTECTED BY THAT DATE, FOR ANY WORK COMPLETED DURING EACH CONSTRUCTION YEAR
3. THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH R.I. STD SPECIFICATION M 6.
4. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS, BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
5. THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING PERMANENT SEEDING MIXTURES

A. MOWED AREA (ALL FLATS OR SLOPES LESS THAN 3:1)

MIXTURE:	% BY WEIGHT	SEEDING DATES
RED FESCUE	75	APRIL 1 – JUNE 15
KENTUCKY BLUEGRASS	15	AUGUST 15 – OCTOBER 15
COLONIAL BENTGRASS	5	
PERENNIAL RYEGRASS	5	
TOTAL:	100 lbs/Ac.	

B. UNMOWED AREA OR INFREQUENTLY MOWED (ALL SLOPES GREATER THAN 3:1)

MIXTURE:	% BY WEIGHT	SEEDING DATES
RED FESCUE	75	APRIL 1 – JUNE 15
COLONIAL BENTGRASS	5	AUGUST 15 – OCTOBER 15
PERENNIAL RYEGRASS	5	
BIRDSFOOT TREFOIL	15	
TOTAL	100 lbs/Ac.	

6. TEMPORARY TREATMENTS SHALL CONSIST OF A STRAW, OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS MESHING, EXCELSIOR BLANKETS) THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
7. STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 3,000 – 4,000 lbs/Ac.
8. ALL STRAW BALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN HELP MINIMIZE THE EROSION. A TEMPORARY SEEDING GUIDE MUST BE INCLUDED AS A REFERENCE. THE FOLLOWING SPECIES ARE RECOMMENDED:

MIXTURE:	lbs/1,000 S.F.	lbs/Ac.	SEEDING DATES:
ANNUAL RYEGRASS	1.0 – 1.5	40 – 60	3/1 – 6/1
PERENNIAL RYEGRASS	1.0 – 1.5	40 – 60	3/1 – 6/1
SUDAN GRASS	0.7 – 1.0	30 – 40	5/15 – 8/15
MILLET	0.7 – 1.0	30 – 40	5/15 – 8/15
WINTER RYE	3.0	120	9/15 – 11/15
OATS	0.3 – 5.0	86 – 120	3/1 – 6/15
WEEPING COVER GRASS	0.5 – 0.0	5 – 20	5/1 – 7/1

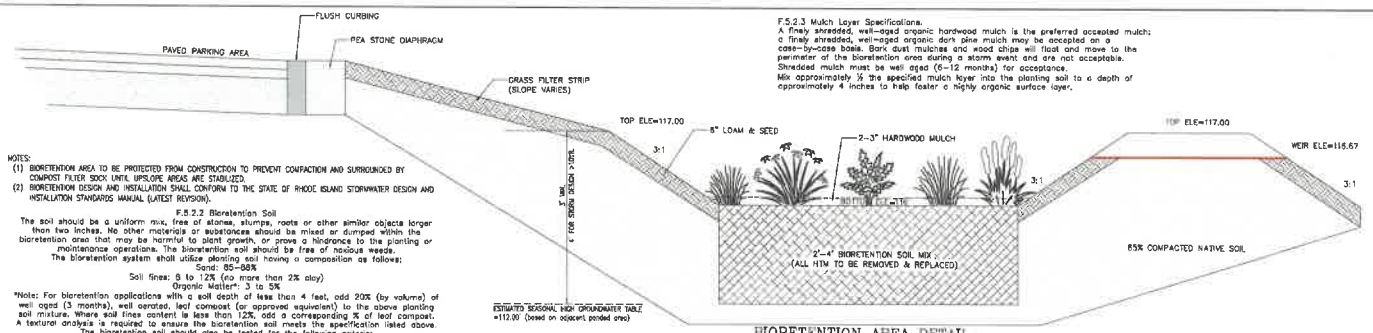
9. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE.
10. ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE R.I.D.P.W. STD SPECIFICATIONS SECTION 202.
11. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 15 DAYS OF FINAL GRADING.
12. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS, THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 3:1 AND STOCKPILES SHALL ALSO BE SEEDED AND/OR STABILIZED.
13. ON BOTH STEEP AND LONG SLOPES CONSIDERATION SHALL BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.
14. REFERENCE THE SEDIMENTATION CONTROL PROGRAM AND SPOER OF PROCEDURE FOR PROPER COORDINATION
15. THE DRAINAGE SYSTEM SHALL RECEIVE ONE FINAL CLEANING PRIOR TO ACCEPTANCE TO THE OVERALL PROJECT BY THE OWNER SEDIMENTS SHALL BE DISPOSED OF IN A PROPER MANNER.

ORDER OF PROCEDURE:

1. PRIOR TO ANY CLEARING AND GRUBBING OR ANY ROUGH GRADING, TEMPORARY STRAW BALES AND SANDBAGS SHALL BE PLACED OUTSIDE THE LIMITS OF CONSTRUCTION AS PER THE PLANS (I.E. ALONG ROADWAYS, STREAM BANKS, CRITICAL AREAS, ETC.).
2. ALL EROSION AND SEDIMENTATION CONTROL STRUCTURES SHALL BE PERIODICALLY MAINTAINED AS PER THE RESPECTIVE PROGRAMS FOR TEMPORARY CONTROL.
3. IF WORK PROGRESS IS TO BE INTERRUPTED AT ANY TIME, REFERENCE EROSION AND SEDIMENTATION PROGRAMS FOR TEMPORARY CONTROL.
4. TEMPORARY STRAW BALES AND SANDBAGS ALONG AND AT THE ENDS OF ROADWAYS MAY ALSO BE REMOVED AFTER FINAL SOIL STABILIZATION HAS BEEN ACHIEVED AND APPROVED.
5. STRAW BALES LOCATED AT DRAINAGE OUTLETS MUST REMAIN UNTIL SUCH TIME THAT A DESIRABLE STAND OF GRASS OR COVER HAS BEEN ESTABLISHED AND THE PROJECT RECEIVES A FAVORABLE APPROVAL FOR FINAL ACCEPTANCE FROM THE ENGINEER.

SEDIMENTATION CONTROL PROGRAM:

1. RIP RAP SPLASH PADS SHALL BE INSTALLED AT THE OUTLETS FOR ALL CULVERTS DISCHARGING INTO A WATERWAY.
2. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL ENTERING THE WETLANDS.
3. ALL DISTURBED AREAS SUBJECT TO EROSIVE TENDENCIES WHENEVER THEY BE NEWLY FILLED OR EXCAVATED SHALL BE SEEDED AND PROTECTED WITH A FIBER MULCH
4. DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
5. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.
6. CARE SHOULD BE TAKEN SO AS NOT TO PLACE "REMOVED SEDIMENTS" WITHIN THE PATH OF EXISTING, NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED WATERCOURSES OR THOSE AREAS SUBJECTED TO STORM WATER FLOW.
7. ADDITIONAL STRAW BALES OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT.
8. ALL SEDIMENTS SHALL BE REMOVED FROM THE DRAINAGE AND DETENTION FACILITIES AS SCHEDULED FOR EACH FACILITY (SEE DETENTION BASIN MAINTENANCE, THIS SHEET).
9. REFERENCE THE "RI SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE U.S. DEPT. OF AGRICULTURE, SOIL CONSERVATION SERVICE, 1989, AS A GUIDE.



NOTES:
(1) BIORETENTION AREA TO BE PROTECTED FROM CONSTRUCTION TO PREVENT COMPACTION AND SURROUNDED BY COMPOST FILTER SOCK UNTIL UPSLOPE AREAS ARE STABILIZED.
(2) BIORETENTION DESIGN AND INSTALLATION SHALL CONFORM TO THE STATE OF RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL (LATEST REVISION).

F.5.2.2 Bioretention Soil

The soil should be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances should be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The bioretention soil should be free of noxious weeds.
The bioretention system shall utilize planting soil having a composition as follows:

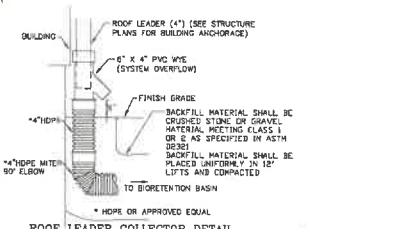
Sand: 85-88%
Soil fines: 8 to 12% (no more than 2% clay)
Organic Matter*: 3 to 5%

*Note: For bioretention applications with a soil depth of less than 4 feet, add 20% (by volume) of well aged (3 months), well aerated, leaf compost (or approved equivalent) to the above planting soil mixture. Where soil fines content is less than 12%, add a corresponding % of leaf compost. A textural analysis is required to ensure the bioretention soil meets the specification listed above. The bioretention soil should also be tested for the following criteria:

pH range 5.2 – 7.0
magnesium not to exceed 32 ppm
phosphorus P205 not to exceed 69 ppm
potassium K20 not to exceed 78 ppm
soluble salts not to exceed 500 ppm

F.5.2.3 Mulch Layer Specifications.
A finely shredded, well-aged organic hardwood mulch is the preferred accepted mulch; a finely shredded, well-aged organic dark pine mulch may be accepted on a case-by-case basis. Bark dust mulches and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6–12 months) for acceptance. Mix approximately ½ the specified mulch layer into the planting soil to a depth of approximately 4 inches to help foster a highly organic surface layer.

BIORETENTION AREA DETAIL
NOT TO SCALE



ROOF LEADER COLLECTOR DETAIL
NOT TO SCALE

BMP REQUIRED MAINTENANCE:

MONTHLY:
INSPECT AND REMOVE ANY TRASH
REMOVE ANY INVASIVE SPECIES PLANTS

ANNUALLY:
MULCH- SPRING, AS NEEDED
REPLACE ANY DEAD VEGETATION-SPRING
REMOVE DEAD VEGETATION-FALL OR SPRING PRUNE-SPRING

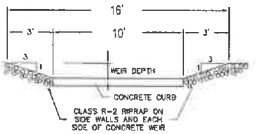
AS NEEDED:
REPLACE SOIL MEDIA AND PLANTS WHEN PONDING DOES NOT SUBSIDE WITHIN 72 HRS. (CORRECTIVE MAINTENANCE SHOULD PROLONG THIS REQUIREMENT)

*ALL PLANT MATERIAL SHALL BE WATERED AND MAINTAINED BY THE OWNER TO ASSURE THAT SUITABLE GROWTH HAS BEEN ESTABLISHED.

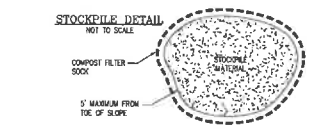
PLANT SPECIES TO BE USED

BOTANICAL NAME	COMMON NAME
ASTER DIVARICATUS	WHITE WOOD ASTER
IRIS VERSICOLOR	BLUE FLAG IRIS
LOBELIA CARDINALIS	CARDINAL FLOWER
OSMUNDA CINNAMOMEA	CINNAMON FERN

*PLANT SPECIES IN ONE GALLON CONTAINERS TO BE INSTALLED AT 2' O.C. IN GROUPS OF THREE WITHIN THE BIORETENTION AREA.



Emergency Spillway / Overflow Weir Detail
NOT TO SCALE



STOCKPILE DETAIL
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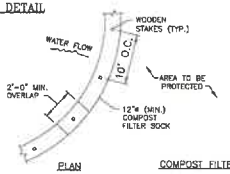
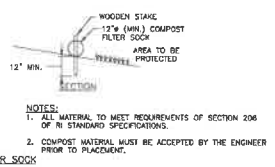
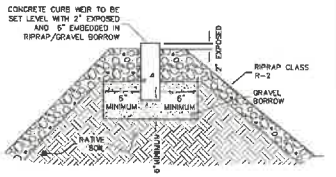


COMPOST FILTER SOCK
PERIMETER EROSION CONTROLS
NOT TO SCALE



NOTES:
1. ALL MATERIAL TO MEET REQUIREMENTS OF SECTION 206 OF RI STANDARD SPECIFICATIONS.
2. COMPOST MATERIAL MUST BE ACCEPTED BY THE ENGINEER PRIOR TO PLACEMENT.

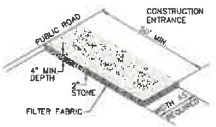


ALL BACKFILL SHALL BE FREE FROM ORGANIC OR MTM.

Curb Outlet Weir Cross Section
NOT TO SCALE

EROSION CONTROL, SOIL STABILIZATION AND SEDIMENT CONTROL PLAN

1. PRIOR TO THE COMMENCEMENT OF ANY CLEARING, GRUBBING, DEMOLITION OR EARTHWORK ACTIVITY, TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE PLANS ARE TO BE INSTALLED BY THE CONTRACTOR.
2. CONSTRUCTION ACCESS STABILIZATION ENTRANCE PADS ARE TO BE INSTALLED PRIOR TO THE COMMENCEMENT OF SITE GRUBBING OR EARTHWORK ACTIVITY.
3. EXISTING CATCH BASINS ARE TO BE PROTECTED WITH HAY BALES AND/OR SILT SACS PRIOR TO THE START OF SITE GRUBBING, EARTHWORK OR UNDERGROUND UTILITY AND DRAINAGE INFRASTRUCTURE INSTALLATION TO SERVE THE DEVELOPMENT SITE.
4. THE PROJECT CONSTRUCTION SEQUENCE, TO THE EXTENT PRACTICAL, SHOULD REQUIRE THE INSTALLATION OF DOWN GRADE AND OFF SITE STORM DRAINAGE SYSTEM IMPROVEMENTS BEFORE THE START OF SITE GRUBBING AND EARTHWORK ACTIVITY.
5. TEMPORARY SITE SLOPE TREATMENTS FOR SOIL STABILIZATION SHALL CONSIST OF STRAW, FIBER MULCH, RIP RAP OR PROTECTIVE COVERS SUCH AS MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS MESHING, AND EXCELSIOR OR EQUAL PRODUCTS). THESE AND OTHER ACCEPTABLE MEASURES SHALL BE INCORPORATED INTO THE SITE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
6. CONSTRUCTION SITES ARE DYNAMIC, THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND OR MOVEMENT AND MAINTENANCE OF EROSION CONTROLS, SOIL STABILIZATION AND SEDIMENT CONTROL MEASURES AS NEEDED TO MAXIMIZE THE INTENT OF THE PLAN FOR ALL SITE CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERIODIC INSPECTION, MAINTENANCE, REPAIR, AND REPLACEMENT OF EROSION CONTROLS, SOIL STABILIZATION AND SEDIMENT CONTROL DEVICES UNTIL AN ACCEPTABLE PERMANENT VEGETATIVE GROWTH IS ESTABLISHED. THE CONTRACTOR SHALL MAINTAIN A DETAIL LOG OF ALL EROSION CONTROL INSPECTIONS, COMPLAINTS RELATED TO EROSION OR SEDIMENT, AND CORRECTIVE REMEDIAL MEASURES TAKEN THROUGHOUT THE COURSE OF THE PROJECT CONSTRUCTION.
8. SOIL EROSION AND SEDIMENT CONTROL IS NOT LIMITED TO DAMAGES CAUSED BY WATER BUT ALSO INCLUDES EROSION AND SEDIMENT RESULTING FROM WINDS. MEASURES, SUCH AS TEMPORARY GROUND COVERS, WATER AND CALCIUM APPLICATIONS ARE TO BE UNDERTAKEN AS NEEDED TO MINIMIZE WIND RELATED SOIL AND DUST CONTROL.
9. STOCK PILES OF EARTH MATERIALS SHALL NOT BE LOCATED NEAR WATERWAYS OR WETLANDS. STOCK PILES SHALL HAVE SIDE SLOPES NO GREATER THAN THIRTY PERCENT (30%). STOCK PILES SHALL BE SURROUNDED ON THE DOWN GRADIENT OF THE EXISTING GROUND SURFACE BY STRAW BALES OR SILT FENCE. THE STOCK PILES SHALL ALSO BE SEEDED OR STABILIZED IN SOME MANOR TO PREVENT SOIL EROSION.
10. THE SMALLEST POSSIBLE SITE AREAS SHALL BE DISTURBED OR EXPOSED AT ONE TIME AND DENUDED SLOPES OR WORK AREAS SHALL NOT BE LEFT EXPOSED FOR EXCESSIVE PERIODS OF TIME, SUCH AS INACTIVE PERIODS OR SITE WORK SHUT DOWNS.
11. TO THE EXTENT POSSIBLE, ALL DISTURBED AREAS MUST BE SEEDED OR STABILIZED WITHIN THE CONSTRUCTION SEASON. STABILIZATION OF ONE FORM OR ANOTHER SHALL BE ACHIEVED WITHIN FIFTEEN (15) DAYS OF FINAL GRADING.
12. EXPOSED STEEP OR LONG SLOPES SHOULD BE TREATED WITH "CRIMPING" OR "TRACKING" TO REDUCE EROSION AND SEDIMENT AND TO TACK DOWN SEEDING OR MULCH APPLICATIONS.
13. IF CONCRETE IS TO BE USED ON SITE, THE CONTRACTOR MUST ESTABLISH AND MAINTAIN SPECIFIC WASHOUT AREAS FOR THE CONCRETE TRUCKS WITH APPROPRIATE PROTECTION CONTROLS.
14. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING COLLECTION AND STORAGE LOCATIONS ON-SITE FOR ALL CONSTRUCTION DEBRIS AND TRASH SO THAT THIS MATERIAL DOES NOT BECOME A NEIGHBORHOOD NUISANCE.
15. EXISTING TREES AND VEGETATION WILL BE RETAINED WHENEVER FEASIBLE.
16. SITE SOIL EROSION AND SOIL STABILIZATION AND SEDIMENT CONTROLS MUST CONFORM TO ALL REQUIREMENTS OF THE APPLICABLE LOCAL COMMUNITY ORDINANCES AND STATE REGULATIONS.



SQUARE MESH SIEVES	2"CRUSHED STONE OR GRAVEL	ASTM C-33 NO. 2	ASTM C-33 NO. 3
	% FINER	% FINER	% FINER
2-1/2 INCHES	100	90-100	100
2 INCHES	95-100	35-70	90-100
1-1/2 INCHES	30-55	0-15	35-70
1-1/4 INCHES	0-25	–	–
1 INCH	0-5	–	0-15
3/4 INCH	–	0-5	–
1/2 INCH	–	–	0-5
3/8 INCH	–	–	–

NOTE:
STABILIZATION PAD TO BE IN CONFORMANCE WITH STANDARDS SET FORTH IN THE "RHODE ISLAND GUIDELINES FOR SOIL & SEDIMENT CONTROL".

RIP-RAP STABILIZATION PAD @ CONSTRUCTION ENTRANCE
NOT TO SCALE

APPLICANT:
DAVID J. RAMOS
12 HUTH AVENUE
BRISTOL, RI 02809

OWNER:
LIONEL J. RAMOS
9 SCOTT LANE
BRISTOL, RI 02809

CONSTRUCTION · DETAILS

Thomas J. Principe, III
REGISTERED PROFESSIONAL ENGINEER

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
21 SAKONNET RIDGE DRIVE
TIVERTON, RI 02878
401.816.2381
WWW.PRINCIPECOMPANY.COM

REVISIONS

No.	DATE	DRWN	CHKD

PRE-APPLICATION REVIEW
for
668 METACOM AVENUE
AP 128 LOT 16
in
BRISTOL, RHODE ISLAND

SCALE: AS NOTED	SHEET NO: 5 of 5	
DRAWN BY: KAB	DESIGN BY: KAB	CHECKED BY: TJP
DATE: 06/03/2025	PROJECT NO.: ERSC-2024-2	

Item C2.


#661
#52
#648
#48
#663
#668
#3
#44
#46
#670
#43
#42
#40
#685
#36
#38
#41
#120
#29
#37
BROADCOMMON RD
#691
#35
#26
#125
#129
#697
#17
#19
#15
#3
#703
#126

200 feet Abutters List Report

Bristol, RI
June 05, 2025

Subject Property:

Parcel Number: 128-15
CAMA Number: 128-15
Property Address: 670 METACOM AVE

Mailing Address: RAMOS, DAVID J.
670 METACOM AVE
BRISTOL, RI 02809

Abutters:

Parcel Number: 128-13
CAMA Number: 128-13
Property Address: METACOM AVE

Mailing Address: VEADER REALTY RI, LLC
2283 GAR HWAY
SWANSEA, MA 02777

Parcel Number: 128-14
CAMA Number: 128-14
Property Address: CASEY DR

Mailing Address: TOWN OF BRISTOL
10 COURT ST
BRISTOL, RI 02809

Parcel Number: 128-16
CAMA Number: 128-16
Property Address: 668 METACOM AVE

Mailing Address: RAMOS, LIONEL J
9 SCOTT LANE
BRISTOL, RI 02809

Parcel Number: 128-77
CAMA Number: 128-77
Property Address: 38 LISA LN

Mailing Address: DASILVA, JOSEPH A.
38 LISA LANE
BRISTOL, RI 02809

Parcel Number: 128-78
CAMA Number: 128-78
Property Address: 40 LISA LN

Mailing Address: RICHMOND, JONATHAN W & NICOLE M. TE
40 LISA LN
BRISTOL, RI 02809

Parcel Number: 128-79
CAMA Number: 128-79
Property Address: 42 LISA LN

Mailing Address: TROCCHIO, MATTHEW J. & HAUGH, CIRI E. TE
42 LISA LN
BRISTOL, RI 02809

Parcel Number: 128-80
CAMA Number: 128-80
Property Address: 44 LISA LN

Mailing Address: ANNIS, JAMES D. JAMES A. JT
44 LISA LN
BRISTOL, RI 02809

Parcel Number: 128-81
CAMA Number: 128-81
Property Address: LISA LN

Mailing Address: TOWN OF BRISTOL
10 COURT ST
BRISTOL, RI 02809

Parcel Number: 128-82
CAMA Number: 128-82
Property Address: 46 LISA LN

Mailing Address: LAGARTO, SHANNON M
46 LISA LN
BRISTOL, RI 02809

Parcel Number: 128-83
CAMA Number: 128-83
Property Address: LISA LN

Mailing Address: TOWN OF BRISTOL
10 COURT ST
BRISTOL, RI 02809

200 feet Abutters List Report

Bristol, RI
June 05, 2025

Parcel Number:	128-84	Mailing Address:	PHELAN, CAROL 43 LISA LN BRISTOL, RI 02809
CAMA Number:	128-84		
Property Address:	43 LISA LN		
Parcel Number:	128-85	Mailing Address:	DESANO, ANTHONY R. JR. JENNIFER L TE 41 LISA LN BRISTOL, RI 02809
CAMA Number:	128-85		
Property Address:	41 LISA LN		
Parcel Number:	128-86	Mailing Address:	TOWN OF BRISTOL 10 COURT ST BRISTOL, RI 02809
CAMA Number:	128-86		
Property Address:	METACOM AVE		
Parcel Number:	128-87	Mailing Address:	CARINHA, BARRY S 29 CASEY DR BRISTOL, RI 02809
CAMA Number:	128-87		
Property Address:	29 CASEY DR		
Parcel Number:	134-1	Mailing Address:	FALES, FRANK M. JR. DONALD G. TRST & THE FALES FA 648 METACOM AVE BRISTOL, RI 02809
CAMA Number:	134-1		
Property Address:	648 METACOM AVE		
Parcel Number:	94-1	Mailing Address:	HEAVY M REAL ESTATE, LLC 685 METACOM AVE BRISTOL, RI 02809
CAMA Number:	94-1		
Property Address:	685 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	FUSCO, JAMIE & SUNHE TE 663 METACOM AVE, UNIT 1 BRISTOL, RI 02809
CAMA Number:	94-14-001		
Property Address:	663 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SWIFT, ROBERT F 30 DOLLY DR BRISTOL, RI 02809
CAMA Number:	94-14-002		
Property Address:	663 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	KAMIYAMA, MASAKUNI & FUJII-KAMIYAMA, MINO 663 METACOM AVE BRISTOL, RI 02809
CAMA Number:	94-14-003		
Property Address:	663 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	NOLETTE, MICHAEL JOSEPH & ANNA LANORA TE 663 METACOM AVE, UNIT 4 BRISTOL, RI 02809
CAMA Number:	94-14-004		
Property Address:	663 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	MCLEOD, LAURA K. 665 METACOM AVE, UNIT 5 BRISTOL, RI 02809
CAMA Number:	94-14-005		
Property Address:	665 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	CRUZ, BENJAMIN JR. ADELINE ETUX 665 METACOM AVE UNIT 7 BRISTOL, RI 02809
CAMA Number:	94-14-007		
Property Address:	665 METACOM AVE		

200 feet Abutters List Report

Bristol, RI
June 05, 2025

Parcel Number:	94-14	Mailing Address:	BOUCHARD, MARIANNE L 665 METACOM AVE UNIT 8 BRISTOL, RI 02809
CAMA Number:	94-14-008		
Property Address:	665 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	BERWICK, JULIA 425 EAST 82ND ST APT 3-B NEW YORK, NY 10028
CAMA Number:	94-14-009		
Property Address:	665 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	DANSEREAU, JASON C 665 METACOM AVE UNIT 10 BRISTOL, RI 02809
CAMA Number:	94-14-010		
Property Address:	665 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	MEDEIROS, SHAUNI-LEE 667 METACOM AVE UNIT 11 BRISTOL, RI 02809
CAMA Number:	94-14-011		
Property Address:	667 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	BORGES, GEORGE E & ROSE TE 667 METACOM AVE UNIT 12 BRISTOL, RI 02809
CAMA Number:	94-14-012		
Property Address:	667 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SWIFT, ROBERT F 667 METACOM AVE UNIT 13 BRISTOL, RI 02809
CAMA Number:	94-14-013		
Property Address:	667 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	KURKOSKI, HAYLEE 667 METACOM AVE, UNIT 14 BRISTOL, RI 02809
CAMA Number:	94-14-014		
Property Address:	667 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	LAGARTO, DANIEL L 667 METACOM AVE, UNIT 15 BRISTOL, RI 02809
CAMA Number:	94-14-015		
Property Address:	667 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	FEIJO, JORDAN JOSEPH & GEREMIA, KASEY MARIE TE 667 METACOM AVE UNIT 16 BRISTOL, RI 02809
CAMA Number:	94-14-016		
Property Address:	667 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	STORTI, ANNE L. UNIT 17 669 METACOM AVE BRISTOL, RI 02809
CAMA Number:	94-14-017		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	LEONARD, LOUISE A. 669 METACOM AVE UNIT 18 BRISTOL, RI 02809
CAMA Number:	94-14-018		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	OLIVEIRA, MARIA BEATRIZ UNIT 19 669 METACOM AVE BRISTOL, RI 02809
CAMA Number:	94-14-019		
Property Address:	669 METACOM AVE		

200 feet Abutters List Report

Bristol, RI
June 05, 2025

Parcel Number:	94-14	Mailing Address:	RAMOS, RYAN M 669 METACOM AVE, UNIT 20 BRISTOL, RI 02809
CAMA Number:	94-14-020		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	CHABOT, DONNA M. UNIT 21 669 METACOM AVE BRISTOL, RI 02809
CAMA Number:	94-14-021		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	CORKUM, JODIE-LYNN 669 METACOM AVE, UNIT 22 BRISTOL, RI 02809
CAMA Number:	94-14-022		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	RENAUD, CAROL 669 METACOM AVE, UNIT 23 BRISTOL, RI 02809
CAMA Number:	94-14-023		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	BREWER, JAMES 669 METACOM AVE UNIT 24 BRISTOL, RI 02809
CAMA Number:	94-14-024		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SHEPARD, KATHLEEN F. 669 METACOM AVE, UNIT 25 BRISTOL, RI 02809
CAMA Number:	94-14-025		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	KRUSHNOWSKI, JOHNA A. TRUSTEE 669 METACOM AVE, UNIT 26 BRISTOL, RI 02809
CAMA Number:	94-14-026		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	TRIVISONNO, TIA TRUSTEE OF THE KAREN TRIVISONNO IRREVOCABLE TRUST 669 METACOM AVE, UNIT 27 BRISTOL, RI 02809
CAMA Number:	94-14-027		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	TROIA, DANIEL B 669 METACOM AVE # 28 BRISTOL, RI 02809
CAMA Number:	94-14-028		
Property Address:	669 METACOM AVE # 28		
Parcel Number:	94-14	Mailing Address:	MCKENNA, JARED D 671 METACOM AVE UNIT 29 BRISTOL, RI 02809
CAMA Number:	94-14-029		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	PEREIRA, DANNY 1 LANDMARK RD WALLINGFORD, CT 06494
CAMA Number:	94-14-030		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SENNOTT, GEORGE F. III & MAGHINI, JILLIAN JT 671 METACOM AVE, UNIT 31 BRISTOL, RI 02809
CAMA Number:	94-14-031		
Property Address:	671 METACOM AVE		

200 feet Abutters List Report

Bristol, RI
June 05, 2025

Parcel Number:	94-14	Mailing Address:	LIMA, TYLER G 671 METACOM AVE, Unit 32 BRISTOL, RI 02809
CAMA Number:	94-14-032		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	ORBAN CONSTANTINO REALTY LLC 337 NORTH LN BRISTOL, RI 02809
CAMA Number:	94-14-033		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	BRITO ENTERPRISES, INC. 101 TUPELO ST BRISTOL, RI 02809
CAMA Number:	94-14-034		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SMITH, LINDA BIRD 671 METACOM AVE UNIT 35 BRISTOL, RI 02809
CAMA Number:	94-14-035		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	DEMELO, HUMBERTO S. & MARIA LE BOTELHO, SANDRA 671 METACOM AVE, UNIT 36 BRISTOL, RI 02809
CAMA Number:	94-14-036		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	CHILD, MARIA F 671 METACOM AVE UNIT 37 BRISTOL, RI 02809
CAMA Number:	94-14-037		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	NICOLI CATHY 671 METACOM AVE Bristol, RI 02809
CAMA Number:	94-14-038		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	BRITO ENTERPRISES, INC. 101 TUPELO ST BRISTOL, RI 02809
CAMA Number:	94-14-039		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	COUTO HORACIO L 1265 NW 22ND AVE DELRAY BEACH, FL 33445
CAMA Number:	94-14-040		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	TAVARES, KATIE L 673 METACOM AVE, UNIT 41 BRISTOL, RI 02809
CAMA Number:	94-14-041		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	HERNANDEZ, JUSTIN A 673 METACOM AVE, UNIT 42 BRISTOL, RI 02809
CAMA Number:	94-14-042		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	ANGELONE JILIAN M 1 CHRISTINE CT BRISTOL, RI 02809
CAMA Number:	94-14-043		
Property Address:	673 METACOM AVE		

200 feet Abutters List Report

Bristol, RI
June 05, 2025

Parcel Number:	94-14	Mailing Address:	MEDEIROS, ROBERT M. & LARUE, ISADORA JT 673 METACOM AVE UNIT 44 BRISTOL, RI 02809
CAMA Number:	94-14-044		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SALVAGGIO, JAMES J 673 METACOM AVE # 45 BRISTOL, RI 02809
CAMA Number:	94-14-045		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SACCHETTI, CAROL L. 673 METACOM AVENUE UNIT 46 BRISTOL, RI 02809
CAMA Number:	94-14-046		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	KOTUBY, PAUL M JR 673 METACOM AVE UNIT 47 BRISTOL, RI 02809
CAMA Number:	94-14-047		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	GEORGIOU, PAULA & GEORGIOU, JENNIFER SOPHIA JT 673 METACOM AVE, UNIT 48 BRISTOL, RI 02809
CAMA Number:	94-14-048		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	NORMANDIN, PHILIP TRUSTEE PHILIP NORMANDIN REV LIVING TRUST 673 METACOM AVE UNIT 49 BRISTOL, RI 02809
CAMA Number:	94-14-049		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	KELLEY, CHERYL 673 METACOM AVE, Unit 50 BRISTOL, RI 02809
CAMA Number:	94-14-050		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	GONSALVES, ANDREW J. 673 METACOM AVE BRISTOL, RI 02809
CAMA Number:	94-14-051		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	D'ELIA, WILLIAM J. & GAIL K. TE 673 METACOM AVE, UNIT 52 BRISTOL, RI 02809
CAMA Number:	94-14-052		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	WELLS, RICHARD D. TRUSTEE 675 METACOM AVE, UNIT 53 BRISTOL, RI 02809
CAMA Number:	94-14-053		
Property Address:	675 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	ROGERS, ROSE M. 675 METACOM AVE UNIT 54 BRISTOL, RI 02809
CAMA Number:	94-14-054		
Property Address:	675 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	CCB ENETERPRISES LLC 18 WHEELER AVE BRISTOL, RI 02809
CAMA Number:	94-14-055		
Property Address:	675 METACOM AVE		

200 feet Abutters List Report

Bristol, RI
June 05, 2025

Parcel Number:	94-14	Mailing Address:	MEDEIROS, GAILELYN & EUGENE TE 675 METACOM AVE BRISTOL, RI 02809
CAMA Number:	94-14-056		
Property Address:	675 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	GREY, SALLY M.P. LE CROKE, ALISON L. & 675 METACOM AVE, UNIT 57 BRISTOL, RI 02809
CAMA Number:	94-14-057		
Property Address:	675 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SHATTUCK, ALAN DOUGLAS JR TRUSTEE 261 LINCOLN AVE BARRINGTON, RI 02806
CAMA Number:	94-14-058		
Property Address:	675 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SPAULDING, LUCAS 677 METACOM AVE, UNIT 59 BRISTOL, RI 02809
CAMA Number:	94-14-059		
Property Address:	677 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	BALZANO, JOHN E. & JANE MARIE TE 677 METACOM AVE, UNIT 60 BRISTOL, RI 02809
CAMA Number:	94-14-060		
Property Address:	677 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SWIFT, ROBERT 30 DOLLY DR BRISTOL, RI 02809
CAMA Number:	94-14-061		
Property Address:	677 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	EIKENBERG, SHERI 677 METACOM AVE, UNIT 62 BRISTOL, RI 02809
CAMA Number:	94-14-062		
Property Address:	677 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	LOPES, NELSY 677 METACOM AVE UNIT 63 BRISTOL, RI 02809
CAMA Number:	94-14-063		
Property Address:	677 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	FARINA-ROSENDALE, HOLLIS M 677 METACOM AVE UNIT 64 BRISTOL, RI 02809
CAMA Number:	94-14-064		
Property Address:	677 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SOUSA, MARGUERITE Q 679 METACOM AVE UNIT 65 BRISTOL, RI 02809
CAMA Number:	94-14-065		
Property Address:	679 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	DONAHUE, COLIN M. 7 EVERETT ST BRISTOL, RI 02809
CAMA Number:	94-14-066		
Property Address:	679 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	VIEIRA, CARMELA LIFE ESTATE BYRNES, VIVIAN & ANGELA M TC 44 THAYER STREET BRISTOL, RI 02809
CAMA Number:	94-14-067		
Property Address:	679 METACOM AVE		

200 feet Abutters List Report

Bristol, RI
June 05, 2025

Parcel Number:	94-14	Mailing Address:	VIEIRA, CARMELA LIFE ESTATE BYRNES, VIVIAN & ANGELA M TC 44 THAYER STREET BRISTOL, RI 02809
CAMA Number:	94-14-068		
Property Address:	679 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	CHASE, MARY R. 679 METACOM AVE, UNIT 69 BRISTOL, RI 02809
CAMA Number:	94-14-069		
Property Address:	679 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	BHANDARI, HUM NATH & SARITA POUDYAL TE 679 METACOM AVE UNIT 70 BRISTOL, RI 02809
CAMA Number:	94-14-070		
Property Address:	679 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SMITH, ROBERT B & SUNDERLAND, CATHERINE T JT 679 METACOM AVE UNIT 71 BRISTOL, RI 02809
CAMA Number:	94-14-071		
Property Address:	679 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	GORMAN, DAVID UNIT 72 681 METACOM AVE BRISTOL, RI 02809
CAMA Number:	94-14-072		
Property Address:	681 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	HOSHUE, HEIDI 17101 SW 204TH STREET MIAMI, FL 33187-3518
CAMA Number:	94-14-073		
Property Address:	681 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	RUGGIERO, CHERYL A. 681 METACOM AVE UNIT 74 BRISTOL, RI 02809
CAMA Number:	94-14-074		
Property Address:	681 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	CRATTY, LAUREN M. 681 METACOM AVE, UNIT 75 BRISTOL, RI 02809
CAMA Number:	94-14-075		
Property Address:	681 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	NOVY, PRESTON 33 OHEHYAHTAH PL DANBURY, CT 06810
CAMA Number:	94-14-076		
Property Address:	681 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	MELT PROPERTIES LLC 32 HICKORY LN WATERFORD, CT 06385
CAMA Number:	94-14-077		
Property Address:	681 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SWIFT, ROBERT F 30 DOLLY DR BRISTOL, RI 02809
CAMA Number:	94-14-078		
Property Address:	681 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	PELENDO, ISAAC 683 METACOM AVE UNIT 79 BRISTOL, RI 02809
CAMA Number:	94-14-079		
Property Address:	683 METACOM AVE UNIT 79		

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Parcel Number:	94-14	Mailing Address:	MORAN, CHARLES J & MARY BETH TE
CAMA Number:	94-14-080		683 METACOM AVE., #80
Property Address:	683 METACOM AVE UNIT80		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	SCOTT, KIARA
CAMA Number:	94-14-081		683 METACOM AVE, UNIT 81
Property Address:	683 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	FOX, KEITH M. UNIT 82
CAMA Number:	94-14-082		683 METACOM AVE
Property Address:	683 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-4	Mailing Address:	HEAVY M REAL ESTATE, LLC
CAMA Number:	94-4		685 METACOM AVE
Property Address:	691 METACOM AVE		BRISTOL, RI 02809

Item C2.



#125
#129
#697
#691
ROADCOMMON RD
#35
#37
#29
#41
#38
#36
#685
#670
#43
#40
#42
#46
#44
#668
#663
#48
#648
#661
#52
#655
#58
#60

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Subject Property:

Parcel Number:	128-16	Mailing Address:	RAMOS, LIONEL J
CAMA Number:	128-16		9 SCOTT LANE
Property Address:	668 METACOM AVE		BRISTOL, RI 02809

Abutters:

Parcel Number:	128-15	Mailing Address:	RAMOS, DAVID J.
CAMA Number:	128-15		670 METACOM AVE
Property Address:	670 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	128-78	Mailing Address:	RICHMOND, JONATHAN W & NICOLE M. TE
CAMA Number:	128-78		40 LISA LN
Property Address:	40 LISA LN		BRISTOL, RI 02809
Parcel Number:	128-79	Mailing Address:	TROCCHIO, MATTHEW J. & HAUGH, CIRI E. TE
CAMA Number:	128-79		42 LISA LN
Property Address:	42 LISA LN		BRISTOL, RI 02809
Parcel Number:	128-80	Mailing Address:	ANNIS, JAMES D. JAMES A. JT
CAMA Number:	128-80		44 LISA LN
Property Address:	44 LISA LN		BRISTOL, RI 02809
Parcel Number:	128-81	Mailing Address:	TOWN OF BRISTOL
CAMA Number:	128-81		10 COURT ST
Property Address:	LISA LN		BRISTOL, RI 02809
Parcel Number:	128-82	Mailing Address:	LAGARTO, SHANNON M
CAMA Number:	128-82		46 LISA LN
Property Address:	46 LISA LN		BRISTOL, RI 02809
Parcel Number:	128-83	Mailing Address:	TOWN OF BRISTOL
CAMA Number:	128-83		10 COURT ST
Property Address:	LISA LN		BRISTOL, RI 02809
Parcel Number:	128-84	Mailing Address:	PHELAN, CAROL
CAMA Number:	128-84		43 LISA LN
Property Address:	43 LISA LN		BRISTOL, RI 02809
Parcel Number:	134-1	Mailing Address:	FALES, FRANK M. JR. DONALD G. TRST & THE FALES FA
CAMA Number:	134-1		648 METACOM AVE
Property Address:	648 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-1	Mailing Address:	HEAVY M REAL ESTATE, LLC
CAMA Number:	94-1		685 METACOM AVE
Property Address:	685 METACOM AVE		BRISTOL, RI 02809

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Parcel Number:	94-10	Mailing Address:	CLOUTIER, JOHN PAUL
CAMA Number:	94-10-001		661 METACOM AVE UNIT 1
Property Address:	661 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-10	Mailing Address:	CCB ENTERPRISES LLC
CAMA Number:	94-10-002		18 WHEELER AVE
Property Address:	661 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-10	Mailing Address:	LINK, KRISTINA K
CAMA Number:	94-10-003		1034 CAMDEN WALK
Property Address:	661 METACOM AVE		DECATUR, GA 30033
Parcel Number:	94-10	Mailing Address:	FOISY, SHARON A
CAMA Number:	94-10-004		661 METACOM AVE UNIT 4
Property Address:	661 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-10	Mailing Address:	ORBAN CONSTANTINO REALTY LLC
CAMA Number:	94-10-005		337 NORTH LN
Property Address:	661 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-10	Mailing Address:	HURWITZ, STEVEN J
CAMA Number:	94-10-006		294 MARKST ST
Property Address:	661 METACOM AVE		WARREN, RI 02885
Parcel Number:	94-10	Mailing Address:	FATINI, WALTER A & LEAH J TE
CAMA Number:	94-10-007		661 METACOM AVE, UNIT 7
Property Address:	661 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-10	Mailing Address:	DEANGELIS, DEBORAH
CAMA Number:	94-10-008		661 METACOM AVE UNIT 8
Property Address:	661 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-10	Mailing Address:	FARIAS, CHERYL
CAMA Number:	94-10-009		661 METACOM AVE UNIT 9
Property Address:	661 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-10	Mailing Address:	ANDRADE, KATHIE J., TRUSTEE DONNA
CAMA Number:	94-10-010		P JANARIO IRREVOCABLE TRUST
Property Address:	661 METACOM AVE		661 METACOM AVE, UNIT 10
			BRISTOL, RI 02809
Parcel Number:	94-10	Mailing Address:	HATTUB, JAMES M.
CAMA Number:	94-10-011		661 METACOM AVE, UNIT 11
Property Address:	661 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-10	Mailing Address:	PELOQUIN, JEANNE UNIT 12
CAMA Number:	94-10-012		661 METACOM AVE
Property Address:	661 METACOM AVE		BRISTOL, RI 02809

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Parcel Number:	94-10	Mailing Address:	LEAL, DORA & JOHN TE 510 CHILD ST APT. 402A WARREN, RI 02885
CAMA Number:	94-10-013		
Property Address:	661 METACOM AVE		
Parcel Number:	94-10	Mailing Address:	FILIPPONI, CAROL A 661 METACOM AVE, UNIT 14 BRISTOL, RI 02809
CAMA Number:	94-10-014		
Property Address:	661 METACOM AVE		
Parcel Number:	94-10	Mailing Address:	GOODWIN, LYDIA 661 METACOM AVE UNIT 15 BRISTOL, RI 02809
CAMA Number:	94-10-015		
Property Address:	661 METACOM AVE		
Parcel Number:	94-10	Mailing Address:	PANNONE, LEE ANN 661 METACOM AVENUE BRISTOL, RI 02809
CAMA Number:	94-10-016		
Property Address:	661 METACOM AVE		
Parcel Number:	94-10	Mailing Address:	SILVA, LORENE L. 661 METACOM AVE UNIT 17 BRISTOL, RI 02809
CAMA Number:	94-10-017		
Property Address:	661 METACOM AVE		
Parcel Number:	94-10	Mailing Address:	ROY, JOSHUA P. & MCGREGOR, SARAH A. JT 661 METACOM AVE, UNIT 18 BRISTOL, RI 02809
CAMA Number:	94-10-018		
Property Address:	661 METACOM AVE		
Parcel Number:	94-10	Mailing Address:	ORBAN CONSTANTINO REALTY LLC 337 NORTH LN BRISTOL, RI 02809
CAMA Number:	94-10-019		
Property Address:	661 METACOM AVE		
Parcel Number:	94-10	Mailing Address:	ZORBAN, LLC 411 NORTH LN BRISTOL, RI 02809
CAMA Number:	94-10-020		
Property Address:	661 METACOM AVE		
Parcel Number:	94-10	Mailing Address:	GAGNE, KAREN A. 661 METACOM AVENUE # 21 BRISTOL, RI 02809
CAMA Number:	94-10-021		
Property Address:	661 METACOM AVE		
Parcel Number:	94-10	Mailing Address:	ORBAN CONSTANTINO REALTY LLC 337 NORTH LN BRISTOL, RI 02809
CAMA Number:	94-10-022		
Property Address:	661 METACOM AVE		
Parcel Number:	94-10	Mailing Address:	DEFREITAS, MARIA J &ERNESTO TE DEFREITAS, ZACKERY JT 661 METACOM AVE UNIT 23 BRISTOL, RI 02809
CAMA Number:	94-10-023		
Property Address:	661 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	FUSCO, JAMIE & SUNHE TE 663 METACOM AVE, UNIT 1 BRISTOL, RI 02809
CAMA Number:	94-14-001		
Property Address:	663 METACOM AVE		

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Parcel Number:	94-14	Mailing Address:	SWIFT, ROBERT F 30 DOLLY DR BRISTOL, RI 02809
CAMA Number:	94-14-002		
Property Address:	663 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	KAMIYAMA, MASAKUNI & FUJII-KAMIYAMA, MINO 663 METACOM AVE BRISTOL, RI 02809
CAMA Number:	94-14-003		
Property Address:	663 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	NOLETTE, MICHAEL JOSEPH & ANNA LANORA TE 663 METACOM AVE, UNIT 4 BRISTOL, RI 02809
CAMA Number:	94-14-004		
Property Address:	663 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	MCLEOD, LAURA K. 665 METACOM AVE, UNIT 5 BRISTOL, RI 02809
CAMA Number:	94-14-005		
Property Address:	665 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	CRUZ, BENJAMIN JR. ADELINE ETUX 665 METACOM AVE UNIT 7 BRISTOL, RI 02809
CAMA Number:	94-14-007		
Property Address:	665 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	BOUCHARD, MARIANNE L 665 METACOM AVE UNIT 8 BRISTOL, RI 02809
CAMA Number:	94-14-008		
Property Address:	665 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	BERWICK, JULIA 425 EAST 82ND ST APT 3-B NEW YORK, NY 10028
CAMA Number:	94-14-009		
Property Address:	665 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	DANSEREAU, JASON C 665 METACOM AVE UNIT 10 BRISTOL, RI 02809
CAMA Number:	94-14-010		
Property Address:	665 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	MEDEIROS, SHAUNI-LEE 667 METACOM AVE UNIT 11 BRISTOL, RI 02809
CAMA Number:	94-14-011		
Property Address:	667 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	BORGES, GEORGE E & ROSE TE 667 METACOM AVE UNIT 12 BRISTOL, RI 02809
CAMA Number:	94-14-012		
Property Address:	667 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SWIFT, ROBERT F 667 METACOM AVE UNIT 13 BRISTOL, RI 02809
CAMA Number:	94-14-013		
Property Address:	667 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	KURKOSKI, HAYLEE 667 METACOM AVE, UNIT 14 BRISTOL, RI 02809
CAMA Number:	94-14-014		
Property Address:	667 METACOM AVE		

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Parcel Number:	94-14	Mailing Address:	LAGARTO, DANIEL L 667 METACOM AVE, UNIT 15 BRISTOL, RI 02809
CAMA Number:	94-14-015		
Property Address:	667 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	FEIJO, JORDAN JOSEPH & GEREMIA, KASEY MARIE TE 667 METACOM AVE UNIT 16 BRISTOL, RI 02809
CAMA Number:	94-14-016		
Property Address:	667 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	STORTI, ANNE L. UNIT 17 669 METACOM AVE BRISTOL, RI 02809
CAMA Number:	94-14-017		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	LEONARD, LOUISE A. 669 METACOM AVE UNIT 18 BRISTOL, RI 02809
CAMA Number:	94-14-018		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	OLIVEIRA, MARIA BEATRIZ UNIT 19 669 METACOM AVE BRISTOL, RI 02809
CAMA Number:	94-14-019		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	RAMOS, RYAN M 669 METACOM AVE, UNIT 20 BRISTOL, RI 02809
CAMA Number:	94-14-020		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	CHABOT, DONNA M. UNIT 21 669 METACOM AVE BRISTOL, RI 02809
CAMA Number:	94-14-021		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	CORKUM, JODIE-LYNN 669 METACOM AVE, UNIT 22 BRISTOL, RI 02809
CAMA Number:	94-14-022		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	RENAUD, CAROL 669 METACOM AVE, UNIT 23 BRISTOL, RI 02809
CAMA Number:	94-14-023		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	BREWER, JAMES 669 METACOM AVE UNIT 24 BRISTOL, RI 02809
CAMA Number:	94-14-024		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SHEPARD, KATHLEEN F. 669 METACOM AVE, UNIT 25 BRISTOL, RI 02809
CAMA Number:	94-14-025		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	KRUSHNOWSKI, JOHNA A. TRUSTEE 669 METACOM AVE, UNIT 26 BRISTOL, RI 02809
CAMA Number:	94-14-026		
Property Address:	669 METACOM AVE		

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Parcel Number:	94-14	Mailing Address:	TRIVISONNO, TIA TRUSTEE OF THE KAREN TRIVISONNO IRREVOCABLE TRUST 669 METACOM AVE, UNIT 27 BRISTOL, RI 02809
CAMA Number:	94-14-027		
Property Address:	669 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	TROIA, DANIEL B 669 METACOM AVE # 28 BRISTOL, RI 02809
CAMA Number:	94-14-028		
Property Address:	669 METACOM AVE # 28		
Parcel Number:	94-14	Mailing Address:	MCKENNA, JARED D 671 METACOM AVE UNIT 29 BRISTOL, RI 02809
CAMA Number:	94-14-029		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	PEREIRA, DANNY 1 LANDMARK RD WALLINGFORD, CT 06494
CAMA Number:	94-14-030		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SENNOTT, GEORGE F. III & MAGHINI, JILLIAN JT 671 METACOM AVE, UNIT 31 BRISTOL, RI 02809
CAMA Number:	94-14-031		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	LIMA, TYLER G 671 METACOM AVE, Unit 32 BRISTOL, RI 02809
CAMA Number:	94-14-032		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	ORBAN CONSTANTINO REALTY LLC 337 NORTH LN BRISTOL, RI 02809
CAMA Number:	94-14-033		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	BRITO ENTERPRISES, INC. 101 TUPELO ST BRISTOL, RI 02809
CAMA Number:	94-14-034		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SMITH, LINDA BIRD 671 METACOM AVE UNIT 35 BRISTOL, RI 02809
CAMA Number:	94-14-035		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	DEMELO, HUMBERTO S. & MARIA LE BOTELHO, SANDRA 671 METACOM AVE, UNIT 36 BRISTOL, RI 02809
CAMA Number:	94-14-036		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	CHILD, MARIA F 671 METACOM AVE UNIT 37 BRISTOL, RI 02809
CAMA Number:	94-14-037		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	NICOLI CATHY 671 METACOM AVE Bristol, RI 02809
CAMA Number:	94-14-038		
Property Address:	671 METACOM AVE		

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Parcel Number:	94-14	Mailing Address:	BRITO ENTERPRISES, INC. 101 TUPELO ST BRISTOL, RI 02809
CAMA Number:	94-14-039		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	COUTO HORACIO L 1265 NW 22ND AVE DELRAY BEACH, FL 33445
CAMA Number:	94-14-040		
Property Address:	671 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	TAVARES, KATIE L 673 METACOM AVE, UNIT 41 BRISTOL, RI 02809
CAMA Number:	94-14-041		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	HERNANDEZ, JUSTIN A 673 METACOM AVE, UNIT 42 BRISTOL, RI 02809
CAMA Number:	94-14-042		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	ANGELONE JILIAN M 1 CHRISTINE CT BRISTOL, RI 02809
CAMA Number:	94-14-043		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	MEDEIROS, ROBERT M. & LARUE, ISADORA JT 673 METACOM AVE UNIT 44 BRISTOL, RI 02809
CAMA Number:	94-14-044		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SALVAGGIO, JAMES J 673 METACOM AVE # 45 BRISTOL, RI 02809
CAMA Number:	94-14-045		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	SACCHETTI, CAROL L. 673 METACOM AVENUE UNIT 46 BRISTOL, RI 02809
CAMA Number:	94-14-046		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	KOTUBY, PAUL M JR 673 METACOM AVE UNIT 47 BRISTOL, RI 02809
CAMA Number:	94-14-047		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	GEORGIOU, PAULA & GEORGIOU, JENNIFER SOPHIA JT 673 METACOM AVE, UNIT 48 BRISTOL, RI 02809
CAMA Number:	94-14-048		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	NORMANDIN, PHILIP TRUSTEE PHILIP NORMANDIN REV LIVING TRUST 673 METACOM AVE UNIT 49 BRISTOL, RI 02809
CAMA Number:	94-14-049		
Property Address:	673 METACOM AVE		
Parcel Number:	94-14	Mailing Address:	KELLEY, CHERYL 673 METACOM AVE, Unit 50 BRISTOL, RI 02809
CAMA Number:	94-14-050		
Property Address:	673 METACOM AVE		

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Parcel Number:	94-14	Mailing Address:	GONSALVES, ANDREW J.
CAMA Number:	94-14-051		673 METACOM AVE
Property Address:	673 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	D'ELIA, WILLIAM J. & GAIL K. TE
CAMA Number:	94-14-052		673 METACOM AVE, UNIT 52
Property Address:	673 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	WELLS, RICHARD D. TRUSTEE
CAMA Number:	94-14-053		675 METACOM AVE, UNIT 53
Property Address:	675 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	ROGERS, ROSE M.
CAMA Number:	94-14-054		675 METACOM AVE UNIT 54
Property Address:	675 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	CCB ENETERPRISES LLC
CAMA Number:	94-14-055		18 WHEELER AVE
Property Address:	675 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	MEDEIROS, GAILELYN & EUGENE TE
CAMA Number:	94-14-056		675 METACOM AVE
Property Address:	675 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	GREY, SALLY M.P. LE CROKE, ALISON L. &
CAMA Number:	94-14-057		675 METACOM AVE, UNIT 57
Property Address:	675 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	SHATTUCK, ALAN DOUGLAS JR TRUSTEE
CAMA Number:	94-14-058		261 LINCOLN AVE
Property Address:	675 METACOM AVE		BARRINGTON, RI 02806
Parcel Number:	94-14	Mailing Address:	SPAULDING, LUCAS
CAMA Number:	94-14-059		677 METACOM AVE, UNIT 59
Property Address:	677 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	BALZANO, JOHN E. & JANE MARIE TE
CAMA Number:	94-14-060		677 METACOM AVE, UNIT 60
Property Address:	677 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	SWIFT, ROBERT
CAMA Number:	94-14-061		30 DOLLY DR
Property Address:	677 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	EIKENBERG, SHERI
CAMA Number:	94-14-062		677 METACOM AVE, UNIT 62
Property Address:	677 METACOM AVE		BRISTOL, RI 02809

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Parcel Number:	94-14	Mailing Address:	LOPES, NELSY
CAMA Number:	94-14-063		677 METACOM AVE UNIT 63
Property Address:	677 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	FARINA-ROSENDALE, HOLLIS M
CAMA Number:	94-14-064		677 METACOM AVE UNIT 64
Property Address:	677 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	SOUSA, MARGUERITE Q
CAMA Number:	94-14-065		679 METACOM AVE UNIT 65
Property Address:	679 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	DONAHUE, COLIN M.
CAMA Number:	94-14-066		7 EVERETT ST
Property Address:	679 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	VIEIRA, CARMELA LIFE ESTATE
CAMA Number:	94-14-067		BYRNES, VIVIAN & ANGELA M TC
Property Address:	679 METACOM AVE		44 THAYER STREET
			BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	VIEIRA, CARMELA LIFE ESTATE
CAMA Number:	94-14-068		BYRNES, VIVIAN & ANGELA M TC
Property Address:	679 METACOM AVE		44 THAYER STREET
			BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	CHASE, MARY R.
CAMA Number:	94-14-069		679 METACOM AVE, UNIT 69
Property Address:	679 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	BHANDARI, HUM NATH & SARITA
CAMA Number:	94-14-070		POUDYAL TE
Property Address:	679 METACOM AVE		679 METACOM AVE UNIT 70
			BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	SMITH, ROBERT B & SUNDERLAND,
CAMA Number:	94-14-071		CATHERINE T JT
Property Address:	679 METACOM AVE		679 METACOM AVE UNIT 71
			BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	GORMAN, DAVID UNIT 72
CAMA Number:	94-14-072		681 METACOM AVE
Property Address:	681 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	HOSHUE, HEIDI
CAMA Number:	94-14-073		17101 SW 204TH STREET
Property Address:	681 METACOM AVE		MIAMI, FL 33187-3518
Parcel Number:	94-14	Mailing Address:	RUGGIERO, CHERYL A.
CAMA Number:	94-14-074		681 METACOM AVE UNIT 74
Property Address:	681 METACOM AVE		BRISTOL, RI 02809

200 feet Abutters List Report

Bristol, RI
June 05, 2025

Parcel Number:	94-14	Mailing Address:	CRATTY, LAUREN M.
CAMA Number:	94-14-075		681 METACOM AVE, UNIT 75
Property Address:	681 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	NOVY, PRESTON
CAMA Number:	94-14-076		33 OHEHYAHTAH PL
Property Address:	681 METACOM AVE		DANBURY, CT 06810
Parcel Number:	94-14	Mailing Address:	MELT PROPERTIES LLC
CAMA Number:	94-14-077		32 HICKORY LN
Property Address:	681 METACOM AVE		WATERFORD, CT 06385
Parcel Number:	94-14	Mailing Address:	SWIFT, ROBERT F
CAMA Number:	94-14-078		30 DOLLY DR
Property Address:	681 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	PELENDO, ISAAC
CAMA Number:	94-14-079		683 METACOM AVE UNIT 79
Property Address:	683 METACOM AVE UNIT 79		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	MORAN, CHARLES J & MARY BETH TE
CAMA Number:	94-14-080		683 METACOM AVE., #80
Property Address:	683 METACOM AVE UNIT80		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	SCOTT, KIARA
CAMA Number:	94-14-081		683 METACOM AVE, UNIT 81
Property Address:	683 METACOM AVE		BRISTOL, RI 02809
Parcel Number:	94-14	Mailing Address:	FOX, KEITH M. UNIT 82
CAMA Number:	94-14-082		683 METACOM AVE
Property Address:	683 METACOM AVE		BRISTOL, RI 02809

A list showing the names and addresses of all abutting and adjacent property owners shall be attached to this application.

Signature of Owner/Applicant _____ Date 6-5-2025

Gabriel J. Kamm 6/5/2025

Notarized:

Subscribed and sworn to before me this 5th day of June, 2025.

Linda A. Simon
NOTARY PUBLIC Notary Public

LINDA A. SIMON
NOTARY PUBLIC
STATE OF RHODE ISLAND
NOTARY ID # 15599
MY COMMISSION EXPIRES AUGUST 08, 2025

PRE-APPLICATION REVIEW

FOR

668 METACOM AVENUE

ASSESSORS MAP 128 PARCEL 16

IN

BRISTOL, RHODE ISLAND

Thomas J. Principe, III
REGISTERED PROFESSIONAL ENGINEER

PRINCIPE COMPANY
ESTABLISHED IN 1981

APPLICANT:
DAVID J. RAMOS
12 RUTH AVENUE
BRISTOL, RI 02809

OWNER:
LIONEL J. RAMOS
9 SCOTT LANE
BRISTOL, RI 02809

PREPARED BY:

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
27 SAKONNET RIDGE DRIVE
TIVERTON, RHODE ISLAND 02878
401.816.5385
INFO@PRINCIPECOMPANY.COM
WWW.PRINCIPECOMPANY.COM

JUNE 03, 2025

DRAWING ISSUE:

- ☐ CONCEPT
- ☐ CUSTOMER APPROVAL
- ☒ PERMITTING
- ☐ CONSTRUCTION
- ☐ AS-BUILT
- ☐ OTHER:

ONLY PLANS ISSUED FOR CONSTRUCTION SHALL BE USED FOR CONSTRUCTION

LIST OF DRAWINGS

1) TITLE SHEET
2) EXISTING CONDITIONS PLAN
3) PROPOSED LAYOUT PLAN
4) DRAINAGE & GRADING PLAN
5) CONSTRUCTION DETAILS – 1

STREET INDEX
METACOM AVENUE
(PUBLIC– STATE HIGHWAY)

SOIL REFERENCE:

NRCS WEB SOIL SURVEY:
PmA – PITTSTOWN SILT LOAM (0–3% SLOPES) [27" GWT]
Sf – STISSING VERY STONY SILT LOAM [9" GWT]
CaC – CANTON–CHARLTON–ROCK OUTCROP COMPLEX (3–15% SLOPES)
DATE ACCESSED: 03/25/24

PLAN REFERENCE:

1.) EXISTING CONDITIONS TAKEN FROM CLASS I SURVEY PLAN ENTITLED:
"EXISTING CONDITIONS PLAN FOR DAVID J. RAMOS & LIONEL J. RAMOS"
AP 128 LOT 15 & 16 IN BRISTOL, RI
DATE: 03/27/2024
PREPARED BY: PRINCIPE COMPANY, INC. – SURVEYING DIVISION
SIGNED BY: STEPHEN T. LONG, PLS NO. 1930



SITE LOCUS
NOT TO SCALE

ZONING – GB

ROUTE 136 (METACOM AVENUE) OVERLAY

DIMENSIONAL REQUIREMENTS
MIN. LOT AREA: 10,000 SF
MIN. LOT WIDTH: 100 FT
MIN. FRONT YARD: 50 FT
MIN. REAR YARD: 30 FT
MIN. SIDE YARD: 10 FT
MAX. BLDG. LOT COV.: 40%
MAX. TOTAL LOT COV.: 70%
MIN. DIST. FROM RES. ZONE: 25 FT
MAX. FLOOR AREA RATIO: 0.5

GENERAL NOTES:

1. THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATE AVAILABLE INFORMATION. THE UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE ALL INCLUSIVE. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, BOTH OVERHEAD AND UNDERGROUND, AND "DIG-SAFE" MU BE NOTIFIED PRIOR TO COMMENCING ANY CONSTRUCTION OPERATIONS. RESTORATION AND REPAIR OF DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL CO THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR TOWN WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEA 72 HOURS IN ADVANCE.

2. THIS SITE LIES IN ZONE X AS SHOWN ON THE FIRM MAP FOR THE CITY OF BRISTOL, RI COMMUNITY PANEL NO.44001C0011H, MAP REVISED JULY 7, 2014.

3. THERE ARE NO KNOWN EASEMENTS OR RIGHTS OF WAY WITHIN OR ADJACENT TO THIS PARCEL UNLESS OTHERWISE SHOWN.

4. THE CONTOURS SHOWN HEREIN ARE BASED UPON THE NAVD88 DATUM.

5. THERE ARE UNDERGROUND UTILITIES LOCATED WITHIN METACOM AVENUE ALONG THIS PARCELS FRONTAGE.

LEGEND

	EXISTING	PROPOSED
PERIMETER LINE		
ABUTTER LINE		
EDGE OF PAVEMENT		
FENCE	X X X	
EASEMENT		
CONTOUR	87	87
UTILITY POLE		
TEST HOLE	TH	
SAWCUT		
BUILDING SETBACK		
OVERHEAD WIRE	OHW	OHW
CATCH BASIN		
DRAIN MANHOLE		
DRAIN LINE	D D	D D
WATER LINE	W W	W W
WATER GATE VALVE	WV	WV
WELL	W	
SEWER LINE	S S	S S
WETLAND FLAG		
SIGN		
DOWNSPOUT		
LIGHT POST		
STONEWALL		
COMPOST FILTER SOCK		
RIDOT STD 9.9.0 CONSTRUCTION ACCESS		

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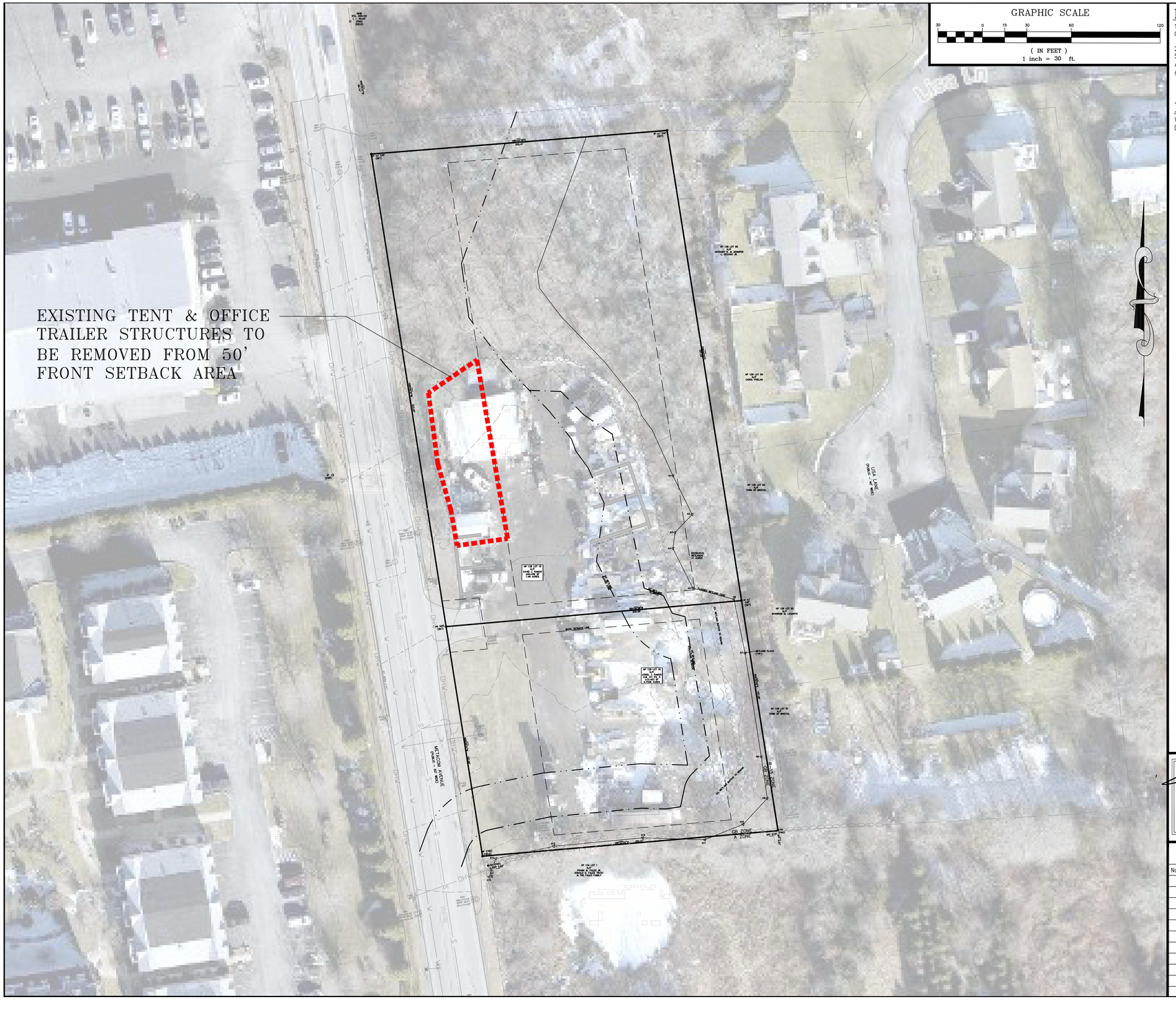

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

PLAN NOTES:

1. CONTRACTOR TO VERIFY BENCHMARK AND EXISTING CONDITIONS PRIOR TO COMMENCING CONSTRUCTION AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.

2. PLAN IS TO BE USED SOLELY FOR THE USE OF THE SOIL EROSION, RUNOFF AND SEDIMENT CONTROL ORDINANCE FOR THE TOWN OF BRISTOL AND IS NOT AUTHORIZED FOR ANY OTHER USE. CONTRACTOR TO STRICTLY ADHERE TO BRISTOL'S SOIL EROSION, RUNOFF, AND SEDIMENT CONTROL ORDINANCE AT ALL TIMES DURING CONSTRUCTION.

RIDEM AERIAL REFERENCE:

WINTER 2024 AERIAL FROM RIDEM/RIGIS WEBSITE
DATE ACCESSED: 06/05/25

ZONING – GB

ROUTE 136 (METACOM AVENUE) OVERLAY

DIMENSIONAL REQUIREMENTS	EXISTING
MIN. LOT AREA: 10,000 SF	31,403 SF
MIN. LOT WIDTH: 100 FT	157.0 FT
MIN. FRONT YARD: 50 FT	N/A
MIN. REAR YARD: 30 FT	N/A
MIN. SIDE YARD: 10 FT	N/A
MAX. BLDG. LOT COV.: 40%	N/A
MAX. TOTAL LOT COV.: 70%	N/A
MIN. DIST. FROM RES. ZONE: 25 FT	N/A
MAX. FLOOR AREA RATIO: 0.5	N/A

APPLICANT:
DAVID J. RAMOS
12 RUTH AVENUE
BRISTOL, RI 02809

OWNER:
LIONEL J. RAMOS
9 SCOTT LANE
BRISTOL, RI 02809

EXISTING CONDITIONS

Thomas J. Principe, III
REGISTERED PROFESSIONAL ENGINEER

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
27 SAKONNET RIDGE DRIVE
TIVERTON, RI 02878
401.816.5385
WWW.PRINCIPECOMPANY.COM

REVISIONS

No.	DATE	DRWN	CHKD

PRE-APPLICATION REVIEW
for
668 METACOM AVENUE
AP 128 LOT 16
in
BRISTOL, RHODE ISLAND

SCALE: 1" = 30'		SHEET NO: 2 of 5
DRAWN BY: KAB	DESIGN BY: KAB	CHECKED BY: TJP
DATE: 06/03/2025		PROJECT NO.: ERSC-2024-2

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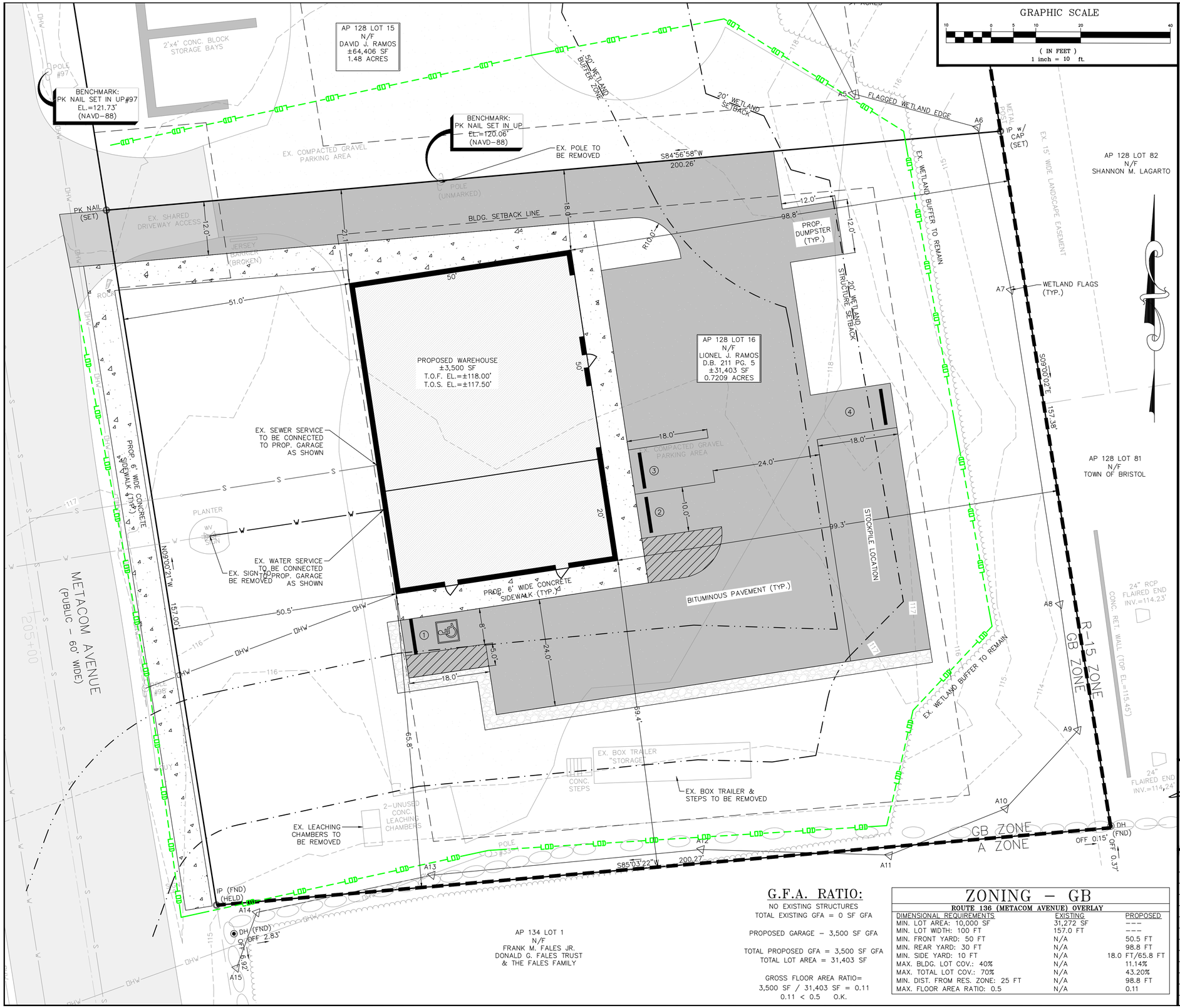

PLAN NOTES:

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3. SEE ADDITIONAL NOTES ON SHEET 2 OF 2, WHICH NEED TO BE STRICTLY ADHERED TO AS WELL.

ARCHITECT NOTE:

IT IS THE RESPONSIBILITY OF THE ARCHITECT TO FINALIZE SITE LAYOUT & COORDINATE ELEMENTS WITH ENGINEER PRIOR TO CONSTRUCTION. FINAL GRADING & LAYOUT SHALL BE COORDINATED AND VERIFIED THROUGH ARCHITECT DRAWINGS.

BUILDING LOT COVERAGE:

NO EXISTING STRUCTURES
TOTAL EXISTING LOT COVERAGE = 0 SF

PROPOSED GARAGE – 3,500 SF

TOTAL PROPOSED LOT COVERAGE = 3,500 SF
TOTAL LOT AREA = 31,403 SF

LOT COVERAGE=
3,500 SF / 31,403 SF X 100% = 11.14%
11.14% TOTAL LOT COVERAGE < 25% O.K.

TOTAL LOT COVERAGE:

EXISTING GRAVEL PARKING AREA – 12,973 SF
TOTAL EXISTING LOT COVERAGE = 12,973 SF

PROPOSED BUILDING = 3,500 SF
PROPOSED ON-SITE SIDEWALK = 1,472 SF
PROPOSED PAVEMENT = 8,593 SF

TOTAL PROPOSED LOT COVERAGE = 13,565 SF
TOTAL LOT AREA = 31,403 SF

LOT COVERAGE=
13,565 SF / 31,403 SF X 100% = 43.20%
43.20% TOTAL LOT COVERAGE < 70% O.K.

PARKING REQUIREMENTS:

MECHANICAL EQUIPMENT REPAIR
[OTHER BUSINESS & COMMERCIAL SERVICE USE]
1 SPOT / 1,000 SF GFA REQ.
3,500 SF PROPOSED x 1 SPOT/1,000 SF GFA = 3.5 REQ.
3,000-19,999 SF GFA = 1 LOADING SPACE REQ.

TOTAL PARKING SPOTS REQUIRED = 3.5
TOTAL PARKING SPOTS PROVIDED = 5

G.F.A. RATIO:

NO EXISTING STRUCTURES
TOTAL EXISTING GFA = 0 SF GFA

PROPOSED GARAGE – 3,500 SF GFA

TOTAL PROPOSED GFA = 3,500 SF GFA
TOTAL LOT AREA = 31,403 SF

GROSS FLOOR AREA RATIO=
3,500 SF / 31,403 SF = 0.11
0.11 < 0.5 O.K.

ZONING – GB

ROUTE 136 (METACOM AVENUE) OVERLAY

DIMENSIONAL REQUIREMENTS	EXISTING	PROPOSED
MIN. LOT AREA: 10,000 SF	31,272 SF	---
MIN. LOT WIDTH: 100 FT	157.0 FT	---
MIN. FRONT YARD: 50 FT	N/A	50.5 FT
MIN. REAR YARD: 30 FT	N/A	98.8 FT
MIN. SIDE YARD: 10 FT	N/A	18.0 FT/65.8 FT
MAX. BLDG. LOT COV.: 40%	N/A	11.14%
MAX. TOTAL LOT COV.: 70%	N/A	43.20%
MIN. DIST. FROM RES. ZONE: 25 FT	N/A	98.8 FT
MAX. FLOOR AREA RATIO: 0.5	N/A	0.11

APPLICANT:
DAVID J. RAMOS
12 RUTH AVENUE
BRISTOL, RI 02809

OWNER:
LIONEL J. RAMOS
9 SCOTT LANE
BRISTOL, RI 02809

PROPOSED LAYOUT PLAN

Thomas J. Principe, III
No. 9107
REGISTERED PROFESSIONAL ENGINEER

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
27 SAKONNET RIDGE DRIVE
TIVERTON, RI 02878
401.816.5385
WWW.PRINCIPECOMPANY.COM

REVISIONS

No.	DATE	DRWN	CHKD

PRE-APPLICATION REVIEW
for
668 METACOM AVENUE
AP 128 LOT 16
in
BRISTOL, RHODE ISLAND

SCALE: 1" = 10'		SHEET NO: 3 of 5
DRAWN BY: KAB	DESIGN BY: KAB	CHECKED BY: TJP
DATE: 06/03/2025		PROJECT NO.: ERSC-2024-2

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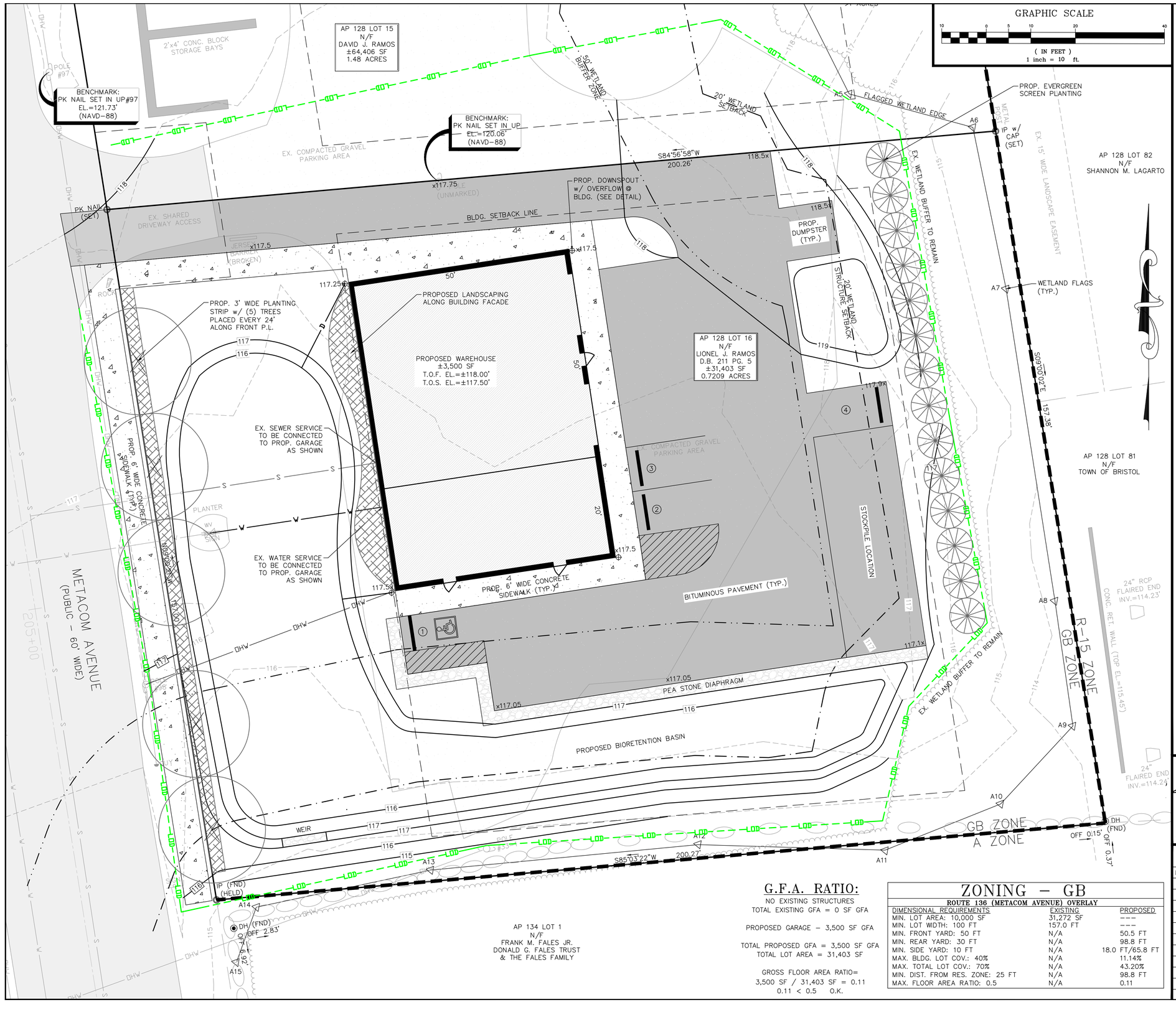

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PROPOSED GARAGE – 3,500 SF

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TOTAL LOT AREA = 31,403 SF

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0.11 < 0.5 O.K.

ZONING – GB

ROUTE 136 (METACOM AVENUE) OVERLAY

DIMENSIONAL REQUIREMENTS	EXISTING	PROPOSED
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MAX. FLOOR AREA RATIO: 0.5	N/A	0.11

APPLICANT:
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12 RUTH AVENUE
BRISTOL, RI 02809

OWNER:
LIONEL J. RAMOS
9 SCOTT LANE
BRISTOL, RI 02809

DRAINAGE & GRADING PLAN

Thomas J. Principe, III
No. 19707
REGISTERED PROFESSIONAL ENGINEER

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
27 SAKONNET RIDGE DRIVE
TIVERTON, RI 02878
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REVISIONS

No.	DATE	DRWN	CHKD

PRE-APPLICATION REVIEW
for
668 METACOM AVENUE
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SCALE: 1" = 10'		SHEET NO: 4 of 5
DRAWN BY: KAB	DESIGN BY: KAB	CHECKED BY: TJP
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GENERAL NOTES

1. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY THE STATE OF RHODE ISLAND AND THE MUNICIPALITY PRIOR TO COMMENCING ANY WORK.
2. IT SHALL ALSO BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITIES, STRUCTURES, AND ABUTTING PROPERTIES. THE COST OF ANY REPAIR OR REPLACEMENT OF DAMAGED ITEMS SHALL BE BORNE BY THE CONTRACTOR.
3. BEFORE STARTING ANY CONSTRUCTION THE CONTRACTOR SHALL COORDINATE INSTALLATION OF ANY HYDRANTS, WATER MAINS, BLOWOFF ASSEMBLIES, FITTINGS, AND VALVES WITH THE LOCAL WATER DEPARTMENT AS TO TYPE AND MANUFACTURER.
4. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE MUNICIPAL ENGINEERING DEPARTMENT AND ALL UTILITY INSTALLATIONS AND INSPECTIONS WITH THE APPROPRIATE UTILITY COMPANY. A 48 HOUR ADVANCE NOTICE IS REQUIRED BEFORE WORK COMMENCEMENT.
5. ALL WORK PERFORMED HEREIN SHALL BE GOVERNED BY THE "R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (REVISION OF 1997)" WITH ALL CORRECTIONS AND ADDENDA AND THE 1974 R.I. STANDARD DETAILS WITH ALL CORRECTIONS AND ADDENDA AND THE TOWN OF BRISTOL STANDARD SPECIFICATIONS AND DETAILS.
6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR QUANTITY TAKE-OFF IN COMPUTING ANY ESTIMATES.
7. EMBANKMENT SLOPES AND ALL DISTURBED AREAS ARE TO RECEIVE 4" OF TOPSOIL AND SEEDED, SEE EROSION CONTROL PROGRAM.
8. UNLESS OTHERWISE SPECIFIED, ALL STORM DRAINS SHALL BE REINFORCED CONCRETE CLASS III PIPE.
9. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION INDICATED ON THESE PLANS. THAT INCLUDES ANY CONSTRUCTION TO BRING UTILITIES TO SITE, ANY REPAIRS, ANY TRENCHING REQUIRED, HYDRANTS, ANY AND ALL CONSTRUCTION FOR ACCEPTANCE OF ROADS AND EASEMENTS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEDIMENTATION AND EROSION CONTROLS.
11. THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR. "DIG SAFE" SHALL BE CONTACTED BY THE CONTRACTOR AS PART OF THIS VERIFICATION.
12. IN ALL EXCAVATION AND PLACEMENT OF FILL, THE CONTRACTOR SHALL PERFORM THE WORK IN FULL COMPLIANCE WITH THE R.I. STANDARD SPECIFICATION SECTION 202.
13. ALL WATER MAINS SHALL BE DEFLECTED ALONG A CURVE WITH A MINIMUM RADIUS OF 250' AT ANY LOCATION WHERE THIS IS NOT POSSIBLE, PROPER BENDS AND FITTINGS SHALL BE USED.
14. ALL EXCESS SOIL, STUMPS, TREES, ROCKS, BOULDERS, AND OTHER REFUSE SHALL BE DISCARDED OFF SITE, IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.

EROSION CONTROL & SOIL STABILIZATION PROGRAM

1. DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
2. ALL DISTURBED SLOPES, EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15, SHALL BE SEEDED OR PROTECTED BY THAT DATE, FOR ANY WORK COMPLETED DURING EACH CONSTRUCTION YEAR.
3. THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH R.I. STD SPECIFICATION M 18.
4. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS, BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCOLUM FOR EACH VARIETY.
5. THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWNG PERMANENT SEEDING MIXTURES:

A. MOWED AREA (ALL FLATS OR SLOPES LESS THAN 3:1)

MIXTURE:	% BY WEIGHT:	SEEDING DATES:
RED FESCUE	75	APRIL 1 – JUNE 15
KENTUCKY BLUEGRASS	15	AUGUST 15 – OCTOBER 15
COLONIAL BENTGRASS	5	
PERENNIAL RYEGRASS	5	
TOTAL:	100 lbs/Ac.	

B. UNMOWED AREA OR INFREQUENTLY MOSED (ALL SLOPES GREATER THAN 3:1)

MIXTURE:	% BY WEIGHT:	SEEDING DATES:
RED FESCUE	75	APRIL 1 – JUNE 15
COLONIAL BENTGRASS	5	AUGUST 15 – OCTOBER 15
PERENNIAL RYEGRASS	5	
BIRDSFOOT TREFOIL	15	
TOTAL:	100 lbs/Ac.	

6. TEMPORARY TREATMENTS SHALL CONSIST OF A STRAW, OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS) THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
7. STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 3,000 – 4,000 lbs/Ac.
8. ALL STRAW BALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN HELP MINIMIZE THE EROSION. A TEMPORARY SEEDING GUIDE MUST BE INCLUDED AS A REFERENCE. THE FOLLOWING SPECIES ARE RECOMMENDED:

MIXTURE:	lbs./1,000 S.F.	lbs/Ac.	SEEDING DATES:
ANNUAL RYEGRASS	1.0 – 1.5	40 – 60	3/1 – 6/1
PERENNIAL RYEGRASS	1.0 – 1.5	40 – 60	3/1 – 6/1
SUDAN GRASS	0.7 – 1.0	30 – 40	5/15 – 8/15
MILLET	0.7 – 1.0	30 – 40	5/15 – 8/15
WINTER RYE	3.0	120	4/15 – 6/15
OATS	0.5 – 5.0	86 – 120	3/1 – 6/15
WEEPING COVER GRASS	0.5 – 5.0	5 – 20	5/1 – 7/1

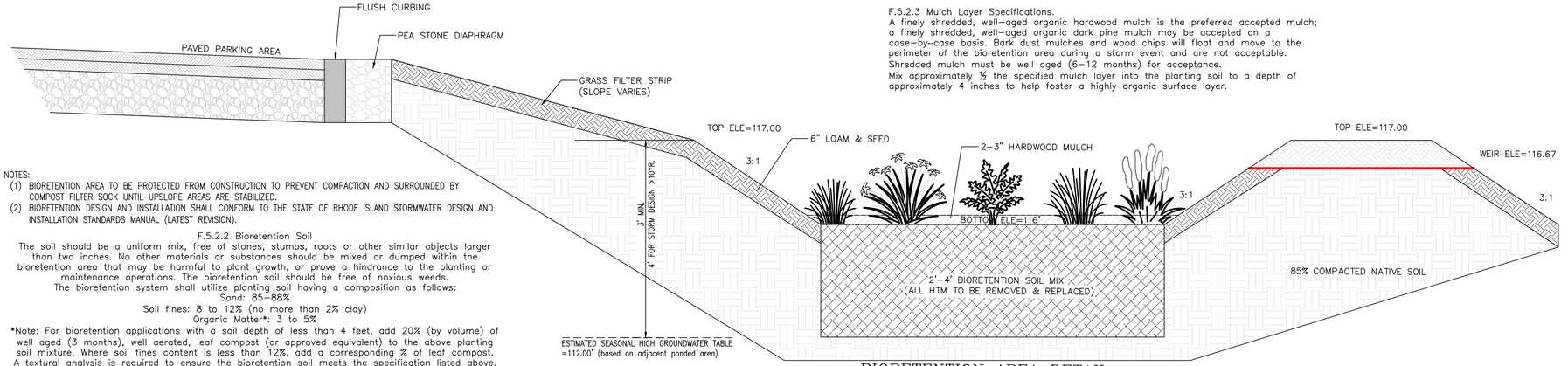
9. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE.
10. ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE R.I.D.P.W. STD SPECIFICATIONS SECTION 202.
11. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 15 DAYS OF FINAL GRADING.
12. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS, THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND STOCKPILES SHALL ALSO BE SEEDED AND/OR STABILIZED.
13. ON BOTH STEEP AND LONG SLOPES CONSIDERATION SHALL BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.
14. REFERENCE THE SEDIMENTATION CONTROL PROGRAM AND ORDER OF PROCEDURE FOR PROPER COORDINATION
15. THE DRAINAGE SYSTEM SHALL RECEIVE ONE FINAL CLEANING PRIOR TO ACCEPTANCE TO THE OVERALL PROJECT BY THE OWNER SEDIMENTS SHALL BE DISPOSED OF IN A PROPER MANNER.

ORDER OF PROCEDURE:

1. PRIOR TO ANY CLEARING AND GRUBBING OR ANY ROUGH GRADING, TEMPORARY STRAW BALES AND SANDBAGS SHALL BE PLACED OUTSIDE THE LIMITS OF CONSTRUCTION AS PER THE PLANS (I.E. ALONG ROADWAYS, STREAM BANKS, CRITICAL AREAS, ETC.).
2. ALL EROSION AND SEDIMENTATION CONTROL STRUCTURES SHALL BE PERIODICALLY MAINTAINED AS PER THE RESPECTIVE PROGRAMS FOR TEMPORARY CONTROL.
3. IF WORK PROGRESS IS TO BE INTERRUPTED AT ANY TIME, REFERENCE EROSION AND SEDIMENTATION PROGRAMS FOR TEMPORARY CONTROL.
4. TEMPORARY STRAW BALES AND SANDBAGS ALONG AND AT THE ENDS OF ROADWAYS MAY ALSO BE REMOVED AFTER FINAL SOIL STABILIZATION HAS BEEN ACHIEVED AND APPROVED.
5. STRAW BALES LOCATED AT DRAINAGE OUTLETS MUST REMAIN UNTIL SUCH TIME THAT A DESIRABLE STAND OF GRASS OR COVER HAS BEEN ESTABLISHED AND THE PROJECT RECEIVES A FAVORABLE APPROVAL FOR FINAL ACCEPTANCE FROM THE ENGINEER.

SEDIMENTATION CONTROL PROGRAM:

1. RIP RAP SPLASH PADS SHALL BE INSTALLED AT THE OUTLETS FOR ALL CULVERTS DISCHARGING INTO A WATERWAY.
2. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL ENTERING THE WETLANDS.
3. ALL DISTURBED AREAS SUBJECT TO EROSIVE TENDENCIES WHETHER THEY BE NEWLY FILLED OR EXCAVATED SHALL BE SEEDED AND PROTECTED WITH A FIBER MULCH.
4. DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
5. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.
6. CARE SHOULD BE TAKEN SO AS NOT TO PLACE "REMOVED SEDIMENTS" WITHIN THE PATH OF EXISTING, NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED WATERCOURSES OR THOSE AREAS SUBJECTED TO STORM WATER FLOW.
7. ADDITIONAL STRAW BALES OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT.
8. ALL SEDIMENTS SHALL BE REMOVED FROM THE DRAINAGE AND DETENTION FACILITIES AS SCHEDULED FOR EACH FACILITY (SEE DETENTION BASIN MAINTENANCE, THIS SHEET).
9. REFERENCE THE "R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE U.S. DEPT. OF AGRICULTURE, SOIL CONSERVATION SERVICE, 1989, AS A GUIDE.



NOTES:
(1) BIORETENTION AREA TO BE PROTECTED FROM CONSTRUCTION TO PREVENT COMPACTION AND SURROUNDED BY COMPOST FILTER SOCK UNTIL UPSLOPE AREAS ARE STABILIZED.
(2) BIORETENTION DESIGN AND INSTALLATION SHALL CONFORM TO THE STATE OF RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL (LATEST REVISION).

