



TOWN OF BRISTOL, RHODE ISLAND

PLANNING BOARD MEETING

Planning Board Meeting Agenda

Thursday, March 09, 2023 at 7:00 PM

Bristol Town Hall - 10 Court Street, Bristol, RI 02809

A. Pledge of Allegiance

B. Minutes - Approval of Minutes - February 2023

C. New Business

C1. Massasoit Avenue Extension - Review and Action on Request for Re-instatement of Expired Minor Subdivision Preliminary Plan which was approved with conditions in January 2018. Minor Subdivision is to subdivide 1.839 acres of vacant land resulting in 4 vacant lots of 15,000 square feet each with public water and sewer and improvement of paper roads of Massasoit Avenue and Abilio Drive. Property located on Massasoit Avenue, Beatrice Lane and Abilio Drive. Zone R-20 SP (SP conditions - lots sizes 15,000 square feet with public water and sewer), Plat 158 Lots 20 & 25. Owner/Applicant: NCD Developers Inc.

C2. Mandatory Land Use Training - Part 1 - RI law now requires every member of a planning board, zoning board, and historic district commission to have at least three hours of training by June 30, 2024. This training will last approximately 1.5 hours and will go toward meeting that requirement. The second half will be given at a later meeting. The public is welcome to attend.

D. Adjourn

Date: March 3, 2023

Posted by: mbw



Town of Bristol, Rhode Island

Department of Community Development

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

March 3, 2023

TO: Planning Board

FROM: Diane M. Williamson, Administrative Officer

RE: **Massasoit Subdivision – Request for Reinstatement**

The above application received preliminary approval, with conditions, in 2018. With the conditional preliminary approval, it had been the applicants intent, at that time, to proceed with construction of the infrastructure prior to seeking the final approval. However, due to the inactivity on the subdivision construction, and the lack of request for extensions, that approval has expired.

The owner/applicant is currently requesting that the application be reinstated per the provision in the Subdivision and Development Review Regulations, Section 8.7.

In review of the file, it appears that the conditions of the 2018 approval were complied with other than the RIPDES permit from the RIDEM for land disturbance greater than one-acre, if required. In addition to the prior conditions, the amount of the engineer inspection fee will have to be reviewed which is based on the cost of construction; therefore an updated construction cost estimate will be needed from the applicant. A pre-construction meeting would also be required prior to commencement of construction.

I recommend that the Board grant the re-instatement subject to the conditions from the 2018 approval being satisfied prior to construction, namely the RIPDES permit from RIDEM (or a written confirmation from RIDEM that this is not required), the submission of any additional engineering inspection fee based on a revised construction cost estimate, and a pre-construction meeting prior to final approval.



Town of Bristol, Rhode Island

Document Number 00000648
BOOK 1932 PAGE 75

Department of Community Development

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

PLANNING BOARD DECISION

January 11, 2018

OWNERS/APPLICANT: Andrade Realty Associates LLC/NCD Developers, Inc.
PROPERTY LOCATION: Massasoit Avenue
PLAT AND LOT: Plat 158, Lots 20 and 25
APPLICATION: Minor Subdivision - Preliminary

The Planning Board finds that:

1. The subject property contains 1.839 acres of land and is currently vacant.
2. The application is to subdivide subject property into four lots of 15,000 square feet with public water and sewer.
3. The proposed development is consistent with the general purposes stated in Article 1 of the Planning Board's subdivision and development review regulations with the conditions for approval.
4. The proposed subdivision is consistent with the Comprehensive Community Plan.
5. This proposed subdivision is in compliance with the standards and provisions of the Zoning Ordinance for the R-20 SP zoning district which allows lot sizes to be reduced to 15,000 square feet if there is public water and sewer which is included in the proposal.
6. There will be no significant negative environmental impacts from the proposed subdivision, with the conditions of approval.
7. The subdivision will not result in the creation of individual lots with such physical constraints to development that building on those lots according to pertinent regulations and building standards would be impracticable.

Preliminary Plan approval is therefore granted for the minor subdivision of "Massasoit Avenue Extension" to subdivide Plat 158, Lots 20 and 25 into four (4) parcels as shown on plans prepared by Stephen M. Murgo, Professional Land Surveyor and Thomas Principe, Professional Engineer dated as revised January 3, 2018 subject to:

1. Plans to be revised to show a connection from Massasoit Avenue to Abilio Drive and elimination of the cul-de-sac with a guard rail and drainage swale
2. Comments of the Planning Board Engineer in memorandum from Parc Corporation of December 29, 2017 to be addressed and plan revisions approved prior to construction and final plan approval. Revisions include corrections to plan notes relative to flood zone, and water quality and recharge, addition of surface course to roadway cross section;
3. Final location and species of the 10 required Street Trees as determined in the field in consultation with the Department of Community Development
4. Signed affidavit Verification by a certified wetlands biologist that there are no wetlands on the property;
5. Easement document for the drainage basin on proposed Lot 2 subject to review of the Town Solicitor;
6. RIPDES permit from RIDEM, if required; and,
7. Soil Erosion Permits for the individual lots prior to Building Permits.

And, Technical Review Committee Plan approval of the plans prior to construction and final approval

Motion by Board member Murgo, seconded by Board member Rossi.

Voting in Favor: Board members Squatrito, Murgo, Bilotti, Rossi, and Alternate Board Member Katz

Being a decision of the Bristol Planning Board on January 11, 2018.

BY:

Diane M. Williamson DATE: March 9, 2018

Diane M. Williamson
Administrative Officer

Recorded Mar 12, 2018 at 03:54P.
Louis P. Cirillo Town Clerk

Rego & Rego

Attorneys At Law

443 Hope Street

Bristol, Rhode Island 02809-1805

www.rego-law.com

Alfred R. Rego, Jr.

John G. Rego

Jay (John J.) Rego*

*Also a member of the Massachusetts Bar

AREA CODE 401

TELEPHONE 253-2500

FAX 254-0235

January 23, 2023

Town of Bristol
10 Court Street
Bristol, RI 02809

Attention: Diane M. Williamson

**RE: Massasoit Avenue Extension
 N.C.D. Developers, INC
 Massasoit Avenue
 Bristol, RI 02809
 Plat 158 Lots 20 & 25**

Dear Diane:

This is to advise you that this office represents N.C.D. Developers, Inc, on the above entitled matter.

N.C.D. Developers Inc humbly requests a reinstatement on the proposed subdivision on the above entitled matter pursuant to the Town of Bristol Subdivision and Development Review Regulations, section 8.7 entitled Waiver Modification, reinstatement and Extension.

The applicant, N.C.D. Developers, Inc has proceeded with due diligence on this matter. That Lisa S. Fonseca a member and officer of N.C.D. Developers, Inc developed serious health issues. These health issues caused the applicant to stop all activities on its business operation and the proposed subdivision. In addition, the COVID pandemic also contributed to the forced delays on the proposed subdivision.

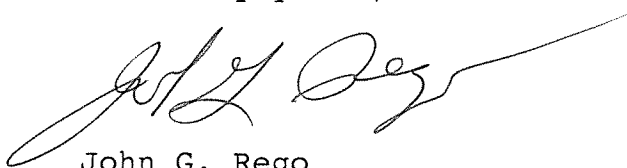
That in accordance and/or compliance with said section 8.7 the applicate states the following:

- (a) The subdivision or development is consistent with the Comprehensive Plan, and the Comprehensive Plan has not changed substantially since the time of the original application as it would apply to this subdivision or development.
- (b) These Regulations, the Zoning Ordinance, and all applicable state and federal regulations are substantially the same as they were at the time of original application, as they would apply to this subdivision or development.
- (c) The Zoning Map designation for the subdivision or development has not changed substantially since the time of the original application.
- (d) No substantial change to the physical conditions of the subdivision or development or the neighboring property has occurred since the time of original application.

That for the above reasons stated, the applicate humbly requests a reinstatement of the proposed subdivision.

Thank you for your cooperation. Please advise if you have any questions.

Sincerely yours,

A handwritten signature in black ink, appearing to read "John G. Rego", with a long, sweeping horizontal line extending to the right.

John G. Rego

cc: Michael J. Fonseca
N.C.D DEVELOPERS, INC

☐ Sale

REQUEST FOR CERTIFICATE

Item C1.

SECTION 44-7-11

GENERAL LAWS OF RHODE ISLAND

☐ RefinanceDate: 1/23/2023 Requested by: BRISTOL PLANNING BOARD

Address: _____

Taxpayer Name: N.C.D. DEVELOPERS, INC Account #: 50-0042-38Address: MASSASOIT AVE Prev. Acct # _____Plat: 158 Lot: 20 & 25 Unit: _____ MV Acct # _____

			BALANCE OUTSTANDING			
Year	Original Tax	Exemption (if any)	Tax	Signature date Interest & Fees	Per Diem	Total Due (taxes, interest & fees)
2022	\$ 5,475.60	N/A	\$2,737.80			2,737.80
2021			\$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 : \$ 580.00Sewer Assessment; Year assessed : N/A Remaining balance: N/A

**** Sewer Assessment may 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 23 DAY OF January 2023

Please Note: the information presented above is subject to provisions of RIGL 44-5-13.

Fee \$ 25.00

Town of Bristol
10 Court St
Bristol, RI 02809

Prepared By:

Lucia Flor

Approved By:

[Signature]



TOWN of BRISTOL, RI

PROPERTY TAX, USER FEE, AND ASSESSMENT BILL

ASSESSED AS OF DECEMBER 31, 2021
FOR THE CALENDAR YEAR 2022

Item C1.



If you have filed for bankruptcy
this is for informational purposes only.



18222 31 31
N.C.D. DEVELOPERS, INC.
370 METACOM AVE
BRISTOL, RI 02809-5197

Please see the back for important information

Tax Collector
10 Court Street
Bristol, RI 02809-2234

Pay online at www.bristolri.gov

or

www.ri.gov/bristol/tax/payment

ACH and electronic payment options available

Call (401) 253-7000 for information.

6574 1

PROPERTY TAX		Tax Rate: \$13.00		(Schools \$7.93		Municipal \$5.07)		
Location	Plat-Lot-SubLot	Class	Assessed Value	Rate	Exemptions			
MASSASOIT AVE	158-0020-000	13	\$211,200.00	\$13.00	\$0.00		\$2,745.60	
MASSASOIT AVE	158-0025-000	13	\$210,000.00	\$13.00	\$0.00		\$2,730.00	
SEWER USER FEE AND SEWER ASSESSMENT								
							5000423801	
BILL TOTAL								
MINIMUM TAX \$ 10.00								\$5,475.60

PLEASE DETACH STUB. TO FACILITATE ACCURATE PROCESSING BE SURE TO INCLUDE A STUB WITH YOUR PAYMENT.
ANY PAYMENT NOT RECEIVED BY THE DUE DATE SHALL INCUR INTEREST OF 12% ON THE UNPAID BALANCE.

DUE MAY 15, 2023

PAYMENT #4

ACCOUNT NUMBER

AMOUNT

5000423801

\$1,368.90



DUE FEBRUARY 15, 2023

PAYMENT #3

ACCOUNT NUMBER

AMOUNT

5000423801

\$1,368.90



DUE NOVEMBER 15, 2022

PAYMENT #2

ACCOUNT NUMBER

AMOUNT

5000423801

\$1,368.90



DUE AUGUST 15, 2022

PAYMENT #1

ACCOUNT NUMBER

AMOUNT

5000423801

\$1,368.90



☐ Sale

☐ Refinance

REQUEST FOR CERTIFICATE

SECTION 44-7-11

GENERAL LAWS OF RHODE ISLAND

 T17-5-4470(d)
 File No.
Date: 1/23/2023Requested by: John G. Rego, Esq.Address: 443 Hope StreetBristol, RI 02809Taxpayer Name: N. C. D. DEVELOPERS, INCAccount #: 5000423801Address: MASSASOIT AVENUE

Prev. Acct # _____

Plat: 158 Lot: 20 & 25 Unit: _____

BALANCE OUTSTANDING

Year	Original Tax	Exemption (if any)	Tax	Signature date	Interest & Fees	Per Diem	Total Due (taxes, interest & fees)
2015							

** Motor Vehicle Tax (44-7-11 (f) AMENDED 7/98 (SEE ATTACHED FORM)

Supplemental billing may occur after December 31st assessment date (ex. Construction or subdivision).

Sewer use fee of _____ are included in principal above. Current unit rate : _____

Sewer Assessment; Year assessed : _____ Remaining balance: _____

Prior year(s) deferred taxes (RIGL 44-3-20.2) are not included on this form. Refer to land evidence records.

Other Items: _____

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.
 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 _____ DAY OF _____

Please Note: the information presented above is subject to provisions to RIGL 44-5-13.

Fee \$ 25.00

Town of Bristol
 10 Court St
 Bristol, RI 02809



Prepared By: _____

Approved By: _____



450 Child St. • P.O. Box 447 • Warren, Rhode Island 02885-0447
 www.bcwari.com • Fax: 401-245-2004 • Tel: 401-245-2022
 A Public Agency

BRISTOL COUNTY WATER AUTHORITY

August 10, 2018

Mr. Michael Fonseca, President
 NCD Developers Inc.
 370 Metacom Avenue
 Bristol, RI 02809

RE: Water Main Extension, Massasoit Avenue, Bristol – PLAN APPROVAL

Dear Mr. Fonseca:

Bristol County Water Authority has reviewed your Application for a Water Main Extension and the related plans prepared and stamped by Principe Company, Inc., titled Preliminary Minor Subdivision AP 158, Lots 20 & 25 and Massasoit Avenue Extension, dated 8/17/17 with latest revision date 7/17/18. The Plans show a proposed four lot residential subdivision in Bristol, RI, which includes connecting the existing 8" water mains in Massasoit Avenue and Abilio Drive with approximately 550 feet of new 8" diameter cement lined ductile iron water main. BCWA approves the proposed water main extension with the following conditions:

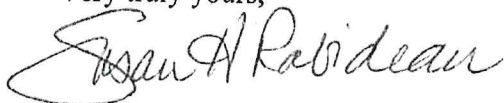
1. The average static water pressure in this area of the BCWA distribution system is less than 35 psi; the developer of the subdivision must design, purchase and install individual pressure booster systems, including backflow prevention devices, in each home - at no cost to BCWA. This requirement must be recorded in the land evidence records for each lot. The new water mains will not be put into service until the recorded deeds are submitted to BCWA.
2. The contractor must contact BCWA prior to starting construction to complete all required paperwork and submit required proof of insurance, bond and fees. The attached Contractor Certification Form must be signed and submitted with these documents. A Warranty Bond valued at \$25,000 shall be provided to BCWA (Bond template to be provided by BCWA). Shop drawings for all proposed materials and a construction schedule must be submitted for review and approval. BCWA personnel must be onsite for inspection during the installation of all water main and appurtenances. Reimbursement for materials, labor and inspection done by BCWA personnel shall be determined and paid prior to start of construction.
3. BCWA standard construction details, specifications and installation requirements shall be used for all water main work. All trench backfill material shall be approved by BCWA prior to backfilling the trench.

2018 AUG 27 PM 3:33
 COMMUNITY DEV.

4. Pressure/leakage tests and disinfection shall be performed in accordance with BCWA requirements. Contact BCWA to confirm procedures prior to completion of construction. BCWA will obtain water quality samples and have bacteriological analyses performed to confirm that the new mains have been adequately disinfected. The new water main shall not be put into service until BCWA approval is received.
5. The corporation and service pipe shall be installed, up to and including the curb stop at the property line, by BCWA. If done prior to road paving, the fee will be \$1600 per connection. Please complete an Application for each lot.
6. Service piping to each home shall a continuous run of 1" diameter type K copper tubing. Water meters for lots 1, 2 and 4 shall be installed inside the home per BCWA detail and shall be easily accessible by BCWA personnel for inspections, repairs, etc. The water meter for Lot 3 shall be installed in a meter pit located near the property line.

If you require additional information, please contact me at 245-2022 ext 38.

Very truly yours,



Susan H. Rabideau, PE
Engineering Project Manager

Attachments: Contractor Certification, BCWA Material and Installation Specifications, Meter details, New Service Connection Application Form

Cc: Diane Williamson, Chief DeMello, Town of Bristol



Town of Bristol, Rhode Island

Department of Community Development

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

May 21, 2018

TO: Kevin McBride, Director DPW
Jose DaSilva, Director WPCF

FROM: Diane M. Williamson, Administrative Officer

RE: **Massasoit Avenue Subdivision**

Diane

Enclosed are the revised preliminary plans for the above mentioned subdivision. These have been revised to address the earlier issues raised by the TRC, Planning Board, and Consulting Engineer.

The Developer, Michael Fonseca, will be commencing construction shortly. Upon receipt of the Engineering Inspection Fee, a pre-construction meeting will be scheduled with the Consulting Engineer.

Enc.



Town of Bristol, Rhode Island
Department of Community Development

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

NOTICE OF MEETING

THE BRISTOL PLANNING BOARD

TECHNICAL REVIEW COMMITTEE MEETING

The Bristol Technical Review Committee will hold a meeting on Thursday, May 17, 2018 at 9:15 a.m. for the review of the completion of the conditions for Preliminary Plan Review for the Minor Subdivision of NCD Developers, Inc. to subdivide 1.839 acres of land. Proposal resulting in 4 vacant lots with extension of paper road.