F.5.2.2 Bioretention Soil

The soil should be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances should be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The bioretention soil should be free of noxious weeds. The bioretention system shall utilize planting soil having a composition as follows:

Sand: 85-88%

Soil fines: 8 to 12% (no more than 2% clay)

Organic Matter*: 3 to 5%

*Note: For bioretention applications with a soil depth of less than 4 feet, add 20% (by volume) of well aged (3 months), well aerated, leaf compost (or approved equivalent) to the above planting soil mixture. Where soil fines content is less than 12%, add a corresponding % of leaf compost. A textural analysis is required to ensure the bioretention soil meets the specification listed above. The bioretention soil should also be tested for the following criteria:

pH range 5.2 – 7.0
magnesium not to exceed 32 ppm
phosphorus P205 not to exceed 69 ppm
potassium K20 not to exceed 78 ppm
soluble salts not to exceed 500 ppm

F.5.2.3 Mulch Layer Specifications.
A finely shredded, well-aged organic hardwood mulch is the preferred accepted mulch; a finely shredded, well-aged organic dark pine mulch may be accepted on a case-by-case basis. Bark dust mulches and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6–12 months) for acceptance. Mix approximately ½ the specified mulch layer into the planting soil to a depth of approximately 4 inches to help foster a highly organic surface layer.

BIORETENTION AREA DETAIL

NOT TO SCALE

BMP REQUIRED MAINTENANCE:

MONTHLY:

INSPECT AND REMOVE ANY TRASH
REMOVE ANY INVASIVE SPECIES PLANTS

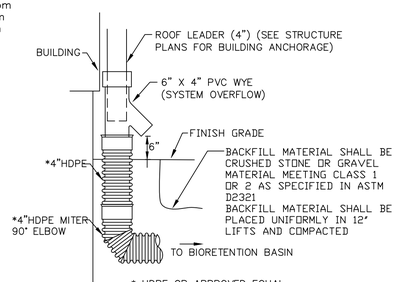
ANNUALLY:

MULCH- SPRING, AS NEEDED
REPLACE ANY DEAD VEGETATION-SPRING
REMOVE DEAD VEGETATION-FALL OR SPRING
PRUNE-SPRING

AS NEEDED:

REPLACE SOIL MEDIA AND PLANTS WHEN PONDING DOES NOT SUBSIDE WITHIN 72 HRS (CAREFUL MAINTENANCE SHOULD PROLONG THIS REQUIREMENT)

*ALL PLANT MATERIAL SHALL BE WATERED AND MAINTAINED BY THE OWNER TO ASSURE THAT SUITABLE GROWTH HAS BEEN ESTABLISHED.



* HDPE OR APPROVED EQUAL

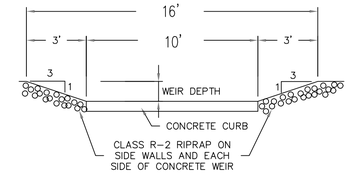
ROOF LEADER COLLECTOR DETAIL

NOT TO SCALE

PLANT SPECIES TO BE USED

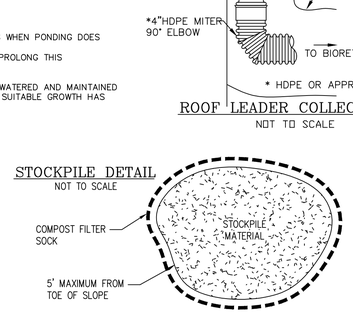
BOTANICAL NAME	COMMON NAME
ASTER DIVARICATUS	WHITE WOOD ASTER
IRIS VERSICOLOR	BLUE FLAG IRIS
LOBELIA CARDINALIS	CARDINAL FLOWER
OSMUNDA CINNAMOMEA	CINNAMON FERN

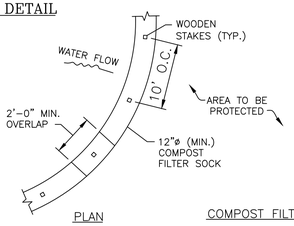
*PLANT SPECIES IN ONE GALLON CONTAINERS TO BE INSTALLED AT 2' O.C. IN GROUPS OF THREE WITHIN THE BIORETENTION AREA.

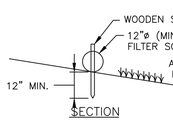


Emergency Spillway / Overflow Weir Detail

NOT TO SCALE





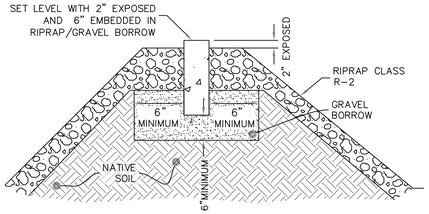


NOTES:
1. ALL MATERIAL TO MEET REQUIREMENTS OF SECTION 206 OF RI STANDARD SPECIFICATIONS.
2. COMPOST MATERIAL MUST BE ACCEPTED BY THE ENGINEER PRIOR TO PLACEMENT.

COMPOST FILTER SOCK

PERIMETER EROSION CONTROLS

NOT TO SCALE



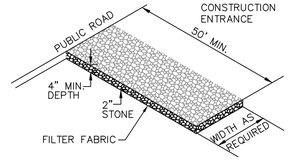
ALL BACKFILL SHALL BE FREE FROM ORGANIC OR HTM.

Curb Outlet Weir Cross Section

NOT TO SCALE

EROSION CONTROL, SOIL STABILIZATION AND SEDIMENT CONTROL PLAN

1. PRIOR TO THE COMMENCEMENT OF ANY CLEARING, GRUBBING, DEMOLITION OR EARTHWORK ACTIVITY, TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE PLANS ARE TO BE INSTALLED BY THE CONTRACTOR.
2. CONSTRUCTION ACCESS STABILIZATION ENTRANCE PADS ARE TO BE INSTALLED PRIOR TO THE COMMENCEMENT OF SITE GRUBBING OR EARTHWORK ACTIVITY.
3. EXISTING CATCH BASINS ARE TO BE PROTECTED WITH HAY BALES AND/OR SILT SACS PRIOR TO THE START OF SITE GRUBBING, EARTHWORK OR UNDERGROUND UTILITY AND DRAINAGE INFRASTRUCTURE INSTALLATION TO SERVE THE DEVELOPMENT SITE.
4. THE PROJECT CONSTRUCTION SEQUENCE, TO THE EXTENT PRACTICAL, SHOULD REQUIRE THE INSTALLATION OF DOWN GRADE AND OFF SITE STORM DRAINAGE SYSTEM IMPROVEMENTS BEFORE THE START OF SITE GRUBBING AND EARTHWORK ACTIVITY.
5. TEMPORARY SITE SLOPE TREATMENTS FOR SOIL STABILIZATION SHALL CONSIST OF STRAW, FIBER MULCH, RIP RAP OR PROTECTIVE COVERS SUCH AS MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, AND EXCELSIOR OR EQUAL PRODUCTS). THESE AND OTHER ACCEPTABLE MEASURES SHALL BE INCORPORATED INTO THE SITE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
6. CONSTRUCTION SITES ARE DYNAMIC, THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND OR MOVEMENT AND MAINTENANCE OF EROSION CONTROLS, SOIL STABILIZATION AND SEDIMENT CONTROL MEASURES AS NEEDED TO MAXIMIZE THE INTENT OF THE PLAN FOR ALL SITE CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERIODIC INSPECTION, MAINTENANCE, REPAIR, AND REPLACEMENT OF EROSION CONTROLS, SOIL STABILIZATION AND SEDIMENT CONTROL DEVICES UNTIL AN ACCEPTABLE PERMANENT VEGETATIVE GROWTH IS ESTABLISHED. THE CONTRACTOR SHALL MAINTAIN A DETAIL LOG OF ALL EROSION CONTROL INSPECTIONS, COMPLAINTS RELATED TO EROSION OR SEDIMENT, AND CORRECTIVE REMEDIAL MEASURES TAKEN THROUGHOUT THE COURSE OF THE PROJECT CONSTRUCTION.
8. SOIL EROSION AND SEDIMENT CONTROL IS NOT LIMITED TO DAMAGES CAUSED BY WATER BUT ALSO INCLUDES EROSION AND SEDIMENT RESULTING FROM WINDS. MEASURES, SUCH AS TEMPORARY GROUND COVERS, WATER AND CALCIUM APPLICATIONS ARE TO BE UNDERTAKEN AS NEEDED TO MINIMIZE WIND RELATED SOIL AND DUST CONTROL.
9. STOCK PILES OF EARTH MATERIALS SHALL NOT BE LOCATED NEAR WATERWAYS OR WETLANDS. STOCK PILES SHALL HAVE SIDE SLOPES NO GREATER THAN THIRTY PERCENT (30%). STOCK PILES SHALL BE SURROUNDED ON THE DOWN GRADIENT OF THE EXISTING GROUND SURFACE BY STRAW BALES OR SILT FENCE. THE STOCK PILES SHALL ALSO BE SEEDED OR STABILIZED IN SOME MANOR TO PREVENT SOIL EROSION.
10. THE SMALLEST POSSIBLE SITE AREAS SHALL BE DISTURBED OR EXPOSED AT ONE TIME AND DENUDED SLOPES OR WORK AREAS SHALL NOT BE LEFT EXPOSED FOR EXCESSIVE PERIODS OF TIME, SUCH AS INACTIVE PERIODS OR SITE WORK SHUT DOWNS.
11. TO THE EXTENT POSSIBLE, ALL DISTURBED AREAS MUST BE SEEDED OR STABILIZED WITHIN THE CONSTRUCTION SEASON. STABILIZATION OF ONE FORM OR ANOTHER SHALL BE ACHIEVED WITHIN FIFTEEN (15) DAYS OF FINAL GRADING.
12. EXPOSED STEEP OR LONG SLOPES SHOULD BE TREATED WITH "CRIMPING" OR "TRACKING" TO REDUCE EROSION AND SEDIMENT AND TO TACK DOWN SEEDING OR MULCH APPLICATIONS.
13. IF CONCRETE IS TO BE USED ON SITE, THE CONTRACTOR MUST ESTABLISH AND MAINTAIN SPECIFIC WASHOUT AREAS FOR THE CONCRETE TRUCKS WITH APPROPRIATE PROTECTION CONTROLS.
14. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING COLLECTION AND STORAGE LOCATIONS ON-SITE FOR ALL CONSTRUCTION DEBRIS AND TRASH SO THAT THIS MATERIAL DOES NOT BECOME A NEIGHBORHOOD NUISANCE.
15. EXISTING TREES AND VEGETATION WILL BE RETAINED WHENEVER FEASIBLE.
16. SITE SOIL EROSION AND SOIL STABILIZATION AND SEDIMENT CONTROLS MUST CONFORM TO ALL REQUIREMENTS OF THE APPLICABLE LOCAL COMMUNITY ORDINANCES AND STATE REGULATIONS.



MATERIALS SIZE

SQUARE MESH SIEVES	2"CRUSHED STONE OR GRAVEL	ASTM C-33 NO. 2	ASTM C-33 NO. 3
	% FINER	% FINER	% FINER
2-1/2 INCHES	100	90-100	100
2 INCHES	95-100	35-70	90-100
1-1/2 INCHES	30-55	0-15	35-70
1-1/4 INCHES	0-25	–	–
1 INCH	0-5	–	0-15
3/4 INCH	–	0-5	–
1/2 INCH	–	–	0-5
3/8 INCH	–	–	–

NOTE:
STABILZATION PAD TO BE IN COMFORMANCE WITH STANDARDS SET FORTH IN THE "RHODE ISLAND GUIDELINES FOR SOIL & SEDIMENT CONTROL".

RIP-RAP STABILIZATION PAD @ CONSTRUCTION ENTRANCE

NOT TO SCALE

APPLICANT:
DAVID J. RAMOS
12 RUTH AVENUE
BRISTOL, RI 02809

OWNER:
LIONEL J. RAMOS
9 SCOTT LANE
BRISTOL, RI 02809

CONSTRUCTION DETAILS

Thomas J. Principe, III
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

No.	DATE	DRWN	CHKD

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
27 SAKONNET RIDGE DRIVE
TIVERTON, RI 02878
401.816.5385
WWW.PRINCIPECOMPANY.COM

PRE-APPLICATION REVIEW
for
668 METACOM AVENUE
AP 128 LOT 16
in
BRISTOL, RHODE ISLAND

SCALE: AS NOTED		SHEET NO: 5 of 5
DRAWN BY: KAB	DESIGN BY: KAB	CHECKED BY: TJP
DATE: 06/03/2025		PROJECT NO.: ERSC-2024-2

C:\Users\admin\Principe Engineering Dropbox\ERSC PLANS\2024\ERSC-2024-2_670 Metacom Avenue_Bristol_Dave Ramos\Drawings\ERSC-2024-2_670 METACOM AVENUE_BRISTOL_ERSC_5.30.25.dwg, DWG To PDF.pc3





From: Michael Resnick <mresnick@ksprlaw.com>
Sent: Tuesday, July 8, 2025 12:19 PM
To: Diane Williamson <dwilliamson@bristolri.gov>; Michael Kelly <mkelly@ksprlaw.com>; Chris Duhamel <cduhamel@diprete-eng.com>; ddegrazia <ddegrazia@highridge-us.com>
Cc: Amy Goins <amygoins@utrlaw.com>
Subject: RE: Memorandum to the Planning Board

Caution: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. When in doubt, contact your IT Department

Diane,

We are withdrawing our request for waivers scheduled for Thursday. Please confirm we will not need to attend. We intend on curing the issues identified in your letter of incompleteness this week or early next week. Please provide us with TRC dates as we would like to get to the TRC before the master plan hearing? We would also like to appear before your architectural review board prior to the master plan hearing. Please advise.

Mike

From: Diane Williamson <dwilliamson@bristolri.gov <mailto:dwilliamson@bristolri.gov> >
Sent: Monday, July 7, 2025 12:07 PM

Town of Bristol, Rhode Island

Department of Community Development

10 Court Street
Bristol, RI 02809
bristolri.gov
401-253-7000

July 7, 2025

TO: Planning Board

FROM: Diane M. Williamson, Administrative officer

RE: Comfort Inn and Suites Request for Waivers

Attached, for your information, is the most recent memorandum from the Director of Water Pollution Control regarding the above mentioned request. As he indicates, the latest plans (June 6, 2025) do not provide enough detail for him to approve the proposed sewer connection which is checklist requirement for Master Plan.

I am not in support of granting this checklist waiver or the others requested for the following reasons:

1. The Subdivision and Development requirements for the Master Plan Phase of review includes, but is not limited to, the proposed design concept and potential neighborhood impacts. In addition to the other requisite check list items, the renderings, to include views from the adjacent public street and abutting neighborhood, site lighting photometric plan, and signage plan are items that will inform the Board of potential neighborhood impacts.
2. The requirement for a sign – off on the plans from the Bristol Water Pollution Control Facility is also needed to ensure that there are no potential neighborhood impacts; particularly since the BWPCF has indicated that a holding tank and pump station to pump off-peak are requirements for this proposal. This information will also inform the Board that the proposal can be adequately designed to include this requirement and/or if any other public or private infrastructure improvements will be needed.
3. The recent State Law changes have revised the process for a Major Land Development with the only public hearing on the proposal at the Master Plan Phase.

Without these requisites, the abutters will not have an opportunity to address these items at a public hearing on the proposal.

4. In accordance with the subdivision and development review regulations, the Planning Board can grant waivers only when the literal enforcement of one or more provisions of the regulations is impracticable and will exact undue hardship because of peculiar conditions pertaining to the land in question or where such waiver is in the best interest of good planning practice and /or design as evidenced by consistency with the Town's Comprehensive Plan and Zoning Ordinance. The Comprehensive Plan includes goals and policies to manage growth so as to not overtax the sewer system and to maintain the character of Bristol and make sure that new development does not adversely impact the integrity of the Town.

It is noted that the applicant has submitted the reimbursement to the Town for the peer review architect and peer review engineer so these reviews can go forward. My recommendation is to move forward with these reviews and schedule a TRC meeting to coordinate the reviews with the applicant. Following the TRC meeting, the required renderings and plans would be submitted, in coordination with any peer review architect and engineer recommendations, as part of the Master Plan phase, for the application to be certified complete.

Once the application is certified complete, the Planning Board has 90 days to act on the application unless an extension of time is agreed upon in writing by the applicant.

Thank you.

cc: D and M Boca, Applicant
Chris Duhamel, DiPrete Engineering
Michael Kelly Esq. and Michael Resnick, Esq.
Amy Goins, Assistant Town Solicitor

Town of Bristol, RI
WATER POLLUTION CONTROL DEPARTMENT
2 PLANT AVENUE
BRISTOL, RI 02809-3015
(401) 253-8877 fax: (401) 253-2910

Jose' J. Da Silva, Superintendent

TOWN HALL
10 COURT STREET
BRISTOL, RI 02809
(401) 253-7000

7/2/2025

To: Diane M. Williamson
Director of Community Development
Town of Bristol

Re: Comfort Inn Hotel
Gooding Ave, Bristol RI

Upon review of the most recent revision of the Comfort Inn plans dated June 6th 2025 the following comments are made.

- Plans were requested to show a holding tank, it is depicted on the revision however there are no details such as its dimensions, type of pumps or controls.
- A manhole should be installed at the connection of the Inn to the sanitary main.

Sincerely,

Jose' Da Silva
Superintendent
Bristol WPCF

Town of Bristol, Rhode Island

Department of Community Development

10 Court Street
Bristol, RI 02809
bristolri.gov
401-253-7000

June 30, 2025

TO: Planning Board

FROM: Diane M. Williamson, Administrative Officer

RE: Comfort Inn and Suites Request for Checklist Waivers

The above application is before you for a public hearing and action on the applicant's request for checklist waivers on items that are required for Master Plan but are requested be deferred to the preliminary phase.

Town of Bristol, Rhode Island

Department of Community Development

10 Court Street
Bristol, RI 02809
bristolri.gov
401-253-7000

June 16, 2025

TO: D and M Boca
Mike Kelly, Esq.
Mike Resnick, Esq.
Chris Duhamel, Engineer, DiPrete Engineering

FROM: Diane M. Williamson, Administrative Officer

RE: Comfort Inn Master Plan Re-submission
Incomplete Application

I have reviewed the re-submitted materials received on June 6, 2025 and the application is still incomplete. Master Plan Checklist Waivers are requested for the following requisites to be submitted at the Preliminary Plan Phase.

Checklist Item E2 – Renderings to illustrate the visual impact of the proposed commercial development;
Checklist Item E3g – General viewshed analysis;
Checklist Item E11 – Detailed design service letter from the BWPC Department
Checklist Item E26 – A photometric plan
Checklist Item E27 – Renderings to illustrate the visual impact on abutting properties;
Checklist Item E28 – Signage Plan including the location, size, design and illumination

Only the Planning Board can grant Checklist Waivers pursuant to Section 8.7 of the Subdivision and Development Review Regulations which process would include a public hearing as set forth in Section 8.5 of the Subdivision and Development Review Regulations. The public hearing will be scheduled for the July 10, 2025 Planning Board Meeting.

As noted in the supplemental memo of incompleteness, the Engineering Review Fee and the Architect Review Fee have not yet been received. As previously indicated, please advise if a waiver of the Architect Review Fee will be requested by June 18, 2025 so there will be time to advertise same for the public hearing with the Planning Board on July 10, 2025.

If the Planning Board grants the requested checklist waivers on July 10, the application will be deemed complete on that date and a public hearing on the application will be scheduled for the next Planning Board meeting. Please don't hesitate to contact me if you have any questions. Thank you.

DiPrete Engineering

June 6, 2025

Diane M. Williamson, Administrative Officer
Bristol Department of Community Development
10 Court Street
Bristol, RI 02809

RE: Master Plan Incompleteness Response to Comments
Proposed Comfort Inn, Gooding Avenue
Bristol, Rhode Island
Project #: 2536-001-B01

Dear Ms. Williamson:

DiPrete Engineering has received your comments dated May 29, 2025. We have reviewed these comments and offer the following in response. The original comments are provided in italics with responses in bold.

Checklist Comments:

A3. The narrative has a photo from another site of Page 5 – Starr Drive is not in Bristol.

This was inadvertently left in from a previous template report, and the photo has been deleted.

C10. The boundaries of the soil types of classifications are not on the plan and the prime agricultural soils and farmland soils of Statewide importance are not shown on the plans.

The soil types are labeled on sheet 4. Prime Farmland soils are identified as PmA. An area of prime farmland soil exists in the southwest corner of the site, outside of the area of the proposed development.

C15. Boundaries of the Watershed need to be on the plans. The plan in the Stormwater report references the previous building design proposal.

The proposed watershed map in the Stormwater report reflects the latest building and site layout.

C20. The note on Sheet 3 does not include all of the areas of concern and an indication of whether the property is in the area of concern or not.

The areas of concern are updated and addressed as required. See sheet 3, note 6.

C21. Explain why this is marked N/A on the checklist. Or indicate if there are no trees with a caliper of 10" or greater in the area proposed for disturbance or alteration.

10-inch caliper trees within the area of proposed disturbance or alteration are now mapped as required. See sheet 4.

D1. The plans do not show the boundaries of the land unsuitable for development.

All delineated wetland boundaries are shown on the proposed plans. No additional land unsuitable for development per the definition in the Subdivision Regulations is present, besides freshwater wetlands.

D15. *The plans do not include connection with the existing sanitary sewer system per the Bristol WPCF requirement in their letter of 3/12/25 to include the storage for peak flows and the low pressure pump system.*

The proposed sewer service is revised to include components as requested by the Bristol WPCF for storage of peak flows and a pump chamber.

D22. *Why is this indicated as N/A on the checklist? There appears to be land proposed to be set aside as open space.*

No open space is proposed to be set aside for dedication to the town. The proposed area for development and undisturbed areas have been added as a note to the plans.

E1. *The zoning district boundaries are not shown on Sheet 2.*

Zoning boundaries have been added to Sheet 2.

E2. *The architectural elevations are mis-labeled – North and South elevation labels are reversed and East and West elevation labels are also reversed. There are no renderings to illustrate the visual impact of the proposed commercial development.*

The labels are corrected as noted.
A waiver to provide the rendering at the preliminary plan stage is requested.

E3c. *The narrative report does not include a general statement and supporting maps and/or graphics that illustrate the approach used in designing the proposed development including consideration of existing conditions and significant site features.*

A general statement section is added as requested, and a reference is made to the existing conditions and site features as presented within the Master Plan submission set.

E3g. *The narrative does not include a general viewshed analysis, showing the locations and extent of significant views both from and within the proposed development parcel as well as anticipated views into the property from the adjacent public or private streets and properties.*

A waiver to provide a general viewshed analysis is requested to be provided at preliminary plan submission.

E4. *A written, signed statement indicated specific sections of the regulations from which a waiver is requested. The note on Sheet 3 indicates that none are requested but it appears that checklist waivers are requested for the photometric plan and signage plan to be submitted at the preliminary plan phase. E26/E28*

Waivers to items of the master plan checklist are requested and shown below as part of this letter. The items will be completed at Preliminary Plan Checklist.

E5. A written signed statement indicating any specific zoning variances or modifications being requested.

Zoning variances are not requested.

E10. A written statement from the BCWA that the proposed plan with plan revision dated indicated has been reviewed and which provides confirmation that water service is available and approval of connection to the existing water main as depicted on the plan. The document submitted was unsigned and does not indicate the plan date review.

A letter of availability and approval of design has been received from the BCWA and submitted under original cover.

E11. A written statement from the Bristol Water Pollution Control Department that the plan, with revision date indicated, has been reviewed and which provides approval of connection to the existing sewer main as depicted on the plan. The document submitted is dated 2023.

Approval from the BWPC Depart is received as a will serve letter for the 80 room facility, received date 5/26/2023. A detailed design service letter of approval will be provided at preliminary plan submission.

E27. Renderings to illustrate the visual impact on abutting properties.

A waiver is requested to provide the rendering at the Preliminary Plan Submission.

No Zoning variances are requested. A request for waivers to the master plan checklist are herein identified, with the request to provide the information at preliminary plan submission.

E2. Renderings, elevations or photographs to illustrate the visual impact of a proposed multi-family, commercial or industrial subdivision/development. (Elevations are provided.)

E3g. A general viewshed analysis, showing the location and extent of significant views both from and within the proposed subdivision/development parcel(s), as well as anticipated views into the property from adjacent public or private streets and properties.

E26. A Photometric Plan

E27. Renderings to illustrate the visual impact on abutting properties.

E28. Signage including location, size, design and illumination.

Please feel free to contact me if you have any further questions regarding this matter.

Sincerely,
DiPrete Engineering Associates, Inc.

Christopher Duhamel, PE, PLS
Principal
cduhamel@diprete-eng.com

cc: Dennis DeGrazia
Michael Kelly, Esq.

Melanie Wolfe

From: Diane Williamson
Sent: Tuesday, July 1, 2025 6:17 AM
To: Melanie Wolfe
Subject: Fw: Hotel on Gooding

For the pb packet

Get Outlook for iOS <https://aka.ms/o0ukef> _____

From: Liz Funt <elizabeth.funt@icloud.com>
Sent: Saturday, June 28, 2025 8:38:32 AM
To: Diane Williamson <dwilliamson@bristolri.gov>
Subject: Hotel on Gooding

Caution: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. When in doubt, contact your IT Department

Ms. Williamson,
We are vehemently against build in a hotel on the wetlands on Gooding.
My husband Seth and I are residents and own 57 Roosevelt Drive, as well as 29 Colonial.
Please note our opinion, if it matters, for the record. I have never heard of a single Bristolian that is FOR this project. If everyone is so against it, why is it still being considered?
Sincerely,
Elizabeth & Seth Funt. 561-398-0017
Sent from my iPhone

THE FOLLOWING MATERIALS ARE PROVIDED FOR INFORMATION ONLY.

THE JULY 10, 2025 PUBLIC HEARING ON THE COMFORT INN AND SUITES

WILL BE FOR THE REQUESTED WAIVERS ONLY.

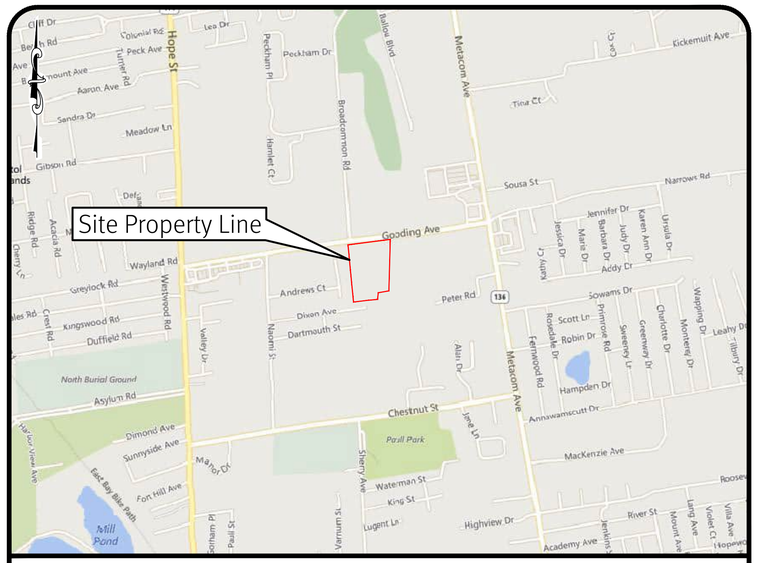
Item C3.

Master Plan Submission

Comfort Inn & Suites

Located on Gooding Avenue
Bristol, Rhode Island

Assessor's Plat 111 Lot 1



Location Map Scale: 1" = 1000'

Sheet List Table

1 Cover Sheet
2 Aerial Half Mile Radius
3 General Notes and Legend
5 Erosion & Sediment Control Plan
6 Site Layout Plan
7 Grading Plan
8 Drainage and Utilities Plan
9 RIDOT ROW Improvements
10 Underground System A & Details
11 Underground System B, Sand Filter B & Details
12 Detail Sheet

13 Property Line Survey (Sheet 13 of 13) by Barker Land Surveying

SESC / O&M
The Soil Erosion and Sediment Control Plan (SESC) and Operations and Maintenance Plan (O&M) are required documents with this plan set and must be maintained by the contractor and owner onsite.

RIDOT
The Proposed Improvements Will Not Increase the Rate of Stormwater Runoff Onto the State Highway. All Work Within the State Right of Way Must Conform to the RI Standard Specifications, Details, and Addendums.

DiPrete Engineering
90 Broadway Newport, RI 02840
tel 401-619-5890 fax 401-464-6006 www.diprete-eng.com
Boston • Providence • Newport

KEVIN DEMERS
No. 8557
REGISTERED PROFESSIONAL ENGINEER CIVIL

This regulatory submission set shall not be used for construction purposes unless stamped "Issued for Construction" and signed by a DiPrete Engineering representative.

The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

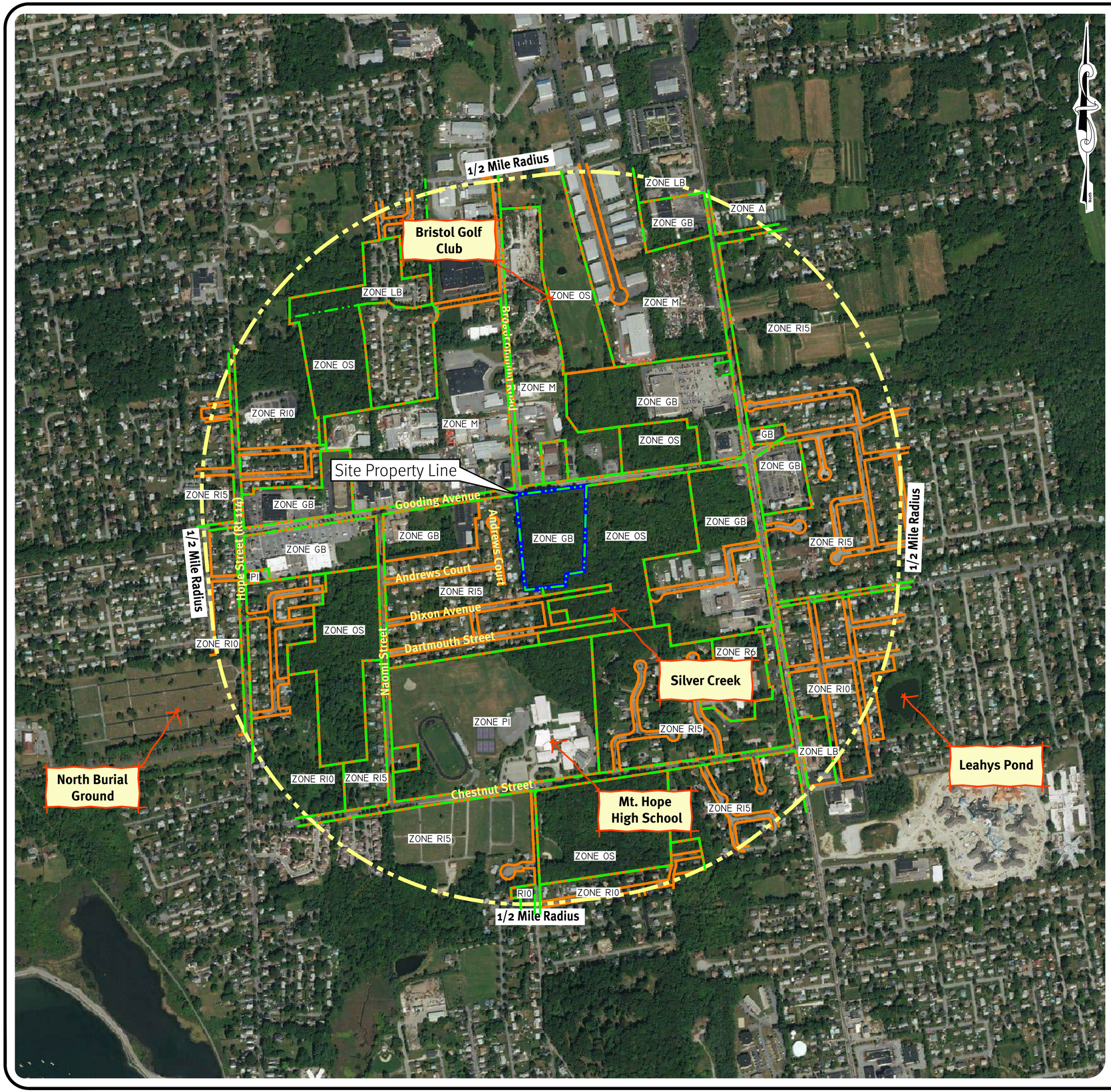
No.	Date	Description	By:
4	06/05/2025	Revisions	S.E.H.
3	05/29/2025	RIDOT Response To Comments	N.M.P.
2	12/12/2024	RIDOT Response To Comments	N.M.P.
1	07/30/2024	RIDOT Response To Comments	N.M.P.
0	02/28/2024	RIDOT Submission	J.A.R.

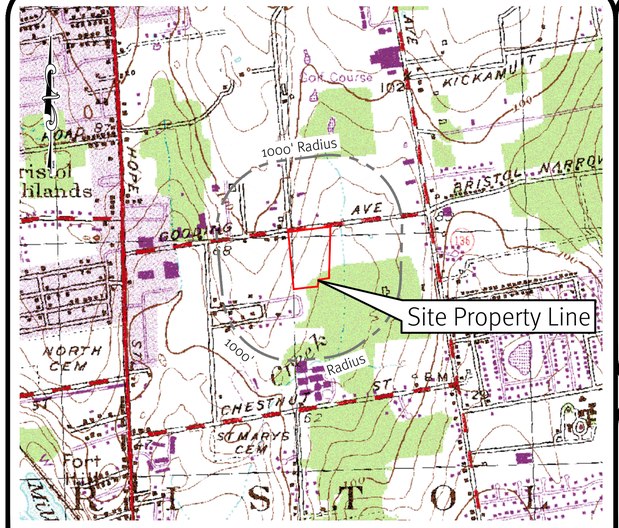
Drawn By: D.R.N. Design By: K.J.D.

Cover Sheet
Comfort Inn & Suites
AP 111 Lot 1
Bristol, Rhode Island
Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

DE Job No: 2536-001 Copyright 2025 by DiPrete Engineering Associates, Inc.

z:\demain\projects\2536-001 gooding avenue\autocad drawings\2536-001-cvar.dwg Plotted: 6/5/2025





USGS Map Scale: 1"=1000'

PHOTO OBTAINED FROM NEARMAP.
DATE OF PHOTOGRAPHY 09-12-2024.

Scale: 1"=400'
0 200' 400' 800'

DiPrete Engineering
90 Broadway Newport, RI 02840
tel 401-619-5950 fax 401-464-6006 www.diprete-eng.com
Boston • Providence • Newport

KEVIN DEMERS
No. 18557
REGISTERED PROFESSIONAL ENGINEER
CIVIL

This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.

The contractor is responsible for all of the means, methods, safety precautions and programs and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	By:
5	06/06/2025	Revisions	K.M.D.
4	04/30/2025	RIDOT Response to Comments	K.M.D.
3	12/12/2024	RIDOT Response to Comments	K.M.D.
2	09/27/2024	RIDOT Response to Comments	K.M.D.
1	02/28/2024	RIDOT Submission	J.A.K.
0			

Drawn By: D.R.N. Design By: K.J.D.

2 Aerial Half Mile Radius

Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 2 OF 13

DE Job No: 2336-001 Copyright 2025 by DiPrete Engineering Associates, Inc.

z:\jdemain\project\2336-001 gooding avenue\autocad drawing\2336-001-cvar.dwg Plotted: 6/5/2025

General Notes:

1. THE SITE IS LOCATED ON THE TOWN OF BRISTOL ASSESSOR'S PLAT 111 LOT 1.
2. THE SITE IS APPROXIMATELY 9.78 ACRES, IS ZONED GB, AND IS CURRENTLY WOODED.
3. THE APPLICANT OF AP 111 LOT 1 IS:
   D&M BOCA DEVELOPMENT, LLC.
   92 FAUNCE CORNER ROAD, SUITE 160
   NORTH DARTMOUTH, MA 02747
4. THIS SITE IS LOCATED IN FEMA FLOOD ZONES X AND AE. REFERENCE FEMA FLOOD INSURANCE RATE MAP 44001C0011H, MAP REVISED JULY 7, 2014.
5. THIS PLAN IS SUBSTANTIALLY CORRECT IN ACCORDANCE WITH A CLASS IV STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. THIS PLAN IS NOT TO BE CONSTRUED AS AN ACCURATE BOUNDARY SURVEY AND MAY BE SUBJECT TO SUCH CHANGES AS AN ACCURATE BOUNDARY SURVEY MAY DISCLOSE.
6. THE SITE IS WITHIN A:

   CONTAINS PRIME FARMLAND SOILS – NOT WITHIN DEVELOPMENT AREA
   SILVER CREEK WATERSHED

   THE SITE IS NOT WITHIN A:

   GROUNDWATER PROTECTION AREA
   NATURAL HERITAGE AREA
   GROUNDWATER PROTECTION OVERLAY DISTRICT
   RIDRMC SAMP
   NOT A TMDL IMPAIRED WATERWAY (SILVER CREEK) AS IDENTIFIED RIDEM
   NOT A TMDL IMPAIRED WATERWAY (TANYARD BROOK) AS IDENTIFIED RIDEM
   DRINKING SUPPLY WATERSHED
   OWTS CRITICAL RESOURCE AREA
   ON THE NATIONAL REGISTER OF HISTORIC PLACES
   THE TOWN OF BRISTOL'S HISTORIC DISTRICT
   TANYARD BROOK WATERSHED
7. THE FOLLOWING DOCUMENTS ARE CONSIDERED PART OF THE PROJECT PLANS AND THE CONTRACTOR / OWNER MUST MAINTAIN THESE DOCUMENTS AS PART OF A FULL PLAN SET:
   - SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC). THE SESC CONTAINS THE FOLLOWING:
     - EROSION CONTROL MEASURES
     - SHORT TERM MAINTENANCE
     - ESTABLISHMENT OF VEGETATIVE COVER
     - CONSTRUCTION POLLUTION PREVENTION
     - SEQUENCE OF CONSTRUCTION
   - OPERATIONS AND MAINTENANCE PLAN (O&M). THE O&M CONTAINS THE FOLLOWING:
     - LONG TERM MAINTENANCE
     - LONG TERM POLLUTION PREVENTION
8. THIS PLAN SET REFERENCES RIDOT STANDARD DETAILS (DESIGNATED AS RIDOT STD X.X.X.). RIDOT STANDARD DETAILS ARE AVAILABLE FROM RIDOT AND ONLINE AT: HTTP://WWW.DOT.RI.GOV/BUSINESS/CONTRACTORSANDCONSULTANTS.PHP.
9. THE SITE IS TO BE SERVICED BY PUBLIC WATER AND PUBLIC SEWER.
10. THE SITE WILL FULLY COMPLY WITH ALL OF THE TOWN OF BRISTOL RULES AND REGULATIONS INCLUDING THE SUBDIVISION AND DEVELOPMENT REVIEW REGULATIONS AND THE ZONING ORDINANCE. THE SITE DOES NOT REQUIRE ANY VARIANCES, SPECIAL USE PERMITS, OR WAIVERS.
11. THE DRAINAGE SYSTEM IS DESIGNED TO MEET THE TOWN OF BRISTOL SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WITH THE USE OF CATCH BASINS, CULVERTS, AND UNDERGROUND DRAINAGE BASINS. THE STORMWATER MANAGEMENT SYSTEM MEETS THE RIDEM BEST MANAGEMENT PRACTICES.
12. THE SITE IS PROPOSED TO BE BUILT IN 1 PHASE.
13. TEST PITS AND SOIL EVALUATIONS WERE COMPLETED BY SITEC, INC. ON 12/12/2014.

Soil Information:

(REFERENCE: USDA NATURAL RESOURCES CONSERVATION SERVICE)

SOIL NAME	DESCRIPTION
PmA*	PITTSTOWN SILT LOAM, 0 TO 3 PERCENT SLOPES
Se	STISSING SILT LOAM
UR	URBAN LAND

NOTE: *PRIME FARMLAND
**FARMLAND OF STATEWIDE IMPORTANCE

Plan References:

PLAN ENTITLED "PROPERTY LINE SURBEY FOR KENDAN, LLC" BY BARKER LAND SURVEYING, INC. REVISED 9/30/14.

Lidar Note:

CONTOUR DATA SHOWN ON THIS PLAN CONFORMS TO A T–4 TOPOGRAPHICAL SURVEY STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS; SAID DATA IS BASED ON ELEVATION INFORMATION THAT WAS COLLECTED WITH AIRBORNE LIDAR TECHNOLOGY FOR THE ENTIRE AREA OF RHODE ISLAND BETWEEN APRIL 22 AND MAY 6, 2011 AS PART OF THE NORTHEAST LIDAR PROJECT. THIS DATA'S POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED BY DIPRETE ENGINEERING AND IS SUBJECT TO CHANGES AN AUTHORITATIVE FIELD SURVEY MAY DISCLOSE.

State Permits:

1. RIDEM PERMIT TO ALTER FRESHWATER WETLANDS: WETLANDS APP NO. 22–0264, RIPDES FILE NO. RIR101247, AND GROUNDWATER DISCHARGE/UIC NO. 001650 APPROVAL LETTER DATED DECEMBER 6, 2024.
2. RIDOT PHYSICAL ALTERATION PERMIT APPLICATION NO. 24–20. PERMIT APPROVAL IS PENDING.

Suitable Area Summary:

TOTAL UNSUITABLE AREA = 6.81 ACRES (DELINEATED WETLANDS)
TOTAL SUITABLE AREA = 9.78 – 6.81 = 2.97 ACRES

Demolition Notes:

1. ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, DRAWINGS FROM OTHERS, OR INFORMATION PROVIDED TO DIPRETE ENGINEERING AND ARE SUBJECT TO CHANGE. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM AFOREMENTIONED PLANS OF RECORD AND ARE APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE PROPER UTILITY ENGINEERING DEPARTMENTS SHALL BE CONTACTED AND THE ACTUAL LOCATION OF SUBSURFACE STRUCTURES SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. CALL THE DIG SAFE CENTER TOLL FREE AT 1–888–344–7233 72 HOURS PRIOR TO EXCAVATION. NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO EXCAVATION. ANY DAMAGE TO UTILITIES WHICH ARE SHOWN ON THE PLANS OR DETAILED BY DIG SAFE SHALL BE THE SITE CONTRACTORS RESPONSIBILITY.
2. CONTRACTOR TO OBTAIN ALL FEDERAL, STATE, AND MUNICIPAL APPROVALS PRIOR TO THE START OF CONSTRUCTION.
3. CONTRACTOR TO PERFORM DAILY SWEEPING AT CONSTRUCTION ENTRANCE DURING DEMOLITION AND CONSTRUCTION TO MINIMIZE SEDIMENTS ON GOODING AVENUE.
4. ANY DAMAGE TO THE PROPERTY CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) ALL MATERIALS INDICATED ON THE PLANS UNLESS SPECIFIED OTHERWISE HERE IN. R&D MATERIALS TO INCLUDE BUT NOT LIMITED TO PAVEMENT, GRAVEL, CATCH BASINS, MANHOLES, GRATES/FRAMES/COVERS, AND ANY EXCESS SOIL THAT IS NOT INCORPORATED INTO THE WORK.
6. IN ADDITION TO THOSE AREAS SPECIFICALLY DESIGNATED ON THE PLANS, ALL DISTURBED AREAS INCLUDING THE CONTRACTOR'S STOCKPILE AND STAGING AREAS WITHIN THE LIMIT OF WORK SHALL BE RESTORED TO MATCH THE DESIGN PLANS.

Traffic Notes:

1. DURING CONSTRUCTION TRAFFIC CONES ARE TO BE USED FOR SEPARATION OF ACTIVE TRAFFIC FROM WORK ZONE.
2. DURING CONSTRUCTION FLAGGERS SHALL BE EMPLOYED TO ENSURE SAFETY FOR INTERACTION OF CONSTRUCTION VEHICLES AND ACTIVE TRAFFIC.
3. ALL SIGNS, FLAGGERS, TRAFFIC CONTROL DEVICES, AND TEMPORARY TRAFFIC ZONE ACTIVITIES SHALL MEET THE REQUIREMENTS OF THE MUTCD LATEST EDITION AND SUBSEQUENT ADDENDA.
4. TEMPORARY CONSTRUCTION SIGNS SHALL BE MOUNTED ON RIDOT APPROVED SUPPORTS AND SHALL BE REMOVED OR COVERED WHEN NOT APPLICABLE.
5. ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES CURRENT EDITION.

As-Built Notes:

1. ALL COMPONENTS OF THE DRAINAGE MUST BE ASBUILT PRIOR TO COVERING. ENGINEER TO BE NOTIFIED PRIOR TO COVERING SURVEY ASBUILT LOCATIONS. ENGINEER WILL NOT ACCEPT FIELD MEASUREMENTS FROM THE SITE CONTRACTOR.

RIDOT Notes:

1. ALL WORK TO BE DONE WITHIN THE STATE RIGHT OF WAY MUST CONFORM TO RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AUGUST 2023 EDITION WITH ALL REVISIONS. STANDARD DETAILS FOR THIS WORK ARE R.I. STANDARD DETAILS 1998 EDITION (AMENDED OCTOBER 2022) WITH ALL REVISIONS.
2. CONTRACTOR MUST OBTAIN A UTILITY CONNECTION PERMIT FOR WORK WITHIN THE STATE RIGHT–OF–WAY (ROW) PRIOR TO CONSTRUCTION. THE PHYSICAL ALTERATION PERMIT (PAP) IS NOT A SUBSTITUTE FOR THE UTILITY PERMIT AND THE PAP DOES NOT CONSTITUTE AN APPROVAL OF ANY UTILITY WORK.
3. ALL TRAFFIC CONTROL MUST CONFORM TO THE MUTCD, LATEST EDITION, WITH ALL REVISIONS.
4. NO LANE OR SHOULDER CLOSURES ARE ALLOWED TO BE PERFORMED WITHIN THE STATE ROW DURING PEAK TRAFFIC HOURS.
5. SEWER AND WATER CONNECTIONS WITHIN THE STATE ROW WILL REQUIRE A SEPARATE RIDOT UTILITY PERMIT, WHICH CONTRACTOR MUST OBTAIN BEFORE CONSTRUCTION.
6. THE DRAINAGE SYSTEM IS DESIGNED TO DECREASE BOTH STORMWATER RUNOFF RATE, AND STORMWATER RUNOFF VOLUME TO THE STATE ROW FROM PRE–DEVELOPMENT TO POST–DEVELOPMENT. THERE SHALL BE NO INCREASE IN RUNOFF TO THE STATE ROW FROM THE PROPOSED DEVELOPMENT.
7. WORK WITHIN THE STATE'S ROW WILL CONFORM TO PROPOSED PUBLIC RIGHTS–OF–WAY ACCESSIBILITY GUIDELINES (PROWAG). WORK ONSITE WILL CONFORM TO AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) UNLESS THE WORK IS ON STATE OWNED LAND.
8. AS–BUILTS ARE REQUIRED FOR ALL DRAINAGE CONNECTIONS WITHIN THE STATE ROW. AS–BUILTS MUST BE PROVIDED TO THE RIDOT STORMWATER OFFICE AND INCLUDE, INVERTS, MATERIALS, AND PIPE SIZES.

Layout and Materials:

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
2. CURB RADII ARE 5 FEET UNLESS OTHERWISE NOTED.
3. CURBING SHALL BE PRECAST CONCRETE OR AS LABELED ON THE PLANS.
4. SIDEWALK SHALL BE CONCRETE, STAMPED CONCRETE OR AS LABELED ON THE PLANS.
5. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
6. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
7. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
8. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

Grading and Utility Notes:

1. THE CONTRACTOR IS RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL ONSITE. THE CONTRACTOR IS TO NOTIFY THE DESIGN ENGINEER, THE DIRECTOR OF PUBLIC WORKS, THE TOWN ENGINEER, AND RI DEPT. OF ENVIRONMENTAL MANAGEMENT AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
2. CONTRACTOR TO OBTAIN ALL FEDERAL, STATE, AND MUNICIPAL APPROVALS PRIOR TO THE START OF CONSTRUCTION.
3. CONSTRUCTION TO COMMENCE SPRING 2025 OR UPON RECEIPT OF ALL NECESSARY APPROVALS.
4. ALL WORK PERFORMED HEREIN SHALL BE GOVERNED BY THE RHODE ISLAND STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION AND TOWN OF BRISTOL STANDARD SPECIFICATIONS AND DETAILS.
5. SEQUENCE OF CONSTRUCTION PROVIDED IN SESC MAY BE MODIFIED AS FIELD CONDITIONS WARRANT WITH PRIOR APPROVAL FROM THE OWNER OR OWNER'S REPRESENTATIVE.
6. THE CONTRACTOR SHALL COORDINATE WITH ALL OF THE APPROPRIATE UTILITY COMPANIES FOR AGREEMENTS TO SERVICE THE PROPOSED BUILDING. THIS SHALL BE DONE PRIOR TO CONSTRUCTION. NO REPRESENTATIONS ARE MADE BY DIPRETE ENGINEERING THAT UTILITY SERVICE IS AVAILABLE.
7. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING FINISH GRADING AND DRAINAGE AROUND THE BUILDING TO ENSURE SURFACE WATER AND/OR GROUND WATER ARE DIRECTED AWAY FROM THE STRUCTURE.
8. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.
9. ALL PROPOSED UNDERGROUND UTILITIES SERVING THE SITE AND BUILDINGS TO BE COORDINATED WITH APPLICANT, ARCHITECT, AND ENGINEER PRIOR TO INSTALLATION.
10. ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION INCLUDING ALL REVISIONS.
11. ALL RETAINING WALLS AND STEEP SLOPES ARE SHOWN SCHEMATICALLY ONLY AND DIPRETE ENGINEERING IS NOT PROVIDING THE DESIGN OF THESE ITEMS. THE ACTUAL WALLS AND SLOPES ARE TO BE BUILT UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER AND CERTIFIED TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT. SHOP DRAWINGS TO BE SUBMITTED PRIOR TO CONSTRUCTION.
12. ALL CUT AND FILL AREAS ARE TO BE DONE UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER WITH TESTING AND CERTIFICATION TO BE PROVIDED TO THE APPLICANT AT THE COMPLETION OF THE PROJECT. DIPRETE ENGINEERING ASSOCIATES, INC. IS NOT PROVIDING THE FILL SPECIFICATION, GEOTECHNICAL ENGINEERING, STRUCTURAL ENGINEERING SERVICES, OR SUPERVISION AS PART OF THESE DRAWINGS.
13. ALL COMPONENTS OF THE DRAINAGE, SEWER AND WATER SYSTEMS MUST BE ASBUILT PRIOR TO COVERING. ENGINEER TO BE NOTIFIED PRIOR TO COVERING TO SURVEY ASBUILT LOCATIONS. ENGINEER WILL NOT ACCEPT FIELD MEASUREMENTS FROM THE SITE CONTRACTOR.
14. NO STOCKPILING OF MATERIAL TO BE LOCATED IN THE RIGHT OF WAY AND NO OPEN TRENCHES ARE TO BE LEFT OVERNIGHT.
15. ALL LOAM IN DISTURBED AREAS TO BE STOCKPILED FOR FUTURE USE.
16. ALL EXCESS SOIL, TREES, ROCKS, BOULDERS, AND OTHER REFUSE, SHALL BE DISCARDED OFF SITE IN AN ACCEPTABLE MANNER AT AN APPROVED LOCATION. STUMPS SHALL BE GROUND ONSITE OR REMOVED.
17. NO STUMP DUMPS ARE PROPOSED ONSITE.
18. IF CONCRETE TRUCKS ARE WASHED OUT ONSITE, ALL WASHOUT MUST BE COMPLETED IN THE DESIGNATED CONCRETE WASHOUT AREA.

ADA Notes:

1. ALL IMPROVEMENTS SHALL COMPLY WITH THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG)" BY THE DEPARTMENT OF JUSTICE.
2. MAXIMUM RUNNING SLOPE ALONG ALL ACCESSIBLE PATHS OF TRAVEL SHALL BE 4.5% OR 0.045 '/, AND MAXIMUM CROSS SLOPE ALONG ALL ACCESSIBLE PATHS OF TRAVEL SHALL BE 0.015'/,.
3. MAXIMUM SLOPE IN ALL DIRECTIONS FOR ALL ACCESSIBLE PARKING SPACES AND LOADING AREAS SHALL BE 0.015'/,.
4. A 5'x5' LANDING WITH A MAXIMUM SLOPE OF 1.5% OR 0.015'/, IN ALL DIRECTIONS SHALL BE PROVIDED IN FRONT OF ALL PUBLICLY ACCESSIBLE BUILDING ENTRANCES/EGRESSES.
5. SIDEWALK CURB RAMPS SHALL COMPLY WITH DIPRETE ENGINEERING DETAILS THAT MEET OR EXCEEDING RIDOT STANDARDS 43.3.0, 43.3.1, & 43.4.1 AS SHOWN ON THE DETAIL SHEET.
6. PLEASE NOTE THAT THE GRADING AND PLAN VIEWS AS WELL AS THE STANDARD DETAILS MAY NOT SHOW THE DETAIL NECESSARY TO CONSTRUCT WALKWAYS AND RAMPS TO ADA STANDARDS. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE THE LEVEL OF CARE NECESSARY TO BE CERTAIN THAT THE CONSTRUCTED PRODUCT MEETS ADA STANDARDS. IN THE EVENT OF ANY CONFLICTS THE CONTRACTOR SHALL NOTIFY THE DESIGNER BEFORE CONSTRUCTION FOR ADVICE IN FINDING A RESOLUTION.

Soil Erosion and Sedimentation Control Notes:

1. ALL EROSION CONTROL, TEMPORARY SWALES, TEMPORARY SEDIMENTATION TRAPS, ETC. SHALL BE INSTALLED PER THE RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL LATEST EDITION AND THE SOIL EROSION SEDIMENTATION CONTROL PLAN (SESC).
2. TEMPORARY SWALES SHALL BE USED TO CONTROL RUNOFF DURING CONSTRUCTION. TEMPORARY SWALES SHALL BE VEGETATED AFTER CONSTRUCTION. EROSION CONTROL MATS SHALL BE INSTALLED IF NECESSARY TO PREVENT EROSION AND SUPPORT VEGETATION. AFTER CONSTRUCTION IS COMPLETE AND TRIBUTARY ARES TO THE SWALES HAVE BEEN STABILIZED, THE TEMPORARY SWALES SHALL BE CLEARED AND FINAL DESIGN, INCLUDING INSTALLATION OF THE GRASS SWALE SHALL BE PER THE DESIGN PLANS.
3. ONCE THE SEDIMENTATION TRAP IS NO LONGER REQUIRED AND ALL TRIBUTARY AREAS HAVE BEEN STABILIZED, THE TEMPORARY SEDIMENTATION TRAP SHALL CLEANED AND BROUGHT TO FINAL DESIGN GRADES.
4. INLET PROTECTION SHALL BE INSTALLED ON ALL CATCH BASINS ONCE CONSTRUCTED.
5. SEE SECTION 2.2 OF THE SESC FOR SEQUENCE OF CONSTRUCTION ACTIVITY.
6. SEE SECTION 2.2 OF THE SESC FOR PROJECT PHASING.
7. CONTRACTOR MAY MODIFY SEQUENCE OF CONSTRUCTION WITH APPROVAL FROM DESIGN ENGINEER.
8. FOR CONSTRUCTION PHASING SEE SECTION 2.2 OF SOIL EROSION AND SEDIMENT CONTROL PLAN.

Abbreviations Legend

AP	ASSESSOR'S PLAT	OHW	OVERHEAD WIRE
BC	BOTTOM OF CURB	PE	POLYETHYLENE
BT	BOTTOM OF TESTHOLE	℄	PROPERTY LINE
BIT	BITUMINOUS (BERM)	PR	PROPOSED
BIO	BIORETENTION	PVC	POLYVINYL CHLORIDE
BW	BOTTOM OF WALL (FINISHED GRADE AT BOTTOM OF WALL)	R	RADIUS
		R&D	REMOVE AND DISPOSE
CB	CATCH BASIN	RCP	REINFORCED CONCRETE PIPE
(C)	CALCULATED	RIHB	RHODE ISLAND HIGHWAY BOUND
℄	CENTERLINE	RL	ROOF LEADER
(CA)	CHORD ANGLE	ROW	RIGHT OF WAY
CLDIP	CONCRETE LINED DUCTILE IRON PIPE	S	SLOPE
CO	CLEAN OUT	SD	SUBDRAIN
CONC	CONCRETE	SED	SEDIMENT FOREBAY
(D)	DEED	SE	SLAB ELEVATION
DCB	DOUBLE CATCH BASIN	SF	SQUARE FOOT
DI	DROP INLET	SFL	STATE FREEWAY LINE
DMH	DRAINAGE MANHOLE	SFM	SEWER FORCE MAIN
DP	DETENTION POND	SHL	STATE HIGHWAY LINE
EOP	EDGE OF PAVEMENT	SMH	SEWER MANHOLE
ESC	EROSION AND SEDIMENT CONTROL	SNDF	SAND FILTER
EX	EXISTING	SS	SIDE SLOPE
FES	FLARED END SECTION	STA	STATION
FFE	FINISH FLOOR ELEVATION	TC	TOP OF CURB
GFE	GARAGE FLOOR ELEVATION	TD	TRENCH DRAIN
GWT	GROUND WATER TABLE	TF	TOP OF FOUNDATION
HC	HANDICAPPED	TRANS	TRANSITION
HW	HEADWALL	TW	TOP OF WALL (FINISHED GRADE AT TOP OF WALL)
HC	HIGH CAPACITY CATCH BASIN GRATE		
HDPE	HIGH DENSITY POLYETHYLENE	TYP	TYPICAL
ID	INLINE DRAIN	UDS	UNDERGROUND DETENTION SYSTEM
INV	INVERT	UIS	UNDERGROUND INFILTRATION SYSTEM
IP	INFILTRATION POND	UP	UTILITY POLE
LF	LINEAR FEET	WO	WALKOUT
LOD	LIMIT OF DISTURBANCE	WQ	WATER QUALITY
LP	LIGHT POLE		
(M)	MEASURED		
N/F	NOW OR FORMERLY		

Site Callouts Legend

NOT ALL ITEMS SHOWN WILL APPEAR ON PLANS

- (7.2.4) RIDOT STD PRECAST CONCRETE CURB STOP
- (4W45) 4" WHITE STRIPING 2' ON CENTER AT 45°
- (ADAS) ADA SPACE PAVEMENT MARKINGS MUST COMPLY WITH ALL ADA AND MUTCD REGULATIONS AND REQUIREMENTS.
- (ADAR) ADA CURB RAMP MUST COMPLY WITH ALL ADA REGULATIONS AND REQUIREMENTS.
- (ADAV) VAN ADA SPACE PAVEMENT MARKINGS MUST COMPLY WITH ALL ADA AND MUTCD REGULATIONS AND REQUIREMENTS.
- (CWK) CROSSWALK PAVEMENT MARKINGS. SOLID 2' WHITE LINES SPACED 4' OC (REFERENCE MUTCD SECTION 3B.18)

Existing Legend

(AS SHOWN ON PROPOSED PLANS)

NOT ALL ITEMS SHOWN WILL APPEAR ON PLANS

PROPERTY LINE
ASSESSORS LINE
BUILDING
BRUSHLINE
TREELINE
GUARDRAIL
FENCE
RETAINING WALL
STONE WALL
MINOR CONTOUR LINE (2)
MAJOR CONTOUR LINE (10)
WATER LINE (W)
SEWER LINE (S)
SEWER FORCE MAIN (SFM)
GAS LINE (G)
ELECTRIC LINE (E)
OVERHEAD WIRES (OHW)
DRAINAGE LINE (D)
SOILS LINES (HkC, CaD)
50' PERIMETER WETLAND
100' RIVERBANK WETLAND
200' RIVERBANK WETLAND
NATURAL HERITAGE AREA
FEMA BOUNDARY (ZONE X / ZONE X)
STREAM
WETLAND LINE & FLAG (B1, B2)
NATURAL HERITAGE AREA

NAIL FOUND/SET
DRILL HOLE FOUND/SET
BOUND FOUND/SET
SIGN
BOLLARD
SOIL EVALUATION
CB CATCH BASIN
DCB DOUBLE CATCH BASIN
DMH DRAINAGE MANHOLE
FES FLARED END SECTION
GUY POLE
EMH ELECTRIC MANHOLE
UP UTILITY/POWER POLE
LIGHTPOST
SMH SEWER/SEPTIC MANHOLE
SEWER VALVE
CLEANOUT
HYDRANT
IRRIGATION VALVE
WV WATER VALVE
WELL
MONITORING WELL
UNKNOWN MANHOLE
GV GAS VALVE
BENCH MARK
STREAM FLOW DIRECTION

Proposed Legend

NOT ALL ITEMS SHOWN WILL APPEAR ON PLANS

PROPERTY LINE
BUILDING SETBACKS
TREELINE
CHAINLINK FENCE
GUARDRAIL (RIDOT STD 34.2.0, 34.4.0 OR APPROVED EQUAL)
RETAINING WALL
MINOR CONTOUR LINE (308)
MAJOR CONTOUR LINE (310)
SPOT ELEVATION (+312)
EDGE OF PAVEMENT
CONCRETE CURB (RIDOT STD 7.1.0)
BUILDING FOOTPRINT
BUILDING OVERHANG
BUILDING ENTRY
ASPHALT PAVEMENT
STAMPED CONCRETE
CONCRETE SIDEWALK
SAWCUT LINE
SIGN (RIDOT STD 24.6.2 AS APPLICABLE)
SINGLE LIGHT
DOUBLE LIGHT
OVERHANGING LIGHT
ACCESSIBLE PARKING SPACE SYMBOLS (VAN)
TRANSFORMER PAD WITH BOLLARDS (PER NATIONAL GRID STANDARD)
PARKING COUNT (1)

DRAINAGE LINE
ROOF LEADER (RL)
GAS LINE (G)
WATER LINE (W)
HYDRANT ASSEMBLY
WATER SHUT OFF
WATER VALVE
THRUST BLOCK
SEWER LINE (S)
OVERHEAD WIRE (OHW)
ELECTRIC, TELEPHONE, CABLE LINE (ETC)
LIMIT OF DISTURBANCE – NO EROSION CONTROL
STRAW WATTLE, SILT FENCE (RIDOT STD 9.2.0) OR APPROVED EQUAL AT LIMIT OF DISTURBANCE
2:1 SLOPES
UNDERGROUND SYSTEM OUTLINE
POND ACCESS
RIP RAP
SAND FILTER
CATCH BASIN
DOUBLE CATCH BASIN
MANHOLE
FLARED END SECTION
HEAD WALL
SHRUB
TREE

Utility Note:

ALL UNDERGROUND UTILITIES SHOWN ON THESE PLANS WERE PROVIDED BY OTHERS AND ARE APPROXIMATE ONLY. LOCATIONS MUST BE DETERMINED IN THE FIELD BEFORE EXCAVATION, BLASTING, UTILITY INSTALLATION, BACKFILLING, GRADING, PAVEMENT RESTORATION, AND ALL OTHER SITE WORK. ALL UTILITY COMPANIES, PUBLIC AND PRIVATE, MUST BE CONTACTED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THESE DOCUMENTS. CONTACT DIG SAFE A MINIMUM OF 72 WORKING HOURS PRIOR TO ANY CONSTRUCTION AT 811. DIG SAFE IS RESPONSIBLE FOR CONTACTING MEMBER UTILITY COMPANIES. DIG SAFE MEMBER UTILITY COMPANIES ARE RESPONSIBLE TO MARK ONLY THE FACILITIES THAT THEY OWN OR MAINTAIN. NON DIG SAFE MEMBER COMPANIES ARE NOT NOTIFIED BY DIG SAFE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INVESTIGATE AND NOTIFY IF ANY PRIVATELY OWNED OR NON DIG SAFE MEMBER UTILITIES ARE IN THE AREA.

PER THE CODE OF FEDERAL REGULATIONS – TITLE 29, PART 1926 IT IS THE SITE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ACCURATE UNDERGROUND UTILITY LINE LOCATIONS FROM THE UTILITY COMPANIES, UTILITY OWNERS AND, OR VIA UNDERGROUND UTILITY LOCATION EQUIPMENT AS NEEDED TO ESTABLISH ACCURATE LOCATIONS PRIOR TO ANY EXCAVATION. THE USE OF PROFESSIONAL UTILITY LOCATING COMPANIES PRIOR TO ANY EXCAVATION IS RECOMMENDED.

DIPRETE ENGINEERING IS NOT A PROFESSIONAL UTILITY LOCATION COMPANY, AND IS NOT RESPONSIBLE FOR UNDERGROUND UTILITIES, DEPICTED OR NOT, EITHER IN SERVICE OR ABANDONED. ANY SIZES, LOCATIONS, EXISTENCE, OR LACK OF EXISTENCE OF UTILITIES SHOWN ON THESE PLANS SHOULD BE CONSIDERED APPROXIMATE UNTIL VERIFIED BY A PROFESSIONAL UTILITY LOCATION COMPANY. DIPRETE ENGINEERING ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED.

Permit Note:

THE PURPOSE OF THIS PLAN SET IS TO OBTAIN A PERMIT FROM THE REGULATORY AGENCY IT WAS SUBMITTED TO. THIS PLAN SET CONTAINS THE REQUIRED INFORMATION NECESSARY FOR APPROVAL BY THE SPECIFIC AGENCY IT WAS SUBMITTED TO AND MAY NOT HAVE INFORMATION NECESSARY FOR OTHER REGULATORY AGENCIES. THIS PLAN SET MUST NOT BE CONSTRUED AS A FULL CONSTRUCTION OR BID SET. ADDITIONAL DETAIL IS REQUIRED FOR CONSTRUCTION AND BID DOCUMENTS, SUCH AS (BUT NOT LIMITED TO) FINE GRADING, GRADING BETWEEN THE CONTOUR INTERVAL, ADDITIONAL SURVEY/ MAPPING, BUILDING SHAPE/ LOCATION, ADA, UTILITY CONNECTIONS, UTILITY CROSSINGS, SURFACE AND GROUND WATER MITIGATION, SOIL STABILITY AND CONSISTENCY, SPECIFIC END USER NEEDS, CONSTRUCTABILITY ISSUES, ETC. ANY USER OF THESE PLANS SHOULD UNDERSTAND THIS LIMITATION.

DiPrete Engineering
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KEVIN DEMERS
No. 8557
REGISTERED PROFESSIONAL ENGINEER
CIVIL

This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.

The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	By
4	06/05/2025	Revisions	S.F.H.
3	05/20/2025	RIDOT Response to Comments	N.M.P.
2	04/30/2025	RIDOT Response to Comments	N.M.P.
1	02/19/2025	RIDOT Submission	J.A.R.
0	10/28/2024	RIDOT Submission	J.A.R.

Drawn By: D.R.N. Design By: K.J.D.

General Notes And Legend

Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160.
North Dartmouth, MA 02747

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Legend

NOT ALL ITEMS SHOWN WILL APPEAR ON THE SURVEY

BUILDING		NAIL FOUND/SET	
AP	ASSESSOR'S PLAT	DRILL HOLE FOUND/SET	
N/F	NOW OR FORMERLY	IRON ROD/PIPE FOUND/SET	
(D)	DEED	BOUND FOUND/SET	
(M)	MEASURED	SIGN	
(CA)	CHORD ANGLE	BOLLARD	
HC	HANDICAPPED	SOIL EVALUATION	
PROPERTY LINE		CB CATCH BASIN	
ASSESSORS LINE		DCB DOUBLE CATCH BASIN	
TREELINE		DMH DRAINAGE MANHOLE	
GUARDRAIL		FES FLARED END SECTION	
FENCE		GUY POLE	
RETAINING WALL		EMH	
STONE WALL		UP UTILITY/POWER POLE	
MINOR CONTOUR LINE		LIGHTPOST	
MAJOR CONTOUR LINE		SMH SEWER/SEPTIC MANHOLE	
WATER LINE		SEWER VALVE	
SEWER LINE		CLEANOUT	
SEWER FORCE MAIN		HYDRANT	
GAS LINE		IRRIGATION VALVE	
ELECTRIC LINE		WATER VALVE	
OVERHEAD WIRES		WELL	
DRAINAGE LINE		MONITORING WELL	
		UNKNOWN MANHOLE	
		GAS VALVE	
		B-1 WETLAND FLAG	
		BENCH MARK	
		SHRUB	
		TREE	

General Notes

1. THE PARCEL IS FOUND ON ASSESSOR'S PLAT 111, LOT 1 IN THE TOWN OF BRISTOL, BRISTOL COUNTY, RHODE ISLAND.
2. THE OWNER PER THE ASSESSOR'S ONLINE DATABASE IS KENDAN, LLC.
3. THE PARCEL IS LOCATED IN ZONE X & AE PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP 44001C0011H, DATED JULY 7, 2014.
4. THE PARCEL IS ZONED GB PER THE ASSESSOR'S ONLINE DATABASE. PLEASE CONTACT THE ZONING DEPARTMENT FOR ANY ADDITIONAL INFORMATION OR FOR A CERTIFICATE OF ZONING.
5. THERE WERE NO CEMETERIES, GRAVE SITES AND OR BURIAL GROUNDS OBSERVED WITHIN THE LIMITS OF THE SITE.
6. FIELD SURVEY PERFORMED BY BARKER LAND SURVEYING, INC. THIS PLAN REFLECTS ON THE GROUND CONDITIONS AS OF THAT DATE.
7. ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM ONLINE GIS DATA TOGETHER WITH EXISTING PLANS BY OTHERS. DIPRETE ENGINEERING IS NOT RESPONSIBLE FOR MISSING UNDERGROUND UTILITIES, EITHER IN SERVICE OR ABANDONED, NOT OBSERVED AT THE TIME OF THE SURVEY. (PLEASE CONTACT DIGSAFE 72 WORKING HOURS PRIOR TO ANY CONSTRUCTION AT 1-888-344-7233).
8. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. DIPRETE ENGINEERING IS NOT RESPONSIBLE FOR ANY UNKNOWN OR UNRECORDED EASEMENTS, DEEDS OR CLAIMS THAT A TITLE REPORT WOULD DISCLOSE.

Plan References:

1. PLAN ENTITLED "PROPERTY LINE SURBEY FOR KENDAN, LLC" BY BARKER LAND SURVEYING, INC. REVISED 9/30/14.

Lidar Note:

CONTOUR DATA SHOWN ON THIS PLAN CONFORMS TO A T-4 TOPOGRAPHICAL SURVEY STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS; SAID DATA IS BASED ON ELEVATION INFORMATION THAT WAS COLLECTED WITH AIRBORNE LIDAR TECHNOLOGY FOR THE ENTIRE AREA OF RHODE ISLAND BETWEEN APRIL 22 AND MAY 6, 2011 AS PART OF THE NORTHEAST LIDAR PROJECT. THIS DATA'S POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED BY DIPRETE ENGINEERING AND IS SUBJECT TO CHANGES AN AUTHORITATIVE FIELD SURVEY MAY DISCLOSE.

SURVEYOR'S CERTIFICATE

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO 435-RICR-00-00-1.9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 25, 2015, AS FOLLOWS:

- COMPILATION PLAN — CLASS IV
(NOT A BOUNDARY SURVEY)

THIS COMPILATION PLAN HAS BEEN PREPARED FROM SOURCES OF INFORMATION AND DATA WHOSE POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED. THE PROPERTY LINES DEPICTED HEREON DO NOT REPRESENT A BOUNDARY OPINION, AND OTHER INFORMATION DEPICTED IS SUBJECT TO SUCH CHANGES AS AN AUTHORITATIVE FIELD SURVEY MAY DISCLOSE

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS: COMPILATION PLAN FOR USE IN PERMITTING PLAN SET.

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CHRISTOPHER A. DUHAMEL
No. 18447
06/05/2025
PROFESSIONAL LAND SURVEYOR

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No.	Date	Description	By
4	06/05/2025	Revisions	S.E.H.
3	05/20/2025	RIDOT Response to Comments	N.M.P.
2	04/30/2025	RIDOT Response to Comments	N.M.P.
1	03/31/2025	RIDOT Response to Comments	N.M.P.
0	03/28/2025	RIDOT Submission	J.A.K.

Drawn By: D.R.N. Design By: K.J.D.

Existing Resource Plan

Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

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SHEET 4 OF 13

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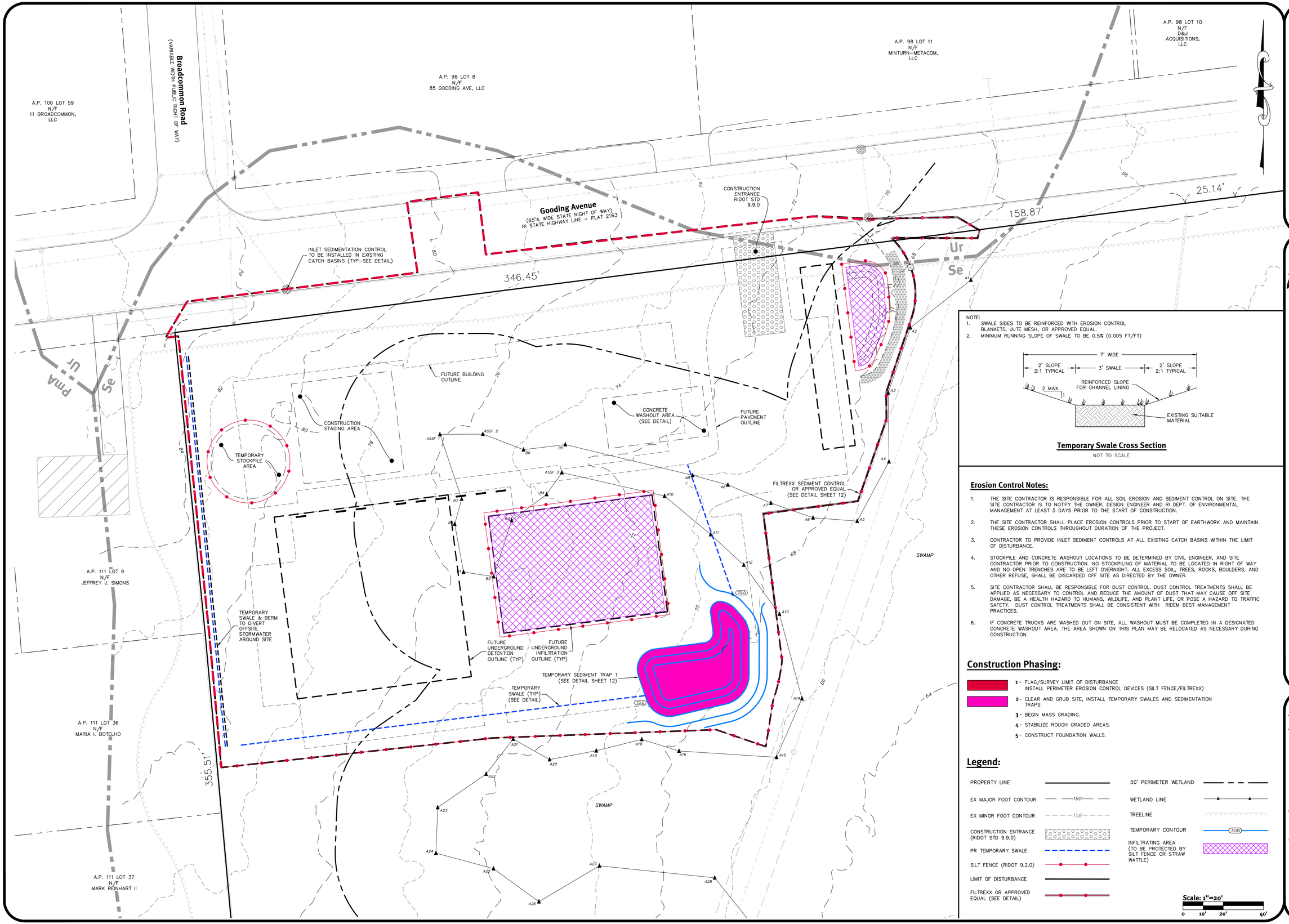

NOTE:
1. SWALE SIDES TO BE REINFORCED WITH EROSION CONTROL BLANKETS, JUTE MESH, OR APPROVED EQUAL.
2. MINIMUM RUNNING SLOPE OF SWALE TO BE 0.5% (0.005 FT/FT)

Temporary Swale Cross Section

NOT TO SCALE

Erosion Control Notes:

1. THE SITE CONTRACTOR IS RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL ON SITE. THE SITE CONTRACTOR IS TO NOTIFY THE OWNER, DESIGN ENGINEER AND RI DEPT. OF ENVIRONMENTAL MANAGEMENT AT LEAST 5 DAYS PRIOR TO THE START OF CONSTRUCTION.
2. THE SITE CONTRACTOR SHALL PLACE EROSION CONTROLS PRIOR TO START OF EARTHWORK AND MAINTAIN THESE EROSION CONTROLS THROUGHOUT DURATION OF THE PROJECT.
3. CONTRACTOR TO PROVIDE INLET SEDIMENT CONTROLS AT ALL EXISTING CATCH BASINS WITHIN THE LIMIT OF DISTURBANCE.
4. STOCKPILE AND CONCRETE WASHOUT LOCATIONS TO BE DETERMINED BY CIVIL ENGINEER, AND SITE CONTRACTOR PRIOR TO CONSTRUCTION. NO STOCKPILING OF MATERIAL TO BE LOCATED IN RIGHT OF WAY AND NO OPEN TRENCHES ARE TO BE LEFT OVERNIGHT. ALL EXCESS SOIL, TREES, ROCKS, BOULDERS, AND OTHER REFUSE, SHALL BE DISCARDED OFF SITE AS DIRECTED BY THE OWNER.
5. SITE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL. DUST CONTROL TREATMENTS SHALL BE APPLIED AS NECESSARY TO CONTROL AND REDUCE THE AMOUNT OF DUST THAT MAY CAUSE OFF SITE DAMAGE, BE A HEALTH HAZARD TO HUMANS, WILDLIFE, AND PLANT LIFE, OR POSE A HAZARD TO TRAFFIC SAFETY. DUST CONTROL TREATMENTS SHALL BE CONSISTENT WITH RIDEM BEST MANAGEMENT PRACTICES.
6. IF CONCRETE TRUCKS ARE WASHED OUT ON SITE, ALL WASHOUT MUST BE COMPLETED IN A DESIGNATED CONCRETE WASHOUT AREA. THE AREA SHOWN ON THIS PLAN MAY BE RELOCATED AS NECESSARY DURING CONSTRUCTION.

Construction Phasing:

1- FLAG/SURVEY LIMIT OF DISTURBANCE
INSTALL PERIMETER EROSION CONTROL DEVICES (SILT FENCE/FILTREXX)
2- CLEAR AND GRUB SITE, INSTALL TEMPORARY SWALES AND SEDIMENTATION TRAPS
3- BEGIN MASS GRADING.
4- STABILIZE ROUGH GRADED AREAS.
5- CONSTRUCT FOUNDATION WALLS.

Legend:

- PROPERTY LINE
- EX MAJOR FOOT CONTOUR (160)
- EX MINOR FOOT CONTOUR (158)
- CONSTRUCTION ENTRANCE (RIDOT STD 9.9.0)
- PR TEMPORARY SWALE
- SILT FENCE (RIDOT 9.2.0)
- LIMIT OF DISTURBANCE
- FILTREXX OR APPROVED EQUAL (SEE DETAIL)
- 50' PERIMETER WETLAND
- WETLAND LINE
- TREELINE
- TEMPORARY CONTOUR (308)
- INFILTRATING AREA (TO BE PROTECTED BY SILT FENCE OR STRAW WATTLE)

Scale: 1"=20'
0 10' 20' 40'

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KEVIN DEMERS
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CIVIL

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No.	Date	Description	By
4.	09/02/2025	Response to Comments	K.M.P.
3.	08/05/2025	RIDOT Response to Comments	K.M.P.
2.	01/27/2024	RIDOT Response to Comments	K.M.P.
1.	07/28/2023	RIDOT Submission	J.A.K.
			Design By: K.I.D.
			Drawn By: D.R.N.

Erosion & Sediment Control Plan
Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 5 OF 13

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Parking Regulations:

PARKING USE:	HOTEL
PARKING REQUIREMENT:	1 SPACE PER HOTEL ROOM
HOTEL ROOMS:	80 ROOMS
PARKING CALCULATION:	80 X 1/ROOM = 80 SPACES
REQUIRED PARKING SPACES:	80 SPACES
PROVIDED REGULAR (10' X 18') PARKING SPACES:	60
PROVIDED COMPACT* (9' X 16') PARKING SPACES:	20
TOTAL PROVIDED PARKING SPACES:	80 SPACES (REGULAR + COMPACT)
REQUIRED ADA PARKING SPACES:	4 SPACES
PROVIDED ADA PARKING:	4 SPACES
REQUIRED LOADING AREA:	14' x 60' LOADING SPACE
PROVIDED LOADING AREA:	14' x 60' LOADING SPACE

* FOR PARKING AREAS WITH MORE THAN 20 SPACES, UP TO 25 PERCENT OF THE SPACES MAY BE REDUCED IN SIZE FOR SMALL CARS, PROVIDED THAT SUCH SPACES SHALL BE PROMINENTLY SIGNED FOR SMALL CARS ONLY

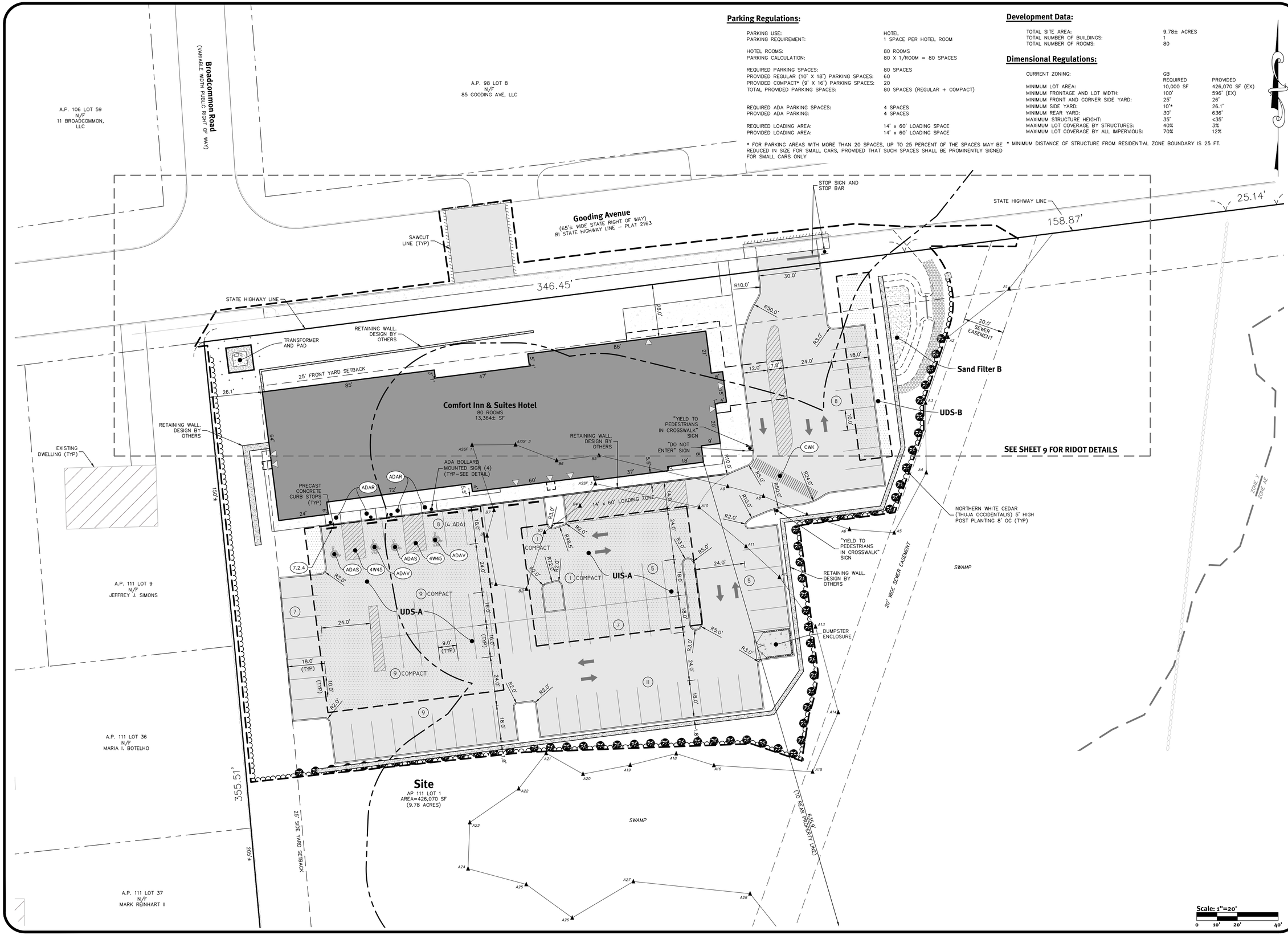
Development Data:

TOTAL SITE AREA:	9.78± ACRES
TOTAL NUMBER OF BUILDINGS:	1
TOTAL NUMBER OF ROOMS:	80

Dimensional Regulations:

CURRENT ZONING:	GB	
	REQUIRED	PROVIDED
MINIMUM LOT AREA:	10,000 SF	426,070 SF (EX)
MINIMUM FRONTAGE AND LOT WIDTH:	100'	596' (EX)
MINIMUM FRONT AND CORNER SIDE YARD:	25'	26'
MINIMUM SIDE YARD:	10'*	26.1'
MINIMUM REAR YARD:	30'	636'
MAXIMUM STRUCTURE HEIGHT:	35'	<35'
MAXIMUM LOT COVERAGE BY STRUCTURES:	40%	3%
MAXIMUM LOT COVERAGE BY ALL IMPERVIOUS:	70%	12%

* MINIMUM DISTANCE OF STRUCTURE FROM RESIDENTIAL ZONE BOUNDARY IS 25 FT.



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5	06/30/2025	RIDOT Response to Comments	K.J.D.
4	05/29/2025	RIDOT Response to Comments	N.M.P.
3	12/17/2024	RIDOT Response to Comments	N.M.P.
2	11/27/2024	RIDOT Response to Comments	N.M.P.
1	02/28/2024	RIDOT Submission	J.A.R.

Drawn By: D.R.N. Design By: K.J.D.

Site Layout Plan
Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

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SHEET 6 OF 13

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Grading Plan

Comfort Inn & Suites

AP 111 Lot 1
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SHEET 7 OF 13

No.	Date	Description	By:
4	06/05/2025	Revisions	S.E.H.
3	05/20/2025	RIDOT Response To Comments	N.M.P.
2	12/12/2024	RIDOT Response To Comments	N.M.P.
1	07/30/2024	RIDOT Response To Comments	N.M.P.
0	02/28/2024	RIDOT Submission	J.A.K.

Drawn By: D.R.N. | Design By: K.J.D.

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The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

KEVIN DEMERS
REGISTERED PROFESSIONAL ENGINEER
No. 15557

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90 Broadway Newport, RI 02840
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Boston • Providence • Newport

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Item C2



Drainage and Utilities Plan
Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Darthmoth, MA 02747

SHEET 8 OF 13

No.	Date	Description	By:
4	06/05/2025	Revisions	S.E.H.
3	05/20/2025	RIDOT Response To Comments	N.M.P.
2	12/12/2024	RIDOT Response To Comments	N.M.P.
1	07/30/2024	RIDOT Response To Comments	N.M.P.
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KEVIN DEMERS
No. 15,827
REGISTERED PROFESSIONAL ENGINEER
STATE OF RHODE ISLAND

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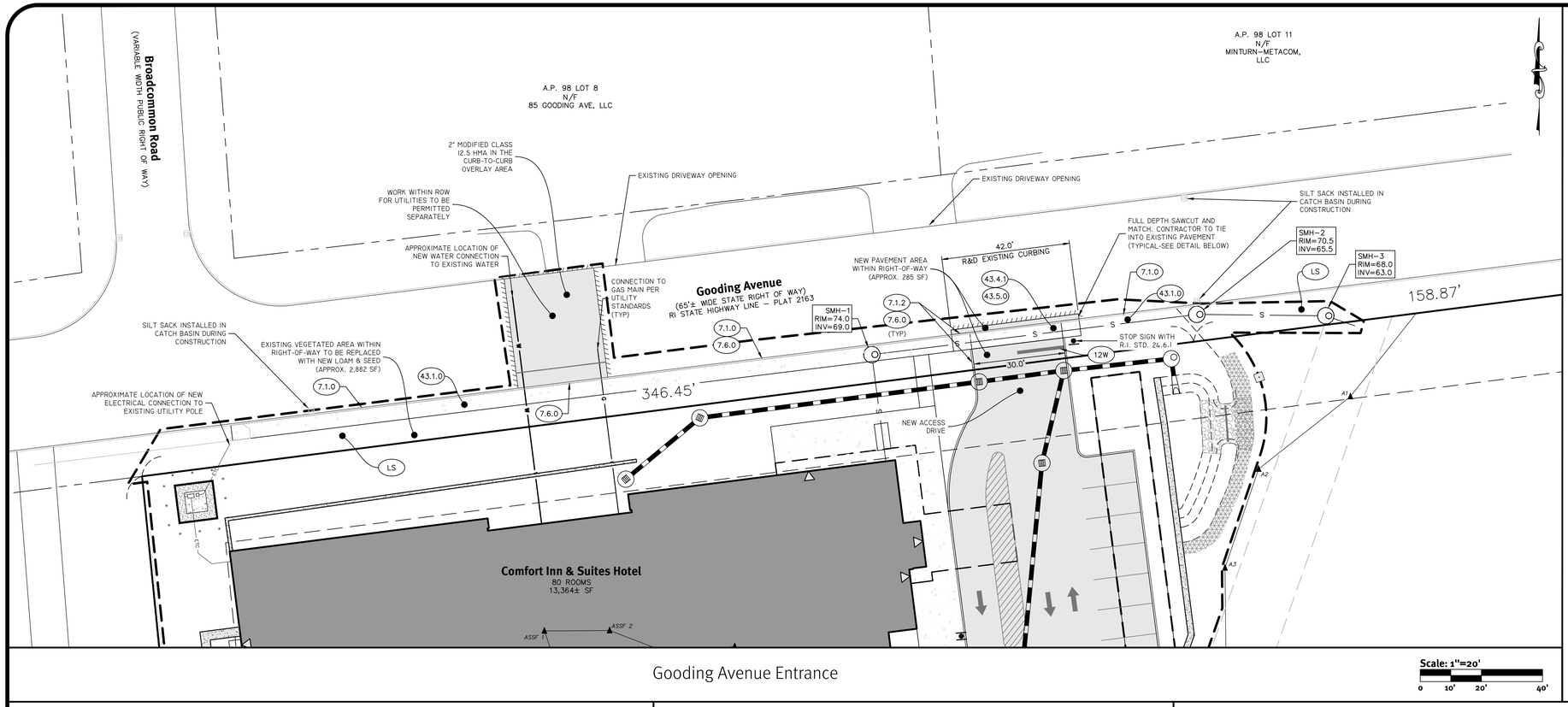
Item C2



Gooding Avenue Entrance

Scale: 1"=20'

0 10' 20' 40'

RIDOT NOTES:

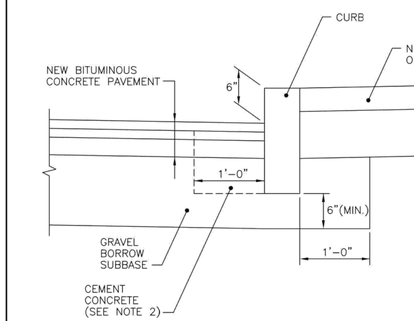
1. ALL WORK TO BE DONE WITHIN THE STATE HIGHWAY RIGHT-OF-WAY SHALL CONFORM TO THE RHODE ISLAND STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION, AUGUST 2023 EDITION WITH ALL REVISIONS. STANDARD DETAILS FOR THIS WORK ARE R.I. STANDARD DETAILS 1998 EDITION (AMENDED OCTOBER 2022) WITH ALL REVISIONS.
2. ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION, INCLUDING ALL REVISIONS.
3. ALL BITUMINOUS PAVEMENT WITHIN THE STATE ROW SHALL BE AN APPROVED MIX DESIGN PROVIDED BY A RIDOT APPROVED SUPPLIER IN ACCORDANCE WITH THE RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (BLUE BOOK).
4. GRAVEL BORROW SUBBASE PLACED ON STATE ROADS SHALL MATCH EXISTING PAVEMENT DEPTH (MINIMUM 12 INCHES) AND SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
5. SWEEPING AND TACK COAT OF MILLED SURFACE IS REQUIRED PRIOR TO OVERLAY.

UTILITY NOTES:

1. CONTRACTOR MUST COORDINATE WITH RIDOT, RI ENERGY, AND ALL OTHER UTILITY COMPANIES.
2. WITH RESPECT TO UTILITIES CONNECTIONS WITHIN THE STATE'S ROW, THE APPLICANT IS REMINDED THAT THIS APPLICATION IS NOT A SUBSTITUTE FOR THE UTILITY PERMIT AND FURTHER THAT APPROVAL OF THIS APPLICATION DOES NOT CONSTITUTE APPROVAL OF ANY UTILITY WORK, SHOWN OR UN-SHOWN, WITHIN THE STATE'S ROW.

SITE CALLOUTS LEGEND

- (12W) 12" WHITE STOP LINE (REFERENCE MUTCD SECTION 3B.16)
- (4W) 4" WHITE EPOXY RESIN PAVEMENT MARKINGS
- (7.1.0) RIDOT STD PRECAST CONCRETE CURB
- (LS) 4" LOAM AND SEED



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. CEMENT CONCRETE SHALL BE USED ONLY WHEN THE CURB IS SET AFTER THE BASE AND/OR BINDER COURSES ARE IN PLACE, OTHERWISE THE CEMENT CONCRETE WILL BE ELIMINATED AND THE GRAVEL BROUGHT UP TO BOTTOM OF THE BASE COURSE.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

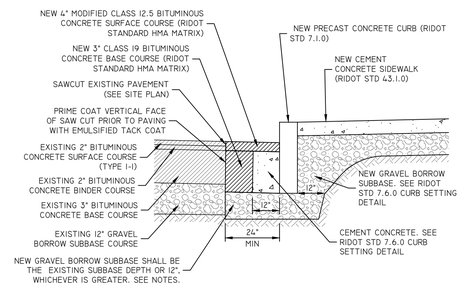
CURB SETTING DETAIL

REVISIONS		
NO.	BY	DATE
1	MLP	Mar '05

JUNE 15, 1998 (ISSUE DATE)

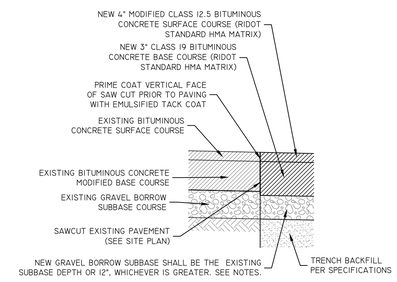
CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION

R.I. STANDARD 7.6.0



SECTION THROUGH NEW CURB & SIDEWALK

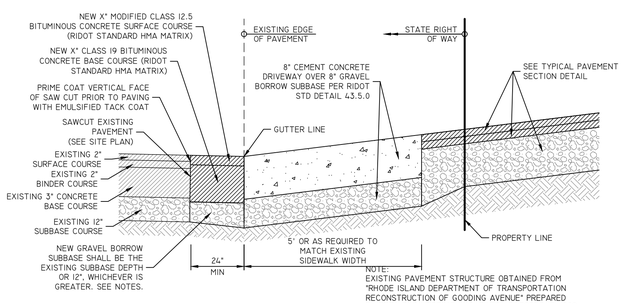
NOT TO SCALE



SECTION THROUGH TRENCH

NOT TO SCALE

NOTES:
1. PROPOSED THICKNESSES SHOWN WITHIN THE STATE RIGHT OF WAY ARE MINIMUMS. IF EXISTING THICKNESSES ARE FOUND TO BE GREATER, THE RESTORATION MUST FOLLOW AND MATCH THE EXISTING PAVEMENT STRUCTURE TO ENSURE SIMILAR STRUCTURAL CAPACITIES.
2. GRAVEL BORROW SUBBASE PLACED ON STATE ROADS SHALL MATCH EXISTING SUBBASE DEPTH (MINIMUM I2 INCHES) AND SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE RIDOT SPECIFICATIONS.
3. IF A CONCRETE BASE IS FOUND IN THE ROADWAY, ANY RESTORATION WORKS SHALL INCLUDE NEW CLASS XX CONCRETE, PINNED AND DOWELED TO THE EXISTING CONCRETE, AT A THICKNESS EQUAL TO THE EXISTING CONCRETE SLAB THICKNESS.
4. SWEEPING AND TACK COAT IS REQUIRED FOR ANY MILLED SURFACE PRIOR TO OVERLAY.
5. CLASS I9 HMA IS TO BE PLACED IN LIFTS OF 3" MINIMUM AND 5-3/4" MAXIMUM.
6. ALL ASPHALT WITHIN THE STATE RIGHT OF WAY SHALL BE AN APPROVED MIX DESIGN PROVIDED BY A RIDOT APPROVED SUPPLIER IN ACCORDANCE WITH THE RIDOT STANDARD SPECIFICATIONS.
7. ALL CONCRETE WITHIN THE STATE RIGHT OF WAY SHALL BE PROVIDED BY A RIDOT APPROVED SUPPLIER, SHALL BE CLASS XX AND CONFORM TO SECTION 601 OF THE RIDOT STANDARD SPECIFICATIONS. TRENCH WORK WILL REQUIRE PINNING AND DOWELING AND THE DEPTH SHALL MATCH EXISTING CONCRETE SLAB THICKNESS.
8. CONTRACTOR MUST HOLD/ SUPPORT/ RESTORE ALL IMPACTED UTILITY POLES AND ABOVEGROUND OBJECTS AS NECESSARY DURING INSTALLATION WORKS AND COORDINATE WITH ALL ASSOCIATED UTILITY OWNERS ACCORDINGLY.



PAVEMENT TIE IN DETAIL - RIDOT

NOT TO SCALE

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CIVIL

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5	06/09/2025	Revisions	K.J.D.
4	05/29/2025	RIDOT Response to Comments	N.M.P.
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Drawn By: D.R.N. — Design By: K.J.D.

RIDOT ROW Improvements

Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
90 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 9 OF 13

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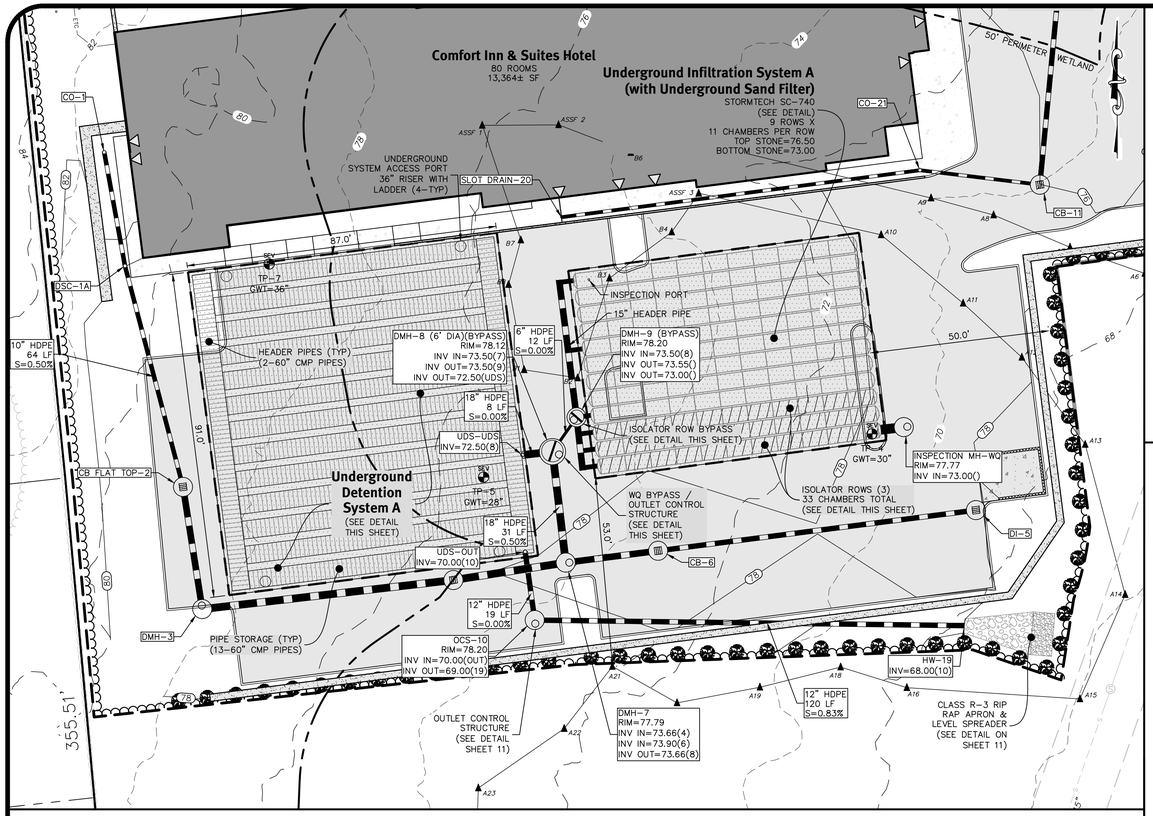
z:\domain\projects\2536-001 gooding avenue\autocad drawings\2536-001-plan.dwg Plotted: 6/5/2025



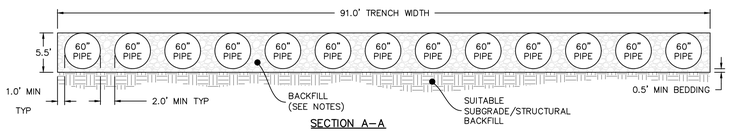
Underground Infiltration/Detention System A (UIS-A & UDS-A)

Scale: 1"=20'
0 10' 20' 40'

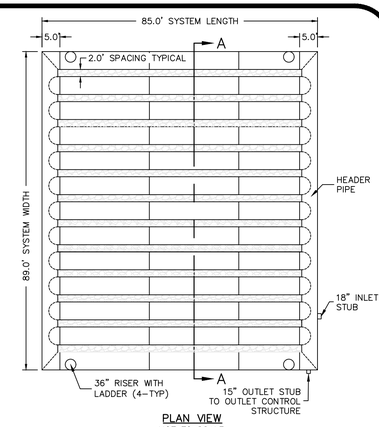
NOTES:

1. STRUCTURAL BACKFILL MATERIAL: SELECT MATERIALS SUCH AS BANK RUN GRAVEL OR OTHER PROCESSED GRANULAR MATERIALS LESS THAN 3 IN. MAXIMUM WITH EXCELLENT STRUCTURAL CHARACTERISTICS ARE PREFERRED. CONTRACTOR TO PROVIDE SIEVE ANALYSIS OF BACKFILL MATERIAL TO DESIGN ENGINEER PRIOR TO CONSTRUCTION.
2. STRUCTURAL BACKFILL PLACEMENT: STRUCTURAL BACKFILL SHALL BE PLACED IN LAYERS FROM 6 TO 12 IN. IN DEPTH DEPENDING ON THE TYPE OF MATERIAL AND COMPACTION EQUIPMENT OR METHOD. EACH LAYER OR "LIFT" SHALL BE COMPACTED TO 95% PROCTOR DENSITY BEFORE ADDING THE NEXT.
3. PIPE SHALL BE HDPE OR ALUMINIZED TYPE 2. ALL PIPE MUST BE WATERTIGHT. CONTRACTOR TO PROVIDE SHOP DRAWINGS TO DESIGN ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
4. HEADER PIPE CAN BE CUSTOM MANUFACTURED OR CONSTRUCTED USING PIPE FITTINGS. CONTRACTOR TO PROVIDE SHOP DRAWINGS TO DESIGN ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

DESCRIPTION	UDS-A	UDS-B
TOP OF UDS STONE ELEVATION	75.00	70.50
BOTTOM OF UDS STONE ELEVATION	69.50	68.50
100 YEAR STORM ELEVATION	72.84	70.83
10 YEAR STORM ELEVATION	71.20	70.72
1 YEAR STORM ELEVATION	70.43	70.57
SEASONAL HIGH GWT ELEVATION	73.50	66.00
SOIL EVALUATION	TP-5	TP-6



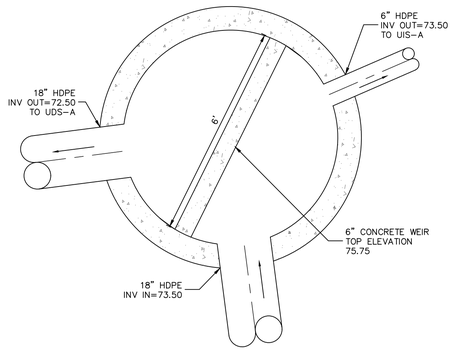
SECTION A-A



PLAN VIEW

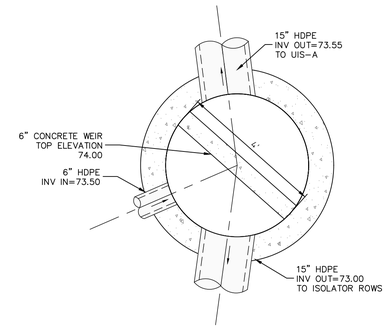
Underground Detention System A

NOT TO SCALE



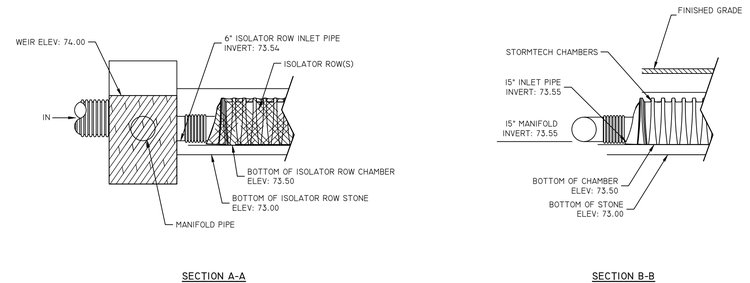
WQ Bypass DMH-8 (6'Ø Manhole)

SCALE 1"=2'



Isolator Row Bypass DMH-9 (4'Ø Manhole)

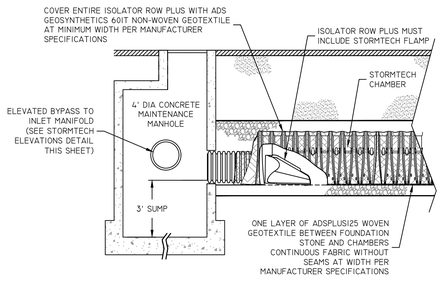
SCALE 1"=2'



SECTION A-A SECTION B-B

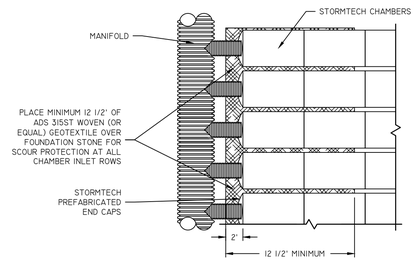
STORMTECH ELEVATIONS

NOT TO SCALE



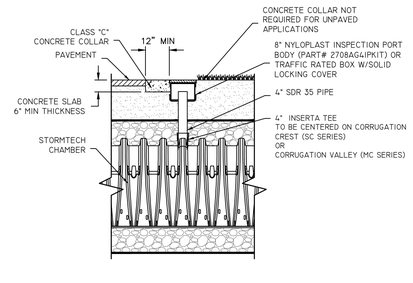
STORMTECH ISOLATOR ROW PLUS DETAIL

NOT TO SCALE



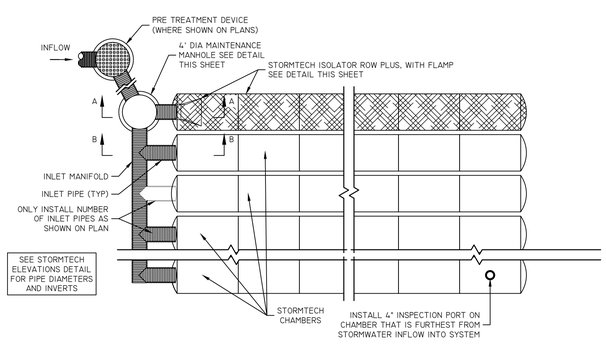
STORMTECH SCOUR PROTECTION DETAIL

NOT TO SCALE



STORMTECH 4" INSPECTION PORT DETAIL

NOT TO SCALE

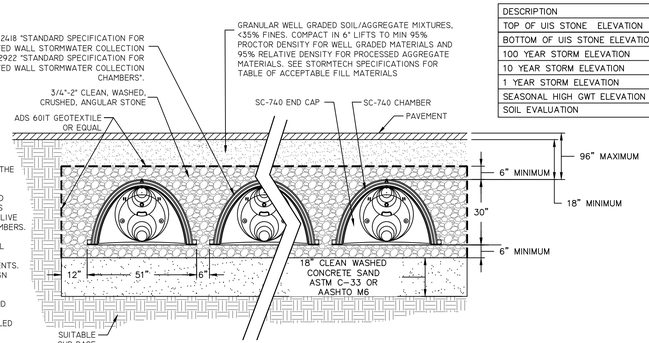


STORMTECH TYPICAL LAYOUT - INFILTRATION

NOT TO SCALE

NOTES:

1. THIS CROSS SECTION DETAILS THE REQUIREMENTS NECESSARY TO SATISFY THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12 FOR EARTH AND LIVE LOADS USING STORMTECH CHAMBERS. SEE APPLICABLE STORMTECH CONSTRUCTION GUIDES AND ALL APPLICABLE DOCUMENTS FOR SPECIFIC MATERIAL REQUIREMENTS.
2. SEE LATEST STORMTECH DESIGN MANUAL FOR CURRENT REQUIREMENTS.
3. ALL STORMTECH CHAMBERS AND ASSOCIATED/ ANCILLARY COMPONENTS MUST BE INSTALLED PER MANUFACTURER RECOMMENDATIONS AND THESE PLANS. CONTRACTOR TO NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO INSTALLATION.



DESCRIPTION	UIS-A
TOP OF UIS STONE ELEVATION	76.50
BOTTOM OF UIS STONE ELEVATION	73.00
100 YEAR STORM ELEVATION	75.88
10 YEAR STORM ELEVATION	75.14
1 YEAR STORM ELEVATION	73.28
SEASONAL HIGH GWT ELEVATION	70.00
SOIL EVALUATION	TP-4

STORMTECH SC-740 TYPICAL CROSS SECTION (SAND FILTER)

NOT TO SCALE

CONTRACTOR NOTE: SHOULD CONTRACTOR WISH TO PROPOSE ALTERNATE STORMWATER SYSTEM IN LIEU OF ADS STORMTECH, CONTRACTOR MUST SUBMIT THE FOLLOWING FOR REVIEW AND APPROVAL BY OWNER/ DESIGN ENGINEER PRIOR TO CONSTRUCTION:

- COMPLETED "SUBSTITUTION REQUEST" CSI FORM 13.1A (APRIL 2022 VERSION MODIFIED BY DIPRETE ENGINEERING 2023) - FORM AVAILABLE FROM DIPRETE ENGINEERING;
- ALTERNATE PRODUCT DESIGN PLANS SPECIFIC TO THIS PROJECT, STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE SAME STATE AS THIS PROJECT;
- POINT BY POINT COMPARATIVE DATA THAT DEMONSTRATES HOW THE ALTERNATE DESIGN MEETS OR IMPROVES THE DESIGN SHOWN ON THE APPROVED PLANS AND REPORTS, INCLUDING (BUT MAY NOT BE NOT LIMITED TO):
  - STAGE STORAGE
  - PEAK FLOOD ELEVATION
  - PEAK DISCHARGE FOR ALL APPLICABLE DESIGN STORMS
  - ANY OTHER APPLICABLE REQUIREMENTS OR CONSTRAINTS AS SET FORTH IN THE APPROVED PLANS, REPORTS AND CONTRACT DOCUMENTS
- PLANS, CALCULATIONS OR OTHERWISE THAT DEMONSTRATE HOW THE ALTERNATE DESIGN ADDRESSES SITE LAYOUT/ CONNECTIVITY TO THE ADJOINING STORMWATER NETWORK COMPONENTS, INCLUDING (BUT MAY NOT BE LIMITED TO):
  - PROVISION FOR ACCESS AND MAINTENANCE
  - ADEQUATE CONSTRUCTABILITY
  - ACCOMMODATION OF SURROUNDING OBJECTS/ STRUCTURES/ UTILITIES IN ACCORDANCE WITH ALL APPLICABLE OFFSETS, CLEARANCES AND STIPULATIONS AS REQUIRED BY THE APPLICABLE AUTHORITIES HAVING JURISDICTION

APPLICATION FOR SUBSTITUTION

NOT TO SCALE

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KEVIN DEMERS
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0	02/28/2024	ROI Submission	J.A.R.
1	05/29/2024	ROI Response to Comments	N.M.P.
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4	06/25/2025	Response To Comments	N.M.P.

Drawn By: D.R.N. | Design By: K.I.D.

Underground System A & Details

Comfort Inn & Suites

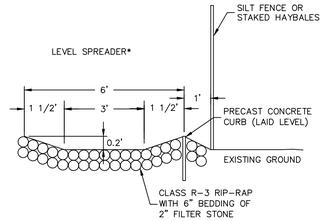
AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 10 OF 13

DE Job No: 2536-001 Copyright 2025 by DiPrete Engineering Associates, Inc.

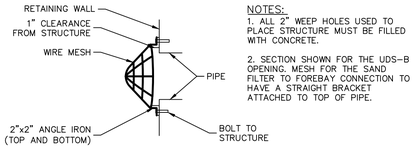
z:\domain\project\2536-001 gooding avenue\autocad drawings\2536-001 plan.dwg Plotted: 6/5/2025



NOTE:
* LENGTHS AS SPECIFIED ON SITE PLANS

Level Spreader

NOT TO SCALE



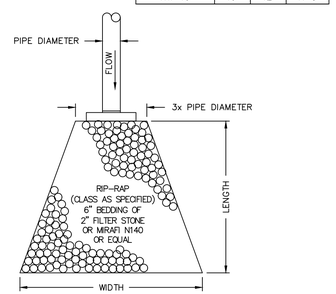
NOTES:
1. ALL 2" WEEP HOLES USED TO PLACE STRUCTURE MUST BE FILLED WITH CONCRETE.

2. SECTION SHOWN FOR THE UDS-B OPENING. MESH FOR THE SAND FILTER TO FOREBAY CONNECTION TO HAVE A STRAIGHT BRACKET ATTACHED TO TOP OF PIPE.

Trash Rack Detail

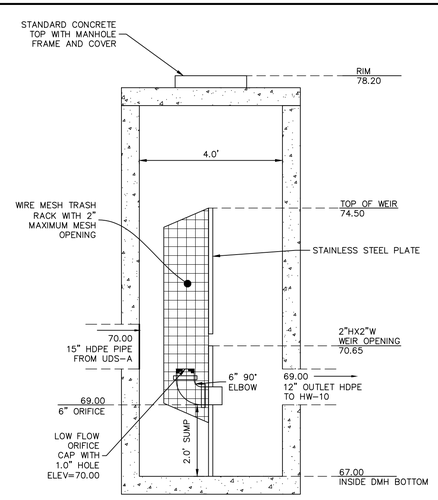
NOT TO SCALE

FLARED END	LENGTH	WIDTH	RIP RAP CLASS
HW-10	19'	12'	R-3



RIP RAP APRON/HW DETAIL

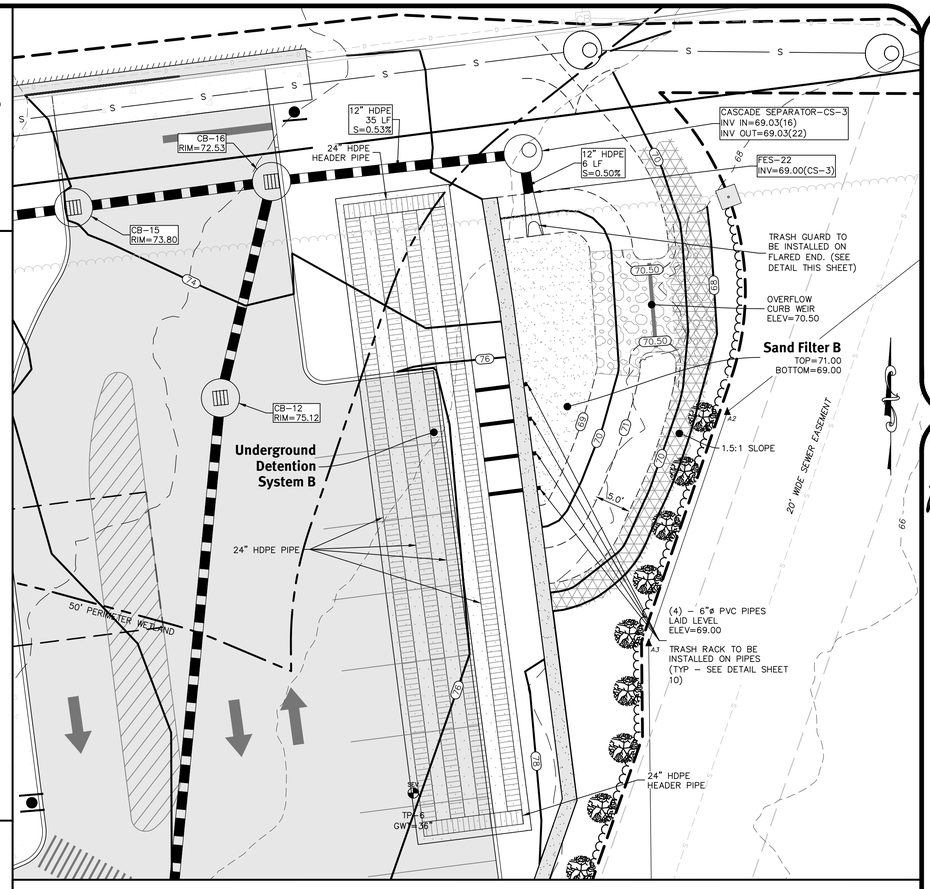
NOT TO SCALE



SECTION VIEW

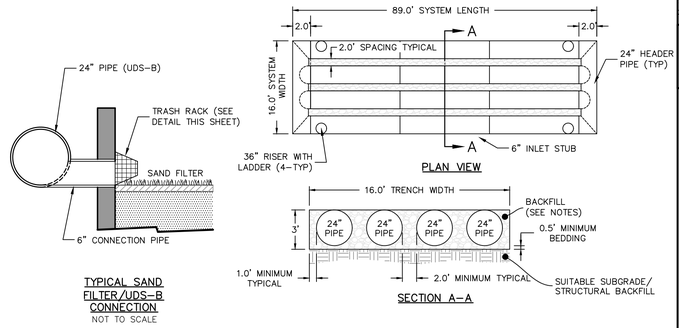
UDS-A Outlet Control Structure (OCS-10)

SCALE: 1"=2'



Underground Detention System - B (UDS-B) and Sand Filter B

Scale: 1"=10'
0 5' 10' 20'

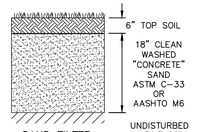


TYPICAL SAND FILTER/UDS-B CONNECTION
NOT TO SCALE

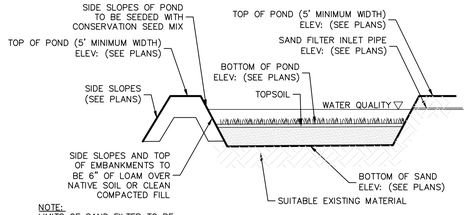
Underground Detention System B (UDS-B)

NOT TO SCALE

DESCRIPTION	SF-B
TOP OF POND ELEVATION	71.00
100 YEAR STORM ELEVATION	70.82
10 YEAR STORM ELEVATION	70.71
1 YEAR STORM ELEVATION	70.55
WQ STORM ELEVATION	69.80
BOTTOM OF POND ELEVATION	69.00
TOP SOIL DEPTH	6"
SAND DEPTH	18"
BOTTOM OF SAND ELEVATION	67.00
SEASONAL HIGH GWT ELEVATION	66.00
SOIL EVALUATION	TH-6



SAND FILTER
TYPICAL SECTION



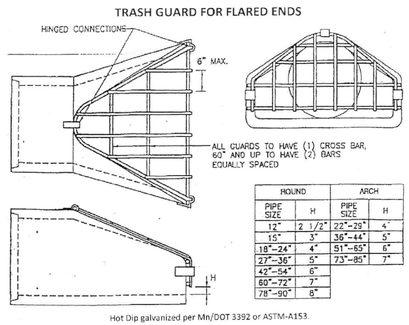
NOTE:
LIMITS OF SAND FILTER TO BE STAKED OUT AND NOT USED AS A TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION (NO CONSTRUCTION TRAFFIC ALLOWED WITHIN FILTER LIMITS)

SAND FILTER
NOT TO SCALE

Sand Filter BMP System

NOT TO SCALE

TRASH GUARD FOR FLARED ENDS



ROUND		ARCH	
PIPE SIZE	H	PIPE SIZE	H
12"	2 1/2"	22"-29"	4"
15"	3"	36"-44"	5"
18"-24"	4"	51"-65"	6"
27"-36"	5"	73"-85"	7"
42"-54"	6"		
60"-72"	7"		
78"-90"	8"		

Hot Dip galvanized per Mn/DOT 3392 or ASTM-A153.

BAR SIZES									
STANDARD DESIGN					HEAVY DESIGN				
	PIPE SIZE	HOLE DIA. REQ'D.	BOLT DIA.	BAR SIZE		PIPE SIZE	HOLE DIA. REQ'D.	BOLT DIA.	BAR SIZE
ROUND	12"-24"	3/4"	5/8"	5/8"	ROUND	12"-24"	3/4"	5/8"	3/4"
	27"-48"	7/8"	3/4"	3/4"		27"-48"	7/8"	3/4"	1"
	54"-90"	1 1/8"	1"	1"		54"-90"	1 1/8"	1"	1 1/4"
ARCH	22"-29"	3/4"	5/8"	5/8"	ARCH	22"-29"	3/4"	5/8"	3/4"
	36"-59"	7/8"	3/4"	3/4"		36"-59"	7/8"	3/4"	1"
	65"-88"	1 1/8"	1"	1"		65"-88"	1 1/8"	1"	1 1/4"
BOLT LG. = PIPEWALL THK. + 2 1/2"					ELLIPTICAL	14x23"	3/4"	5/8"	3/4"
						19x30"	3/4"	5/8"	3/4"
						24x38"	7/8"	1/4"	3/4"
						29x45"	7/8"	3/4"	3/4"
						34x53"	7/8"	3/4"	3/4"
						38x60"	7/8"	3/4"	3/4"
						43x68"	1 1/8"	1"	1"
						48x76"	1 1/8"	1"	1"
						53x83"	1 1/8"	1"	1"

HAALA INDUSTRIES
1201 Hwy. 4 South
P.O. Box 389
Sleepy Eye, MN 56085
Fax: 507-794-5823
SCOTT HAALA
Cell: 507-920-9182
507-794-5821 ext. 115
scott@haala.com
www.haala.com
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Trash Guard Specifications

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90 Broadway Newport, RI 02840
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KEVIN DEMERS
No. 8557
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

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The contractor is responsible for all of the means, methods, techniques, sequences and procedures and OSHA conformance in the implementation of this plan and design.

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1	02/29/2024	RIDOT Submission	K.L.D.

Drawn By: D.R.N. Design By: K.L.D.

Underground System B, Sand Filter B & Details

Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
90 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 11 OF 13

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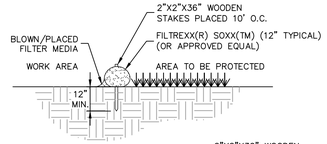
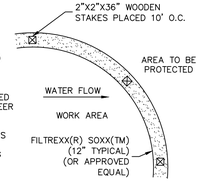


SECTION



PLAN

NOTES:

1. ALL MATERIAL TO MEET FILTREXX(R) SPECIFICATIONS
2. FILTER MEDIA(TM) FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER
4. STAKES ARE NOT TO BE USED IN PAVEMENT AREAS.
5. SELF WEIGHT OF FILTREXX SYSTEM IS ADEQUATE TO PREVENT SYSTEM MOVEMENT ONCE POSITIONED ALONG AREA SHOWN ON THE PLANS.
6. CONTRACTOR TO PLACE FILTREXX SEDIMENT CONTROL OR APPROVED EQUAL AROUND ALL CURB INLET LOCATIONS AS SPECIFIED ON PLANS.

Filtrexx Sediment Control (or Approved Equal)

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DiPrete Engineering
90 Broadway Newport, RI 02840
tel 401-619-5950 fax 401-464-6006 www.diprete-eng.com
Boston • Providence • Newport

GENERAL NOTES:

1. THE TEMPORARY SEDIMENT TRAP SHALL MEET ALL REQUIREMENTS FOR TEMPORARY SEDIMENT TRAPS OUTLINED IN THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK (LATEST REVISION) SECTION SIX: SEDIMENT CONTROL MEASURES
2. THE TEMPORARY SEDIMENT TRAP SHALL HAVE AN INITIAL STORAGE VOLUME OF 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER EXCEPT FOR THE EXCAVATED WET STORAGE AREA WHERE SLOPES SHALL NOT EXCEED 1.5:1.
4. THE OUTLET SHALL BE LOCATED AT THE MOST DISTANT HYDRAULIC POINT FROM THE INLET.
5. THE OUTLET CONSISTS OF A PERVIOUS STONE DIKE WITH A CORE OF MODIFIED RIPRAP AND FACED ON THE UPSTREAM SIDE WITH STONE.
6. TEMPORARY SEDIMENT TRAPS MUST OUTLET ONTO STABILIZED GROUND.
7. MAXIMUM HEIGHT OF A TEMPORARY SEDIMENT TRAP EMBANKMENT IS LIMITED TO 5 FEET.
8. SIDE SLOPES OF THE EMBANKMENT SHALL BE 2:1 OR FLATTER.
9. MODIFIED RIPRAP: SHALL MEET THE REQUIREMENTS OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.10.03.2.
10. FILTER STONE: SHALL MEET THE REQUIREMENTS OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.01.03 TABLE I, COLUMN V FILTER STONE.

INSPECTION, MAINTENANCE, AND REMOVAL REQUIREMENTS:

1. INSTALL "SEDIMENT STORAGE" STAKE WITH A MARKER AT ONE HALF OF THE WET STORAGE VOLUME.
2. INSPECT THE TEMPORARY SEDIMENT TRAP AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.25 INCH OR GREATER.
3. CHECK THE OUTLET TO ENSURE THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT.
4. CHECK FOR SEDIMENT ACCUMULATION AND FILTRATION PERFORMANCE.
5. WHEN SEDIMENTS HAVE ACCUMULATED TO ONE HALF THE MINIMUM REQUIRED VOLUME OF THE WET STORAGE, DEWATER THE TRAP AS NEEDED, REMOVE SEDIMENTS AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS.
6. DISPOSE OF THE SEDIMENT REMOVED FROM THE BASIN IN A SUITABLE AREA.
7. THE TEMPORARY SEDIMENT TRAP MAY BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA IS STABILIZED.

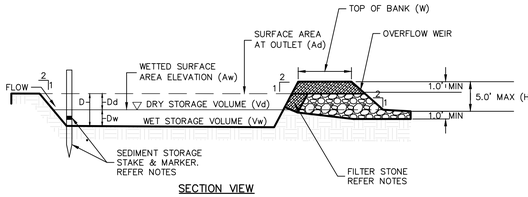
INSTALLATION NOTES:

1. CLEAR, GRUB AND STRIP ANY VEGETATION AND ROOT MAT FROM ANY PROPOSED EMBANKMENT AND OUTLET AREA.
2. REMOVE STONES AND ROCKS WHOSE DIAMETER IS GREATER THAN THREE (3) INCHES AND OTHER DEBRIS.
3. EXCAVATE WET STORAGE AND CONSTRUCT THE EMBANKMENT AND/OR OUTLET AS NEEDED TO ATTAIN THE NECESSARY STORAGE REQUIREMENTS.
4. USE ONLY FILL MATERIAL FOR THE EMBANKMENT THAT IS FREE FROM EXCESSIVE ORGANICS, DEBRIS, LARGE ROCKS (OVER SIX (6) INCHES) OR OTHER UNSUITABLE MATERIALS. COMPACT THE EMBANKMENT IN 9-INCH LAYERS BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED
5. STABILIZE THE EARTHEN EMBANKMENT USING ANY OF THE FOLLOWING MEASURES, SEEDING FOR TEMPORARY VEGETATION COVER; SEEDING FOR PERMANENT VEGETATIVE COVER; OR SLOPE PROTECTION, IMMEDIATELY AFTER INSTALLATION

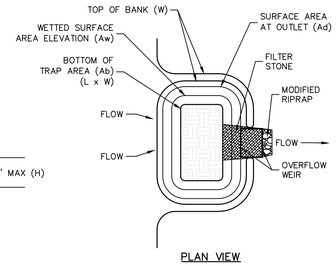
SEDIMENT TRAP DIMENSIONS	TRAP 1	
TRIBUTARY DRAINAGE AREA	1.15	ac
WET STORAGE DEPTH (Dw)	2.00	ft
DRY STORAGE DEPTH (Dd)	2.00	ft
TOTAL DEPTH (D)	4.00	ft
BOTTOM OF TRAP AREA (Ab)	850	sq.ft
WETTED SURFACE AREA (Aw)	1,400	sq.ft
SURFACE AREA AT OUTLET (Ad)	2,030	sq.ft

TOP WIDTH VS HEIGHT
H=HEIGHT OF EMBANKMENT
W=TOP WIDTH OF EMBANKMENT

H (ft)	W (ft)
1.5	2.0
2.0	2.0
2.5	3.0
3.0	2.5
3.5	3.0
4.0	3.0
4.5	4.0
5.0	4.5



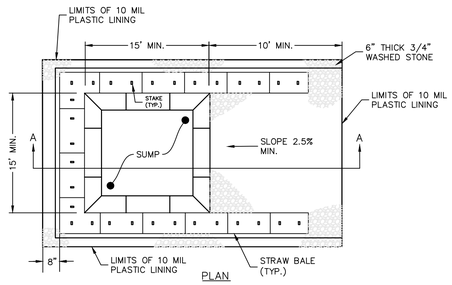
SECTION VIEW



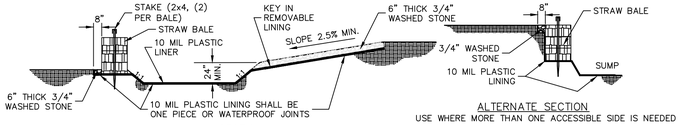
PLAN VIEW

Temporary Sediment Trap Details

NOT TO SCALE



PLAN



SECTION A-A

ALTERNATE SECTION
USE WHERE MORE THAN ONE ACCESSIBLE SIDE IS NEEDED



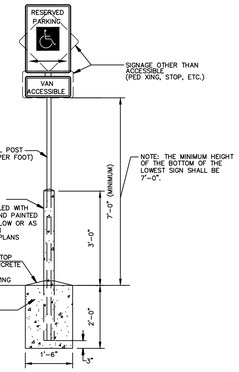
WASHOUT SIGN

NOTES:

1. PIT IS SPECIFICALLY DESIGNATED, DIKED AND IMPERVIOUS CONTAINMENT TO PREVENT CONTACT BETWEEN CONCRETE WASH AND STORMWATER.
2. WASH WATER SHALL NOT BE ALLOWED TO FLOW TO SURFACE WATER.
3. FACILITY MUST HOLD SUFFICIENT VOLUME TO CONTAIN CONCRETE WASTE WITH A MINIMUM FREEBOARD OF 12."
4. FACILITY SHALL NOT BE FILLED BEYOND 95% CAPACITY UNLESS A NEW FACILITY IS CONSTRUCTED.
5. SAW CUT PORTLAND CEMENT CONCRETE, RESIDUE FROM SAWCUT & GRINDING TO BE DISPOSED OF IN THE PIT.
6. CONCRETE WASHOUTS SHALL BE LOCATED A MINIMUM OF 100' FROM DRAINAGE WAYS, INLETS, & SURFACE WATERS.
7. MANUFACTURED CONCRETE WASHOUT DEVICES MAY BE USED IF REMOVED FROM THE SITE WHEN 95% FULL CAPACITY.

CONCRETE WASHOUT AREA

(NOT TO SCALE)



Bollard Mounted Sign Detail

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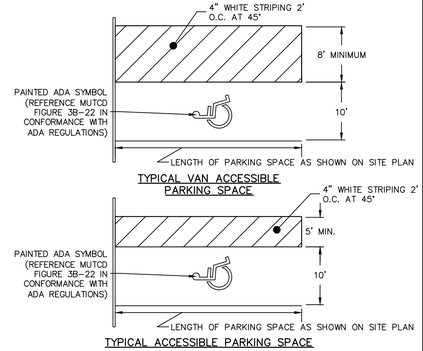

TYPICAL VAN ACCESSIBLE PARKING SPACE

TYPICAL ACCESSIBLE PARKING SPACE

Typical Accessible Parking Spaces

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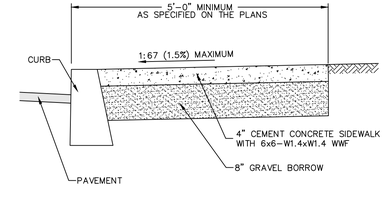
NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. FOR CURB SETTING DETAIL, REFERENCE STD. 7.6.0.
3. MEETS OR EXCEEDS GUIDELINES OF RIDOT STANDARD DETAIL 43.1.0.



Cement Concrete Sidewalk

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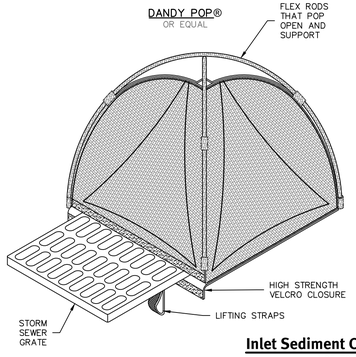
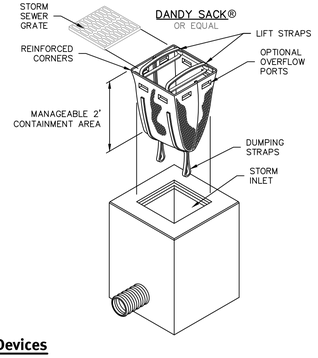


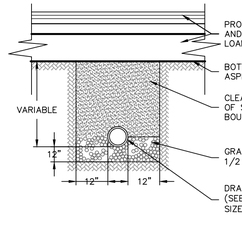


Inlet Sediment Control Devices

NOT TO SCALE

INSTALLATION NOTES:

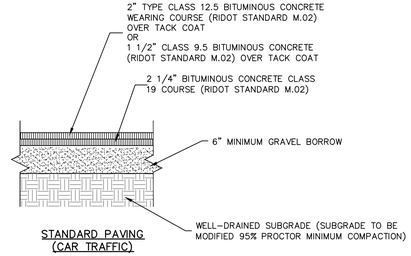
1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS, LATEST ADDITION.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100MM) FOR 4"-24" (100MM-600MM); 6" (150MM) FOR 30"-60" (750MM-900MM).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" ø PIPE AND 24" OF COVER FOR 54"-60" ø PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.



HDPE Trench Detail

NOT TO SCALE

NOTE:
THIS PAVEMENT SECTION DETAIL REFLECTS MINIMUM REQUIREMENTS. ENGINEER TO DETERMINE DESIGN BASED ON GEOTECHNICAL DATA OF SPECIFIC PROJECT AND DAILY TRAFFIC DESIGN REQUIREMENT.



STANDARD PAVING (CAR TRAFFIC)

Typical Pavement Section

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Design By: K.J.D.
Drawn By: D.R.N.

Detail Sheet
Comfort Inn & Suites
AP 111 Lot 1
Bristol, Rhode Island
Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 12 OF 13

DE Job No: 2536-001

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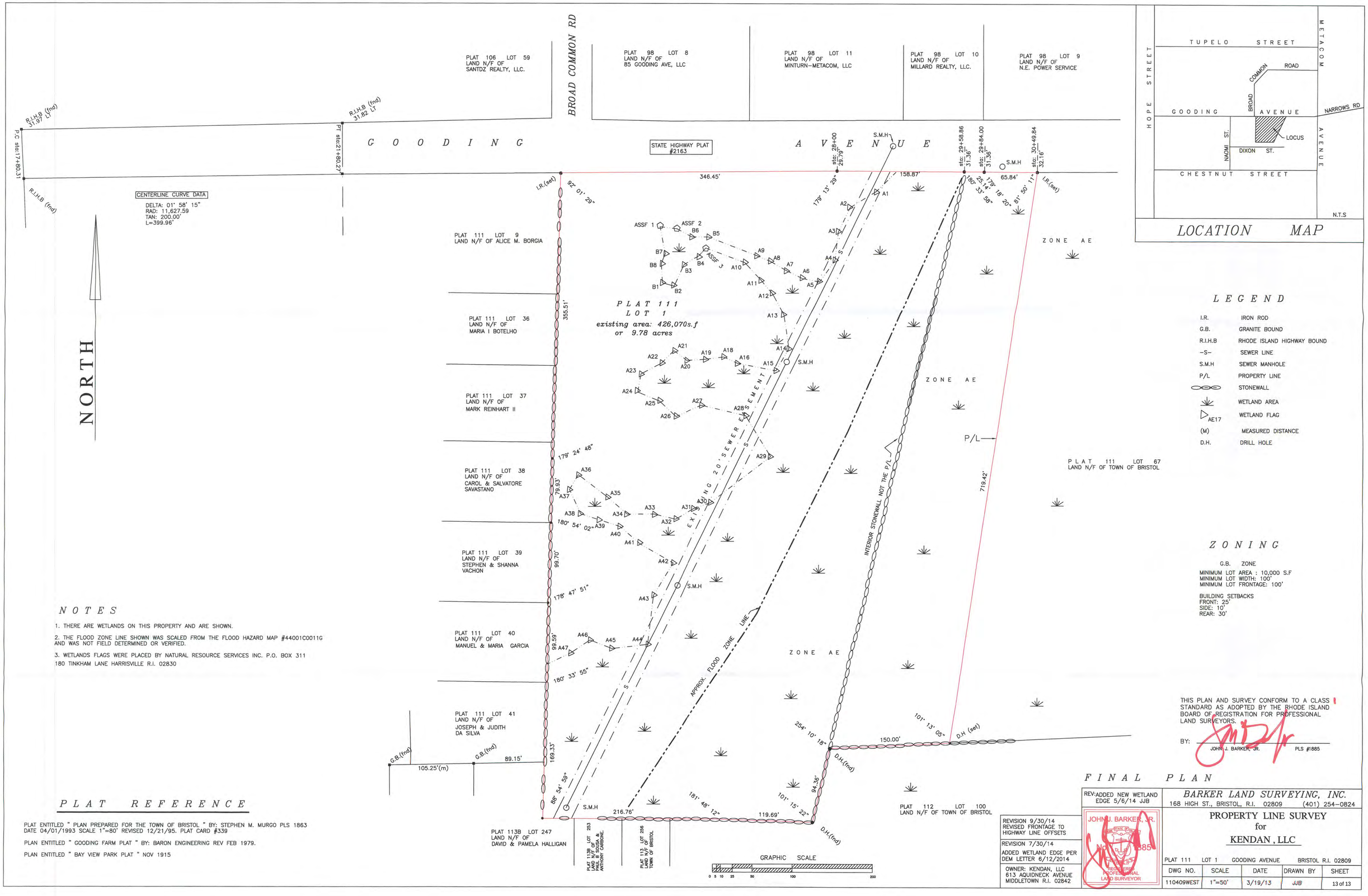

LEGEND

I.R.	IRON ROD
G.B.	GRANITE BOUND
R.I.H.B	RHODE ISLAND HIGHWAY BOUND
-S-	SEWER LINE
S.M.H	SEWER MANHOLE
P/L	PROPERTY LINE
	STONEWALL
	WETLAND AREA
AE17	WETLAND FLAG
(M)	MEASURED DISTANCE
D.H.	DRILL HOLE

ZONING

G.B. ZONE

MINIMUM LOT AREA : 10,000 S.F
MINIMUM LOT WIDTH: 100'
MINIMUM LOT FRONTAGE: 100'

BUILDING SETBACKS
FRONT: 25'
SIDE: 10'
REAR: 30'

NOTES

1. THERE ARE WETLANDS ON THIS PROPERTY AND ARE SHOWN.
2. THE FLOOD ZONE LINE SHOWN WAS SCALED FROM THE FLOOD HAZARD MAP #44001C0011G AND WAS NOT FIELD DETERMINED OR VERIFIED.
3. WETLANDS FLAGS WERE PLACED BY NATURAL RESOURCE SERVICES INC. P.O. BOX 311 180 TINKHAM LANE HARRISVILLE R.I. 02830

PLAT REFERENCE

PLAT ENTITLED " PLAN PREPARED FOR THE TOWN OF BRISTOL " BY: STEPHEN M. MURGO PLS 1863 DATE 04/01/1993 SCALE 1"=80' REVISED 12/21/95. PLAT CARD #339

PLAN ENTITLED " GOODING FARM PLAT " BY: BARON ENGINEERING REV FEB 1979.

PLAN ENTITLED " BAY VIEW PARK PLAT " NOV 1915

THIS PLAN AND SURVEY CONFORM TO A CLASS I STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS.

BY: _____
JOHN J. BARKER, JR. PLS #1885

FINAL PLAN

REV: ADDED NEW WETLAND EDGE 5/6/14 JJB

REVISION 9/30/14
REVISED FRONTAGE TO HIGHWAY LINE OFFSETS

REVISION 7/30/14
ADDED WETLAND EDGE PER DEM LETTER 6/12/2014

OWNER: KENDAN, LLC
613 AQUIDNECK AVENUE
MIDDLETOWN R.I. 02842

JOHN J. BARKER, JR. NO. 1885 REGISTERED PROFESSIONAL LAND SURVEYOR

BARKER LAND SURVEYING, INC.
168 HIGH ST., BRISTOL, R.I. 02809 (401) 254-0824

PROPERTY LINE SURVEY
for
KENDAN , LLC

PLAT 111 LOT 1 GOODING AVENUE BRISTOL R.I. 02809

DWG NO.	SCALE	DATE	DRAWN BY	SHEET
110409WEST	1"=50'	3/19/13	JJB	13 of 13

DiPrete Engineering

Project # 2536-001-B01

June 5, 2025

Project Narrative & Environmental Impact Statement

Comfort Inn & Suites, Gooding Avenue, Bristol, RI

Assessors Plat 111, Lot 1

Applicant:

D&M Boca Development, LLC
92 Faunce Corner Road, Suite 160
North Dartmouth, MA 02747



DiPrete Engineering

Project # 2536-001-B01

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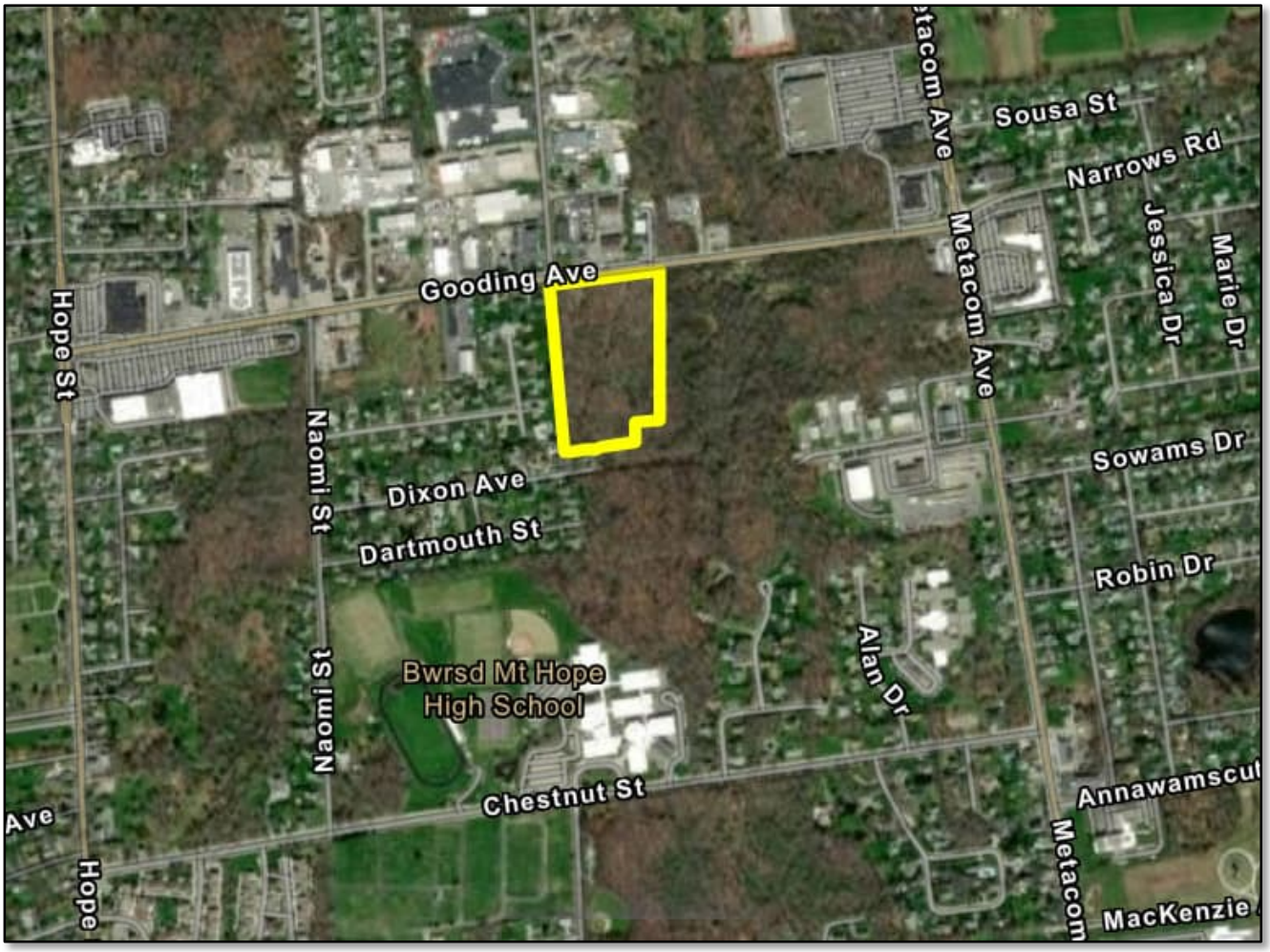
DiPrete Engineering

Project # 2536-001-B01

1.0 Executive Summary

DiPrete Engineering (DE) has prepared the Environmental Impact Statement (EIS) to accompany our submission for the above-referenced site. The subject site is located on Gooding Avenue, approximately halfway between Hope Street (Route 114) and Metacom Avenue (Route 136). The site abuts Gooding Avenue to the north, vacant land owned by the Town of Bristol to the south and east, and residential subdivisions to the south and west.

The applicant proposes an 80-room hotel and associated parking. The project will be connected to public water and sewer utilities. A drainage system and best management practices (BMPs) are proposed to provide stormwater peak flow and volume control, as well as water quality treatment.



Site Locus

2.0 Location

The site is located in the Town of Bristol. The total site is approximately 9.8 acres and is located on the Town of Bristol Assessor's Plat 111 Lot 1. The site is conveniently located 3 miles north of Roger Williams University and can readily access points south, such as Newport, via the Mount Hope Bridge.

The proposed development is approximately 0.44 miles east of Hope Street and 0.27 miles west of Metacom Avenue. There is approximately 506' of frontage on Gooding Avenue.

The area surrounding the site is comprised of single-family residential homes and commercial properties. The site is currently zoned GB (General Business). The zoning of the parcels directly surrounding the proposed Site consist of OS (Open Space), M (Manufacturing), Residential R-15, and GB. The development of a hotel for this GB parcel is allowed by right.

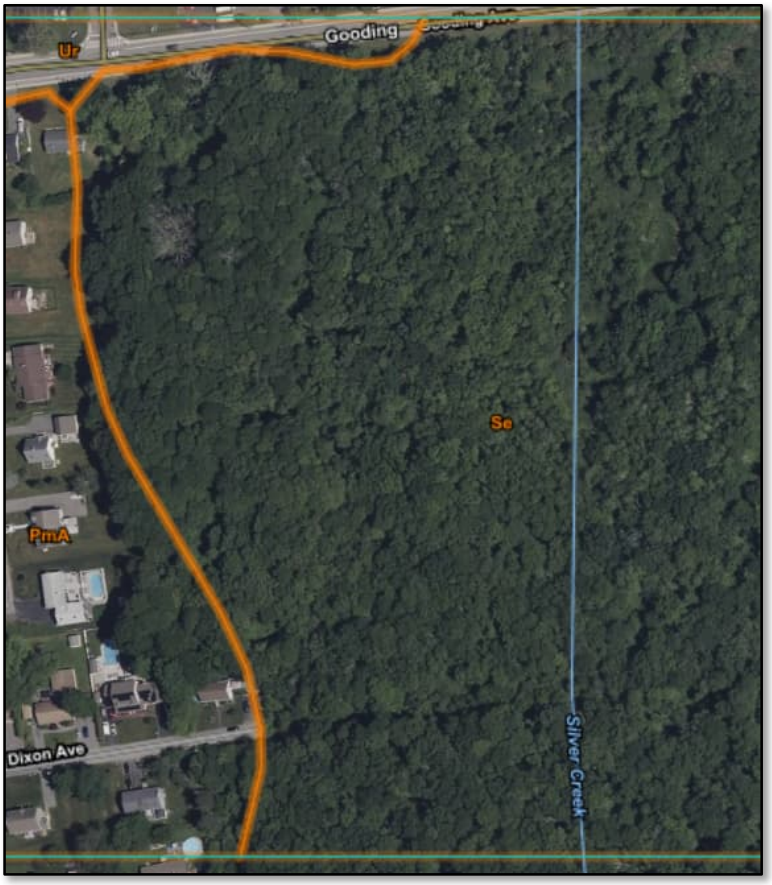
3.0 Site Analysis

Soils

The soils on the Site have been mapped by the USDA Soil Conservation Service. They are:

PmA - Pittstown silt loam, 0 to 3 percent slopes: Pittstown soils are moderately well drained soils formed in lodgment till derived from dark parent materials. These soils are found on glacial upland hills and drumlins. Saturated hydraulic conductivity is moderately high or high in the solum and moderately low or moderately high in the substratum. Pittstown soils are suitable for community development but may be limited by the seasonal high water table.

Sf - Stissing very stony silt loam: Stissing soils are poorly drained soils formed in lodgment till derived from dark colored parent materials. These soils are found on glacial upland hills and drumlins in the southeastern part of the state. Saturated hydraulic conductivity is moderately high or high in the solum and moderately low or moderately high in the dense substratum. Stissing soils are poorly



Area of Soil Map Units from the USDA NRCS Web Soil Survey

suited to community development and are typically regulated wetland resource areas. Agricultural activities are limited by the surface stones.

Soil evaluations have been performed in the project area to confirm the soil properties including water table. The soil evaluation locations and seasonal high groundwater depths are shown on Sheet 4 of the plan set.

Agricultural Lands

There is no agricultural land use within the project area.

Topography

The character of the Site's topography is gently sloping from west to east toward Silver Creek, located off site to the east. The highest elevations of the Site are found in the northwest corner where the proposed project is planned (elevations 68-84). The slopes throughout the Site average approximately 4-5%. There are no areas that retain flood storage within the project area. All areas drain to the wetlands on site.

Structures

The site is not currently occupied by any structures. A sewer easement crosses the site from a northeast to southwest direction. Residential lots are located west of the subject property. The remaining surrounding land use consists of commercial and industrial land uses.

Past and Present Use of Site

The Site is currently undeveloped and consists of upland and wetland deciduous forests. As described previously, the Site was cleared for agricultural production until approximately 1939, after which it was left fallow and allowed to revegetate to its current state.

FEMA Floodplain

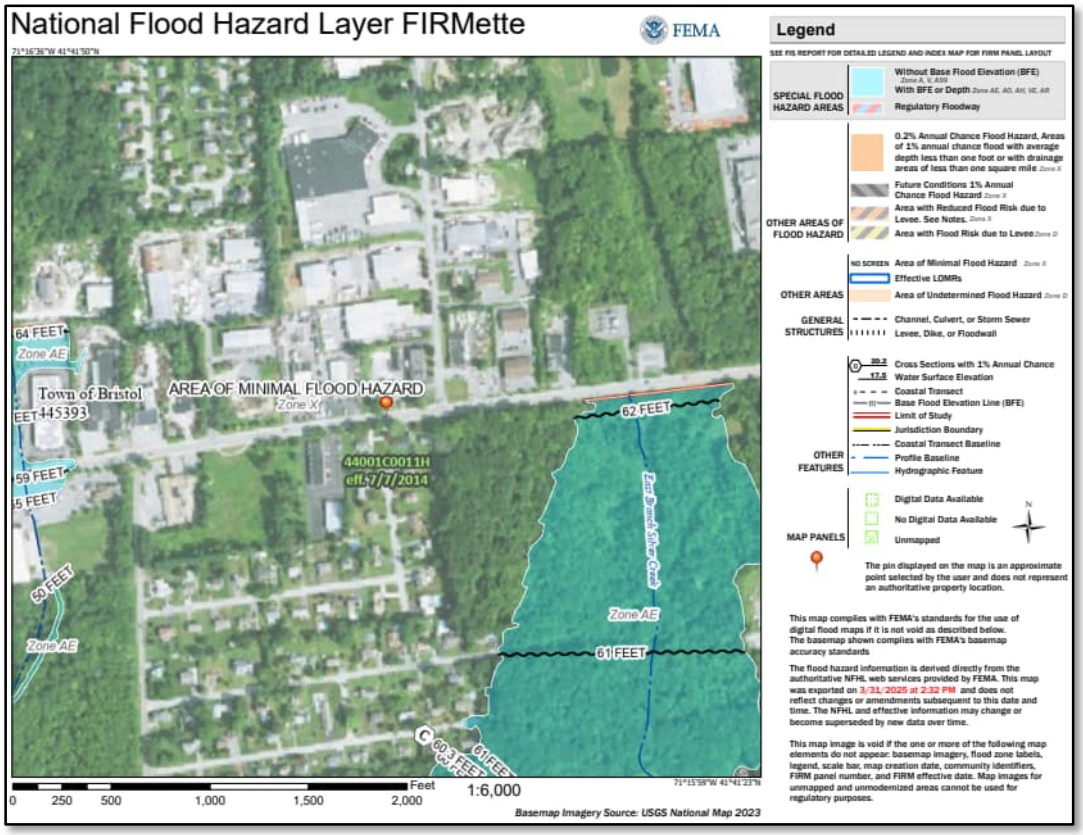
There are no impacts to flood storage due to the proposed development. The development is outside of mapped floodplain. There is no increase in stormwater discharge rate or volume to the floodplain.

Portions of the site outside of the development are located within a FEMA flood hazard AE Zone. This area is associated with Silver Creek and its fringing wetland. However, the proposed project is situated in the northwestern corner of the property and is not within the FEMA flood zone. Therefore, the project area will not be subject to flooding during the 1% annual chance (100-year) storm event.

Refer to the image below for a portion of the Flood Insurance Rate Map (FIRM) number 44001C0011H in the vicinity of the project.

There was also a *Silver Creek Drainage Study* prepared by BETA in November 2007, which DE has also reviewed as part of the project due diligence and incorporated into our watershed study as part of the RIDEM Freshwater Wetlands permitting. (This detailed watershed study will be provided with the Preliminary Plan submission for engineering review by the Town.)

The elevations between the 2007 BETA study and the 2014 FEMA map and Flood Insurance Study are significantly different. The BETA study depicts an elevation of approximately elevation 67 adjacent to the project area, while the FEMA floodplain map depicts an elevation of approximately 61 to 62 adjacent to the project area. In both cases, the elevations do not impact the proposed development and as will be demonstrated in detail during the Preliminary Plan phase, the project will not increase downstream impacts from the existing floodplain.



Flood Insurance Rate Map (FIRM) downloaded from the FEMA Flood Map Service Center

For comparison of the BETA and FEMA floodplain limits, reference the attached Watershed Figure.

Existing Upland Vegetation

The majority of the upland on the site consists of a mixed hardwood forest. Common overstory species include red maple (*Acer rubrum*), white oak (*Quercus alba*), black cherry (*Prunus serotina*), Norway maple (*Acer platanoides*), and black birch (*Betula lenta*). Understory species consist primarily of non-native, invasive species frequently found in disturbed landscapes. These species include Morrow's honeysuckle (*Lonicera morrowii*) Asiatic bittersweet (*Celastrus orbiculatus*), and multiflora rose (*Rosa multiflora*). Native understory shrubs and vines are present to some extent and include sweet pepperbush (*Clethra alnifolia*), arrowwood (*Viburnum dentatum*), spicebush (*Lindera benzoin*), poison ivy (*Toxicodendron radicans*), greenbriar (*Smilax rotundifolia*), and blackberry (*Rubus allegheniensis*).

Wetlands and Hydric Soils

The wetland edges on the site were originally delineated by Natural Resource Services, Inc. (NRS) in 2014 and verified by RIDEM in DEM Application Number 13-0098. DiPrete Engineering performed a site visit on March 28th, 2025 to assess the wetlands on the site and confirm that conditions have remained unchanged since the initial delineation.

Approximately 69% of the property area consists of vegetated wetland. Although the wetland consists entirely of deciduous forested swamp, there is an observable difference between wetlands east and west of the existing sewer easement. East of the sewer easement, the wetland consists of a large tract of deciduous forested swamp typically found within southern New England. The wetland is dominated by red maple, black gum (*Nyssa sylvatica*), and American elm (*Ulmus americana*) and contains a dense understory dominated by highbush blueberry (*Vaccinium corymbosum*), winterberry (*Ilex verticillata*), and spicebush. Invasive species such as Morrow's honeysuckle are present within this portion of the wetland, but do not dominate the understory as they do west of the easement.
The wetland east of the easement contains diverse habitat types, including a central stream (Silver Creek), mound-and-pool topography with pockets of standing water, and numerous snags that could be utilized by wildlife.

Soils within this portion of the wetland were observed to have four inches of organic material overlying four inches of dark (10YR 2/1), organic rich mineral soil. A grey (2.5Y 5/1) subsoil containing many coarse-sized redoximorphic features was observed at depths greater than 8 inches. These observations are consistent with the characteristics of the Mansfield Soil Series, which is a soil similar to the Stissing Soil mapped on the site. Mansfield soils are a hydric soil.

The wetland west of the sewer easement consists of several finger-like projections that extend west from the primary wetland complex east of the easement. This portion of the wetland has a similar overstory as the wetland community east of the easement. Red maple and black gum are the dominant tree species. However, the vegetation community of the understory is much different. Dominant shrub species west of the easement include the invasive species Morrow's honeysuckle and multiflora rose. Native vegetation includes winterberry and sensitive fern (*Onoclea sensibilis*). The greater proportion of invasive species within this portion of the wetland is likely attributed to disturbance from both the sewer easement and the nearby residential development located to the west.

Soils within this portion of the wetland typically consist of eight inches of a dark (10YR 2/1) surface layer overlying a grey (2.5Y 5/2) subsoil containing many coarse-sized redoximorphic features. This soil profile is consistent with the Stissing Series, a hydric soil that is mapped throughout the site.

Hydrology

As the existing property is entirely vegetated, surface runoff is minimal. The wetlands on site are best classified as groundwater slope wetlands, where hydrology is dictated by shallow groundwater discharging to the surface. The finger-like projections of wetland west of the easement are areas where the groundwater is close to the ground surface or discharges directly to the surface and supports wetland vegetation and soils.

Under pre-development conditions, there is no retention of stormwater within the development area. Under post-development conditions, stormwater will be retained within underground stormwater management areas.

Wildlife and Wildlife Habitat

A wildlife and habitat assessment was originally performed by NRS in support of the RIDEM Application to Alter, approved in 2018 (RIDEM 15-0033).

An additional wildlife habitat assessment was performed by DiPrete Engineering during the March 28, 2025 site visit. Wildlife species documented, either through direct observation or through observation of signs of inhabitance, included the following:

Common Name	Scientific Name
Whitetail deer	*Odocoileus virginianus*
Coyote	*Canis latrans*
Red fox	*Vulpes vulpes*
House wren	*Troglodytes aedon*
Carolina wren	*Thryothorus ludovicianus*
Red-bellied woodpecker	*Melanerpes carolinus*
American crow	*Corvus brachyrhynchos*
Red-winged blackbird	*Agelaius phoeniceus*
White-breasted nuthatch	*Sitta carolinensis*
Black-capped chickadee	*Poecile atricapilus*
Dark-eyed junco	*Junco hyemalis*
Northern cardinal	*Cardinalis cardinalis*

4.0 Impacts

a) General Statement

The submitted project proposes the construction of a 13,364 sq. ft., 80-room hotel with associated parking areas and stormwater management structures. In order to fullfill the goal of the project, the applicant requsted the alteration of 4,717 sq. ft. of biological wetland and 45,200 sq. ft. of perimeter wetland. This request was approved by the Rhode Island Department of Environmental Management under an Application to Alter. The wetland approved to be altered is of low value due to its history of disturbance, proximity to existing disturbed areas, and prevalence of invasive species.

The project site consists of a mixture of deciduous forested wetland and ruderal forest. The proposed project is not expected to have any substantial environmental impacts. The wetland east of the existing

sewer easement has the highest amount of habitat value and will not be altered as part of the project. In addition, a substantial amount of upland and deciduous forested swamp south of the proposed limit of disturbance will not be altered and will remain as undisturbed space.

Per the Town of Bristol Regulations, an EIS is required to assess and describe short and long-term cumulative environmental impacts. Each of the required subsections is described in detail below.

This project will result in minimal impact to existing site features as detailed in the outline below. Approximately 1.7 acres of the total 9.8 acres onsite will be disturbed for the development. Disturbance will be concentrated in the northwest portion of the site, located within the area containing the most upland and furthest from the Silver Creek and associated floodplain.

The Master Plan Submission set included with this package includes further information regarding the design and existing parameters to aid in determining location and size of the proposed development. See Sheet 3 for existing and proposed project notes, Sheet 4 for the Existing Resource Plan depicting wetlands, significant (10-inch) caliper trees, existing utilities, and soil types, and Sheets 5 through 8 for general proposed conditions drawings. (Sheets 9 through 12 provide construction detail beyond a Master Plan level, and Sheet 13 depicts the Property Line Survey by others.)

b) Freshwater Wetlands

As described previously, the wetlands on the project site consist of two distinct classes in terms of functions and values. Wetland east of the sewer easement consists of high-quality deciduous forested swamp with a mature canopy of red maple and black gum trees and a dense understory dominated by highbush blueberry, spicebush, and winterberry. This portion of the wetland contains diverse habitat types, including areas dominated by emergent vegetation, mound-and-pool topography, dead trees (snags), and riverine habitat associated with Silver Creek. This is in contrast to the wetlands west of the sewer easement, which includes the area approved by RIDEM to be disturbed under App. No. 22-0264. The wetland west of the easement has an understory dominated by invasive species such as honeysuckle and multiflora rose. In addition, the wetland west of the sewer easement is in close proximity to the existing disturbance from Gooding Avenue and residential development to the west.

The proposed project has received approval from RIDEM to permanently alter 4,717 sq. ft. of biological wetland and 45,200 sq. ft. of perimeter wetland. Perimeter wetland consists of upland within 50' of the delineated wetland edge, per the former Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act (250-RICR-150-15-1) under which this application has been approved. The wetland approved by RIDEM to be filled consists of a narrow finger of wetland that extends into the upland within the northwestern corner of the site, west of the sewer easement. Although this portion of the site contains the most usable upland, the narrow extension of wetland makes the proposed project not attainable without impacting wetland resource areas.

The alteration of these resource areas is required to achieve the goal of this project. Due to the configuration of usable upland on the site and the requirements associated with the construction of the proposed project, the available upland is not suitable to achieve the project purpose, necessitating the need to alter wetland and its associated 50' Perimeter Wetland. There is no alternative layout that would achieve the project purpose and reduce the impacts to wetland resource areas. These alterations

are the minimal necessary and have been achieved through an iterative process between the client, DiPrete Engineering, and RIDEM.

The approved wetland alteration will not have a substantial impact on the functions and values of the wetland complex as a whole. The area to be filled is of low quality due to the history of disturbance associated with the sewer easement, previous agricultural activities, and the nearby residential and commercial land uses. This portion of the wetland has an understory dominated by invasive species. In addition, there are no additional habitat features, such as open water bodies, stone walls, riverine habitat, or mound-and-pool topography that would potentially increase the habitat value of this portion of the wetland. The wetland east of the sewer easement, however, is of high quality and will not be altered as part of the proposed project.

The onsite wetlands do not provide for stormwater runoff mitigation. The proposed stormwater mitigation system will mitigate flow and reduce stormwater discharge rate and volume. The system will also treat stormwater, minimizing impact to this portion of the wetland. Finally, screening vegetation along the eastern edge of the proposed limit of disturbance will provide this portion of the wetland with a buffer from the proposed project. During construction, erosion and sediment control measures will be installed along the limit of disturbance and regularly monitored to ensure no negative impacts to this wetland.

There will be no adverse impact to freshwater wetlands as a result of this development.

c) Flooding and Drainage

The proposed project will have no impact to the existing public drainage system or contribute to flooding on or off the site. As described previously, the proposed limit of the project is located upgradient of the Silver Creek floodplain both from FEMA and BETA study floodplain limits. A stormwater Management Report has been prepared and permitted through the RIDEM Freshwater Wetlands program that details how stormwater generated by the impervious parking area and roof top will be collected and treated. This report will be provided for a detailed review by the town during the Preliminary Plan stage.

The wetland approved by RIDEM to be filled is a groundwater seep on a hillslope. Wetlands in this geomorphic position do not contribute to flood storage capacity. Therefore, the proposed alteration will not contribute to additional flooding. The wetland east of the sewer easement is in a geomorphic position that attenuates floodwaters. This portion of the wetland will remain intact and continue to provide flood attenuation functions.

The project will utilize an onsite closed drainage system which will convey stormwater runoff to an underground infiltration basin and above-ground sand filter, for water quality and flow control prior to discharge to the Silver Creek wetland complex.

The stormwater calculations will demonstrate no increase in stormwater rate or volume for the 1 through 100-year storm events.

There will be no adverse impact to flooding and drainage on-site or offsite as a result of this development.

d) Noise and Air Quality

If required by State Law and Local Regulations, sound and noise materials will be provided at preliminary plan stage.

e) Solid Waste Generation

A proposed dumpster pad has been provided in the southeastern portion of the parking area. As part of daily housekeeping activities by the hotel staff, trash will be collected and transported to the external dumpster. The hotel will maintain a contract with a trash removal company to empty the external container on a minimum weekly basis. No public trash collection will be required as part of this development.

There will be no adverse impact to the town's solid waste collection system as a result of this development.

f) Historic/Archaeologic Areas

No historic/archeologic area was found via GIS online mapping. Also, as part of the RIDOT permitting, the development plans are copied to the Historical Preservation & Heritage Commission (HPHC). This site was not flagged on the HPHC inventory as part of the Physical Alteration Permit Application (PAPA) review.

There are no historic/archaeologic areas within the limits of this development.

g) Traffic/Road Capacity

A *Traffic Impact Assessment* prepared by Solli Engineering has been included with this Master Plan submission.

There will be no adverse impact to area traffic as a result of this development.

h) Hydric Soils

The project site consists primarily of soils mapped by the USDA NRCS as the Stissing Series. Stissing soils are poorly drained soils that formed in lodgment till derived from dark-colored minerals such as phyllite. Stissing soils are hydric soils and are commonly found within wetlands within the southeastern portion of Rhode Island, surrounding the Narragansett Bay basin. Soil cores collected in March 2025 throughout the site support this mapping, although substantial soils similar to the Pittstown Series are present within the upland areas in the northwestern corner of the property. Pittstown soils are moderately well drained soils found in uplands.

The project proposes the disturbance of 4,717 sq. ft. of hydric soil associated with the northernmost projection of wetland west of the sewer easement. Site preparation will remove the upper several inches of organic-rich topsoil and site grading with appropriate load-bearing substrate fill.

The proposed project will not change site hydrology in ways that will drain hydric soils associated with the additional finger-like extensions of wetland south of the proposed limit of disturbance. These finger-like extensions are all areas where groundwater flows across the landscape from upgradient areas to the west and intercepts the ground surface. As there are no alterations to the west of these extensions, groundwater hydrology is not likely to be altered, maintaining hydric soils within these extensions. In addition, hydric soils will be maintained within the larger wetland east of the sewer easement. This portion of the site exists in a footslope position associated with the floodplain of Silver Creek.

Stormwater infiltration systems will collect and treat stormwater generated on the proposed project site. Once treated, the stormwater will be able to slowly infiltrate into the ground and move as shallow groundwater towards the wetland to the east as it currently does.

There will be no adverse impact to hydric soils as a result of this development.

i) Forests and Agricultural Lands

The site is 9.78 acres in area and existing vegetation will be removed on only 1.7 acres, leaving approximately 83% of the site area in an undisturbed state and preserved as open space.

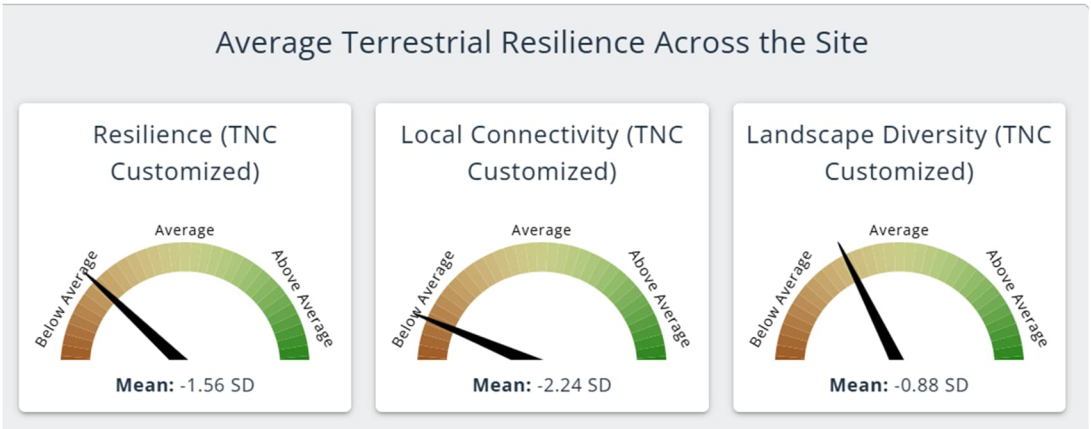
Data layers available through RIGIS depict the soils within the project site as being "statewide Important" for farmland. Historic aerial photographs available from the RIDEM Map Room last depict the project site being utilized for agricultural activities in 1939. After that time, the site has been allowed to revegetate to its current condition. As such, the development of this site will not alter areas currently being utilized for agriculture production.

The project site is currently forested with a mix of both ruderal upland forest and deciduous forested wetland. The proposed project will require the clearing of a portion of the forest within the northwestern corner of the property. An examination of data layers available on the RIDEM Map Room depicts that the subject property is not considered a core forest or containing critical or uncommon habitat.

DiPrete Engineering also reviewed the Nature Conservancy's (TNC) Resilient Land Mapping Tool. This tool provides a relative score of resilience, local connectedness, and landscape diversity of an area. Resilience is the ability for an ecosystem to persist in both species' richness and ecosystem function as the climate changes. Local connectedness refers to the degree of fragmentation and strength of barriers that create resistance to movement within a landscape. At a local scale, connected landscapes allow species to move in order to find suitable microhabitats in which they can persist. At a regional scale, connected landscapes support gene flow, creating genetically diverse populations. Landscape diversity describes the microhabitats and climatic gradients available in the immediate area surrounding any 30-meter cell analyzed within the map. The persistence of a species increases in landscapes with a wide variety of microclimates. Resilient sites are areas of land where high microclimatic diversity and low levels of human modification provide species with connected, diverse climatic conditions they will need in order to persist and adapt to changing regional climates.

A score of 0 indicates an average score for a site when compared to local reference sites. Positive scores indicate higher levels of resilience/connectedness/landscape diversity compared to reference sites. Negative scores indicate lower levels of each component. The results for the proposed project site (Table 1) reveal that the resilience score is "Below Average" and that the Connectivity score is "Far Below Average." The Landscape Diversity had the highest score, falling in the middle of the "Slightly Below Average" range, likely due to the combination of wetland and upland habitat in proximity. These results indicate that the forests of the project area are not significant in terms of maintaining ecological diversity or providing resilient habitat in the face of climate change.

Table 1: Resilient Land Summary



There will be no adverse impact to forested areas as a result of this development.

j) Unique Vegetation, Significant Trees, and Important Scenic or Designed Landscapes

The project site does not contain unique vegetation, significant trees, or important or designed landscapes. The forested wetland portions of the property are dominated by red maple and black gum, species typically dominant and wetlands within all of southern New England. Upland portions of the property are dominated by ruderal vegetation typically found within disturbed, early successional landscapes. Early successional forests such as these are one of the most common forest types within Rhode Island. In addition, no rare plants have been documented or observed within the property. No trees of substantial age, known historical significance, or exceptional rarity were observed. No portions of the site are exceptionally scenic, as both the wetland and upland portions of the site are typical of those found within southern New England. As such, the proposed project will not alter any unique vegetation, significant trees or exceptional vistas.

There is no unique vegetation or significant trees, and important scenic or designated landscapes within this development area.

k) Natural Heritage Sites

A review of Natural Heritage Areas available at the RIDEM Map Room depicts a Natural Heritage Area (ID 101) occuring within the southern two-thirds of the property. A Natural Heritage Area request was submitted to RIDEM on April 7, 2025. The report indicates that the northern leopard frog (*Lithobates*

pipiens) was observed east of Leila Jean Drive in 1985. This observation occurred beyond the subject property.

The proposed project is not expected to impact this species. Northern leopard frogs typically utilize wetland habitats that contain slow-moving or still water along streams, wetlands with abundant emergent vegetation such as sedges and rushes, or permanent or temporary pools. The wetlands proposed to be altered by this project do not meet the habitat requirements for northern leopard frogs. No individuals of this species were encountered during site visits performed by NRS or DiPrete Engineering.

There are no natural heritage sites within the limits of this development.

l) Wildlife and Wildlife Habitat

The proposed project will not pose a significant reduction on the overall wildlife production or diversity of the wetland approved to be altered or of the upland forest. Neither the wetland or upland represent significantly valuable habitat. Both habitats contain substantial amounts of invasive species that typically provide lower food source values compared to native vegetation.

There are no particular wildlife species that are dependent on the project site. As substantial portions of the lot will remain unaltered, upland and wetland habitats will remain available for wildlife on the subject property and adjacent areas. The high-value wetland habitat east of the sewer easement will not be altered and will continue to provide quality habitat for species that currently utilize that habitat.

There are no dependent wildlife and wildlife habitats within the limits of this development.

m) Groundwater Quality and Quantity

The proposed project will not cause significant changes in the quantity or quality of groundwater. The proposed stormwater management plan will promote the infiltration of stormwater generated by on-site impervious surfaces. Stormwater will be treated with a sand filter and allowed to infiltrate in order to maintain the current hydrology of the site. The infiltration systems will be proposed with pretreatment practices in order to capture the first flush of pollutants prior to infiltrating the stormwater runoff to groundwater. The proposed project will be serviced by a municipal water supply and will not contribute to drawdown of the local aquifer.

There will be no adverse impact to groundwater quality and quantity as a result of this development.

n) Surface Water Quality, Streams and Rivers

The proposed project will not substantially impact surface water quality or nearby streams and rivers. Although a portion of wetland is proposed to be altered, the wetland itself provides minimal storage of surface water due to its position on a hillslope. Runoff that originates from impervious surfaces on the project site will be directed to stormwater treatment systems that will treat the stormwater and allow it to infiltrate into the groundwater. The stormwater management plan will protect the water quality of the wetland and Silver Creek, located offsite. There will be no increase in run-off rates over pre-project

levels or any increase in receiving water/wetlands peak flood elevations for the 2 through 100-year frequency, Type III storm events. No other surface bodies of water exist on the project site.

There will be no adverse impact to surface water quality, streams and rivers as a result of this development.

o) Coastal Resources and Features

The project site does not contain any coastal resources or features, therefore no impacts to these areas are anticipated.

5.0 Utilities

a) Sewer Disposal

The proposed sewer connection was reviewed by the Water Pollution Control Department and confirmation of sewer availability was issued on 5/26/2023.

b) Public Water

The proposed water connection was submitted to Bristol County Water Authority (BCWA), with confirmation of water availability issued on 2/6/2025. There is approximately 70 psi of static pressure in the water main.

6.0 State Permitting Summary

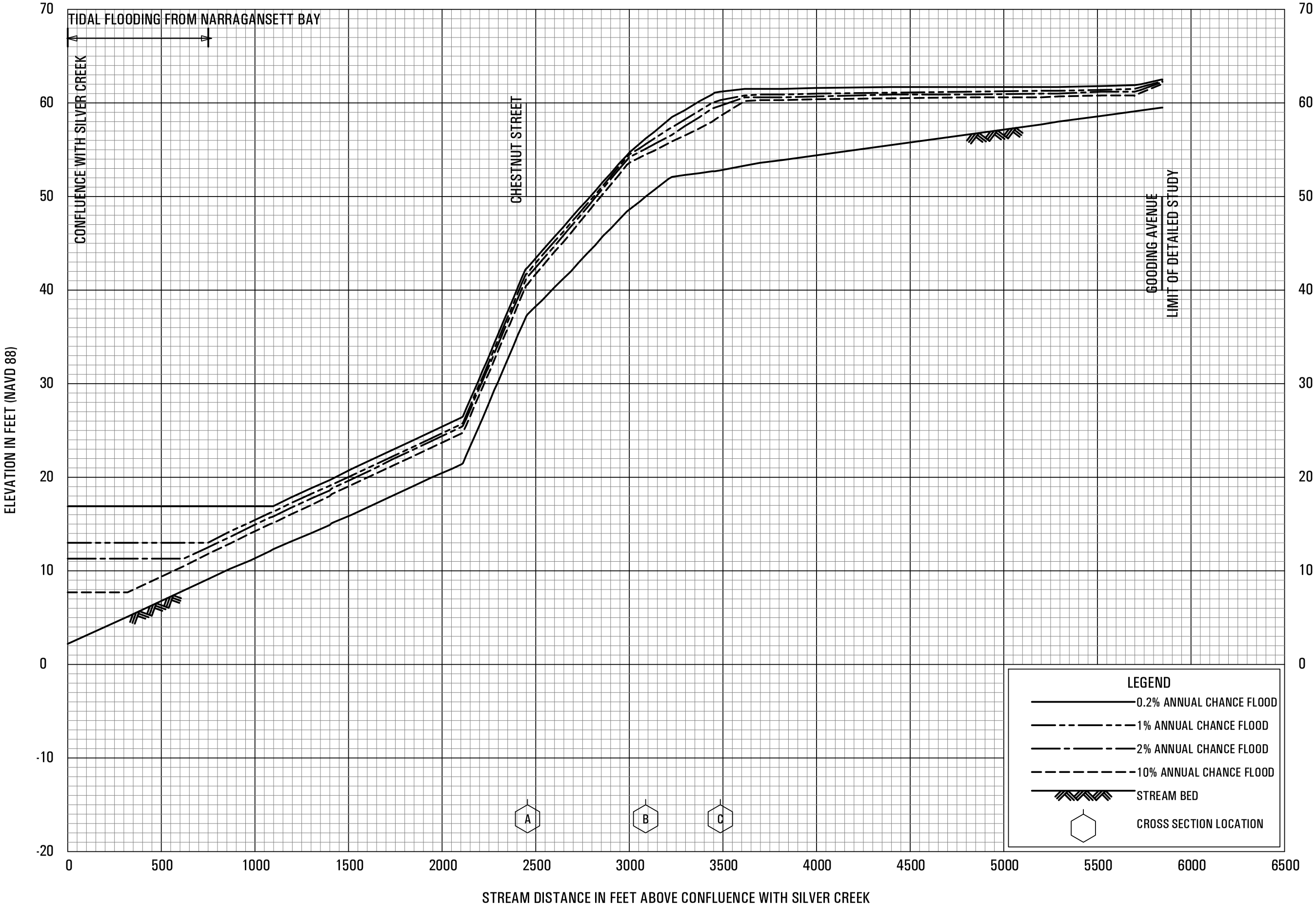
a) RIDEM

The project has been approved under two (2) subsequent RIDEM Freshwater Wetlands permits: App. No. 15-0033 (expired), and App. No. 22-0264 issued December 6, 2024 and currently under review for slightly modified layout as shown on this Master Plan application.

b) RIDOT

The project has been submitted for Physical Alteration Permit (PAP) review under App. No. 24-20. The application is likely to be approved following review of minor geometric edits to the driveway opening curb cut.

Appendix A:
FEMA Flood Insurance Study Profile



FLOOD PROFILES

EAST BRANCH SILVER CREEK

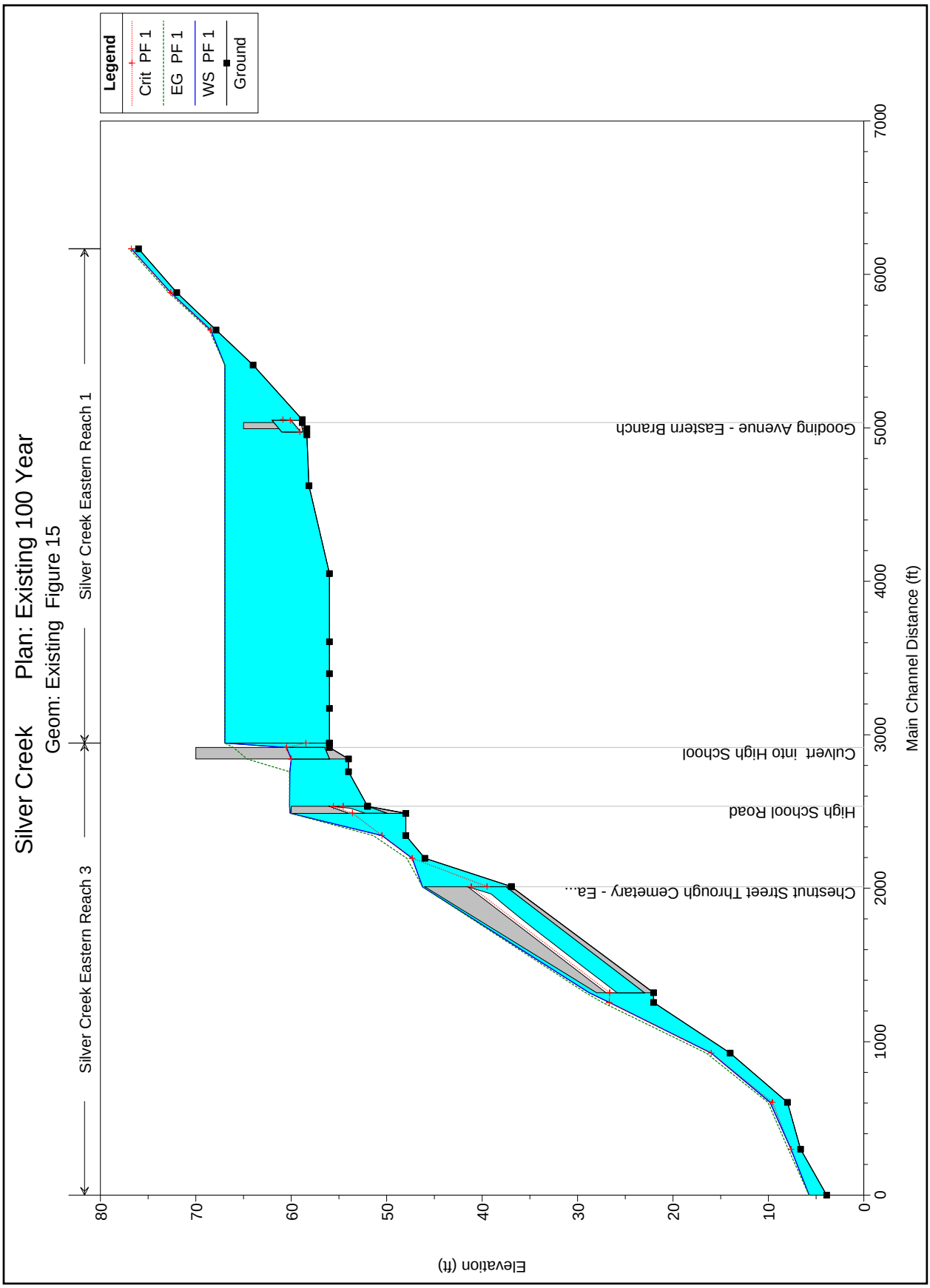
FEDERAL EMERGENCY MANAGEMENT AGENCY

BRISTOL COUNTY, RI

(ALL JURISDICTIONS)

01P

Appendix B
BETA Profile Figure: Silver Creek 100 Year


Silver Creek Plan: Existing 100 Year
Geom: Existing Figure 15
Legend
Crit PF 1
EG PF 1
WS PF 1
Ground
Silver Creek Eastern Reach 3
Silver Creek Eastern Reach 1
Chestnut Street Through Cemetary - Ea...
High School Road
Culvert into High School
Gooding Avenue - Eastern Branch
Elevation (ft)
Main Channel Distance (ft)
0
10
20
30
40
50
60
70
80
0
1000
2000
3000
4000
5000
6000
7000

DiPrete Engineering

Appendix C
DE Watershed Figure

USGS Map Scale: 1"=1000'

Scale: 1"=150'

0 75' 150' 300'

Legend:

PROPERTY LINE

PROPERTY LINE (USGS MAP)

10 FOOT CONTOUR — 80 —

1 FOOT CONTOUR

OUTER LIMIT OF 2007 BETA FLOOD STUDY 100-YEAR FLOODPLAIN ELEV. 67 FOR REACH FROM MT. HOPE HS CULVERT NORTH TO GOODING AVE.

2014 FEMA FLOOD STUDY 100-YEAR FLOODPLAIN ELEV. 61 FOR REACH FROM MT. HOPE HS CULVERT NORTH TO GOODING AVE.

PHOTO OBTAINED FROM NEARMAP.
DATE OF PHOTOGRAPHY 9/12/2024.

DiPrete Engineering

Boston • Providence • Newport

This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.

The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	By:
1	04-10-2025	Floodplain Exhibit	SMM
0	03-26-2025	Waterbench Plan	SMT

Drawn By: D.R.N. Design By: K.J.D.