Property located on Massasoit Ave. Zone R-10 Plat 158 Lots 20 & 25. Owner: Andrade Realty Associates LLC Applicant: NCD Developers Inc.

Plans and supporting materials are available for review at the Office of Community Development, by appointment between the hours of 8:30 a.m. and 4:00 p.m. Monday through Friday. For questions on above plan please call 253-7000, Ext 147.

“In no case shall the recommendation of the TRC be binding on the Board in its activities or decisions”.

Diane M. Williamson, AICP
Administrative Officer

May 15, 2017
Posted by: dmw

T17-J-5004
Rev. 4/23/18

DRAINAGE EASEMENT

KNOW ALL MEN BY THESE PRESENTS, that N.C.D. DEVELOPERS, INC., a Rhode Island corporation having its principal place of business at 370 Metacom Avenue, Bristol, Rhode Island 02809, for consideration paid, grant to the TOWN OF BRISTOL, a municipal corporation in the State of Rhode Island, whose address is 10 Court Street, Bristol, Rhode Island 02809, and its successors and/or assigns, a perpetual drainage easement and/or detention basin, and/or drainage detention pond, and/or sediment forebay, and right to install, repair, maintain, alter and operate drainage pipes, catch basins, manholes, rock swales, level spreaders, to flow water and related facilities in, into, upon, across, and under that certain lot or parcel of land situated on the northerly side of Massasoit Avenue in the Town and County of Bristol, State of Rhode Island, and described on Exhibit A attached hereto.

IN WITNESS WHEREOF, N.C.D. DEVELOPERS, INC., has caused its corporate name to be written hereunder and its corporate seal affixed hereto, by its duly authorized officer this _____ day of _____, 2018.

N.C.D. DEVELOPERS, INC.

By: _____
Michael J. Fonseca, President

STATE OF RHODE ISLAND)
COUNTY OF BRISTOL)

In the Town of Bristol, on the _____ day of _____, 2018, before me personally appeared Michael J. Fonseca, President of N.C.D. Developers, Inc., to me known and known by me to be the party executing the foregoing instrument for and on behalf of said corporation, and he acknowledged said instrument, by him executed, to be his free act and deed, in his said capacity, and the free act and deed of N.C.D. Developers, Inc.

Notary Public

T17-J-5004
Rev. 4/23/18

EXHIBIT A

That certain lot or parcel of land situated on the northerly side of Massasoit Avenue in the Town and County of Bristol, State of Rhode Island, and bounded and described as follows:

Beginning at a point on the north corner of the easterly terminus of Massasoit Avenue.

Thence running N 00°-41'-54" E, bounded on the east by land now or formerly of Brown University, one hundred twenty three & 77/100th. (123.77') more or less to a point.

Thence turning and running S 89°-33'-06" W, bounded on the north in part by land now or formerly of the Town of Bristol and in part by land now or formerly of Fifty Seven Ballou Properties LLC, ninety four & 74/100th. (94.74') feet more or less to a point.

Thence running S 00°-06'-48" E, bounded on the west by land now or formerly of the Subdivision Lot 2 on the aforementioned subdivision, twenty four & 94/100th (24.94') feet more or less to a point.

Thence running S 74°-08'-12" E, bounded on the south by land now or formerly of the Subdivision Lot 2 on the aforementioned subdivision, twenty nine & 67/100th (29.67') feet more or less to a point.

Thence running S 00°-22'-03" W, bounded on the west by said subdivision Lot 2, eighty nine & 17/100th (89.17') feet more or less to a point on the northerly side of Massasoit Avenue.

Thence running S 89°-18'-06" E along the northerly line of Massasoit Avenue sixty five & 21/100th (65.21') more or less to the point and place of beginning

Said easement being 8,906.9 square feet (.2044 acres) more or less

Or however said drainage easement may be bounded and described, meaning and intending to grant a drainage easement in, into, upon, across, and under the easterly side of Lot Number Two (2) as designated, described, and identified as "Proposed Drainage Easement area 8,906.9 S.F." on that certain plat entitled "PRELIMINARY MINOR SUBDIVISION AP 155 Lots 20 & 25 and MASSASOIT AVENUE EXTENSION, in Bristol, Rhode Island, Applicant/Owner: NCD Developers, Inc., C/O Michael Fonseca, 370 Metacom Avenue, Bristol, RI 02809, prepared by Principe Company, Inc., Scale 1"=20', dated August 17, 2017, revised 12/12/17, 1/3/18, 1/19/18, and 4/9/18," which plat is recorded in the Land Evidence Records in the Land Evidence Records in the Town of Bristol, State of Rhode Island.



December 14, 2017

Mr. Adriano Andrade
Andrade Realty Association, Inc.
44 Howland Drive
Bristol, RI 02809

RE: Water Main Extension, Massasoit Avenue, Bristol - PRELIMINARY PLAN REVIEW

Dear Mr. Adriano:

Bristol County Water Authority has reviewed the plans prepared by Principe Company, Inc., titled Preliminary Minor Subdivision AP 158, Lots 20-28, 53 and 54 and Massasoit Avenue Extension, dated 8/17/17, for a proposed four lot residential subdivision in Bristol, RI.

BCWA must comply with the Rhode Island Department of Health's *Rules and Regulations Pertaining to Public Drinking Water*, which state that the design of water treatment works, water storage or water pumping facilities should reflect the guidance contained in (*Ten State Standards*) *Recommended Standards for Water Works: Policies for the Review and Approval of Plans and Specifications for Public Water Supplies* (most recent edition), where applicable. These facilities shall also be installed and constructed in accordance with applicable American Water Works Association (AWWA) Standards with reference to materials used and construction procedures to be followed.

As stated in Section 8.2.1 of the *Ten State Standards (attached)*, all water mains, including those not designed to provide fire protection, shall be designed to maintain a minimum pressure of 20 psi at ground level at all points in the distribution system under all conditions of flow. The normal working pressure in the distribution system shall be at least 35 psi and should be approximately 60 to 80 psi and not less than 35 psi.

AWWA's Manual of Water Supply Practices M32, the minimum pressure at a customer's tap during normal system operation is typically in the range of 35 – 50 psi. This ensures that there is adequate pressure to the second story fixtures within a property if internal plumbing is configured properly. It should also be noted that minimum pressure also affects the design of lawn irrigation systems and fire sprinkler systems, if applicable.

There is an existing 8" water main in Massasoit Avenue, which can be extended to serve the proposed subdivision. However, the average static water pressure in this area of the BCWA distribution system is less than 35 psi. BCWA will not approve of any additional customers in this low pressure area unless the owner agrees to design, purchase and install individual pressure booster systems, including backflow prevention devices, in each home - at no cost to BCWA. Please confirm that you will be providing BCWA approved booster pump systems in each new

home according to the attached requirements (or that you will record this requirement in the land evidence records for each lot) and that you will advise the new owners that the cost to maintain the systems will be borne by the homeowners.

BCWA requires any new water main extensions to be connected to nearby existing mains to eliminate "dead ends" in our system. This provides redundancy of supply to our customers and reduces the water age in the mains by providing better flow through the mains. The proposed new water main must be connected to the end of the existing water main in Abilio Road.

BCWA does not approve of a fire hydrant at any location on this water main extension. Fire flow in this water main would reduce the pressure at the high points in the main to less than 20 psi, which creates an unacceptable health risk to the water quality in the BCWA distribution system. A letter of acknowledgement must be provided from the Bristol Fire Chief.

The Plans must be revised to show the following:

- The new main shall be ductile iron pipe. BCWA standard construction details are attached. These shall be incorporated onto the Plan sheet 7. Pipe bedding shall be sand and trench backfill material shall be approved by BCWA prior to backfilling the trench.
- The new main shall be extended to connect to the end of the main in Abilio Road.
- The hydrant shown at the end of Massasoit Avenue must be deleted.
- All domestic corporation taps, corporations and service pipe shall be 1" diameter and service piping shall be aligned to enter the home in as straight a line as possible. The service for lot 2 shall be relocated to meet this requirement.
- Per BCWA policy, any water service greater than 100 feet in length must be installed with a meter pit at the property line. This includes House Lot 3. The cost of the meter pit shall be borne by the Owner.
- On sheet 6, change General Note 6 to reference Bristol (not Kent) County water Authority.

Please resubmit the revised Plans for further review and approval. If you have any questions, please call me at 245-2022, ext. 38.