Floodplain Exhibit

Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

DE Job No: 2536-001

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SHEET 1 OF 1

z:\domain\project\2536-001 gooding avenue\autocad drawings\2536-001 cvsr.dwg Plotted: 4/10/2025

Town of Bristol, RI

WATER POLLUTION CONTROL DEPARTMENT
2 PLANT AVENUE
BRISTOL, RI 02809-3015
(401) 253-8877 fax: (401) 253-2910

Jose' J. Da Silva, Superintendent

TOWN HALL
10 COURT STREET
BRISTOL, RI 02809
(401) 253-7000

5/26/2023

To: Kevin DeMers, PE
DiPrete Engineering

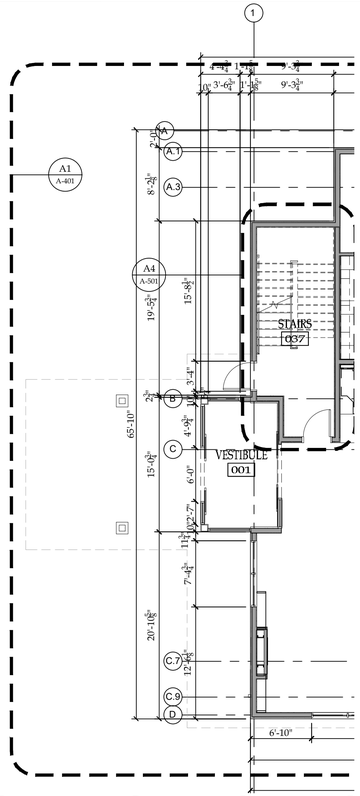
Re: Gooding Avenue Hotel
Availability of Sanitary Sewer

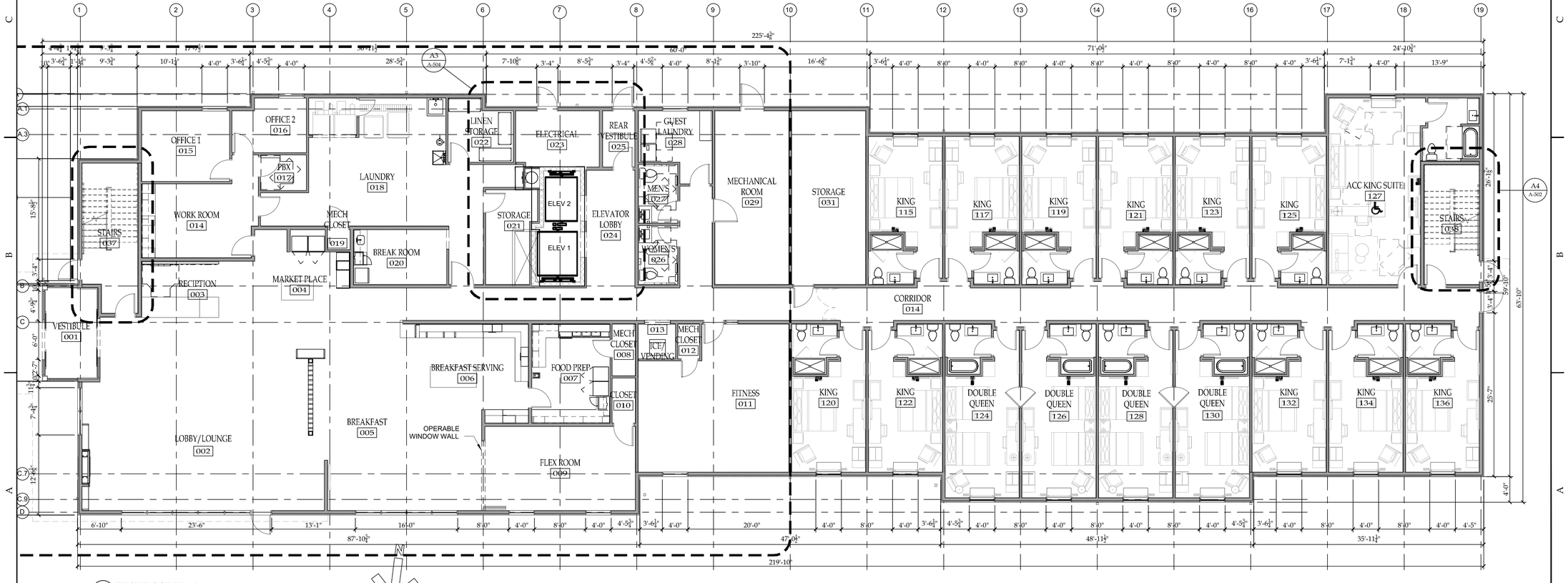
Access to connect to the Towns Sanitary Sewer is available for the proposed hotel project, vie the interceptor just east of the development.

Respectfully,

Jose' Da Silva
Superintendent
Bristol WPCF

SUMMARY OF GUEST ROOMS				
ROOM TYPE	LEVEL			TOTAL (BY TYPE)
	1st	2nd	3rd	
DOUBLE QUEEN	4	7	7	18
ACCESSIBLE DOUBLE QUEEN	0	1	1	2
KING	11	13	13	37
ACCESSIBLE KING	0	1	1	2
KING SUITE	0	4	4	8
KING SUITE 2	0	5	5	10
KING SUITE WIDE	0	1	1	2
ACCESSIBLE KING SUITE	1	0	0	1
TOTAL (BY FLOOR)	16	32	32	80





A1 FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

NOTICE

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Comfort™ INN & SUITES

Comfort Inn & Suites

PROPERTY ID: RI043

Gooding Avenue
Bristol, RI 02809

ISSUE:

SA PROJECT TEAM: PRINCIPAL P.Silvestri
PROJ. ARCH. _____ DRAFTER _____
JOB CAPT. W. Manhardt INTERIORS _____

SEAL:

TITLE:

FIRST FLOOR PLAN

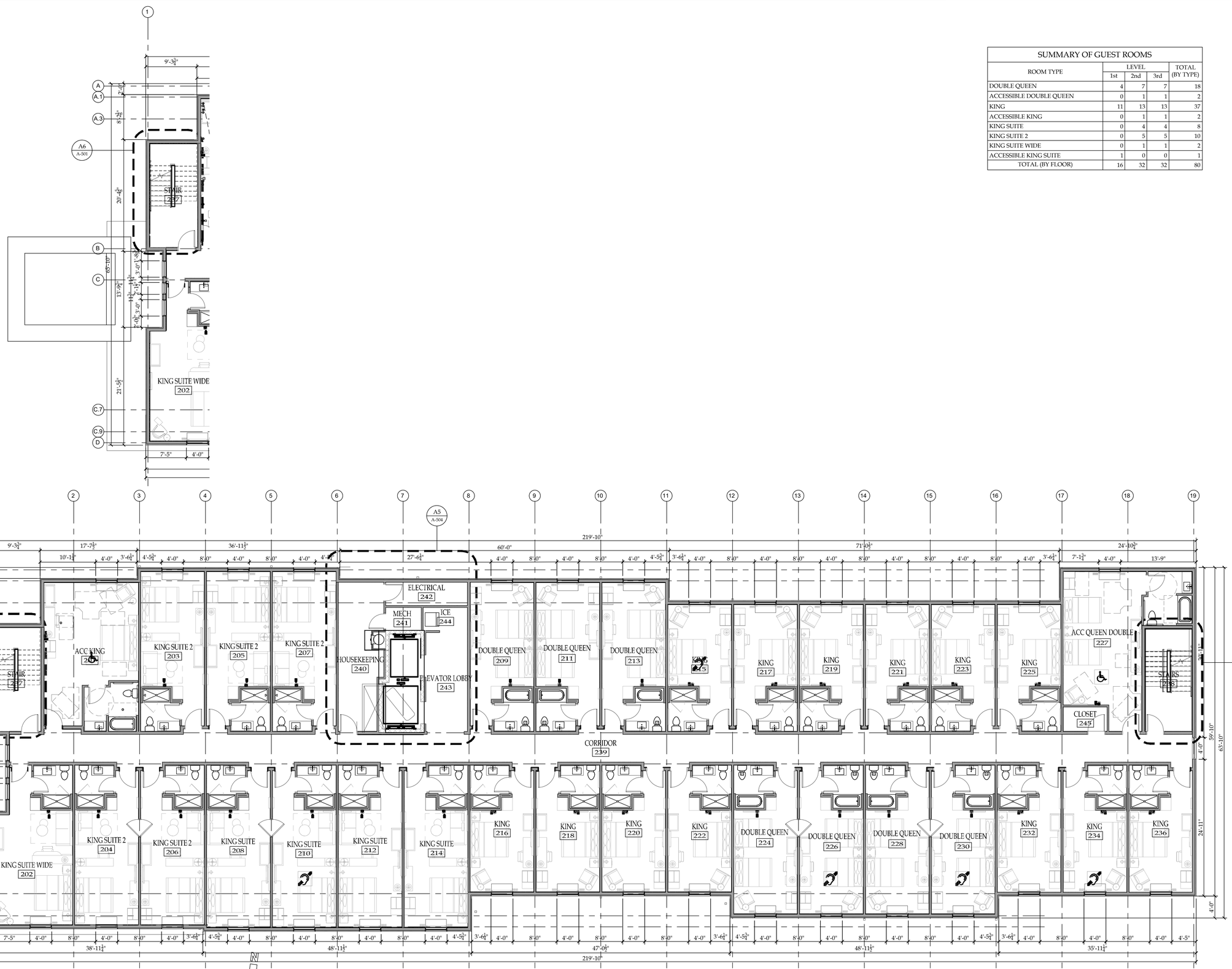
SILVESTRI
ARCHITECTS · PC
1321 MILLERSPORT HWY PH. 716.691.0900
AMHERST, NY 14221 FAX 716.691.4773

SA JOB #: 20038.01

DATE: 5/6/24

DRAWING #: A-101

SUMMARY OF GUEST ROOMS				
ROOM TYPE	LEVEL			TOTAL (BY TYPE)
	1st	2nd	3rd	
DOUBLE QUEEN	4	7	7	18
ACCESSIBLE DOUBLE QUEEN	0	1	1	2
KING	11	13	13	37
ACCESSIBLE KING	0	1	1	2
KING SUITE	0	4	4	8
KING SUITE 2	0	5	5	10
KING SUITE WIDE	0	1	1	2
ACCESSIBLE KING SUITE	1	0	0	1
TOTAL (BY FLOOR)	16	32	32	80



A1 SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

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Comfort™ INN & SUITES

Comfort Inn & Suites

PROPERTY ID: RI043

Gooding Avenue
Bristol, RI 02809

ISSUE:

SA PROJECT TEAM: PRINCIPAL P.Silvestri
PROJ. ARCH. _____ DRAFTER _____
JOB CAPT. W. Manhardt INTERIORS _____

SEAL:

TITLE:

SECOND FLOOR PLAN

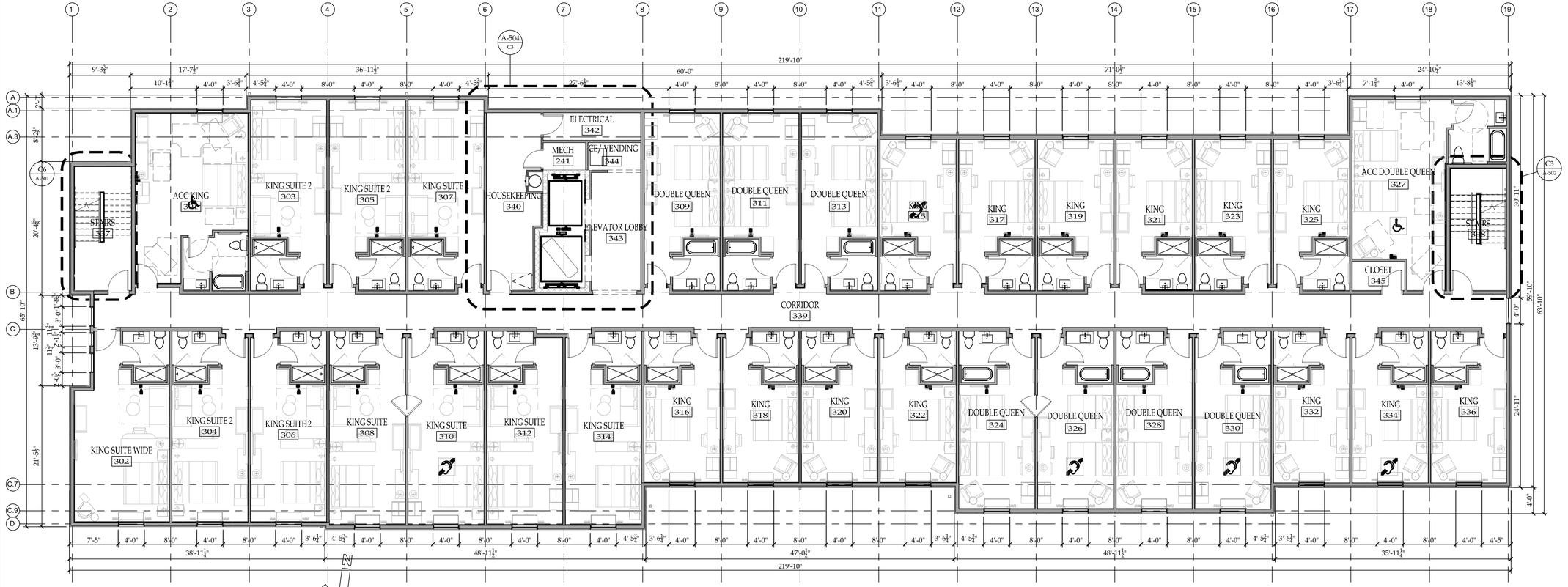
SILVESTRI
ARCHITECTS • PC
1321 MILLERSPORT HWY PH. 716.691.0900
AMHERST, NY 14221 FAX 716.691.4773

SA JOB #: 20038.01

DATE: 5/6/24

DRAWING #: A-102

SUMMARY OF GUEST ROOMS				
ROOM TYPE	LEVEL			TOTAL (BY TYPE)
	1st	2nd	3rd	
DOUBLE QUEEN	4	7	7	18
ACCESSIBLE DOUBLE QUEEN	0	1	1	2
KING	11	13	13	37
ACCESSIBLE KING	0	1	1	2
KING SUITE	0	4	4	8
KING SUITE 2	0	5	5	10
KING SUITE WIDE	0	1	1	2
ACCESSIBLE KING SUITE	1	0	0	1
TOTAL (BY FLOOR)	16	32	32	80



A1 THIRD FLOOR PLAN
SCALE: 1/8" = 1'-0"

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Comfort™ INN & SUITES

Comfort Inn & Suites

PROPERTY ID: RI043

Gooding Avenue
Bristol, RI 02809

ISSUE:

SA PROJECT TEAM: PRINCIPAL P.Silvestri
PROJ. ARCH. _____ DRAFTER _____
JOB CAPT. W. Manhardt INTERIORS _____

SEAL:

TITLE:

THIRD FLOOR PLAN

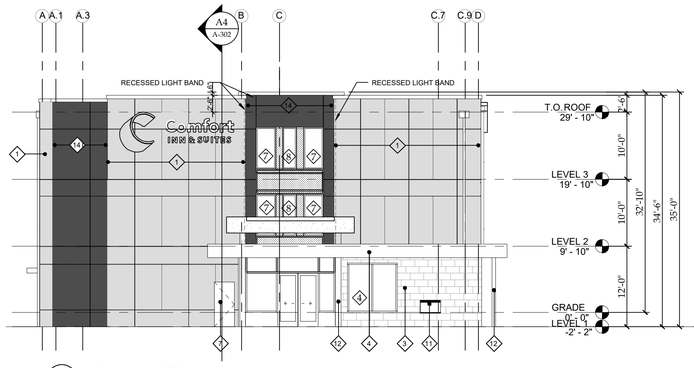
SILVESTRI
ARCHITECTS • PC
1321 MILLERSPORT HWY PH. 716.691.0900
AMHERST, NY 14221 FAX 716.691.4773

SA JOB #: 20038.01

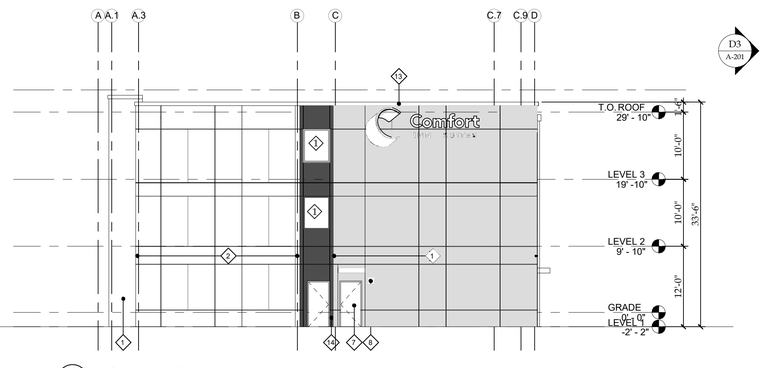
DATE: 5/6/24

DRAWING #: A-103

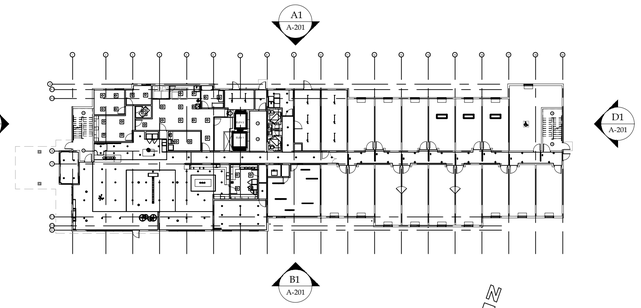
KEYNOTE LEGEND - EXTERIOR ELEVATIONS			
NUMBER	MATERIAL	NOTE	TEXT
1	EIFS	SMOKIE AZURITE (SW-9148)	PTD
2	EIFS	ICICLE (SW-6238)	PTD
3	CORONADO STONE	FRENCH LIMESTONE - COUNTRY BEIGE	PREFINISHED
4	SIGNATURE LIGHTED AWNING	PREFABRICATED LIGHT BOX, SEE ARCHITECTURAL SPECIFICATIONS	PREFINISHED
5	WINDOW FRAME	INTEGRATED PTAC GRILLE WHERE SHOWN - CLEAR ANODIZED ALUMINUM	PREFINISHED
6	EIFS	QUEST GRAY (SW-7080)	PTD
7	DOOR & DOOR FRAME	MATCH ADJACENT WALL COLOR	PTD
8	LIGHTING WALL PACK	EXT-404	-
11	FIREPLACE	DOUBLE-SIDED SEE-THRU	-
12	STEEL COLUMN WRAP	BRUSHED STAINLESS STEEL	PREFINISHED
13	PARAPET COPING	MATCH ADJACENT WALL COLOR	PTD
14	EIFS	COMFORT BLUE PER ARCHITECTURAL SPECIFICATIONS AND OWNER SELECTED BASE PAINTS	PTD



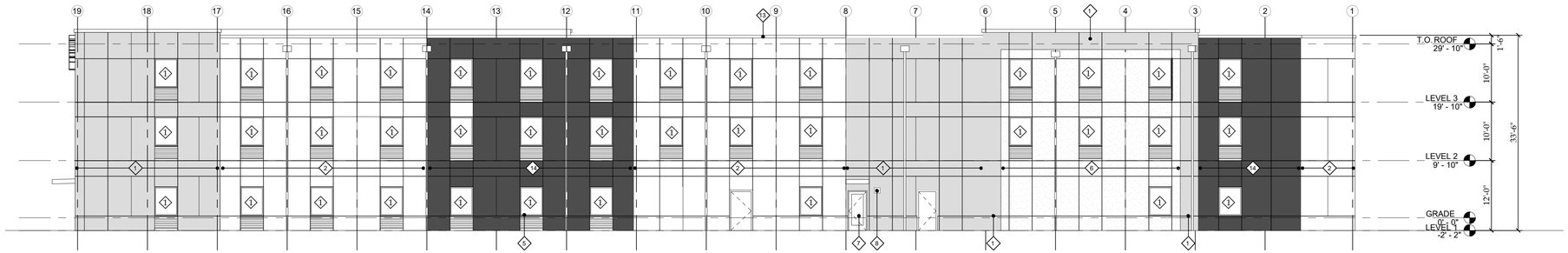
D1 EAST ELEVATION
SCALE: 3/32" = 1'-0"



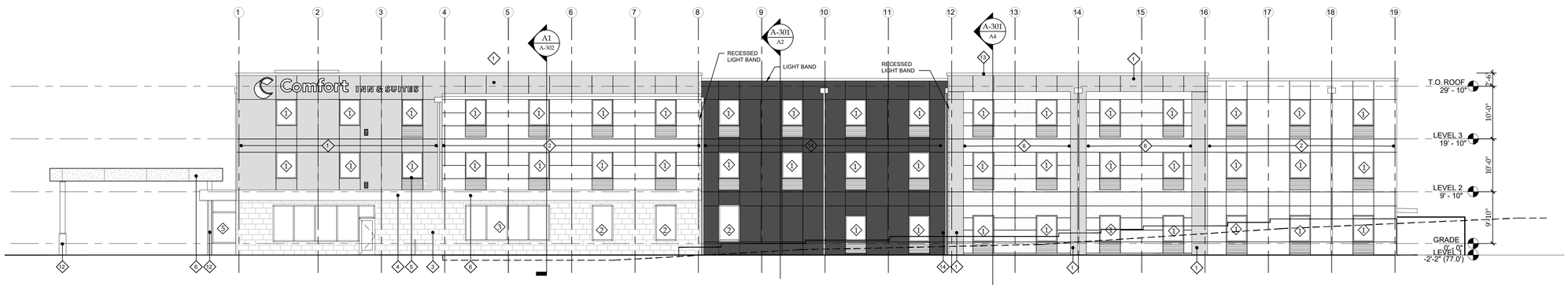
D3 WEST ELEVATION
SCALE: 3/32" = 1'-0"



E5 KEY PLAN
SCALE: NTS



B1 SOUTH ELEVATION
SCALE: 3/32" = 1'-0"



A1 NORTH ELEVATION
SCALE: 3/32" = 1'-0"

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Comfort™ INN & SUITES

Comfort Inn & Suites

PROPERTY ID: RI043

Gooding Avenue
Bristol, RI 02809

ISSUE:

SA PROJECT TEAM: PRINCIPAL P.Silvestri
PROJ. ARCH. _____ DRAFTER _____
JOB CAPT. W. Manhardt INTERIORS _____

SEAL:

TITLE:

EXTERIOR ELEVATIONS

SILVESTRI
ARCHITECTS · PC
1321 MILLERSPORT HWY PH. 716.691.0900
AMHERST, NY 14221 FAX 716.691.4773

SA JOB #: 20038.01

DATE: 5/6/24

DRAWING #: A-201

FISCAL IMPACT STUDY

PROPOSED HOTEL DEVELOPMENT

TOWN OF BRISTOL RI

FOR:

D & M DEVELOPMENT

PREPARED BY: JDL ENTERPRISES -
JOSEPH D. LOMBARDO, AICP

MAY 2025

INTRODUCTION ~

This Fiscal Impact Study (FIS) has been prepared to supplement an application for a planned 80 room Hotel Development. The Project is located at Gooding Avenue in Bristol RI. The property is currently zoned GB and is an allowable use. The FIS will estimate anticipated public revenues and expenses associated with the proposed development. The FIS will attempt to estimate both future revenues and expenses utilizing past and present statistics and financial data from a variety of sources, to be noted.

SUMMARY ~

The Town of Bristol will realize total estimated Revenues of $258,274 from Property, Hotel and Tangible Taxes on an annual basis with the development of the proposed 80 room Hotel. By subtracting the total expense estimate of $63,019 from the total anticipated revenue of $258,274, the Town of Bristol will actually realize a Net Revenue Gain of $195,255, with regard to expenses and revenues on an annual basis with the development. That would provide approximately $195,000 in available revenue to offset other townwide municipal expenses.

Additionally:

- *The hotel use in Bristol will generate an additional 50 full-time equivalent jobs at the hotel location.*
- *There is additional revenue from food and beverage sales in local restaurants, bars and taverns. This report highlighted the tax revenue that will be collected from several local taxes. There are local benefits to businesses in Bristol where the hotel will purchase goods and services as needed on a daily basis to operate the hotel.*
- *Further secondary impacts include the boost to local tourism. With the 80-room hotel in place, Bristol will stand to attract many more tourists, who will spend money in local establishments, museums, etc.*
- *As tourism increases, additional infrastructure and other economic development will occur. A hotel is truly a catalyst in the local economy. This new infrastructure adds temporary construction jobs to the area, a further boost to local businesses.*
- *The importance of the proposed hotel in Bristol cannot be overstated. There is a strong relationship between the hotel availability so close to the campus as a recruitment tool*
- *Both the hotel marketing and the university recruitment efforts will highlight the presence of each other. The presence of Roger Williams University is a main contributor to the hotel chain company choosing Bristol for this major investment.*

TABLE # 1:

TOTAL PROJECT REVENUE PROJECTIONS - 80 ROOM HOTEL DEVELOPMENT – BASE YEAR OF 2025 TOWN OF BRISTOL

	MARKET VALUE +	ASSESSED VALUE *	TAX RATE *		TOTAL REVENUE
LAND	**$500,000**	**$400,000**	**$13.82/1000**		**$5,528**
SITE DEVELOPMENT	**$1.500,000**	**$1,200,000**	**$13.82/1000**		**$16,584**
HOTEL - 80 rooms	**$17,000,000**	**$13,600,000**	**$13.82/1000**		**$187,952**
TOTALS	**$19,000,000**	**$15,200,000**	**$13.82/1000**		**$210,064**

+ Per D & M Development, LLC –

* Assessment estimated at 80% of Market Value. Tax Rate: Town of Bristol Tax Assessor's Office –Commercial rate @100%

Total gross Property Tax Revenue from the proposed 80 room Hotel and Conference Center development is: $210,064

ADDITIONAL REVENUE ~

Also, one-time fee revenue for Building Permits, Water and Sewer connections, and Site Plan Review will accrue to the community for the building and construction of hotel project.

F, F, & E TAX REVENUE ~\

There will also be annual tax revenue for Personal Property (F, F & E) assessed once the Hotel complex is complete.

The project estimate for F, F, & E is: $1,350,000. Based on a tax assessment at 70% of that amount after depreciation, and a Tax Rate of $13.00/$1,000, the Town of Bristol could be expected to collect: $17,550 annually.

HOTEL TAX

The State of Rhode Island will reimburse the Town of Bristol 1.0% of the 6% hotel tax collected at the proposed hotel, which is estimated at 1.0% of a projected annual hotel income of $3,066,000*.

This equals an additional $30,660 in annual tax revenue to the Town of Bristol generated by this project.

*** Calculated by: 80 room hotel at average occupancy of 70%. Thus, 56 rooms at an average room rate of $150 per night equals = $8,400 per night. At $8,400 per night times 365 days per year, the annual income subject to the RI State Hotel Tax is $3,066,000. The portion returned to the host community is 1% of that total or $30,660 per year.**

Source: Occupancy and Average yearlong Room Rate projected by Spurrier Consulting for D & M Development, LLC in 2022. Also, projections from Choice Hotels.

TOTAL PROJECT EXPENSES PROJECTIONS:
HOTEL DEVELOPMENT

Additional expenses for the hotel project are offset by the revenue projected. From a cost of services perspective for a Commercial project, it can be anticipated that for every dollar of tax revenue collected by the Town of Bristol 30% would be spent on providing municipal services. The 30% expenditure is a conservative estimate. Some of the projected expenses will not occur as this site development is to be maintained by a private developer/owner. Also, for example, the existing road network serving the complex is State and Town owned and maintained.

The anticipated Property Tax Revenue from the Hotel is **$210,064** as calculated in Table 1. Taking into account that 30% of this revenue will be utilized by the Town of Bristol for town services this totals **$63,019.** That would provide approximately **$147,000** in available revenue to offset other townwide municipal expenses.

HOTEL ANTICIPATED REVENUE AND EXPENSE COMPARISON~

Based on information and statistics presented above in Table 1, etc., Table 2 presents a comparison of the projected total municipal revenue with total projected expenses for the hotel proposed, as anticipated:

TABLE # 2:

HOTEL REVENUE AND EXPENSE COMPARISON –

BASE YEAR OF 2025 - TOWN OF BRISTOL

	TOTAL MUNICIPAL COSTS	TOTAL ESTIMATED REVENUE	NET RESULTS
TOTAL PROJECT	**$63,019**	**$258,274 (Includes: Property, Hotel Tax Reimbursement & Tangible Tax)**	**$195,255**

SUMMARY ~

The Town of Bristol will realize total estimated Revenues of $258,274 from Property, Hotel and Tangible Taxes on an annual basis with the development of the proposed 80 room Hotel. By subtracting the total expense estimate of $63,019 from the total anticipated revenue of $258,274, the Town of Bristol will actually realize a Net Revenue Gain of $195,255, with regard to expenses and revenues on an annual basis with the development.

EMPLOYMENT ~

Based on information provided by Choice Hotels, the hotel use in Bristol will generate an additional 50 full-time equivalent jobs at the hotel location. This includes: Front Desk, Housekeeping, Food & Beverage, Guest Services and others. This number can increase if Occupancy Rate increases, Average Stay duration increases, and/or more staff needed on other shifts.

SECONDARY IMPACTS ~

A new 80-room hotel located in Bristol will have direct impact on several portions of the local economy, including job generation which has been estimated at approximately 50 full-time equivalent jobs associated with the hotel. Also, there is additional revenue from food and beverage sales in local restaurants, bars and taverns. This report highlighted the tax revenue that will be collected from several local taxes. There are local benefits to businesses in Bristol where the hotel will purchase goods and services as needed on a daily basis to operate the hotel.

Further secondary impacts include the boost to local tourism. With the 80-room hotel in place, Bristol will stand to attract many more tourists, who will spend money in local establishments, museums, etc. Length of a visit by tourists when including an overnight (s) greatly increase the amount they spend in the community. As tourism increases, additional infrastructure and other economic development will occur. A hotel is truly a catalyst in the local economy. This new infrastructure adds temporary construction jobs to the area, a further boost to local businesses.

ROGER WILLIAMS UNIVERSITY ~

Roger Williams University (RWU) is a private liberal arts university in Bristol. Founded in 1956, RWU was named for theologian and Rhode Island cofounder Roger Williams. The university enrolls about 3,578 students, 489 academic staff, and 165 administration staff. A total of 80% of the enrollment are out-of-state students. The university is located on a 140-acre waterfront campus, has $79.2 million in endowments, and tuition of $36,978. RWU offers more than 50 liberal arts majors and professional degrees, such as law, architecture, construction management, and historic preservation. Roger Williams University School of Law on the campus of Roger Williams University is the only law school in Rhode Island, with about 370 students and endowments of $114 million.

The importance of the proposed hotel in Bristol cannot be overstated. There is a strong relationship between the hotel availability so close to the campus, as a recruitment tool for university administration, and, the number of out of state students, parents, family that will visit the university throughout the year and require lodging is substantial. Both the hotel marketing and the university recruitment efforts will highlight the presence of each other. The presence of Roger Williams University is a main contributor to the hotel chain company choosing Bristol for this major investment. Likely the University strongly supports the addition of this hotel in such close proximity to their campus. A true Win-Win situation.

Town of Bristol, RI

April 8, 2025

1 inch = 200 Feet

0 200 400 600

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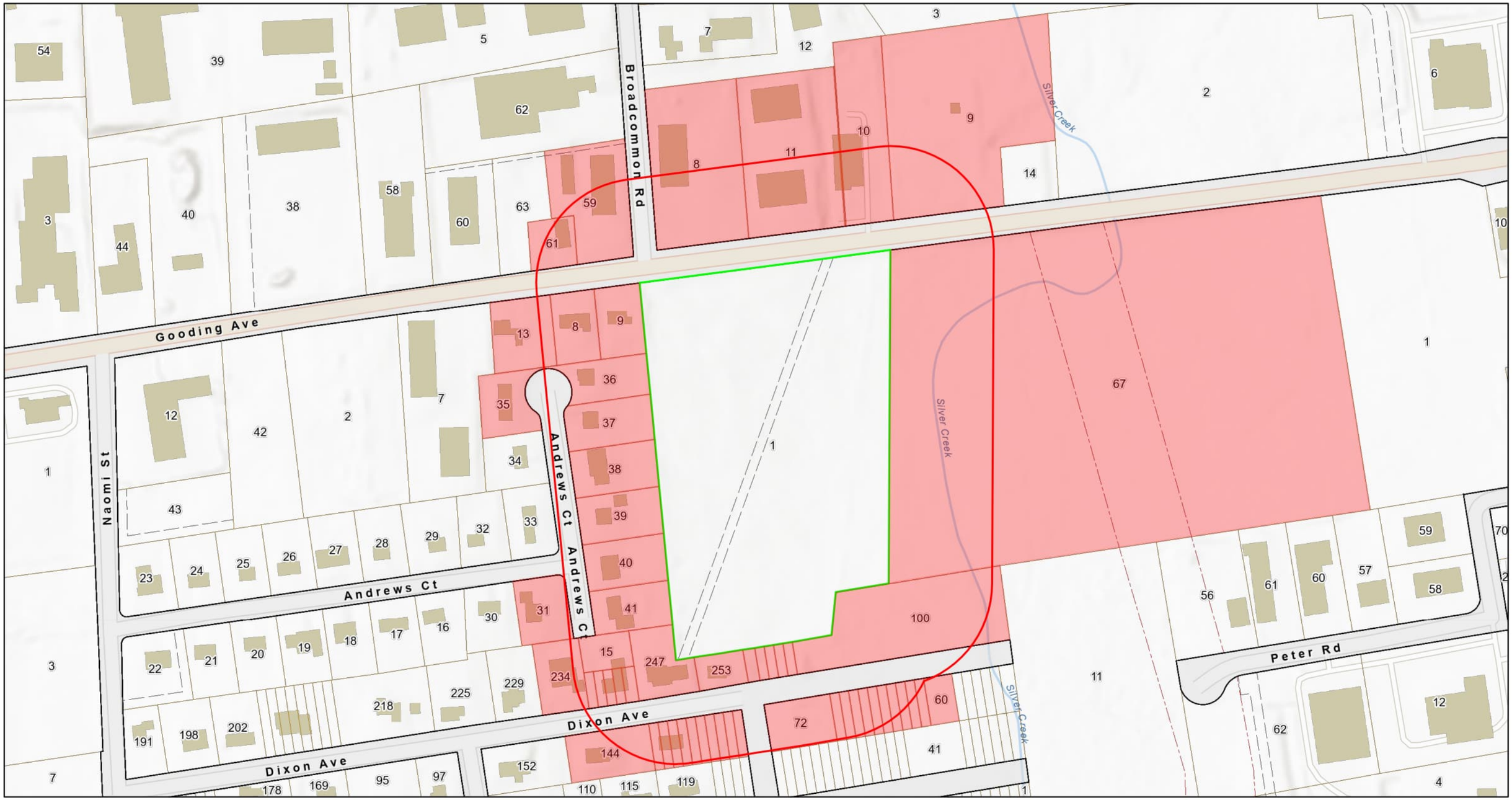


Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

220 feet Abutters List Report

Bristol, RI
April 08, 2025

Subject Property:

Parcel Number:	111-1	Mailing Address:	D & M BOCA DEVELOPMENT LLC
CAMA Number:	111-1		92 FAUNCE CORNER RD SUITE 160
Property Address:	GOODING AVE		NORTH DARTMOUTH, MA 02747

Abutters:

Parcel Number:	106-59	Mailing Address:	11 BROADCOMMON, LLC
CAMA Number:	106-59		11 BROADCOMMON RD
Property Address:	11 BROADCOMMON RD		BRISTOL, RI 02809
Parcel Number:	106-61	Mailing Address:	CINIGLIO, EILEEN M. LE REM-CLEMENS, RAYONA
CAMA Number:	106-61		11 BROADCOMMON RD PMB 216
Property Address:	73 GOODING AVE		BRISTOL, RI 02809
Parcel Number:	108-67	Mailing Address:	TOWN OF BRISTOL
CAMA Number:	108-67		10 COURT ST
Property Address:	GOODING AVE		BRISTOL, RI 02809
Parcel Number:	111-13	Mailing Address:	LEITAO, MARIA L. LIFE ESTATE WEST, SHERRY A. & LEITAO, ERI
CAMA Number:	111-13		70 GOODING AVENUE
Property Address:	70 GOODING AVE		BRISTOL, RI 02809
Parcel Number:	111-15	Mailing Address:	LIV IN FULFULLING ENVIR INC C/O LAWRENCE WIEDENHOFE
CAMA Number:	111-15		490 METACOM AVE
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	111-31	Mailing Address:	THOMPSON, NEIL H.
CAMA Number:	111-31		30 ANDREWS CT
Property Address:	30 ANDREWS CT		BRISTOL, RI 02809
Parcel Number:	111-35	Mailing Address:	FERREIRA, ALAN & MEGAN TE
CAMA Number:	111-35		37 ANDREWS CT
Property Address:	37 ANDREWS CT		BRISTOL, RI 02809
Parcel Number:	111-36	Mailing Address:	BOTELHO, MARIA I (SOLE OWNER)
CAMA Number:	111-36		35 ANDREWS CT
Property Address:	42 ANDREWS CT		BRISTOL, RI 02809
Parcel Number:	111-37	Mailing Address:	REINHART II, MARK
CAMA Number:	111-37		38 ANDREWS CT
Property Address:	38 ANDREWS CT		BRISTOL, RI 02809
Parcel Number:	111-38	Mailing Address:	SAVASTANO, SALVATORE L.
CAMA Number:	111-38		11 MELROSE RD
Property Address:	40 ANDREWS CT		BRISTOL, RI 02809

220 feet Abutters List Report

Bristol, RI
April 08, 2025

Parcel Number:	111-39	Mailing Address:	DARCANGELO, LAURIE E
CAMA Number:	111-39		36 ANDREWS CT
Property Address:	36 ANDREWS CT		BRISTOL, RI 02809
Parcel Number:	111-40	Mailing Address:	GARCIA, MANUEL T & MARIA LE T REM:
CAMA Number:	111-40		GARCIA, LUIS AS TRUSTEE
Property Address:	34 ANDREWS CT		34 ANDREWS CT
			BRISTOL, RI 02809
Parcel Number:	111-41	Mailing Address:	DA SILVA, JOSEPH & JUDITH TE
CAMA Number:	111-41		32 ANDREWS CT
Property Address:	32 ANDREWS CT		BRISTOL, RI 02809
Parcel Number:	111-8	Mailing Address:	ZINA, WAYNE
CAMA Number:	111-8		74 GOODING AVE
Property Address:	74 GOODING AVE		BRISTOL, RI 02809
Parcel Number:	111-9	Mailing Address:	SIMONS, JEFFREY J
CAMA Number:	111-9		78 GOODING AVE
Property Address:	78 GOODING AVE		BRISTOL, RI 02809
Parcel Number:	112-100	Mailing Address:	TOWN OF BRISTOL
CAMA Number:	112-100		10 COURT ST
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	112-60	Mailing Address:	TOWN OF BRISTOL
CAMA Number:	112-60		10 COURT ST
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	112-62	Mailing Address:	TOWN OF BRISTOL
CAMA Number:	112-62		10 COURT ST
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	112-63	Mailing Address:	TOWN OF BRISTOL
CAMA Number:	112-63		10 COURT ST
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	112-64	Mailing Address:	TOWN OF BRISTOL
CAMA Number:	112-64		10 COURT ST
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	112-65	Mailing Address:	TOWN OF BRISTOL
CAMA Number:	112-65		10 COURT ST
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	112-66	Mailing Address:	TOWN OF BRISTOL
CAMA Number:	112-66		10 COURT ST
Property Address:	DIXON AVE		BRISTOL, RI 02809

220 feet Abutters List Report

Bristol, RI
April 08, 2025

Parcel Number:	112-67	Mailing Address:	TOWN OF BRISTOL
CAMA Number:	112-67		10 COURT ST
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	112-68	Mailing Address:	TOWN OF BRISTOL
CAMA Number:	112-68		10 COURT ST
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	112-69	Mailing Address:	BRISTOL LAND CONSERV TRUST
CAMA Number:	112-69		P. O. BOX 413
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	112-70	Mailing Address:	BRISTOL LAND CONSERV TRUST
CAMA Number:	112-70		P. O. BOX 413
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	112-71	Mailing Address:	BRISTOL LAND CONSERV TRUST
CAMA Number:	112-71		P. O. BOX 413
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	112-72	Mailing Address:	TOWN OF BRISTOL, RI DIXON AVE
CAMA Number:	112-72		10 COURT ST
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	112-79	Mailing Address:	ESTATE OF OLIVER, PAUL A SR &
CAMA Number:	112-79		MAZE, SUSAN E TOWN OF BRISTOL TT
Property Address:	DIXON AVE		160 WATER ST
			WARREN, RI 02885
Parcel Number:	112-80	Mailing Address:	EST OF OLIVER, PAUL A & MAZE SUSAN
CAMA Number:	112-80		TOWN OF BRISTOL TT
Property Address:	DIXON AVE		160 WATER ST
			WARREN, RI 02885
Parcel Number:	112-81	Mailing Address:	EST OF OLIVER, PAUL A & MAZE SUSAN
CAMA Number:	112-81		TOWN OF BRISTOL TT
Property Address:	DIXON AVE		160 WATER ST
			WARREN, RI 02885
Parcel Number:	112-82	Mailing Address:	EST OF OLIVER, PAUL A & MAZE SUSAN
CAMA Number:	112-82		TOWN OF BRISTOL TT
Property Address:	DIXON AVE		160 WATER ST
			WARREN, RI 02885
Parcel Number:	113-129	Mailing Address:	AGUIAR, FRANCISCO M
CAMA Number:	113-129		30 DIXON AVENUE
Property Address:	DARTMOUTH ST		BRISTOL, RI 02809
Parcel Number:	113-130	Mailing Address:	AGUIAR, FRANCISCO M
CAMA Number:	113-130		30 DIXON AVENUE
Property Address:	DIXON AVE		BRISTOL, RI 02809

220 feet Abutters List Report

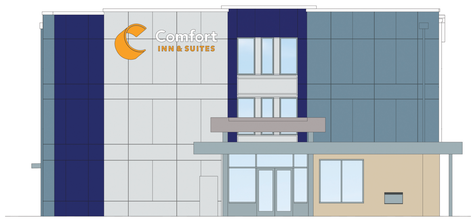
Bristol, RI
April 08, 2025

Parcel Number:	113-131	Mailing Address:	AGUIAR, FRANCISCO M
CAMA Number:	113-131		30 DIXON AVENUE
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	113-132	Mailing Address:	AGUIAR, FRANCISCO M
CAMA Number:	113-132		30 DIXON AVENUE
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	113-133	Mailing Address:	AGUIAR, FRANCISCO M
CAMA Number:	113-133		30 DIXON AVENUE
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	113-134	Mailing Address:	AGUIAR, FRANCISCO M
CAMA Number:	113-134		30 DIXON AVENUE
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	113-135	Mailing Address:	AGUIAR, FRANCISCO M
CAMA Number:	113-135		30 DIXON AVENUE
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	113-136	Mailing Address:	AGUIAR, FRANCISCO M
CAMA Number:	113-136		30 DIXON AVENUE
Property Address:	30 DIXON AVE		BRISTOL, RI 02809
Parcel Number:	113-137	Mailing Address:	AGUIAR, FRANCISCO M
CAMA Number:	113-137		30 DIXON AVENUE
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	113-138	Mailing Address:	AGUIAR, FRANCISCO M
CAMA Number:	113-138		30 DIXON AVENUE
Property Address:	DIXON AVE		BRISTOL, RI 02809
Parcel Number:	113-144	Mailing Address:	MELLO, THOMAS J NOELLE M TE
CAMA Number:	113-144		24 DIXON AVE
Property Address:	24 DIXON AVE		BRISTOL, RI 02809
Parcel Number:	113-234	Mailing Address:	CARD, RAYMOND M. ET UX DANA C. TE
CAMA Number:	113-234		23 DIXON AVE.
Property Address:	23 DIXON AVE		BRISTOL, RI 02809
Parcel Number:	113-239	Mailing Address:	LIV IN FULFULLING ENVIR INC C/O
CAMA Number:	113-239		LAWRENCE WIEDENHOFE
Property Address:	25 DIXON AVE		490 METACOM AVE
			BRISTOL, RI 02809
Parcel Number:	113-240	Mailing Address:	LIV IN FULFULLING ENVIR INC C/O
CAMA Number:	113-240		LAWRENCE WIEDENHOFE
Property Address:	DIXON AVE		490 METACOM AVE
			BRISTOL, RI 02809

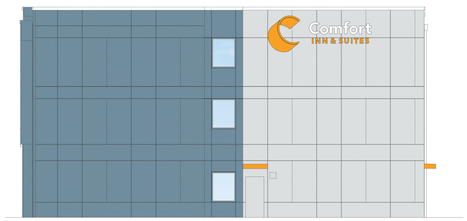
220 feet Abutters List Report

Bristol, RI
April 08, 2025

Parcel Number:	113-241	Mailing Address:	LIV IN FULFULLING ENVIR INC C/O LAWRENCE WIEDENHOFE 490 METACOM AVE BRISTOL, RI 02809
CAMA Number:	113-241		
Property Address:	DIXON AVE		
Parcel Number:	113-242	Mailing Address:	LIV IN FULFULLING ENVIR INC C/O LAWRENCE WIEDENHOFE 490 METACOM AVE BRISTOL, RI 02809
CAMA Number:	113-242		
Property Address:	DIXON AVE		
Parcel Number:	113-243	Mailing Address:	LIV IN FULFULLING ENVIR INC C/O LAWRENCE WIEDENHOFE 490 METACOM AVE BRISTOL, RI 02809
CAMA Number:	113-243		
Property Address:	DIXON AVE		
Parcel Number:	113-247	Mailing Address:	PIERSON, KEEVIN & VERITY TE 27 DIXON AVE BRISTOL, RI 02809
CAMA Number:	113-247		
Property Address:	27 DIXON AVE		
Parcel Number:	113-253	Mailing Address:	SOUSA, PAUL B. CARBONE, ANTHONY JT 31 DIXON AVE BRISTOL, RI 02809
CAMA Number:	113-253		
Property Address:	31 DIXON AVE		
Parcel Number:	113-256	Mailing Address:	EST OF OLIVER, PAUL A & MAZE SUSAN TOWN OF BRISTOL TT 160 WATER ST WARREN, RI 02885
CAMA Number:	113-256		
Property Address:	DIXON AVE		
Parcel Number:	98-10	Mailing Address:	D&J ACQUISITIONS, LLC 93 GOODING AVE STE 1 BRISTOL, RI 02809
CAMA Number:	98-10		
Property Address:	93 GOODING AVE		
Parcel Number:	98-11	Mailing Address:	MINTURN-METACOM, LLC 370 METACOM AVE BRISTOL, RI 02809
CAMA Number:	98-11		
Property Address:	87 GOODING AVE		
Parcel Number:	98-13	Mailing Address:	D&J ACQUISITIONS, LLC 93 GOODING AVE STE 1 BRISTOL, RI 02809
CAMA Number:	98-13		
Property Address:	GOODING AVE		
Parcel Number:	98-8	Mailing Address:	85 GOODING AVE, LLC 85 GOODING AVE BRISTOL, RI 02809
CAMA Number:	98-8		
Property Address:	85 GOODING AVE		
Parcel Number:	98-9	Mailing Address:	NARRAGANSETT ELECTRIC CO. C/O REALISTATE TAXES 2 NORTH 9TH STREET ALLENTOWN, PA 18101
CAMA Number:	98-9		
Property Address:	99 GOODING AVE		



D1 WEST ELEVATION
SCALE: 3/32" = 1'-0"



D3 EAST ELEVATION
SCALE: 3/32" = 1'-0"



B1 NORTH ELEVATION
SCALE: 3/32" = 1'-0"



A1 SOUTH ELEVATION
SCALE: 3/32" = 1'-0"

NOTICE
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Comfort™ INN & SUITES

Comfort Inn & Suites

PROPERTY ID: RI043

Gooding Avenue
Bristol, RI 02809

ISSUE:

SA PROJECT TEAM:
PRINCIPAL P.Silvestri
PROJ. ARCH. _____
DRAFTER _____
JOB CAPT. W. Manhardt
INTERIORS _____

SEAL:

TITLE:

COLORED ELEVATIONS

SILVESTRI
ARCHITECTS • PC
1321 MILLERSPORT HWY PH. 716.691.0900
AMHERST, NY 14221 FAX 716.691.4773

SA JOB #: 20038.01

DATE: 3/12/24

DRAWING #: A-202

APPLICATION FORM AND SUBMISSION CHECKLIST FOR MAJOR LAND DEVELOPMENTS AND MAJOR SUBDIVISIONS

The completed application form together with the appropriate materials as indicated on the checklist shall be submitted to the Administrative Officer.

APPLICATION FORM

Type of Application: Please check one:

✓ **Master Plan**
_____ **Preliminary**
_____ **Final**

1. Name of proposed subdivision/development: Comfort Inn & Suites

2. Name, address and telephone number of property owner (if the owner of record is a corporation, the name and address of the president and secretary):
D&M Boca Development, LLC, 92 Faunce Corner Road, Suite 160, North Dartmouth, MA 02747

3. Name and address and telephone number of applicant, if different from owner: (A written, notarized confirmation from property owner authorizing the applicant to make the submission shall also be submitted):

4. Plat and lot number(s) of the parcel being subdivided/developed: AP 111, Lot 1

5. Area of the subdivision/development parcel(s): 9.78+/- Acres

6. Zoning District: GB - General Business

Signed by Owner/Applicant: _____ Date 5/15/25

Notarized:

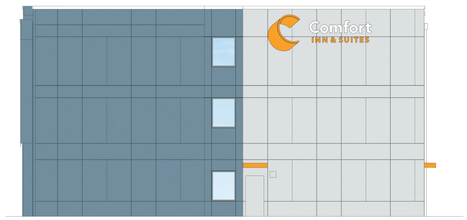
Subscribed and sworn to before me this 15 day of May, 2025.
Bristol, MA

ANTHONY JACOB PAULINE
Notary Public
Commonwealth of Massachusetts
My Commission Expires
June 8, 2029

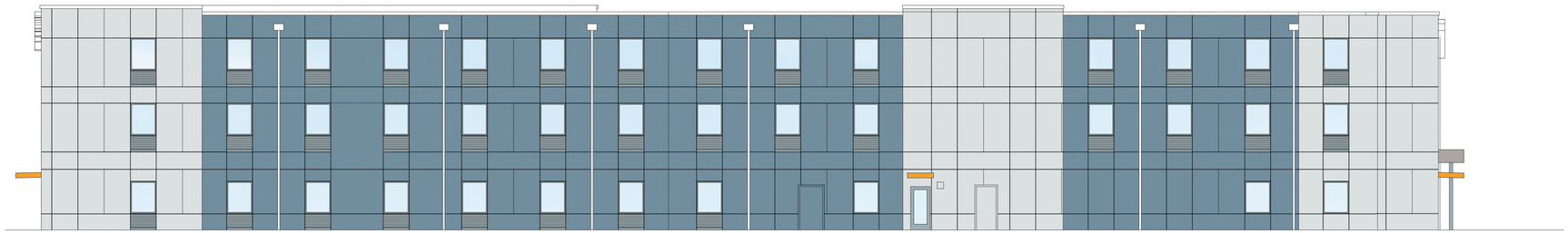
NOTARY PUBLIC



D1 EAST ELEVATION
SCALE: 3/32" = 1'-0"



D3 WEST ELEVATION
SCALE: 3/32" = 1'-0"



B1 SOUTH ELEVATION
SCALE: 3/32" = 1'-0"



A1 NORTH ELEVATION
SCALE: 3/32" = 1'-0"

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Comfort™ INN & SUITES

Comfort Inn & Suites

PROPERTY ID: RI043

Gooding Avenue
Bristol, RI 02809

ISSUE:

SA PROJECT TEAM:
PRINCIPAL P.Silvestri
PROJ. ARCH. _____
DRAFTER _____
JOB CAPT. W. Manhardt
INTERIORS _____

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TITLE:

COLORED ELEVATIONS

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1321 MILLERSPORT HWY PH. 716.691.0900
AMHERST, NY 14221 FAX 716.691.4773

SA JOB #: 20038.01

DATE: 3/12/24

DRAWING #: A-202

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
235 Promenade Street
Providence, Rhode Island 02908

CERTIFIED MAIL

December 6, 2024

KenDan, LLC
c/o Daniel D. Donovan, III
613 Aquidneck Avenue
Middletown, RI 02842

PERMIT TO ALTER FRESHWATER WETLANDS

RE: Wetlands Application No. 22-0264, RIPDES File No. RIR101247; and Groundwater Discharge/UIC No. 001650 in reference to the location below:

Approximately 150 feet south of Gooding Avenue near Utility Pole No. 218, and approximately 300 feet southeast of its intersection with Broadcommon Road, Assessor's Plat 111, Lot 1, Bristol, RI.

Dear Mr. Donovan:

The Department of Environmental Management's ("DEM") Freshwater Wetlands Program ("Program") has completed its review of your **Application to Alter a Freshwater Wetland** regarding the proposed construction of a 76-room hotel and associated parking area, screen plantings, stormwater mitigation systems, utilities (electrical utility connection and connections to town water line, gas line, and sewer line), with clearing, grading, and soil disturbance as described and detailed in the material and information submitted in support of your application and on site plans received by the DEM on November 8, 2023. These site plans describing the project were made available for public comment as part of the forty-five (45) day public notice period required in accordance with the Freshwater Wetlands Act (R.I. Gen. Laws § 2-1-18 et seq.) and the procedures set forth in the Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act, 250-RICR-150-15-1, specifically in 250-RICR-150-15-1.10.

This Program received thirty-five (35) letters relating to your application which were submitted during the public notice period. These letters expressed concern regarding your project's impacts to freshwater wetland values. This Program reviewed these letters together with any supporting documents and evaluated the potential impacts from the project upon the values mentioned in the letters. The Program has determined that the comments contained within these letters do not constitute an objection of a substantive nature as defined in 250-RICR-150-15-1.10(D)(3)(c). Therefore, a public hearing pursuant to R.I. Gen. Laws § 2-1-22 is not required.

Pursuant to the Program's review and evaluation of your application including all supporting information and material, as well as the record to date, the Program has determined that this project does not represent a random, unnecessary, or undesirable alteration of freshwater wetlands. Therefore, this Program hereby issues this permit to alter freshwater wetlands **subject to all controlling Rules and the Terms and Conditions set forth herein.**

Terms and Conditions for Wetlands Application No. 22-0264; RIPDES No. RIR101247; Groundwater Discharge/UIC No. 001650:

1. This letter is the DEM's permit for this project under the R.I. Fresh Water Wetlands Act, R.I. Gen. Laws § 2-1-18 et seq. This application review has also included review of any stormwater infiltration system subject to the DEM Groundwater Discharge Rules, 250-RICR-150-05-4 (Rules for the Discharge of Non-Sanitary Wastewater and Other Fluid to or Below the Ground Surface).

2. This determination also includes your final authorization to discharge storm water associated with construction activity under the **2020 RIDPES General Permit for Stormwater Discharge During Construction Activity ("CGP").** For future references and inquiry, your permit authorization number is **RIPDES No. RIR101247.** This RIPDES CGP permit is not transferable to any person except after written notice to the Director, in the form of a Permit Transfer Form available on the RIDEM Stormwater Construction Permitting website.

3. This permit is specifically limited to the project, site alterations and limits of disturbance as detailed on the site plans submitted with your application and received by the DEM on November 8, 2023. A copy of the site plans stamped approved by the DEM is enclosed. Changes or revisions to the project that would alter freshwater wetlands are not authorized without a permit from the DEM.

4. Where the terms and conditions of the permit conflict with the approved site plans, these terms and conditions shall be deemed to supersede the site plans.

5. You must notify this Program in writing of the anticipated start date, and of your contractor's contact information, by submitting the Notice of Start of Construction Form prior to commencement of any permitted site alterations or construction activity. You must also notify this Program in writing upon completion of the project, including submittal of the Notice of Termination Form. The Start of Construction Form and the Notice of Termination can be found on the webpage: dem.ri.gov/stormwaterconstruction

6. A copy of the stamped approved site plans and a copy of this permit must be kept at the site at all times during site preparation, construction, and final stabilization. Copies of this permit and the stamped approved plans must be made available for review by any DEM or town representative upon request.

7. Within ten (10) days of the receipt of this permit, you must record this permit in the land evidence records of the Town of Bristol and supply this Program with written documentation obtained from the Town showing this permit was recorded.

8. The effective date of this permit is the date this letter was issued. This permit expires one (1) year from the date of this letter unless renewed pursuant to 250-RICR-150-15-1.10(G)(6).

9. Any material utilized in this project must be clean and free of matter that could pollute any freshwater wetland.

10. Prior to commencement of site alterations, you shall erect or post a sign resistant to the weather and at least twelve (12) inches wide and eighteen (18) inches long, which boldly identifies the initials "DEM" and the application number of this permit. This sign must be maintained at the site in a conspicuous location until such time that the project is complete, and the Program issues a Notice of Completion of Work.

11. Both the owner and the contractor retained to undertake the construction activity are required to comply with all terms and conditions of the CGP. This includes maintaining the Soil Erosion and Sediment Control (SESC) Plan, performing the required inspections and maintenance of the selected Best Management Practices (BMPs), and retaining inspection records. Further information on the requirements of the CGP is available at: http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/pdfs/cgp092620.pdf.

12. Temporary erosion and sediment controls detailed or described on the approved site plans shall be properly installed at the site prior to or commensurate with site alterations. Such controls shall be properly maintained, replaced, supplemented, or modified as necessary throughout the life of this project to minimize soil erosion and to prevent sediment from being deposited in any wetlands not subject to disturbance under this permit.

13. Upon permanent stabilization of all disturbed soils, temporary erosion and/or sediment controls must be removed.

14. You are responsible for the proper installation, operation, maintenance, and stability of any mitigative features, stormwater treatment facilities, and systems of treatment and control that are installed or used in compliance with this permit to prevent harm to adjacent wetlands until documentation is provided that this responsibility has been assigned to another entity. The long-term operation and maintenance plan shall be strictly followed. The long-term operation and maintenance plan shall be as described in the plan entitled "Operation & Maintenance Plan, Gooding Avenue Development, Located in Bristol, Rhode Island; Applicant: Kendan, LLC", dated 1-23-2018, Revised 4-06-2021, dated received 6/27/2022, as prepared by DiPrete Engineering.

15. You are obligated to install, utilize, maintain, and follow all best management practices detailed or described on the approved site plans in the construction of the project to minimize or prevent adverse impacts to any adjacent freshwater wetlands and the functions and values provided by such wetlands.

16. All plantings of shrubs, trees or other forms of vegetation as shown or detailed on the approved plans, or detailed in this permit, must be installed as soon as possible after completion of final grading; weather and season permitting. You must notify this Program in writing upon completion of the required plantings for a compliance inspection by a Program representative.

17. Buffer zone plantings of trees and/or shrubs proposed between the project and any adjacent freshwater wetland areas, except for necessary replacement, must be allowed to develop naturally without being subjected to mowing or manicuring.

18. Any plantings which fail to survive one full growing season shall be replaced. Replacement plantings shall be similarly guaranteed for one full growing season.

19. Artificial lighting authorized by this permit must be directed away from all vegetated wetland areas. Where this is not possible, the use of deflectors to concentrate lighting away from vegetated wetlands must be employed.

20. An environmental consultant, experienced in site assessments and measures necessary to protect sensitive aquatic environments or sensitive ecosystems, must be employed prior to the commencement of site alterations to monitor this project and to ensure compliance with the terms and conditions of this permit. This Program must be notified in writing of the consultant chosen to comply with this condition and must receive monthly written progress reports from the consultant regarding compliance with this permit until such time that the project is complete, or this Program issues a Notice of Completion of Work.

21. You must provide written certification from a registered land surveyor or registered professional engineer that the stormwater drainage system including any and all basins, piping systems, catch basins, culverts, swales and any other stormwater management control features have been constructed/installed in accordance with the site plans approved by this permit. This written certification must be submitted to this Program within twenty (20) days of its request or upon completion of the project.

22. Also prior to commencement of any site alterations, permanent buffer zone markers must be installed along the limit of disturbance at the locations indicated in red ink on the approved site plans, in order to provide permanent reference points on site that are clear to present and future property owners. Acceptable permanent type markers include 4" x 4" pressure treated timber posts, galvanized fence posts with cap, or granite or concrete bounds. Markers must extend a minimum 24" above grade. A permanent-type tag or sign labeled "RIDEM Buffer Zone" must be placed on each marker. A permanent-type fence at least 24" tall placed along the limits of disturbance and similarly labeled may be substituted where desired. No alterations of any kind are permitted beyond these markers without first obtaining the necessary permit from this Program.

23. Immediately upon installation of the buffer zone markers, this Program must be contacted to arrange an on-site inspection. Once proper installation has been confirmed by this Program, work may be initiated on the project as herein approved.

Pursuant to the provisions in 250-RICR-150-15-1.7(A)(9) and 250-RICR-150-15-1.11(D), as applicable, any properly recorded and valid permit is automatically transferred to the new owner upon sale of the property. Pursuant to the provisions in 250-RICR-150-15-1.7(A)(9)(c), within ten (10) days of any property transfer, the subsequent transferee must notify the Department by forwarding a certified copy of the deed of transfer.

Please be aware that the RIDEM's Rules and Regulations Governing the Establishment of Various Fees (250-RICR-30-00-1) require that RIPDES CGP permit holders to pay an Annual Fee of $100.00. An invoice will be sent to the owner on record in May/June of each year if the construction was still active as of December 31st of the previous year. The owner will be responsible for the Annual Fee until the construction activity has been completed, the site has been properly stabilized, and a completed Notice of Termination (NOT) has been received by the RIPDES Program.

You are required to comply with the terms and conditions of this permit and to carry out this project in compliance with the Rules at all times. Failure to do so may result in an enforcement action against you by the DEM.

If you have not already done so, or in order to check on the status of their review, please contact the U.S. Army Corps of Engineers to determine federal permit requirements on your project. Write the Corps' New England District, Regulatory Branch, 696 Virginia Road, Concord, MA 01742-2751; website: https://www.nae.usace.army.mil/Missions/Regulatory/or email at cenaer@usace.army.mil . Please note that the Department of the Army authorization must be obtained before any work is initiated in areas subject to Corps jurisdiction.

In permitting the proposed alterations, the Department assumes no responsibility for damages resulting from faulty design or construction. This permit does not remove your obligation to obtain any local, state, or federal approvals or permits required by ordinance or law and does not relieve you from any duties owed to adjacent landowners with specific reference to any changes in drainage.

If you are aggrieved by this decision, you may, within thirty (30) days of the receipt of this letter, request an adjudicatory hearing in writing. This request must be sent directly to the DEM Administrative Adjudication Division ("AAD"), 235 Promenade Street, Suite 350, Providence, RI 02908. A copy of the request should also be forwarded to this Program and to the Office of Legal Services, at the same address. Your written request for an adjudicatory hearing must be timely filed and should conform to the requirements of 250-RICR-10-00-1.7(B) of the DEM Rules and Regulations for the Administrative Adjudication Division, 250-RICR-10-00-1. Section 250-RICR-10-00-1.7(B) provides:

"The request for a hearing shall state clearly and concisely the specific issues which are in dispute, and the facts in support thereof, the relief sought, if any, the license or permit sought or involved, and any additional information required by applicable statues and regulations."

The written request must be accompanied by an adjudicatory hearing fee of two thousand dollars ($2,000.00); in the form of a certified bank check or money order made payable to the Rhode Island General Treasurer; however, in the event that the cost of the hearing exceeds the fee paid, the Program through the AAD will require an additional fee which the applicant must submit prior to the DEM's issuance of any final decision regarding this application. The adjudicatory hearing will be held before a Hearing Officer from the AAD. Such hearing will be held in compliance with 250-RICR-10-00-1, R.I. Gen. Laws Chapter 42-35-1 et seq., and other governing laws, rules, and regulations adopted by the DEM. Please note that you have the right to be represented by legal counsel in any proceeding which may be held in this matter.

If you have any questions regarding this matter, you may contact me or Jessica Lord of my staff at this office (telephone: 401-537-4249).

Sincerely,

Martin D. Wencek

Martin D. Wencek, Environmental Scientist IV
Office of Water Resources
Freshwater Wetlands Program
MDW/JAL/jal

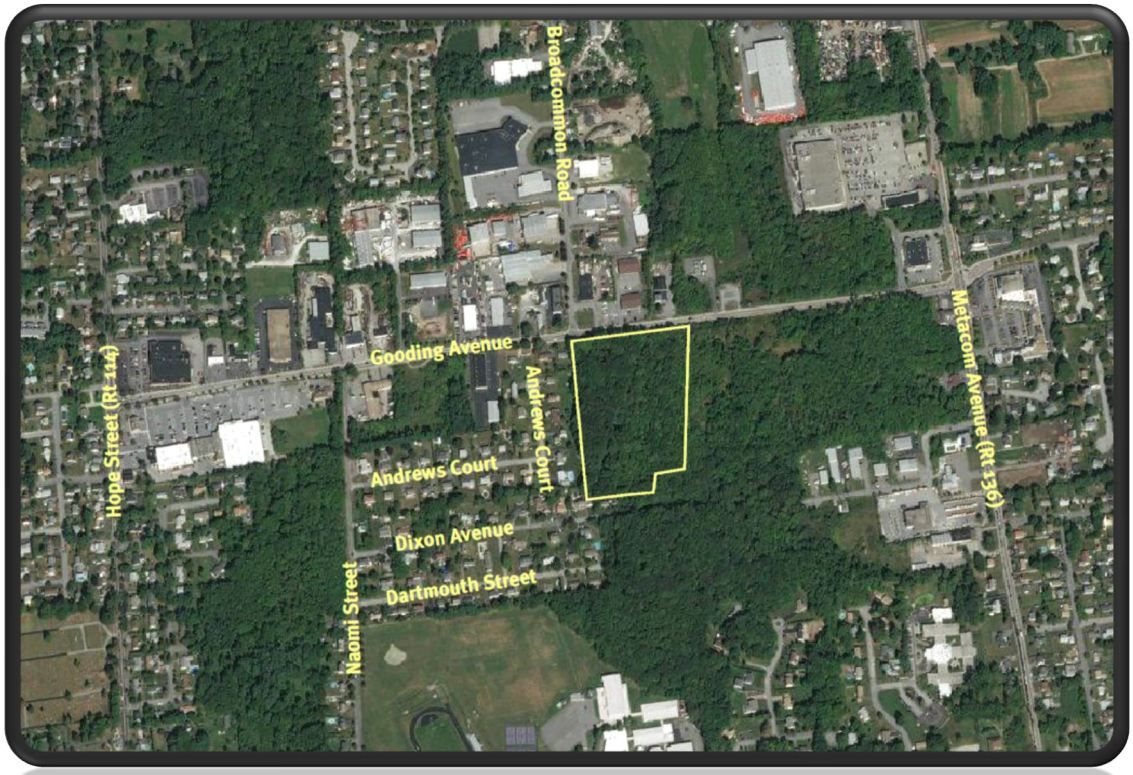
Enclosure: Approved Site Plans

ec: Mary Dalton, Administrative Adjudication Division
Mary Kay, Executive Counsel, DEM Office of Legal Services
Neal Personeus, DEM Stormwater Program
Elizabeth Waterhouse, U.S. Army Corps of Engineers, New England District
Kevin DeMers, P.E., DiPrete Engineering
Dianne M. Williamson, Director of Community Development, Town of Bristol
Stephen Greenleaf, Town of Bristol Building Official
Alex Van Buren
Denise Duarte
Raymond Payson, Bristol Land Conservation Trust President
Linda M. Jackson
Patrick Barosh, Ph.D., Geologist
Susan Pasqual
Veronica A. Tucker, Board Member, Bristol Conservation Land Trust
Margaret M. Godwin
Patricia J. Pinskey
Melissa Cordeiro, Town Clerk/Council Clerk, Town of Bristol

Edward Spinard
Emily Spinard
Timothy and Melissa Velleca
Tony Morettini, Chair, The Bristol Conservation Commission
Nicole Carvalho-Ahmed
Patricia E. Chalmers
Paul Sousa
Abigail Demopulos
Loren Byrne and Kim Seymour
George Voutes
Lisa Voutes
Mike Proto
James and Carol O'Neill
Patti and Arthur Cirillo
Maria Franzen
Jane and Clifford Teixeira
Maureen McManus
Kayla Barrett
Deborah Schmeller
Kate McPherson, Professional Wetland Scientist, Narragansett Bay Riverkeeper
Deirdre Robinson
Sarah J. Weedon
Nancy E. Dobie
Noelle and Thomas Mello
Aaron J. Ley, Ph.D.

DiPrete Engineering

Stormwater Management Report



KEVIN DEMERS
No. 8557
REGISTERED
PROFESSIONAL ENGINEER
CIVIL
4/7/2025

Gooding Avenue Development

Located in Bristol, Rhode Island

Applicant: Kendan, LLC.

1-19-2018

Revised: 3-27-2025

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Executive Summary

On behalf of the Client, we are submitting drainage calculations for the proposed development on Gooding Avenue in Bristol, Rhode Island. The site is located on Assessors' Plat 111 Lot 1. The site is currently undeveloped and exists today as almost entirely wooded. The client proposes to construct a new 80 room hotel building with associated parking and access driveways.

The post development stormwater will be treated for water quality using Best Management Practices (BMPs). The Site has been designed to meet the Rhode Island Stormwater Design and Installation Standards Manual (RISDISM). The site is largely made up of wetland and perimeter wetland areas and almost entirely Hydrologic Group D soils. Groundwater tables in the development area range from 24" to 36" below existing grade. Based on this information, low infiltration rates have been used in modeling the proposed BMPs to treat the water quality storm event. Also, the eastern end of the underground infiltration system A (UIS-A) will be located entirely above grade to maintain groundwater separation. Wherever this occurs, sand material will be installed between the bottom of stone and native soil below loam layer.

To mitigate post development flows on site, a sand filter and an underground infiltration/detention system will be utilized. The detention system has been designed to control runoff for the 1 through 100 year storm events. The sand filter and underground infiltration system have been designed as water quality BMPs. These will remove 85% or more of TSS (total suspended solids) generated by the proposed parking areas and access roads.

This report details how the site will show no net increase in stormwater runoff from pre development to post development conditions, and how the proposed BMPs will provide water quality treatment for stormwater runoff. The proposed improvements will not increase the rate of stormwater runoff onto the State Highway.

Pre development Conditions versus Post Development Conditions for each watershed are summarized below:

Subwatershed (design point)	1-yr Peak Flow		10-yr Peak Flow		25-yr Peak Flow		100-yr Peak Flow	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
DP-1:	2.34	0.99	6.50	4.99	9.08	6.75	14.58	10.39

All flows in cubic feet per second (cfs)

Sub-watershed (design point)	1-yr Volume		10-yr Volume		25-yr Volume		100-yr Volume	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
DP-1:	0.228	0.131	0.605	0.421	0.845	0.639	1.371	1.182

All flows in acre feet per second (af)

APPENDIX A: STORMWATER MANAGEMENT PLAN CHECKLIST AND LID PLANNING REPORT – STORMWATER DESIGN SUMMARY

PROJECT NAME **Gooding Avenue Development**	**(RIDEM USE ONLY)** **STW/WQC File #:** **Date Received:**
TOWN **Bristol, RI**	
BRIEF PROJECT DESCRIPTION: 80-room hotel, parking and infrastructure	

Stormwater Management Plan (SMP) Elements – Minimum Standards

Submit four separately bound documents: Appendix A Checklist; Stormwater Site Planning, Analysis and Design Report with Plan Set/Drawings; Soil Erosion and Sediment Control (SESC) Plan, and Post Construction Operations and Maintenance (O&M) Plan. Please refer to Suggestions to Promote Brevity.

Note: **All stormwater construction projects must submit a Stormwater Management Plan (SMP). However, not every element listed below is required per the RIDEM Stormwater Rules and the RIPDES Construction General Permit (CGP). This checklist will help identify the required elements to be submitted with an Application for Stormwater Construction Permit & Water Quality Certification.**

PART 1. PROJECT AND SITE INFORMATION

PROJECT TYPE (Check all that apply)

☐ Residential	☒ Commercial	☐ Federal	☐ Retrofit	☐ Restoration
☐ Road	☐ Utility	☐ Fill	☐ Dredge	☐ Mine
☐ Other (specify):				

SITE INFORMATION

☒ Vicinity Map

INITIAL DISCHARGE LOCATION(S): The WQv discharges to: (You may choose more than one answer if several discharge points are associated with the project.) See Guidance to identify receiving waters.

☒ **Groundwater**	☐ **Surface Water**	☐ **MS4**
☐ GAA	☐ Isolated Wetland	☐ RIDOT
☒ GA	☐ Named Waterbody	☐ RIDOT Alteration Permit is Approved
☐ GB	☐ Unnamed Waterbody Connected to Named Waterbody	☐ Town
		☐ Other (specify):

ULTIMATE RECEIVING WATERBODY LOCATION(S): Include pertinent information that applies to both WQ_v and flow from larger storm events including overflows. Choose all that apply, and repeat table for each waterbody.

☒ Groundwater or Disconnected Wetland	☐ SRWP		
☒ Waterbody Name: Silver Creek	☐ Coldwater	☒ Warmwater	☐ Unassessed
☒ Waterbody ID: RI0007026R-01	☐ 4th order stream of pond 50 acres or more		
☐ TMDL for:	☐ Watershed of flood prone river (e.g., Pocasset River)		
☐ Contributes to a priority outfall listed in the TMDL	☐ Contributes stormwater to a public beach		
☐ 303(d) list – Impairment(s) for:	☐ Contributes to shellfishing grounds		

PROJECT HISTORY		
☒ RIDEM Pre- Application Meeting	Meeting Date:	☐ Minutes Attached
☐ Municipal Master Plan Approval	Approval Date:	☐ Minutes Attached
☐ Subdivision Suitability Required	Approval #:	
☐ Previous Enforcement Action has been taken on the property	Enforcement #:	

FLOODPLAIN & FLOODWAY See Guidance Pertaining to Floodplain and Floodways	
☐ Riverine 100-year floodplain: **FEMA FLOODPLAIN FIRMETTE** has been reviewed and the 100-year floodplain is on site	
☐ Delineated from FEMA Maps	
NOTE: Per Rule 250-RICR-150-10-8-1.1(B)(5)(d)(3), provide volumetric floodplain compensation calculations for cut and fill/displacement calculated by qualified professional	
☐ Calculated by Professional Engineer	
☐ Calculations are provided for cut vs. fill/displacement volumes proposed within the 100-year floodplain	Amount of Fill (CY):
	Amount of Cut (CY):
☐ Restrictions or modifications are proposed to the flow path or velocities in a floodway	
☐ Floodplain storage capacity is impacted	
☒ Project area is not within 100-year floodplain as defined by RIDEM	

CRMC JURISDICTION
☐ CRMC Assent required
☐ Property subject to a Special Area Management Plan (SAMP). If so, specify which SAMP:
☐ Sea level rise mitigation has been designed into this project

LUHPPL IDENTIFICATION - MINIMUM STANDARD 8:			
1. OFFICE OF WASTE MANAGEMENT (OWM)			
	☐ Known or suspected releases of HAZARDOUS MATERIAL are present at the site (Hazardous Material is defined in Rule 1.4(A)(33) of 250-140-30-1 of the RIDEM Rules and Regulations for Investigation and Remediation of Hazardous Materials (the Remediation Regulations))		**RIDEM CONTACT:**
	☐ Known or suspected releases of PETROLEUM PRODUCT are present at the site (Petroleum Product as defined in Rule 1.5(A)(84) of 250-140-25-1 of the RIDEM Rules and Regulations for Underground Storage Facilities Used for Regulated Substances and Hazardous Materials)		
	☐ This site is identified on the RIDEM Environmental Resources Map as one of the following regulated facilities		**SITE ID#**:
		☐ CERCLIS/Superfund (NPL)	
		☐ State Hazardous Waste Site (SHWS)	
		☐ Environmental Land Usage Restriction (ELUR)	
		☐ Leaking Underground Storage Tank (LUST)	
		☐ Closed Landfill	
Note: If any boxes in 1 above are checked, the applicant must contact the RIDEM OWM Project Manager associated with the Site to determine if subsurface infiltration of stormwater is allowable for the project. Indicate if the infiltration corresponds to "Red," "Yellow" or "Green" as described in Section 3.2.8 of the RISDISM Guidance (Subsurface Contamination Guidance). Also, note and reference approval in PART 3, Minimum Standard 2: Groundwater Recharge/Infiltration**.**			
2. PER MINIMUM STANDARD 8 of RICR 8.14.C.1-6 "LUHPPLS," THE SITE IS/HAS:			
	☐ Industrial Site with RIPDES MSGP, except where No Exposure Certification exists. http://www.dem.ri.gov/programs/water/permits/ripdes/stormwater/status.php		
	☐ Auto Fueling Facility (e.g., gas station)		
	☐ Exterior Vehicles Service, Maintenance, or Equipment Cleaning Area		

	☐ Road Salt Storage and Loading Areas (exposed to rainwater)	
	☐ Outdoor Storage and Loading/Unloading of Hazardous Substances	
3.	**STORMWATER INDUSTRIAL PERMITTING**	
	☐ The site is associated with existing or proposed activities that are considered Land Uses with Higher Potential Pollutant Loads (LUHPPLS) (see RICR 8.14.C)	Activities: Sector:
	☐ Construction is proposed on a site that is subject to THE MULTI-SECTOR GENERAL PERMIT (MSGP) UNDER RULE 31(B)15 OF THE RIPDES REGULATIONS.	MSGP permit #
	☐ Additional stormwater treatment is required by the MSGP Explain:	

REDEVELOPMENT STANDARD – MINIMUM STANDARD 6		
☒ Pre Construction Impervious Area		
	☒ Total Pre-Construction Impervious Area (**TIA**) 0 acres	
	☒ Total Site Area (**TSA**) 9.78 acres	
	☒ Jurisdictional Wetlands (**JW**) 8.80 acres	
	☒ Conservation Land (**CL**) 0 acres	
☒ Calculate the Site Size (defined as contiguous properties under same ownership)		
	☒ Site Size (**SS**) = (**TSA**) – (**JW**) – (**CL**) 0.98 acres	
	☒ (**TIA**) / (**SS**) = 0	☒ (**TIA**) / (**SS**) >**0.4**? NO
☐ YES, Redevelopment		

PART 2. LOW IMPACT DEVELOPMENT ASSESSMENT – MINIMUM STANDARD 1

(NOT REQUIRED FOR REDEVELOPMENT OR RETROFITS)

This section may be deleted if not required.

Note: A written description must be provided specifying why each method is not being used or is not applicable at the Site. Appropriate answers may include:

- Town requires … (state the specific local requirement)
- Meets Town's dimensional requirement of …
- Not practical for site because …
- Applying for waiver/variance to achieve this (pending/approved/denied)
- Applying for wavier/variance to seek relief from this (pending/approved/denied)

A) PRESERVATION OF UNDISTURBED AREAS, BUFFERS, AND FLOODPLAINS	**IF NOT IMPLEMENTED, EXPLAIN HERE**
☒ Sensitive resource areas and site constraints are identified (required) ☒ Local development regulations have been reviewed (required) ☐ All vegetated buffers and coastal and freshwater wetlands will be protected during and after construction ☐ Conservation Development or another site design technique has been incorporated to protect open space and pre-development hydrology. **Note:** If Conservation Development has been used, check box and skip to Subpart C ☐ As much natural vegetation and pre-development hydrology as possible has been maintained	Building and parking areas have been designed to minimize disturbances to the maximum extent practicable. Approximately 4,720 sf of wetland area is proposed to be disturbed during this project. The wetland has previously been determined to hold little to no environmental value.

B) LOCATE DEVELOPMENT IN LESS SENSITIVE AREAS AND WORK WITH THE NATURAL LANDSCAPE CONDITIONS, HYDROLOGY, AND SOILS ☐ Development sites and building envelopes have been appropriately distanced from wetlands and waterbodies ☐ Development and stormwater systems have been located in areas with greatest infiltration capacity (e.g., soil groups A and B) ☐ Plans show measures to prevent soil compaction in areas designated as Qualified Pervious Areas (QPA's) ☒ Development sites and building envelopes have been positioned outside of floodplains ☒ Site design positions buildings, roadways and parking areas in a manner that avoids impacts to surface water features ☒ Development sites and building envelopes have been located to minimize impacts to steep slopes (≥15%) ☐ Other (describe):	Building and parking areas have been designed to minimize disturbances to the maximum extent practicable.
C) MINIMIZE CLEARING AND GRADING ☒ Site clearing has been restricted to minimum area needed for building footprints, development activities, construction access, and safety. ☒ Site has been designed to position buildings, roadways, and parking areas in a manner that minimizes grading (cut and fill quantities) ☐ Protection for stands of trees and individual trees and their root zones to be preserved has been specified, and such protection extends at least to the tree canopy drip line(s) ☐ Plan notes specify that public trees removed or damaged during construction shall be replaced with equivalent	
D) REDUCE IMPERVIOUS COVER ☐ Reduced roadway widths (≤22 feet for ADT ≤ 400; ≤ 26 feet for ADT 400 - 2,000) ☐ Reduced driveway areas (length minimized via reduced ROW width (≤ 45 ft.) and/or reduced (or absolute minimum) front yard setback; width minimized to ≤ 9 ft. wide one lane; ≤ 18 ft. wide two lanes; shared driveways; pervious surface) ☐ Reduced building footprint: Explain approach: ☐ Reduced sidewalk area (≤ 4 ft. wide; one side of the street; unpaved path; pervious surface) ☐ Reduced cul-de-sacs (radius < 45 ft; vegetated island; alternative turn-around) ☐ Reduced parking lot area: Explain approach ☐ Use of pervious surfaces for driveways, sidewalks, parking areas/overflow parking areas, etc. ☒ Minimized impervious surfaces (project meets or is less than maximum specified by Zoning Ordinance) ☐ Other (describe):	
E) DISCONNECT IMPERVIOUS AREA ☐ Impervious surfaces have been disconnected, and runoff has been diverted to QPAs to the maximum extent possible ☐ Residential street edges allow side-of-the-road drainage into vegetated open swales ☐ Parking lot landscaping breaks up impervious expanse AND accepts runoff ☒ Other (describe):	Multiple BMPs are proposed for this site. Impervious areas are divided between the separate BMPs.
F) MITIGATE RUNOFF AT THE POINT OF GENERATION ☒ Small-scale BMPs have been designated to treat runoff as close as possible to the source	

G) PROVIDE LOW-MAINTENANCE NATIVE VEGETATION ☒ Low-maintenance landscaping has been proposed using native species and cultivars ☐ Plantings of native trees and shrubs in areas previously cleared of native vegetation are shown on site plan ☐ Lawn areas have been limited/minimized, and yards have been kept undisturbed to the maximum extent practicable on residential lots	
H) RESTORE STREAMS/WETLANDS ☐ Historic drainage patterns have been restored by removing closed drainage systems, daylighting buried streams, and/or restoring degraded stream channels and/or wetlands ☐ Removal of invasive species ☐ Other	Approximately 4,720 sf of wetland area is proposed to be disturbed during this project. The wetland has been previously determined to hold little to no environmental value. Disturbances have been minimized to the maximum extent practicable.

PART 3. SUMMARY OF REMAINING STANDARDS

GROUNDWATER RECHARGE – MINIMUM STANDARD 2		
YES	**NO**	
☒	☐	The project has been designed to meet the groundwater recharge standard.
☐	☐	If "No," the justification for groundwater recharge criterion waiver has been explained in the Narrative (e.g., threat of groundwater contamination or physical limitation), if applicable (see RICR 8.8.D);
☐	☐	Your waiver request has been explained in the Narrative, if applicable.
☐	☒	Is this site identified as a Regulated Facility in Part 1, Minimum Standard 8: LUHPPL Identification?
☐	☐	If "Yes," has approval for infiltration by the Office of Waste Management Site Project Manager, per Part 1, Minimum Standard 8, been requested?

TABLE 2-1: Summary of Recharge (see RISDISM Section 3.3.2)
(Add or Subtract Rows as Necessary)

Design Point	**Impervious Area Treated (sq ft)**	**Total Re_v Required (cu ft)**	**LID Stormwater Credits (see RISDISM Section 4.6.1)**	**Recharge Required by Remaining BMPs (cu ft)**	**Recharge Provided by BMPs (cu ft)**
			Portion of Re_v directed to a QPA (cu ft)		
DP-1:	50,181	418		418	4,748
TOTALS:					

Notes:
1. Only BMPs listed in RISDISM Table 3-5 "List of BMPs Acceptable for Recharge" may be used to meet the recharge requirement.
2. Recharge requirement must be satisfied for each waterbody ID.

☒ Indicate where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.):

Stormwater Report

WATER QUALITY – MINIMUM STANDARD 3		
YES	**NO**	
☒	☐	Does this project meet or exceed the required water quality volume WQv (see RICR 8.9.E-I)?
☒	☐	Is the proposed final impervious cover greater than 20% of the disturbed area (see RICR 8.9.E-I)?
☒	☐	If "Yes," either the Modified Curve Number Method or the Split Pervious/Impervious method in Hydro-CAD was used to calculate WQv; or,
☐	☐	If "Yes," either TR-55 or TR-20 was used to calculate WQv; and,
☐	☐	If "No," the project meets the minimum WQv of 0.2 watershed inches over the entire disturbed area.
☐	☐	Not Applicable
☒	☐	Does this project meet or exceed the ability to treat required water quality flow WQf (see RICR 8.9.I.1-3)?
☐	☒	Does this project propose an increase of impervious cover to a receiving water body with impairments? If "Yes," please indicate below the method that was used to address the water quality requirements of no further degradation to a low-quality water.
☐	☒	RICR 8.36. A Pollutant Loading Analysis is needed and has been completed.
☒	☐	The Water Quality Guidance Document (Water Quality Goals and Pollutant Loading Analysis Guidance for Discharges to Impaired Waters) has been followed as applicable.
☐	☒	BMPs are proposed that are on the approved technology list . If "Yes," please provide all required worksheets from the manufacturer.
☐	☒	Additional pollutant-specific requirements and/or pollutant removal efficiencies are applicable to the site as the result of a TMDL, SAMP, or other watershed-specific requirements. If "Yes," please describe:

TABLE 3-1: Summary of Water Quality (see RICR 8.9)

Design Point and WB ID	Impervious area treated (sq ft)	Total WQ_v Required (cu ft)	LID Stormwater Credits (see RICR 8.18) WQv directed to a QPA (cu ft)	Water Quality Treatment Remaining (cu ft)	Water Quality Provided by BMPs (cu ft)
DP-1:	50,181	4,182		4,182	4,748
DP-2:					
DP-3:					
DP-4:					
TOTALS:					

Notes:
1. Only BMPs listed in RICR 8.20 and 8.25 or the Approved Technologies List of BMPs is Acceptable for Water Quality treatment.
2. For each Design Point, the Water Quality Volume Standard must be met for each Waterbody ID.

☒ YES ☐ NO	This project has met the setback requirements for each BMP. If "No," please explain:

☒ Indicate where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.):
Stormwater Report

CONVEYANCE AND NATURAL CHANNEL PROTECTION (RICR 8.10) – MINIMUM STANDARD 4		
YES	**NO**	
☐	☒	Is this standard waived? If "Yes," please indicate one or more of the reasons below:
		☐ The project directs discharge to a large river (i.e., 4th-order stream or larger. See RISDISM Appendix I for State-wide list and map of stream orders), bodies of water >50.0 acres in surface area (i.e., lakes, ponds, reservoirs), or tidal waters. ☐ The project directs is a small facility with impervious cover of less than or equal to 1 acre. ☐ The project has a post-development peak discharge rate from the facility that is less than 2 cfs for the 1-year, 24-hour Type III design storm event (prior to any attenuation). (Note: LID design strategies can greatly reduce the peak discharge rate).
☒	☐	Conveyance and natural channel protection for the site have been met. If "No,' explain why:

TABLE 4-1: Summary of Channel Protection Volumes (see RICR 8.10)					
Design Point	**Receiving Water Body Name**	**Coldwater Fishery? (Y/N)**	**Total CPv Required (cu ft)**	**Total CPv Provided (cu ft)**	**Average Release Rate Modeled in the 1-yr storm (cfs)**
DP-1:	Silver Creek	N	8,268	8,268	0.27
DP-2:					
DP-3:					
DP-4:					
TOTALS:					
Note: The Channel Protection Volume Standard must be met in each waterbody ID.					
☒ YES ☐ NO	The CPv is released at roughly a uniform rate over a 24-hour duration (see examples of sizing calculations in Appendix D of the RISDISM).				
☐ YES ☒ NO	Do additional design restrictions apply resulting from any discharge to cold-water fisheries; If "Yes," please indicate restrictions and solutions below.				
☒ Indicate below where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.). Stormwater Report					

OVERBANK FLOOD PROTECTION (RICR 8.11) AND OTHER POTENTIAL HIGH FLOWS – MINIMUM STANDARD 5			
YES	**NO**		
☐	☒	Is this standard waived? If yes, please indicate one or more of the reasons below:	
		☐	The project directs discharge to a large river (i.e., 4th-order stream or larger. See Appendix I for state-wide list and map of stream orders), bodies of water >50.0 acres in surface area (i.e., lakes, ponds, reservoirs), or tidal waters.
		☐	A Downstream Analysis (see RICR 8.11.D and E) indicates that peak discharge control would not be beneficial or would exacerbate peak flows in a downstream tributary of a particular site (e.g., through coincident peaks).
☐	☒	Does the project flow to an MS4 system or subject to other stormwater requirements? If "Yes," indicate as follows:	
		☐	RIDOT
		☐	Other (specify):
Note: The project could be approved by RIDEM but not meet RIDOT or Town standards. RIDOT's regulations indicate that post-volumes must be **less** than pre-volumes for the 10-yr storm at the design point entering the RIDOT system. If you have not already received approval for the discharge to an MS4, please explain below your strategy to comply with RIDEM and the MS4.			
		Indicate below which model was used for your analysis. ☐ TR-55 ☐ TR-20 ☒ HydroCAD ☐ Bentley/Haestad ☐ Intellisolve ☐ Other (Specify):	
YES	**NO**		
☒	☐	Does the drainage design demonstrate that flows from the 100-year storm event through a BMP will safely manage and convey the 100-year storm? If "No," please explain briefly below and reference where in the application further documentation can be found (i.e., name of report/document, page numbers, appendices, etc.):	
☒	☐	Do off-site areas contribute to the sub-watersheds and design points? If "Yes,"	
☒	☐	Are the areas modeled as "present condition" for both pre- and post-development analysis?	
☒	☐	Are the off-site areas shown on the subwatershed maps?	
☒	☐	Does the drainage design confirm safe passage of the 100-year flow through the site for off-site runoff?	
☐	☒	Is a Downstream Analysis required (see RICR 8.11.E.1)?	
☒	☐	Calculate the following:	
		☒	Area of disturbance within the sub-watershed (areas) 1.74
		☒	Impervious cover (%) 12%
☐	☒	Is a dam breach analysis required (earthen embankments over six (6) feet in height, or a capacity of 15 acre-feet or more, and contributes to a significant or high hazard dam)?	
☒	☐	Does this project meet the overbank flood protection standard?	

Table 5-1 Hydraulic Analysis Summary								
Subwatershed (Design Point)	**1.2" Peak Flow** (cfs) **		**1-yr Peak Flow** (cfs)		**10-yr Peak Flow** (cfs)		**100-yr Peak Flow** (cfs)	
	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)
DP-1:	0.18	0.10	2.34	0.99	6.50	4.99	14.58	10.39
DP-2:								
DP-3:								
DP-4:								
TOTALS:								

** Utilize modified curve number method or split pervious /impervious method in HydroCAD.

Note: The hydraulic analysis must demonstrate no impact to each individual subwatershed DP unless each DP discharges to the same wetland or water resource.

Indicate as follows where the pertinent calculations and/or information for the items above are provided	**Name of report/document, page numbers, appendices, etc.**
Existing conditions analysis for each subwatershed, including curve numbers, times of concentration, runoff rates, volumes, and water surface elevations showing methodologies used and supporting calculations.	Stormwater Report
Proposed conditions analysis for each subwatershed, including curve numbers, times of concentration, runoff rates, volumes, water surface elevations, and routing showing the methodologies used and supporting calculations.	Stormwater Report
Final sizing calculations for structural stormwater BMPs, including contributing drainage area, storage, and outlet configuration.	Stormwater Report
Stage-storage, inflow and outflow hydrographs for storage facilities (e.g., detention, retention, or infiltration facilities).	Stormwater Report

Table 5-2 Summary of Best Management Practices											
BMP ID	**DP #**	**BMP Type** (e.g., bioretention, tree filter)	**BMP Functions**					**Bypass Type**	**Horizontal Setback Criteria are met per RICR 8.21.B.10, 8.22.D.11, and 8.35.B.4**		
			Pre-Treatment (Y/N/ NA)	Re_v	WQ_v	CP_v (Y/N/ NA)	Overbank Flood Reduction (Y/N/NA)	External (E) Internal (I) or NA	Yes/ No	Technical Justification (Design Report page number)	Distance Provided
UIS-A	1	Underground Infiltration	Y	Y	Y	NA	N	I	Y	Section 3.3	12.6 ft
SF-B	1	Sand Filter	Y	Y	Y	NA	N	I	Y	Section 3.3	24.0 ft
UDS-A	1	Underground Detention	N	N	N	Y	Y	NA	Y	Section 3.3	15.0 ft
		TOTALS:									

Table 5.3 Summary of Soils to Evaluate Each BMP									
DP #	**BMP ID**	**BMP Type** (e.g., bioretention, tree filter)	**Soils Analysis for Each BMP**						
			Test Pit ID# and Ground Elevation		SHWT Elevation (ft)	Bottom of Practice Elevation* (ft)	Separation Distance Provided (ft)	Hydrologic Soil Group (A, B, C, D)	Exfiltration Rate Applied (in/hr)
			Primary	Secondary					
1	UIS-A	Underground Infiltration	TP-4	-	73.00	70.00	3.0	D	0.52
1	SF-B	Sand Filter	TP-6	-	69.00	66.00	3.0	D	0.52
		TOTALS:							

* For underground infiltration systems (UICs) bottom equals bottom of stone, for surface infiltration basins bottom equals bottom of basin, for filters bottom equals interface of storage and top of filter layer

LAND USES WITH HIGHER POTENTIAL POLLUTANTS LOADS (LUHPPLs) – MINIMUM STANDARD 8			
YES	**NO**	**N/A**	
☐	☐	☒	Describe any LUHPPLs identified in Part 1, Minimum Standard 8, Section 2. If not applicable, continue to Minimum Standard 9.
☐	☐	☒	Are these activities already covered under an MSGP? If "No," please explain if you have applied for an MSGP or intend to do so?
☐	☐	☒	List the specific BMPs that are proposed for this project that receive stormwater from LUHPPL drainage areas. These BMP types must be listed in RISDISM Table 3-3, "Acceptable BMPs for Use at LUHPPLs." Please list BMPs:
☐	☐	☒	Additional BMPs, or additional pretreatment BMP's if any, that meet RIPDES MSGP requirements; Please list BMPs:
			Indicate below where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.).