Very truly yours,



Susan H. Rabideau, PE
Engineering Project Manager

Attachments:

10 state standards re: pressure and booster pumps

BCWA details for trench, blowoff, service connection, meter pit

Cc: Mike Fonseca, NCD Developers, Inc., 370 Metacom Avenue, Bristol, RI 02809
Diane Williamson, Chief DeMello, Town of Bristol



**2012 Edition Recommended Standards for Water Works Great Lakes –
Upper Mississippi River Board of State and Provincial Public Health
and Environmental Managers (excerpts)**

6.4 BOOSTER PUMPS

Booster pumps shall be located or controlled so that:

- a. they will not produce negative pressure in their suction lines;
- b. pumps installed in the distribution system shall maintain inlet pressure as required in Section 8.2.1 under all operating conditions.
- c. automatic shutoff or low pressure controller shall maintain at least 20 psi (140 kPa) in the suction line under all operating conditions, unless otherwise acceptable to the reviewing authority.

Pumps shall be equipped with automatic shutoffs or low pressure controllers as recommended by the pump manufacturer;

- d. automatic or remote control devices shall have a range between the start and cutoff pressure which will prevent excessive cycling;
- e. a bypass is available.

8.2 SYSTEM DESIGN

8.2.1 Pressure

All water mains, including those not designed to provide fire protection, shall be sized after a hydraulic analysis based on flow demands and pressure requirements. The system shall be designed to maintain a minimum pressure of 20 psi (140 kPa) at ground level at all points in the distribution system under all conditions of flow. The normal working pressure in the distribution system should be approximately 60 to 80 psi (410 - 550 kPa) and not less than 35 psi (240 kPa).



Town of Bristol, RI
WATER POLLUTION CONTROL DEPARTMENT
2 PLANT AVENUE
BRISTOL, RI 02809-3015
(401) 253-8877 fax: (401) 253-2910

TOWN HALL
10 COURT STREET
BRISTOL, RI 02809
(401) 253-7000

Jose' J. Da Silva, Superintendent

4/4/2018

To: Planning Board

RE: Subdivision Plan
Massasoit Avenue Extension
Plat 158, Lots 20-28, 53 & 54

Access to the Town's sanitary sewer system is available. The contractor will need to extend the service as proposed by installing a sanitary force sewer main for the development.

There was a question of capacity of the gravity main downstream. The main was studied and found to have the necessary capacity for the addition of the four homes proposed.

Respectfully,

Jose' J. Da Silva
Superintendent
Bristol Water Pollution Control Facility

Diane Williamson

File

From: Diane Williamson <dianew@bristolri.us>
Sent: Friday, March 09, 2018 3:21 PM
To: 'Tom Principe'
Cc: 'Mike Fonseca'
Subject: RE: Massasoit Ave
Attachments: LDP 36 8-15-17-REV 1-19-19 SHEET 05 PLAN PROF.PDF

Hi Tom and Mike – I've reviewed the plans submitted and it looks like all the previous plan comments were addressed; however, the water and sewer lines are not shown to continue down Abilio Drive on Sheet 5. I would suggest making the edits to this plan to indicate that and then you can make the five sets of paper copies for review with the TRC prior to construction.

Also, could you please have the draft easement for the drainage on Lot #2 prepared so that we can review that with the Town Solicitor.

According to the information in the file, the BCWA has not yet approved the main extension which I understand you'll be submitting to them.

Upon receipt of the paper copies of the revised plans (stamped and signed by Surveyor and Engineer) we'll schedule the TRC meeting.

Thank you!
 Have a great weekend
 Diane Williamson

From: Tom Principe [<mailto:principeengineering@gmail.com>]
Sent: Thursday, January 25, 2018 11:03 AM
To: Diane Williamson
Cc: Mike Fonseca
Subject: Massasoit Ave

Good Morning Diane,

Attached is an electronic copy of the latest plans for Massasoit.

I have also included a note on the Title Sheet, regarding the Planning Board approving the connection of Abilio Drive in leu of having a dead end cul-de-sac.

Please let me know if you have any questions, or need anything else.

Thanks,
 Tom

Thomas J. Principe, III PE

PRINCIPE COMPANY
 Engineering Division
 27 Sakonnet Ridge Drive
 Tiverton, RI 02878
 Office: 401.816.5385
 Cell: 401.265.1090



Town of Bristol, RI
WATER POLLUTION CONTROL DEPARTMENT
2 PLANT AVENUE
BRISTOL, RI 02809-3015
(401) 253-8877 fax: (401) 253-2910

TOWN HALL
10 COURT STREET
BRISTOL, RI 02809
(401) 253-7000

Jose' J. Da Silva, Superintendent

2/20/2018

To: Michael Fonseca
NCD Developers

RE: Subdivision Plan
Massasoit Avenue Extension
Plat 158, Lots 20-28, 53 & 54

Per our conversation on February 20, 2018 the force main sanitary sewer for the proposed subdivision will need to be connected to that which is on Abilio Drive.

As discussed there may be a capacity issue on the Massasoit Ave sanitary sewer main, which will need to be looked at and addressed.

Thank you for your understanding and cooperation.

Respectfully,

Jose' J. Da Silva
Superintendent
Bristol Water Pollution Control Facility

Cc. Diane Williamson – Director of Community Development
Michael Ursillo –Town Solicitor

Diane Williamson

From: jdsumpman <jdsumpman@yahoo.com>
To: Tuesday, February 20, 2018 12:40 PM
Diane Williamson
Subject: Re: Document - Feb 20, 2018

It does have pumps, the problem is the downstream gravity line it will discharge to. Massasoit's gravity main is six inch, not the eight inch which is the industry standard, if the developer directs the flow to Abilio Drive the gravity main which it discharges to on Tower Hill is eight inches.

Sent from my iPhone

> On Feb 20, 2018, at 12:31 PM, Diane Williamson <dianew@bristolri.us> wrote:

>

> Thanks Jose- I thought this application had grinder pumps?

> Diane W.

>

> -----Original Message-----

> From: jdsumpman [mailto:jdsumpman@yahoo.com]

> Sent: Tuesday, February 20, 2018 11:57 AM

> To: office@ncddevelopers.com; 'Mike Ursillo'; dianew@bristolri.us

> Subject: Document - Feb 20, 2018

>

>

> Massasoit Ave Subdivision

> Scanned with TurboScan.

>

>

>

T17-J-5004

REPORT OF TITLEJANUARY 18, 2018

MR. CHAIRMAN AND HONORABLE MEMBERS OF BRISTOL PLANNING BOARD:

APPLICANT: N.C.D. Developers, Inc.

OWNER: N.C.D. Developers, Inc.

PROPERTY: Massasoit Avenue
Bristol, RI 02809
Plat 158 Lots 20 & 25

In regards to the subject parcel of land, as of the above date stated, I find good title in the above-stated owner for the property.

The property is subject to the following:

1. MORTGAGES: None
2. RESTRICTIONS: None
3. EASEMENT: None
4. TAXES: Subject to taxes and assessments
assessed as of December 31, 2017,
not yet due and payable.

Attached hereto and made apart hereof is a copy of the title deed.

Rego & Rego
443 Hope Street
Bristol, RI 02809

By: 
John G. Rego, Esq.

T17-J-5004

Document Number 00001
BOOK 1927 PAGE 65WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, that, ANDRADE REALTY ASSOCIATES, LLC, a Rhode Island Limited Liability Company, with an address of 44 Jane Howland Drive, Seekonk, Massachusetts 02771, for consideration paid in the amount of Two Hundred Sixty Thousand and 00/100 (\$260,000.00) Dollars, grant to N.C.D. DEVELOPERS, INC., a Rhode Island Corporation having its principal place of business at 370 Metacom Avenue, Bristol, Rhode Island 02809, with WARRANTY COVENANTS:

SEE ATTACHED EXHIBIT A

Subject to taxes and assessments assessed as of December 31, 2017.

Being the same premises conveyed to this grantor by deed of Adriano G. Andrade and Grace J. Andrade, recorded on March 23, 2007 in the Records of Land Evidence in the Town of Bristol, State of Rhode Island, in Book 1363 at Page 255.

The undersigned hereby covenant that Lenor Andrade, a Member of Andrade Realty Associates, LLC, is a resident of Rhode Island in compliance with RIGL 44-30-71.3, as evidenced by affidavit and that no withholding is required from her portion of the proceeds. That Adriano G. Andrade and Grace J. Andrade, Members of Andrade Realty Associates, LLC are not residents of Rhode Island and that at Discharge of Lien pursuant to RIGL 44-30-71.3 has been requested from the Rhode Island Division of Taxation for their portion of the proceeds.

The undersigned hereby certifies compliance with the requirements and all other provisions of the smoke detector and carbon monoxide detector laws and regulations of the Rhode Island Fire Safety Code.

RECEIVED
TOWN OF BRISTOL
1/16/18

010174

RECORDED
TOWN OF BRISTOL
1/16/18

DATE
1/16/18

TAX
1196

Document Number 00000
BOOK 1927 PAGE 66

IN WITNESS WHEREOF, ANDRADE REALTY ASSOCIATES, LLC,
has executed this document this 10th day of January,
2018.

ANDRADE REALTY ASSOCIATES, LLC

By: Adriano G. Andrade
Adriano G. Andrade, Member

By: Grace J. Andrade
Grace J. Andrade, Member

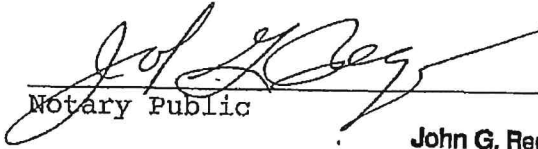
By: Lenor Andrade
Lenor Andrade, Member

PROPERTY ADDRESS:
Massasoit Avenue
Bristol, RI 02809

Document Number 00000:
BOOK 1927 PAGE 67

STATE OF RHODE ISLAND
COUNTY OF BRISTOL

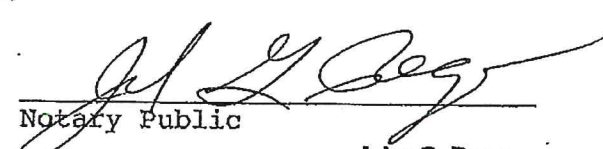
In the Town of Bristol on the 18th day of
January, 2018, before me personally appeared
Adriano G. Andrade, to me known and known by me to be the
party executing the foregoing instrument for and on behalf
of ANDRADE REALTY ASSOCIATES, LLC, and he acknowledged said
instrument, by him executed, to be his free act and deed,
in his said capacity, and the free act and deed of ANDRADE
REALTY ASSOCIATES, LLC.


Notary Public

John G. Rego
Notary Public
Commission Expires 6/16/21

STATE OF RHODE ISLAND
COUNTY OF BRISTOL

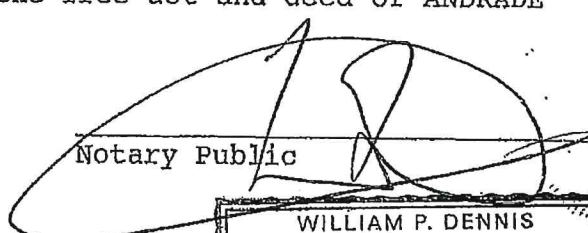
In the Town of Bristol on the 18th day of
January, 2018, before me personally appeared
Grace J. Andrade, to me known and known by me to be the
party executing the foregoing instrument for and on behalf
of ANDRADE REALTY ASSOCIATES, LLC, and she acknowledged
said instrument, by her executed, to be her free act and
deed, in her said capacity, and the free act and deed of
ANDRADE REALTY ASSOCIATES, LLC.


Notary Public

John G. Rego
Notary Public
Commission Expires 6/16/21

STATE OF RHODE ISLAND
COUNTY OF BRISTOL

In the Town of Bristol on the 10th day of
JANUARY, 2018, before me personally appeared
Lenor Andrade, to me known and known by me to be the party
executing the foregoing instrument for and on behalf of
ANDRADE REALTY ASSOCIATES, LLC, and she acknowledged said
instrument, by her executed, to be her free act and deed,
in her said capacity, and the free act and deed of ANDRADE
REALTY ASSOCIATES, LLC.


Notary Public

WILLIAM P. DENNIS
Notary Public-State of Rhode Island
My Commission Expires
July 30, 2021

T17-J-5004

EXHIBIT A

PARCEL #1. Those four certain lots or tracts of land with all the buildings and improvements thereon, situated in the Town and County of Bristol, State of Rhode Island, laid out and designated as lots numbered 207, 208, 255 and 256 on that plat of land entitled "MOUNT HOPE TERRACE PLAT, September 1906, W. W. Perry and C. Estes, Surveyors," which said plat is recorded in the office of the Town Clerk in said Town of Bristol

PARCEL #2. That lot or tract of land in the Town and County of Bristol, State of Rhode Island, with buildings and improvements thereon, situated on the northerly side of Massasoit Avenue, bounded SOUTHERLY by Massasoit Avenue; WESTERLY by lot 256 on plat entitled, "MOUNT HOPE TERRACE PLAT, September 1906, W. W. Perry and C. Estes, Surveyors," which plat is recorded in the Records of Land Evidence of said Town of Bristol; NORTHERLY by land now or formerly of the said Town of Bristol; and EASTERLY by land now or formerly of Brown University, and bounded and described as follows:

Beginning at a point on the northerly line of Massasoit Avenue which point is the northwesterly corner of the parcel herein conveyed, and the southeasterly corner of Lot 256 on the above-mentioned MOUNT HOPE TERRACE PLAT.

Thence turning and running northerly, bounded on the west by said Lot 256, for a distance of 122 feet, more or less, to land now or formerly of the Town of Bristol;

Thence turning and running easterly, bounded on the north by land now or formerly of the Town of Bristol, for a distance of 65.30 feet, more or less, to land now or formerly of Brown University;

Thence turning and running southerly, bounded on the east by land now or formerly of Brown University, for a distance of 123.77 feet, more or less, to the northerly line of Massasoit Avenue;

Thence turning and running westerly, bounded on the south by Massasoit Avenue, for a distance of 65.25 feet, more or less, to the southeasterly corner of Lot 256 on the above-mentioned MOUNT HOPE TERRACE PLAT, and to the point and place of beginning.

Document Number 00000
BOOK 1927 PAGE 69

PARCEL #3. Those six certain lots of land with all buildings and improvements thereon situated in the Town and County of Bristol, State of Rhode Island, laid out and delineated as lots numbered 209, 210, 211, 252, 253 and 254 on that certain plat of land entitled, "MOUNT HOPE TERRACE PLAT, Sept. 1906 by W. W. Perry and C. Estes, Surveyors," which Plat is recorded in the Records of Land Evidence of said Town of Bristol.

Or however the above three parcels of real estate may be bounded and described, meaning and intending to convey Lots 20 and 25 on Tax Assessors' Plat 158, for future reference only.

PROPERTY ADDRESS:

Massasoit Avenue
Bristol, RI 02809

Recorded Jan 18, 2018 at 08:42A.
Louis P. Cirillo Town Clerk

REGULAR PLANNING BOARD MEETING

HELD January 11, 2018, at the Bristol Town Hall, 10 Court Street, Bristol, RI

Present: Jerome Squatrito, Chairman; Anthony Murgo, Vice Chairman; Armand Bilotti, Secretary; and Michael Rossi; and Alternate Board Members Brian Clark and Steve Katz.

Also Present: Andrew Teitz, Esq., Assistant Town Solicitor, Diane Williamson, Administrative Officer/Director of Community Development.

Absent: Member Charles Millard, Jr.

Chairman Squatrito called the meeting to order at 7:01 P.M.

1. Pledge of Alligence

Chairman Squatrito led the assembly in the Pledge of Allegiance to the Flag.

2. Minutes

A motion was unanimously passed (Murgo/Katz) to approve the minutes of the December 14, 2017, meeting of the Bristol Planning Board as presented.

3. Town Council Business

None.

4. Town Administrator Business

None.

5. CDBG-DR – Planning Board review of grant application for Tanyard Brook Culvert Replacement and finding of consistency with the Comprehensive Plan.

A motion was unanimously passed (Murgo/Rossi) to continue discussion of the CDBG-DR until later in the meeting.

6. **Harkins Development - Status review on Walley/Howe Street Subdivision and determination on calling the performance guarantee. Continued from meeting of December 14, 2017.**

[Chairman Squatrito stepped down from the Board, Vice Chairman Murgo assumed the Chair, and Alternate Board Member Clark was seated prior to discussion of this item.]

Applicant Chris Harkins came before the Planning Board and reported that he had installed the temporary patch to the catch basin, and the curbing patch will be done later. Vice Chairman Murgo noted that neighbor Eric Hertfelder had stated at the December meeting that the drainage is now working very well. He asked Mr. Harkins about the light poles. Mr. Harkins responded that he is pricing that. Administrative Officer Williamson added that she had received word from NationalGrid that the light pole project can move forward. Vice Chairman Murgo then asked about the pitch on the circle. Administrative Officer referred to the December 20 letter listing items and responses.