ILLICIT DISCHARGES – MINIMUM STANDARD 9			
Illicit discharges are defined as unpermitted discharges to Waters of the State that do not consist entirely of stormwater or uncontaminated groundwater, except for certain discharges identified in the RIPDES Phase II Stormwater General Permit.			
YES	**NO**	**N/A**	
☒	☐	☐	Have you checked for illicit discharges?
☐	☒	☐	Have any been found and/or corrected? If "Yes," please identify.
☒	☐	☐	Does your report explain preventative measures that keep non-stormwater discharges out of the Waters of the State (during and after construction)?

Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8)

SOIL EROSION AND SEDIMENT CONTROL (SESC) – MINIMUM STANDARD 10				
YES	**NO**	**N/A**		
☒	☐	☐	Have you included a Soil Erosion and Sediment Control Plan Set and/or Complete Construction Plan Set?	
☒	☐	☐	Have you provided a **separately-bound** document based upon the SESC Template? If yes, proceed to Minimum Standard 11 (the following items can be assumed to be addressed).	
			If "No," include a document with your submittal that addresses the following elements of an SESC Plan:	
			☐	Soil Erosion and Sediment Control Plan Project Narrative, including a description of how the fifteen (15) Performance Criteria have been met:
			☐	Provide Natural Buffers and Maintain Existing Vegetation
			☐	Minimize Area of Disturbance
			☐	Minimize the Disturbance of Steep Slopes
			☐	Preserve Topsoil
			☐	Stabilize Soils
			☐	Protect Storm Drain Inlets
			☐	Protect Storm Drain Outlets
			☐	Establish Temporary Controls for the Protection of Post-Construction Stormwater Control Measures
			☐	Establish Perimeter Controls and Sediment Barriers
			☐	Divert or Manage Run-On from Up-Gradient Areas
			☐	Properly Design Constructed Stormwater Conveyance Channels
			☐	Retain Sediment On-Site
			☐	Control Temporary Increases in Stormwater Velocity, Volume, and Peak Flows
			☐	Apply Construction Activity Pollution Prevention Control Measures
			☐	Install, Inspect, and Maintain Control Measures and Take Corrective Actions
			☐	Qualified SESC Plan Preparer's Information and Certification
			☐	Operator's Information and Certification; if not known at the time of application, the Operator must certify the SESC Plan upon selection and prior to initiating site activities
			☐	Description of Control Measures, such as Temporary Sediment Trapping and Conveyance Practices, including design calculations and supporting documentation, as required

STORMWATER MANAGEMENT SYSTEM OPERATION, MAINTENANCE, AND POLLUTION PREVENTION PLAN – MINIMUM STANDARDS 7 AND 9		
Operation and Maintenance Section		
YES	**NO**	
☒	☐	Have you minimized all sources of pollutant contact with stormwater runoff, to the maximum extent practicable?
☒	☐	Have you provided a **separately-bound** Operation and Maintenance Plan for the site and for all of the BMPs, and does it address each element of RICR 8.17 and RISDISM Appendix C and E?
☒	☐	Lawn, Garden, and Landscape Management meet the requirements of RISDISM Section G.7? If "No," why not?
☒	☐	Is the property owner or homeowner's association responsible for the stormwater maintenance of all BMP's? If "No," you must provide a legally binding and enforceable maintenance agreement (see RISDISM Appendix E, page 26) that identifies the entity that will be responsible for maintenance of the stormwater. Indicate where this agreement can be found in your report (i.e., name of report/document, page numbers, appendices, etc.).
☐	☒	Do you anticipate that you will need legal agreements related to the stormwater structures? (e.g. off-site easements, deed restrictions, covenants, or ELUR per the Remediation Regulations). If "Yes," have you obtained them? Or please explain your plan to obtain them:

☐	☒	Is stormwater being directed from public areas to private property? If "Yes," note the following: Note: This is not allowed unless a funding mechanism is in place to provide the finances for the long-term maintenance of the BMP and drainage, or a funding mechanism is demonstrated that can guarantee the long-term maintenance of a stormwater BMP by an individual homeowner.
Pollution Prevention Section		
☒	☐	Designated snow stockpile locations?
☒	☐	Trash racks to prevent floatables, trash, and debris from discharging to Waters of the State?
☒	☐	Asphalt-only based sealants?
☐	☒	Pet waste stations? (Note: If a receiving water has a bacterial impairment, and the project involves housing units, then this could be an important part of your pollution prevention plan).
☒	☐	Regular sweeping? Please describe:
☒	☐	De-icing specifications, in accordance with RISDISM Appendix G. (NOTE: If the groundwater is GAA, or this area contributes to a drinking water supply, then this could be an important part of your pollution prevention plan).
☒	☐	A prohibition of phosphate-based fertilizers? (Note: If the site discharges to a phosphorus impaired waterbody, then this could be an important part of your pollution prevention plan).

PART 4. SUBWATERSHED MAPPING AND SITE-PLAN DETAILS

Existing and Proposed Subwatershed Mapping (REQUIRED)			
YES	**NO**		
☒	☐		Existing and proposed drainage area delineations
☒	☐		Locations of all streams and drainage swales
☒	☐		Drainage flow paths, mapped according to the DEM *Guidance for Preparation of Drainage Area Maps* (included in RISDISM Appendix K)
☒	☐		Complete drainage area boundaries; include off-site areas in both mapping and analyses, as applicable
☒	☐		Logs of borings and/or test pit investigations along with supporting soils/geotechnical report
☒	☐		Mapped seasonal high-water-table test pit locations
☒	☐		Mapped locations of the site-specific borings and/or test pits and soils information from the test pits at the locations of the BMPs
☒	☐		Mapped locations of the BMPs, with the BMPs consistently identified on the Site Construction Plans
☒	☐		Mapped bedrock outcrops adjacent to any infiltration BMP
☒	☐		Soils were logged by a:
		☒	DEM-licensed Class IV soil evaluator Name: John Keegan, RI Soil Evaluator D-4008
		☐	RI-registered P.E. Name:

Subwatershed and Impervious Area Summary				
Subwatershed (area to each design point)	**First Receiving Water ID or MS4**	**Area Disturbed (acres)**	**Existing Impervious (acres)**	**Proposed Impervious (acres)**
DP-1: Silver Creek	RI0007026R-01	1.74	0.130	1.152
DP-2:				
DP-3:				
DP-4:				
TOTALS:				

Site Construction Plans (Indicate that the following applicable specifications are provided)		
YES	**NO**	
☒	☐	Existing and proposed plans (scale not greater than 1" = 40') with North arrow
☒	☐	Existing and proposed site topography (with 1 or 2-foot contours); 10-foot contours accepted for off-site areas
☒	☐	Boundaries of existing predominant vegetation and proposed limits of clearing
☒	☐	Site Location clarification
☒	☐	Location and field-verified boundaries of resource protection areas such as: ▸ freshwater and coastal wetlands, including lakes and ponds ▸ coastal shoreline features Perennial and intermittent streams, in addition to Areas Subject to Storm Flowage (ASSFs)
☒	☐	All required setbacks (e.g., buffers, water-supply wells, septic systems)
☒	☐	Representative cross-section and profile drawings, and notes and details of structural stormwater management practices and conveyances (i.e., storm drains, open channels, swales, etc.), which include: ▸ Location and size of the stormwater treatment practices (type of practice, depth, area). Stormwater treatment practices (BMPs) must have labels that correspond to RISDISM Table 5-2; ▸ Design water surface elevations (applicable storms); ▸ Structural details of outlet structures, embankments, spillways, stilling basins, grade-control structures, conveyance channels, etc.; ▸ Existing and proposed structural elevations (e.g., inverts of pipes, manholes, etc.); ▸ Location of floodplain and, if applicable, floodway limits and relationship of site to upstream and downstream properties or drainage that could be affected by work in the floodplain; ▸ Planting plans for structural stormwater BMPs, including species, size, planting methods, and maintenance requirements of proposed planting
☒	☐	Logs of borings and/or test pit investigations along with supporting soils/geotechnical report and corresponding water tables
☒	☐	Mapping of any OWM-approved remedial actions/systems (including ELURs)
☒	☐	Location of existing and proposed roads, buildings, and other structures including limits of disturbance; ▸ Existing and proposed utilities (e.g., water, sewer, gas, electric) and easements; ▸ Location of existing and proposed conveyance systems, such as grass channels, swales, and storm drains, and location(s) of final discharge point(s) (wetland, waterbody, etc.); ▸ Cross sections of roadways, with edge details such as curbs and sidewalks; ▸ Location and dimensions of channel modifications, such as bridge or culvert crossings
☒	☐	Locations, cross sections, and profiles of all stream or wetland crossings and their method of stabilization

1.0 Project Description

The purpose of this report is to specify a Storm Water Management System to be implemented at the new project on Gooding Avenue.

The site totals 9.78 acres located on Assessor's Plat 111 Lot 1 in Bristol, Rhode Island. The site is located south of Gooding Avenue near the intersection of Broadcommon Road. A National Forest to the east of the site provides a buffer between the site and Silver Creek.

The proposed development will include a new 13,364 sf hotel building, associated parking and access driveways. The site will be serviced by public water and sewer. Water will be provided by Bristol Country Water Authority and Sewer will be provided by the Town of Bristol.

The stormwater quality will be improved by utilizing Best Management Practices (BMPs) as established by the RISDISM for the treatment of stormwater runoff from the proposed development. BMPs will consist of a sand filter and underground infiltration/detention system. The systems have been designed to meet the RIDEM Stormwater Design and Installations Standards Manual.

2.0 Site Conditions

2.1 SOILS

There are the following soil types within the analyzed area of the Site as mapped by the NRCS USDA Soil Conservation service:

Soil Symbol	Description	Hydrologic Group
PmA	Pittstown silt loam, 0 to 3 percent slopes	C
PmB	Pittstown silt loam, 3 to 8 percent slopes	C
Se	Stissing silt loam	D

Site specific soil evaluations can be found in Appendix A2.1.

2.2 EXISTING SITE CONDITIONS

Currently the site is undeveloped and predominately woods. All stormwater from the site discharges directly to the onsite wetland areas and ultimately to Silver Creek. The site is largely made up of wetland and perimeter wetland areas and is almost entirely Hydrologic Group D soils. Groundwater tables range from 24" to 36" below existing grade. There is an existing sewer easement that bisects the site.

The entire site slopes diagonally from the higher elevation at the northwest corner along Gooding Avenue to the southeast with all existing slopes < 15%. Stormwater from the site flows overland following the existing slopes. Gooding Avenue has curbing along both sides of the road and a closed drainage network that prevents stormwater from Gooding Avenue from flowing onto the site. However,

a portion of the adjacent residential lots to the west of the site does flow toward the site. These flows have been incorporated into the model.

Currently, none of the existing runoff is treated or detained before being discharged to the wetland. The design point that has been used in modeling the site is the onsite wetland.

2.3 POST SITE CONDITIONS

Following development, the site will be modeled as multiple sub-catchment areas. A small portion of the site to the east will be directed via overland flow first to the Cascade Separator for pretreatment and then to the sand filter (Sand Filter B). An underground detention system (UDS-B) will provide additional storage for the sand filter, allowing a greater volume of water to be stored and infiltrated above the required 1.2" water quality storm.

The main subcatchment of the site contains the proposed building and parking areas. All runoff from the parking areas will be collected in the proposed drainage network and directed to a WQ bypass structure. This structure will direct the WQ storm to the underground infiltration system (UIS-A) and all larger storms to the underground detention system (UDS-A). All runoff from the proposed roof will also tie into the drainage network via roof leader. UDS-A will handle peak mitigation for the site and contains a low flow outlet to meet CPv criteria. Outflows from UDS-A will discharge to the wetland via a culvert and headwall. UIS-A will be equipped with isolator rows to infiltrate 25% of the water quality storm. An isolator row bypass will be used to direct flows to the appropriate areas of the underground infiltration system.

Stormwater from all undetained areas will flow overland as in pre-development conditions. This water will flow overland directly to the wetland. Since all stormwater will continue to be discharged to the wetland, post development conditions have also been modeled with one design point.

The proposed drainage analysis uses stormwater management systems to control and treat runoff from the proposed development. The following BMP's are used on site and have been designed to include the following elements:

- Pretreatment Proprietary Device
    - Pretreatment TSS removal of runoff from roadways and sidewalks
    - Contech's Cascade Separator selected as RIDEM pre-approved product for this application
- Sand Filter
    - Fully infiltrates the 1.2" water quality stormwater event
    - 2.0' of sand media mix including 6" of top soil and 1.5' of sand filter sand for stormwater infiltration
- Underground Infiltration System
    - Stormtech SC-740 Chambers or approved equal
    - Fully infiltrates the 1.2" water quality stormwater event
    - Equipped with isolator rows to infiltrate a minimum of 25% of the WQv
    - Variable depth sand layer to native soil beneath bottom of stone where fill is required

- Underground Detention System
    - Stores Channel Protection Volume (CPv)
    - Provided Overbank Flood Protection (Qp) for the 1-100 year storm events

The above elements are used to meet the design standards of the Rhode Island Stormwater Design and Installation Standard.

The primary goal of increasing water quality treatment is accomplished by providing water quality BMPs. Stormwater runoff mitigation is provided through the use of the underground detention system with a low flow outlet. By reducing post development stormwater flow rate to a level no greater than the pre development rate, the second goal of the proposed drainage system is achieved. Any potential impacts from the proposed development on the abutting properties and wetlands has been mitigated.

3.0 Minimum Standards

The site has been designed to meet the minimum standards as outlined in the Rhode Island Stormwater Design and Installation Standards Manual (RISDISM). The following sections outline how the site meets and exceeds the minimum required standards.

3.1 Minimum Standard 1: LID Site Planning and Design Strategies

See "Appendix A: Stormwater Management Checklist" from the RISDISM provided at the beginning of this report.

3.2 Minimum Standard 2: Groundwater Recharge

Groundwater is to be recharged per watershed based on impervious area coverage in accordance with section 3.2.2 of the RISDISM.

The required recharge volume is based on all impervious area, not just areas which are captured in the proposed BMPs.

Groundwater recharge is determined from the following equation:
Re_V=1"*F*I/12

Where:

Re_V=Groundwater Recharge Volume (ac-ft)

F=Recharge Factor based on Hydrologic Soil Groups (HSG) (see table below)

I=Impervious Area (acres)

HSG	Recharge Factor (F)
A	0.60
B	0.35
C	0.25
D	0.10

Recharge volume for watershed 1 is provided through the use of UIS-A and Sand Filter B. The total impervious on the site is 1.152 acres. The soil has been modeled as HSG D, therefore the total recharge required for the site is 418 cu.ft. See Table 2-1 of the Appendix A checklist for a summary of recharge values.

HydroCAD printouts are available in Appendix A3.2 for the 1.2" water quality storm. The water quality storm is calculated in HydroCAD using the 'calculate separate Pervious/Impervious runoff' option.

3.3 Minimum Standard 3: Water Quality

All stormwater from developed area is treated through an approved BMP before being discharged. This site has been designed to use a sand filter and an underground infiltration system to treat stormwater before either being discharged to the wetland or being stored within the detention system. See the following sand filter design sheet and water quality underground infiltration section for water quality requirements. There are no pollutant-specific requirements and/or pollutant removal efficiencies applicable to the site as the result of SAMP, TMDL, or other watershed-specific requirements.

3.3.1 Sand Filter Calculations

Sand Filter Sizing

Name of Sand Filter: SF-B

Sand Filter Parameters		
At,Total Area to Sand Filter	0.615	(Acres)
Impervious Area To Sand Filter	0.265	(Acres)
d_f, Filter Bed Depth	2.00	(feet)
k, Coefficient of Permeability	3.5	(ft/day)
h_f, Average Height of Water	0.50	(ft)
t_f, Design Filter Bed Drain Time	2.00	(days)
Ponding Depth	12	(in)
Loam Depth	6	(in)

Water Quality Calculations

WQ_v= 1inch x Impervious Area

WQ_v= 962 (Cubic Feet)

Minimum Size of Sand Filter Filter Area

$A_f=(WQ_v)x(d_f)/[(k)x(h_f+d_f)(t_f)]$

Required Af= 110 (Square Feet)

Where A_f is the required filter bed area

Provided Af= 324 (Square Feet)

Sand Filter Pre Treatment

Type of Pre Treatment: Other

Required Water Quality Volume

75% of the WQv must be held within system

Required WQ_v 721 (Cubic Feet)

Volume of Loam	53 (Cubic Feet)
Volume of Ponding	507 (Cubic Feet)
Volume of Voids in Filter Bed	214 (Cubic Feet)
Total	**774 (Cubic Feet)**

3.3.2 Water Quality Underground Infiltration System

The Underground Infiltration System (UIS-A) has been designed as a water quality system. The system has been sized using HydroCAD and an infiltration rate based on a parent material within the footprint of the BMP. The project site largely consists of sandy loam and an infiltration rate was used from table 5.5.4 of the RISDISM. See Appendix A3.2 for HydroCAD printouts for the water quality event. The underground infiltration system has been designed to fully infiltrate the water quality event.

Pretreatment for the underground infiltration system has been provided through the use of isolator rows. The isolator rows have been designed to store and infiltrate a minimum of 25% of the water quality volume.

3.4 Minimum Standard 4: Conveyance and Natural Channel Protection

3.4.1 Drainage Network Design Parameters:

A. PIPES

- All drainage pipes are HDPE or equivalent unless otherwise noted.
- Manning's coefficient = 0.012 for HDPE Pipe
- Diameters & lengths as specified
- The 100-year design storm is utilized for the drainage pipe design to ensure that the drainage system contains and channels water to the BMP areas as shown on the plans.
- The rational method has been used for the closed drainage system.

B. STRUCTURES

- Catch basins – Pre-cast concrete with 2' sump unless otherwise noted and inverts as specified
- Manholes – Pre-cast concrete with inverts as specified.

See the Inlet and Pipe summaries on the following pages designed for the 100-year storm event as noted above. All runoff from the 100-year storm event will be captured in the proposed drainage system without bypassing.

3.4.2 Channel Protection Volume:

The underground detention system has been designed to release the 1 year storm volume over a 24 hour time span in accordance with Section 3.2.4 of the RISDISM. The underground detention system has been designed to hold the full CPv for the site.

Based on site constraints, a sand filter with accompanying detention storage is provided in the northeast portion of the site. The entire water quality (1.2") storm is infiltrated through the practice, however there is a small amount of runoff overflowing the proposed spillway for the 1-year storm. The total volume flowing to the wetland from developed areas during the 1-year storm is only 0.035 ac-ft.

The Channel Protection Volume is determined from the following equation:
$CP_V=0.65V_r$

CP_V=required channel protection storage volume
V_r=runoff volume from the 1-year, 24-hour storm (obtained from HydroCAD)
Average release rate, $CP_{qavg}=V_r/T=Q_{CPv}$
Max Release Rate=$CP_{qmax}=2*CP_{qavg}$
T=extended detention time (24 hours)

BMP / Subcatchment	V_r (cf) To BMP	CP_v (cf) Required (0.65* V_r)	CP_v (cf) BMP Volume Infiltrated	CP_V (cf) Total	Required Max Release Rate (cfs)	Provided Max Release Rate (cfs)
Wetland/Silver Creek	12,719	8,268	6,273	8,268	0.294	HCAD

HydroCAD printouts are available in Appendix A3.5.4.2 for the 1-year storm event.

3.5 Minimum Standard 5: Overbank Flood Protection & Downstream Analysis

3.5.1 Method of Analysis

USDA Soil Conservation Service Method as defined by Technical Release No. 20 (TR-20) determines Stormwater runoff rate and volume. Type III rainfall distribution is utilized. Time of concentration is determined using Technical Release No 55 (TR-55) methodology, through the computer program *HydroCAD ver. 10.0* by Applied Microcomputer Systems.

Soil evaluations have been performed by SITEC, Inc. The existing soil has a texture of sandy loam. Due to the presence of wetland areas and HSG D soils, the soils have been modeled as a loam texture for a more conservative approach. Based on table 5.3 of the RIDISM an infiltration rate of 0.52 in/hr has been used in HydroCAD.

The drainage system has been designed to mitigate all stormwater flows for the 1 through 100 year storm events. The emergency outlets have been sized to handle the 100 year storm event.

3.5.2 Design Storm

Analysis of 1-year, 10-year, 25-year, and 100-year frequency storms are included. The following 24-hour rainfall intensities are obtained from the Rhode Island Stormwater Design and Installation Standards Manual, Table 3-1 for Bristol County.

1 year =	2.8 inches
10 year =	4.9 inches
25 year =	6.1 inches
100 year=	8.6 inches

3.5.3 Design Point Breakdown

The site is analyzed as one watershed area. In the pre development stage there is 1 subcatchment. In the post development stage there are 3 subcatchments. The watershed will demonstrate zero increase in runoff rate due to the proposed development. A description of each subcatchment is summarized as follows:

<u>Design Point #1: Wetland</u>

Watershed #1 flows to Design Point- 1 (DP-1). The design point is the on-site wetland.

In pre development conditions there is only one watershed to the Design Point. Pre-01 (10) contains the entire site and some off-site areas. Stormwater reaches DP-1 (11) via overland flow. Pre-01 is predominately woods with some grass areas along Gooding Avenue. The watershed also includes two residential homes with driveways along Gooding Avenue to the west of the site. A Tc value of 14.6 minutes was used.

In post development conditions there are 3 sub watersheds:

Post-01 (100) contains all undetained areas surrounding the proposed development. These areas will either be grass or undisturbed areas from pre-conditions. Stormwater will reach the design point via overland flow as in existing conditions. Some stormwater will be directed around the proposed

development via a small grassed swale to the west of the parking area. A Tc value of 7.3 minutes was used.

Post-02 (101) collects runoff from the proposed building and parking areas. Stormwater is captured in the proposed drainage network and directed to the WQ bypass structure (102) in the parking area south of the building. This bypass will direct the WQv to UIS-A via the isolator row bypass structure (103). Larger storms will be directed to the peak detention system (UDS-A) (106). Discharges from UDS-A will be directed to the design point through a culvert with a headwall. A Tc value of 6.0 minutes was used.

Post-03 (107) collects runoff from the drive aisle and a small portion of the parking area as well as the walkway and grass areas north of the proposed building to Sand Filter B and Underground Detention System B. Stormwater will flow overland and reach the cascade separator through the pipe network into the Sand Filter (109). The sand filter will receive additional storage from Underground Detention System B (110) which is connected by four 6" culverts. Larger storms will be discharged via overflow spillway and directed to the design point. A Tc value of 6.0 minutes was used.

Below is a summary of the hydrologic parameters for the pre and post development sub-areas in Design Point-1.

	Area (acres)	CN	Tc (min)
Pre-01	2.765	78	14.6
Post-01	0.858	79	7.3
Post-02	1.334	91	6.0
Post-03	0.572	88	6.0

3.5.4 Q_p BMP Calculations

This section includes calculations for the Qp BMPs for the site. Calculations include Rip Rap Aprons and the Emergency Outlet Calculations.

The underground detention system has been sized to safely pass the 100 year storm without overtopping the system. The outlet control structure will be equipped with an overflow weir. In the event that an outlet is clogged or not functioning, stormwater would flow over the weir and through the culvert to the wetland. See attached HydroCAD.

Outlet Protection

A rip rap apron and level spreader have been designed at the drainage pipe discharge from the underground detention system. The rip rap apron is designed to prevent scour at the storm water outlet and to minimize the potential for downstream erosion by reducing the velocity of concentrated storm water flows. See calculations on the following page. A level spreader is also proposed at the end of the rip rap apron of the underground detention system.

3.5.5 Downstream Analysis

A downstream analysis is required under the following conditions:

Area of Disturbance (Acres)	Impervious Cover (%)
>5 to 10	>75
>10 to 25	>50
>25 to 50	>25
>50	All Projects

The total site is 9.78 acres. The project proposes to disturb 1.74 acres and is 1.152 acres of impervious. This is approximately 12% impervious cover. Since the disturbed area is less than 5 acres, a downstream analysis is not required. However, in order to provide a comparison of flows with respect to a stream that historically floods (Silver Creek), we have provided a Downstream Summary in Appendix A3.5.4.7.

3.5.6 Overbank Flood Protection Conclusion

The tables below present a summary of the pre development flows vs. the mitigated post development 1flows. The table shows a decrease in the rate of runoff for all storms included in the analysis.

Pre Development Flows vs. Post Development Flows Mitigated

Watershed #1: (DP-1)

Subwatershed (design point)	**1-yr Peak Flow**		**10-yr Peak Flow**		**25-yr Peak Flow**		**100-yr Peak Flow**	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**
DP-1:	2.34	0.99	6.50	4.99	9.08	6.75	14.58	10.39

All flows in cubic feet per second (cfs)

As shown in the tables above, no increase in stormwater runoff rate will occur following the proposed construction during the 1 through 100 year storm events.

Also note that, due to concerns within the overall Silver Creek watershed and constraints therein, the applicant is also demonstrating that the proposed stormwater system will result in a decrease in runoff volume.

Watershed #1: (DP-1)

Sub-watershed (design point)	1-yr Volume		10-yr Volume		25-yr Volume		100-yr Volume	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
DP-1:	0.228	0.131	0.605	0.421	0.845	0.639	1.371	1.182

All flows in acre feet per second (af)

As shown in the tables above, no increase in stormwater runoff volume will occur following the proposed construction during the 1 through 100 year storm events.

3.6 Minimum Standard 6: Redevelopment and Infill Projects.

The site is not classified as a redevelopment or infill project.

3.7 Minimum Standard 7: Pollution Prevention

A Soil Erosion and Sediment Control Plan (SESC) for this development can be found under a separate document. See the Soil Erosion and Sediment Control Plan for the development prepared by DiPrete Engineering. The SESC contains information for construction pollution prevention. For post construction pollution prevention see the Operations and Maintenance (O&M) document prepared for this development by DiPrete Engineering.

3.8 Minimum Standard 8: Land Uses with High Potential Pollutant Loads (LUHPPLs)

The site is not considered LUHHPL.

3.9 Minimum Standard 9: Illicit Discharges

There are no proposed Illicit Discharges on site. The site will be serviced by public water and sewer.

3.10 Minimum Standard 10: Construction Activity Soil Erosion, Runoff and Sedimentation and Pollution Prevention Control Measure Requirements

See the SESC for this development prepared by DiPrete Engineering.

3.11 Minimum Standard 11: Stormwater Management System Operation and Maintenance

See the O&M for this development prepared by DiPrete Engineering.

Appendix A

A2.1 Soil Evaluations

Hotel Development
Gooding Avenue
Bristol, Rhode Island

Test Pits to Determine Groundwater
John Keegan RI Soil Evaluator D-4008
12/12/14

TestPit#	Depth	Horizon	Texture	Color	REDOX	Depth
1	0"-12"	Ap	SL	10YR 3/2		
	12"-20"	Bw1	SL	2.5Y4/4		
	20"- 24"	Bw2	SL	5Y4/3	m2p 10YR4/4	24"
	24"-72"	Cd	SL	5Y 5/1	m3p 10YR4/4	36"

Till becomes denser and rocky with depth
Hole is dry

TestPit#	Depth	Horizon	Texture	Color	REDOX	Depth
2	0"-12"	Ap	SL	10YR 3/2		
	12"-20"	Bw1	SL	2.5Y4/4		
	20"- 30"	Bw2	SL	5Y4/3	m2p 10YR4/4	30"
	30"-77"	Cd	SL	5Y 5/1	m3p 10YR4/4	32"

Till becomes denser and rocky with depth
Hole is dry

TestPit#	Depth	Horizon	Texture	Color	REDOX	Depth
3	0"-12"	Ap	SL	10YR 3/2		
	12"-20"	Bw1	SL	2.5Y4/4		
	20"- 30"	Bw2	SL	5Y4/3	m2p 10YR4/4	28"
	30"-72"	Cd	SL	5Y 5/1	m3p 10YR4/4	32"

Till becomes denser and rocky with depth
Hole is dry

TestPit#	Depth	Horizon	Texture	Color	REDOX	Depth
4	0"-12"	Ap	SL	10YR 3/2		
	12"-20"	Bw1	SL	2.5Y4/4		
	20"- 30"	Bw2	SL	5Y4/3	m2p 10YR4/4	30"
	30"-72"	Cd	SL	5Y 5/1	m3p 10YR4/4	32"

Till becomes denser and rocky with depth
Hole is dry

TestPit#	Depth	Horizon	Texture	Color	REDOX	Depth
5	0"-12"	Ap	SL	10YR 3/2		
	12"-20"	Bw1	SL	2.5Y4/4		
	20"- 30"	Bw2	SL	5Y4/3	m2p 10YR4/4	28"
	30"-60"	Cd	SL	5Y 5/1	m3p 10YR4/4	32"

Till becomes denser and rocky with depth
Hole is dry

Hotel Development
Gooding Avenue
Bristol, Rhode Island

TestPit#	Depth	Horizon	Texture	Color	REDOX	Depth
6	0"-12"	Ap	SL	10YR 3/2		
	12"-20"	Bw1	SL	2.5Y4/4		
	20"- 36"	Bw2	SL	5Y4/3	m2p 10YR4/4	36"
	36"-77"	Cd	SL	5Y 5/1	m3p 10YR4/4	38"

Sandy lenses and Mixing at 30"
Till becomes denser and rocky with depth
Hole is dry

TestPit#	Depth	Horizon	Texture	Color	REDOX	Depth
7	0"-12"	Ap	SL	10YR 3/2		
	12"-20"	Bw1	SL	2.5Y4/4		
	20"- 36"	Bw2	SL	5Y4/3	m2p 10YR4/4	36"
	36"-72"	Cd	SL	5Y 5/1	m3p 10YR4/4	38"

Till becomes denser and rocky with depth
Hole is dry

A3.2 Water Quality HydroCAD 1.2” Storm Analysis

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 10: WPre-01 Runoff Area=2.765 ac 4.59% Impervious Runoff Depth=0.14"
Flow Length=409' Tc=14.6 min CN=77/98 Runoff=0.17 cfs 0.033 af

Subcatchment 100: WPost-01 Runoff Area=0.858 ac 10.02% Impervious Runoff Depth=0.19"
Flow Length=339' Tc=7.3 min CN=77/98 Runoff=0.10 cfs 0.014 af

Subcatchment 101: WPost-02 Runoff Area=1.334 ac 68.74% Impervious Runoff Depth=0.71"
Tc=6.0 min CN=77/98 Runoff=1.01 cfs 0.079 af

Subcatchment 107: WPost-03 Runoff Area=0.572 ac 48.25% Impervious Runoff Depth=0.55"
Tc=6.0 min CN=80/98 Runoff=0.33 cfs 0.026 af

Reach 11: Wetland Inflow=0.17 cfs 0.033 af
Outflow=0.17 cfs 0.033 af

Reach 111: Wetland Inflow=0.10 cfs 0.014 af
Outflow=0.10 cfs 0.014 af

Pond 102: Qp/WQ ByPass Peak Elev=74.89' Inflow=1.01 cfs 0.079 af
Primary=1.01 cfs 0.079 af Secondary=0.00 cfs 0.000 af Outflow=1.01 cfs 0.079 af

Pond 103: Isolator ByPass Peak Elev=74.03' Inflow=1.01 cfs 0.079 af
Primary=1.01 cfs 0.065 af Secondary=0.08 cfs 0.014 af Outflow=1.01 cfs 0.079 af

Pond 104: UIS A (Isolator Row) with Peak Elev=74.03' Storage=1,935 cf Inflow=1.01 cfs 0.065 af
Outflow=0.01 cfs 0.065 af

Pond 105: UIS A with Underground Sand Filter Peak Elev=70.08' Storage=91 cf Inflow=0.08 cfs 0.014 af
Outflow=0.04 cfs 0.014 af

Pond 106: UDS A Peak Elev=70.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Pond 109: Sand Filter B Peak Elev=69.75' Storage=897 cf Inflow=0.33 cfs 0.026 af
Discarded=0.00 cfs 0.021 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.021 af

A3.4.2 Drainage Network Hydraulic Calculations

DiPrete Engineering
Engineers • Planners • Surveyors

Project Name: Gooding Avenue 25-Year Sto
Project Number: 2536-001 Date: 2/28/2024

Pipe Analysis

Pipe ID	Pipe Length	Pipe Size	Pipe Slope	Flow Rate	Capacity Full	Velocity	Invert Down	Invert Up
	(ft)	(in)	(%)	(cfs)	(cfs)	(ft/s)	(Ft)	(ft)
7 - 8	31.23	18	0.50%	4.6	8.05	4.7	73.50	73.66
4 - 7	31.77	18	0.50%	1.8	8.05	3.7	73.66	73.82
3 - 4	70.67	18	0.50%	0.8	8.06	2.9	73.82	74.17
2 - 3	34.57	15	0.50%	0.8	4.95	2.9	74.85	75.02
1 - 2	96.10	8.004	0.50%	0.3	0.93	2.4	75.18	75.66
6 - 7	26.04	15	0.51%	2.9	5.01	4.2	73.90	74.03
5 - 6	89.55	12	0.50%	0.6	2.73	2.8	74.28	74.73
CS-3 - 22	5.51	12	0.50%	2.5	2.73	3.9	69.00	69.03
17 - CS-3	9.18	12	0.50%	2.6	2.73	3.9	69.03	69.07
16 - 17	28.66	12	0.50%	2.6	2.73	4.0	69.07	69.22
12 - 16	39.32	12	6.12%	1.7	9.56	9.2	69.22	71.62
11 - 12	71.81	12	1.00%	0.8	3.86	3.9	71.62	72.34
15 - 16	28.72	12	0.53%	0.5	2.81	2.7	69.22	69.37
14 - 15	93.35	12	1.89%	0.4	5.31	3.8	69.37	71.13
13 - 14	31.42	12	1.00%	0.1	3.86	2.2	71.13	71.44

DiPrete Engineering
Engineers • Planners • Surveyors

Project Name: Gooding Avenue 100-Year St
Project Number: 2536-001 Date: 2/28/2024

Pipe Analysis

Pipe ID	Pipe Length	Pipe Size	Pipe Slope	Flow Rate	Capacity Full	Velocity	Invert Down	Invert Up
	(ft)	(in)	(%)	(cfs)	(cfs)	(ft/s)	(Ft)	(ft)
7 - 8	31.23	18	0.50%	6.0	8.05	5.0	73.50	73.66
4 - 7	31.77	18	0.50%	2.4	8.05	4.0	73.66	73.82
3 - 4	70.67	18	0.50%	1.0	8.06	3.1	73.82	74.17
2 - 3	34.57	15	0.50%	1.0	4.95	3.1	74.85	75.02
1 - 2	96.10	9.996	0.50%	0.4	1.68	2.5	75.18	75.66
6 - 7	26.04	15	0.51%	3.8	5.01	4.5	73.90	74.03
5 - 6	89.55	12	0.50%	0.7	2.73	3.0	74.28	74.73
CS-3 - 22	5.51	12	0.50%	3.3	2.73	4.2	69.00	69.03
17 - CS-3	9.18	12	0.50%	3.3	2.73	4.2	69.03	69.07
16 - 17	28.66	12	0.50%	3.3	2.73	4.2	69.07	69.22
12 - 16	39.32	12	6.12%	2.2	9.56	9.9	69.22	71.62
11 - 12	71.81	12	1.00%	1.1	3.86	4.2	71.62	72.34
15 - 16	28.72	12	0.53%	0.7	2.81	2.9	69.22	69.37
14 - 15	93.35	12	1.89%	0.5	5.31	4.1	69.37	71.13
13 - 14	31.42	12	1.00%	0.1	3.86	2.4	71.13	71.44

DiPrete Engineering
Engineers • Planners • Surveyors

Project Name: Gooding Avenue 100-Year Storm
Project Number: 2536-001 Date: 2/28/2024

HGL at Structure

Structure	Rim Elevation	HGL Elevation	Rim-HGL
	(ft)	(ft)	(ft)
8	78.12	0.00	N/A
7	77.79	76.49	1.31
4	78.13	76.81	1.32
3	78.99	76.85	2.14
2	78.66	76.86	1.80
1	76.94	76.90	0.05
6	77.53	76.80	0.73
5	77.23	77.02	0.21
22	71.01	0.00	N/A
CS-3	71.46	70.87	0.59
17	72.05	71.17	0.89
16	72.48	71.65	0.83
12	75.12	71.95	3.17
11	76.00	73.51	2.50
15	73.60	72.09	1.51
14	76.75	72.12	4.64
13	75.14	72.04	3.11

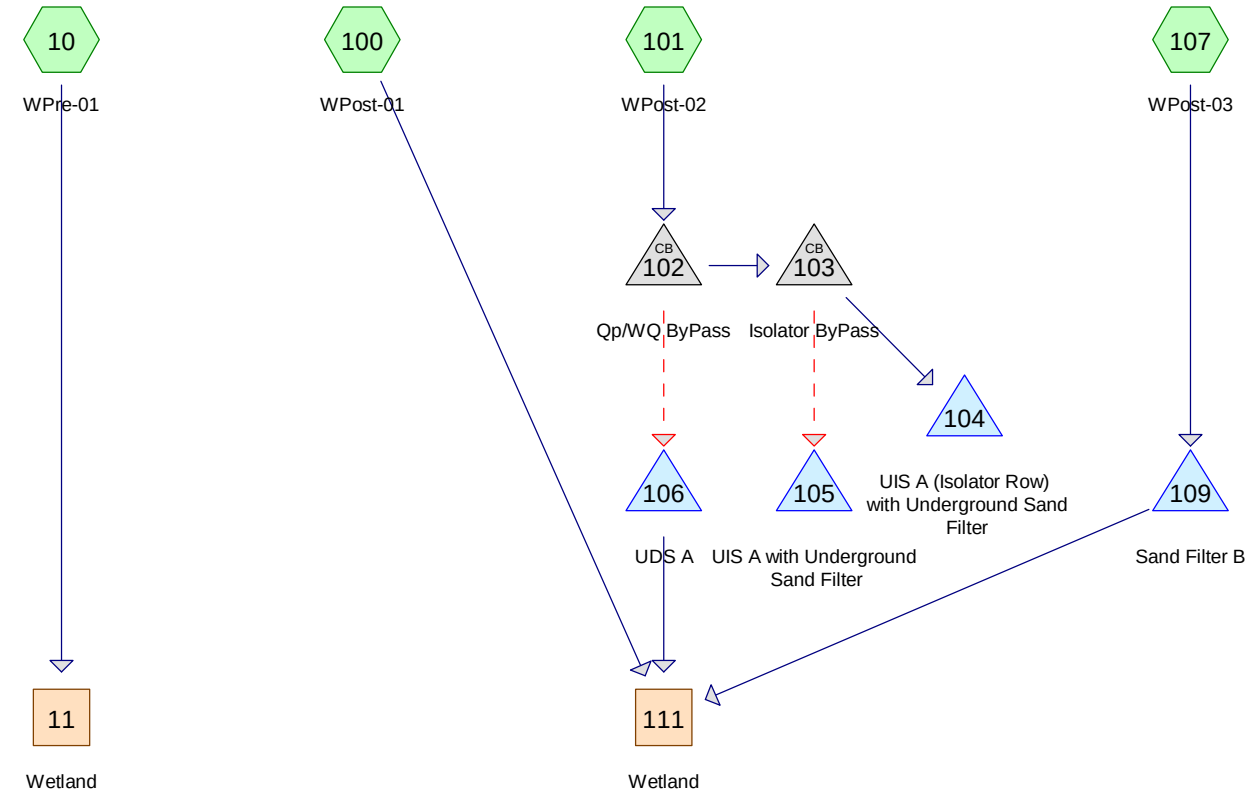
DiPrete Engineering
Engineers • Planners • Surveyors

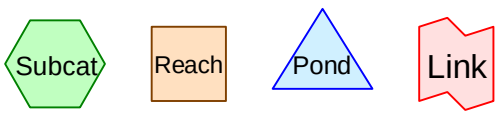
Project Name: Gooding Avenue
Project Number: 2536-001

10-Year Storm
Date: 2/28/2024

Structure	Area	Inlet Time	Intensity	Runoff C	Q=Cia	Q Carry over	Q Captured	Q Bypassed	Bypass Structure	Inlet Type	Curb Opening	Curb Opening	Grate Length	Grate Width	Depth	Spread
	(sf)	(min)	(in/hr)	(C)	(cfs)	(cfs)	(cfs)	(cfs)			(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
6	14,736	6	6.94	0.84	1.99	0	1.99	0.00	---	Grate inlet	---	---	2	2	0.24	24.019
5	3,652	6	6.938	0.81	0.48	0	0.48	0.00	---	Grate inlet	---	---	2	2	0.099	9.865
2	5,863	6	6.938	0.42	0.40	0	0.40	0.00	---	Grate inlet	---	---	2	2	0.088	8.844
4	7,027	6	6.938	0.85	0.96	0	0.96	0.00	---	Grate inlet	---	---	2	2	0.152	15.161
1	4,503	6	6.938	0.34	0.25	0	0.25	0.00	---	Grate inlet	---	---	2	2	0.067	6.714
11	5,075	6	6.938	0.84	0.69	0	0.60	0.09	12	Grate inlet	---	---	2	2	0.145	3.979
12	6,060	6	6.938	0.76	0.74	0.085	0.48	0.34	16	Grate inlet	---	---	2	2	0.075	7.471
16	2,806	6	6.938	0.72	0.32	0.355	0.67	0.01	---	Grate inlet	---	---	2	2	0.106	2.397
14	4,978	6	6.938	0.25	0.20	0.013	0.17	0.04	15	Grate inlet	---	---	2	2	0.06	4.715
13	2,363	6	6.938	0.25	0.10	0	0.08	0.01	14	Grate inlet	---	---	2	2	0.043	4.252
15	2,987	6	6.938	0.29	0.14	0.041	0.17	0.01	16	Grate inlet	---	---	2	2	0.047	3.2

A3.5.4.1 HydroCAD Node Diagram





Routing Diagram for 2536-001-ALLS-PHCD-INHS
Prepared by DiPrete Engineering, Printed 7/25/2024
HydroCAD® 10.20-3g s/n 01125 © 2023 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.972	74	>75% Grass cover, Good, HSG C (10, 100, 101, 107)
0.848	80	>75% Grass cover, Good, HSG D (10, 100, 101, 107)
1.152	98	Impervious (101, 107)
0.254	98	Offsite Impervious (10, 100, 101)
2.303	77	Woods, Good, HSG D (10, 100, 101)
5.529	**82**	**TOTAL AREA**

A3.5.4.2 HydroCAD 1-Year Storm Analysis

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 10: WPre-01 Runoff Area=2.765 ac 4.59% Impervious Runoff Depth=0.99"
Flow Length=409' Tc=14.6 min CN=78 Runoff=2.34 cfs 0.228 af

Subcatchment 100: WPost-01 Runoff Area=0.858 ac 10.02% Impervious Runoff Depth=1.04"
Flow Length=339' Tc=7.3 min CN=79 Runoff=0.97 cfs 0.075 af

Subcatchment 101: WPost-02 Runoff Area=1.334 ac 68.74% Impervious Runoff Depth=1.89"
Tc=6.0 min CN=91 Runoff=2.92 cfs 0.210 af

Subcatchment 107: WPost-03 Runoff Area=0.572 ac 48.25% Impervious Runoff Depth=1.72"
Tc=6.0 min CN=89 Runoff=1.15 cfs 0.082 af

Reach 11: Wetland Inflow=2.34 cfs 0.228 af
Outflow=2.34 cfs 0.228 af

Reach 111: Wetland Inflow=0.99 cfs 0.131 af
Outflow=0.99 cfs 0.131 af

Pond 102: Qp/WQ ByPass Peak Elev=75.94' Inflow=2.92 cfs 0.210 af
Primary=1.26 cfs 0.188 af Secondary=1.67 cfs 0.022 af Outflow=2.92 cfs 0.210 af

Pond 103: Isolator ByPass Peak Elev=74.21' Inflow=1.26 cfs 0.188 af
Primary=1.23 cfs 0.064 af Secondary=1.23 cfs 0.123 af Outflow=1.26 cfs 0.188 af

Pond 104: UIS A (Isolator Row) with Peak Elev=74.21' Storage=2,102 cf Inflow=1.23 cfs 0.064 af
Outflow=0.01 cfs 0.064 af

Pond 105: UIS A with Underground Sand Filter Peak Elev=73.28' Storage=3,841 cf Inflow=1.23 cfs 0.123 af
Outflow=0.04 cfs 0.123 af

Pond 106: UDS A Peak Elev=70.43' Storage=938 cf Inflow=1.67 cfs 0.022 af
Outflow=0.02 cfs 0.022 af

Pond 109: Sand Filter B Peak Elev=70.55' Storage=1,874 cf Inflow=1.15 cfs 0.082 af
Discarded=0.00 cfs 0.021 af Primary=0.25 cfs 0.035 af Outflow=0.26 cfs 0.056 af

A3.5.4.3 HydroCAD 10-Year Storm Analysis

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 10: WPre-01 Runoff Area=2.765 ac 4.59% Impervious Runoff Depth=2.63"
Flow Length=409' Tc=14.6 min CN=78 Runoff=6.50 cfs 0.605 af

Subcatchment 100: WPost-01 Runoff Area=0.858 ac 10.02% Impervious Runoff Depth=2.72"
Flow Length=339' Tc=7.3 min CN=79 Runoff=2.61 cfs 0.194 af

Subcatchment 101: WPost-02 Runoff Area=1.334 ac 68.74% Impervious Runoff Depth=3.89"
Tc=6.0 min CN=91 Runoff=5.82 cfs 0.432 af

Subcatchment 107: WPost-03 Runoff Area=0.572 ac 48.25% Impervious Runoff Depth=3.68"
Tc=6.0 min CN=89 Runoff=2.40 cfs 0.175 af

Reach 11: Wetland Inflow=6.50 cfs 0.605 af
Outflow=6.50 cfs 0.605 af

Reach 111: Wetland Inflow=4.99 cfs 0.421 af
Outflow=4.99 cfs 0.421 af

Pond 102: Qp/WQ ByPass Peak Elev=76.13' Inflow=5.82 cfs 0.432 af
Primary=1.31 cfs 0.332 af Secondary=4.52 cfs 0.099 af Outflow=5.82 cfs 0.432 af

Pond 103: Isolator ByPass Peak Elev=75.14' Inflow=1.31 cfs 0.332 af
Primary=0.33 cfs 0.090 af Secondary=1.29 cfs 0.242 af Outflow=1.31 cfs 0.332 af

Pond 104: UIS A (Isolator Row) with Peak Elev=75.14' Storage=2,918 cf Inflow=0.33 cfs 0.090 af
Outflow=0.01 cfs 0.081 af

Pond 105: UIS A with Underground Sand Filter Peak Elev=75.14' Storage=8,530 cf Inflow=1.29 cfs 0.242 af
Outflow=0.04 cfs 0.214 af

Pond 106: UDS A Peak Elev=71.20' Storage=4,162 cf Inflow=4.52 cfs 0.099 af
Outflow=0.12 cfs 0.099 af

Pond 109: Sand Filter B Peak Elev=70.71' Storage=2,062 cf Inflow=2.40 cfs 0.175 af
Discarded=0.00 cfs 0.022 af Primary=2.33 cfs 0.127 af Outflow=2.34 cfs 0.149 af

A3.5.4.4 HydroCAD 25-Year Storm Analysis

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 10: WPre-01 Runoff Area=2.765 ac 4.59% Impervious Runoff Depth=3.67"
Flow Length=409' Tc=14.6 min CN=78 Runoff=9.08 cfs 0.845 af

Subcatchment 100: WPost-01 Runoff Area=0.858 ac 10.02% Impervious Runoff Depth=3.77"
Flow Length=339' Tc=7.3 min CN=79 Runoff=3.61 cfs 0.269 af

Subcatchment 101: WPost-02 Runoff Area=1.334 ac 68.74% Impervious Runoff Depth=5.06"
Tc=6.0 min CN=91 Runoff=7.47 cfs 0.562 af

Subcatchment 107: WPost-03 Runoff Area=0.572 ac 48.25% Impervious Runoff Depth=4.83"
Tc=6.0 min CN=89 Runoff=3.11 cfs 0.230 af

Reach 11: Wetland Inflow=9.08 cfs 0.845 af
Outflow=9.08 cfs 0.845 af

Reach 111: Wetland Inflow=6.75 cfs 0.639 af
Outflow=6.75 cfs 0.639 af

Pond 102: Qp/WQ ByPass Peak Elev=76.22' Inflow=7.47 cfs 0.562 af
Primary=1.34 cfs 0.375 af Secondary=6.13 cfs 0.187 af Outflow=7.47 cfs 0.562 af

Pond 103: Isolator ByPass Peak Elev=76.15' Inflow=1.34 cfs 0.375 af
Primary=0.30 cfs 0.101 af Secondary=1.32 cfs 0.274 af Outflow=1.34 cfs 0.375 af

Pond 104: UIS A (Isolator Row) with Peak Elev=75.81' Storage=3,368 cf Inflow=0.30 cfs 0.101 af
Outflow=0.01 cfs 0.082 af

Pond 105: UIS A with Underground Sand Filter Peak Elev=75.80' Storage=9,848 cf Inflow=1.32 cfs 0.274 af
Outflow=0.04 cfs 0.217 af

Pond 106: UDS A Peak Elev=71.61' Storage=6,321 cf Inflow=6.13 cfs 0.187 af
Outflow=0.16 cfs 0.187 af

Pond 109: Sand Filter B Peak Elev=70.75' Storage=2,107 cf Inflow=3.11 cfs 0.230 af
Discarded=0.00 cfs 0.022 af Primary=3.04 cfs 0.182 af Outflow=3.04 cfs 0.204 af

A3.5.4.5 HydroCAD 100-Year Storm Analysis

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 10: WPre-01 Runoff Area=2.765 ac 4.59% Impervious Runoff Depth=5.95"
Flow Length=409' Tc=14.6 min CN=78 Runoff=14.58 cfs 1.371 af

Subcatchment 100: WPost-01 Runoff Area=0.858 ac 10.02% Impervious Runoff Depth=6.07"
Flow Length=339' Tc=7.3 min CN=79 Runoff=5.74 cfs 0.434 af

Subcatchment 101: WPost-02 Runoff Area=1.334 ac 68.74% Impervious Runoff Depth=7.52"
Tc=6.0 min CN=91 Runoff=10.86 cfs 0.836 af

Subcatchment 107: WPost-03 Runoff Area=0.572 ac 48.25% Impervious Runoff Depth=7.28"
Tc=6.0 min CN=89 Runoff=4.57 cfs 0.347 af

Reach 11: Wetland Inflow=14.58 cfs 1.371 af
Outflow=14.58 cfs 1.371 af

Reach 111: Wetland Inflow=10.39 cfs 1.182 af
Outflow=10.39 cfs 1.182 af

Pond 102: Qp/WQ ByPass Peak Elev=76.38' Inflow=10.86 cfs 0.836 af
Primary=1.30 cfs 0.382 af Secondary=9.56 cfs 0.454 af Outflow=10.86 cfs 0.836 af

Pond 103: Isolator ByPass Peak Elev=76.23' Inflow=1.30 cfs 0.382 af
Primary=0.44 cfs 0.103 af Secondary=1.21 cfs 0.279 af Outflow=1.30 cfs 0.382 af

Pond 104: UIS A (Isolator Row) with Peak Elev=75.90' Storage=3,412 cf Inflow=0.44 cfs 0.103 af
Outflow=0.01 cfs 0.083 af

Pond 105: UIS A with Underground Sand Filter Peak Elev=75.88' Storage=9,947 cf Inflow=1.21 cfs 0.279 af
Outflow=0.04 cfs 0.222 af

Pond 106: UDS A Peak Elev=72.84' Storage=13,272 cf Inflow=9.56 cfs 0.454 af
Outflow=0.24 cfs 0.450 af

Pond 109: Sand Filter B Peak Elev=70.82' Storage=2,185 cf Inflow=4.57 cfs 0.347 af
Discarded=0.00 cfs 0.022 af Primary=4.50 cfs 0.298 af Outflow=4.51 cfs 0.321 af

Summary for Subcatchment 10: WPre-01

Runoff = 14.58 cfs @ 12.20 hrs, Volume= 1.371 af, Depth= 5.95"
Routed to Reach 11 : Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.60"

	Area (ac)	CN	Description
*	0.127	98	Offsite Impervious
	0.478	74	>75% Grass cover, Good, HSG C
	0.240	80	>75% Grass cover, Good, HSG D
	1.920	77	Woods, Good, HSG D
	2.765	78	Weighted Average
	2.638	77	95.41% Pervious Area
	0.127	98	4.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	37	0.0450	0.13		**Sheet Flow, 1A-1B** Grass: Dense n= 0.240 P2= 3.30"
8.5	63	0.0778	0.12		**Sheet Flow, 1B-1C** Woods: Light underbrush n= 0.400 P2= 3.30"
0.2	41	0.0341	2.97		**Shallow Concentrated Flow, 1C-1D** Unpaved Kv= 16.1 fps
1.3	268	0.0451	3.42		**Shallow Concentrated Flow, 1D-1E** Unpaved Kv= 16.1 fps
14.6	409	Total			

Summary for Subcatchment 100: WPost-01

Runoff = 5.74 cfs @ 12.10 hrs, Volume= 0.434 af, Depth= 6.07"
Routed to Reach 111 : Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.60"

	Area (ac)	CN	Description
*	0.086	98	Offsite Impervious
	0.292	74	>75% Grass cover, Good, HSG C
	0.176	80	>75% Grass cover, Good, HSG D
	0.304	77	Woods, Good, HSG D
	0.858	79	Weighted Average
	0.772	77	89.98% Pervious Area
	0.086	98	10.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0610	0.27		**Sheet Flow, 1A-1B**
					Grass: Short n= 0.150 P2= 3.30"
1.1	239	0.0468	3.48		**Shallow Concentrated Flow, 1B-1C**
					Unpaved Kv= 16.1 fps
7.3	339	Total			

Summary for Subcatchment 101: WPost-02

Runoff = 10.86 cfs @ 12.08 hrs, Volume= 0.836 af, Depth= 7.52"
Routed to Pond 102 : Qp/WQ ByPass

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.60"

	Area (ac)	CN	Description
*	0.876	98	Impervious
*	0.041	98	Offsite Impervious
	0.192	74	>75% Grass cover, Good, HSG C
	0.146	80	>75% Grass cover, Good, HSG D
	0.079	77	Woods, Good, HSG D
	1.334	91	Weighted Average
	0.417	77	31.26% Pervious Area
	0.917	98	68.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Summary for Subcatchment 107: WPost-03

Runoff = 4.57 cfs @ 12.08 hrs, Volume= 0.347 af, Depth= 7.28"
Routed to Pond 109 : Sand Filter B

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.60"

	Area (ac)	CN	Description
*	0.276	98	Impervious
	0.286	80	>75% Grass cover, Good, HSG D
	0.010	74	>75% Grass cover, Good, HSG C
	0.572	89	Weighted Average
	0.296	80	51.75% Pervious Area
	0.276	98	48.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Summary for Reach 11: Wetland

Inflow Area = 2.765 ac, 4.59% Impervious, Inflow Depth = 5.95" for 100-Year event
Inflow = 14.58 cfs @ 12.20 hrs, Volume= 1.371 af
Outflow = 14.58 cfs @ 12.20 hrs, Volume= 1.371 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach 111: Wetland

Inflow Area = 1.430 ac, 25.31% Impervious, Inflow Depth > 9.92" for 100-Year event
Inflow = 10.39 cfs @ 12.10 hrs, Volume= 1.182 af
Outflow = 10.39 cfs @ 12.10 hrs, Volume= 1.182 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Pond 102: Qp/WQ ByPass

Inflow Area = 1.334 ac, 68.74% Impervious, Inflow Depth = 7.52" for 100-Year event
Inflow = 10.86 cfs @ 12.08 hrs, Volume= 0.836 af
Outflow = 10.86 cfs @ 12.08 hrs, Volume= 0.836 af, Atten= 0%, Lag= 0.0 min
Primary = 1.30 cfs @ 12.07 hrs, Volume= 0.382 af
Routed to Pond 103 : Isolator ByPass
Secondary = 9.56 cfs @ 12.08 hrs, Volume= 0.454 af
Routed to Pond 106 : UDS A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 76.38' @ 12.08 hrs
Flood Elev= 78.61'

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	**6.00" Vert. WQ UIS** C= 0.600 Limited to weir flow at low heads
#2	Device 3	75.75'	**6.0' long Weir Plate** 2 End Contraction(s)
#3	Secondary	72.50'	**18.00" Vert. QP Pond** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.29 cfs @ 12.07 hrs HW=76.37' TW=74.49' (Dynamic Tailwater)
↑—**1=WQ UIS** (Orifice Controls 1.29 cfs @ 6.59 fps)

Secondary OutFlow Max=9.54 cfs @ 12.08 hrs HW=76.38' TW=71.44' (Dynamic Tailwater)
↑—**3=QP Pond** (Passes 9.54 cfs of 15.05 cfs potential flow)
↑—**2=Weir Plate** (Weir Controls 9.54 cfs @ 2.59 fps)

Summary for Pond 103: Isolator ByPass

Inflow Area = 1.334 ac, 68.74% Impervious, Inflow Depth = 3.44" for 100-Year event
Inflow = 1.30 cfs @ 12.07 hrs, Volume= 0.382 af
Outflow = 1.30 cfs @ 12.07 hrs, Volume= 0.382 af, Atten= 0%, Lag= 0.0 min
Primary = 0.44 cfs @ 14.98 hrs, Volume= 0.103 af
Routed to Pond 104 : UIS A (Isolator Row) with Underground Sand Filter
Secondary = 1.21 cfs @ 11.72 hrs, Volume= 0.279 af
Routed to Pond 105 : UIS A with Underground Sand Filter

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 76.23' @ 14.98 hrs
Flood Elev= 78.96'

Device	Routing	Invert	Outlet Devices
#1	Primary	73.00'	**15.00" Vert. Isolator Row** C= 0.600 Limited to weir flow at low heads
#2	Device 3	74.00'	**4.0' long Weir Plate** 2 End Contraction(s)
#3	Secondary	73.55'	**15.00" Vert. UIS** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 14.98 hrs HW=75.88' TW=75.89' (Dynamic Tailwater)
↑—**1=Isolator Row** (Controls 0.00 cfs)

Secondary OutFlow Max=1.20 cfs @ 11.72 hrs HW=74.21' TW=74.01' (Dynamic Tailwater)
↑—**3=UIS** (Passes 1.20 cfs of 1.37 cfs potential flow)
↑—**2=Weir Plate** (Weir Controls 1.20 cfs @ 1.47 fps)

Summary for Pond 104: UIS A (Isolator Row) with Underground Sand Filter

Inflow Area = 1.334 ac, 68.74% Impervious, Inflow Depth = 0.92" for 100-Year event
Inflow = 0.44 cfs @ 14.98 hrs, Volume= 0.103 af
Outflow = 0.01 cfs @ 3.88 hrs, Volume= 0.083 af, Atten= 97%, Lag= 0.0 min
Discarded = 0.01 cfs @ 3.88 hrs, Volume= 0.083 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 75.90' @ 14.99 hrs Surf.Area= 1,211 sf Storage= 3,412 cf

Plug-Flow detention time= 1,716.7 min calculated for 0.083 af (81% of inflow)
Center-of-Mass det. time= 1,626.6 min (2,243.5 - 616.9)

Volume	Invert	Avail.Storage	Storage Description
#1	70.00'	1,210 cf	**Sand Filter (Prismatic)** Listed below (Recalc) 3,633 cf Overall x 33.3% Voids
#2A	73.00'	904 cf	**15.00'W x 80.76'L x 3.50'H Field A** -Impervious 4,240 cf Overall - 1,525 cf Embedded = 2,715 cf x 33.3% Voids
#3A	73.50'	1,525 cf	**ADS_StormTech SC-740** x 33 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 3 rows
#4	73.50'	34 cf	**4.00'D x 5.46'H Vertical Cone/Cylinder** x 0.5 -Impervious
		3,673 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
70.00	1,211	0	0
73.00	1,211	3,633	3,633

Device	Routing	Invert	Outlet Devices
#1	Discarded	70.00'	**0.520 in/hr Infilration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.01 cfs @ 3.88 hrs HW=70.09' (Free Discharge)
1=Infilration (Exfiltration Controls 0.01 cfs)

Summary for Pond 105: UIS A with Underground Sand Filter

Inflow	=	1.21 cfs @	11.72 hrs, Volume=	0.279 af
Outflow	=	0.04 cfs @	11.33 hrs, Volume=	0.222 af, Atten= 96%, Lag= 0.0 min
Discarded	=	0.04 cfs @	11.33 hrs, Volume=	0.222 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 75.88' @ 14.96 hrs Surf.Area= 3,526 sf Storage= 9,947 cf

Plug-Flow detention time= 1,748.5 min calculated for 0.222 af (79% of inflow)
Center-of-Mass det. time= 1,681.0 min (2,422.2 - 741.2)

Volume	Invert	Avail.Storage	Storage Description
#1	70.00'	3,509 cf	**Sand Filter (Prismatic)** Listed below (Recalc) 10,539 cf Overall x 33.3% Voids
#2A	73.00'	2,571 cf	**43.50'W x 80.76'L x 3.50'H Field A** -Impervious 12,295 cf Overall - 4,574 cf Embedded = 7,722 cf x 33.3% Voids
#3A	73.50'	4,574 cf	**ADS_StormTech SC-740** x 99 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 9 rows
#4	73.50'	69 cf	**4.00'D x 5.46'H Vertical Cone/Cylinder**
		10,723 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
70.00	3,513	0	0
73.00	3,513	10,539	10,539

Device	Routing	Invert	Outlet Devices
#1	Discarded	70.00'	**0.520 in/hr Infiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.04 cfs @ 11.33 hrs HW=73.50' (Free Discharge)
1=Infiltration (Exfiltration Controls 0.04 cfs)

Summary for Pond 106: UDS A

Inflow = 9.56 cfs @ 12.08 hrs, Volume= 0.454 af
Outflow = 0.24 cfs @ 16.56 hrs, Volume= 0.450 af, Atten= 98%, Lag= 268.4 min
Primary = 0.24 cfs @ 16.56 hrs, Volume= 0.450 af
Routed to Reach 111 : Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 72.84' @ 16.56 hrs Surf.Area= 5,712 sf Storage= 13,272 cf

Plug-Flow detention time= 780.6 min calculated for 0.450 af (99% of inflow)
Center-of-Mass det. time= 776.0 min (1,599.5 - 823.5)

Volume	Invert	Avail.Storage	Storage Description
#1	70.00'	3,495 cf	**60.00" Round CMP_Round 60" - Header** x 2 L= 89.0'
#2	70.00'	19,144 cf	**60.00" Round Pipe Storage** x 13 L= 75.0'
		22,639 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Device 4	70.00'	**1.00" Horiz. Low Flow CPv** C= 0.600 Limited to weir flow at low heads
#2	Device 4	70.65'	**2.00" W x 2.00" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 4	74.50'	**4.0' long x 0.5' breadth Outlet Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Primary	69.00'	**12.00" Round Culvert** L= 120.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.00' / 68.00' S= 0.0083 '/' Cc= 0.900 n= 0.011, Flow Area= 0.79 sf

Primary OutFlow Max=0.24 cfs @ 16.56 hrs HW=72.84' TW=0.00' (Dynamic Tailwater)
└**4=Culvert** (Passes 0.24 cfs of 6.03 cfs potential flow)
  ├**1=Low Flow CPv** (Orifice Controls 0.04 cfs @ 8.11 fps)
  ├**2=Orifice/Grate** (Orifice Controls 0.19 cfs @ 6.99 fps)
  └**3=Outlet Weir** (Controls 0.00 cfs)

Summary for Pond 109: Sand Filter B

Inflow Area = 0.572 ac, 48.25% Impervious, Inflow Depth = 7.28" for 100-Year event
Inflow = 4.57 cfs @ 12.08 hrs, Volume= 0.347 af
Outflow = 4.51 cfs @ 12.10 hrs, Volume= 0.321 af, Atten= 1%, Lag= 0.8 min
Discarded = 0.00 cfs @ 3.80 hrs, Volume= 0.022 af
Primary = 4.50 cfs @ 12.10 hrs, Volume= 0.298 af
Routed to Reach 111 : Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Peak Elev= 70.82' @ 12.10 hrs Surf.Area= 326 sf Storage= 2,185 cf

Plug-Flow detention time= 177.0 min calculated for 0.321 af (92% of inflow)
Center-of-Mass det. time= 137.1 min (914.0 - 776.9)

Volume	Invert	Avail.Storage	Storage Description
#1	69.00'	1,003 cf	**Ponding Storage (Prismatic)** Listed below (Recalc) -Impervious
#2	67.00'	215 cf	**Sand/Loam (Prismatic)** Listed below (Recalc) 652 cf Overall x 33.0% Voids
#3	69.00'	1,068 cf	**24.00" Round UDS-B** x 4 -Impervious L= 85.0'
#4	69.00'	75 cf	**24.00" Round UDS-B** x 2 -Impervious L= 12.0'
		2,361 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.00	326	0	0
70.00	494	410	410
71.00	691	593	1,003

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
67.00	326	0	0
69.00	326	652	652

Device	Routing	Invert	Outlet Devices
#1	Discarded	67.00'	**0.520 in/hr Infiltration over Surface area** Phase-In= 0.01'
#2	Primary	70.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.00 cfs @ 3.80 hrs HW=67.04' (Free Discharge)
↑—**1=Infiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=4.50 cfs @ 12.10 hrs HW=70.82' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 4.50 cfs @ 1.42 fps)

A3.5.4.6 HydroCAD Tailwater Analysis

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 100: WPost-01 Runoff Area=0.858 ac 10.02% Impervious Runoff Depth=6.07"
Flow Length=339' Tc=7.3 min CN=79 Runoff=5.74 cfs 0.434 af

Subcatchment 101: WPost-02 Runoff Area=1.334 ac 68.74% Impervious Runoff Depth=7.52"
Tc=6.0 min CN=91 Runoff=10.86 cfs 0.836 af

Subcatchment 107: WPost-03 Runoff Area=0.572 ac 48.25% Impervious Runoff Depth=7.28"
Tc=6.0 min CN=89 Runoff=4.57 cfs 0.347 af

Reach 111-1: Silver Creek Flood Avg. Flow Depth=11.00' Max Vel=5.89 fps Inflow=8,889.84 cfs 52,844.917 af
n=0.030 L=2,100.0' S=0.0014 '/' Capacity=8,879.45 cfs Outflow=8,888.23 cfs 52,772.266 af

Pond 102: Qp/WQ ByPass Peak Elev=76.38' Inflow=10.86 cfs 0.836 af
Primary=1.30 cfs 0.382 af Secondary=9.56 cfs 0.454 af Outflow=10.86 cfs 0.836 af

Pond 103: Isolator ByPass Peak Elev=76.23' Inflow=1.30 cfs 0.382 af
Primary=0.44 cfs 0.103 af Secondary=1.21 cfs 0.279 af Outflow=1.30 cfs 0.382 af

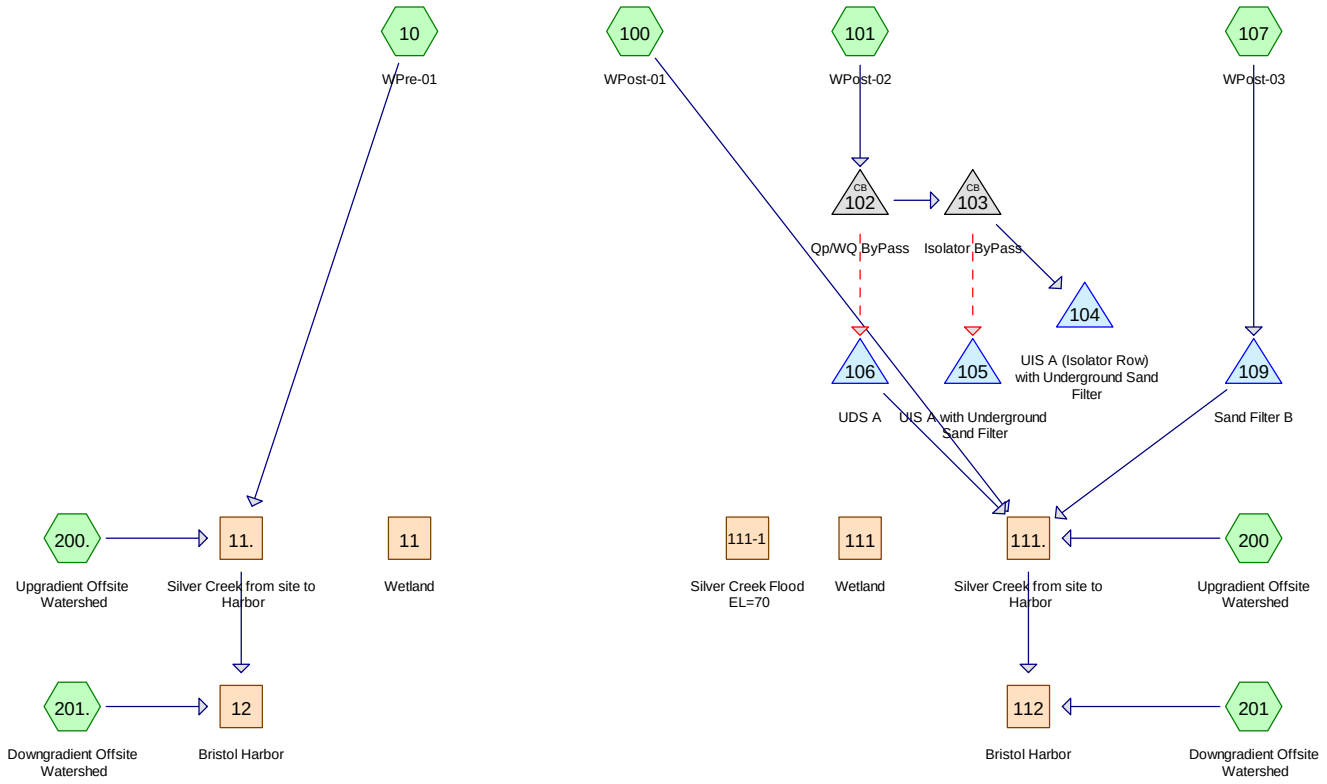
Pond 104: UIS A (Isolator Row) with Peak Elev=75.90' Storage=3,412 cf Inflow=0.44 cfs 0.103 af
Outflow=0.01 cfs 0.083 af

Pond 105: UIS A with Underground Sand Filter Peak Elev=75.88' Storage=9,947 cf Inflow=1.21 cfs 0.279 af
Outflow=0.04 cfs 0.222 af

Pond 106: UDS A Peak Elev=72.84' Storage=13,272 cf Inflow=9.56 cfs 0.454 af
Outflow=0.24 cfs 0.450 af

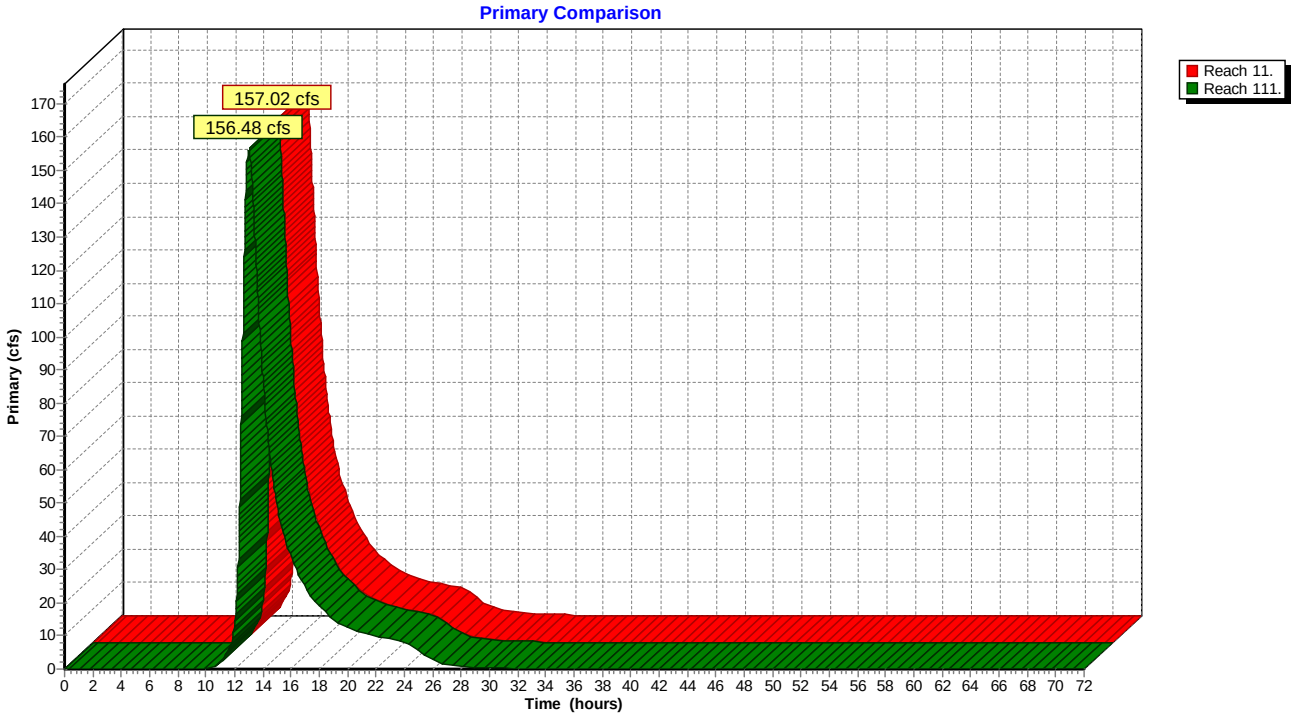
Pond 109: Sand Filter B Peak Elev=70.82' Storage=2,185 cf Inflow=4.57 cfs 0.347 af
Discarded=0.00 cfs 0.022 af Primary=4.50 cfs 0.298 af Outflow=4.51 cfs 0.321 af

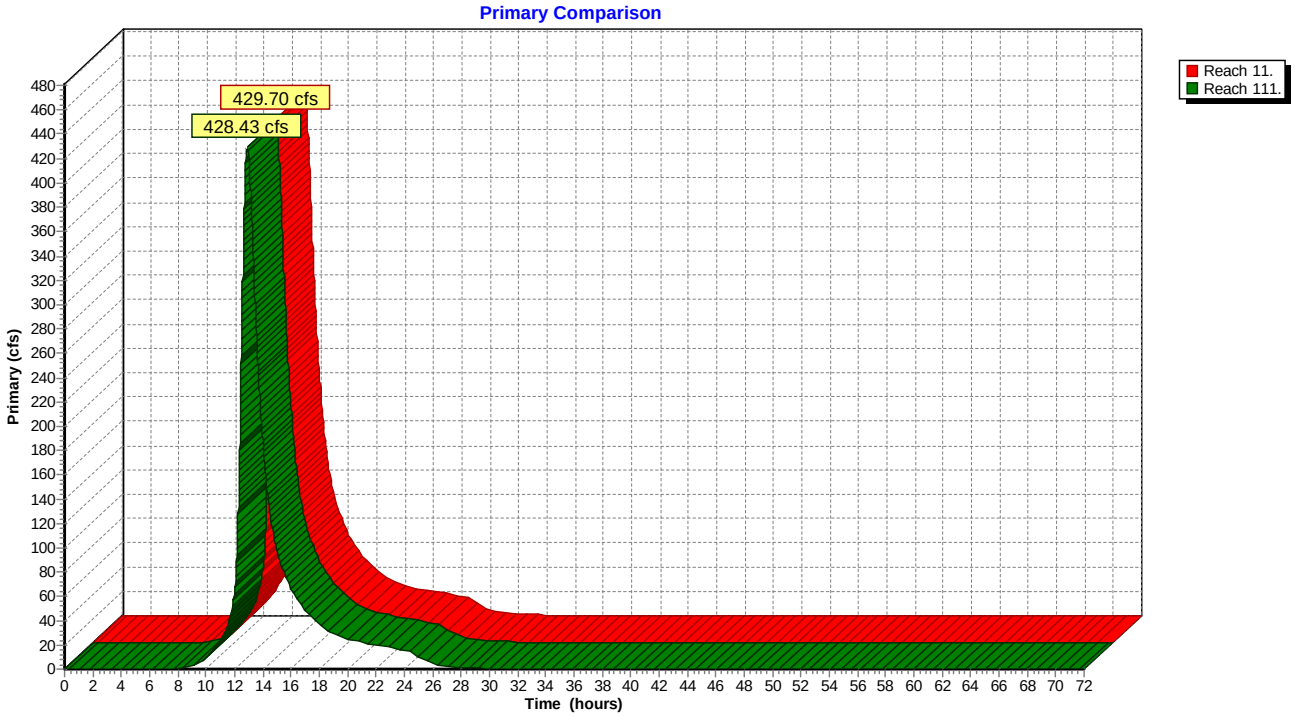
A3.5.5 Downstream Analysis

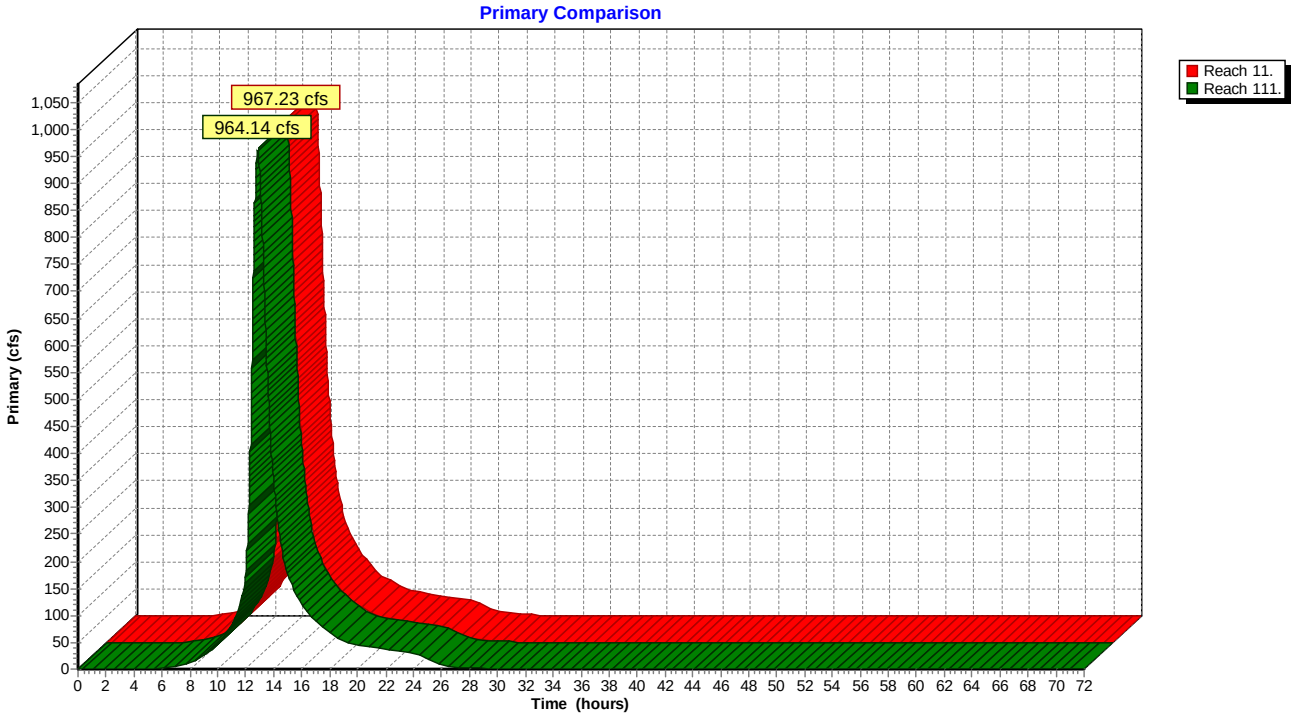


Subcat Reach Pond Link

Routing Diagram for 2536-001-ALLS-PHCD-INHS
Prepared by DiPrete Engineering, Printed 2/28/2024
HydroCAD® 10.20-3g s/n 01125 © 2023 HydroCAD Software Solutions LLC


Primary Comparison
157.02 cfs
156.48 cfs
Reach 11.
Reach 111.
Primary (cfs)
Time (hours)
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72


Primary Comparison
429.70 cfs
428.43 cfs
Reach 11.
Reach 111.
Primary (cfs)
Time (hours)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72


Primary Comparison
967.23 cfs
964.14 cfs
Reach 11.
Reach 111.
Primary (cfs)
Time (hours)

Primary Comparison

Time (hours)	Reach 11. (cfs)	Reach 111. (cfs)	Time (hours)	Reach 11. (cfs)	Reach 111. (cfs)	Time (hours)	Reach 11. (cfs)	Reach 111. (cfs)
0.00	0.00	0.00	27.00	3.51	3.66	54.00	0.00	0.02
0.50	0.00	0.00	27.50	2.49	2.65	54.50	0.00	0.02
1.00	0.00	0.00	28.00	1.83	1.98	55.00	0.00	0.02
1.50	0.00	0.00	28.50	1.36	1.51	55.50	0.00	0.02
2.00	0.00	0.00	29.00	1.05	1.18	56.00	0.00	0.02
2.50	0.00	0.00	29.50	0.81	0.95	56.50	0.00	0.02
3.00	0.00	0.00	30.00	0.63	0.77	57.00	0.00	0.02
3.50	0.00	0.00	30.50	0.51	0.63	57.50	0.00	0.02
4.00	0.00	0.00	31.00	0.42	0.54	58.00	0.00	0.02
4.50	0.00	0.00	31.50	0.34	0.47	58.50	0.00	0.02
5.00	0.01	0.01	32.00	0.28	0.41	59.00	0.00	0.02
5.50	0.20	0.20	32.50	0.23	0.36	59.50	0.00	0.02
6.00	0.92	0.92	33.00	0.19	0.31	60.00	0.00	0.02
6.50	2.32	2.32	33.50	0.16	0.28	60.50	0.00	0.02
7.00	4.57	4.57	34.00	0.14	0.25	61.00	0.00	0.02
7.50	7.83	7.80	34.50	0.12	0.23	61.50	0.00	0.02
8.00	12.22	12.17	35.00	0.11	0.20	62.00	0.00	0.02
8.50	17.74	17.67	35.50	0.09	0.19	62.50	0.00	0.02
9.00	25.02	24.91	36.00	0.08	0.18	63.00	0.00	0.02
9.50	35.05	34.89	36.50	0.07	0.17	63.50	0.00	0.02
10.00	47.95	47.72	37.00	0.06	0.16	64.00	0.00	0.02
10.50	63.54	63.21	37.50	0.05	0.15	64.50	0.00	0.02
11.00	83.96	83.61	38.00	0.04	0.14	65.00	0.00	0.02
11.50	112.70	112.31	38.50	0.04	0.13	65.50	0.00	0.02
12.00	182.24	181.65	39.00	0.03	0.12	66.00	0.00	0.02
12.50	**669.38**	**665.22**	39.50	0.03	0.11	66.50	0.00	0.02
13.00	**920.84**	**918.55**	40.00	0.03	0.10	67.00	0.00	0.02
13.50	572.40	571.47	40.50	0.03	0.10	67.50	0.00	0.02
14.00	344.57	344.06	41.00	0.02	0.09	68.00	0.00	0.02
14.50	233.72	233.38	41.50	0.02	0.08	68.50	0.00	0.01
15.00	176.43	176.18	42.00	0.02	0.07	69.00	0.00	0.01
15.50	143.93	143.75	42.50	0.02	0.07	69.50	0.00	0.01
16.00	121.38	121.25	43.00	0.02	0.06	70.00	0.00	0.01
16.50	102.95	102.87	43.50	0.02	0.06	70.50	0.00	0.01
17.00	88.05	88.01	44.00	0.01	0.05	71.00	0.00	0.01
17.50	76.90	76.89	44.50	0.01	0.05	71.50	0.00	0.01
18.00	67.92	67.93	45.00	0.01	0.04	72.00	0.00	0.01
18.50	60.03	60.06	45.50	0.01	0.04			
19.00	53.63	53.69	46.00	0.01	0.04			
19.50	49.10	49.17	46.50	0.01	0.04			
20.00	45.70	45.77	47.00	0.01	0.03			
20.50	42.94	43.01	47.50	0.01	0.03			
21.00	40.60	40.68	48.00	0.01	0.03			
21.50	38.56	38.65	48.50	0.01	0.03			
22.00	36.70	36.79	49.00	0.01	0.03			
22.50	35.00	35.09	49.50	0.01	0.03			
23.00	33.32	33.42	50.00	0.01	0.03			
23.50	31.66	31.76	50.50	0.00	0.03			
24.00	30.00	30.10	51.00	0.00	0.03			
24.50	27.20	27.32	51.50	0.00	0.03			
25.00	18.94	19.08	52.00	0.00	0.03			
25.50	11.96	12.11	52.50	0.00	0.02			
26.00	7.67	7.82	53.00	0.00	0.02			
26.50	5.10	5.25	53.50	0.00	0.02			

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Reach 11.: Silver Creek from site to Avg. Flow Depth=2.39' Max Vel=4.23 fps Inflow=1,269.74 cfs 194.068 af
n=0.035 L=7,022.0' S=0.0078 '/' Capacity=6,919.98 cfs Outflow=967.23 cfs 194.067 af

Reach 111.: Silver Creek from site to Avg. Flow Depth=2.39' Max Vel=4.23 fps Inflow=1,266.30 cfs 193.879 af
n=0.035 L=7,022.0' S=0.0078 '/' Capacity=6,919.98 cfs Outflow=964.14 cfs 193.873 af

Appendix B – Mounding Calculations

DiPrete Engineering has prepared groundwater mounding calculations for the Underground Infiltration System (UIS-A).

DiPrete Engineering has calculated the groundwater mounding using the USGS Hantush Calculator. The calculator is available online at http://pubs.usgs.gov/sir/2010/5102/.

The calculator provided by the USGS requires several variables:

R – Recharge infiltration rate (feet/day):
Recharge rate is the vertical conductivity (Kv) of the soil. The vertical conductivity was determined based on soil texture and table 5-3 in section 5.3.4 of the RISDISM of the RISDISM. A value of 0.52 in/hr or 1.04 ft/day has been used for these calculations.

Sy – Specific Yield:
Specific Yield is specific to the parent material through which the infiltration occurs. Onsite soil evaluations classified the soils as coarse sand. A value for Sy has been obtained from Table 4.3 of Hydrology and Hydraulic Systems by Ram S. Gupta:

TABLE 4.3 REPRESENTATIVE VALUES OF SPECIFIC YIELD FOR SOILS AND ROCKS

Material	Specific Yield (%)
Gravel, coarse	23
Gravel, medium	24
Gravel, fine	25
Sand, coarse	27
Sand, medium	28
Sand, fine	23
Silt	8
Clay	3
Sandstone, fine-grained	21
Sandstone, medium-grained	27
Limestone	14
Dune sand	38
Loess	18
Peat	44
Schist	26
Siltstone	12
Till, predominantly silt	6
Till, predominantly sand	16
Till, predominantly gravel	16
Tuff	21

Source: Todd, 1980.

HYDROLOGY & HYDRAULIC SYSTEMS

RAM S. GUPTA, Ph.D., P.E.
Roger Williams University, Bristol, RI
Delta Engineers, Inc., Bristol, RI

K – Hydraulic conductivity, Kh (feet/day):
Mounding calculations require the hydraulic conductivity (Kh) value of the soils. According to USGS SIR 2010-5102, Vertical Conductivity is approximately 1/10 of horizontal conductivity. The vertical conductivity was determined based on soil texture and table 5-3 in section 5.3.4 of the RISDISM of the RISDISM. To perform the most conservative calculation, rather than use the RISDISM book value of 0.52 inches per hour the maximum value of the USDA.gov published range of 0.6-2.0 in/hr was used to arrive at a more conservative horizontal conductivity of 2.0 in/hr x 10 = 20 inches per hour (40 ft/day).

x & y – ½ of the basin length:
The x and y variables represent the length and width of the system. The overall system is approximately 80.76' x 48.50' and the ½ basin length and width is 40.38' x 29.25.

t – Duration of infiltration period in (days):
For these calculations the infiltration period considered is two days.

hi(0) – initial thickness of saturated zone (feet):
The initial thickness of the saturated zone is the depth from the water table to the impervious limiting layer. Test holes performed nearby did not encounter ledge. Deepest test hole was 77" which was approximately 4' below measured groundwater table. Estimated 2' between bottom of test hole and ledge. Test hole 4 reached a seasonal high groundwater table elevation at depth 30". Ledge could be significantly deeper in the area of the infiltration system but based on available data we provided a conservative assumption for this calculation.

Conclusion:

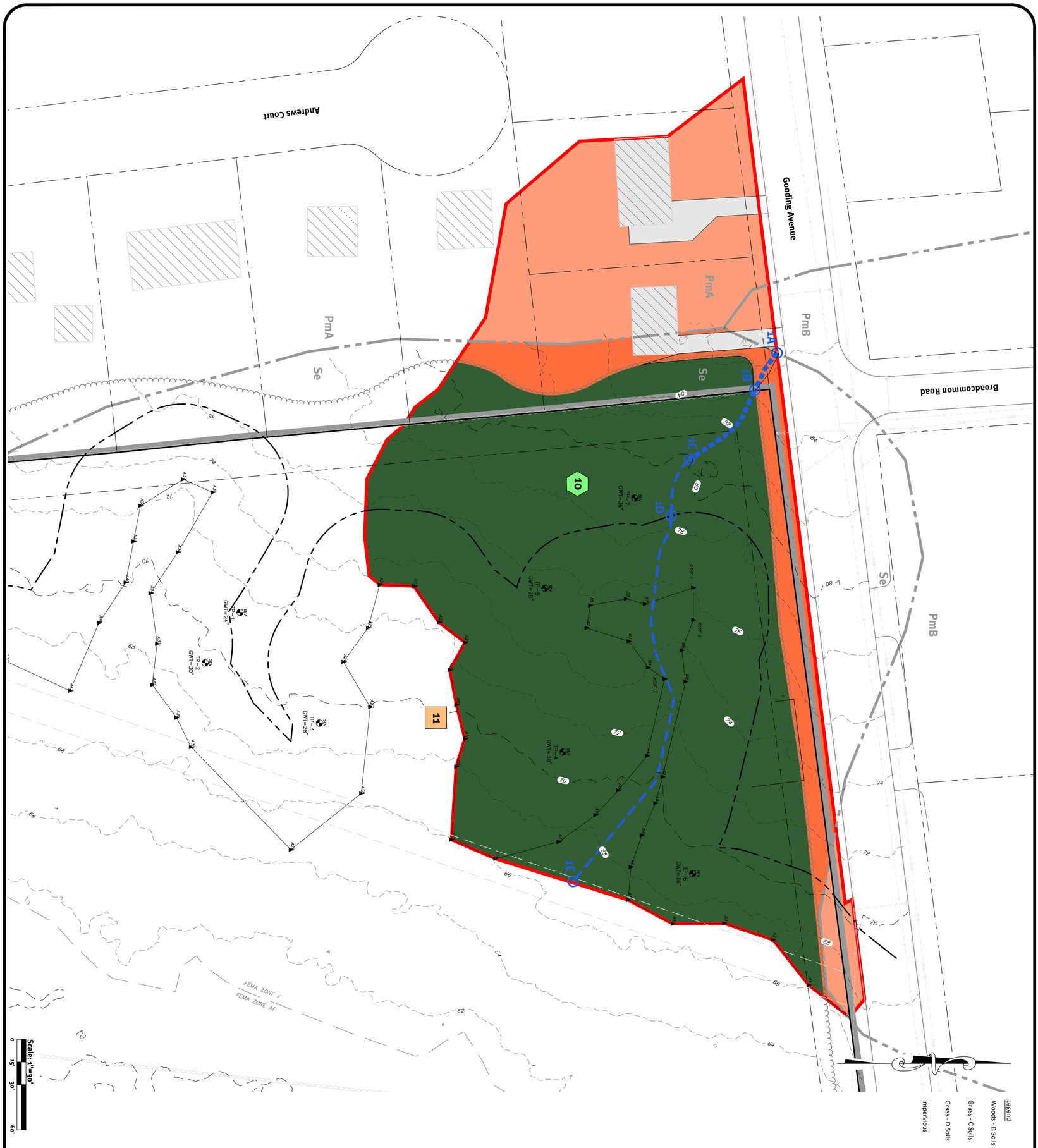
System Bottom	System Top	100-Year Mound height (ft)	100-Year Mound Elevation
73.00	76.50	2.89	72.89

The mounding height is obtained from the USGS Hantush Calculator. The mound elevation is determined by adding the mound height to the average seasonal high groundwater for each respective storm system.