Alternate Board Member Katz disagreed with the statement in the last paragraph of the December 20 letter “consistently showing good faith” because Mr. Harkins did not respond to the DPW Director, did not attend the December Planning Board meeting, indicated in the letter that the work would be done on Wednesday but was only done today, and stated that the curb would be addressed at the same time. Vice Chairman Murgo felt Mr. Harkins had shown good faith and willingness to correct problems with the Howe Street subdivision and did not agree with comments made earlier by Alternate Board Member Katz. Vice Chairman Murgo felt that the Board should have waited till June 1st to have all the remaining issues corrected because the weather conditions would be better.

Mr. Curtis Plant stated that he had drafted the December 20 letter. He had been recently hired to follow up and may have made misstatement in the letter. The concrete curb cannot be done until the spring in conjunction with the repair patch. There has been abnormal and unexpected settling. Alternate Board Member Katz responded that if there had been communication with the DPW Director in September, he would have been more comfortable. A closure plan is needed as to when items will be done. The bond will need to be extended; need a date certain. Mr. Curtis responded that the timing depends on the weather. He estimated an April 15 start with completion in 60 days.

Alternate Board Member Clark noted that cold patch is notorious. Mr. Plant responded that it is only temporary and will be watched.

Board Member Bilotti asked how far behind the project was. Administrative Officer Williamson responded that the item was continued to December 1 to give the developer a full construction season; allowing for the wet season. She stated that only the street lights can be done now. Board Member Rossi asked if June 1 would be reasonable. Alternate Board Member Katz felt that because of the weather and because there is not much the Town could do the bond should be extended to June. Board Member Rossi

recommended that this item to moved to the May meeting. Solicitor Teitz advised that May 10 would provide six weeks from April 1. Alternate Board Member Clark stated this was a priority; and Mr. Curtis agreed. Eric Hertfelder was given a copy of the December 20 letter. After review, he stated that the points in the letter are the items the neighbors wanted; he asked for a date certain for completion.

A motion was made (Rossi/Katz) to extend the Harkins Development - Walley/Howe Street Subdivision performance guarantee until the May, 2018 Planning Board meeting with the condition that a deadline of May 1 be set for receipt of confirmation of completion or proof of agreement by Administrative Officer Williamson that there is cause for not meeting the deadline and requesting a further extension of the performance guarantee.

In Favor	Bilotti, Clark, Katz, Rossi
Opposed	Murgo

Motion carried.

[Chairman Squatrito resumed the Chair following action on the above item.]

7. **Massasoit Avenue - Preliminary Plan Review for the Minor Subdivision to subdivide 1.839 acres of vacant land. Proposal resulting in 4 vacant lots of 15,000 square feet each with public water and sewer and improvement of paper roads of Massasoit Avenue and Abilio Drive. Property located on Massasoit Avenue, Beatrice Lane and Abilio Drive. Zone R-20 SP (SP conditions - lots sizes 15,000 square feet with public water and sewer), Plat 158 Lots 20 & 25. Owner: Andrade Realty Associates LLC Applicant: NCD Developers Inc.**

Mr. Michael Fonseca and Engineer Zachary Acaro, the project engineer came before the Planning Board. The proposal is to extend the paper road and perform improvements to bring to current standards. Four residential units will be built. The project meets all criteria. The Bristol Water Authority has given approval. Each residential unit is required to have a booster pump. The Fire Chief determined that sprinkler systems are not required. The TRC requested that Abilio Road be extended rather than creating a cul de sac. There will be a drainage swale along the east boundary line. Water quality will be addressed.

Engineer Acaro distributed plans for drainage, including a storage basin designed for one inch run off. A 100 year storm was also included, including driveways. The plans were revised to show Beatrice "Lane" instead of "Drive," and the town of "Bristol." Calculations regarding water quality were included. Roof drainage will be addressed at Final because the residential footprints are not known yet. Administrative Officer Williamson noted that the developer can include both prior to the issuance of a building permit.

In response to questions from Vice Chairman Murgo, Mr. Fonseca indicated there will be pumps for the sewer. In the event of a power outage the pumps will not work; however, there will be 30 gallon holding tanks.

In response to Board Members questions, Mr. Fonseca stated there is no gas service. Purchasers of the residential units will be made aware of the sewer pumps. Solicitor Teitz suggested that the Town may request a pumping station, which would become the responsibility of the Town. The Town could loan parts if one is not working. Mr. Fonseca stated the riprap will be stone and they are not taking out much. There are no wetlands.

Administrative Officer Williamson confirmed that notification had been received from the Fire Chief. With Preliminary approval, the developer can start road construction work and then return. Approval depends on another TRC prior to construction rather than prior to Final.

Mr. Fonseca stated a RIPDES permit will not be required because the disturbance is less than 1,000 feet. The area calculations exclude all of the road areas, which belong to the Town. Mr. Fonseca reported that there are currently 20 inches of frost.

Administrative Officer Williamson reported that reducing the pavement width on Abilio was preferred, but the DPW Director requested a 22-foot width.

In response to questions from Board members, Mr. Fonseca stated that the driveways will be asphalt, there will be a steel guard rail at the bend on the northeast corner.

The Planning Board finds that:

- 1.The subject property contains 1.839 acres of land and is currently vacant.
- 2.The application is to subdivide subject property into four lots of 15,000 square feet with public water and sewer.
- 3.The proposed development is consistent with the general purposes stated in Article 1 of the Planning Board's subdivision and development review regulations with the conditions for approval.
- 4.The proposed subdivision is consistent with the Comprehensive Community Plan.
- 5.This proposed subdivision is in compliance with the standards and provisions of the Zoning Ordinance for the R-20 SP zoning district which allows lot sizes to be reduced to 15,000 square feet if there is public water and sewer which is included in the proposal.
- 6.There will be no significant negative environmental impacts from the proposed subdivision, with the conditions of approval.
- 7.The subdivision will not result in the creation of individual lots with such physical constraints to development that building on those lots according to pertinent regulations and building standards would be impracticable.

A motion was unanimously passed (Murgo/Rossi) to grant Preliminary Plan approval for the minor subdivision of "Massasoit Avenue Extension" to

subdivide Plat 158, Lots 20 and 25 into four (4) parcels as shown on plans prepared by Stephen M. Murgo, Professional Land Surveyor and Thomas Principe, Professional Engineer dated as revised January 3, 2018 subject to:

1. Plans to be revised to show a connection from Massasoit Avenue to Abilio Drive and elimination of the cul-de-sac with a guard rail and drainage swale
2. Comments of the Planning Board Engineer in memorandum from Pare Corporation of January 20, 2018 to be addressed and plan revisions approved prior to construction and final plan approval. Revisions include corrections to plan notes relative to flood zone, and water quality and recharge, addition of surface course to roadway cross section;
3. Final location and species of the 10 required Street Trees as determined in the field in consultation with the Department of Community Development
4. Signed affidavit Verification by a certified wetlands biologist that there are no wetlands on the property;
5. Easement document for the drainage basin on proposed Lot 2 subject to review of the Town Solicitor;
6. RIPDES permit from RIDEM if required.
7. Soil erosion plan for the lots at time of issuance of building permit.

AND, FURTHER

TRC Plan approval of the plans prior to construction and final approval

8. **CDBG-DR – Planning Board review of grant application for Tanyard Brook Culvert Replacement and finding of consistency with the Comprehensive Plan.**

Administrative Officer Williamson stated that there are two to three references to Tanyard Brook Watershed in the plan. Phase 2 is Garfield to Richmond; Richmond to the reservoir will be in the next phase. This is a separate grant for restoration of reservoir itself. She had to document that there was damage from Sandy, Irene and Nemo in the Tanyard Brook Watershed. The Town has been able to obtain easements. The amount is 1.5 million. Carol, a staff member, had kept careful records of who received sandbags, which was valuable in supporting the grant request.

Board Member Rossi stated that he was not in favor of the culvert.

A motion was made (Murgo/Katz) to certify that the CDBG-DR grant application was consistent with the Comprehensive Plan.

In favor	Bilotti, Clark, Katz, Murgo, Squatrito
Opposed	Rossi

Motion carried.

9. **Correspondence**


Invoice for minutes

A motion was unanimously passed (Murgo/Rossi) to approve payment of invoice from Lola Wright in the amount of \$300.00 for recording and transcribing the minutes of the December 14, 2017 regular meeting of the Planning Board.

10. **Adjourn**

A motion was unanimously passed to adjourn the meeting at 7:50 P.M.

Respectfully submitted


Armand Bilotti, Secretary

Date Approved: 2.8.2018

INDEX

2. Minutes 1

5. CDBG-DR – Planning Board review of grant application for Tanyard Brook Culvert Replacement and finding of consistency with the Comprehensive Plan. 1

6. Harkins Development - Status review on Walley/Howe Street Subdivision and determination on calling the performance guarantee. Continued from meeting of December 14, 2017. 2

7. Massasoit Avenue - Preliminary Plan Review for the Minor Subdivision to subdivide 1.839 acres of vacant land. Proposal resulting in 4 vacant lots of 15,000 square feet each with public water and sewer and improvement of paper roads of Massasoit Avenue and Abilio Drive. Property located on Massasoit Avenue, Beatrice Lane and Abilio Drive. Zone R-20 SP (SP conditions - lots sizes 15,000 square feet with public water and sewer), Plat 158 Lots 20 & 25. Owner: Andrade Realty Associates LLC Applicant: NCD Developers Inc. 3

8. CDBG-DR – Planning Board review of grant application for Tanyard Brook Culvert Replacement and finding of consistency with the Comprehensive Plan. 5

**Ecosystem Solutions, Inc.**

P.O. Box 1293/ 24 Kenmore Street
West Warwick, RI 02893

RI: 401-615-3777
MA: 508-997-0268
www.ecosystem-solutions.com

January 9, 2018

Project no. W18-994

Thomas Principe, P.E.
Principe Co.
29 Silver Beech Rd.
Tiverton, RI 02878

RE: SITE INVESTIGATION FOR WETLANDS

Massasoit Avenue Extension

A.P. 158, Lots 20 & 25

Bristol, Rhode Island

Dear Mr. Principe:

Ecosystem Solutions, Inc. has completed a site investigation for wetlands and wetland jurisdictional areas on and in the close vicinity of the above referenced property ("Property"). The site investigation was conducted by a professional wetland scientist on January 3, 2018 under minimal snow cover. The site investigation for wetlands was performed in accordance with the Rhode Island Fresh Water Wetlands Act (R.I.G.L. 2-1-18 et.seq.) ("Act"), and the Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act, ("Rules"). The Property is within the jurisdiction of the Rhode Island Department of Environmental Management ("RIDEM")

There are no freshwater wetlands regulated by the RIDEM on or immediately adjacent to the subject Property. There is a wetland present to the east of the site at the bottom of a hill, but is at least 100 feet away from the Property line, making it too far away to be jurisdictional under the current Rules.

If you have any questions about this letter, please do not hesitate to contact me at (401) 741-3263 or by using the other contact information above.

Sincerely,
Brandon B. Faneuf, MS
PWS, CWB, RPSS, CPESC
Class IV Soil Evaluator

BF/bf
enclosures





**MASSASOIT AVE EXTENSION AP 158 LOTS 20 & 25
BRISTOL, RI 02809
RESPONSE TO COMMENTS
January 4, 2018**

**RESPONSE TO COMMENTS FROM PARE Corp.
(Dec. 29, 2017)**

John P. Shelvin P.E

Plans:

1. General

- a. Provide an updated Drainage Report summarizing the drainage conditions for the site. Report we have received refers to property encompassing Lots 20-28, 53 and 54. Proposed project is for lots 20 & 25. Also refers to 80,126 square feet of land area where proposal is on 60,125 square feet of land.

RESPONSE: Information within the submitted Hydraulic report is indeed the information for this subject site. The square footage difference seems to be from the total overall watershed areas of the site. The detention basin has a watershed area of 58,842 SF, which takes additional runoff from Massasoit ave as shown on the attached watershed maps within the Hydraulic analysis.

- b. Provide a Landscape Plan for the street extension.

RESPONSE: The proposed street trees (10), which require to be installed every 50ft, have been outlined on the revised plans and the final location will be determined by the DPW Director and Developer. The species of trees are noted on the Cover sheet of the revised plan set.

- c. Provide a Construction Schedule identifying expected start and finish times for major construction tasks.

RESPONSE: NCD Developers will provide that to the town

- d. Rhode Island Department of Environmental Management – Provide written confirmation from the RIDEM that the plans have been reviewed and that the Wetlands Act does not apply. In lieu of written confirmation from RIDEM, provide an affidavit signed by a qualified professional (having minimum qualifications as described by RIDEM Department of Freshwater Wetlands) stating that there are no freshwater wetlands or wetland buffers present on the property.

RESPONSE: Wetlands Biologist to provide letter

- e. The proposed site does not provide Water Quality or Recharge in accordance with Appendix F of the Subdivision Regulations.

RESPONSE: Water quality and recharge will occur when the site is developed at the building permit stage, through the use of stone infiltration trenches for the driveways, and infiltration basins for the roof runoff. The purpose of this plan is to develop an existing town right of way, and create 2 additional residential single family dwelling lots, which there will be a total of (4) four lots to be developed at a later date.

2. Plans

- a. General Comment – Show location of all existing utilities (gas, water, sewer, electric) on Existing Survey, and Drainage and Grading Plan.

RESPONSE: Existing utilities shown on plans. There is no gas in this area.

- b. General Comment – Show location of wooded areas with a notation of existing trees with a twelve inch (12”) or larger caliper, if any.

RESPONSE: Existing site is cleared of all trees. There is only brush that remains.

- c. General Comment – Show location of any wetlands, water courses, or their buffers.

RESPONSE: There are no wetlands on this site. A Wetlands biologist will be issuing a certification letter.

- d. General Comment – Provide a radius map showing the property within the notice area (300’)

RESPONSE: N/A

- e. General Comment- Revise all plans to read "Beatrice Lane" not "Beatrice Drive".

RESPONSE: Updated plans accordingly

- f. Site Development Layout – A cul-de-sac turnaround shall have a minimum radius for paved area of forty (40) feet with a fifty (50) foot right-of-way radius. A 25-foot radius is shown. Input from the fire department should be obtained.

RESPONSE: The proposed roadway has been re-designed, per the TRC meeting, to connect Massasoit Ave and Abilio Drive

- g. Site Development Layout – Show location of proposed bounds.

RESPONSE: Proposed bounds shown on revised plans at all property corners

- h. Site Development Layout – The proposed water main layout shows a dead end layout, evaluate opportunities to eliminate dead end.

RESPONSE: Bristol County Water Authority has reviewed and approved this proposal. The Fire Chief has also asked to eliminate the proposed hydrant, due to poor pressures in this area.

- i. Site Development Layout- Easement will be needed for the cul-de-sac layout on prosed Lot 2.

RESPONSE: New road configuration being implemented. Proposed Drainage easement on sub. lot #2 shown on revised plans.

- j. Site Development Layout – Show accurate dimensions and areas of proposed easements.

RESPONSE: Updated plans accordingly

- k. Drainage & Utilities Plan- Show limit of pavement improvements for the Beatrice Lane and Massasoit Avenue Intersection. With utility tie-ins it is recommended that entire intersection be overlaid and not leave it with several trench cuts.

RESPONSE: Please see attached plans. The developer will work with the DPW on the construction of the roadway.

- l. Drainage and Grading Plan (Utility Plan) – The Soil Testing Note acknowledges ledge at 24" (approximately elevation 81.5), with the adjacent detention system having a bottom elevation of 81.0. Confirm that the required separation to ledge will be achieved.

RESPONSE: The geometric configuration of the proposed detention system was designed to avoid these areas of higher ledge, to accommodate the required bottom elevation of the detention basin without the need for mechanical removal.

- m. Roadway Plan & Profile: Profile shows 2' sumps for catch basin structures. Plans indicate Rhode Island Standard Details for catch basins are to be used. Also a detail for catch basins are provided on plans. Profile should indicate 3-foot sumps per standard detail.

RESPONSE: Plans updated to show 3-foot sumps per detail

- n. Construction Details-1 and 3: The Storm Drain System Maintenance Plan is shown on both sheets are they are not consistent.

RESPONSE: Relevant notes modified accordingly

- o. Construction Layout-1: Change Note 4 from "West Greenwich" to "Bristol".

RESPONSE: updated notes

- p. Construction Details-2: On Proposed Road Cross Section call out cape cod berm if this is acceptable to the Town. Also, why is there no callout for surface course of asphalt.

RESPONSE: Updated typical roadway cross section on sheet 9 of 9, and also added an additional roadway cross-section for Abilio Drive. Finish surface course has been added.



Town of Bristol, Rhode Island

Department of Community Development

Agenda Item #:	6
Date:	1.11.18
Planning Board Meeting	1.11.18

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

January 3, 2018

TO: Planning Board

FROM: Diane Williamson, Administrative Officer

RE: **Massasoit Avenue Subdivision**

Diane W.

The above application is before you for Preliminary Review and Approval. The TRC has met and recommended the application to the Planning Board.

The TRC meeting notes are attached.

A draft motion is provided for your consideration.