The mounding calculations for the systems show that for all storm events up to the 100-year storm, the mound is below bottom of the underground chamber system. This means the basin will function as designed for the majority off all storm events.

See attached Mounding Calculation Sheets and HydroCAD.

Watershed Maps



SHEET 1 OF 2

Pre-Watershed Map

Gooding Avenue Development

Bristol, Rhode Island
AP 111 Lot 1

Applicant
Donovan & Sons, Inc.
613 Aquidneck Avenue, Middletown, Rhode Island 02842
tel 401-846-3486

No.	Date	Description	By:
0	11-03-2017	Watershed Maps	D.R.N.

Drawn By: D.R.N. | Design By: K.J.D.

This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.

The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

DiPrete Engineering
Two Stafford Court Cranston, RI 02920
tel 401-943-1000 fax 401-464-6006 www.diprete-eng.com
Boston • Providence • Newport

DE Job No: 2536-001 Copyright 2024 by DiPrete Engineering Associates, Inc.

Item C2i

Broadcommon Road

Gooding Avenue

Andrews Court

PmB

PmA

Se

ASSF 1

ASSF 2

ASSF 3

TP-5
GWT=28"

TP-4
GWT=30"

TP-3
GWT=28"

TP-1
GWT=24"

TP-2
GWT=30"

FEMA ZONE X

FEMA ZONE AE

Legend

Woods - D Soils

Grass - C Soils

Grass - D Soils

Impervious

Legend

Tc Line (With Elevations)

Subcat Area

Soil Boundary

Subcatchment

Drainage BMP/Sand Filter/ Detention Pond

Bypass Structure

Reach/Design Point

Scale: 1"=30'

0 15' 30' 60'

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Two Stafford Court Cranston, RI 02920
tel 401-943-1000 fax 401-464-6006 www.diprete-eng.com
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The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	By:
1	12-08-2020	Watershed Maps	R.M.P.
0	11-03-2017	Watershed Maps	D.R.N.

Drawn By: D.R.N. Design By: K.L.D.

Post-Watershed Map

Gooding Avenue Development

Bristol, Rhode Island
AP 111 Lot 1

Applicant
Donovan & Sons, Inc.
613 Aquidneck Avenue, Middletown, Rhode Island 02842
tel 401-846-3486

SHEET 2 OF 2

DE Job No: 2536-001 Copyright 2024 by DiPrete Engineering Associates, Inc.

z:\domain\projects\2536-001 gooding avenue\autocad drawings\2536-001- wamp.dwg Plotted: 7/25/2024

MAJOR SUBDIVISION OR MAJOR LAND DEVELOPMENT CHECKLIST

Name of proposed subdivision/development:
Comfort Inn & Suites
Applicant Name and Address: D&M Boca Development, LLC
92 Faunce Corner Road, Suite 160, North Dartmouth, MA 02747
Phone Number:
Email: ddegrazia@highridge-us.com
Date of Application: 05-20-2025
Plat and Lot Number(s) of the land being subdivided/developed: AP 111, Lot 1

Date Received / Initials

A COPY OF ALL PLANS AND SUPPORTING DOCUMENTS SHALL BE SUBMITTED IN DIGITAL FORM (PDF). APPLICATIONS WILL NOT BE CONSIDERED SUBMITTED FOR REVIEW OF COMPLETENESS UNTIL BOTH DIGITAL AND PAPER SUBMISSIONS ARE RECEIVED.

INSTRUCTIONS

Five Copies of the application package including all plans and supporting documents shall be provided along with a Digital Form (PDF) of the entire application package. Each plan sheet shall be a minimum size of 8 1/2x 11" and a maximum of 24" x 36" and at a scale of 1"=40' with a sufficient number of sheets to clearly show all of the information required. Upon final approval one reproducible mylar, three (3) paper copies, and one electronic AutoCAD file of all plans shall be submitted. A reduced copy (11x17) shall also be provided for each plan.

All plans required by this checklist shall show the following information (as applicable). The shaded boxes within the checklist indicate an item is **not** required at a particular stage of review. If any checklist items are marked as not applicable (NA) please provide an explanation as to why the item is not applicable in the space provided at the end of the checklist, attached additional sheets as needed.

For items required at the pre-application and master plan stage of review, conceptual design and approximate locations of required checklist items is acceptable. For items required at the preliminary and final stage of review, engineered design and proposed final locations of required checklist items shall be provided, with certification by registered Professional Engineer where required. The Administrative Officer can provide further guidance on specific checklist items.

For the LOCATION column please provide the location of the specific checklist item. This can be a plan sheet number or the name of the supporting document and page. All revisions in response to comments shall include a written statement with reply.

Review Codes are for administrative use only and are to be entered by the Administrative Officer.

Please check the applicable stage of review for the submission

Project Type:	☐ Major Subdivision ☑ Major Land Development	Stage of Review:	☑ Master Plan (M) ☐ Preliminary Plan (PR) ☐ Final Plan (F)

A. FORMS AND DOCUMENTS

A		M	PR	F	REQUIRED FORMS AND DOCUMENTS	REVIEW CODE
1.		✓			Completed Application Form	
2.		✓			A notarized letter from the property owner(s) stating that the applicant has been granted the authority to proceed with the application with the owner(s) permission and consent	
3.		✓			Narrative describing the application	
4.		✓			Completed Project Review Application Checklist	

B. GENERAL INFORMATION (to be provided on plan sheets)

B	M	PR	F	ELEMENT REQUIRED	LOCATION (PAGE #)	REVIEW CODE
1.	✓			Title Block with Name of the proposed project, Plat and Lot numbers of the subject property, address of the subject property, name and address of owner/applicant	All Sheets	
2.	✓			Name, address, phone, and stamp(s) of the RI Registered Engineer and/or RI Registered Land Surveyor responsible for the plans	All Sheets	
3.	✓			Date of plan preparation and all revision date(s), if any	All Sheets	
4.	✓			True north arrow and graphic scale	1, 2, 4-10, 12	
5.	✓			Site plan legend (all items displayed on site plans shall be symbolized in a legend)	3	
6.	✓			Relevant references to deeds and recorded plans	12	
7.	✓			List of sheets contained within the plan set	1	
8.	✓			Notation of any permits and/or agreements obtained from or made with State and Federal agencies, including permit number if applicable	3	
9.	✓			Names, addresses and Plat/Lot identified of abutting property owners and property within 200' of the parcel(s)	provided	
10.	✓			Names and address of any agencies or adjacent communities requiring notification under these regulations	provided	

C. EXISTING CONDITIONS PLAN(S) Show the entire tract of the subject property and all lots owned by the owner/applicant as it currently exists

C	M	PR	F	ELEMENT REQUIRED	LOCATION (PAGE #)	REVIEW CODE
1.	✓			A general location map showing the relationship of the subdivision/development parcel(s) of the area within a half-mile radius	2	
2.	* ✓			Certification by a RI Registered Land Surveyor that a perimeter study of the land being developed has been performed and meets a Class I standard for property lines and a Class III standard for topographic and existing conditions information. * A Class 1 Property Survey is required at Master Plan for any project that is requesting a Unified Development for a dimensional variance.	12	
3.	✓			Location of known existing easements and rights-of-way within or adjacent to the subdivision/development parcel(s)	12	

C	M	PR	F	ELEMENT REQUIRED	LOCATION (PAGE #)	REVIEW CODE
4.	✓			Location of any existing street, driveways, farm roads, woods roads, and/or trails that have been in public use (pedestrian, equestrian, bicycle, etc.) within and adjacent to the subdivision/development parcel(s)	1, 2, 4-10, 12	
5.	✓			Zoning district(s) of the land being subdivided/developed, with zoning boundary lines shown if there is more than one district	3 & 5	
6.	N/A			Density calculations based upon the exclusion of unsuitable land from the total land area of the subdivision/development parcel(s), include the total acreage, the acreage of unsuitable land and the resulting total number of units allowed by right		
7.	✓			Dimensions and total area of the subdivision/development parcel(s), and location and dimensions of existing property lines, type of easements and rights-of-way within or adjacent to the subdivision/development parcel(s)	12	
8.	✓			Existing contours at intervals at a minimum of two (2) feet	4, 6, 7, 9	
9.	✓			Base flood elevation data; use the North American Vertical Datum of 1988 (NAVD 88)	3, 5, 6, 7, 12	
10.	✓			Boundaries and notation of the soil types classifications for the entire area of the subdivision parcel(s) Identification of areas containing prime agricultural soils and farmland soils of statewide importance, or if no such soils are present on the site, a notation indicating such	3, 4	
11.	N/A			Location of soil contaminants present on the subject parcel, if any		
12.	✓			Identification of any geologic formations on the proposed parcel(s), including rock outcroppings, cliffs, coastal features, etc.	4-7, 12	
13.	✓			Location of wetlands, watercourses or coastal features within and adjacent to the parcel(s), including buffer areas as defined by RIDEM for wetlands	4-7, 12	
14.	✓			Location of wooded areas and areas of active agricultural use	2, 4, 5, 7	
15.	✓			Boundaries of applicable watersheds for the parcel(s)	See SW Report	
16.	✓			Location, size, and use/type of all existing buildings or significant above-ground structures, including stone walls	4-7, 12	
17.	✓			Location and size of existing buildings or significant above-ground structures, including stone walls, on parcels immediately adjacent to the subdivision/development parcel(s)	4-7, 12	
18.	✓			Location, size, and type of all known, existing above and below ground utilities, including sewer, water, gas, electric, stormwater drainage and communications or telecommunications infrastructure, as may be present on the site or within the right of way along the property frontage	4-7, 12	
19.	✓			Location of any significant natural or cultural features,	4-7, 12	

C	M	PR	F	ELEMENT REQUIRED	LOCATION (PAGE #)	REVIEW CODE
				include historic cemeteries and access, within or adjacent to the parcel(s)		
20.	✓			Notation indicating that the subdivision/development parcel(s) (or existing structures) are located or not located within the following areas of special concern: a. Natural Heritage Areas, as defined by RIDEM b. The area(s) under the jurisdiction of any Special Area Management Plan (SAMP) of RI CRMC c. A Groundwater Protection Overlay District d. A Wellhead Protection Area e. Groundwater Recharge Area f. Areas within a TMDL watershed, as identified by RIDEM g. A Drinking Water Supply Watershed, as defined by RIDEM h. OWTS Critical Resource Area, as defined by RIDEM i. National Register of Historic Places j. Bristol Historic District k. Tanyard Brook Watershed in Bristol l. Silver Creek Watershed in Bristol	3	
21.	N/A			Location and size of trees with a caliper of ten (10) inches or greater that are within the area proposed for disturbance or alteration		

D. PROPOSED CONDITIONS PLAN(S) Show all items on Existing Conditions Plan as well as the following:

D	M	PR	F	ELEMENT REQUIRED	LOCATION (PAGE #)	REVIEW CODE
1.	✓			Boundaries and total area of any land classified as "unsuitable for development" as defined in the Regulations	3	
2.	N/A			Proposed number of buildable lots		
3.	✓			Proposed easements and rights-of-way within the subdivision parcel(s)	5, 12	
4.	N/A			Proposed lot lines, with accurate dimensions and lot areas and lot numbers, drawn so as to distinguish them from existing property lines		
5.	✓			Proposed structures and all accessory structures with dimensions or area indicated and total lot coverage, including proposed number of residential units per building, if applicable	5-7	
6.	✓			Zoning District Dimensional Regulations of the subdivision/development parcel(s) and a Zoning Data table with the required zoning dimensions and those for the proposed project	5	
7.	✓			Proposed structure(s) and other site improvements with dimensions or area indicated for a multi-family, commercial or industrial subdivision/development and total lot coverage	5	
8.	N/A			Proposed streets, if any, with accurate areas and dimensions		
9.	✓			Any proposed on- and/or off-site improvements including streets, access drives, loading areas, parking areas, sidewalks,	5, 8	

D	M	PR	F	ELEMENT REQUIRED	LOCATION (PAGE #)	REVIEW CODE
				pedestrian areas, and bicycle parking and/or paths		
10.				Traffic plan; include vehicular access sites showing the dimensions and location of roads, driveways, curb cuts, radii, parking as well as other off-site traffic improvements		
11.	✓			Designated trash collection and recycling collection area(s)	5	
12.				Certification by a RI Registered Land Surveyor that a perimeter study of the land being developed has been performed and meets a Class I standard for property lines and a Class III standard for topographic and existing conditions information		
13.	✓			Location and dimensions of proposed easements and rights-of-way within the subdivision/development parcel(s), or those to be acquired adjacent to the subdivision/development parcel(s) as maybe necessary	5-7	
14.	✓			Proposed location, size, and type of all above ground and underground utilities servicing the property, including wastewater, water, gas, electric, transformers, stormwater drainage, hydrants, and communications or telecommunications infrastructure, as may be required for site development	7	
15.	✓			Proposals, if any, for connection with existing sanitary sewer systems, or a notation that OWTS is proposed	7	
16.				The locations and design details of any OWTS proposed for use within the subdivision/development, if any		
17.	N/A			If future subdivision/development is to be serviced by an OWTS, soil evaluations in the relative location where each system is proposed, which have been performed by a licensed RI soil evaluator and witnessed by RIDEM		
18.	✓			Proposals, if any, for connection with existing water supply systems, or if future subdivision/development is to be serviced by on-site wells, notation of such	7	
19.	✓			Concept designs for stormwater management and water quality infrastructure	5-7, 9, 10	
20.				Designs of proposed stormwater management infrastructure, including type, location, and configuration, prepared by a Registered Professional Engineer for preliminary and final plans		
21.	N/A			Proposed phasing, including depiction of which structures and on- and off-site improvements are to be installed in which phase, if applicable		
22.	N/A			Location, dimensions, types, and area of any land proposed to be set aside as open space or to be conveyed to the Town for public purposes		
23.				Locations and types of proposed survey and open space monumentation, if any. (Documentation that all proposed bounds have been set shall be provided prior to recording final plan)		
24.				Limits of disturbance/work relative to on-and off-site improvements and infrastructure installation		
25.				Proposed grading plan(s) to show contours at sufficient detail (2-foot intervals) for all on and off-site street construction,		

D	M	PR	F	ELEMENT REQUIRED	LOCATION (PAGE #)	REVIEW CODE
				drainage facilities, and individual house lots, stamped by a licensed Professional Engineer for final plans		
26.				Landscape plan(s), by a Landscape Architect, to show all significant proposed clearing of land, removal of existing vegetation, re-vegetation, landscaping on street rights-of-way, and within common areas, and landscape installation details and related notations, in accordance with Appendix F		
27.				Notation of any special conditions as required by the Preliminary Plan approval		
28.				Proposed measures to minimize impacts to the natural topography of the site using the Low Impact subdivision (LID) Site Planning & Design Guidance Manual		
29.				Final construction plans including plans and any additional improvements as required as a condition of preliminary plan		
30.				For phased projects, as-built drawings for the previous phase		
31.						
32.						

E. SUPPORTING MATERIALS

E	M	PR	F	ELEMENT REQUIRED	LOCATION (PAGE #)	REVIEW CODE
1.	✓			Copies of an aerial photograph or satellite image vicinity map drawn to a measurable scale as necessary to show the relationship of the subdivision/development parcel(s) to the area within a half-mile radius, identifying the locations of all streets, zoning district boundaries, schools, parks, fire stations, and other significant public facilities	2	
2.	✓			Renderings, elevations or photographs as may be needed to illustrate the visual impact of a proposed multi-family, commercial or industrial subdivision/development	exhibit provided	
3.	✓			A narrative report or written statement including: a. A general description of the existing physical environment and existing use(s) of the property; b. A general description of the use(s) and type(s) of subdivision/development proposed; c. A general statement and supporting maps and/or graphics that illustrates the approach utilized in designing the proposed subdivision/development, including consideration of existing conditions and significant site features; d. An estimate of the approximate population of the proposed subdivision/development, if any e. An estimate of the number of school-aged children to be housed in the proposed subdivision/development, if any. f. A general analysis of soil types and suitability for the development proposed;	See EIS report by DE and report by others (Lombardo) provided	

E	M	PR	F	ELEMENT REQUIRED	LOCATION (PAGE #)	REVIEW CODE
				g. A general viewshed analysis, showing the location and extent of significant views both from and within the proposed subdivision/development parcel(s), as well as anticipated views into the property from adjacent public or private streets and properties; h. A statement of the potential fiscal impacts of the subdivision/development on the Town of Bristo expenses and revenues (See Section 6.6B)		
4.	N/A			A written, signed statement indicating the specific sections of the Regulations from which waiver and/or modification is requested; or a written signed statement indicating that no waivers and/or modifications are being requested		
5.	N/A			A written signed statement indicating any specific zoning variances or modifications requested or a statement that no variances or zoning modifications are being requested.		
6.	N/A			A statement from the Zoning Officer confirming the variances requested or modifications requested.		
7.				For subdivisions with freshwater wetlands present on the subdivision parcel(s), copies of either: a. An RIDEM wetlands permit, if required pursuant to RIDEM rules and regulations; or b. A letter of non-jurisdiction from RIDEM		
8.	N/A			If no freshwater wetlands and/or wetland buffers are depicted within the plan set, copies of an affidavit signed by a qualified professional stating that there are no freshwater wetlands and/or buffer areas within the subdivision/development parcel(s)		
9.				Either, copies of: a. An affidavit signed by a qualified professional stating that there are no coastal features and/or buffer areas adjacent to or within the subdivision/development parcel(s); or b. A Preliminary Determination, including coastal feature verification, from the Coastal Resources Management Council		
10.	✓			For subdivisions/developments proposing service by public water, copies of a written statement from the Bristol County Water Authority that the proposed plan, with plan revision date indicated, has been reviewed and which provides: a. Confirmation that water service is available; b. Approval of connection to the existing water main as depicted on the plan; and, If extension is proposed, approval from BCWA of the extension of the water main as depicted on the plan	provided	
11.	✓			For subdivisions/developments proposing service by public sewer, copies of a written statement from the Bristol Water Pollution Control Department that the	provided	

E	M	PR	F	ELEMENT REQUIRED	LOCATION (PAGE #)	REVIEW CODE
				proposed plan, with plan revision date indicated, has been reviewed and which provides: a. Approval of connection to the existing sewer main as depicted on the plan; and b. If extension is proposed, approval of extension of the sewer main as depicted on the plan		
12.				For subdivisions/developments proposing service by OWTS(s), copies of a permit issued by RIDEM.		
13.	✓			Low Impact Development (LID) Site Planning and Design Strategies and Checklist from the RI Stormwater Design and Installation Standards Manual. Stormwater designs to meet RI Stormwater Manual Minimum Standards.	See Stormwater Management Report	
14.	TBD			Written comments on the Plans, by the following as required: *REFERRALS TO THE AGENCIES BELOW WILL BE MADE BY THE PLANNING DEPARTMENT STAFF.* ____ Zoning Official Date _____ ____ Building Official Date _____ ____Technical Review Committee Date_____ ____ Director of Public Works Date _____ ____ Fire Department Date _____ ____ Conservation Commission Date _____ ____ Police Department Date _____ ____ School Department Date _____ Other (specify below) _____ Date _____ Adjacent Communities _____ Date _____		
15.				Drainage calculations, by a registered professional engineer, associated explanatory narrative, and all supporting documentation, including an Operations and Maintenance manual for the system		
16.				A traffic study, if required, prepared by a traffic engineer regarding the potential impact of the proposed subdivision/development on neighboring properties and roads; include all means of vehicular access to and from the site onto public streets showing driveways, curb cuts, radii, parking as well as other offsite traffic improvements necessary to ensure public safety and convenience		
17.	✓			Copies of any RIDEM stormwater or other general construction permits that are required, or an affidavit, signed by a qualified professional, stating that no RIDEM stormwater or construction permits are required	provided	
18.				"Tax Certificate" from the Tax Collector showing that all taxes due on the parcel being subdivided have been paid to date and there are no outstanding municipal liens of the parcel	To be provided under separate cover from the applicant.	

E	M	PR	F	ELEMENT REQUIRED	LOCATION (PAGE #)	REVIEW CODE
19.	✓			Written confirmation and/or permits from any additional required federal, state, or local agencies	provided	
20.				Soil Erosion Sediment Control Plan		
21.				Written report of Phase I Environmental Site Assessment and Phase II, if indicated		
22.				Written report and approval from RIDEM of an Environmental Site Assessment Phase III (Remediation Plan) if required		
23.				Draft (at preliminary) or final (at final) copies of all legal documents; legal description of property, proposed easement and rights-of-way, dedications, restrictions or other required legal documents including but not limited to covenants or Homeowners Association, Stormwater Management Plan, Landscaping Maintenance Plan, a deed conveying open space or offer of street dedication		
24.				Final copies of an irrevocable offer to convey to the Town all public streets and/or other public improvements, accompanied by a metes and bounds description		
25.				For subdivisions/developments proposing new physical access to a State right-of-way a letter evidencing the issuance of such a permit upon the submission of a bond and insurance [1]		
26.				A Photometric Plan	to be provided at Prelim	
27.	✓			Renderings as needed to illustrate the visual impact on abutting properties.	provided	
28.				Signage including location, size, design and illumination.	to be provided at Prelim	
29.				A plan with new street address numbers and new assessor's plat and lot numbers signed by the Tax Assessor.		
30.	✓			Fiscal Impact Analysis or Environmental Analysis (Section 6.6) if required	See DE narrative, and Geotechnical & Fiscal Reports by others	
31.				Historic District Commission (HDC) Certificate of Appropriateness if the project requires HDC review and approval		
32.	✓			Proposed residential density and square footage of non residential use. Floor plans to scale for each building including the use of floor space, number of units, number of bedrooms and square footage of each unit and building elevations showing exterior building design, materials, colors and height (for land developments and adaptive re-use)	See Silvestri plans	

F. PROJECTS WITH STREETS/ROADWAYS

If your project proposes to extend or create a roadway, please complete this section. If your project does not propose to extend or create a roadway, you may skip this section.

N/A

[1] RIGL §45-23-39(d)(1)(v) states that for a state permit from the Rhode Island department of transportation, a letter evidencing the issuance of such a permit upon the submission of a bond and insurance is sufficient, but such actual permit shall be required prior to the issuance of a building permit.

F	M	PR	F	ELEMENT REQUIRED	LOCATION (PAGE #)	REVIEW CODE
1.	N/A			Street plans (minimum scale of 1"=40' horizontal with profiles (minimum 1"=4' vertical) indicating the street center line, curblines, and the existing elevations of the ground at the street center line, location and size of proposed sewer lines, water lines and other underground utilities; and, street cross sections showing width of right-of-way, roadway; and, sidewalks. Plan must include street names and hydrant locations approved by the Fire Chief. Plan must include proposed street light locations.		
2.	N/A			Roadway design plan(s) and profile(s), including existing and proposed elevations and typical cross-sections and paved (impervious) areas delineated on the appropriate plans, including all pedestrian facilities		
3.	✓			Stormwater management plan(s), and drainage calculations, to show accurate designs and details of proposed stormwater management and water quality infrastructure, including type, location, drainage calculations, extension of existing lines, and configuration, prepared by a Registered Professional Engineer	provided for reference	
4.	N/A			Landscape plan(s), maintenance plan and tree preservation plan, to show all significant proposed clearing of land, removal of existing vegetation, re-vegetation, landscaping on street rights-of-way, and within common areas, and landscape installation details and related notations, signed by a licensed Landscape Architect for final plans		
5.				Construction Cost Estimate for all improvements		
6.	N/A			Soil Erosion and Sediment Control Plan		
7.				Construction Schedule		
8.				If any Streets, Areas or Facilities are to be dedicated to the Town of Bristol, the Final Plan shall include a Statement that such dedication shall not impose any duty or responsibility upon the Town of Bristol to maintain or improve any dedicated streets, areas or facilities until specifically authorized by the Town Council Per Section 6.7 of these regulations.		

G. FEES

G	M	PR	F		Received
1.	✓			Application Fee LDP - $500.00	
2.	✓			Engineering Review Fee to be determined	

3.	[redacted]		Advertising Reimbursement	
4			Final Plat Recording and Mapping Fees	
5.			Performance Guarantee (if applicable)	
6.			Engineering Inspection Fee	
7			Maintenance Guarantee (if applicable)	
8.			Receipt that all other fees to outside agencies have been paid (if applicable)	

Applicant Comments on Required Items: Attach additional sheets as needed
Reviewer Comments on Required Items:

Signature of Applicant: _____
Signature of Professional Land Engineer: _____
Registration Number: 8557

Signature of Professional Land Surveyor: _____
Registration Number: 1844

Signature of reviewer: _____
Date of Review: _____

SOLLI ENGINEERING

April 14, 2023
Revised January 10, 2024

Mr. Dennis DeGrazia
Highridge Development Co., LLC
92 Faunce Corner Road, Suite 160
North Dartmouth, MA 02747

RE: Traffic Impact Assessment
Proposed Hotel
Parcel #111-1, Gooding Avenue
Bristol, Rhode Island 02809
Project Number: 23103601

Dear Dennis,

Solli Engineering, LLC has prepared this assessment to provide an analysis of the potential traffic impacts associated with the proposed 80-room hotel located along Gooding Avenue in Bristol, Rhode Island. The evaluation has been completed in accordance with the Town of Bristol and Rhode Island Department of Transportation requirements as well as standard traffic engineering methodology. Our investigation concludes that the proposed development will not have an adverse impact on the existing roadway network.

Project Description:

The property is located along Gooding Avenue between Broadcommon Road and Metacom Avenue (Route 136). The site is currently undeveloped and bound by Gooding Avenue to the north, undeveloped land to the south and east, and residential parcels to the west. The parcel is located within the General Business (GB) zoning district in the Town of Bristol. Refer to Figure 1, Site Location Map, for additional information regarding the project location.

The project proposes to construct a 80-unit hotel with appurtenant parking, loading, landscape, utility, and drainage features. Access to the site is proposed along Gooding Avenue via one full-movement STOP-controlled site driveway. Refer to the Site Layout Plan, prepared by DiPrete Engineering and included as a supporting document to this assessment, for additional information regarding the proposed site configuration.

Existing Conditions:

Gooding Avenue is an east-west roadway classified by the Rhode Island Department of Transportation as a minor arterial roadway with a posted speed limit of 35 miles per hour. Gooding Avenue is generally a two-lane, bi-directional roadway with 12-foot lanes and 6-foot shoulders. At the intersection of Metacom Avenue (Route 136) & Gooding Avenue / Narrows Road, Gooding Avenue forms the eastbound approach to the intersection and widens to provide dedicated left-, through, and right- turn lanes. Gooding Avenue provides access to commercial and industrial parcels. Concrete sidewalks are located along the northern edge of Gooding Avenue in its entirety.

Metacom Avenue (Route 136) is a north-south roadway classified by the Rhode Island Department of Transportation as a principal arterial roadway with a posted speed limit of 40 miles per hour. Metacom Avenue (Route 136) is generally a two-lane bi-directional roadway with a shared two-way-left-turn-lane, with various additional turn lanes at intersections. Metacom Avenue (Route 136) generally consists of 11 foot lanes and 4 foot shoulders. Metacom Avenue (Route 136) provides access to various commercial and residential parcels along the corridor. At the intersection of Metacom Avenue (Route 136) & Gooding Avenue / Narrows Road, Metacom Avenue (Route 136) forms the northbound and southbound approached of the intersection, with dedicated left-, through, and right- turn lanes at the southbound approach and a dedicated left-turn lane at the northbound approach. Sidewalks are provided along both sides of Metacom Avenue (Route 136) in the vicinity of the project site.

Narrows Road is an east-west roadway classified by the Rhode Island Department of Transportation as a major collector roadway with a posted speed limit of 25 miles per hour. Narrows Road is generally a two-lane bi-directional roadway with 11-foot lanes and 2-foot shoulders. At the intersection of Metacom Avenue (Route 136) & Gooding Avenue / Narrows Road, Narrows Road forms the westbound approach to the intersection and widens to provide dedicated left-, through, and right- turn lanes. Sidewalks are provided along both sides of Narrows Road in the vicinity of the project site.

The most recent three full years of accident data (January 2020 – December 2022) was obtained from the Bristol Police Department Records Division for the study area intersections and intermediate roadway segments. There was a total of forty-eight (48) crashes at the intersection of Gooding Avenue & Metacom Avenue (Route 136) over the three-year period, with an average of 16 crashes per year at this intersection. There was a total of thirteen (13) crashes identified along Gooding Avenue from its intersection with Broadcommon Road to its intersection with Metacom Avenue (Route 136) over the three-year period, with an average of 4.33 crashes per year. Overall, the quantity of crashes relative to the existing volumes on the arterial roadways in the study area network is low and does not indicate crash patterns or deficiencies in the roadway network that require mitigation. A letter from the Bristol Police Department Records Division confirming accident quantities in the study area is included as a supporting document to this assessment.

Turning movement count data was collected in April 2023 for the weekday AM and weekday PM peak hours, as these are the periods with the greatest potential impact on the adjacent roadways. The 2023 existing peak hour volumes for the weekday AM and weekday PM peak hours are illustrated in Figure 2. The raw turning movement count data is included as a supporting document to this assessment.

Volume and speed data were collected in April 2023 along Gooding Avenue in the vicinity of the proposed site driveway using an Automatic Traffic Recorder (ATR). The 2023 bi-directional ADT along Gooding Avenue was reported as 9,476 vehicles. The 85th percentile speed observed along Gooding Avenue was reported as 42.39 miles per hour eastbound and 35.96 miles per hour westbound. The raw ATR data is included as a supporting document to this assessment.

Proposed Conditions:

The project proposes to construct a 80-unit hotel with appurtenant parking, loading, landscape, utility, and drainage features. Access to the site is proposed along Gooding Avenue via one full-movement STOP-controlled site driveway.

Intersection sight distance (ISD) at the proposed site driveway was reviewed and evaluated per guidance provided in the 2008 edition of the RIDOT Highway Design Manual. The 85th percentile speed traveling westbound was recorded as 35.95 mph therefore the intersection sight distance looking right was based on a design speed of 40 mph (posted speed limit plus 5 mph) to provide a conservative analysis. The required sight distance looking right from the proposed driveway is 445 feet and the required sight distance looking left from the proposed driveway is 470 feet based on the 85th percentile speed of 42.39 miles per hour. The proposed site driveway has been designed to satisfy the required sight distances looking left

and right. Refer to the Intersection Sight Distance Figure, Figure ISD, for additional information regarding intersection sight distance.

To evaluate the potential traffic impact associated with the proposed development, the anticipated trips to be generated by the proposed land use was estimated using data from the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition. The trip generation was calculated for the weekday AM and weekday PM peak hours based on the proposed Hotel (Land Use Code 310) land use with an independent variable of hotel rooms, as these are the peak periods with the greatest potential for impact on the adjacent street traffic. The proposed development is anticipated to generate 37 (21 entering, 16 exiting) trips during the weekday AM peak hour and 48 (24 entering, 24 exiting) trips during the weekday PM peak hour. The trip generation rate sheets are provided as a supporting document to this assessment. A detailed breakdown of the proposed trip generation calculations is provided as a supporting document to this assessment. Table 1 below summarizes the anticipated trip generation for the proposed development.

TABLE 1
TRIP GENERATION SUMMARY

LAND USE	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
Hotel - LUC 310 *(80 Rooms)*	21	16	37	24	24	48
Total New Trips	**21**	**16**	**37**	**24**	**24**	**48**

The anticipated distribution of new traffic entering and exiting the site was developed based on area populations, existing traffic patterns, and the layout of the adjacent roadway network. The following distributions were applied to the new site generated trips:

- 25% to/from the north via Metacom Avenue (Route 136)
- 25% to/from the south via Metacom Avenue (Route 136)
- 50% to/from the west via Gooding Avenue

The anticipated percent distribution of the new site generated trips is illustrated in Figure 3. The new site generated trips were assigned based on the anticipated percent distributions illustrated in Figure 3 and the resulting trip assignment is illustrated in Figure 4.

As the proposed development is anticipated to be opened in 2025, background traffic growth is estimated to account for any traffic increase as a result of regional population growth. Based on Census data provided y the United States Census Bureau, there has been a minor decrease in population in the Town of Bristol in recent years. The population reported in the 2010 census was 22,954 people, while the population reported in the 202 census was 22,493 people. As a result, the existing traffic volumes were projected to the 2025 design year using a conservative 1.0 percent per year growth factor to establish the 2025 background traffic volumes. The 2025 background traffic volumes are illustrated in Figure 5. Census data provided by the United States Census Bureau is included as a supporting document to this assessment.

The trip assignment volumes illustrated in Figure 4 were combined with the 2025 background volumes in Figure 5 to develop the build traffic volumes. Figure 6 illustrates the 2025 build traffic volumes.

The Town of Bristol was contacted to identify any ongoing or proposed projects within the study area which may impact the analysis. No projects were identified which may impact the analysis.

Capacity Analysis:

To determine the operating conditions of the site driveway after the development has been constructed, the study area intersections were analyzed using the Synchro 11 capacity analysis software for the existing, background, and build peak hour conditions during the weekday AM and weekday PM peak hours, as these peak periods have the greatest potential for impact by the proposed development.

The results of the Synchro analysis describe the traffic impact in terms of Level of Service (LOS). LOS describes the operational condition of the signalized intersection in terms of delay (in seconds per vehicle) and is expressed on a scale of A through F with LOS A being the best and LOS F being the worst. LOS A reflects intersection operations with little to no vehicle delay (less than 10 seconds per vehicle) and LOS F reflects intersection conditions that are over capacity and experience long delays(more than 50 seconds of delay per vehicle at unsignalized intersections or 80 seconds of delay at signalized intersections). For unsignalized intersections, only the delay on the STOP-controlled approach is reported. Table 2 below summarizes the level of service for the study area intersections during the existing, background, and build conditions of the weekday AM and weekday PM peak hours. A detailed capacity analysis summary as well as Synchro 11 capacity analysis reports are included as supporting documents to this assessment.

TABLE 2
WEEKDAY CAPACITY ANALYSIS SUMMARY
(LOS/DELAY)

INTERSECTION	2023 Existing AM/PM	2025 Background AM/PM	2025 Build AM/PM
Metacom Avenue (Route 136) & Gooding Avenue / Narrows Road	(B/19.9) / (C/25.4)	(C/20.8) / (C/25.8)	(C/21.1) / (C/26.1)
Metacom Avenue (Route 136) – Northbound	(C/21.3) / (C/29.0)	(C/22.2) / (C/29.7)	(C/22.4) / (C/29.7)
Metacom Avenue (Route 136) – Southbound	(B/17.6) / (C/21.8)	(B/18.6) / (C/22.2)	(B/19.0) / (C/22.6)
Gooding Avenue – Eastbound	(C/23.8) / (C/28.4)	(C/23.8) / (C/28.6)	(C/24.5) / (C/29.1)
Narrows Road – Westbound	(C/20.0) / (C/20.6)	(C/20.2) / (C/20.8)	(C/20.2) / (C/20.8)
Gooding Avenue & Site Driveway*			
Site Driveway – Northbound	--	--	(B/11.3) / (B/14.2)
Gooding Avenue – Eastbound			
Gooding Avenue – Westbound			

*Unsignalized Intersection

Under the 2025 build condition, the proposed full movement STOP-controlled site driveway intersection with Gooding Avenue will operate at LOS B with 11.3 seconds of delay during the weekday AM peak hour and a LOS B with 14.2 seconds during the weekday PM peak hour. Gooding Avenue has 12-foot wide lanes and a 6-foot shoulder. It is anticipated that the existing roadway geometry will support a vehicle by-pass traveling westbound while vehicles make a left-turn into the site.

Under the 2025 build condition, the signalized intersection of Metacom Avenue (Route 136) & Gooding Avenue / Narrows Road is anticipated to operate at a LOS C with 21.1 seconds of delay during the weekday AM peak hour and a LOS C with 26.1 seconds of delay during the weekday PM peak hour. All intersection approaches and a majority of the individual intersection movements will maintain background operating conditions with one exception. The eastbound left movement is anticipated to change in operation from a LOS C with 34.5 seconds of delay to a LOS D with 35.6 seconds of delay during the weekday AM peak hour when comparing background to build conditions, representing a minor increase in delay of 1.1 seconds at this movement. The signalized intersection of Metacom Avenue (Route 136) & Gooding Avenue / Narrows Road will maintain acceptable operating conditions under the 2025 Build condition during the weekday AM and weekday PM peak hours.

The maximum 95th percentile queue at the site driveway onto Gooding Avenue is anticipated to be 0.1 vehicles during the weekday AM peak hour and 0.2 vehicles during the weekday PM peak hour, which can be accommodated with the proposed driveway layout. At the intersection of Metacom Avenue (Route 136) & Gooding Avenue / Narrows Road, no 95th percentile queue lengths are anticipated to increase more than 25 feet (1 vehicle length) during the weekday AM and weekday PM peak hours when comparing 2025 background conditions to 2025 build conditions.

Conclusion:

A traffic impact analysis of the study area intersections indicates that the proposed development along Gooding Avenue can be accommodated without adverse impacts on the study area roadway network. The project proposes to construct a 80-unit hotel with appurtenant parking, loading, landscape, utility, and drainage features. Access to the site is proposed along Gooding Avenue via one full-movement STOP-controlled site driveway.

Based on the analysis, the proposed development is anticipated to generate 37 (21 entering, 16 exiting) trips during the weekday AM peak hour and 48 (24 entering, 24 exiting) trips during the weekday PM peak hour. Under the build condition in the year 2025, the site driveway is expected to operate at level of service B during the weekday AM and weekday PM peak hours.

It is the professional opinion of Solli Engineering that the traffic anticipated to be generated by the proposed development can be accommodated by the surrounding roadway network. There is no indication that the proposed development will have an adverse impact on the operations of the adjacent roadway network.

If you have any questions or require any additional information, please call at your convenience.

Sincerely,
Solli Engineering, LLC



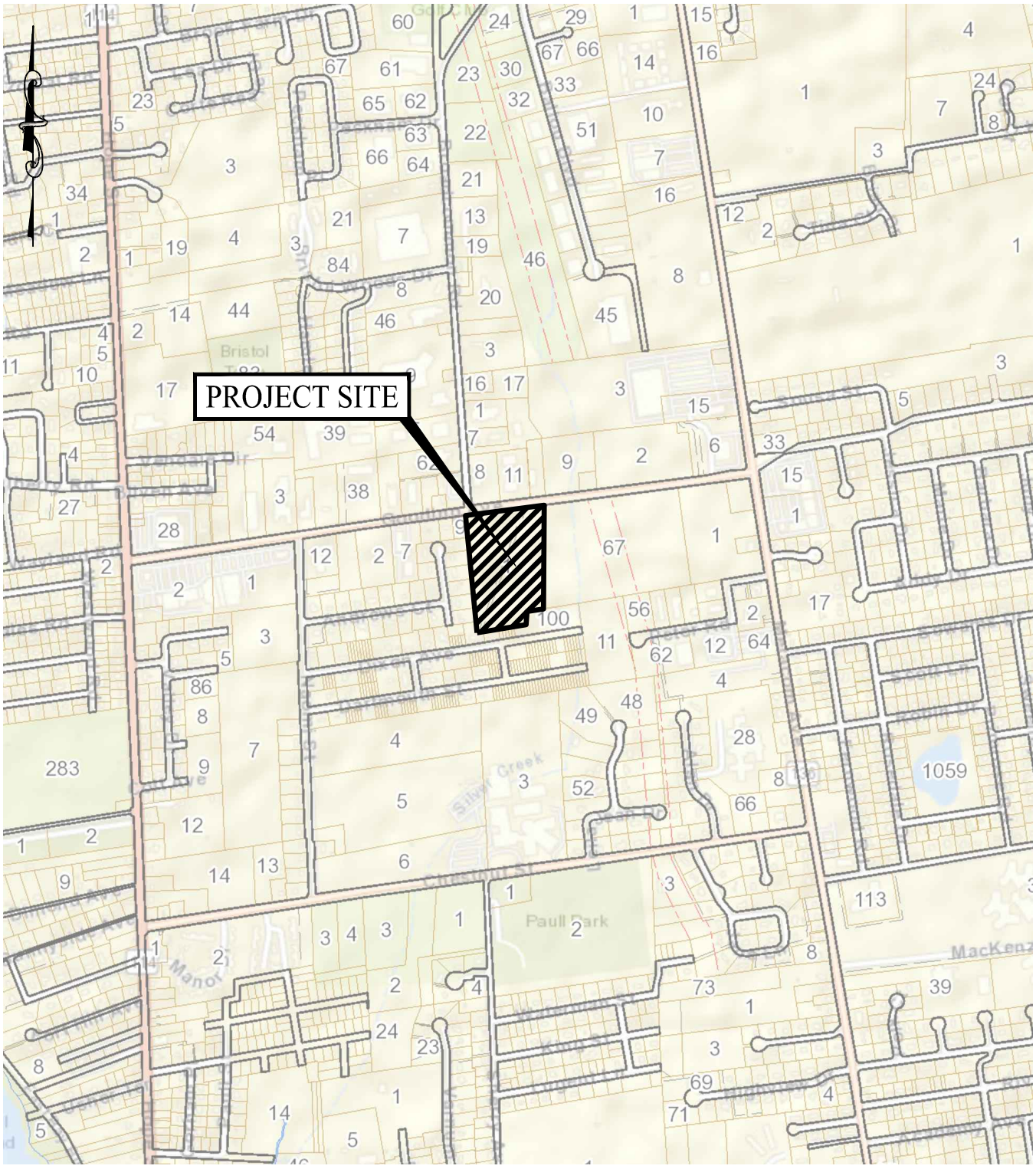
Matt Baldino, P.E., PTOE
Assistant Project Manager



Kevin Solli, P.E., PTOE
Principal

Supporting Documents:

Site Location Map	(Figure 1)
2023 Existing Traffic Volumes	(Figure 2)
Trip Distribution	(Figure 3)
Trip Assignment	(Figure 4)
2025 Background Traffic Volumes	(Figure 5)
2025 Build Traffic Volumes	(Figure 6)
Site Plan	
Intersection Sight Distance	(ISD)
Trip Generation Summary	
ITE Trip Generation Rate Sheets	
Accident Summary Letter	
Capacity Analysis Summary Table	
Synchro Analysis Reports	
US Census Bureau Data	
Turning Movement Count Data	
ATR Data	



NOTE: BASE MAP INFORMATION TAKEN FROM https://www.axisgis.com/bristolri/

1,000 0 500 1,000

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SITE LOCATION MAP

GOODING AVENUE
BRISTOL, RHODE ISLAND

Project #:	23103601
Plan Date:	04/14/23
Scale:	1" = 1,000'
Figure:	1

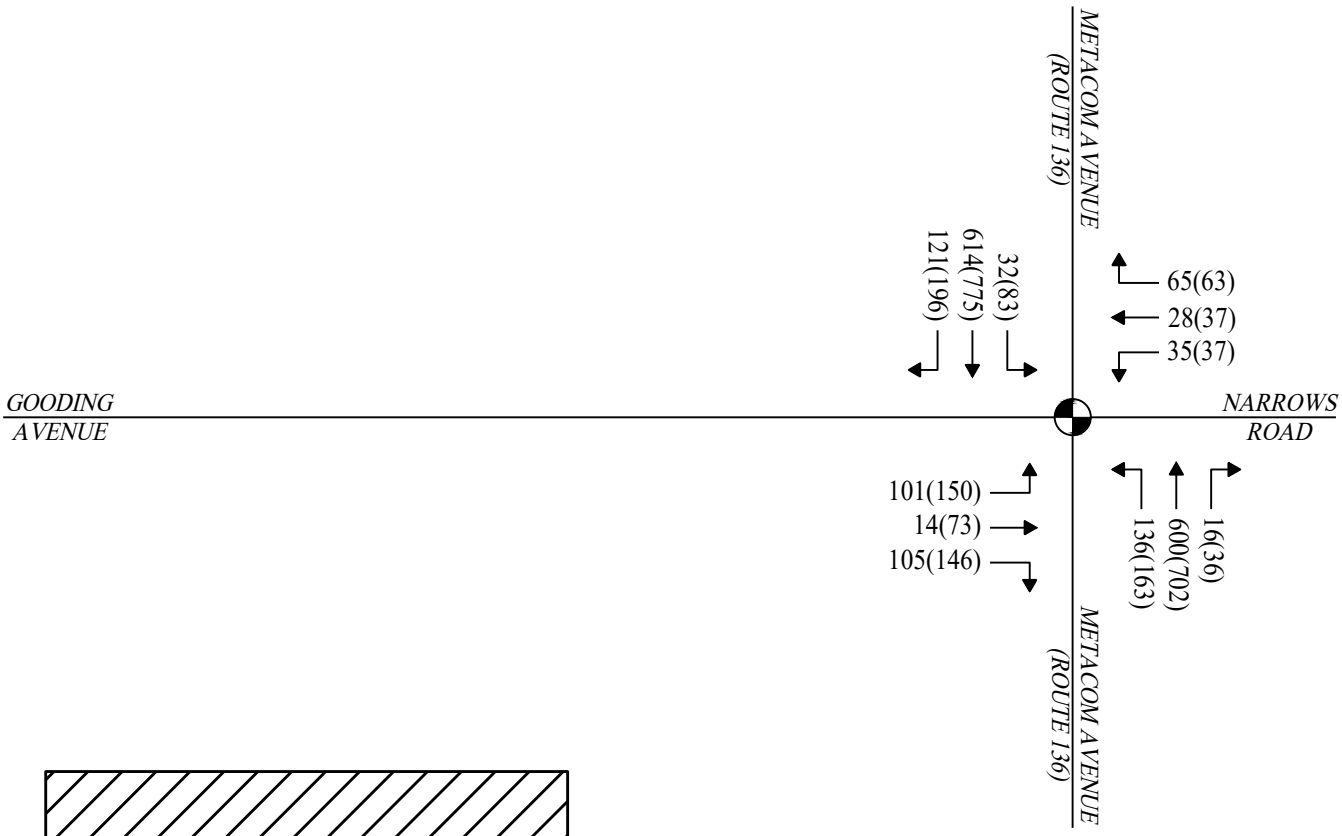
LEGEND

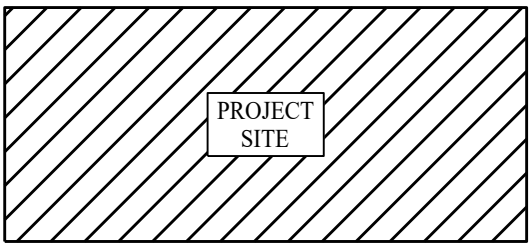
SIGNALIZED INTERSECTION

UNSIGNALIZED INTERSECTION

EXISTING ROADWAY

AM(PM)





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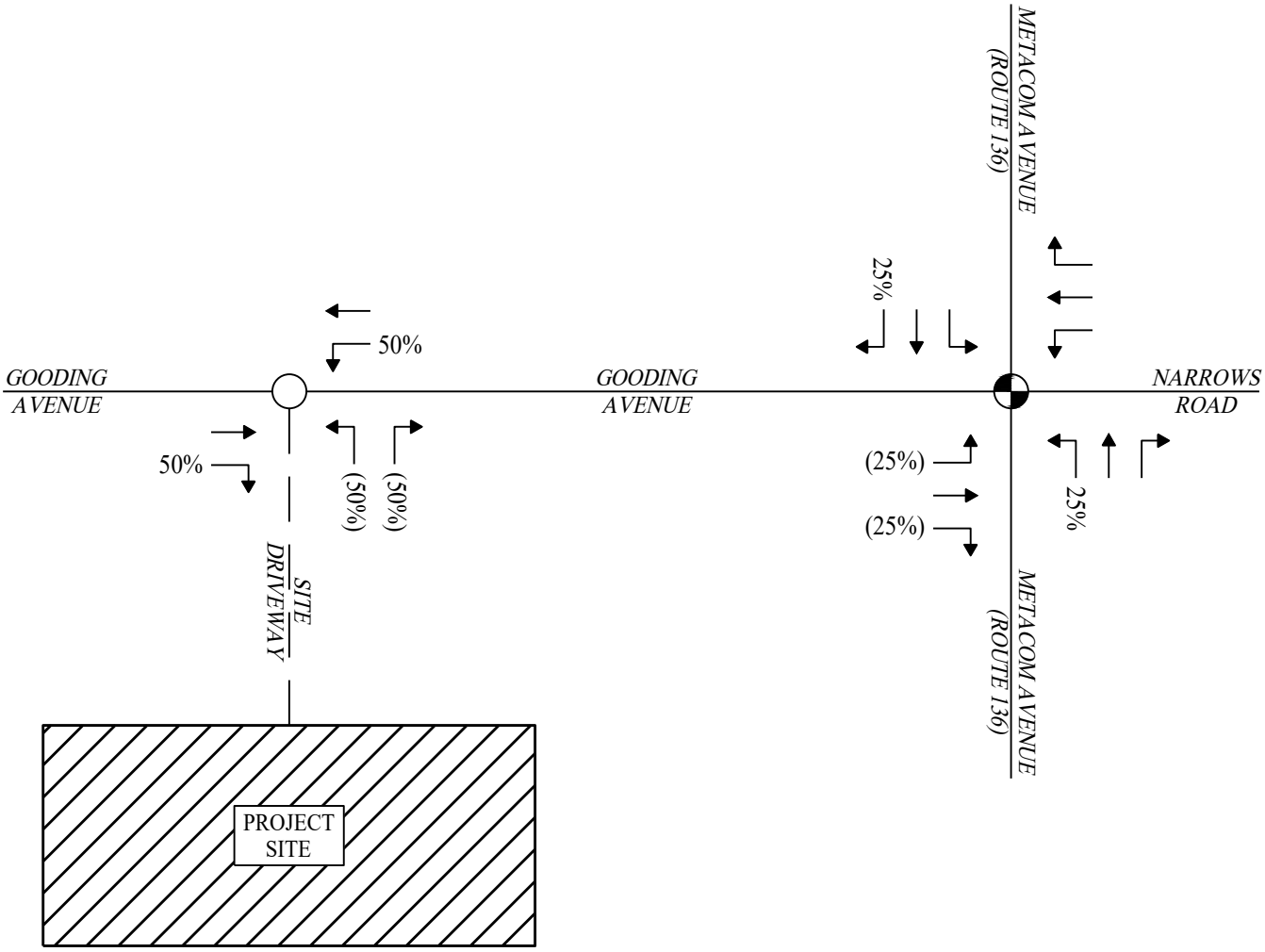
2023 EXISTING TRAFFIC VOLUMES

GOODING AVENUE
BRISTOL, RHODE ISLAND

Project #:	23103601
Plan Date:	01/10/24
Scale:	NTS
Figure:	2

LEGEND

- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION
- EXISTING ROADWAY
- PROPOSED ROADWAY
- ENTER(EXIT)



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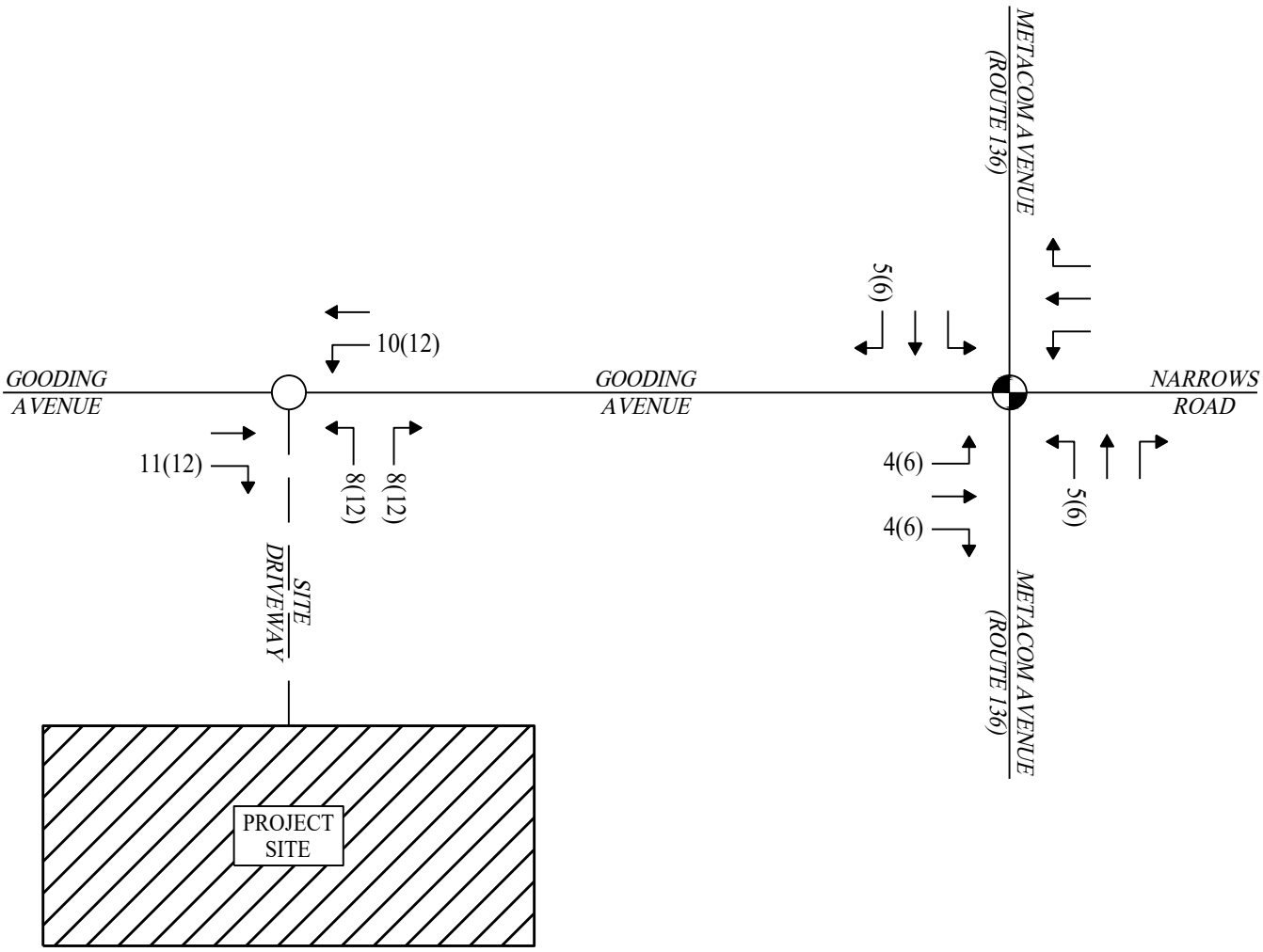
TRIP DISTRIBUTION
GOODING AVENUE
BRISTOL, RHODE ISLAND

Project #:	23103601
Plan Date:	01/10/24
Scale:	NTS
Figure:	3

LEGEND

- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION
- EXISTING ROADWAY
- PROPOSED ROADWAY
- AM(PM)



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TRIP ASSIGNMENT

GOODING AVENUE
BRISTOL, RHODE ISLAND

Project #:	23103601
Plan Date:	01/10/24
Scale:	NTS
Figure:	4

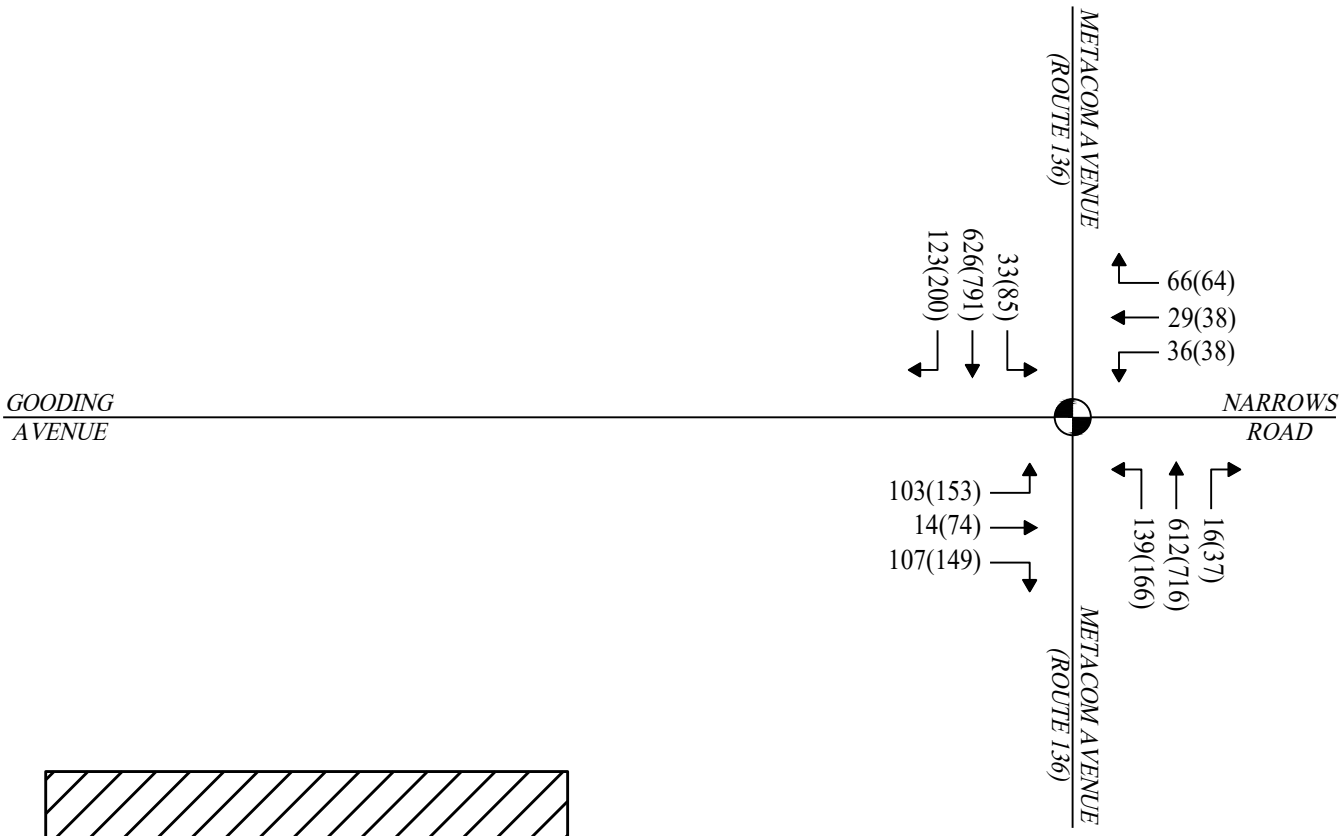
LEGEND

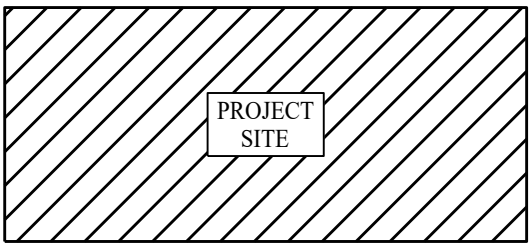
SIGNALIZED INTERSECTION

UNSIGNALIZED INTERSECTION

EXISTING ROADWAY

AM(PM)





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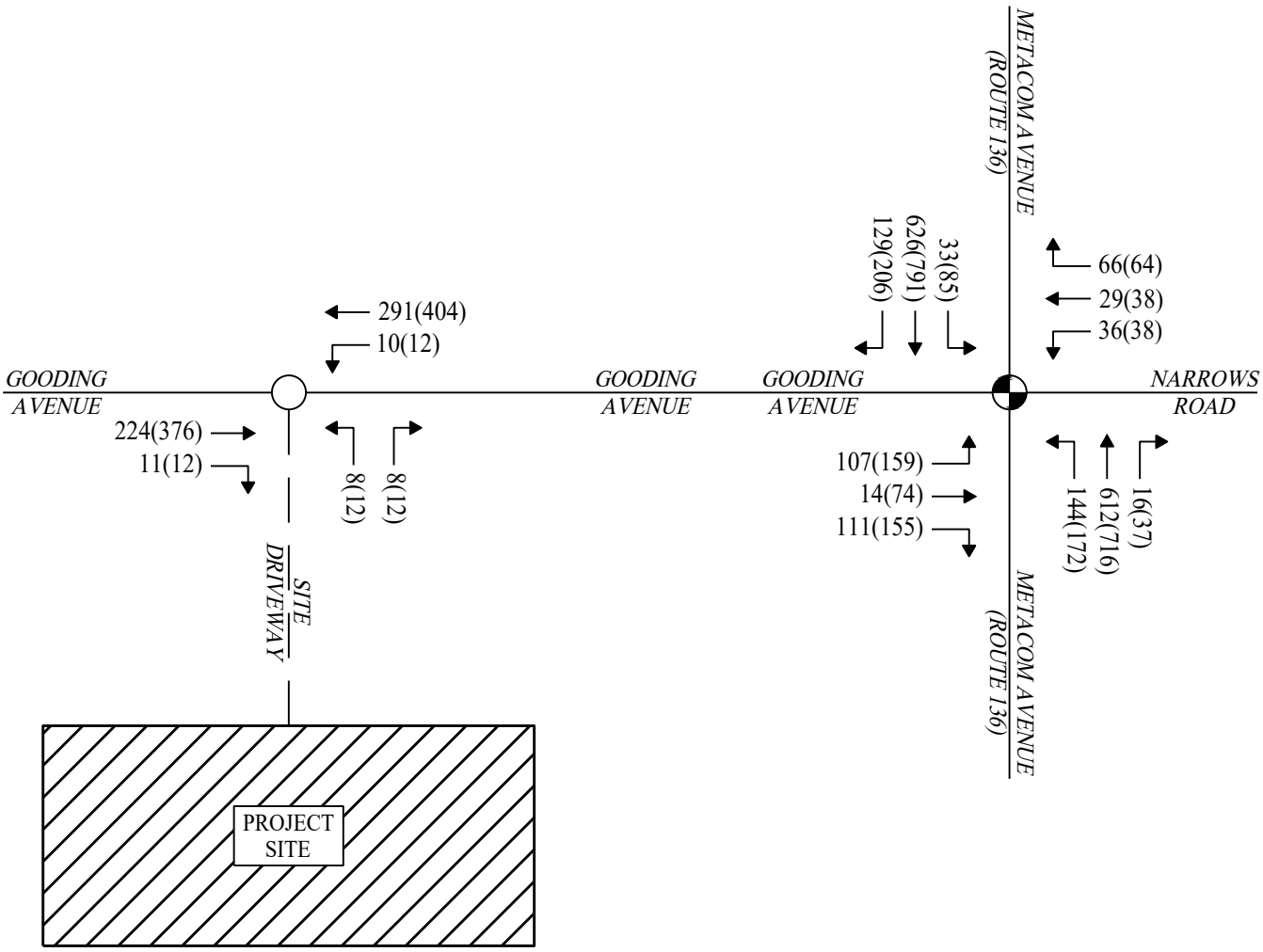
2025 BACKGROUND TRAFFIC VOLUMES

GOODING AVENUE
BRISTOL, RHODE ISLAND

Project #:	23103601
Plan Date:	01/10/24
Scale:	NTS
Figure:	5

LEGEND

- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION
- EXISTING ROADWAY
- PROPOSED ROADWAY
- AM(PM)



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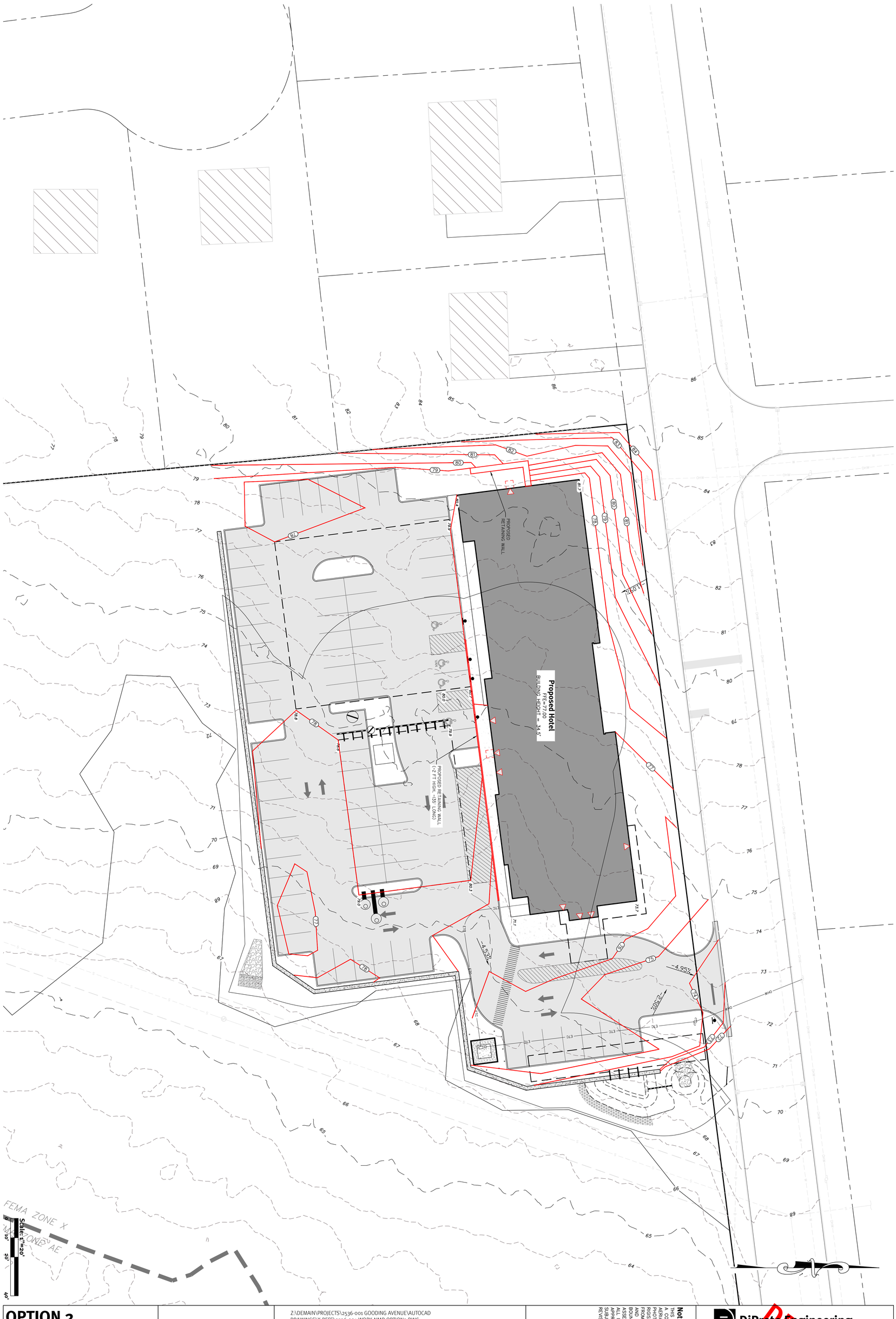
2025 BUILD TRAFFIC VOLUMES

GOODING AVENUE
BRISTOL, RHODE ISLAND

Project #:	23103601
Plan Date:	01/10/24
Scale:	NTS
Figure:	6



OPTION 2

2536-001 Gooding Avenue Development

Date: 11/3/2016 10:44 AM
Plotted By: NPATTIE

This printed worksheet is an internal design aid only. It is NOT intended to be a finished product.

Z:\DEMAIN\PROJECTS\2536-001 GOODING AVENUE\AUTOCAD DRAWINGS\X-REFS\2536-001-WORK-NMP-OPTION2.DWG

Note:
THE INFORMATION SHOWN ON THESE WORKSHEETS IS A COMPILATION OF AERIAL PHOTOGRAPHY FROM RIGIS, TOPOGRAPHY FROM LIDAR DATA, AND PROPERTY BOUNDARY INFORMATION FROM ASSESSOR'S MAPS. ALL INFORMATION IS APPROXIMATE AND SUBJECT TO REVISIONS.

DiPrete Engineering
Two Stafford Court Cranston, RI 02921
tel 401-943-1000 fax 401-464-6006 www.DiPrete-Eng.com

DRAFT

Item C2



NOTES:

1. INTERSECTION SIGHT DISTANCE IS MEASURED 15 FEET FROM THE SHOULDER.
2. INTERSECTION SIGHT DISTANCE IS BASED ON A DESIGN SPEED SPEED OF 40 MILES PER HOUR WESTBOUND AND AN 85TH PERCENTILE SPEED OF 42.39 MILES PER HOUR EASTBOUND ALONG GOODING AVENUE.
3. INTERSECTION SIGHT DISTANCES BASED ON GUIDANCE PROVIDED IN THE 2008 EDITION OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION HIGHWAY DESIGN MANUAL.

60 0 30 60

Rev. #:	Date	Description
1	01/10/24	Revised Per Site Layout Change

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Drawn By:	ABS
Checked By:	KMS
Project #:	23103601
Plan Date:	04/14/23
Scale:	1" = 60'

Project:
PROPOSED DEVELOPMENT
GOODING AVENUE
BRISTOL, RHODE ISLAND

Sheet Title:
INTERSECTION SIGHT DISTANCE

SHEET #:
ISD

Trip Generation Summary Proposed Hotel, Bristol, Rhode Island								
			AM Peak Hour			PM Peak Hour		
	Variable	LUC	Enter	Exit	Total	Enter	Exit	Total
Hotel	80	310	21	16	37	24	24	48
Total New Trips			**21**	**16**	**37**	**24**	**24**	**48**

Source: ITE Trip Generation, 11th Edition

Land Use	Time Period	Avg Rate	Entering	Exiting
LUC 310 - Hotel	AM	0.46	56%	44%
	PM	0.59	51%	49%

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Land Use: 310
Hotel

Description

A hotel is a place of lodging that provides sleeping accommodations and supporting facilities such as a full-service restaurant, cocktail lounge, meeting rooms, banquet room, and convention facilities. A hotel typically provides a swimming pool or another recreational facility such as a fitness room. All suites hotel (Land Use 311), business hotel (Land Use 312), motel (Land Use 320), and resort hotel (Land Use 330) are related uses.

Additional Data

Twenty-five studies provided information on occupancy rates at the time the studies were conducted. The average occupancy rate for these studies was approximately 82 percent.

Some properties in this land use provide guest transportation services (e.g., airport shuttle, limousine service, golf course shuttle service) which may have an impact on the overall trip generation rates.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, District of Columbia, Florida, Georgia, Indiana, Minnesota, New York, Ontario (CAN), Pennsylvania, South Dakota, Texas, Vermont, Virginia, and Washington.

For all lodging uses, it is important to collect data on occupied rooms as well as total rooms in order to accurately predict trip generation characteristics for the site.

Trip generation at a hotel may be related to the presence of supporting facilities such as convention facilities, restaurants, meeting/banquet space, and retail facilities. Future data submissions should specify the presence of these amenities. Reporting the level of activity at the supporting facilities such as full, empty, partially active, number of people attending a meeting/banquet during observation may also be useful in further analysis of this land use.

Source Numbers

170, 260, 262, 277, 280, 301, 306, 357, 422, 507, 577, 728, 867, 872, 925, 951, 1009, 1021, 1026, 1046

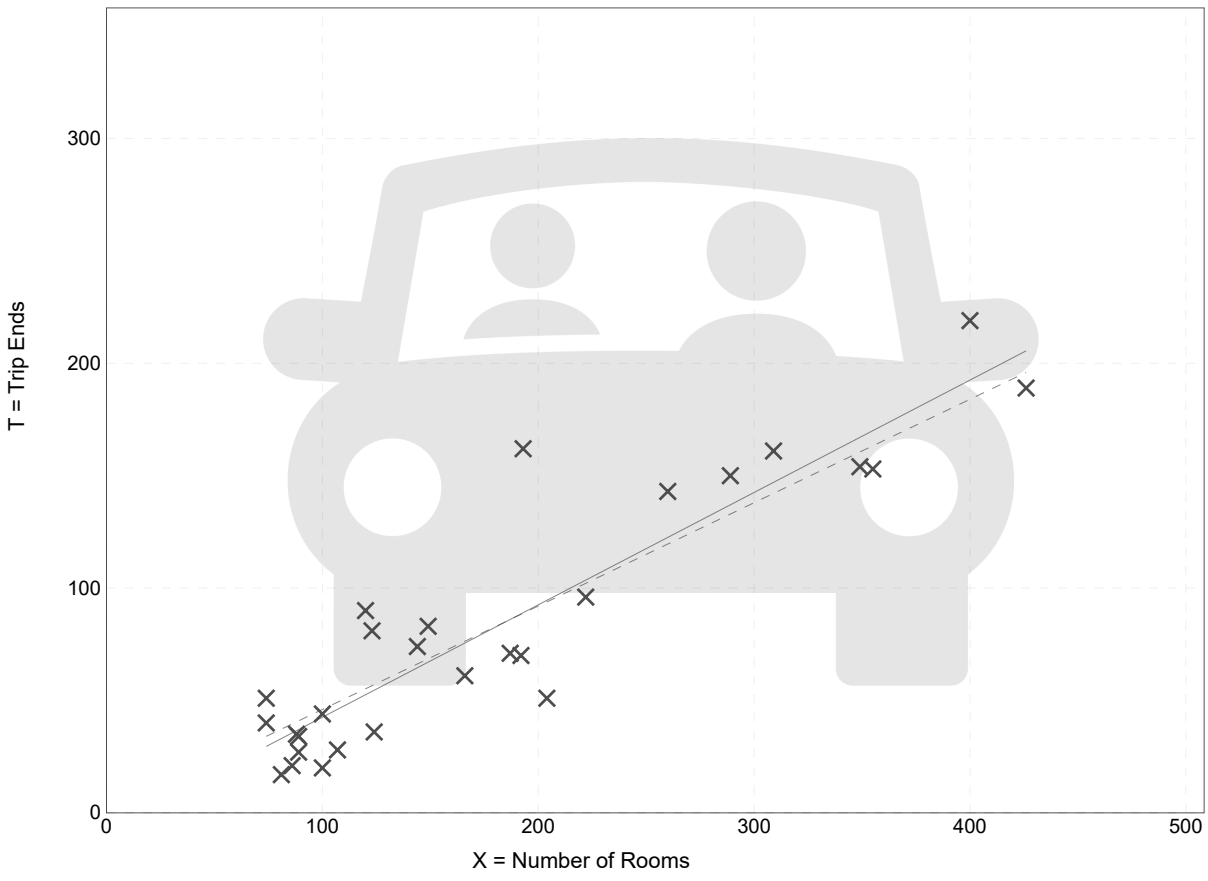
Hotel
(310)

Vehicle Trip Ends vs: **Rooms**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 28
Avg. Num. of Rooms: 182
Directional Distribution: 56% entering, 44% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.46	0.20 - 0.84	0.14

Data Plot and Equation



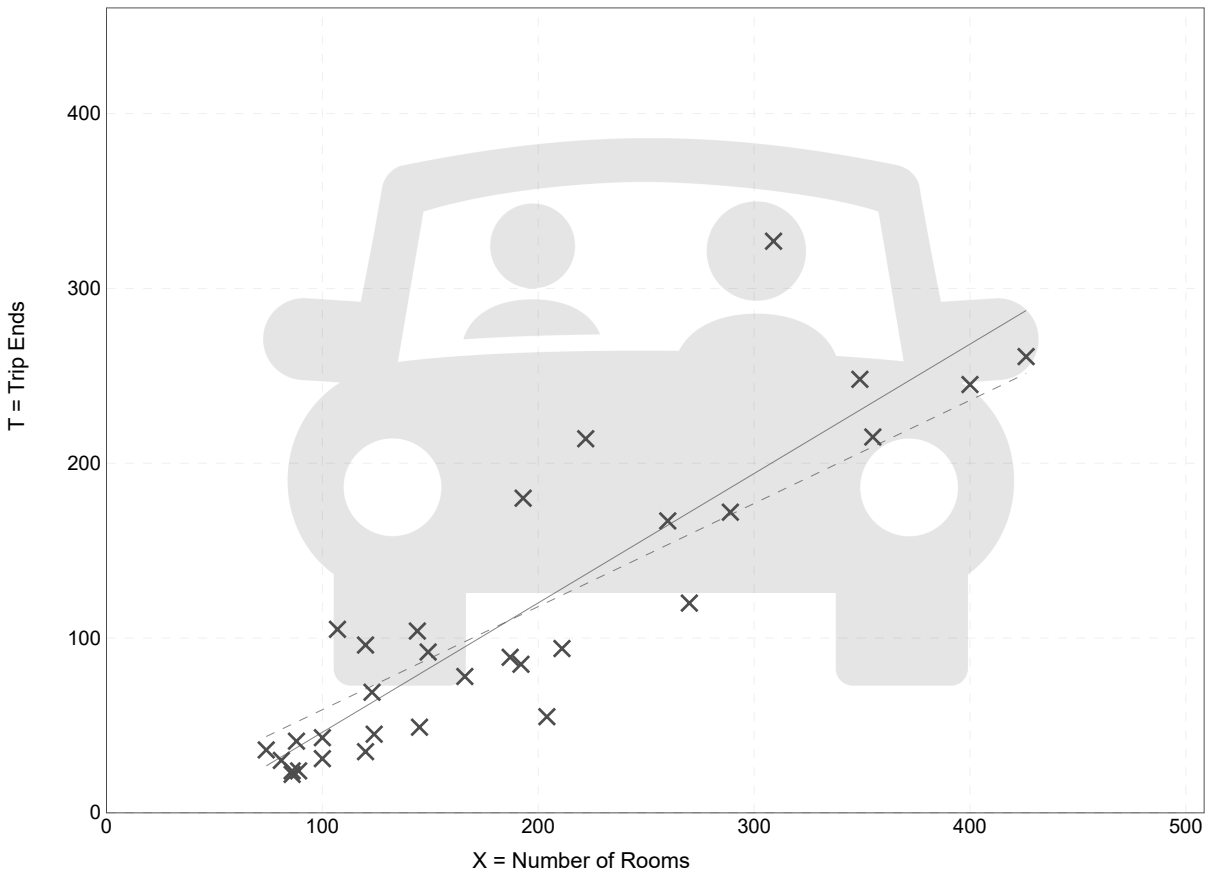
Hotel
(310)

Vehicle Trip Ends vs: **Rooms**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 31
Avg. Num. of Rooms: 186
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.59	0.26 - 1.06	0.22

Data Plot and Equation



Bristol Police Department

395 METACOM AVENUE ❖ BRISTOL, RHODE ISLAND 02809
TELEPHONE (401) 253-6900

KEVIN M. LYNCH
Chief of Police

April 3, 2023

Mr. Andrew Schroder
501 Main Street, Suite 2A
Monroe, CT 06468

Dear Mr. Schroder:

Your Public Records request for motor vehicle accident reports/data for the last three (3) years January 2020 – December 2022 from the Bristol Police Department has been received.

As per our phone conversation here are the numbers for those years:

- 2020 Gooding Ave. from Broadcommon Rd. to Metacom Ave. 6 MVA's reported with 6 at the intersection of Gooding and Metacom and 10 at Metacom and Gooding Ave.
- 2021 Gooding Ave. from Broadcommon Rd. to Metacom Avenue 3 MVA's reported with 6 reported on Gooding at Metacom and 9 at Metacom and Gooding Ave.
- 2022 Gooding Ave. from Broadcommon Rd. to Metacom Ave. 4 MVA's reported with 7 on Gooding at Metacom and 10 Metacom Ave. at Gooding Ave.

There is no cost for this information as I indicated in our phone conversation as the first hour of retrieval is free, however should you require the actual reports or further data after the first hour its $22.50 per hour and $ .15 per page. To include self-addressed postage. You may however set up a cooperate account as we discussed through LexisNexis for your convenience.

If you have any questions or should require further assistance, please contact us.

Sincerely,

Natalie Carroll
Clerk

Weekday AM Peak Hour
Capacity Analysis Summary
Proposed Development - Gooding Avenue, Bristol, RI

	Lane Use	Storage Length (ft)	2023 Existing				2025 Background				2025 Build			
			LOS/Delay(s)	V/C Ratio	Queue (ft) 50th	Queue (ft) 95th	LOS/Delay(s)	V/C Ratio	Queue (ft) 50th	Queue (ft) 95th	LOS/Delay(s)	V/C Ratio	Queue (ft) 50th	Queue (ft) 95th
Metacom Avenue (Route 136) & Gooding Avenue / Narrows Road														
Gooding Avenue														
	EB-LEFT	300	C/34.8	0.45	52	96	C/34.5	0.44	53	98	D/35.6	0.48	56	101
	EB-THRU		D/36.3	0.07	8	27	D/36.2	0.07	8	27	D/36.1	0.07	8	27
	EB-RIGHT	150	B/11.6	0.41	0	46	B/11.8	0.41	0	48	B/12.1	0.42	0	49
	Overall EB Approach		**C/23.8**				**C/23.8**				**C/24.5**			
Narrows Road														
	WB-LEFT	90	C/29.0	0.18	18	42	C/28.9	0.18	19	42	C/28.9	0.18	19	42
	WB-THRU		D/41.8	0.22	18	44	D/41.8	0.22	19	45	D/41.8	0.22	19	45
	WB-RIGHT	100	A/5.8	0.31	0	12	A/5.9	0.31	0	12	A/5.9	0.31	0	12
	Overall WB Approach		**C/20.0**				**C/20.2**				**C/20.2**			
Metacom Avenue (Route 136)														
	NB-LEFT	225	D/44.9	0.58	79	139	D/44.6	0.58	80	141	D/44.0	0.58	83	145
	NB-THRU/RIGHT		B/16.1	0.58	261	439	B/17.3	0.63	270	455	B/17.4	0.63	272	456
	Overall NB Approach		**C/21.3**				**C/22.2**				**C/22.4**			
	SB-LEFT	125	D/42.8	0.26	20	47	D/43.1	0.27	21	49	D/43.1	0.27	21	49
	SB-THRU/RIGHT		B/16.5	0.48	166	229	B/17.5	0.52	172	234	B/18.0	0.53	177	236
	Overall SB Approach		**B/17.6**				**B/18.6**				**B/19.0**			
Overall Intersection			**B/19.9**				**C/20.8**				**C/21.1**			
Gooding Avenue & Site Driveway*														
Gooding Avenue														
	EB-THRU/RIGHT													
	Overall EB Approach													
	WB-LEFT/THRU										A/7.8	0.008		0.0***
	Overall WB Approach													
Site Driveway														
	NB-LEFT/RIGHT										B/11.3	0.030		0.1***
	Overall NB Approach													
Overall Intersection														

*** = Queue length recorded in vehicles
*= Unsignalized Intersection

Weekday PM Peak Hour
Capacity Analysis Summary
Proposed Development - Gooding Avenue, Bristol, RI

Lane Use		Storage Length (ft)	2023 Existing				2025 Background				2025 Build			
			LOS/Delay(s)	V/C Ratio	Queue (ft) 50th	95th	LOS/Delay(s)	V/C Ratio	Queue (ft) 50th	95th	LOS/Delay(s)	V/C Ratio	Queue (ft) 50th	95th
Metacom Avenue (Route 136) & Gooding Avenue / Narrows Road														
Gooding Avenue														
	EB-LEFT	300	D/39.9	0.60	75	126	D/40.4	0.61	77	128	D/41.8	0.64	81	134
	EB-THRU		D/39.4	0.32	41	82	D/39.5	0.32	42	82	D/39.4	0.32	42	82
	EB-RIGHT	150	B/11.2	0.46	0	53	B/11.1	0.46	0	54	B/11.1	0.47	0	55
	Overall EB Approach		**C/28.4**				**C/28.6**				**C/29.1**			
Narrows Road														
	WB-LEFT	90	C/28.4	0.18	18	42	C/28.5	0.18	18	42	C/28.5	0.18	18	42
	WB-THRU		D/41.3	0.23	21	51	D/41.4	0.24	22	51	D/41.4	0.24	22	51
	WB-RIGHT	100	A/3.8	0.27	0	8	A/3.9	0.27	0	8	A/3.9	0.27	0	8
	Overall WB Approach		**C/20.6**				**C/20.8**				**C/20.8**			
Metacom Avenue (Route 136)														
	NB-LEFT	225	D/45.4	0.62	91	157	D/45.1	0.62	92	161	D/44.6	0.62	95	166
	NB-THRU/RIGHT		C/25.4	0.77	350	#672	C/26.3	0.79	363	#693	C/26.4	0.79	363	#693
	Overall NB Approach		**C/29.0**				**C/29.7**				**C/29.7**			
	SB-LEFT	125	D/45.5	0.47	48	90	D/45.6	0.47	49	91	D/45.6	0.47	49	91
	SB-THRU/RIGHT		B/19.7	0.62	220	310	C/20.2	0.64	228	319	C/20.7	0.65	233	321
	Overall SB Approach		**C/21.8**				**C/22.2**				**C/22.6**			
Overall Intersection			**C/25.4**				**C/25.8**				**C/26.1**			
Gooding Avenue & Site Driveway*														
Gooding Avenue														
	EB-THRU/RIGHT													
	Overall EB Approach													
	WB-LEFT/THRU										A/8.2	0.011		0.0***
	Overall WB Approach													
Site Driveway														
	NB-LEFT/RIGHT										B/14.2	0.062		0.2***
	Overall NB Approach													
Overall Intersection														

*** = Queue length recorded in vehicles
*= Unsignalized Intersection
= 95th percentile volume exceeds capacity, queue may be longer

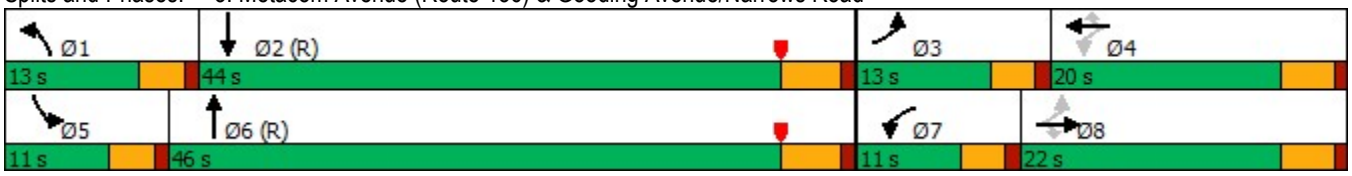
SOLLI ENGINEERING

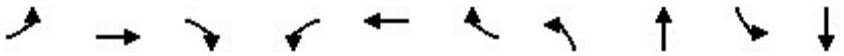
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	14	105	35	28	65	136	600	16	32	614	121
Future Volume (vph)	101	14	105	35	28	65	136	600	16	32	614	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	300		150	90		100	225		0	125		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850			0.850		0.996			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1837	1446	1805	1827	1615	1678	1758	0	1646	3256	0
Flt Permitted	0.513			0.747			0.950			0.950		
Satd. Flow (perm)	937	1837	1446	1419	1827	1615	1678	1758	0	1646	3256	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121			121		2			32	
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		2032			751			749			760	
Travel Time (s)		39.6			20.5			12.8			13.0	
Peak Hour Factor	0.90	0.90	0.90	0.86	0.86	0.86	0.92	0.92	0.92	0.88	0.88	0.88
Heavy Vehicles (%)	4%	0%	8%	0%	4%	0%	4%	4%	6%	6%	5%	2%
Adj. Flow (vph)	112	16	117	41	33	76	148	652	17	36	698	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	16	117	41	33	76	148	669	0	36	836	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		2	2	
Detector Template	Left		Right	Left		Right	Left					
Leading Detector (ft)	40	40	40	40	40	30	40	40		211	211	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	40	40	40	40	40	30	40	40		40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)										205	205	
Detector 2 Size(ft)										6	6	
Detector 2 Type										Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)										0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4						
Detector Phase	3	8	8	7	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	9.0	11.5	11.5	9.0	11.5	11.5	11.0	12.0		11.0	12.0	
Total Split (s)	13.0	22.0	22.0	11.0	20.0	20.0	13.0	46.0		11.0	44.0	
Total Split (%)	14.4%	24.4%	24.4%	12.2%	22.2%	22.2%	14.4%	51.1%		12.2%	48.9%	
Maximum Green (s)	9.0	17.5	17.5	7.0	15.5	15.5	9.0	41.0		7.0	39.0	
Yellow Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.7	2.7	2.5	2.7	2.7	2.5	2.7		2.5	2.7	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effct Green (s)	17.0	11.3	11.3	12.8	7.5	7.5	13.6	58.7		7.7	47.4	
Actuated g/C Ratio	0.19	0.13	0.13	0.14	0.08	0.08	0.15	0.65		0.09	0.53	
v/c Ratio	0.45	0.07	0.41	0.18	0.22	0.31	0.58	0.58		0.26	0.48	
Control Delay	34.8	36.3	11.6	29.0	41.8	5.8	44.9	16.1		42.8	16.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	34.8	36.3	11.6	29.0	41.8	5.8	44.9	16.1		42.8	16.5	
LOS	C	D	B	C	D	A	D	B		D	B	
Approach Delay		23.8			20.0			21.3			17.6	
Approach LOS		C			C			C			B	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 47 (52%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 19.9	Intersection LOS: B
Intersection Capacity Utilization 61.9%	ICU Level of Service B
Analysis Period (min) 15	

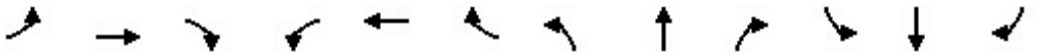
Splits and Phases: 3: Metacom Avenue (Route 136) & Gooding Avenue/Narrows Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	112	16	117	41	33	76	148	669	36	836
v/c Ratio	0.45	0.07	0.41	0.18	0.22	0.31	0.58	0.58	0.26	0.48
Control Delay	34.8	36.3	11.6	29.0	41.8	5.8	44.9	16.1	42.8	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.8	36.3	11.6	29.0	41.8	5.8	44.9	16.1	42.8	16.5
Queue Length 50th (ft)	52	8	0	18	18	0	79	261	20	166
Queue Length 95th (ft)	96	27	46	42	44	12	139	439	47	229
Internal Link Dist (ft)		1952			671			669		680
Turn Bay Length (ft)	300		150	90		100	225		125	
Base Capacity (vph)	263	363	382	243	314	378	253	1148	140	1730
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.04	0.31	0.17	0.11	0.20	0.58	0.58	0.26	0.48

Intersection Summary



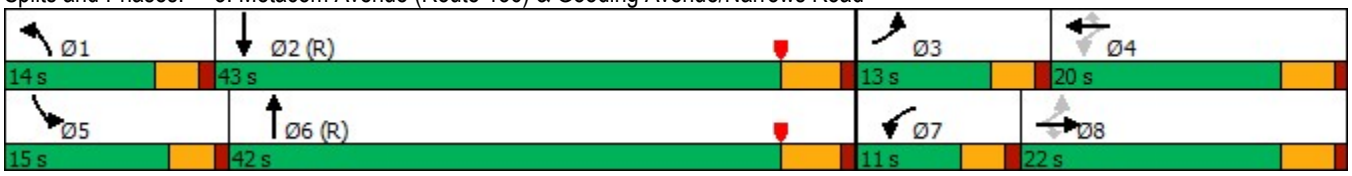
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	73	146	37	37	63	163	702	36	83	775	196
Future Volume (vph)	150	73	146	37	37	63	163	702	36	83	775	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	300		150	90		100	225		0	125		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850			0.850		0.993			0.970	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1837	1546	1752	1900	1583	1728	1790	0	1745	3345	0
Flt Permitted	0.470			0.708			0.950			0.950		
Satd. Flow (perm)	875	1837	1546	1306	1900	1583	1728	1790	0	1745	3345	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			152			121		3			43	
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		2032			751			749			760	
Travel Time (s)		39.6			20.5			12.8			13.0	
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	1%	3%	0%	2%	1%	2%	0%	0%	1%	2%
Adj. Flow (vph)	156	76	152	39	39	66	172	739	38	87	816	206
Shared Lane Traffic (%)												
Lane Group Flow (vph)	156	76	152	39	39	66	172	777	0	87	1022	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		2	2	
Detector Template	Left		Right	Left		Right	Left					
Leading Detector (ft)	40	40	40	40	40	30	40	40		211	211	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	40	40	40	40	40	30	40	40		40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)										205	205	
Detector 2 Size(ft)										6	6	
Detector 2 Type										Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)										0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	

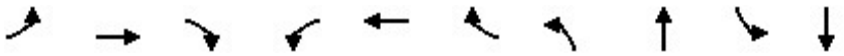
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4						
Detector Phase	3	8	8	7	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	11.0	11.5	11.5	9.0	11.5	11.5	11.0	12.0		11.0	12.0	
Total Split (s)	13.0	22.0	22.0	11.0	20.0	20.0	14.0	42.0		15.0	43.0	
Total Split (%)	14.4%	24.4%	24.4%	12.2%	22.2%	22.2%	15.6%	46.7%		16.7%	47.8%	
Maximum Green (s)	9.0	17.5	17.5	7.0	15.5	15.5	10.0	37.0		11.0	38.0	
Yellow Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.7	2.7	2.5	2.7	2.7	2.5	2.7		2.5	2.7	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effct Green (s)	17.7	11.8	11.8	13.1	7.9	7.9	14.4	50.8		9.6	43.8	
Actuated g/C Ratio	0.20	0.13	0.13	0.15	0.09	0.09	0.16	0.56		0.11	0.49	
v/c Ratio	0.60	0.32	0.46	0.18	0.23	0.27	0.62	0.77		0.47	0.62	
Control Delay	39.9	39.4	11.2	28.4	41.3	3.8	45.4	25.4		45.5	19.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	39.9	39.4	11.2	28.4	41.3	3.8	45.4	25.4		45.5	19.7	
LOS	D	D	B	C	D	A	D	C		D	B	
Approach Delay		28.4			20.6			29.0			21.8	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 44 (49%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 25.4 Intersection LOS: C
Intersection Capacity Utilization 71.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Metacom Avenue (Route 136) & Gooding Avenue/Narrows Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	156	76	152	39	39	66	172	777	87	1022
v/c Ratio	0.60	0.32	0.46	0.18	0.23	0.27	0.62	0.77	0.47	0.62
Control Delay	39.9	39.4	11.2	28.4	41.3	3.8	45.4	25.4	45.5	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.9	39.4	11.2	28.4	41.3	3.8	45.4	25.4	45.5	19.7
Queue Length 50th (ft)	75	41	0	18	21	0	91	350	48	220
Queue Length 95th (ft)	126	82	53	42	51	8	157	#672	90	310
Internal Link Dist (ft)		1952			671			669		680
Turn Bay Length (ft)	300		150	90		100	225		125	
Base Capacity (vph)	264	367	431	236	327	372	276	1011	221	1649
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.21	0.35	0.17	0.12	0.18	0.62	0.77	0.39	0.62

Intersection Summary

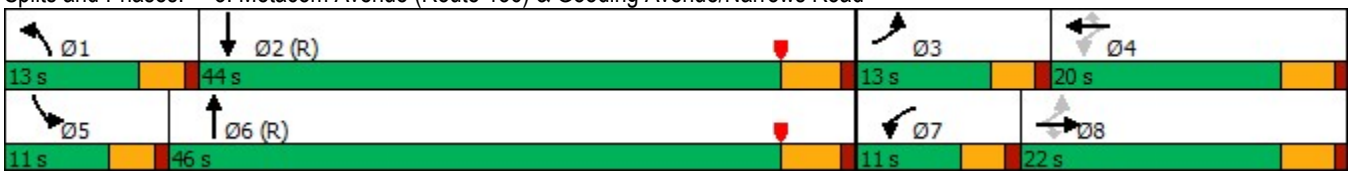
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	14	107	36	29	66	139	612	16	33	626	123
Future Volume (vph)	103	14	107	36	29	66	139	612	16	33	626	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	300		150	90		100	225		0	125		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850			0.850		0.996			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1837	1446	1805	1827	1615	1678	1758	0	1646	3256	0
Flt Permitted	0.540			0.747			0.950			0.950		
Satd. Flow (perm)	987	1837	1446	1419	1827	1615	1678	1758	0	1646	3256	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121			121		2			32	
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		2032			751			749			760	
Travel Time (s)		39.6			20.5			12.8			13.0	
Peak Hour Factor	0.90	0.90	0.90	0.86	0.86	0.86	0.92	0.92	0.92	0.88	0.88	0.88
Heavy Vehicles (%)	4%	0%	8%	0%	4%	0%	4%	4%	6%	6%	5%	2%
Adj. Flow (vph)	114	16	119	42	34	77	151	665	17	38	711	140
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	16	119	42	34	77	151	682	0	38	851	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		2	2	
Detector Template	Left		Right	Left		Right	Left					
Leading Detector (ft)	40	40	40	40	40	30	40	40		211	211	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	40	40	40	40	40	30	40	40		40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)										205	205	
Detector 2 Size(ft)										6	6	
Detector 2 Type										Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)										0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	

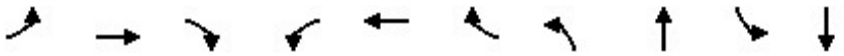
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4						
Detector Phase	3	8	8	7	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	9.0	11.5	11.5	9.0	11.5	11.5	11.0	12.0		11.0	12.0	
Total Split (s)	13.0	22.0	22.0	11.0	20.0	20.0	13.0	46.0		11.0	44.0	
Total Split (%)	14.4%	24.4%	24.4%	12.2%	22.2%	22.2%	14.4%	51.1%		12.2%	48.9%	
Maximum Green (s)	9.0	17.5	17.5	7.0	15.5	15.5	9.0	41.0		7.0	39.0	
Yellow Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.7	2.7	2.5	2.7	2.7	2.5	2.7		2.5	2.7	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effct Green (s)	17.3	11.3	11.3	13.3	7.5	7.5	13.9	55.4		7.7	44.8	
Actuated g/C Ratio	0.19	0.13	0.13	0.15	0.08	0.08	0.15	0.62		0.09	0.50	
v/c Ratio	0.44	0.07	0.41	0.18	0.22	0.31	0.58	0.63		0.27	0.52	
Control Delay	34.5	36.2	11.8	28.9	41.8	5.9	44.6	17.3		43.1	17.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	34.5	36.2	11.8	28.9	41.8	5.9	44.6	17.3		43.1	17.5	
LOS	C	D	B	C	D	A	D	B		D	B	
Approach Delay		23.8			20.2			22.2			18.6	
Approach LOS		C			C			C			B	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 47 (52%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 62.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Metacom Avenue (Route 136) & Gooding Avenue/Narrows Road



Queues
Gooding Avenue - Bristol, RI
3: Metacom Avenue (Route 136) & Gooding Avenue/Narrows Road
2025 Background AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	16	119	42	34	77	151	682	38	851
v/c Ratio	0.44	0.07	0.41	0.18	0.22	0.31	0.58	0.63	0.27	0.52
Control Delay	34.5	36.2	11.8	28.9	41.8	5.9	44.6	17.3	43.1	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	36.2	11.8	28.9	41.8	5.9	44.6	17.3	43.1	17.5
Queue Length 50th (ft)	53	8	0	19	19	0	80	270	21	172
Queue Length 95th (ft)	98	27	48	42	45	12	141	455	49	234
Internal Link Dist (ft)		1952			671			669		680
Turn Bay Length (ft)	300		150	90		100	225		125	
Base Capacity (vph)	268	363	382	245	314	378	259	1082	141	1636
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.04	0.31	0.17	0.11	0.20	0.58	0.63	0.27	0.52

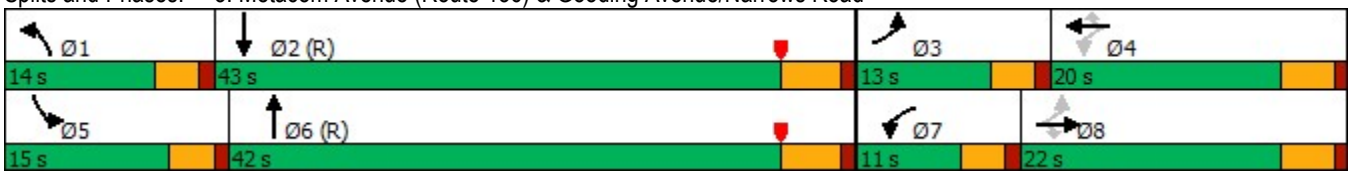
Intersection Summary

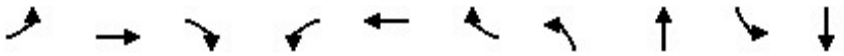
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	74	149	38	38	64	166	716	37	85	791	200
Future Volume (vph)	153	74	149	38	38	64	166	716	37	85	791	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	300		150	90		100	225		0	125		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850			0.850		0.993			0.970	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1837	1546	1752	1900	1583	1728	1790	0	1745	3345	0
Flt Permitted	0.470			0.707			0.950			0.950		
Satd. Flow (perm)	875	1837	1546	1304	1900	1583	1728	1790	0	1745	3345	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155			121		4			43	
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		2032			751			749			760	
Travel Time (s)		39.6			20.5			12.8			13.0	
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	1%	3%	0%	2%	1%	2%	0%	0%	1%	2%
Adj. Flow (vph)	159	77	155	40	40	67	175	754	39	89	833	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	77	155	40	40	67	175	793	0	89	1044	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		2	2	
Detector Template	Left		Right	Left		Right	Left					
Leading Detector (ft)	40	40	40	40	40	30	40	40		211	211	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	40	40	40	40	40	30	40	40		40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)										205	205	
Detector 2 Size(ft)										6	6	
Detector 2 Type										Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)										0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4						
Detector Phase	3	8	8	7	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	11.0	11.5	11.5	9.0	11.5	11.5	11.0	12.0		11.0	12.0	
Total Split (s)	13.0	22.0	22.0	11.0	20.0	20.0	14.0	42.0		15.0	43.0	
Total Split (%)	14.4%	24.4%	24.4%	12.2%	22.2%	22.2%	15.6%	46.7%		16.7%	47.8%	
Maximum Green (s)	9.0	17.5	17.5	7.0	15.5	15.5	10.0	37.0		11.0	38.0	
Yellow Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.7	2.7	2.5	2.7	2.7	2.5	2.7		2.5	2.7	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effct Green (s)	17.7	11.8	11.8	13.1	7.9	7.9	14.7	50.7		9.7	43.5	
Actuated g/C Ratio	0.20	0.13	0.13	0.15	0.09	0.09	0.16	0.56		0.11	0.48	
v/c Ratio	0.61	0.32	0.46	0.18	0.24	0.27	0.62	0.79		0.47	0.64	
Control Delay	40.4	39.5	11.1	28.5	41.4	3.9	45.1	26.3		45.6	20.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	40.4	39.5	11.1	28.5	41.4	3.9	45.1	26.3		45.6	20.2	
LOS	D	D	B	C	D	A	D	C		D	C	
Approach Delay		28.6			20.8			29.7			22.2	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 44 (49%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 25.8		Intersection LOS: C	
Intersection Capacity Utilization 72.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Metacom Avenue (Route 136) & Gooding Avenue/Narrows Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	159	77	155	40	40	67	175	793	89	1044
v/c Ratio	0.61	0.32	0.46	0.18	0.24	0.27	0.62	0.79	0.47	0.64
Control Delay	40.4	39.5	11.1	28.5	41.4	3.9	45.1	26.3	45.6	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.4	39.5	11.1	28.5	41.4	3.9	45.1	26.3	45.6	20.2
Queue Length 50th (ft)	77	42	0	18	22	0	92	363	49	228
Queue Length 95th (ft)	128	82	54	42	51	8	161	#693	91	319
Internal Link Dist (ft)		1952			671			669		680
Turn Bay Length (ft)	300		150	90		100	225		125	
Base Capacity (vph)	264	367	433	235	327	372	281	1009	221	1638
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.21	0.36	0.17	0.12	0.18	0.62	0.79	0.40	0.64

Intersection Summary

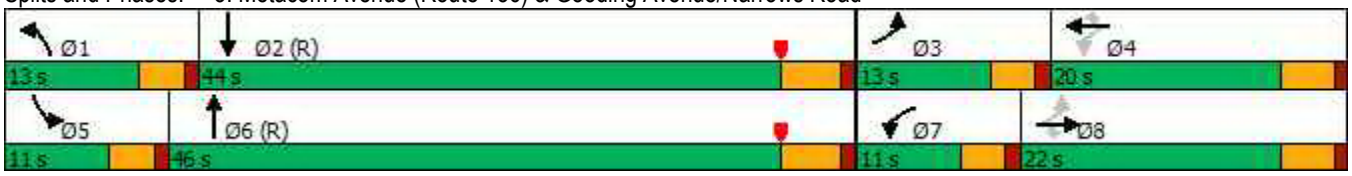
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	14	111	36	29	66	144	612	16	33	626	129
Future Volume (vph)	107	14	111	36	29	66	144	612	16	33	626	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	300		150	90		100	225		0	125		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850			0.850		0.996			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1837	1446	1805	1827	1615	1678	1758	0	1646	3253	0
Flt Permitted	0.463			0.747			0.950			0.950		
Satd. Flow (perm)	846	1837	1446	1419	1827	1615	1678	1758	0	1646	3253	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			121		2			34	
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		1337			751			749			760	
Travel Time (s)		26.0			20.5			12.8			13.0	
Peak Hour Factor	0.90	0.90	0.90	0.86	0.86	0.86	0.92	0.92	0.92	0.88	0.88	0.88
Heavy Vehicles (%)	4%	0%	8%	0%	4%	0%	4%	4%	6%	6%	5%	2%
Adj. Flow (vph)	119	16	123	42	34	77	157	665	17	38	711	147
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	16	123	42	34	77	157	682	0	38	858	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		2	2	
Detector Template	Left		Right	Left		Right	Left					
Leading Detector (ft)	40	40	40	40	40	30	40	40		211	211	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	40	40	40	40	40	30	40	40		40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)										205	205	
Detector 2 Size(ft)										6	6	
Detector 2 Type										Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)										0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4						
Detector Phase	3	8	8	7	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	9.0	11.5	11.5	9.0	11.5	11.5	11.0	12.0		11.0	12.0	
Total Split (s)	13.0	22.0	22.0	11.0	20.0	20.0	13.0	46.0		11.0	44.0	
Total Split (%)	14.4%	24.4%	24.4%	12.2%	22.2%	22.2%	14.4%	51.1%		12.2%	48.9%	
Maximum Green (s)	9.0	17.5	17.5	7.0	15.5	15.5	9.0	41.0		7.0	39.0	
Yellow Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.7	2.7	2.5	2.7	2.7	2.5	2.7		2.5	2.7	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effct Green (s)	17.4	11.4	11.4	12.8	7.6	7.6	14.5	55.3		7.7	44.1	
Actuated g/C Ratio	0.19	0.13	0.13	0.14	0.08	0.08	0.16	0.61		0.09	0.49	
v/c Ratio	0.48	0.07	0.42	0.18	0.22	0.31	0.58	0.63		0.27	0.53	
Control Delay	35.6	36.1	12.1	28.9	41.8	5.9	44.0	17.4		43.1	18.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	35.6	36.1	12.1	28.9	41.8	5.9	44.0	17.4		43.1	18.0	
LOS	D	D	B	C	D	A	D	B		D	B	
Approach Delay		24.5			20.2			22.4			19.0	
Approach LOS		C			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 47 (52%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 21.1		Intersection LOS: C	
Intersection Capacity Utilization 62.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Metacom Avenue (Route 136) & Gooding Avenue/Narrows Road



Queues
Gooding Avenue - Bristol, RI
3: Metacom Avenue (Route 136) & Gooding Avenue/Narrows Road
2025 Build AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	119	16	123	42	34	77	157	682	38	858
v/c Ratio	0.48	0.07	0.42	0.18	0.22	0.31	0.58	0.63	0.27	0.53
Control Delay	35.6	36.1	12.1	28.9	41.8	5.9	44.0	17.4	43.1	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	36.1	12.1	28.9	41.8	5.9	44.0	17.4	43.1	18.0
Queue Length 50th (ft)	56	8	0	19	19	0	83	272	21	177
Queue Length 95th (ft)	101	27	49	42	45	12	145	456	49	236
Internal Link Dist (ft)		1257			671			669		680
Turn Bay Length (ft)	300		150	90		100	225		125	
Base Capacity (vph)	257	363	385	243	314	378	269	1080	141	1611
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.04	0.32	0.17	0.11	0.20	0.58	0.63	0.27	0.53

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	224	11	10	291	8	8
Future Volume (vph)	224	11	10	291	8	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994				0.932	
Flt Protected				0.998	0.976	
Satd. Flow (prot)	1852	0	0	1859	1694	0
Flt Permitted				0.998	0.976	
Satd. Flow (perm)	1852	0	0	1859	1694	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	217			1337	298	
Travel Time (s)	4.2			26.0	6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	243	12	11	316	9	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	255	0	0	327	18	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		60	60		60	60
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	224	11	10	291	8	8
Future Vol, veh/h	224	11	10	291	8	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	243	12	11	316	9	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	255	0	587	249
Stage 1	-	-	-	-	249	-
Stage 2	-	-	-	-	338	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1310	-	472	790
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	722	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1310	-	467	790
Mov Cap-2 Maneuver	-	-	-	-	467	-
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	715	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.3
HCM LOS			B

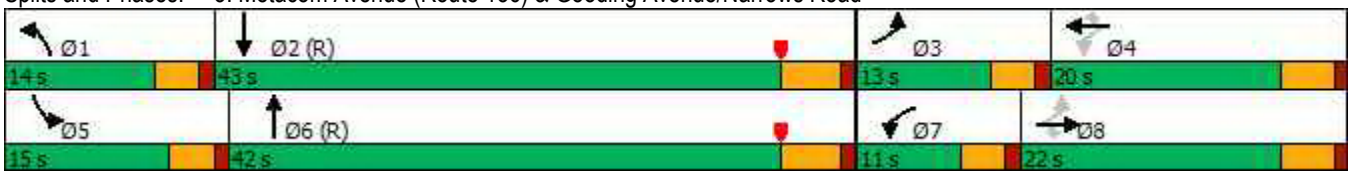
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	587	-	-	1310	-
HCM Lane V/C Ratio	0.03	-	-	0.008	-
HCM Control Delay (s)	11.3	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

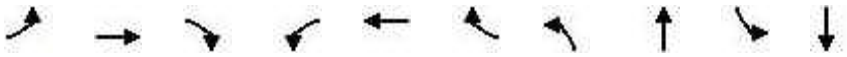
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	159	74	155	38	38	64	172	716	37	85	791	206
Future Volume (vph)	159	74	155	38	38	64	172	716	37	85	791	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	300		150	90		100	225		0	125		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850			0.850		0.993			0.969	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1837	1546	1752	1900	1583	1728	1790	0	1745	3341	0
Flt Permitted	0.468			0.707			0.950			0.950		
Satd. Flow (perm)	872	1837	1546	1304	1900	1583	1728	1790	0	1745	3341	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			161			121		4			45	
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		1337			751			749			760	
Travel Time (s)		26.0			20.5			12.8			13.0	
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	1%	3%	0%	2%	1%	2%	0%	0%	1%	2%
Adj. Flow (vph)	166	77	161	40	40	67	181	754	39	89	833	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	77	161	40	40	67	181	793	0	89	1050	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		2	2	
Detector Template	Left		Right	Left		Right	Left					
Leading Detector (ft)	40	40	40	40	40	30	40	40		211	211	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	40	40	40	40	40	30	40	40		40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)										205	205	
Detector 2 Size(ft)										6	6	
Detector 2 Type										Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)										0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4						
Detector Phase	3	8	8	7	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	11.0	11.5	11.5	9.0	11.5	11.5	11.0	12.0		11.0	12.0	
Total Split (s)	13.0	22.0	22.0	11.0	20.0	20.0	14.0	42.0		15.0	43.0	
Total Split (%)	14.4%	24.4%	24.4%	12.2%	22.2%	22.2%	15.6%	46.7%		16.7%	47.8%	
Maximum Green (s)	9.0	17.5	17.5	7.0	15.5	15.5	10.0	37.0		11.0	38.0	
Yellow Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.7	2.7	2.5	2.7	2.7	2.5	2.7		2.5	2.7	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effct Green (s)	17.7	11.8	11.8	13.1	7.9	7.9	15.2	50.6		9.7	43.0	
Actuated g/C Ratio	0.20	0.13	0.13	0.15	0.09	0.09	0.17	0.56		0.11	0.48	
v/c Ratio	0.64	0.32	0.47	0.18	0.24	0.27	0.62	0.79		0.47	0.65	
Control Delay	41.8	39.4	11.1	28.5	41.4	3.9	44.6	26.4		45.6	20.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	41.8	39.4	11.1	28.5	41.4	3.9	44.6	26.4		45.6	20.7	
LOS	D	D	B	C	D	A	D	C		D	C	
Approach Delay		29.1			20.8			29.7			22.6	
Approach LOS		C			C			C			C	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 44 (49%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 26.1	Intersection LOS: C
Intersection Capacity Utilization 72.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Metacom Avenue (Route 136) & Gooding Avenue/Narrows Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	166	77	161	40	40	67	181	793	89	1050
v/c Ratio	0.64	0.32	0.47	0.18	0.24	0.27	0.62	0.79	0.47	0.65
Control Delay	41.8	39.4	11.1	28.5	41.4	3.9	44.6	26.4	45.6	20.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	39.4	11.1	28.5	41.4	3.9	44.6	26.4	45.6	20.7
Queue Length 50th (ft)	81	42	0	18	22	0	95	363	49	233
Queue Length 95th (ft)	134	82	55	42	51	8	166	#693	91	321
Internal Link Dist (ft)		1257			671			669		680
Turn Bay Length (ft)	300		150	90		100	225		125	
Base Capacity (vph)	263	367	438	235	327	372	291	1008	221	1618
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.21	0.37	0.17	0.12	0.18	0.62	0.79	0.40	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	376	12	12	404	12	12
Future Volume (vph)	376	12	12	404	12	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996				0.932	
Flt Protected				0.999	0.976	
Satd. Flow (prot)	1855	0	0	1861	1694	0
Flt Permitted				0.999	0.976	
Satd. Flow (perm)	1855	0	0	1861	1694	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	217			1337	298	
Travel Time (s)	4.2			26.0	6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	409	13	13	439	13	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	422	0	0	452	26	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	376	12	12	404	12	12
Future Vol, veh/h	376	12	12	404	12	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	409	13	13	439	13	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	422	0	881	416
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	465	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1137	-	317	637
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	632	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1137	-	312	637
Mov Cap-2 Maneuver	-	-	-	-	312	-
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	623	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	419	-	-	1137	-
HCM Lane V/C Ratio	0.062	-	-	0.011	-
HCM Control Delay (s)	14.2	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Please note that new Connecticut county level geographies are not availabe within the map.

An official website of the United States government

United States Census Bureau

QuickFacts

Bristol town, Bristol County, Rhode Island

QuickFacts provides statistics for all states and counties, and for cities and towns with a ***population of 5,000 or more***.

Table

All Topics	Bristol town, Bristol County, Rhode Island
Population Estimates, July 1, 2022, (V2022)	⚠ NA
PEOPLE	
Population	
Population Estimates, July 1, 2022, (V2022)	⚠ NA
Population Estimates, July 1, 2021, (V2021)	⚠ 22,226
Population estimates base, April 1, 2020, (V2022)	⚠ NA
Population estimates base, April 1, 2020, (V2021)	⚠ 22,224
Population, percent change - April 1, 2020 (estimates base) to July 1, 2022, (V2022)	⚠ NA
Population, percent change - April 1, 2020 (estimates base) to July 1, 2021, (V2021)	⚠ Z
Population, Census, April 1, 2020	22,493
Population, Census, April 1, 2010	22,954
Age and Sex	
Persons under 5 years, percent	⚠ 2.6%
Persons under 18 years, percent	⚠ 13.4%
Persons 65 years and over, percent	⚠ 22.0%
Female persons, percent	⚠ 50.1%
Race and Hispanic Origin	
White alone, percent	⚠ 93.4%
Black or African American alone, percent (a)	⚠ 1.4%
American Indian and Alaska Native alone, percent (a)	⚠ 0.1%
Asian alone, percent (a)	⚠ 2.0%
Native Hawaiian and Other Pacific Islander alone, percent (a)	⚠ 0.0%
Two or More Races, percent	⚠ 2.6%
Hispanic or Latino, percent (b)	⚠ 2.1%
White alone, not Hispanic or Latino, percent	⚠ 92.0%
Population Characteristics	
Veterans, 2017-2021	1,199
Foreign born persons, percent, 2017-2021	11.1%
Housing	
Housing units, July 1, 2021, (V2021)	X
Owner-occupied housing unit rate, 2017-2021	68.7%
Median value of owner-occupied housing units, 2017-2021	$363,200
Median selected monthly owner costs -with a mortgage, 2017-2021	$2,260
Median selected monthly owner costs -without a mortgage, 2017-2021	$860
Median gross rent, 2017-2021	$1,170
Building permits, 2021	X
Families & Living Arrangements	
Households, 2017-2021	8,065
Persons per household, 2017-2021	2.30
Living in same house 1 year ago, percent of persons age 1 year+, 2017-2021	85.9%
Language other than English spoken at home, percent of persons age 5 years+, 2017-2021	15.1%
Computer and Internet Use	
Households with a computer, percent, 2017-2021	89.5%
Households with a broadband Internet subscription, percent, 2017-2021	

Is this page helpful?
Yes No

Education	
High school graduate or higher, percent of persons age 25 years+, 2017-2021	88.5%
Bachelor's degree or higher, percent of persons age 25 years+, 2017-2021	41.0%
Health	
With a disability, under age 65 years, percent, 2017-2021	7.5%
Persons without health insurance, under age 65 years, percent	⚠ 2.1%
Economy	
In civilian labor force, total, percent of population age 16 years+, 2017-2021	57.5%
In civilian labor force, female, percent of population age 16 years+, 2017-2021	53.2%
Total accommodation and food services sales, 2017 ($1,000) (c)	51,040
Total health care and social assistance receipts/revenue, 2017 ($1,000) (c)	55,921
Total transportation and warehousing receipts/revenue, 2017 ($1,000) (c)	D
Total retail sales, 2017 ($1,000) (c)	160,436
Total retail sales per capita, 2017 (c)	$7,224
Transportation	
Mean travel time to work (minutes), workers age 16 years+, 2017-2021	25.5
Income & Poverty	
Median household income (in 2021 dollars), 2017-2021	$80,727
Per capita income in past 12 months (in 2021 dollars), 2017-2021	$42,658
Persons in poverty, percent	⚠ 6.4%

BUSINESSES

Businesses	
Total employer establishments, 2020	X
Total employment, 2020	X
Total annual payroll, 2020 ($1,000)	X
Total employment, percent change, 2019-2020	X
Total nonemployer establishments, 2019	X
All employer firms, Reference year 2017	530
Men-owned employer firms, Reference year 2017	404
Women-owned employer firms, Reference year 2017	59
Minority-owned employer firms, Reference year 2017	S
Nonminority-owned employer firms, Reference year 2017	476
Veteran-owned employer firms, Reference year 2017	32
Nonveteran-owned employer firms, Reference year 2017	454

GEOGRAPHY

Geography	
Population per square mile, 2020	2,297.8
Population per square mile, 2010	2,336.4
Land area in square miles, 2020	9.79
Land area in square miles, 2010	9.82
FIPS Code	4400109280

Is this page helpful?
Yes No

About datasets used in this table

Value Notes

⚠ Estimates are not comparable to other geographic levels due to methodology differences that may exist between different data sources.

Some estimates presented here come from sample data, and thus have sampling errors that may render some apparent differences between geographies statistically indistinguishable.] Click the Quick Info ⓘ icon to the left of each row in T learn about sampling error.

In Vintage 2022, as a result of the formal request from the state, Connecticut transitioned from eight counties to nine planning regions. For more details, please see the Vintage 2022 release notes available here: Release Notes.

The vintage year (e.g., V2022) refers to the final year of the series (2020 thru 2022). Different vintage years of estimates are not comparable.

Users should exercise caution when comparing 2017-2021 ACS 5-year estimates to other ACS estimates. For more information, please visit the 2021 5-year ACS Comparison Guidance page.

Fact Notes

- **(a)** Includes persons reporting only one race
- **(b)** Hispanics may be of any race, so also are included in applicable race categories
- **(c)** Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data

Value Flags

- **D** Suppressed to avoid disclosure of confidential information
- **F** Fewer than 25 firms
- **FN** Footnote on this item in place of data
- **NA** Not available
- **S** Suppressed; does not meet publication standards
- **X** Not applicable
- **Z** Value greater than zero but less than half unit of measure shown
- **-** Either no or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest or upper interval of an open ende
- **N** Data for this geographic area cannot be displayed because the number of sample cases is too small.

QuickFacts data are derived from: Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small Area Income and Poverty Estimates, Sta Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits.

Is this page helpful?

Yes No

Client:	Matt Baldino, PE
Project #:	1220_1_Solli
BTD #:	Location 1
Location:	Bristol, RI
Street 1:	Metacom Avenue (Route 136)
Street 2:	Gooding Avenue/Narrows Road
Count Date:	4/5/2023
Day of Week:	Wednesday
Weather:	Cloudy, 40°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Metacom Avenue (Route 136) Northbound				Metacom Avenue (Route 136) Southbound				Gooding Avenue Eastbound				Narrows Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	23	163	0	0	7	132	21	0	25	2	11	0	6	8	18
7:15 AM	0	22	150	2	0	4	146	21	0	19	2	18	0	15	8	14
7:30 AM	0	26	153	4	0	9	172	37	0	23	6	25	0	5	7	18
7:45 AM	0	35	166	4	0	10	171	35	0	25	3	33	0	7	5	25
8:00 AM	0	40	145	4	0	5	133	25	0	31	1	18	0	8	7	14
8:15 AM	0	35	136	4	0	8	138	24	0	22	4	29	0	15	9	8
8:30 AM	0	26	123	5	0	4	159	29	0	26	5	20	0	7	8	14
8:45 AM	0	39	153	3	0	6	146	30	0	36	7	34	0	9	13	17

	Metacom Avenue (Route 136) Northbound				Metacom Avenue (Route 136) Southbound				Gooding Avenue Eastbound				Narrows Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	29	202	5	0	21	181	34	0	35	10	42	0	12	11	19
4:15 PM	0	38	190	4	0	17	203	56	0	43	19	34	0	6	7	18
4:30 PM	0	47	155	12	0	25	176	43	0	34	25	37	0	11	7	18
4:45 PM	0	34	177	8	0	18	194	51	0	36	16	29	0	10	11	15
5:00 PM	0	44	180	12	0	23	202	46	0	37	13	46	0	10	12	12
5:15 PM	0	33	145	9	0	17	172	27	0	32	16	46	0	6	9	13
5:30 PM	0	38	152	10	0	15	168	40	0	29	6	48	0	6	14	11
5:45 PM	0	31	140	6	0	9	164	26	0	33	10	42	0	7	14	9

AM PEAK HOUR 7:30 AM to 8:30 AM	Metacom Avenue (Route 136) Northbound				Metacom Avenue (Route 136) Southbound				Gooding Avenue Eastbound				Narrows Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**136**	**600**	**16**	**0**	**32**	**614**	**121**	**0**	**101**	**14**	**105**	**0**	**35**	**28**	**65**
PHF	**0.92**				**0.88**				**0.90**				**0.86**			
HV %	**0.0%**	**3.7%**	**4.5%**	**6.3%**	**0.0%**	**6.3%**	**5.0%**	**2.5%**	**0.0%**	**4.0%**	**0.0%**	**7.6%**	**0.0%**	**0.0%**	**3.6%**	**0.0%**

PM PEAK HOUR 4:15 PM to 5:15 PM	Metacom Avenue (Route 136) Northbound				Metacom Avenue (Route 136) Southbound				Gooding Avenue Eastbound				Narrows Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**163**	**702**	**36**	**0**	**83**	**775**	**196**	**0**	**150**	**73**	**146**	**0**	**37**	**37**	**63**
PHF	**0.95**				**0.95**				**0.96**				**0.95**			
HV %	**0.0%**	**0.6%**	**2.3%**	**0.0%**	**0.0%**	**0.0%**	**0.8%**	**1.5%**	**0.0%**	**2.0%**	**0.0%**	**0.7%**	**0.0%**	**2.7%**	**0.0%**	**1.6%**

Client:	Matt Baldino, PE
Project #:	1220_1_Solli
BTD #:	Location 1
Location:	Bristol, RI
Street 1:	Metacom Avenue (Route 136)
Street 2:	Gooding Avenue/Narrows Road
Count Date:	4/5/2023
Day of Week:	Wednesday
Weather:	Cloudy, 40°F

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HEAVY VEHICLES

	Metacom Avenue (Route 136) Northbound				Metacom Avenue (Route 136) Southbound				Gooding Avenue Eastbound				Narrows Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	2	7	0	0	1	6	0	0	0	0	1	0	0	0	2
7:15 AM	0	1	5	0	0	0	6	0	0	2	0	2	0	0	0	0
7:30 AM	0	0	6	0	0	1	7	2	0	0	0	4	0	0	0	0
7:45 AM	0	2	12	1	0	0	8	1	0	0	0	0	0	0	1	0
8:00 AM	0	2	6	0	0	0	11	0	0	1	0	1	0	0	0	0
8:15 AM	0	1	3	0	0	1	5	0	0	3	0	3	0	0	0	0
8:30 AM	0	0	2	1	0	1	2	0	0	2	0	2	0	0	1	0
8:45 AM	0	2	5	0	0	0	4	2	0	2	0	2	0	0	0	0

	Metacom Avenue (Route 136) Northbound				Metacom Avenue (Route 136) Southbound				Gooding Avenue Eastbound				Narrows Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	1	3	0	0	0	1	0	0	1	1	0	0	0	0	2
4:15 PM	0	0	7	0	0	0	2	1	0	2	0	1	0	0	0	1
4:30 PM	0	0	4	0	0	0	1	1	0	0	0	0	0	1	0	0
4:45 PM	0	0	4	0	0	0	2	1	0	1	0	0	0	0	0	0
5:00 PM	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:15 AM to 8:15 AM	Metacom Avenue (Route 136) Northbound				Metacom Avenue (Route 136) Southbound				Gooding Avenue Eastbound				Narrows Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**5**	**29**	**1**	**0**	**1**	**32**	**3**	**0**	**3**	**0**	**7**	**0**	**0**	**1**	**0**
PHF	**0.58**				**0.82**				**0.63**				**0.25**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Metacom Avenue (Route 136) Northbound				Metacom Avenue (Route 136) Southbound				Gooding Avenue Eastbound				Narrows Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**1**	**18**	**0**	**0**	**0**	**6**	**3**	**0**	**4**	**1**	**1**	**0**	**1**	**0**	**3**
PHF	**0.68**				**0.75**				**0.50**				**0.50**			

Client:	Matt Baldino, PE
Project #:	1220_1_Solli
BTD #:	Location 1
Location:	Bristol, RI
Street 1:	Metacom Avenue (Route 136)
Street 2:	Gooding Avenue/Narrows Road
Count Date:	4/5/2023
Day of Week:	Wednesday
Weather:	Cloudy, 40°F

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PEDESTRIANS & BICYCLES

	Metacom Avenue (Route 136) Northbound				Metacom Avenue (Route 136) Southbound				Gooding Avenue Eastbound				Narrows Road Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8:45 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0

	Metacom Avenue (Route 136) Northbound				Metacom Avenue (Route 136) Southbound				Gooding Avenue Eastbound				Narrows Road Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR[1] 7:30 AM to 8:30 AM	Metacom Avenue (Route 136) Northbound				Metacom Avenue (Route 136) Southbound				Gooding Avenue Eastbound				Narrows Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1

PM PEAK HOUR[1] 4:15 PM to 5:15 PM	Metacom Avenue (Route 136) Northbound				Metacom Avenue (Route 136) Southbound				Gooding Avenue Eastbound				Narrows Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Volume Report

Job 1220_1_Solli_ATR
Area Bristol, RI
Location Gooding Avenue, west of Metacom Ave

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Tuesday, April 4, 2023

Time	Total		EB		WB		Time	Total		EB		WB	
0000	9		5		4		1200	218		110		108	
0015	7		4		3		1215	192		81		111	
0030	6		3		3		1230	199		89		110	
0045	3	25	2	14	1	11	1245	180	789	92	372	88	417
0100	1		0		1		1300	198		106		92	
0115	3		2		1		1315	157		77		80	
0130	6		3		3		1330	161		73		88	
0145	3	13	1	6	2	7	1345	165	681	84	340	81	341
0200	1		1		0		1400	154		80		74	
0215	2		1		1		1415	166		94		72	
0230	2		0		2		1430	190		86		104	
0245	2	7	2	4	0	3	1445	233	743	132	392	101	351
0300	3		2		1		1500	207		103		104	
0315	0		0		0		1515	194		110		84	
0330	0		0		0		1530	190		103		87	
0345	1	4	0	2	1	2	1545	200	791	111	427	89	364
0400	4		1		3		1600	247		123		124	
0415	6		3		3		1615	219		106		113	
0430	6		2		4		1630	235		123		112	
0445	12	28	6	12	6	16	1645	204	905	102	454	102	451
0500	11		5		6		1700	220		105		115	
0515	12		7		5		1715	188		106		82	
0530	15		6		9		1730	240		116		124	
0545	14	52	8	26	6	26	1745	208	856	96	423	112	433
0600	19		11		8		1800	204		112		92	
0615	40		15		25		1815	169		86		83	
0630	55		21		34		1830	140		80		60	
0645	73	187	31	78	42	109	1845	140	653	64	342	76	311
0700	87		43		44		1900	121		69		52	
0715	85		33		52		1915	98		50		48	
0730	122		53		69		1930	125		77		48	
0745	136	430	56	185	80	245	1945	96	440	49	245	47	195
0800	130		59		71		2000	80		39		41	
0815	120		55		65		2015	67		33		34	
0830	132		52		80		2030	53		31		22	
0845	133	515	69	235	64	280	2045	38	238	20	123	18	115
0900	139		64		75		2100	43		23		20	
0915	137		64		73		2115	41		19		22	
0930	152		70		82		2130	35		17		18	
0945	134	562	67	265	67	297	2145	33	152	18	77	15	75
1000	143		65		78		2200	19		9		10	
1015	148		71		77		2215	10		5		5	
1030	166		83		83		2230	6		4		2	
1045	195	652	104	323	91	329	2245	6	41	5	23	1	18
1100	152		77		75		2300	8		6		2	
1115	181		93		88		2315	12		5		7	
1130	171		93		78		2330	7		5		2	
1145	173	677	75	338	98	339	2345	8	35	4	20	4	15
							Total	**9476**		**4726**		**4750**	

Volume Report

Job 1220_1_Solli_ATR
Area Bristol, RI
Location Gooding Avenue, west of Metacom Ave

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Wednesday, April 5, 2023

Time	Total		EB		WB		Time	Total		EB		WB	
0000	6		4		2		1200	185		106		79	
0015	6		5		1		1215	201		90		111	
0030	6		3		3		1230	163		78		85	
0045	6	24	3	15	3	9	1245	166	715	86	360	80	355
0100	1		1		0		1300	172		82		90	
0115	6		4		2		1315	149		73		76	
0130	0		0		0		1330	145		77		68	
0145	1	8	0	5	1	3	1345	187	653	99	331	88	322
0200	1		1		0		1400	181		93		88	
0215	2		2		0		1415	168		90		78	
0230	1		1		0		1430	180		76		104	
0245	0	4	0	4	0	0	1445	203	732	113	372	90	360
0300	0		0		0		1500	199		99		100	
0315	1		1		0		1515	202		103		99	
0330	1		1		0		1530	217		120		97	
0345	4	6	1	3	3	3	1545	205	823	107	429	98	394
0400	2		1		1		1600	207		108		99	
0415	5		2		3		1615	223		112		111	
0430	5		1		4		1630	220		109		111	
0445	9	21	6	10	3	11	1645	211	861	86	415	125	446
0500	10		5		5		1700	248		125		123	
0515	8		5		3		1715	184		96		88	
0530	12		8		4		1730	180		87		93	
0545	20	50	9	27	11	23	1745	171	783	88	396	83	387
0600	10		5		5		1800	154		68		86	
0615	38		15		23		1815	157		74		83	
0630	49		22		27		1830	142		81		61	
0645	78	175	32	74	46	101	1845	136	589	72	295	64	294
0700	88		35		53		1900	122		57		65	
0715	94		39		55		1915	90		55		35	
0730	144		70		74		1930	78		42		36	
0745	138	464	62	206	76	258	1945	67	357	35	189	32	168
0800	135		55		80		2000	54		34		20	
0815	139		66		73		2015	43		24		19	
0830	130		60		70		2030	61		33		28	
0845	156	560	74	255	82	305	2045	48	206	29	120	19	86
0900	135		76		59		2100	34		16		18	
0915	118		60		58		2115	39		23		16	
0930	126		63		63		2130	29		12		17	
0945	177	556	87	286	90	270	2145	32	134	20	71	12	63
1000	172		96		76		2200	18		13		5	
1015	143		71		72		2215	14		9		5	
1030	153		75		78		2230	8		6		2	
1045	158	626	67	309	91	317	2245	11	51	8	36	3	15
1100	156		78		78		2300	7		3		4	
1115	151		75		76		2315	12		9		3	
1130	183		90		93		2330	9		3		6	
1145	146	636	72	315	74	321	2345	9	37	4	19	5	18
							Total	**9071**		**4542**		**4529**	

Classification Report

Job # 1220_1_Solli_ATR
Area Bristol, RI
Location Gooding Avenue, west of Metacom Ave
Direction Eastbound
Tuesday, April 4, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	14	0	13	1	0	0	0	0	0	0	0	0	0	0
0100	6	0	5	1	0	0	0	0	0	0	0	0	0	0
0200	4	0	3	0	0	0	0	0	0	1	0	0	0	0
0300	2	0	1	1	0	0	0	0	0	0	0	0	0	0
0400	12	0	8	4	0	0	0	0	0	0	0	0	0	0
0500	26	0	17	6	2	1	0	0	0	0	0	0	0	0
0600	78	0	54	16	3	3	2	0	0	0	0	0	0	0
0700	185	0	141	36	3	2	1	0	0	2	0	0	0	0
0800	235	0	177	45	5	6	1	0	0	1	0	0	0	0
0900	265	2	202	53	5	2	0	0	0	1	0	0	0	0
1000	323	0	254	57	3	7	1	0	0	1	0	0	0	0
1100	338	2	283	50	2	0	0	0	0	1	0	0	0	0
1200	372	2	302	59	2	5	0	0	0	2	0	0	0	0
1300	340	1	274	60	0	4	0	0	0	1	0	0	0	0
1400	392	4	313	65	3	6	0	0	0	1	0	0	0	0
1500	427	4	351	63	3	4	1	0	0	1	0	0	0	0
1600	454	1	375	72	4	2	0	0	0	0	0	0	0	0
1700	423	4	374	41	1	2	1	0	0	0	0	0	0	0
1800	342	4	294	39	1	4	0	0	0	0	0	0	0	0
1900	245	0	214	30	0	1	0	0	0	0	0	0	0	0
2000	123	0	108	13	0	2	0	0	0	0	0	0	0	0
2100	77	0	72	4	0	1	0	0	0	0	0	0	0	0
2200	23	0	21	2	0	0	0	0	0	0	0	0	0	0
2300	20	0	17	3	0	0	0	0	0	0	0	0	0	0
Total	**4726**	**24**	**3873**	**721**	**37**	**52**	**7**	**0**	**0**	**12**	**0**	**0**	**0**	**0**
	100.00%	**0.51%**	**81.95%**	**15.26%**	**0.78%**	**1.10%**	**0.15%**	**0.00%**	**0.00%**	**0.25%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Classification Report

Job # 1220_1_Solli_ATR
Area Bristol, RI
Location Gooding Avenue, west of Metacom Ave
Direction Eastbound
Wednesday, April 5, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	15	0	12	2	0	1	0	0	0	0	0	0	0	0
0100	5	0	4	1	0	0	0	0	0	0	0	0	0	0
0200	4	0	3	0	0	1	0	0	0	0	0	0	0	0
0300	3	0	3	0	0	0	0	0	0	0	0	0	0	0
0400	10	0	7	2	1	0	0	0	0	0	0	0	0	0
0500	27	0	20	6	0	1	0	0	0	0	0	0	0	0
0600	74	0	53	13	4	3	1	0	0	0	0	0	0	0
0700	206	0	155	43	1	7	0	0	0	0	0	0	0	0
0800	255	0	204	35	5	8	2	0	0	1	0	0	0	0
0900	286	0	223	51	3	5	1	0	1	2	0	0	0	0
1000	309	2	249	47	2	6	2	0	0	1	0	0	0	0
1100	315	1	248	59	5	2	0	0	0	0	0	0	0	0
1200	360	1	294	57	1	6	1	0	0	0	0	0	0	0
1300	331	0	275	47	3	6	0	0	0	0	0	0	0	0
1400	372	0	328	39	1	4	0	0	0	0	0	0	0	0
1500	429	0	349	69	5	6	0	0	0	0	0	0	0	0
1600	415	0	344	58	3	9	0	0	0	1	0	0	0	0
1700	396	0	337	52	1	6	0	0	0	0	0	0	0	0
1800	295	0	263	28	2	2	0	0	0	0	0	0	0	0
1900	189	0	162	25	0	2	0	0	0	0	0	0	0	0
2000	120	0	102	18	0	0	0	0	0	0	0	0	0	0
2100	71	0	64	6	0	1	0	0	0	0	0	0	0	0
2200	36	1	26	9	0	0	0	0	0	0	0	0	0	0
2300	19	0	16	3	0	0	0	0	0	0	0	0	0	0
Total	**4542**	**5**	**3741**	**670**	**37**	**76**	**7**	**0**	**1**	**5**	**0**	**0**	**0**	**0**
	100.00%	**0.11%**	**82.36%**	**14.75%**	**0.81%**	**1.67%**	**0.15%**	**0.00%**	**0.02%**	**0.11%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Classification Report

Job # 1220_1_Solli_ATR
Area Bristol, RI
Location Gooding Avenue, west of Metacom Ave
Direction Westbound
Tuesday, April 4, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	11	0	10	1	0	0	0	0	0	0	0	0	0	0
0100	7	0	6	0	0	0	0	0	0	1	0	0	0	0
0200	3	0	2	1	0	0	0	0	0	0	0	0	0	0
0300	2	0	2	0	0	0	0	0	0	0	0	0	0	0
0400	16	0	16	0	0	0	0	0	0	0	0	0	0	0
0500	26	1	24	0	0	0	0	0	0	1	0	0	0	0
0600	109	2	96	9	0	0	2	0	0	0	0	0	0	0
0700	245	0	223	16	2	1	1	0	0	2	0	0	0	0
0800	280	1	259	16	2	2	0	0	0	0	0	0	0	0
0900	297	1	277	17	1	0	1	0	0	0	0	0	0	0
1000	329	2	299	24	0	4	0	0	0	0	0	0	0	0
1100	339	1	318	17	1	0	1	0	0	1	0	0	0	0
1200	417	2	396	15	0	2	0	0	0	2	0	0	0	0
1300	341	3	323	10	3	1	1	0	0	0	0	0	0	0
1400	351	2	331	13	1	0	1	0	0	3	0	0	0	0
1500	364	4	343	14	3	0	0	0	0	0	0	0	0	0
1600	451	2	416	31	0	1	1	0	0	0	0	0	0	0
1700	433	7	411	15	0	0	0	0	0	0	0	0	0	0
1800	311	3	296	12	0	0	0	0	0	0	0	0	0	0
1900	195	0	187	8	0	0	0	0	0	0	0	0	0	0
2000	115	0	110	5	0	0	0	0	0	0	0	0	0	0
2100	75	0	74	1	0	0	0	0	0	0	0	0	0	0
2200	18	0	18	0	0	0	0	0	0	0	0	0	0	0
2300	15	0	14	1	0	0	0	0	0	0	0	0	0	0
Total	**4750**	**31**	**4451**	**226**	**13**	**11**	**8**	**0**	**0**	**10**	**0**	**0**	**0**	**0**
	100.00%	**0.65%**	**93.71%**	**4.76%**	**0.27%**	**0.23%**	**0.17%**	**0.00%**	**0.00%**	**0.21%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Classification Report

Job # 1220_1_Solli_ATR
Area Bristol, RI
Location Gooding Avenue, west of Metacom Ave
Direction Westbound
Wednesday, April 5, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
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Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	9	0	9	0	0	0	0	0	0	0	0	0	0	0
0100	3	1	2	0	0	0	0	0	0	0	0	0	0	0
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300	3	0	3	0	0	0	0	0	0	0	0	0	0	0
0400	11	0	11	0	0	0	0	0	0	0	0	0	0	0
0500	23	0	20	2	0	0	1	0	0	0	0	0	0	0
0600	101	1	89	9	1	0	1	0	0	0	0	0	0	0
0700	258	0	232	22	1	1	1	0	0	1	0	0	0	0
0800	305	0	275	22	3	1	3	0	0	1	0	0	0	0
0900	270	1	255	12	0	2	0	0	0	0	0	0	0	0
1000	317	1	301	14	0	0	0	0	0	1	0	0	0	0
1100	321	0	294	18	3	5	1	0	0	0	0	0	0	0
1200	355	0	328	23	3	1	0	0	0	0	0	0	0	0
1300	322	0	308	14	0	0	0	0	0	0	0	0	0	0
1400	360	0	348	8	1	2	0	1	0	0	0	0	0	0
1500	394	0	372	19	2	0	0	0	0	1	0	0	0	0
1600	446	0	429	15	1	0	0	0	0	1	0	0	0	0
1700	387	0	370	16	0	1	0	0	0	0	0	0	0	0
1800	294	0	282	10	1	1	0	0	0	0	0	0	0	0
1900	168	0	164	4	0	0	0	0	0	0	0	0	0	0
2000	86	0	84	2	0	0	0	0	0	0	0	0	0	0
2100	63	0	61	2	0	0	0	0	0	0	0	0	0	0
2200	15	0	14	1	0	0	0	0	0	0	0	0	0	0
2300	18	0	18	0	0	0	0	0	0	0	0	0	0	0
Total	**4529**	**4**	**4269**	**213**	**16**	**14**	**7**	**1**	**0**	**5**	**0**	**0**	**0**	**0**
	100.00%	**0.09%**	**94.26%**	**4.70%**	**0.35%**	**0.31%**	**0.15%**	**0.02%**	**0.00%**	**0.11%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Speed Report

Job 1220_1_Solli_ATR
Area Bristol, RI
Location Gooding Avenue, west of Metacom Ave
Dir Eastbound
Tuesday, April 4, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	14	0	0	0	0	0	1	5	6	2	0	0	0	0	0	0	0
0100	6	0	0	0	0	0	0	2	2	1	1	0	0	0	0	0	0
0200	4	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	0
0300	2	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
0400	12	0	0	0	0	0	1	3	3	3	2	0	0	0	0	0	0
0500	26	0	0	0	0	0	1	3	9	10	1	2	0	0	0	0	0
0600	78	0	0	0	0	0	3	15	27	23	9	1	0	0	0	0	0
0700	185	0	0	0	0	0	3	41	68	57	16	0	0	0	0	0	0
0800	235	0	0	0	0	1	3	42	107	75	7	0	0	0	0	0	0
0900	265	0	0	0	1	2	8	55	116	67	14	2	0	0	0	0	0
1000	323	0	0	0	1	3	20	69	140	78	10	2	0	0	0	0	0
1100	338	0	0	0	0	0	15	92	139	77	13	2	0	0	0	0	0
1200	372	0	0	0	0	1	6	87	184	84	7	3	0	0	0	0	0
1300	340	0	0	0	0	2	14	79	147	81	14	3	0	0	0	0	0
1400	392	0	0	0	0	0	25	107	148	97	13	2	0	0	0	0	0
1500	427	0	0	0	0	0	24	118	182	93	7	3	0	0	0	0	0
1600	454	0	0	0	0	0	16	124	206	91	16	1	0	0	0	0	0
1700	423	0	0	0	0	0	4	75	227	101	14	1	0	0	0	0	0
1800	342	0	0	0	0	3	10	94	149	69	16	1	0	0	0	0	0
1900	245	0	0	0	0	0	13	63	109	50	10	0	0	0	0	0	0
2000	123	0	0	0	0	0	6	31	53	24	7	2	0	0	0	0	0
2100	77	0	0	0	0	0	3	19	35	15	4	1	0	0	0	0	0
2200	23	0	0	0	0	0	3	2	7	9	2	0	0	0	0	0	0
2300	20	0	0	0	0	0	0	2	13	4	1	0	0	0	0	0	0
Total	**4726**	**0**	**0**	**0**	**2**	**12**	**179**	**1130**	**2078**	**1113**	**185**	**26**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.00%**	**0.00%**	**0.00%**	**0.04%**	**0.25%**	**3.79%**	**23.91%**	**43.97%**	**23.55%**	**3.91%**	**0.55%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Maximum = 53.7 mph, Minimum = 16.1 mph, Mean = 37.7 mph
85% Speed = 42.39 mph, 95% Speed = 45.52 mph, Median = 37.52 mph
10 mph Pace = 32 - 42, Number in Pace = 3484 (73.91%)
Variance = 22.65, Standard Deviation = 4.76 mph

Speed Report

Job 1220_1_Solli_ATR
Area Bristol, RI
Location Gooding Avenue, west of Metacom Ave
Dir Eastbound
Wednesday, April 5, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	15	0	0	0	0	0	1	3	6	3	2	0	0	0	0	0	0
0100	5	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0
0200	4	0	0	0	0	0	0	2	0	1	0	1	0	0	0	0	0
0300	3	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0
0400	10	0	0	0	0	0	2	2	1	3	1	1	0	0	0	0	0
0500	27	0	0	0	0	0	1	7	8	10	1	0	0	0	0	0	0
0600	74	0	0	0	0	0	5	11	25	19	10	4	0	0	0	0	0
0700	206	0	0	0	0	0	9	46	98	44	9	0	0	0	0	0	0
0800	255	0	0	0	2	2	14	66	104	56	11	0	0	0	0	0	0
0900	286	0	0	0	0	0	15	76	141	43	10	1	0	0	0	0	0
1000	309	0	1	1	0	0	17	79	145	53	12	1	0	0	0	0	0
1100	315	0	0	0	0	3	19	75	129	77	10	2	0	0	0	0	0
1200	360	0	0	0	0	0	17	95	168	65	13	2	0	0	0	0	0
1300	331	0	0	0	0	0	10	84	156	73	6	2	0	0	0	0	0
1400	372	0	0	0	0	1	17	106	159	74	11	4	0	0	0	0	0
1500	429	0	0	0	0	7	29	151	164	66	9	3	0	0	0	0	0
1600	415	0	0	0	0	3	21	132	181	63	13	2	0	0	0	0	0
1700	396	0	0	0	0	4	17	105	174	78	15	3	0	0	0	0	0
1800	295	0	0	0	0	1	7	91	123	60	12	1	0	0	0	0	0
1900	189	0	0	0	0	0	5	37	92	43	10	2	0	0	0	0	0
2000	120	0	0	0	0	0	7	32	43	29	7	2	0	0	0	0	0
2100	71	0	0	0	0	0	2	11	30	21	7	0	0	0	0	0	0
2200	36	0	0	1	0	0	3	6	11	9	5	1	0	0	0	0	0
2300	19	0	0	0	0	0	0	4	8	6	1	0	0	0	0	0	0
Total	**4542**	**0**	**1**	**2**	**2**	**21**	**218**	**1221**	**1968**	**901**	**176**	**32**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.00%**	**0.02%**	**0.04%**	**0.04%**	**0.46%**	**4.80%**	**26.88%**	**43.33%**	**19.84%**	**3.87%**	**0.70%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Maximum = 53.6 mph, Minimum = 9.2 mph, Mean = 37.3 mph
85% Speed = 41.94 mph, 95% Speed = 45.63 mph, Median = 37.02 mph
10 mph Pace = 32 - 42, Number in Pace = 3359 (73.95%)
Variance = 23.63, Standard Deviation = 4.86 mph

Speed Report

Job 1220_1_Solli_ATR
Area Bristol, RI
Location Gooding Avenue, west of Metacom Ave
Dir Westbound
Tuesday, April 4, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	11	0	0	0	0	0	1	6	4	0	0	0	0	0	0	0	0
0100	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
0200	3	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0
0300	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
0400	16	0	0	0	0	1	6	7	2	0	0	0	0	0	0	0	0
0500	26	0	0	0	0	0	7	11	6	2	0	0	0	0	0	0	0
0600	109	0	0	0	0	1	12	57	33	6	0	0	0	0	0	0	0
0700	245	0	0	0	0	3	36	134	65	7	0	0	0	0	0	0	0
0800	280	0	0	0	1	1	55	142	75	5	1	0	0	0	0	0	0
0900	297	0	0	1	7	3	65	160	50	10	1	0	0	0	0	0	0
1000	329	0	0	1	0	11	76	174	66	1	0	0	0	0	0	0	0
1100	339	0	0	0	1	3	77	183	68	7	0	0	0	0	0	0	0
1200	417	0	0	0	0	14	85	239	72	6	1	0	0	0	0	0	0
1300	341	0	0	0	1	2	74	201	54	8	1	0	0	0	0	0	0
1400	351	0	0	0	0	6	69	200	70	6	0	0	0	0	0	0	0
1500	364	0	0	0	0	3	89	202	63	6	1	0	0	0	0	0	0
1600	451	0	0	1	1	11	108	252	70	7	1	0	0	0	0	0	0
1700	433	0	0	0	0	4	66	268	85	9	0	0	0	0	0	0	0
1800	311	0	0	1	4	7	61	156	79	3	0	0	0	0	0	0	0
1900	195	0	0	0	0	0	49	104	37	4	1	0	0	0	0	0	0
2000	115	0	0	0	0	1	25	59	24	6	0	0	0	0	0	0	0
2100	75	0	0	1	0	1	16	36	16	5	0	0	0	0	0	0	0
2200	18	0	0	0	0	0	8	6	4	0	0	0	0	0	0	0	0
2300	15	0	0	0	1	1	3	5	5	0	0	0	0	0	0	0	0
Total	**4750**	**0**	**0**	**5**	**16**	**73**	**989**	**2613**	**948**	**98**	**7**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.00%**	**0.00%**	**0.11%**	**0.34%**	**1.54%**	**20.82%**	**55.01%**	**19.96%**	**2.06%**	**0.15%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Maximum = 48.7 mph, Minimum = 10.9 mph, Mean = 32.5 mph
85% Speed = 35.96 mph, 95% Speed = 38.42 mph, Median = 32.38 mph
10 mph Pace = 28 - 38, Number in Pace = 4033 (85.08%)
Variance = 14.32, Standard Deviation = 3.78 mph

Speed Report

Job 1220_1_Solli_ATR
Area Bristol, RI
Location Gooding Avenue, west of Metacom Ave
Dir Westbound
Wednesday, April 5, 2023

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	9	0	0	0	0	0	2	3	4	0	0	0	0	0	0	0	0
0100	3	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300	3	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0
0400	11	0	0	0	0	1	2	7	1	0	0	0	0	0	0	0	0
0500	23	0	0	0	0	0	8	10	4	1	0	0	0	0	0	0	0
0600	101	0	0	0	0	1	8	52	34	5	1	0	0	0	0	0	0
0700	258	0	0	0	0	3	42	143	59	10	1	0	0	0	0	0	0
0800	305	0	0	0	0	4	57	178	62	3	1	0	0	0	0	0	0
0900	270	0	0	0	0	5	86	132	43	4	0	0	0	0	0	0	0
1000	317	0	1	0	0	5	96	157	55	3	0	0	0	0	0	0	0
1100	321	0	0	0	0	10	101	168	39	3	0	0	0	0	0	0	0
1200	355	0	0	0	0	6	122	186	39	2	0	0	0	0	0	0	0
1300	322	0	0	0	0	10	69	168	71	4	0	0	0	0	0	0	0
1400	360	0	0	0	0	9	97	203	45	5	1	0	0	0	0	0	0
1500	394	0	0	0	0	5	111	220	53	5	0	0	0	0	0	0	0
1600	446	0	0	0	0	11	111	230	87	7	0	0	0	0	0	0	0
1700	387	0	0	0	0	3	61	225	85	11	2	0	0	0	0	0	0
1800	294	0	0	0	0	2	36	172	80	4	0	0	0	0	0	0	0
1900	168	0	0	0	0	1	26	98	37	6	0	0	0	0	0	0	0
2000	86	0	0	0	0	5	15	39	22	5	0	0	0	0	0	0	0
2100	63	0	0	0	0	0	14	30	15	3	1	0	0	0	0	0	0
2200	15	0	0	0	0	0	3	8	4	0	0	0	0	0	0	0	0
2300	18	0	0	0	0	1	2	9	5	1	0	0	0	0	0	0	0
Total	**4529**	**0**	**2**	**0**	**0**	**82**	**1070**	**2441**	**845**	**82**	**7**	**0**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.00%**	**0.04%**	**0.00%**	**0.00%**	**1.81%**	**23.63%**	**53.90%**	**18.66%**	**1.81%**	**0.15%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Maximum = 47.8 mph, Minimum = 9.3 mph, Mean = 32.3 mph
85% Speed = 35.82 mph, 95% Speed = 38.20 mph, Median = 32.21 mph
10 mph Pace = 27 - 37, Number in Pace = 3855 (85.12%)
Variance = 12.88, Standard Deviation = 3.59 mph

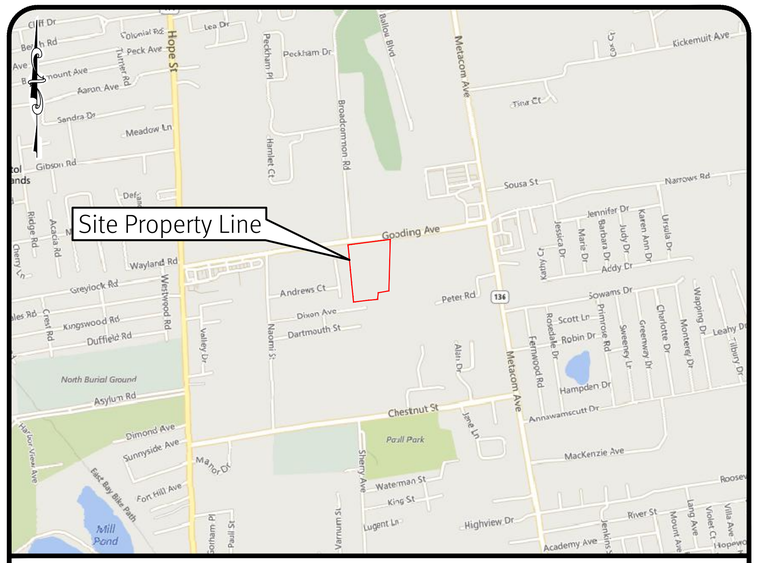
Item C3.

Master Plan Submission

Comfort Inn & Suites

Located on Gooding Avenue
Bristol, Rhode Island

Assessor's Plat 111 Lot 1



Location Map Scale: 1" = 1000'

Sheet List Table

1 Cover Sheet
2 Aerial Half Mile Radius
3 General Notes and Legend
4 Existing Resource Plan
5 Erosion & Sediment Control Plan
6 Site Layout Plan
7 Grading Plan
8 Drainage and Utilities Plan
9 RIDOT ROW Improvements
10 Underground System A & Details
11 Underground System B, Sand Filter B & Details
12 Detail Sheet
13 Property Line Survey (Sheet 13 of 13) by Barker Land Surveying

SESC / O&M
The Soil Erosion and Sediment Control Plan (SESC) and Operations and Maintenance Plan (O&M) are required documents with this plan set and must be maintained by the contractor and owner onsite.

RIDOT
The Proposed Improvements Will Not Increase the Rate of Stormwater Runoff Onto the State Highway. All Work Within the State Right of Way Must Conform to the RI Standard Specifications, Details, and Addendums.

DiPrete Engineering
90 Broadway Newport, RI 02840
tel 401-619-5890 fax 401-464-6006 www.diprete-eng.com
Boston • Providence • Newport

KEVIN DEMERS
No. 8557
5-20-25
REGISTERED PROFESSIONAL ENGINEER CIVIL

This regulatory submission set shall not be used for construction purposes unless stamped "Issued for Construction" and signed by a DiPrete Engineering representative.

The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	By:
4	06/20/2025	Master Plan Submission	K.J.D.
3	04/17/2025	RIDOT Response To Comments	N.M.P.
2	12/12/2024	RIDOT Response To Comments	N.M.P.
1	07/30/2024	RIDOT Response To Comments	N.M.P.
0	02/28/2024	RIDOT Submission	J.A.R.

Drawn By: D.R.N. Design By: K.J.D.

Cover Sheet
Comfort Inn & Suites
AP 111 Lot 1
Bristol, Rhode Island
Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

DE Job No: 2536-001 Copyright 2025 by DiPrete Engineering Associates, Inc.

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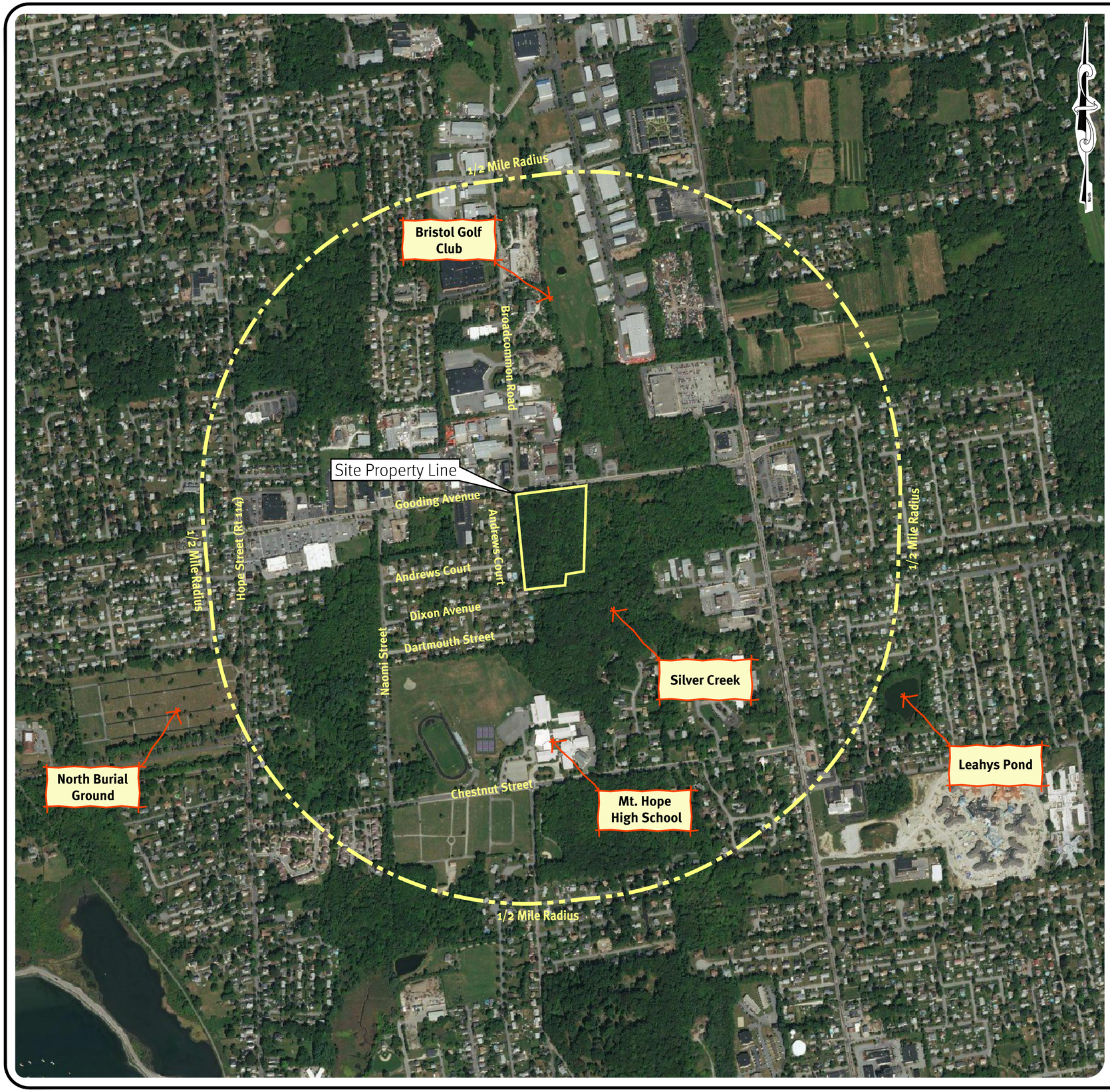
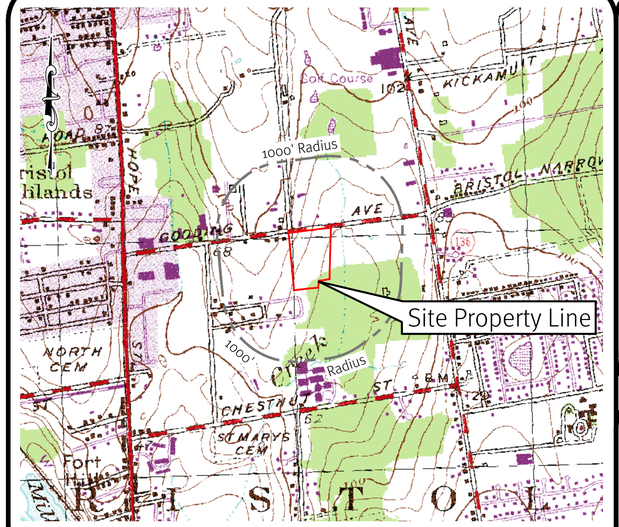


PHOTO OBTAINED FROM NEARMAP.
DATE OF PHOTOGRAPHY 09-12-2024.

Scale: 1"=400'
0 200' 400' 800'



USGS Map Scale: 1"=1000'

DiPrete Engineering
Boston • Providence • Newport
90 Broadway Newport, RI 02840
tel 401-619-5890 fax 401-464-6066 www.diprete-eng.com

KEVIN DEMERS
No. 8557
REGISTERED PROFESSIONAL ENGINEER
CIVIL

This regulatory submission set shall not be used for construction purposes unless stamped "Issued for Construction" and signed by a DiPrete Engineering representative.

The contractor is responsible for all of the means, methods, safety precautions and requirements and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	By
4	05/20/2025	Master Plan Submission	K.J.D.
3	04/17/2025	RIDOT Response to Comments	N.M.P.
2	12/23/2024	RIDOT Response to Comments	N.M.P.
1	10/28/2024	RIDOT Response to Comments	N.M.P.
0	09/28/2024	RIDOT Submission	J.A.P.

Drawn By: D.R.N. Design By: K.J.D.

Aerial Half Mile Radius

Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

DE Job No: 2536-001 Copyright 2025 by DiPrete Engineering Associates, Inc.

z:\domain\projects\2536-001 gooding avenue\autocad drawings\2536-001-cvar.dwg Plotted: 5/20/2025

General Notes:

1. THE SITE IS LOCATED ON THE TOWN OF BRISTOL ASSESSOR'S PLAT 111 LOT 1.
2. THE SITE IS APPROXIMATELY 9.78 ACRES, IS ZONED GB, AND IS CURRENTLY WOODED.
3. THE APPLICANT OF AP 111 LOT 1 IS:
   D&M BOCA DEVELOPMENT, LLC.
   92 FAUNCE CORNER ROAD, SUITE 160
   NORTH DARTMOUTH, MA 02747
4. THIS SITE IS LOCATED IN FEMA FLOOD ZONES X AND AE. REFERENCE FEMA FLOOD INSURANCE RATE MAP 44001C0011H, MAP REVISED JULY 7, 2014.
5. THIS PLAN IS SUBSTANTIALLY CORRECT IN ACCORDANCE WITH A CLASS IV STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. THIS PLAN IS NOT TO BE CONSTRUED AS AN ACCURATE BOUNDARY SURVEY AND MAY BE SUBJECT TO SUCH CHANGES AS AN ACCURATE BOUNDARY SURVEY MAY DISCLOSE.
6. THE SITE IS NOT WITHIN A:
   GROUNDWATER PROTECTION AREA
   NATURAL HERITAGE AREA
   GROUNDWATER PROTECTION OVERLAY DISTRICT
7. THE FOLLOWING DOCUMENTS ARE CONSIDERED PART OF THE PROJECT PLANS AND THE CONTRACTOR / OWNER MUST MAINTAIN THESE DOCUMENTS AS PART OF A FULL PLAN SET:
   - SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC). THE SESC CONTAINS THE FOLLOWING:
     - EROSION CONTROL MEASURES
     - SHORT TERM MAINTENANCE
     - ESTABLISHMENT OF VEGETATIVE COVER
     - CONSTRUCTION POLLUTION PREVENTION
     - SEQUENCE OF CONSTRUCTION
   - OPERATIONS AND MAINTENANCE PLAN (O&M). THE O&M CONTAINS THE FOLLOWING:
     - LONG TERM MAINTENANCE
     - LONG TERM POLLUTION PREVENTION
8. THIS PLAN SET REFERENCES RIDOT STANDARD DETAILS (DESIGNATED AS RIDOT STD X.X.X.). RIDOT STANDARD DETAILS ARE AVAILABLE FROM RIDOT AND ONLINE AT: HTTP://WWW.DOT.RI.GOV/BUSINESS/CONTRACTORSANDCONSULTANTS.PHP.
9. THE SITE IS TO BE SERVICED BY PUBLIC WATER AND PUBLIC SEWER.
10. THE SITE WILL FULLY COMPLY WITH ALL OF THE TOWN OF BRISTOL RULES AND REGULATIONS INCLUDING THE SUBDIVISION AND DEVELOPMENT REVIEW REGULATIONS AND THE ZONING ORDINANCE. THE SITE DOES NOT REQUIRE ANY VARIANCES, SPECIAL USE PERMITS, OR WAIVERS.
11. THE DRAINAGE SYSTEM IS DESIGNED TO MEET THE TOWN OF BRISTOL SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WITH THE USE OF CATCH BASINS, CULVERTS, AND UNDERGROUND DRAINAGE BASINS. THE STORMWATER MANAGEMENT SYSTEM MEETS THE RIDEM BEST MANAGEMENT PRACTICES.
12. THE SITE IS PROPOSED TO BE BUILT IN 1 PHASE.
13. TEST PITS AND SOIL EVALUATIONS WERE COMPLETED BY SITEC, INC. ON 12/12/2014.

Soil Information:

(REFERENCE: USDA NATURAL RESOURCES CONSERVATION SERVICE)

SOIL NAME	DESCRIPTION
PmA	PITTSTOWN SILT LOAM, 0 TO 3 PERCENT SLOPES
PmB	PITTSTOWN SILT LOAM, 3 TO 8 PERCENT SLOPES
Se	STISSING SILT LOAM

Plan References:

PLAN ENTITLED "PROPERTY LINE SURBEY FOR KENDAN, LLC" BY BARKER LAND SURVEYING, INC. REVISED 9/30/14.

Lidar Note:

CONTOUR DATA SHOWN ON THIS PLAN CONFORMS TO A T-4 TOPOGRAPHICAL SURVEY STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. SAID DATA IS BASED ON ELEVATION INFORMATION THAT WAS COLLECTED WITH AIRBORNE LIDAR TECHNOLOGY FOR THE ENTIRE AREA OF RHODE ISLAND BETWEEN APRIL 22 AND MAY 6, 2011 AS PART OF THE NORTHEAST LIDAR PROJECT. THIS DATA'S POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED BY DIPRETE ENGINEERING AND IS SUBJECT TO CHANGES AN AUTHORITATIVE FIELD SURVEY MAY DISCLOSE.

State Permits:

1. RIDEM PERMIT TO ALTER FRESHWATER WETLANDS: WETLANDS APP NO. 22-0264, RIPDES FILE NO. RIR101247, AND GROUNDWATER DISCHARGE/UIC NO. 001650 APPROVAL LETTER DATED DECEMBER 6, 2024.
2. RIDOT PHYSICAL ALTERATION PERMIT APPLICATION NO. 24-20. PERMIT APPROVAL IS PENDING.

Suitable Area Summary:

TOTAL UNSUITABLE AREA = 6.81 ACRES (DELINEATED WETLANDS)
TOTAL SUITABLE AREA = 9.78 - 6.81 = 2.97 ACRES

Demolition Notes:

1. ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, DRAWINGS FROM OTHERS, OR INFORMATION PROVIDED TO DIPRETE ENGINEERING AND ARE SUBJECT TO CHANGE. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM AFOREMENTIONED PLANS OF RECORD AND ARE APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE PROPER UTILITY ENGINEERING DEPARTMENTS SHALL BE CONTACTED AND THE ACTUAL LOCATION OF SUBSURFACE STRUCTURES SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. CALL THE DIG SAFE CENTER TOLL FREE AT 1-888-344-7233 72 HOURS PRIOR TO EXCAVATION. NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO EXCAVATION. ANY DAMAGE TO UTILITIES WHICH ARE SHOWN ON THE PLANS OR DETAILED BY DIG SAFE SHALL BE THE SITE CONTRACTORS RESPONSIBILITY.
2. CONTRACTOR TO OBTAIN ALL FEDERAL, STATE, AND MUNICIPAL APPROVALS PRIOR TO THE START OF CONSTRUCTION.
3. CONTRACTOR TO PERFORM DAILY SWEEPING AT CONSTRUCTION ENTRANCE DURING DEMOLITION AND CONSTRUCTION TO MINIMIZE SEDIMENTS ON GOODING AVENUE.
4. ANY DAMAGE TO THE PROPERTY CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) ALL MATERIALS INDICATED ON THE PLANS UNLESS SPECIFIED OTHERWISE HERE IN. R&D MATERIALS TO INCLUDE BUT NOT LIMITED TO PAVEMENT, GRAVEL, CATCH BASINS, MANHOLES, GRATES/FRAMES/COVERS, AND ANY EXCESS SOIL THAT IS NOT INCORPORATED INTO THE WORK.
6. IN ADDITION TO THOSE AREAS SPECIFICALLY DESIGNATED ON THE PLANS, ALL DISTURBED AREAS INCLUDING THE CONTRACTOR'S STOCKPILE AND STAGING AREAS WITHIN THE LIMIT OF WORK SHALL BE RESTORED TO MATCH THE DESIGN PLANS.

Traffic Notes:

1. DURING CONSTRUCTION TRAFFIC CONES ARE TO BE USED FOR SEPARATION OF ACTIVE TRAFFIC FROM WORK ZONE.
2. DURING CONSTRUCTION FLAGGERS SHALL BE EMPLOYED TO ENSURE SAFETY FOR INTERACTION OF CONSTRUCTION VEHICLES AND ACTIVE TRAFFIC.
3. ALL SIGNS, FLAGGERS, TRAFFIC CONTROL DEVICES, AND TEMPORARY TRAFFIC ZONE ACTIVITIES SHALL MEET THE REQUIREMENTS OF THE MUTCD LATEST EDITION AND SUBSEQUENT ADDENDA.
4. TEMPORARY CONSTRUCTION SIGNS SHALL BE MOUNTED ON RIDOT APPROVED SUPPORTS AND SHALL BE REMOVED OR COVERED WHEN NOT APPLICABLE.
5. ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES CURRENT EDITION.

As-Built Notes:

1. ALL COMPONENTS OF THE DRAINAGE MUST BE ASBUILT PRIOR TO COVERING. ENGINEER TO BE NOTIFIED PRIOR TO COVERING SURVEY ASBUILT LOCATIONS. ENGINEER WILL NOT ACCEPT FIELD MEASUREMENTS FROM THE SITE CONTRACTOR.

RIDOT Notes:

1. ALL WORK TO BE DONE WITHIN THE STATE RIGHT OF WAY MUST CONFORM TO RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AUGUST 2023 EDITION WITH ALL REVISIONS. STANDARD DETAILS FOR THIS WORK ARE R.I. STANDARD DETAILS 1998 EDITION (AMENDED OCTOBER 2022) WITH ALL REVISIONS.
2. CONTRACTOR MUST OBTAIN A UTILITY CONNECTION PERMIT FOR WORK WITHIN THE STATE RIGHT-OF-WAY (ROW) PRIOR TO CONSTRUCTION. THE PHYSICAL ALTERATION PERMIT (PAP) IS NOT A SUBSTITUTE FOR THE UTILITY PERMIT AND THE PAP DOES NOT CONSTITUTE AN APPROVAL OF ANY UTILITY WORK.
3. ALL TRAFFIC CONTROL MUST CONFORM TO THE MUTCD, LATEST EDITION, WITH ALL REVISIONS.
4. NO LANE OR SHOULDER CLOSURES ARE ALLOWED TO BE PERFORMED WITHIN THE STATE ROW DURING PEAK TRAFFIC HOURS.
5. SEWER AND WATER CONNECTIONS WITHIN THE STATE ROW WILL REQUIRE A SEPARATE RIDOT UTILITY PERMIT, WHICH CONTRACTOR MUST OBTAIN BEFORE CONSTRUCTION.
6. THE DRAINAGE SYSTEM IS DESIGNED TO DECREASE BOTH STORMWATER RUNOFF RATE, AND STORMWATER RUNOFF VOLUME TO THE STATE ROW FROM PRE-DEVELOPMENT TO POST-DEVELOPMENT. THERE SHALL BE NO INCREASE IN RUNOFF TO THE STATE ROW FROM THE PROPOSED DEVELOPMENT.
7. WORK WITHIN THE STATE'S ROW WILL CONFORM TO PROPOSED PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG). WORK ONSITE WILL CONFORM TO AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) UNLESS THE WORK IS ON STATE OWNED LAND.
8. AS-BUILTS ARE REQUIRED FOR ALL DRAINAGE CONNECTIONS WITHIN THE STATE ROW. AS-BUILTS MUST BE PROVIDED TO THE RIDOT STORMWATER OFFICE AND INCLUDE, INVERTS, MATERIALS, AND PIPE SIZES.

Layout and Materials:

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
2. CURB RADII ARE 5 FEET UNLESS OTHERWISE NOTED.
3. CURBING SHALL BE PRECAST CONCRETE OR AS LABELED ON THE PLANS.
4. SIDEWALK SHALL BE CONCRETE, STAMPED CONCRETE OR AS LABELED ON THE PLANS.
5. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
6. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
7. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
8. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

Grading and Utility Notes:

1. THE CONTRACTOR IS RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL ONSITE. THE CONTRACTOR IS TO NOTIFY THE DESIGN ENGINEER, THE DIRECTOR OF PUBLIC WORKS, THE TOWN ENGINEER, AND RI DEPT. OF ENVIRONMENTAL MANAGEMENT AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
2. CONTRACTOR TO OBTAIN ALL FEDERAL, STATE, AND MUNICIPAL APPROVALS PRIOR TO THE START OF CONSTRUCTION.
3. CONSTRUCTION TO COMMENCE SPRING 2025 OR UPON RECEIPT OF ALL NECESSARY APPROVALS.
4. ALL WORK PERFORMED HEREIN SHALL BE GOVERNED BY THE RHODE ISLAND STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION AND TOWN OF BRISTOL STANDARD SPECIFICATIONS AND DETAILS.
5. SEQUENCE OF CONSTRUCTION PROVIDED IN SESC MAY BE MODIFIED AS FIELD CONDITIONS WARRANT WITH PRIOR APPROVAL FROM THE OWNER OR OWNER'S REPRESENTATIVE.
6. THE CONTRACTOR SHALL COORDINATE WITH ALL OF THE APPROPRIATE UTILITY COMPANIES FOR AGREEMENTS TO SERVICE THE PROPOSED BUILDING. THIS SHALL BE DONE PRIOR TO CONSTRUCTION. NO REPRESENTATIONS ARE MADE BY DIPRETE ENGINEERING THAT UTILITY SERVICE IS AVAILABLE.
7. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING FINISH GRADING AND DRAINAGE AROUND THE BUILDING TO ENSURE SURFACE WATER AND/OR GROUND WATER ARE DIRECTED AWAY FROM THE STRUCTURE.
8. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.
9. ALL PROPOSED UNDERGROUND UTILITIES SERVING THE SITE AND BUILDINGS TO BE COORDINATED WITH APPLICANT, ARCHITECT, AND ENGINEER PRIOR TO INSTALLATION.
10. ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION INCLUDING ALL REVISIONS.
11. ALL RETAINING WALLS AND STEEP SLOPES ARE SHOWN SCHEMATICALLY ONLY AND DIPRETE ENGINEERING IS NOT PROVIDING THE DESIGN OF THESE ITEMS. THE ACTUAL WALLS AND SLOPES ARE TO BE BUILT UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER AND CERTIFIED TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT. SHOP DRAWINGS TO BE SUBMITTED PRIOR TO CONSTRUCTION.
12. ALL CUT AND FILL AREAS ARE TO BE DONE UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER WITH TESTING AND CERTIFICATION TO BE PROVIDED TO THE APPLICANT AT THE COMPLETION OF THE PROJECT. DIPRETE ENGINEERING ASSOCIATES, INC. IS NOT PROVIDING THE FILL SPECIFICATION, GEOTECHNICAL ENGINEERING, STRUCTURAL ENGINEERING SERVICES, OR SUPERVISION AS PART OF THESE DRAWINGS.
13. ALL COMPONENTS OF THE DRAINAGE, SEWER AND WATER SYSTEMS MUST BE ASBUILT PRIOR TO COVERING. ENGINEER TO BE NOTIFIED PRIOR TO COVERING TO SURVEY ASBUILT LOCATIONS. ENGINEER WILL NOT ACCEPT FIELD MEASUREMENTS FROM THE SITE CONTRACTOR.
14. NO STOCKPILING OF MATERIAL TO BE LOCATED IN THE RIGHT OF WAY AND NO OPEN TRENCHES ARE TO BE LEFT OVERNIGHT.
15. ALL LOAM IN DISTURBED AREAS TO BE STOCKPILED FOR FUTURE USE.
16. ALL EXCESS SOIL, TREES, ROCKS, BOULDERS, AND OTHER REFUSE, SHALL BE DISCARDED OFF SITE IN AN ACCEPTABLE MANNER AT AN APPROVED LOCATION. STUMPS SHALL BE GROUND ONSITE OR REMOVED.
17. NO STUMP DUMPS ARE PROPOSED ONSITE.
18. IF CONCRETE TRUCKS ARE WASHED OUT ONSITE, ALL WASHOUT MUST BE COMPLETED IN THE DESIGNATED CONCRETE WASHOUT AREA.

ADA Notes:

1. ALL IMPROVEMENTS SHALL COMPLY WITH THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG)" BY THE DEPARTMENT OF JUSTICE.
2. MAXIMUM RUNNING SLOPE ALONG ALL ACCESSIBLE PATHS OF TRAVEL SHALL BE 4.5% OR 0.045 '/, AND MAXIMUM CROSS SLOPE ALONG ALL ACCESSIBLE PATHS OF TRAVEL SHALL BE 0.015'/,.
3. MAXIMUM SLOPE IN ALL DIRECTIONS FOR ALL ACCESSIBLE PARKING SPACES AND LOADING AREAS SHALL BE 0.015'/,.
4. A 5'x5' LANDING WITH A MAXIMUM SLOPE OF 1.5% OR 0.015'/, IN ALL DIRECTIONS SHALL BE PROVIDED IN FRONT OF ALL PUBLICLY ACCESSIBLE BUILDING ENTRANCES/EGRESSES.
5. SIDEWALK CURB RAMPS SHALL COMPLY WITH DIPRETE ENGINEERING DETAILS THAT MEET OR EXCEEDING RIDOT STANDARDS 43.3.0, 43.3.1, & 43.4.1 AS SHOWN ON THE DETAIL SHEET.
6. PLEASE NOTE THAT THE GRADING AND PLAN VIEWS AS WELL AS THE STANDARD DETAILS MAY NOT SHOW THE DETAIL NECESSARY TO CONSTRUCT WALKWAYS AND RAMPS TO ADA STANDARDS. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE THE LEVEL OF CARE NECESSARY TO BE CERTAIN THAT THE CONSTRUCTED PRODUCT MEETS ADA STANDARDS. IN THE EVENT OF ANY CONFLICTS THE CONTRACTOR SHALL NOTIFY THE DESIGNER BEFORE CONSTRUCTION FOR ADVICE IN FINDING A RESOLUTION.

Soil Erosion and Sedimentation Control Notes:

1. ALL EROSION CONTROL, TEMPORARY SWALES, TEMPORARY SEDIMENTATION TRAPS, ETC. SHALL BE INSTALLED PER THE RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL LATEST EDITION AND THE SOIL EROSION SEDIMENTATION CONTROL PLAN (SESC).
2. TEMPORARY SWALES SHALL BE USED TO CONTROL RUNOFF DURING CONSTRUCTION. TEMPORARY SWALES SHALL BE VEGETATED AFTER CONSTRUCTION. EROSION CONTROL MATS SHALL BE INSTALLED IF NECESSARY TO PREVENT EROSION AND SUPPORT VEGETATION. AFTER CONSTRUCTION IS COMPLETE AND TRIBUTARY ARES TO THE SWALES HAVE BEEN STABILIZED, THE TEMPORARY SWALES SHALL BE CLEARED AND FINAL DESIGN, INCLUDING INSTALLATION OF THE GRASS SWALE SHALL BE PER THE DESIGN PLANS.
3. ONCE THE SEDIMENTATION TRAP IS NO LONGER REQUIRED AND ALL TRIBUTARY AREAS HAVE BEEN STABILIZED, THE TEMPORARY SEDIMENTATION TRAP SHALL CLEANED AND BROUGHT TO FINAL DESIGN GRADES.
4. INLET PROTECTION SHALL BE INSTALLED ON ALL CATCH BASINS ONCE CONSTRUCTED.
5. SEE SECTION 2.2 OF THE SESC FOR SEQUENCE OF CONSTRUCTION ACTIVITY.
6. SEE SECTION 2.2 OF THE SESC FOR PROJECT PHASING.
7. CONTRACTOR MAY MODIFY SEQUENCE OF CONSTRUCTION WITH APPROVAL FROM DESIGN ENGINEER.
8. FOR CONSTRUCTION PHASING SEE SECTION 2.2 OF SOIL EROSION AND SEDIMENT CONTROL PLAN.

Abbreviations Legend

AP	ASSESSOR'S PLAT	OHW	OVERHEAD WIRE
BC	BOTTOM OF CURB	PE	POLYETHYLENE
BT	BOTTOM OF TESTHOLE	℄	PROPERTY LINE
BIT	BITUMINOUS (BERM)	PR	PROPOSED
BIO	BIORETENTION	PVC	POLYVINYL CHLORIDE
BW	BOTTOM OF WALL (FINISHED GRADE AT BOTTOM OF WALL)	R	RADIUS
		R&D	REMOVE AND DISPOSE
CB	CATCH BASIN	RCP	REINFORCED CONCRETE PIPE
(C)	CALCULATED	RIHB	RHODE ISLAND HIGHWAY BOUND
℄	CENTERLINE	RL	ROOF LEADER
(CA)	CHORD ANGLE	ROW	RIGHT OF WAY
CLDIP	CONCRETE LINED DUCTILE IRON PIPE	S	SLOPE
CO	CLEAN OUT	SD	SUBDRAIN
CONC	CONCRETE	SED	SEDIMENT FOREBAY
(D)	DEED	SE	SLAB ELEVATION
DCB	DOUBLE CATCH BASIN	SF	SQUARE FOOT
DI	DROP INLET	SFL	STATE FREEWAY LINE
DMH	DRAINAGE MANHOLE	SFM	SEWER FORCE MAIN
DP	DETENTION POND	SHL	STATE HIGHWAY LINE
EOP	EDGE OF PAVEMENT	SMH	SEWER MANHOLE
ESC	EROSION AND SEDIMENT CONTROL	SNDF	SAND FILTER
EX	EXISTING	SS	SIDE SLOPE
FES	FLARED END SECTION	STA	STATION
FFE	FINISH FLOOR ELEVATION	TC	TOP OF CURB
GFE	GARAGE FLOOR ELEVATION	TD	TRENCH DRAIN
GWT	GROUND WATER TABLE	TF	TOP OF FOUNDATION
HC	HANDICAPPED	TRANS	TRANSITION
HW	HEADWALL	TW	TOP OF WALL (FINISHED GRADE AT TOP OF WALL)
HC	HIGH CAPACITY CATCH BASIN GRATE		
HDPE	HIGH DENSITY POLYETHYLENE	TYP	TYPICAL
ID	INLINE DRAIN	UDS	UNDERGROUND DETENTION SYSTEM
INV	INVERT	UIS	UNDERGROUND INFILTRATION SYSTEM
IP	INFILTRATION POND	UP	UTILITY POLE
LF	LINEAR FEET	WO	WALKOUT
LOD	LIMIT OF DISTURBANCE	WQ	WATER QUALITY
LP	LIGHT POLE		
(M)	MEASURED		
N/F	NOW OR FORMERLY		

Site Callouts Legend

NOT ALL ITEMS SHOWN WILL APPEAR ON PLANS

7.2.4	RIDOT STD PRECAST CONCRETE CURB STOP
4W45	4" WHITE STRIPING 2' ON CENTER AT 45°
ADAS	ADA SPACE PAVEMENT MARKINGS MUST COMPLY WITH ALL ADA AND MUTCD REGULATIONS AND REQUIREMENTS.
ADAR	ADA CURB RAMP MUST COMPLY WITH ALL ADA REGULATIONS AND REQUIREMENTS.
ADAV	VAN ADA SPACE PAVEMENT MARKINGS MUST COMPLY WITH ALL ADA AND MUTCD REGULATIONS AND REQUIREMENTS.
CWK	CROSSWALK PAVEMENT MARKINGS. SOLID 2' WHITE LINES SPACED 4' OC (REFERENCE MUTCD SECTION 3B.18)

Existing Legend

(AS SHOWN ON PROPOSED PLANS)

NOT ALL ITEMS SHOWN WILL APPEAR ON PLANS

- PROPERTY LINE
- ASSESSORS LINE
- BUILDING
- BRUSHLINE
- TREELINE
- GUARDRAIL
- FENCE
- RETAINING WALL
- STONE WALL
- MINOR CONTOUR LINE
- MAJOR CONTOUR LINE
- WATER LINE
- SEWER LINE
- SEWER FORCE MAIN
- GAS LINE
- ELECTRIC LINE
- OVERHEAD WIRES
- DRAINAGE LINE
- SOILS LINES
- 50' PERIMETER WETLAND
- 100' RIVERBANK WETLAND
- 200' RIVERBANK WETLAND
- NATURAL HERITAGE AREA
- FEMA BOUNDARY
- STREAM
- WETLAND LINE & FLAG
- NATURAL HERITAGE AREA
- NAIL FOUND/SET
- DRILL HOLE FOUND/SET
- BOUND FOUND/SET
- SIGN
- BOLLARD
- SOIL EVALUATION
- CATCH BASIN
- DOUBLE CATCH BASIN
- DRAINAGE MANHOLE
- FLARED END SECTION
- GUY POLE
- ELECTRIC MANHOLE
- UTILITY/POWER POLE
- LIGHTPOST
- SEWER/SEPTIC MANHOLE
- SEWER VALVE
- CLEANOUT
- HYDRANT
- IRRIGATION VALVE
- WATER VALVE
- WELL
- MONITORING WELL
- UNKNOWN MANHOLE
- GAS VALVE
- BENCH MARK
- STREAM FLOW DIRECTION

Proposed Legend

NOT ALL ITEMS SHOWN WILL APPEAR ON PLANS

- PROPERTY LINE
- BUILDING SETBACKS
- TREELINE
- CHAINLINK FENCE
- GUARDRAIL (RIDOT STD 34.2.0, 34.4.0 OR APPROVED EQUAL)
- RETAINING WALL
- MINOR CONTOUR LINE
- MAJOR CONTOUR LINE
- SPOT ELEVATION
- EDGE OF PAVEMENT
- CONCRETE CURB (RIDOT STD 7.1.0)
- BUILDING FOOTPRINT
- BUILDING OVERHANG
- BUILDING ENTRY
- ASPHALT PAVEMENT
- STAMPED CONCRETE
- CONCRETE SIDEWALK
- SAWCUT LINE
- SIGN (RIDOT STD 24.6.2 AS APPLICABLE)
- SINGLE LIGHT
- DOUBLE LIGHT
- OVERHANGING LIGHT
- ACCESSIBLE PARKING SPACE SYMBOLS
- TRANSFORMER PAD WITH BOLLARDS (PER NATIONAL GRID STANDARD)
- PARKING COUNT
- DRAINAGE LINE
- ROOF LEADER
- GAS LINE
- WATER LINE
- HYDRANT ASSEMBLY
- WATER SHUT OFF
- WATER VALVE
- THRUST BLOCK
- SEWER LINE
- OVERHEAD WIRE
- ELECTRIC, TELEPHONE, CABLE LINE
- LIMIT OF DISTURBANCE – NO EROSION CONTROL
- STRAW WATTLE, SILT FENCE (RIDOT STD 9.2.0) OR APPROVED EQUAL AT LIMIT OF DISTURBANCE
- 2:1 SLOPES
- UNDERGROUND SYSTEM OUTLINE
- POND ACCESS
- RIP RAP
- SAND FILTER
- CATCH BASIN
- DOUBLE CATCH BASIN
- MANHOLE
- FLARED END SECTION
- HEAD WALL
- SHRUB
- TREE

Utility Note:

ALL UNDERGROUND UTILITIES SHOWN ON THESE PLANS WERE PROVIDED BY OTHERS AND ARE APPROXIMATE ONLY. LOCATIONS MUST BE DETERMINED IN THE FIELD BEFORE EXCAVATION, BLASTING, UTILITY INSTALLATION, BACKFILLING, GRADING, PAVEMENT RESTORATION, AND ALL OTHER SITE WORK. ALL UTILITY COMPANIES, PUBLIC AND PRIVATE, MUST BE CONTACTED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THESE DOCUMENTS. CONTACT DIG SAFE A MINIMUM OF 72 WORKING HOURS PRIOR TO ANY CONSTRUCTION AT 811. DIG SAFE IS RESPONSIBLE FOR CONTACTING MEMBER UTILITY COMPANIES. DIG SAFE MEMBER UTILITY COMPANIES ARE RESPONSIBLE TO MARK ONLY THE FACILITIES THAT THEY OWN OR MAINTAIN. NON DIG SAFE MEMBER COMPANIES ARE NOT NOTIFIED BY DIG SAFE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INVESTIGATE AND NOTIFY IF ANY PRIVATELY OWNED OR NON DIG SAFE MEMBER UTILITIES ARE IN THE AREA.

PER THE CODE OF FEDERAL REGULATIONS – TITLE 29, PART 1926 IT IS THE SITE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ACCURATE UNDERGROUND UTILITY LINE LOCATIONS FROM THE UTILITY COMPANIES, UTILITY OWNERS AND, OR VIA UNDERGROUND UTILITY LOCATION EQUIPMENT AS NEEDED TO ESTABLISH ACCURATE LOCATIONS PRIOR TO ANY EXCAVATION. THE USE OF PROFESSIONAL UTILITY LOCATING COMPANIES PRIOR TO ANY EXCAVATION IS RECOMMENDED.

DIPRETE ENGINEERING IS NOT A PROFESSIONAL UTILITY LOCATION COMPANY, AND IS NOT RESPONSIBLE FOR UNDERGROUND UTILITIES, DEPICTED OR NOT, EITHER IN SERVICE OR ABANDONED. ANY SIZES, LOCATIONS, EXISTENCE, OR LACK OF EXISTENCE OF UTILITIES SHOWN ON THESE PLANS SHOULD BE CONSIDERED APPROXIMATE UNTIL VERIFIED BY A PROFESSIONAL UTILITY LOCATION COMPANY. DIPRETE ENGINEERING ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED.

Permit Note:

THE PURPOSE OF THIS PLAN SET IS TO OBTAIN A PERMIT FROM THE REGULATORY AGENCY IT WAS SUBMITTED TO. THIS PLAN SET CONTAINS THE REQUIRED INFORMATION NECESSARY FOR APPROVAL BY THE SPECIFIC AGENCY IT WAS SUBMITTED TO AND MAY NOT HAVE INFORMATION NECESSARY FOR OTHER REGULATORY AGENCIES. THIS PLAN SET MUST NOT BE CONSTRUED AS A FULL CONSTRUCTION OR BID SET. ADDITIONAL DETAIL IS REQUIRED FOR CONSTRUCTION AND BID DOCUMENTS, SUCH AS (BUT NOT LIMITED TO) FINE GRADING, GRADING BETWEEN THE CONTOUR INTERVAL, ADDITIONAL SURVEY/ MAPPING, BUILDING SHAPE/ LOCATION, ADA, UTILITY CONNECTIONS, UTILITY CROSSINGS, SURFACE AND GROUND WATER MITIGATION, SOIL STABILITY AND CONSISTENCY, SPECIFIC END USER NEEDS, CONSTRUCTABILITY ISSUES, ETC. ANY USER OF THESE PLANS SHOULD UNDERSTAND THIS LIMITATION.

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Boston • Providence • Newport

KEVIN DEMERS
No. 8557
REGISTERED PROFESSIONAL ENGINEER
CIVIL
5-20-25

This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.

The contractor is responsible for all of the means, methods, techniques, sequences and procedures and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	By:
6.	05/20/2025	Master Plan Submission	K.J.D.
5.	04/22/2025	RIDOT Resubmission	K.J.D.
4.	12/17/2024	RIDOT Response to Comments	N.W.P.
3.	12/17/2024	RIDOT Response to Comments	N.W.P.
2.	07/26/2024	RIDOT Resubmission	J.A.K.
1.	02/28/2024	RIDOT Submission	K.J.D.

Design By: K.J.D.
Drawn By: D.R.N.

General Notes And Legend
Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Darthmouth, MA 02747

DE Job No: 2536-001 Copyright 2025 by DiPrete Engineering Associates, Inc.

SHEET 3 OF 13

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Legend

NOT ALL ITEMS SHOWN WILL APPEAR ON THE SURVEY

BUILDING		△/△	NAIL FOUND/SET
AP	ASSESSOR'S PLAT	●/◉	DRILL HOLE FOUND/SET
N/F	NOW OR FORMERLY	○/◉	IRON ROD/PIPE FOUND/SET
(D)	DEED	■/□	BOUND FOUND/SET
(M)	MEASURED	-	SIGN
(CA)	CHORD ANGLE	⊕	BOLLARD
HC	HANDICAPPED	⊕	SOIL EVALUATION
	PROPERTY LINE	DCB CB	CATCH BASIN
	ASSESSORS LINE	DCB DCB	DOUBLE CATCH BASIN
	TREELINE	DMH	DRAINAGE MANHOLE
	GUARDRAIL	FES	FLARED END SECTION
	FENCE		GUY POLE
	RETAINING WALL	EMH	
	STONE WALL	UP	UTILITY/POWER POLE
2	MINOR CONTOUR LINE		LIGHTPOST
10	MAJOR CONTOUR LINE	SMH	SEWER/SEPTIC MANHOLE
W	WATER LINE	SV	SEWER VALVE
S	SEWER LINE		CLEANOUT
SFM	SEWER FORCE MAIN		HYDRANT
G	GAS LINE		IRRIGATION VALVE
E	ELECTRIC LINE	WV	WATER VALVE
OHW	OVERHEAD WIRES		WELL
D	DRAINAGE LINE		MONITORING WELL
			UNKNOWN MANHOLE
		GV	GAS VALVE
		B-1	WETLAND FLAG
			BENCH MARK
			SHRUB
			TREE

General Notes

1. THE PARCEL IS FOUND ON ASSESSOR'S PLAT 111, LOT 1 IN THE TOWN OF BRISTOL, BRISTOL COUNTY, RHODE ISLAND.
2. THE OWNER PER THE ASSESSOR'S ONLINE DATABASE IS KENDAN, LLC.
3. THE PARCEL IS LOCATED IN ZONE X & AE PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP 44001C0011H, DATED JULY 7, 2014.
4. THE PARCEL IS ZONED GB PER THE ASSESSOR'S ONLINE DATABASE. PLEASE CONTACT THE ZONING DEPARTMENT FOR ANY ADDITIONAL INFORMATION OR FOR A CERTIFICATE OF ZONING.
5. THERE WERE NO CEMETERIES, GRAVE SITES AND OR BURIAL GROUNDS OBSERVED WITHIN THE LIMITS OF THE SITE.
6. FIELD SURVEY PERFORMED BY BARKER LAND SURVEYING, INC. THIS PLAN REFLECTS ON THE GROUND CONDITIONS AS OF THAT DATE.
7. ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM ONLINE GIS DATA TOGETHER WITH EXISTING PLANS BY OTHERS. DIPRETE ENGINEERING IS NOT RESPONSIBLE FOR MISSING UNDERGROUND UTILITIES, EITHER IN SERVICE OR ABANDONED, NOT OBSERVED AT THE TIME OF THE SURVEY. (PLEASE CONTACT DIGSAFE 72 WORKING HOURS PRIOR TO ANY CONSTRUCTION AT 1-888-344-7233).
8. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. DIPRETE ENGINEERING IS NOT RESPONSIBLE FOR ANY UNKNOWN OR UNRECORDED EASEMENTS, DEEDS OR CLAIMS THAT A TITLE REPORT WOULD DISCLOSE.

Plan References:

1. PLAN ENTITLED "PROPERTY LINE SURBEY FOR KENDAN, LLC" BY BARKER LAND SURVEYING, INC. REVISED 9/30/14.

Lidar Note:

CONTOUR DATA SHOWN ON THIS PLAN CONFORMS TO A T-4 TOPOGRAPHICAL SURVEY STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS; SAID DATA IS BASED ON ELEVATION INFORMATION THAT WAS COLLECTED WITH AIRBORNE LIDAR TECHNOLOGY FOR THE ENTIRE AREA OF RHODE ISLAND BETWEEN APRIL 22 AND MAY 6, 2011 AS PART OF THE NORTHEAST LIDAR PROJECT. THIS DATA'S POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED BY DIPRETE ENGINEERING AND IS SUBJECT TO CHANGES AN AUTHORITATIVE FIELD SURVEY MAY DISCLOSE.

SURVEYOR'S CERTIFICATE

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO 435-RICR-00-00-1.9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 25, 2015, AS FOLLOWS:

- COMPILATION PLAN — CLASS IV
(NOT A BOUNDARY SURVEY)

THIS COMPILATION PLAN HAS BEEN PREPARED FROM SOURCES OF INFORMATION AND DATA WHOSE POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED. THE PROPERTY LINES DEPICTED HEREON DO NOT REPRESENT A BOUNDARY OPINION, AND OTHER INFORMATION DEPICTED IS SUBJECT TO SUCH CHANGES AS AN AUTHORITATIVE FIELD SURVEY MAY DISCLOSE

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS: COMPILATION PLAN FOR USE IN PERMITTING PLAN SET.

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CHRISTOPHER A. DUHAMEL
No. 18441
5/20/25
PROFESSIONAL LAND SURVEYOR

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Rev.	Date	Description	By:
4	05/20/2025	Master Plan Submission	K.J.D.
3	04/17/2025	BLDG1 Response to Comments	N.M.P.
2	07/22/2024	BLDG1 Response to Comments	N.M.P.
1	07/12/2024	BLDG1 Response to Comments	J.A.R.
0	02/28/2024	BLDG1 Submission	

Drawn By: D.R.N. | Design By: K.J.D.

Existing Resource Plan

Comfort Inn & Suites

AP 111 LOT 1
Bristol, Rhode Island

Owner & Applicant
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 4 OF 13

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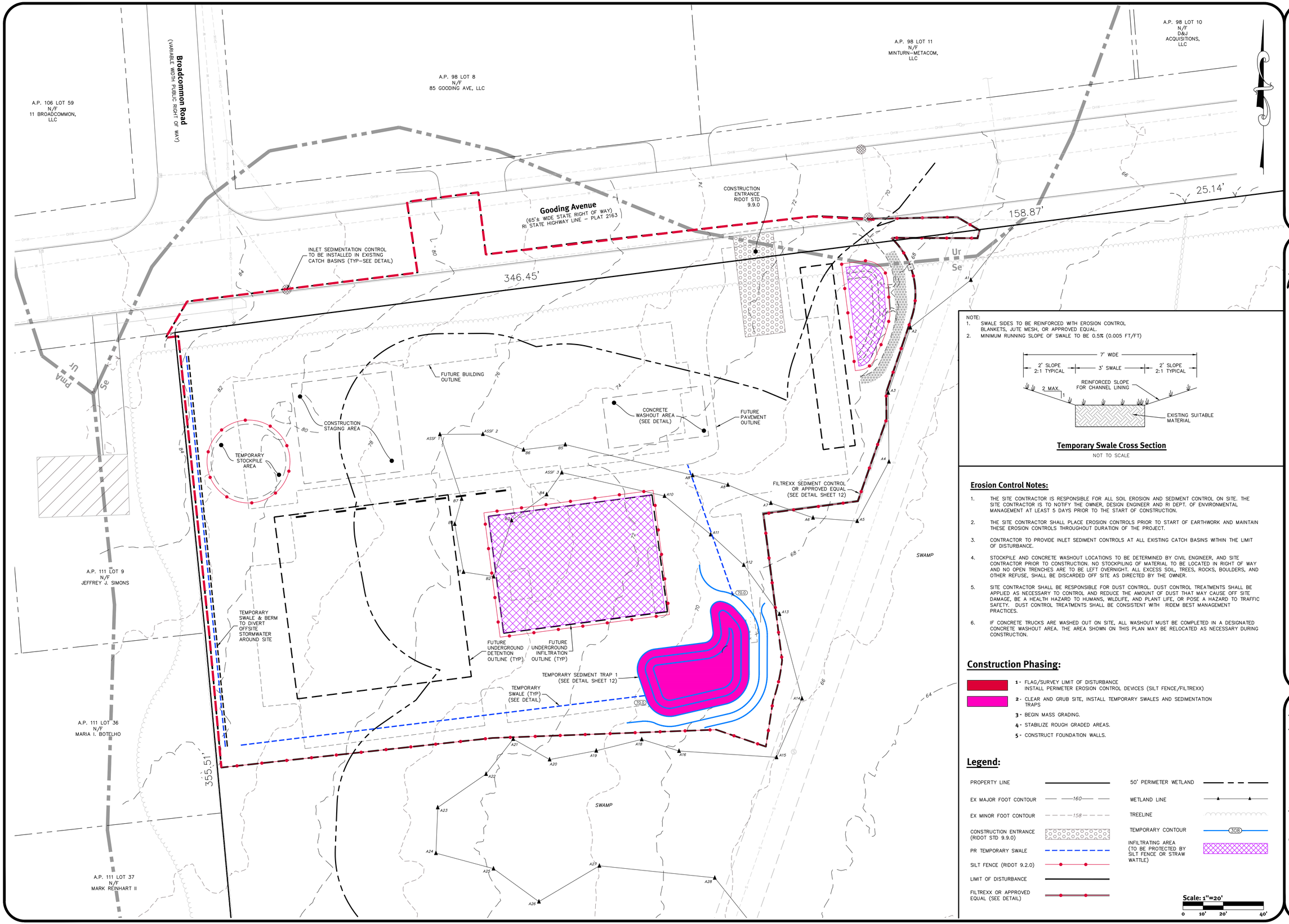

NOTE:
1. SWALE SIDES TO BE REINFORCED WITH EROSION CONTROL BLANKETS, JUTE MESH, OR APPROVED EQUAL.
2. MINIMUM RUNNING SLOPE OF SWALE TO BE 0.5% (0.005 FT/FT)

Temporary Swale Cross Section

NOT TO SCALE

Erosion Control Notes:

1. THE SITE CONTRACTOR IS RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL ON SITE. THE SITE CONTRACTOR IS TO NOTIFY THE OWNER, DESIGN ENGINEER AND RI DEPT. OF ENVIRONMENTAL MANAGEMENT AT LEAST 5 DAYS PRIOR TO THE START OF CONSTRUCTION.
2. THE SITE CONTRACTOR SHALL PLACE EROSION CONTROLS PRIOR TO START OF EARTHWORK AND MAINTAIN THESE EROSION CONTROLS THROUGHOUT DURATION OF THE PROJECT.
3. CONTRACTOR TO PROVIDE INLET SEDIMENT CONTROLS AT ALL EXISTING CATCH BASINS WITHIN THE LIMIT OF DISTURBANCE.
4. STOCKPILE AND CONCRETE WASHOUT LOCATIONS TO BE DETERMINED BY CIVIL ENGINEER, AND SITE CONTRACTOR PRIOR TO CONSTRUCTION. NO STOCKPILING OF MATERIAL TO BE LOCATED IN RIGHT OF WAY AND NO OPEN TRENCHES ARE TO BE LEFT OVERNIGHT. ALL EXCESS SOIL, TREES, ROCKS, BOULDERS, AND OTHER REFUSE, SHALL BE DISCARDED OFF SITE AS DIRECTED BY THE OWNER.
5. SITE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL. DUST CONTROL TREATMENTS SHALL BE APPLIED AS NECESSARY TO CONTROL AND REDUCE THE AMOUNT OF DUST THAT MAY CAUSE OFF SITE DAMAGE, BE A HEALTH HAZARD TO HUMANS, WILDLIFE, AND PLANT LIFE, OR POSE A HAZARD TO TRAFFIC SAFETY. DUST CONTROL TREATMENTS SHALL BE CONSISTENT WITH RIDEM BEST MANAGEMENT PRACTICES.
6. IF CONCRETE TRUCKS ARE WASHED OUT ON SITE, ALL WASHOUT MUST BE COMPLETED IN A DESIGNATED CONCRETE WASHOUT AREA. THE AREA SHOWN ON THIS PLAN MAY BE RELOCATED AS NECESSARY DURING CONSTRUCTION.

Construction Phasing:

1- FLAG/SURVEY LIMIT OF DISTURBANCE
INSTALL PERIMETER EROSION CONTROL DEVICES (SILT FENCE/FILTREXX)
2- CLEAR AND GRUB SITE, INSTALL TEMPORARY SWALES AND SEDIMENTATION TRAPS
3- BEGIN MASS GRADING.
4- STABILIZE ROUGH GRADED AREAS.
5- CONSTRUCT FOUNDATION WALLS.

Legend:

- PROPERTY LINE
- EX MAJOR FOOT CONTOUR (160)
- EX MINOR FOOT CONTOUR (158)
- CONSTRUCTION ENTRANCE (RIDOT STD 9.9.0)
- PR TEMPORARY SWALE
- SILT FENCE (RIDOT 9.2.0)
- LIMIT OF DISTURBANCE
- FILTREXX OR APPROVED EQUAL (SEE DETAIL)
- 50' PERIMETER WETLAND
- WETLAND LINE
- TREELINE
- TEMPORARY CONTOUR (308)
- INFILTRATING AREA (TO BE PROTECTED BY SILT FENCE OR STRAW WATTLE)

Scale: 1"=20'
0 10' 20' 40'

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KEVIN DEMERS
No. 18557
REGISTERED PROFESSIONAL ENGINEER
CIVIL

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No.	Date	Description	By
4.	09/20/2025	Master Plan Submission	K.J.D.
3.	07/22/2025	RIDOT Response to Comments	N.M.P.
2.	01/07/2024	RIDOT Response to Comments	N.M.P.
1.	07/28/2023	RIDOT Response to Comments	J.A.K.
0.	07/28/2023	RIDOT Submission	J.A.K.

Design By: K.J.D.
Drawn By: D.R.N.

Erosion & Sediment Control Plan

Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 5 OF 13

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Parking Regulations:

PARKING USE:	HOTEL
PARKING REQUIREMENT:	1 SPACE PER HOTEL ROOM
HOTEL ROOMS:	80 ROOMS
PARKING CALCULATION:	80 X 1/ROOM = 80 SPACES
REQUIRED PARKING SPACES:	80 SPACES
PROVIDED REGULAR (10' X 18') PARKING SPACES:	60
PROVIDED COMPACT* (9' X 16') PARKING SPACES:	20
TOTAL PROVIDED PARKING SPACES:	80 SPACES (REGULAR + COMPACT)
REQUIRED ADA PARKING SPACES:	4 SPACES
PROVIDED ADA PARKING:	4 SPACES
REQUIRED LOADING AREA:	14' x 60' LOADING SPACE
PROVIDED LOADING AREA:	14' x 60' LOADING SPACE

* FOR PARKING AREAS WITH MORE THAN 20 SPACES, UP TO 25 PERCENT OF THE SPACES MAY BE REDUCED IN SIZE FOR SMALL CARS, PROVIDED THAT SUCH SPACES SHALL BE PROMINENTLY SIGNED FOR SMALL CARS ONLY

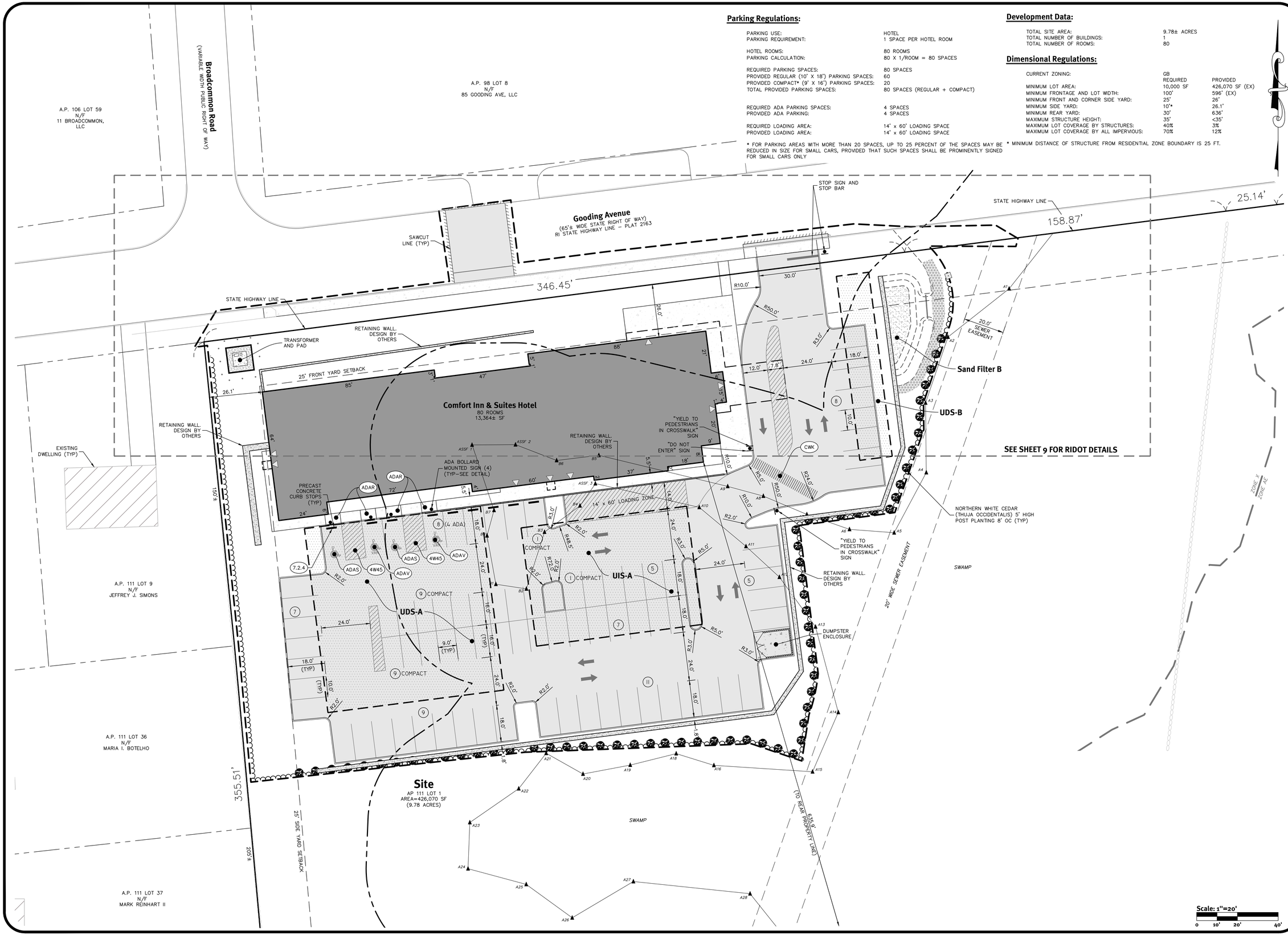
Development Data:

TOTAL SITE AREA:	9.78± ACRES
TOTAL NUMBER OF BUILDINGS:	1
TOTAL NUMBER OF ROOMS:	80

Dimensional Regulations:

CURRENT ZONING:	GB	
	REQUIRED	PROVIDED
MINIMUM LOT AREA:	10,000 SF	426,070 SF (EX)
MINIMUM FRONTAGE AND LOT WIDTH:	100'	596' (EX)
MINIMUM FRONT AND CORNER SIDE YARD:	25'	26'
MINIMUM SIDE YARD:	10'*	26.1'
MINIMUM REAR YARD:	30'	636'
MAXIMUM STRUCTURE HEIGHT:	35'	<35'
MAXIMUM LOT COVERAGE BY STRUCTURES:	40%	3%
MAXIMUM LOT COVERAGE BY ALL IMPERVIOUS:	70%	12%

* MINIMUM DISTANCE OF STRUCTURE FROM RESIDENTIAL ZONE BOUNDARY IS 25 FT.



Scale: 1"=20'
0 10' 20' 40'

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KEVIN DEMERS
No. 8557
REGISTERED PROFESSIONAL ENGINEER
CIVIL

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No.	Date	Description	By:
5	06/20/2025	Minor Plan Submission	K.J.D.
4	04/17/2025	RIDOT Resubmission Comments	K.M.P.
3	12/12/2024	RIDOT Response to Comments	K.M.P.
2	11/25/2024	RIDOT Resubmission	K.M.P.
1	02/28/2024	RIDOT Submission	J.A.R.

Drawn By: D.R.N. Design By: K.J.D.

Site Layout Plan
Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 6 OF 13

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Grading Plan

Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC

92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 7 OF 13

No.	Date	Description	By:
4	05/20/2025	Master Plan Submission	K.I.D.
3	04/17/2025	RIDOT Response To Comments	N.M.P.
2	12/12/2024	RIDOT Response To Comments	N.M.P.
1	07/30/2024	RIDOT Response To Comments	N.M.P.
0	02/28/2024	RIDOT Submission	J.A.K.

Drawn By: D.R.N. | Design By: K.J.D.

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KEVIN DEMERS
No. 15657
REGISTERED PROFESSIONAL ENGINEER
STATE OF RHODE ISLAND

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Item C2



Drainage and Utilities Plan

Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC

92 Faunce Corner Road, Suite 160,
North Darthmoth, MA 02747

SHEET 8 OF 13

No.	Date	Description	By:
4	05/20/2025	Master Plan Submission	K.J.D.
3	04/17/2025	RIDOT Response To Comments	N.M.P.
2	12/12/2024	RIDOT Response To Comments	N.M.P.
1	07/30/2024	RIDOT Response To Comments	N.M.P.
0	02/28/2024	RIDOT Submission	J.A.K.

Drawn By: D.R.N. | Design By: K.J.D.

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KEVIN DEMERS
No. 15,827
REGISTERED PROFESSIONAL ENGINEER
STATE OF RHODE ISLAND

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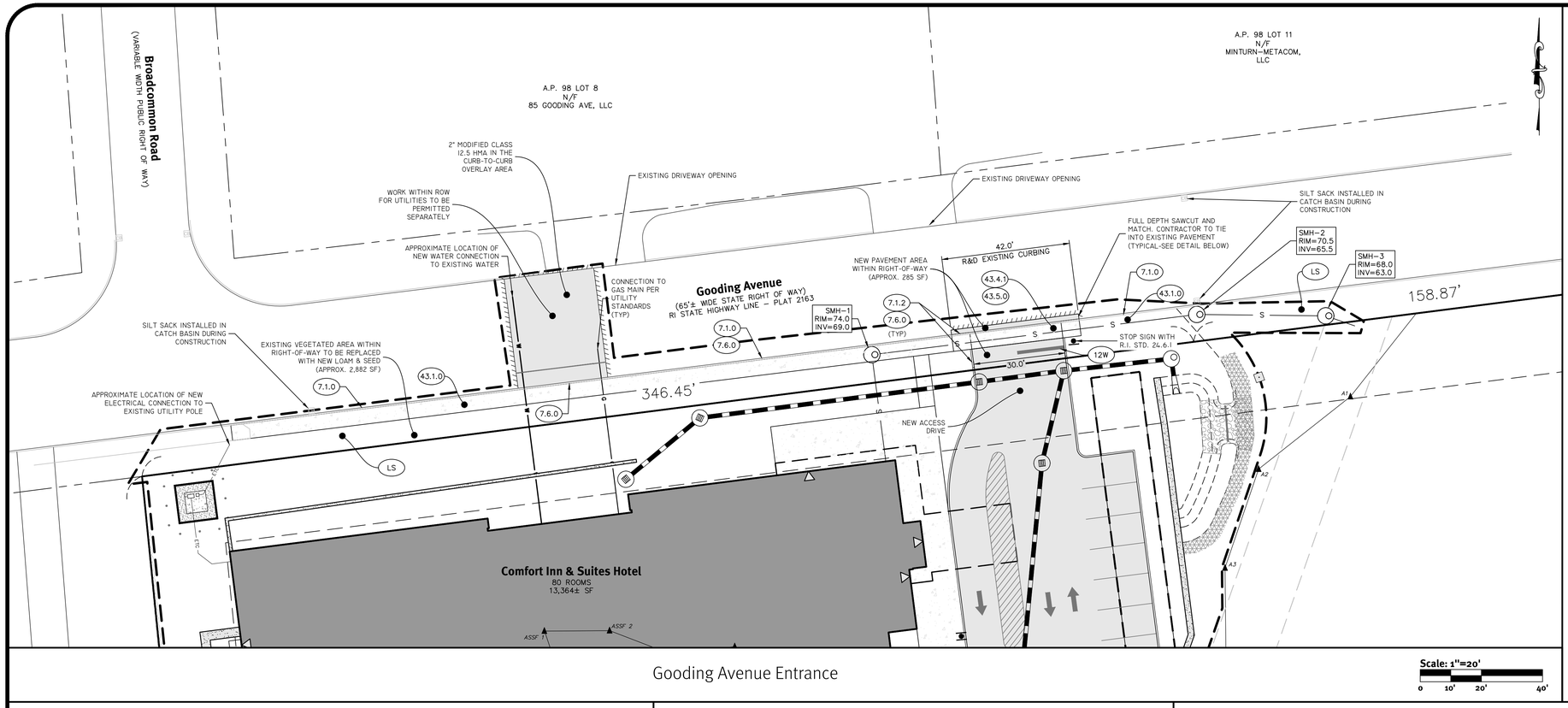
Item C2



Gooding Avenue Entrance

Scale: 1"=20'

0 10' 20' 40'

RIDOT NOTES:

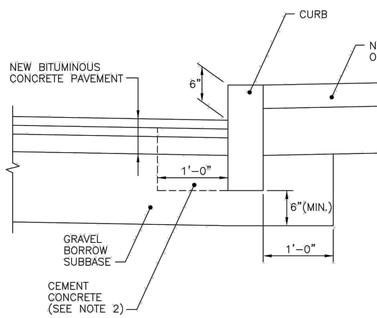
1. ALL WORK TO BE DONE WITHIN THE STATE HIGHWAY RIGHT-OF-WAY SHALL CONFORM TO THE RHODE ISLAND STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION, AUGUST 2023 EDITION WITH ALL REVISIONS. STANDARD DETAILS FOR THIS WORK ARE R.I. STANDARD DETAILS 1998 EDITION (AMENDED OCTOBER 2022) WITH ALL REVISIONS.
2. ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION, INCLUDING ALL REVISIONS.
3. ALL BITUMINOUS PAVEMENT WITHIN THE STATE ROW SHALL BE AN APPROVED MIX DESIGN PROVIDED BY A RIDOT APPROVED SUPPLIER IN ACCORDANCE WITH THE RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (BLUE BOOK).
4. GRAVEL BORROW SUBBASE PLACED ON STATE ROADS SHALL MATCH EXISTING PAVEMENT DEPTH (MINIMUM 12 INCHES) AND SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
5. SWEEPING AND TACK COAT OF MILLED SURFACE IS REQUIRED PRIOR TO OVERLAY.

UTILITY NOTES:

1. CONTRACTOR MUST COORDINATE WITH RIDOT, RI ENERGY, AND ALL OTHER UTILITY COMPANIES.
2. WITH RESPECT TO UTILITIES CONNECTIONS WITHIN THE STATE'S ROW, THE APPLICANT IS REMINDED THAT THIS APPLICATION IS NOT A SUBSTITUTE FOR THE UTILITY PERMIT AND FURTHER THAT APPROVAL OF THIS APPLICATION DOES NOT CONSTITUTE APPROVAL OF ANY UTILITY WORK, SHOWN OR UN-SHOWN, WITHIN THE STATE'S ROW.

SITE CALLOUTS LEGEND

- (12W) 12" WHITE STOP LINE (REFERENCE MUTCD SECTION 3B.16)
- (4W) 4" WHITE EPOXY RESIN PAVEMENT MARKINGS
- (7.1.0) RIDOT STD PRECAST CONCRETE CURB
- (LS) 4" LOAM AND SEED



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. CEMENT CONCRETE SHALL BE USED ONLY WHEN THE CURB IS SET AFTER THE BASE AND/OR BINDER COURSES ARE IN PLACE, OTHERWISE THE CEMENT CONCRETE WILL BE ELIMINATED AND THE GRAVEL BROUGHT UP TO BOTTOM OF THE BASE COURSE.

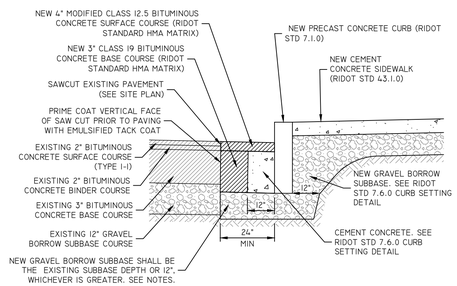
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

CURB SETTING DETAIL

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

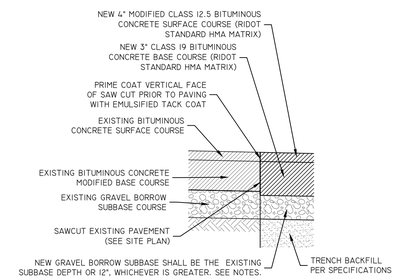
CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 7.6.0



SECTION THROUGH NEW CURB & SIDEWALK

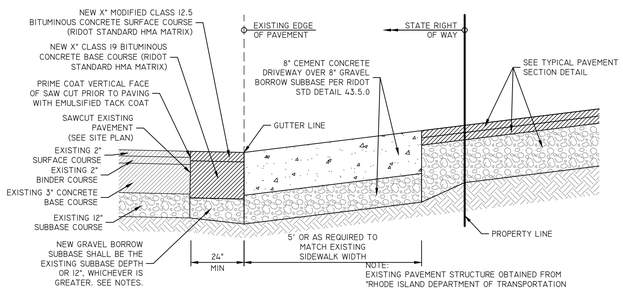
NOT TO SCALE



SECTION THROUGH TRENCH

NOT TO SCALE

NOTES:
1. PROPOSED THICKNESSES SHOWN WITHIN THE STATE RIGHT OF WAY ARE MINIMUMS. IF EXISTING THICKNESSES ARE FOUND TO BE GREATER, THE RESTORATION MUST FOLLOW AND MATCH THE EXISTING PAVEMENT STRUCTURE TO ENSURE SIMILAR STRUCTURAL CAPACITIES.
2. GRAVEL BORROW SUBBASE PLACED ON STATE ROADS SHALL MATCH EXISTING SUBBASE DEPTH (MINIMUM I2 INCHES) AND SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE RIDOT SPECIFICATIONS.
3. IF A CONCRETE BASE IS FOUND IN THE ROADWAY, ANY RESTORATION WORKS SHALL INCLUDE NEW CLASS XX CONCRETE, PINNED AND DOWELED TO THE EXISTING CONCRETE, AT A THICKNESS EQUAL TO THE EXISTING CONCRETE SLAB THICKNESS.
4. SWEEPING AND TACK COAT IS REQUIRED FOR ANY MILLED SURFACE PRIOR TO OVERLAY.
5. CLASS I9 HMA IS TO BE PLACED IN LIFTS OF 3" MINIMUM AND 5-3/4" MAXIMUM.
6. ALL ASPHALT WITHIN THE STATE RIGHT OF WAY SHALL BE AN APPROVED MIX DESIGN PROVIDED BY A RIDOT APPROVED SUPPLIER IN ACCORDANCE WITH THE RIDOT STANDARD SPECIFICATIONS.
7. ALL CONCRETE WITHIN THE STATE RIGHT OF WAY SHALL BE PROVIDED BY A RIDOT APPROVED SUPPLIER, SHALL BE CLASS XX AND CONFORM TO SECTION 601 OF THE RIDOT STANDARD SPECIFICATIONS. TRENCH WORK WILL REQUIRE PINNING AND DOWELING AND THE DEPTH SHALL MATCH EXISTING CONCRETE SLAB THICKNESS.
8. CONTRACTOR MUST HOLD/ SUPPORT/ RESTORE ALL IMPACTED UTILITY POLES AND ABOVEGROUND OBJECTS AS NECESSARY DURING INSTALLATION WORKS AND COORDINATE WITH ALL ASSOCIATED UTILITY OWNERS ACCORDINGLY.



PAVEMENT TIE IN DETAIL - RIDOT

NOT TO SCALE

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KEVIN DEMERS
No. 8557
REGISTERED PROFESSIONAL ENGINEER
CIVIL
9-20-25

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5	09/19/2025	Master Plan Submission	K.I.D.
4	06/27/2025	RIDOT Resubmission Comments	N.M.P.
3	12/27/2024	RIDOT Response to Comments	N.M.P.
2	08/29/2024	RIDOT Resubmission Comments	J.A.R.
1	02/29/2024	RIDOT Submission	J.A.R.

Design By: K.I.D.
Drawn By: D.R.N.

RIDOT ROW Improvements

Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
90 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 9 OF 13

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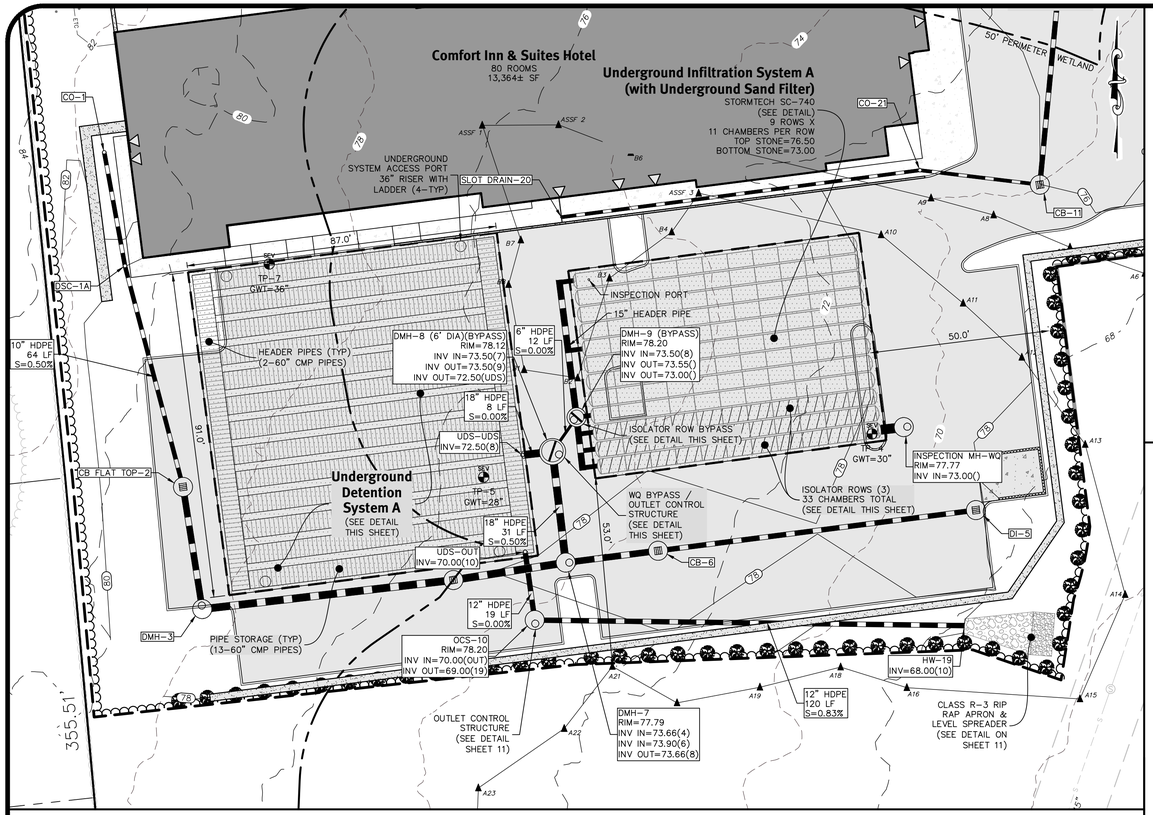


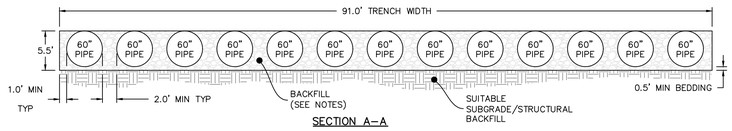
Underground Infiltration/Detention System A (UIS-A & UDS-A)

Scale: 1"=20'
0 10' 20' 40'

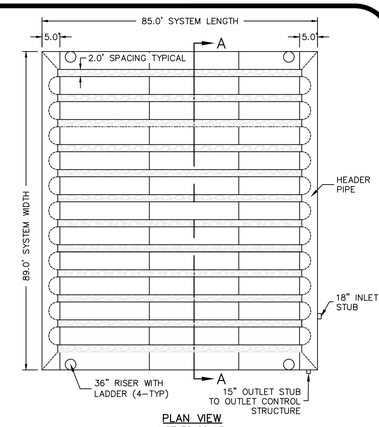
NOTES:

1. STRUCTURAL BACKFILL MATERIAL: SELECT MATERIALS SUCH AS BANK RUN GRAVEL OR OTHER PROCESSED GRANULAR MATERIALS LESS THAN 3 IN. MAXIMUM WITH EXCELLENT STRUCTURAL CHARACTERISTICS ARE PREFERRED. CONTRACTOR TO PROVIDE SIEVE ANALYSIS OF BACKFILL MATERIAL TO DESIGN ENGINEER PRIOR TO CONSTRUCTION.
2. STRUCTURAL BACKFILL PLACEMENT: STRUCTURAL BACKFILL SHALL BE PLACED IN LAYERS FROM 6 TO 12 IN. IN DEPTH DEPENDING ON THE TYPE OF MATERIAL AND COMPACTION EQUIPMENT OR METHOD. EACH LAYER OR "LIFT" SHALL BE COMPACTED TO 95% PROCTOR DENSITY BEFORE ADDING THE NEXT.
3. PIPE SHALL BE HDPE OR ALUMINIZED TYPE 2. ALL PIPE MUST BE WATERTIGHT. CONTRACTOR TO PROVIDE SHOP DRAWINGS TO DESIGN ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
4. HEADER PIPE CAN BE CUSTOM MANUFACTURED OR CONSTRUCTED USING PIPE FITTINGS. CONTRACTOR TO PROVIDE SHOP DRAWINGS TO DESIGN ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

DESCRIPTION	UDS-A	UDS-B
TOP OF UDS STONE ELEVATION	75.00	70.50
BOTTOM OF UDS STONE ELEVATION	69.50	68.50
100 YEAR STORM ELEVATION	72.84	70.83
10 YEAR STORM ELEVATION	71.20	70.72
1 YEAR STORM ELEVATION	70.43	70.57
SEASONAL HIGH GWT ELEVATION	73.50	66.00
SOIL EVALUATION	TP-5	TP-6



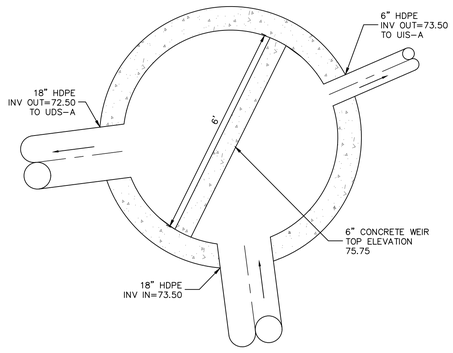
SECTION A-A



PLAN VIEW

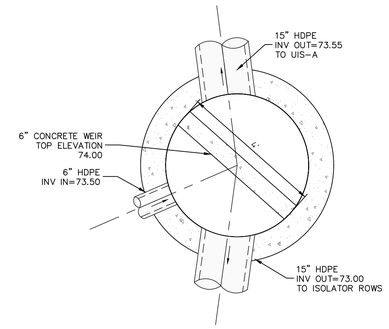
Underground Detention System A

NOT TO SCALE



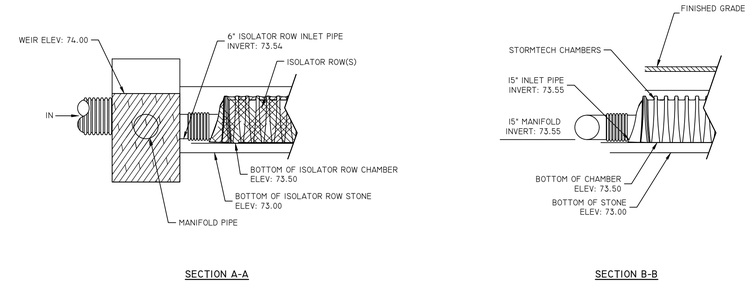
WQ Bypass DMH-8 (6'Ø Manhole)

SCALE 1"=2'



Isolator Row Bypass DMH-9 (4'Ø Manhole)

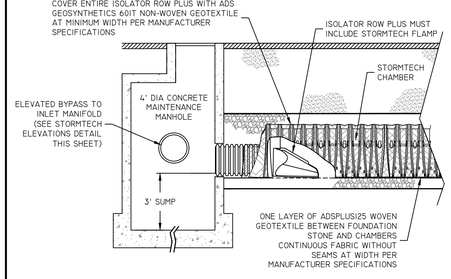
SCALE 1"=2'



SECTION A-A SECTION B-B

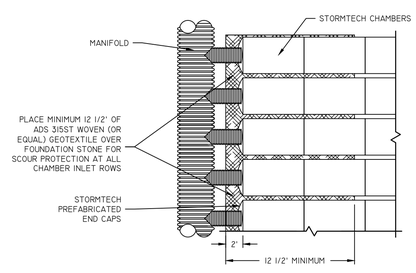
STORMTECH ELEVATIONS

NOT TO SCALE



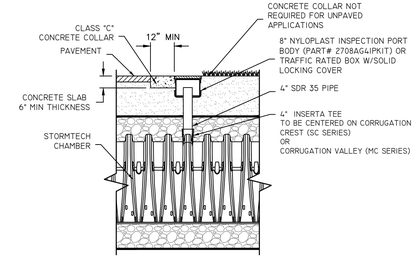
STORMTECH ISOLATOR ROW PLUS DETAIL

NOT TO SCALE



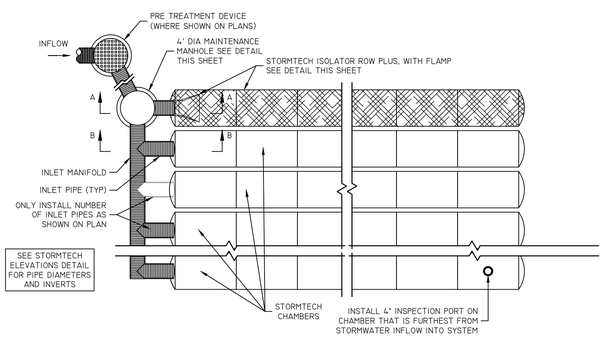
STORMTECH SCOUR PROTECTION DETAIL

NOT TO SCALE



STORMTECH 4" INSPECTION PORT DETAIL

NOT TO SCALE

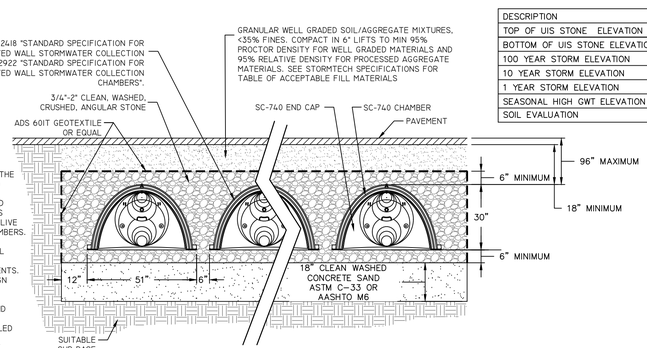


STORMTECH TYPICAL LAYOUT - INFILTRATION

NOT TO SCALE

NOTES:

1. THIS CROSS SECTION DETAILS THE REQUIREMENTS NECESSARY TO SATISFY THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12 FOR EARTH AND LIVE LOADS USING STORMTECH CHAMBERS. SEE APPLICABLE STORMTECH CONSTRUCTION GUIDES AND ALL APPLICABLE DOCUMENTS FOR SPECIFIC MATERIAL REQUIREMENTS.
2. SEE LATEST STORMTECH DESIGN MANUAL FOR CURRENT REQUIREMENTS.
3. ALL STORMTECH CHAMBERS AND ASSOCIATED/ ANCILLARY COMPONENTS MUST BE INSTALLED PER MANUFACTURER RECOMMENDATIONS AND THESE PLANS. CONTRACTOR TO NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO INSTALLATION.



DESCRIPTION	UIS-A
TOP OF UIS STONE ELEVATION	76.50
BOTTOM OF UIS STONE ELEVATION	73.00
100 YEAR STORM ELEVATION	75.88
10 YEAR STORM ELEVATION	75.14
1 YEAR STORM ELEVATION	73.28
SEASONAL HIGH GWT ELEVATION	70.00
SOIL EVALUATION	TP-4

STORMTECH SC-740 TYPICAL CROSS SECTION (SAND FILTER)

NOT TO SCALE

CONTRACTOR NOTE: SHOULD CONTRACTOR WISH TO PROPOSE ALTERNATE STORMWATER SYSTEM IN LIEU OF ADS STORMTECH, CONTRACTOR MUST SUBMIT THE FOLLOWING FOR REVIEW AND APPROVAL BY OWNER/ DESIGN ENGINEER PRIOR TO CONSTRUCTION:

- COMPLETED "SUBSTITUTION REQUEST" CSI FORM 13.1A (APRIL 2022 VERSION MODIFIED BY DIPRETE ENGINEERING 2023) - FORM AVAILABLE FROM DIPRETE ENGINEERING;
- ALTERNATE PRODUCT DESIGN PLANS SPECIFIC TO THIS PROJECT, STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE SAME STATE AS THIS PROJECT;
- POINT BY POINT COMPARATIVE DATA THAT DEMONSTRATES HOW THE ALTERNATE DESIGN MEETS OR IMPROVES THE DESIGN SHOWN ON THE APPROVED PLANS AND REPORTS, INCLUDING (BUT MAY NOT BE NOT LIMITED TO):
  - STAGE STORAGE
  - PEAK FLOOD ELEVATION
  - PEAK DISCHARGE FOR ALL APPLICABLE DESIGN STORMS
  - ANY OTHER APPLICABLE REQUIREMENTS OR CONSTRAINTS AS SET FORTH IN THE APPROVED PLANS, REPORTS AND CONTRACT DOCUMENTS
- PLANS, CALCULATIONS OR OTHERWISE THAT DEMONSTRATE HOW THE ALTERNATE DESIGN ADDRESSES SITE LAYOUT/ CONNECTIVITY TO THE ADJOINING STORMWATER NETWORK COMPONENTS, INCLUDING (BUT MAY NOT BE LIMITED TO):
  - PROVISION FOR ACCESS AND MAINTENANCE
  - ADEQUATE CONSTRUCTABILITY
  - ACCOMMODATION OF SURROUNDING OBJECTS/ STRUCTURES/ UTILITIES IN ACCORDANCE WITH ALL APPLICABLE OFFSETS, CLEARANCES AND STIPULATIONS AS REQUIRED BY THE APPLICABLE AUTHORITIES HAVING JURISDICTION

APPLICATION FOR SUBSTITUTION

NOT TO SCALE

DiPrete Engineering
90 Broadway Newport, RI 02840
tel 401.619.5990 fax 401.464.6006 www.diprete-eng.com
Boston • Providence • Newport

KEVIN DEMERS
No. 8557
REGISTERED PROFESSIONAL ENGINEER
CIVIL
5-20-25

This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.
The contractor is responsible for all of the means, methods, techniques, sequences and procedures and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	By:
0	02/27/2024	ROOT Submission	Design By: K.J.D.
1	12/17/2024	ROOT Response to Comments	
2	03/17/2025	ROOT Response to Comments	Drawn By: D.R.N.
3	04/30/2025	Master Plan Submission	K.J.D.
4	05/20/2025	Master Plan Submission	N.M.P.
5	12/17/2025	ROOT Response to Comments	N.M.P.
6	02/26/2026	ROOT Submission	J.A.R.

Underground System A & Details
Comfort Inn & Suites
AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 10 OF 13

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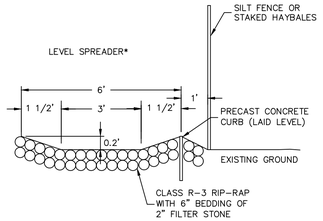
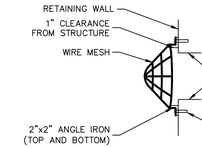


NOTE:
* LENGTHS AS SPECIFIED ON SITE PLANS

Level Spreader

NOT TO SCALE



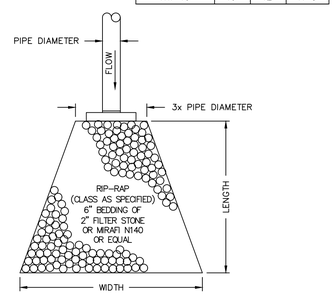
NOTES:
1. ALL 2" WEEP HOLES USED TO PLACE STRUCTURE MUST BE FILLED WITH CONCRETE.

2. SECTION SHOWN FOR THE UDS-B OPENING. MESH FOR THE SAND FILTER TO FOREBAY CONNECTION TO HAVE A STRAIGHT BRACKET ATTACHED TO TOP OF PIPE.

Trash Rack Detail

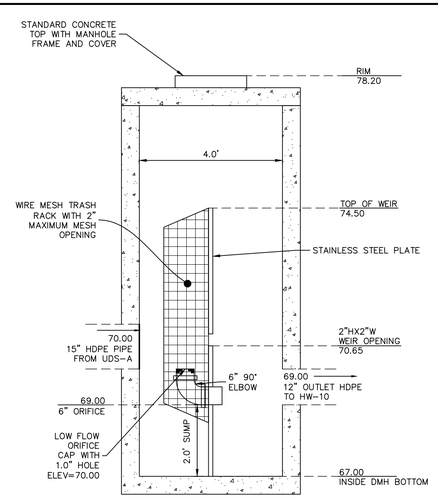
NOT TO SCALE

FLARED END	LENGTH	WIDTH	RIP RAP CLASS
HW-10	19'	12'	R-3



RIP RAP APRON/HW DETAIL

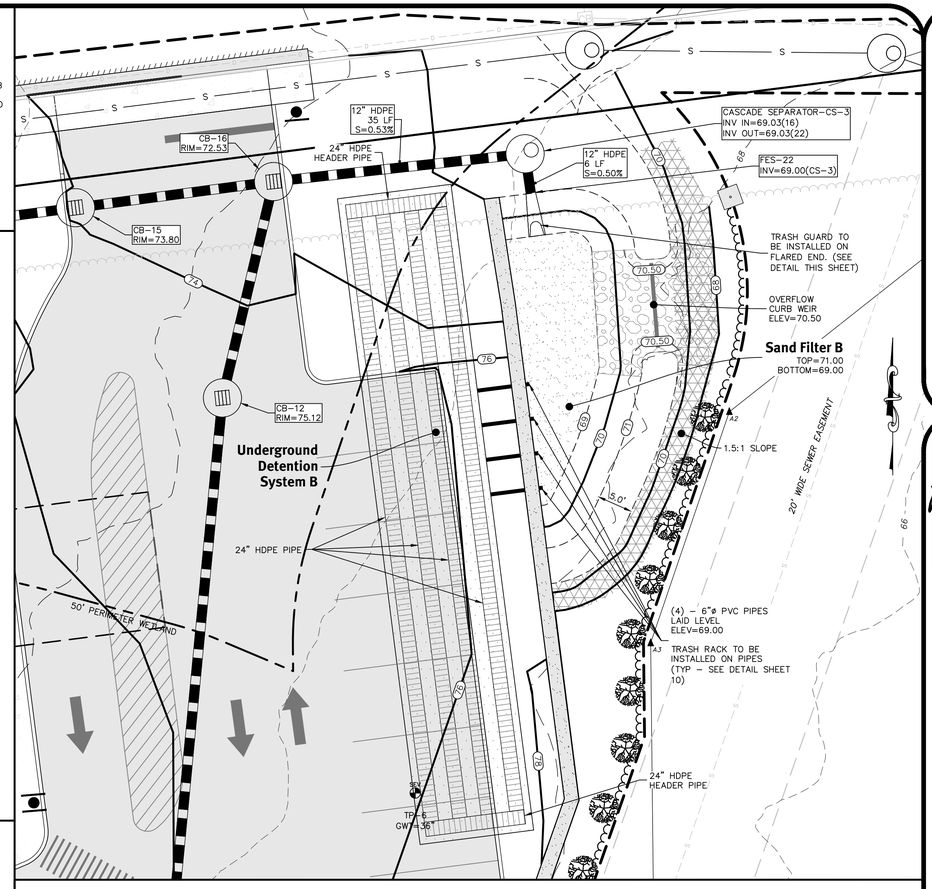
NOT TO SCALE



SECTION VIEW

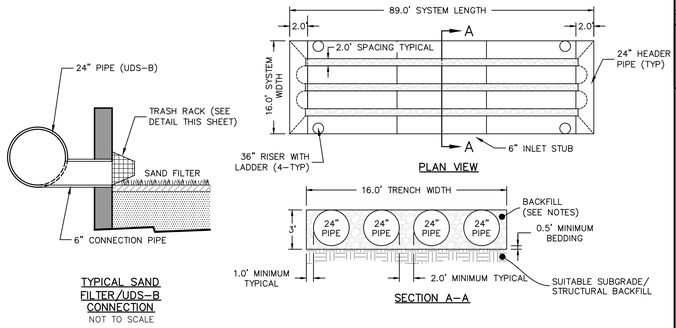
UDS-A Outlet Control Structure (OCS-10)

SCALE: 1"=2'



Underground Detention System - B (UDS-B) and Sand Filter B

Scale: 1"=10'
0 5' 10' 20'

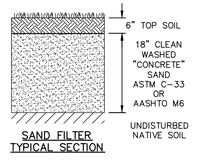


TYPICAL SAND FILTER/UDS-B CONNECTION
NOT TO SCALE

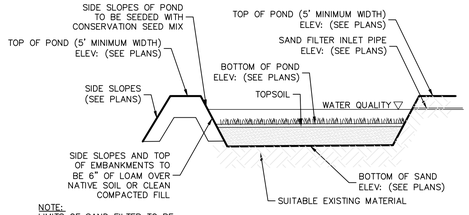
Underground Detention System B (UDS-B)

NOT TO SCALE

DESCRIPTION	SF-B
TOP OF POND ELEVATION	71.00
100 YEAR STORM ELEVATION	70.82
10 YEAR STORM ELEVATION	70.71
1 YEAR STORM ELEVATION	70.55
WQ STORM ELEVATION	69.80
BOTTOM OF POND ELEVATION	69.00
TOP SOIL DEPTH	6"
SAND DEPTH	18"
BOTTOM OF SAND ELEVATION	67.00
SEASONAL HIGH GWT ELEVATION	66.00
SOIL EVALUATION	TH-6



SAND FILTER
TYPICAL SECTION



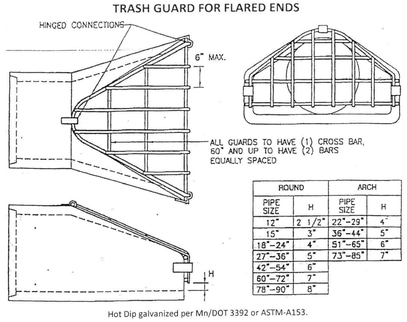
NOTE:
LIMITS OF SAND FILTER TO BE STAKED OUT AND NOT USED AS A TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION (NO CONSTRUCTION TRAFFIC ALLOWED WITHIN FILTER LIMITS)

SAND FILTER
NOT TO SCALE

Sand Filter BMP System

NOT TO SCALE

TRASH GUARD FOR FLARED ENDS



ROUND		ARCH	
PIPE SIZE	H	PIPE SIZE	H
12"	2 1/2"	22"-29"	4"
15"	3"	36"-44"	5"
18"-24"	4"	51"-65"	6"
27"-36"	5"	73"-85"	7"
42"-54"	6"		
60"-72"	7"		
78"-90"	8"		

Hot Dip galvanized per Mn/DOT 3392 or ASTM-A153.

BAR SIZES									
STANDARD DESIGN					HEAVY DESIGN				
	PIPE SIZE	HOLE DIA. REQ'D.	BOLT DIA.	BAR SIZE		PIPE SIZE	HOLE DIA. REQ'D.	BOLT DIA.	BAR SIZE
ROUND	12"-24"	3/4"	5/8"	5/8"	ROUND	12"-24"	3/4"	5/8"	3/4"
	27"-48"	7/8"	3/4"	3/4"		27"-48"	7/8"	3/4"	1"
	54"-90"	1 1/8"	1"	1"		54"-90"	1 1/8"	1"	1 1/4"
ARCH	22"-29"	3/4"	5/8"	5/8"	ARCH	22"-29"	3/4"	5/8"	3/4"
	36"-59"	7/8"	3/4"	3/4"		36"-59"	7/8"	3/4"	1"
	65"-88"	1 1/8"	1"	1"		65"-88"	1 1/8"	1"	1 1/4"
BOLT LG. = PIPEWALL THK. + 2 1/2"									
					ELLIPTICAL	14x23"	3/4"	5/8"	3/4"
						19x30"	3/4"	5/8"	3/4"
						24x38"	7/8"	3/4"	3/4"
						29x45"	7/8"	3/4"	3/4"
						34x53"	7/8"	3/4"	3/4"
						38x60"	7/8"	3/4"	3/4"
						43x68"	1 1/8"	1"	1"
						48x76"	1 1/8"	1"	1"
						53x83"	1 1/8"	1"	1"

HAALA INDUSTRIES
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507-794-5821 ext. 115
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Trash Guard Specifications

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KEVIN DEMERS
No. 18557
REGISTERED
PROFESSIONAL ENGINEER
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No.	Date	Description	By:
9	05/29/2025	Master Plan Submission	K.I.D.
8	04/28/2025	RIDOT Response to Comments	N.M.P.
7	12/27/2024	RIDOT Response to Comments	N.M.P.
6	10/25/2024	RIDOT Response to Comments	J.A.R.
5	07/29/2024	RIDOT Submission	K.I.D.

Design By: K.I.D.
Drawn By: D.R.N.

Underground System B, Sand Filter B & Details

Comfort Inn & Suites

AP 111 Lot 1
Bristol, Rhode Island

Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
90 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 11 OF 13

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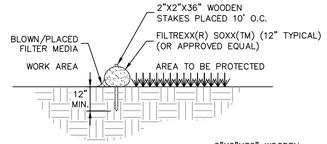

NOTES:

1. ALL MATERIAL TO MEET FILTREXX(R) SPECIFICATIONS
2. FILTER MEDIA(TM) FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER
4. STAKES ARE NOT TO BE USED IN PAVEMENT AREAS.
5. SELF WEIGHT OF FILTREXX SYSTEM IS ADEQUATE TO PREVENT SYSTEM MOVEMENT ONCE POSITIONED ALONG AREA SHOWN ON THE PLANS.
6. CONTRACTOR TO PLACE FILTREXX SEDIMENT CONTROL OR APPROVED EQUAL AROUND ALL CURB INLET LOCATIONS AS SPECIFIED ON PLANS.

Filtrexx Sediment Control (or Approved Equal)

NOT TO SCALE

DiPrete Engineering
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tel 401-619-5950 fax 401-464-6006 www.diprete-eng.com
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GENERAL NOTES:

1. THE TEMPORARY SEDIMENT TRAP SHALL MEET ALL REQUIREMENTS FOR TEMPORARY SEDIMENT TRAPS OUTLINED IN THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK (LATEST REVISION) SECTION SIX: SEDIMENT CONTROL MEASURES
2. THE TEMPORARY SEDIMENT TRAP SHALL HAVE AN INITIAL STORAGE VOLUME OF 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER EXCEPT FOR THE EXCAVATED WET STORAGE AREA WHERE SLOPES SHALL NOT EXCEED 1.5:1.
4. THE OUTLET SHALL BE LOCATED AT THE MOST DISTANT HYDRAULIC POINT FROM THE INLET.
5. THE OUTLET CONSISTS OF A PERVIOUS STONE DIKE WITH A CORE OF MODIFIED RIPRAP AND FACED ON THE UPSTREAM SIDE WITH STONE.
6. TEMPORARY SEDIMENT TRAPS MUST OUTLET ONTO STABILIZED GROUND.
7. MAXIMUM HEIGHT OF A TEMPORARY SEDIMENT TRAP EMBANKMENT IS LIMITED TO 5 FEET.
8. SIDE SLOPES OF THE EMBANKMENT SHALL BE 2:1 OR FLATTER.
9. MODIFIED RIPRAP: SHALL MEET THE REQUIREMENTS OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.10.03.2.
10. FILTER STONE: SHALL MEET THE REQUIREMENTS OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.01.03 TABLE I, COLUMN V FILTER STONE.

INSPECTION, MAINTENANCE, AND REMOVAL REQUIREMENTS:

1. INSTALL "SEDIMENT STORAGE" STAKE WITH A MARKER AT ONE HALF OF THE WET STORAGE VOLUME.
2. INSPECT THE TEMPORARY SEDIMENT TRAP AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.25 INCH OR GREATER.
3. CHECK THE OUTLET TO ENSURE THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT.
4. CHECK FOR SEDIMENT ACCUMULATION AND FILTRATION PERFORMANCE.
5. WHEN SEDIMENTS HAVE ACCUMULATED TO ONE HALF THE MINIMUM REQUIRED VOLUME OF THE WET STORAGE, DEWATER THE TRAP AS NEEDED, REMOVE SEDIMENTS AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS.
6. DISPOSE OF THE SEDIMENT REMOVED FROM THE BASIN IN A SUITABLE AREA.
7. THE TEMPORARY SEDIMENT TRAP MAY BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA IS STABILIZED.

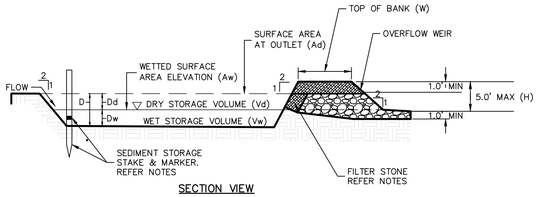
INSTALLATION NOTES:

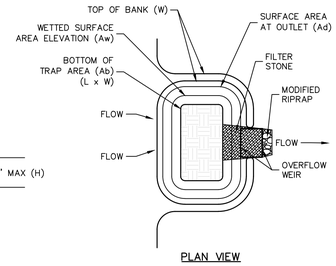
1. CLEAR, GRUB AND STRIP ANY VEGETATION AND ROOT MAT FROM ANY PROPOSED EMBANKMENT AND OUTLET AREA.
2. REMOVE STONES AND ROCKS WHOSE DIAMETER IS GREATER THAN THREE (3) INCHES AND OTHER DEBRIS.
3. EXCAVATE WET STORAGE AND CONSTRUCT THE EMBANKMENT AND/OR OUTLET AS NEEDED TO ATTAIN THE NECESSARY STORAGE REQUIREMENTS.
4. USE ONLY FILL MATERIAL FOR THE EMBANKMENT THAT IS FREE FROM EXCESSIVE ORGANICS, DEBRIS, LARGE ROCKS (OVER SIX (6) INCHES) OR OTHER UNSUITABLE MATERIALS. COMPACT THE EMBANKMENT IN 9-INCH LAYERS BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED
5. STABILIZE THE EARTHEN EMBANKMENT USING ANY OF THE FOLLOWING MEASURES, SEEDING FOR TEMPORARY VEGETATION COVER; SEEDING FOR PERMANENT VEGETATIVE COVER; OR SLOPE PROTECTION, IMMEDIATELY AFTER INSTALLATION

SEDIMENT TRAP DIMENSIONS	TRAP 1	
TRIBUTARY DRAINAGE AREA	1.15	ac
WET STORAGE DEPTH (Dw)	2.00	ft
DRY STORAGE DEPTH (Dd)	2.00	ft
TOTAL DEPTH (D)	4.00	ft
BOTTOM OF TRAP AREA (Ab)	850	sq.ft
WETTED SURFACE AREA (Aw)	1,400	sq.ft
SURFACE AREA AT OUTLET (Ad)	2,030	sq.ft

TOP WIDTH VS HEIGHT
H=HEIGHT OF EMBANKMENT
W=TOP WIDTH OF EMBANKMENT

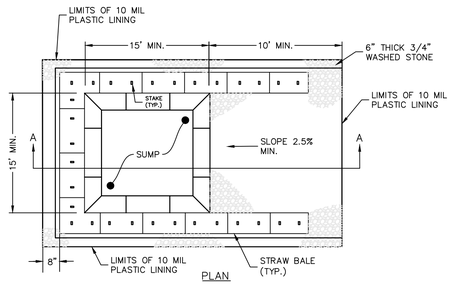
H (ft)	W (ft)
1.5	2.0
2.0	2.0
2.5	3.0
3.0	2.5
3.5	3.0
4.0	3.0
4.5	4.0
5.0	4.5

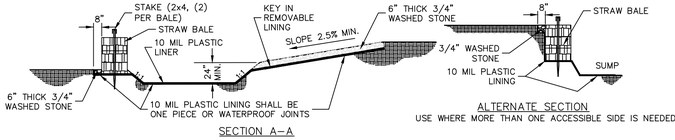




Temporary Sediment Trap Details

NOT TO SCALE





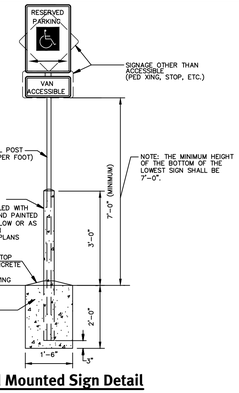


NOTES:

1. PIT IS SPECIFICALLY DESIGNATED, DIKED AND IMPERVIOUS CONTAINMENT TO PREVENT CONTACT BETWEEN CONCRETE WASH AND STORMWATER.
2. WASH WATER SHALL NOT BE ALLOWED TO FLOW TO SURFACE WATER.
3. FACILITY MUST HOLD SUFFICIENT VOLUME TO CONTAIN CONCRETE WASTE WITH A MINIMUM FREEBOARD OF 12."
4. FACILITY SHALL NOT BE FILLED BEYOND 95% CAPACITY UNLESS A NEW FACILITY IS CONSTRUCTED.
5. SAW CUT PORTLAND CEMENT CONCRETE, RESIDUE FROM SAWCUT & GRINDING TO BE DISPOSED OF IN THE PIT.
6. CONCRETE WASHOUTS SHALL BE LOCATED A MINIMUM OF 100' FROM DRAINAGE WAYS, INLETS, & SURFACE WATERS.
7. MANUFACTURED CONCRETE WASHOUT DEVICES MAY BE USED IF REMOVED FROM THE SITE WHEN 95% FULL CAPACITY.

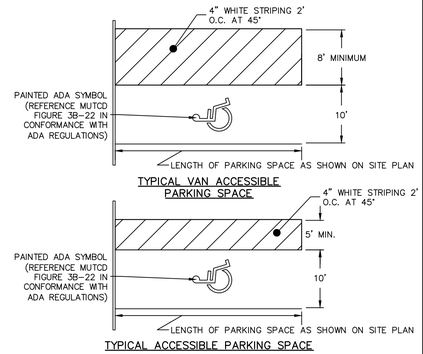
CONCRETE WASHOUT AREA

(NOT TO SCALE)



Bollard Mounted Sign Detail

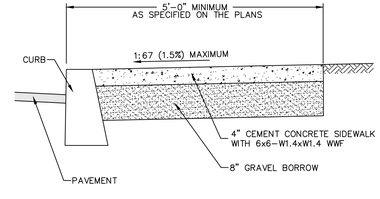
NOT TO SCALE



Typical Accessible Parking Spaces

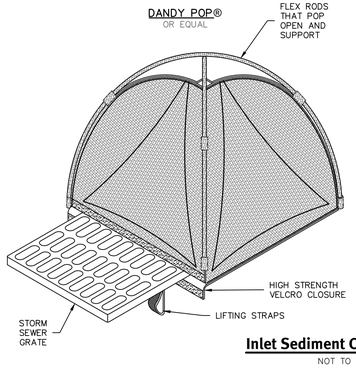
NOT TO SCALE

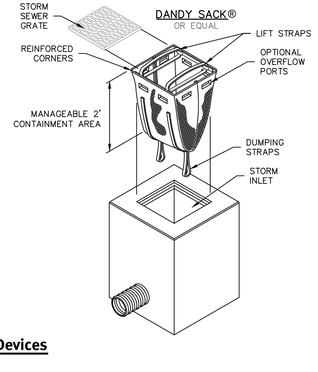
NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. FOR CURB SETTING DETAIL, REFERENCE STD. 7.6.0.
3. MEETS OR EXCEEDS GUIDELINES OF RIDOT STANDARD DETAIL 43.1.0.



Cement Concrete Sidewalk

NOT TO SCALE



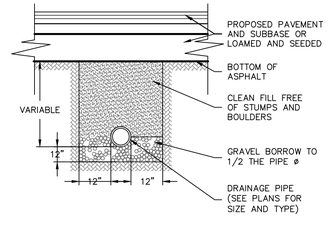


Inlet Sediment Control Devices

NOT TO SCALE

INSTALLATION NOTES:

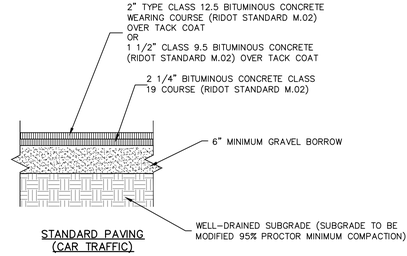
1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS, LATEST ADDITION.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100MM) FOR 4"-24" (100MM-600MM); 6" (150MM) FOR 30"-60" (750MM-900MM).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" ø PIPE AND 24" OF COVER FOR 54"-60" ø PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.



HDPE Trench Detail

NOT TO SCALE

NOTE:
THIS PAVEMENT SECTION DETAIL REFLECTS MINIMUM REQUIREMENTS. ENGINEER TO DETERMINE DESIGN BASED ON GEOTECHNICAL DATA OF SPECIFIC PROJECT AND DAILY TRAFFIC DESIGN REQUIREMENT.



Typical Pavement Section

NOT TO SCALE

KEVIN DEMERS
No. 8557
REGISTERED PROFESSIONAL ENGINEER
CIVIL
6-20-25

This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.

The contractor is responsible for all of the means, methods, techniques, sequences, procedures and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	By
5	05/20/2025	Master Plan Submission	K.J.D.
4	04/30/2025	RIDOT Resubmission Comments	K.M.P.
3	12/12/2024	RIDOT Response to Comments	K.M.P.
2	03/29/2024	RIDOT Resubmission Comments	K.M.P.
1	02/28/2024	RIDOT Submission	J.A.R.
0	02/28/2024	RIDOT Submission	J.A.R.

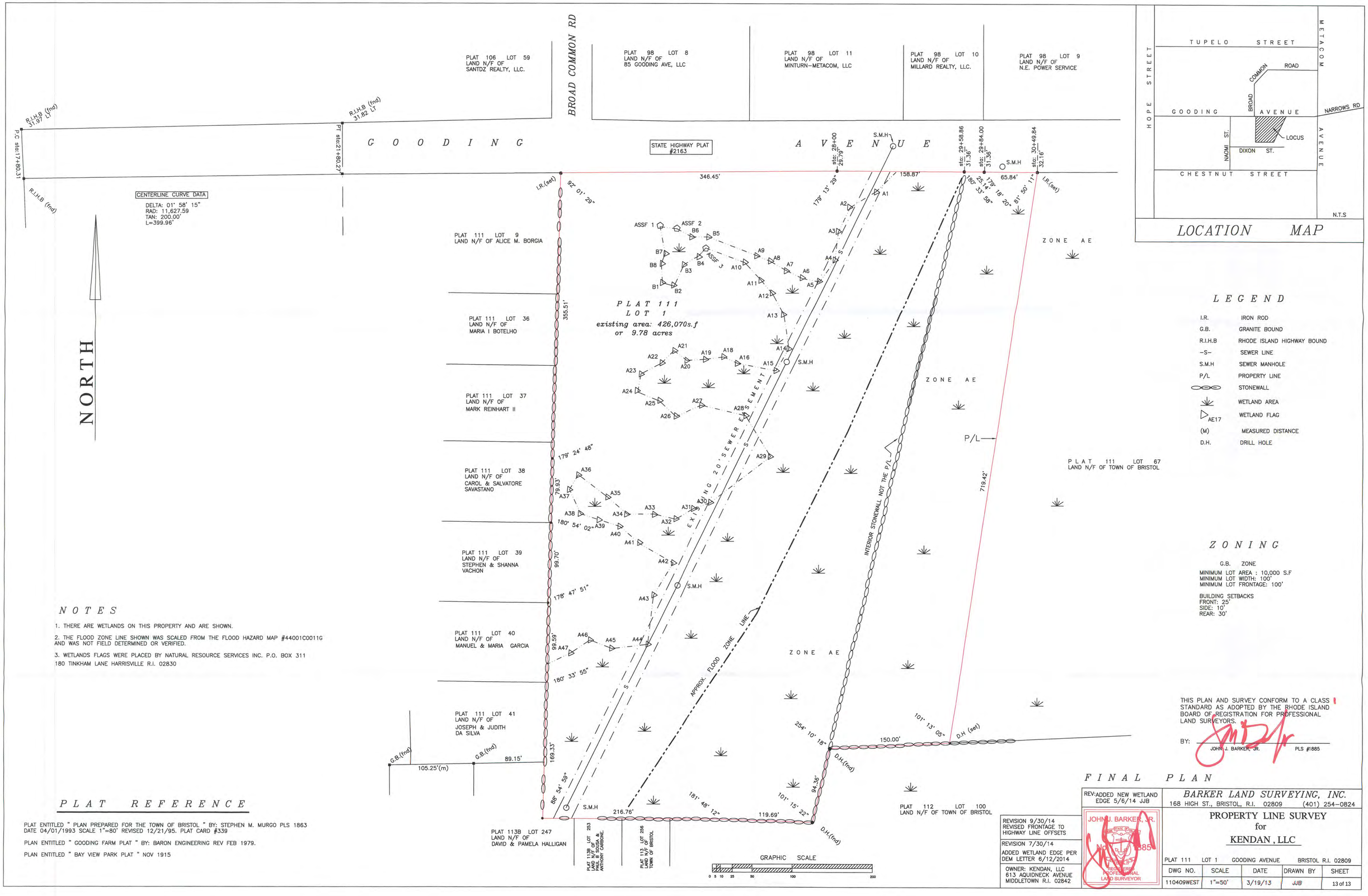
Drawn By: D.R.N. | Design By: K.J.D.

Detail Sheet
Comfort Inn & Suites
AP 111 Lot 1
Bristol, Rhode Island
Owner & Applicant:
D&M BOCA DEVELOPMENT, LLC
92 Faunce Corner Road, Suite 160,
North Dartmouth, MA 02747

SHEET 12 OF 13

DE Job No: 2536-001 Copyright 2025 by DiPrete Engineering Associates, Inc.

z:\domain\project\2536-001 gooding avenue\autocad drawing\2536-001-plan.dwg Plotted: 5/20/2025



LEGEND

I.R.	IRON ROD
G.B.	GRANITE BOUND
R.I.H.B	RHODE ISLAND HIGHWAY BOUND
-S-	SEWER LINE
S.M.H	SEWER MANHOLE
P/L	PROPERTY LINE
	STONEWALL
	WETLAND AREA
AE17	WETLAND FLAG
(M)	MEASURED DISTANCE
D.H.	DRILL HOLE

ZONING

G.B. ZONE

MINIMUM LOT AREA : 10,000 S.F
MINIMUM LOT WIDTH: 100'
MINIMUM LOT FRONTAGE: 100'

BUILDING SETBACKS
FRONT: 25'
SIDE: 10'
REAR: 30'

NOTES

1. THERE ARE WETLANDS ON THIS PROPERTY AND ARE SHOWN.
2. THE FLOOD ZONE LINE SHOWN WAS SCALED FROM THE FLOOD HAZARD MAP #44001C0011G AND WAS NOT FIELD DETERMINED OR VERIFIED.
3. WETLANDS FLAGS WERE PLACED BY NATURAL RESOURCE SERVICES INC. P.O. BOX 311 180 TINKHAM LANE HARRISVILLE R.I. 02830

PLAT REFERENCE

PLAT ENTITLED " PLAN PREPARED FOR THE TOWN OF BRISTOL " BY: STEPHEN M. MURGO PLS 1863 DATE 04/01/1993 SCALE 1"=80' REVISED 12/21/95. PLAT CARD #339

PLAN ENTITLED " GOODING FARM PLAT " BY: BARON ENGINEERING REV FEB 1979.

PLAN ENTITLED " BAY VIEW PARK PLAT " NOV 1915

THIS PLAN AND SURVEY CONFORM TO A CLASS I STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS.

BY: _____
JOHN J. BARKER, JR. PLS #1885

FINAL PLAN

REV: ADDED NEW WETLAND EDGE 5/6/14 JJB

REVISION 9/30/14
REVISED FRONTAGE TO HIGHWAY LINE OFFSETS

REVISION 7/30/14
ADDED WETLAND EDGE PER DEM LETTER 6/12/2014

OWNER: KENDAN, LLC
613 AQUIDNECK AVENUE
MIDDLETOWN R.I. 02842

JOHN J. BARKER, JR. NO. 1885 REGISTERED PROFESSIONAL LAND SURVEYOR

BARKER LAND SURVEYING, INC.
168 HIGH ST., BRISTOL, R.I. 02809 (401) 254-0824

PROPERTY LINE SURVEY
for
KENDAN , LLC

PLAT 111 LOT 1 GOODING AVENUE BRISTOL R.I. 02809

DWG NO.	SCALE	DATE	DRAWN BY	SHEET
110409WEST	1"=50'	3/19/13	JJB	13 of 13

Water Availability Request

BRISTOL COUNTY WATER AUTHORITY

Applicant Information

Date: 1/27/2025

Property Owner Signature: _____

Owner (please print): D&M Boca Development, LLC

Corporate Title (if not an individual): Principal

Address: 92 Faunce Corner Road, Suite 160, North Darthmouth, MA 02747

Phone: 508-562-1650 Email: ddegrazia@highridge-us.com

Contractor: TBD Email: _____

Location

Preliminary request is hereby made for a confirmation that public water is available from BCWA to service this property:

Town: Bristol Location: Gooding Ave, Bristol RI

Address/Plat and Lot: AP 111 Lot 1

☐ Residential*

☒ Commercial*

Building Footprint: 13,370 SF

Occupancy: 80 Rooms

Estimated Water Use: 10,000 GPD

***Site Plan Must Be Attached to All Applications**

For BCWA Office Use Only

Action by the Bristol County Water Authority

☑ Water Available ☐ Water Not Available

Approximate Static Pressure: 70 psi

Conditions: _____

If connection to BCWA is desired, you must:

☐ Submit Application for Main Extension Form and Engineering Plans for Review

☑ Submit Application for New Water Service Installation and Fee

Date of Review: 2/6/2025 BCWA Engineer: Colin O'Hara

Rev April 2017

☐ Sale

☐ Refinance

REQUEST FOR CERTIFICATE
SECTION 44-7-11
GENERAL LAWS OF RHODE ISLAND

Date: **5/16/2025** Requested by: MICHAEL A. KELLY ESQ.

Address: 128 DORRANCE STREET, SUITE 300

PROVIDENCE, RI 02903

Taxpayer Name: **D & M BOCA DEVELOPMENT LLC** Account #: **50-0101-29**

Address: **GOODING AVE** Prev. Acct #

Plat: **111** **Lot:** **0001** **Unit:** **000** MV Acct #

Year	Original Tax	Exemption (if any)	BALANCE OUTSTANDING Tax	Signature date Interest & Fees	Per Diem	Total Due (taxes, interest & fees)
2024	**$ 5,521.09**		**$0.00**			**PAID IN FULL**
2023			**$0.00**			**PAID IN FULL**
Motor Vehicle/Excise Tax						
2021						
2020						

Supplemental billing may occur after December 31st assessment date (ex. Construction or subdivision)

Motor Vehicle billed 1 year in arrears subject to receive a bill next year

Sewer use fee of **N/A** are included in principal above. Current unit rate : **N/A**

Sewer Assessment; Year assesed : **N/A** Remaining balance: **N/A**

****** Sewer Assessment may be be paid annually at $302.98 for 20 years ******

Prior year(s) deferred taxes (RIGL 44-3-20.2) are not included on this form. Refer to land evidence records.

Contact the Bristol County Water Authority (401) 245-2022 for water use and/or installation.

Tax Sale Information:

Tax sales are held annually. Any property with previous year's taxes due at that time is subject to effect from said action

Other Information:

Interest figures are valid as of the signature date below. The per diem rate is entered above.
PLEASE CALL TO GET CURRENT INTEREST & PENALTIES PRIOR TO CLOSING
Assessment information--An owner of property assessed December 31 would receive a bill in July representing taxes for the calendar year. The bill would be payable in installments in accordance with Rhode Island General Laws and the Town's Resolution to Levy.

THIS IS TO CERTIFY THAT THE ABOVE IS TRUE AND CORRECT, SAID CERTIFICATION IS GIVEN IN ACCORDANCE WITH SECTION 44-7-11 OF THE GENERAL LAWS OF RHODE ISLAND, 1956, AS OF THIS **16** DAY OF **May 2025**

Please Note: the information presented above is subject to provisions ro RIGL 44-5-13.

Fee $ 25.00

Town of Bristol
10 Court St
Bristol, RI 02809

Prepared By: Lori A Hubbard

Approved By: Lisa Marshall

COPY

Tax Year: 2024

Remit Tax Payment with stub	Interest Policy:	Tax Rate (Assessed 12/31/2023):
TOWN OF BRISTOL C/O TAX COLLECTOR 10 COURT STREET BRISTOL, RI 02809		RP Education 8.425 Town 5.395 **Total: 13.820**

D & M BOCA DEVELOPMENT LLC
92 FAUNCE CORNER RD SUITE 160
NORTH DARTMOUTH MA 02747

Taxing Authority	Bill Amount
Education	**$3,365.66**
Town	**$2,155.43**

Your Account number is: **50-0101-29**

CURRENT TAX BILL

Description	Land	Building	Valuation	Annual Tax
111-0001-000 at GOODING AVE :: 14-Com-Ind Vacant	399,500	0	399,500	$5,521.09
		Total Current Tax Bill :		**$5,521.09**

PRIOR YEAR INFORMATION

Description	Original Bill	- Adjustments	- Payments	= Balance	+ Interest	Amount
2023 RP Tax Roll	$5,337.32	$0.00	$5,337.32	$0.00	$0.00	$0.00
				Total Prior Year Balance:		$0.00

Bristol, RI **4 PAYMENT - 2024**

Account Number: 50-0101-29
Owner: D & M BOCA DEVELOPMENT LLC
Due Date: 05/15/2025

4 Payment

RETURN STUB WITH PAYMENT.

Qtly Pmt: $1,380.27

PAID

Email:

Bristol, RI **3 PAYMENT - 2024**

Account Number: 50-0101-29
Owner: D & M BOCA DEVELOPMENT LLC
Due Date: 02/18/2025

3 Payment

RETURN STUB WITH PAYMENT.

Qtly Pmt: $1,380.27

PAID

Email:

Bristol, RI **2 PAYMENT - 2024**

Account Number: 50-0101-29
Owner: D & M BOCA DEVELOPMENT LLC
Due Date: 11/15/2024

2 Payment

RETURN STUB WITH PAYMENT.

Qtly Pmt: $1,380.27

Email:

PAID

Bristol, RI **1 PAYMENT - 2024**

Account Number: 50-0101-29
Owner: D & M BOCA DEVELOPMENT LLC
Due Date: 08/15/2024

1 Payment

RETURN STUB WITH PAYMENT.

Qtly Pmt: $1,380.28

Email:

PAID

☑ Sale

☐ Refinance

REQUEST FOR CERTIFICATE
SECTION 44-7-11
GENERAL LAWS OF RHODE ISLAND

Date: May 15, 2025 Requested by: Michael A. Kelly, Esq.

Address: 128 Dorrance Street, Suite 300
Providence, RI 02903

Taxpayer Name: D & M BOCA DEVELOPMENT LLC Account #: 50-0101-29

Address: 0 Gooding Avenue Prev. Acct #

Plat: 111 **Lot:** 0001 **Unit:** 000 MV Acct #

Year	Original Tax	Exemption (if any)	BALANCE OUTSTANDING Tax	Signature date Interest & Fees	Per Diem	Total Due (taxes, interest & fees)
2020						
2019						
Motor Vehicle/Excise Tax						
2020						
2019						

Supplemental billing may occur after December 31st assessment date (ex. Construction or subdivision)

Motor Vehicle billed 1 year in arrears subject to receive a bill next year

Sewer use fee of _____ are included in principal above. Current unit rate : $ _____

Sewer Assessment; Year assesed : _____ Remaining balance: _____ _____

****** Sewer Assessment may be be paid annually at $302.98 for 20 years ******

Prior year(s) deferred taxes (RIGL 44-3-20.2) are not included on this form. Refer to land evidence records.

Contact the Bristol County Water Authority (401) 245-2022 for water use and/or installation.

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Please Note: the information presented above is subject to provisions ro RIGL 44-5-13.

Fee $ 25.00

Town of Bristol
10 Court St
Bristol, RI 02809

Prepared By: _____

Approved By: _____

DiPrete Engineering

Letter of Transmittal

To:	Diane M. Williamson, ALCP, CFM Director, Community Development Town of Bristol Planning Department 235 High Street, 1st Floor Bristol, RI 02809 (401) 253-7000 x126

Date:	6/6/2025
Job No:	2536-001-B01
Re:	Master Plan Submission Comfort Inn & Suites, Gooding Avenue

Number of Copies:	Description:
5	Plan Set prepared by DE, Building Plans & Elevations provided by Silvestri (24x36)
5	Plan Set prepared by DE, Building Plans & Elevations provided by Silvestri (11x17)
5	Project Narrative & Environmental Impact Statement
5	Response to Master Plan checklist incompleteness letter

Remarks:

Dear Ms. Williamson,

Please find the attached Master Plan response and resubmission of materials. Let us know if you require anything further.

Thank you,

From:

Kevin DeMers, PE
Project Manager
kdemers@diprete-eng.com

Copy:

Melanie Wolfe

From: Fair Wind Properties <Office@fwpllc.net>
Sent: Thursday, June 26, 2025 12:17 PM
To: Diane Williamson
Cc: Melanie Wolfe
Subject: Re: Withdrawal of Checklist Waivers

Caution: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. When in doubt, contact your IT Department

Hi Diane,

Please remove us from the waivers requests hearing.

Thank you,

Danny

On Thu, Jun 26, 2025, 8:56 AM Diane Williamson <dwilliamson@bristolri.gov <mailto:dwilliamson@bristolri.gov> > wrote:

Hello Danny – As a follow up to the discussion at the TRC meeting yesterday, can you please confirm that you will be withdrawing the request for the checklist waivers on the 206 Bayview Avenue proposal. That way we can take it off the agenda for the July meeting.

Thank you!

Sincerely,

Diane M. Williamson, AICP, CFM

Director of Community Development

Town of Bristol

10 Court Street, Bristol RI 02809 <https://link.edgepilot.com/s/d2cab1f7/rxC-AX818EOYPxa_NoL7Rg?u=https://www.google.com/maps/search/10%2BCourt%2BStreet%2C%2BBristol%2BRI%2B02809?entry=gmail%26source=g>

P: 401-253-7000 ext. 126