Town of Bristol, Rhode Island

Department of Community Development

9 Court Streets
Bristol, RI 02809
www.bristolri.us
401-253-7000

TECHNICAL REVIEW COMMITTEE MEETING MINOR SUBDIVISION MASSASSOIT AVENUE PRELIMINARY PLAN REVIEW JANUARY 2, 2018 10:00 A.M.

FOR THE TOWN

Diane M. Williamson, Administrative Officer
Edward Tanner, Zoning Officer
Jerome Squatrito, Planning Board Chairman
Michael Rossi, Planning Board
Kevin McBride, Bristol Public Works
Robert Sykes, Pare Corporation

FOR THE APPLICANT

Michael Fonseca, Applicant
Tom Principe, P.E.

TRC meeting for proposed four lot residential subdivision and street extension at easterly end of Massassoit Avenue. Existing lots 20 and 25 on Assessor's Plat 158 will each be split into two lots. Street extension will have a cul de sac turnaround.

Stormwater detention basin is proposed at northeast corner of lot 20. Test pits have been excavated in area of proposed detention basin. Detention basin has been sized for the roadway only as house lots will have their own drainage systems. Applicant is also proposing infiltration units for roof drains on each of the four house lots. Detention basin sizing also includes calculation for contribution from existing portion of Massassoit Avenue.

Zoning is Residential R-20SP. Each lot may be a minimum of 15,000 square feet in size if serviced by public water and public sewer. Each dwelling will have an individual grinder pump feeding to a force main sewer line. Electric utilities will be overhead. There is no natural gas service in the area.

A fire hydrant is depicted on the site plans, but will not be allowed by Bristol County Water Authority as the water pressure is too low in the area. There is an existing hydrant at Tower Road and Beatrice Road. TRC requested additional clarification from the Fire Chief for fire protection at new dwellings. Will sprinklers be required in the houses?

TRC reviewed drainage proposal and discussed potential water quality impacts for downstream watershed. Stormwater management system will be designed for water quality and infiltration. Fill will be required on each house lot to get separation between roof runoff infiltration units and existing subsurface ledge. Detention basin sizing

Development plans depict emergency access easement on two neighboring house lots near cul de sac. Radius of the circle turn-around is only 25 feet within a 50 foot right of way. This dimension does not comply with subdivision regulations. TRC discussed removal of cul de sac turnaround and instead connecting Massassoit Avenue to Abilio Drive. Discussed potential impacts from cul de sac to town vehicles and services. DPW and Fire Department vehicles. DPW Director is concerned about access and turn around for trash/recycling vehicles and snow plows. TRC discussed potential for a narrow roadway with green infrastructure such as swales for stormwater management within the street right of way on Abilio Drive. This may eliminate concern for any

additional runoff flowing to detention basin. A narrow roadway and elimination of the pavement within the cul de sac may allow drainage calculations to work out.

If roadway is extended it will require a guardrail at easterly side. Applicant will revised design plans to depict a roadway connection between Massasoit Avenue and Abilio Drive and design a swale and guardrail on side of road. Guardrail will be installed along east side of roadway. Applicant will show RIDOT specifications and crash rating with a steel guardrail and reflectors.

TRC discussed street lights. Applicant will install one standard "goose neck" light on utility pole to be installed at Massasoit Avenue.

TRC discussed buffering or landscaping along the north side of the development. Applicant says that existing ledge makes conditions unfavorable for planting trees. He will install plantings to buffer the view of former landfill and manufacturing properties to the north. TRC discussed street trees and requirement for landscaping plan. After discussion it was decided that tree locations will be determined after construction when soil conditions and ledge will be better known. No formal landscape plan will be required.

TRC reviewed Town consulting engineer comments in memorandum from Pare Corporation dated December 29, 2017.

Flood zone note on plans will be revised to current 2014 flood maps.

TRC requested that applicant submit a signed affidavit from a certified wetland biologist regarding the presence of RIDEM wetland jurisdictions and buffer zones.

This development may require a RIPDES permit from RIDEM as it will disturb greater than one acre of land.

Information is required to be submitted regarding water quality and recharge in accordance with Appendix F of subdivision regulations.

Street design is proposed with a bituminous cape cod berm, not curbing. DPW Director is ok with using a molded cape cod berm in this location as it is consistent with the roadways in the neighborhood and there are no sidewalks proposed. Cape Cod berm will be installed with both the base course and the top surface course of asphalt roadway.

An easement will be required for builder's lot 2 for the drainage detention basin area. Applicant's attorney should submit easement language.

Applicant's engineer will revise plans and they will be submitted for review prior to the next Planning Board meeting on January 11, 2018. TRC recommends that any Planning Board approval be conditioned on the applicant returning to the TRC before construction or Final plan approval.

A **motion** was made to send this application to the Planning Board for Preliminary Plan review and approval subject to a requirement for TRC plan approval prior to construction and Final plan approval.

1st Jerome Squatrito

2nd Kevin McBride

All in Favor.

Meeting adjourned: 11:15 a.m.

Notes by: Edward Tanner



Town of Bristol, Rhode Island

Department of Community Development

10 Court Street
Bristol, RI 02809

www.bristolri.us

401-253-7000

401-396-5466

MEETING FOR: Preliminary TRC
Massasoit
DATE: Jan 2, 2018

In attendance

<u>NAME</u>	<u>COMPANY</u>	<u>E-MAIL</u>	<u>PHONE</u>
Diane Wilkerson	NCD	dianew@bristolri.us	
Jerome Squatrito	TD		
EDWARD TANNER			
ROBERT SYKES			
Michael W Rossi	Bristol Planning	rossi186@gmail	401 487 5491
Tom Proulx, PE	Proulx Eng.	PROULXENGINEERING@gmail.com	401.816.5385
Michael Fonseca	NCD Development Inc		641-7667
Kevin McBride, PE	Director Public Works		



MEMORANDUM

DATE: December 29, 2017

TO: Diane Williamson, Director of Community Development

FROM: John P. Shevlin, P.E.

RE: Preliminary Minor Subdivision Review - TRC
 Massasoit Avenue Extension
 AP 158, Lots 20 & 25
 Pare Project No. 98166.00, Task 092

Pare Corporation (Pare) has completed our review of the plans titled Preliminary Minor Subdivision AP 158 Lots 20 & 25 and Massasoit Avenue Extension dated August 17, 2017, the Application Form and Submission Checklist for Minor Subdivisions, dated September 12, 2017; a Drainage Summary dated September 1, 2017; and a correspondence from the Bristol Water Pollution Control Facility, dated 9/21/17. Pare offers the following comments pertaining to this submission:

General:

1. Provide an updated Drainage Report summarizing the drainage conditions for the site. Report we have received refers to property encompassing Lots 20-28, 53 and 54. Proposed project is for lots 20 & 25. Also refers to 80,126 square feet of land area where proposal is on 60,125 square feet of land.
2. Provide a Landscape Plan for the street extension.
3. Provide a Construction Schedule identifying expected start and finish times for major construction tasks.
4. Rhode Island Department of Environmental Management – Provide written confirmation from the RIDEM that the plans have been reviewed and that the Wetlands Act does not apply. In lieu of written confirmation from RIDEM, provide an affidavit signed by a qualified professional (having minimum qualifications as described by RIDEM Department of Freshwater Wetlands) stating that there are no freshwater wetlands or wetland buffers present on the property.
5. The proposed site does not provide Water Quality or Recharge in accordance with Appendix F of the Subdivision Regulations.

(RIDGES ALSO)

Plans:

1. General Comment – Show location of all existing utilities (gas, water, sewer, electric) on Existing Survey, and Drainage and Grading Plan.
2. General Comment – Show location of wooded areas with a notation of existing trees with a twelve inch (12") or larger caliper, if any.
3. General Comment – Show location of any wetlands, water courses, or their buffers.
4. General Comment – Provide a radius map showing the property within the notice area (300').
5. General Comment- Revise all plans to read "Beatrice Lane" not "Beatrice Drive".
6. Site Development Layout – A cul-de-sac turnaround shall have a minimum radius for paved area of forty (40) feet with a fifty (50) foot right-of-way radius. A 25-foot radius is shown. Input from the fire department should be obtained.
7. Site Development Layout – Show location of proposed bounds.

Page 2

8. Site Development Layout – The proposed water main layout shows a dead end layout, evaluate opportunities to eliminate dead end.
9. Site Development Layout- Easement will be needed for the cul-de-sac layout on proposed Lot 2.
10. Site Development Layout – Show accurate dimensions and areas of proposed easements.
11. Drainage & Utilities Plan- Show limit of pavement improvements for the Beatrice Lane and Massasoit Avenue Intersection. With utility tie-ins it is recommended that entire intersection be overlaid and not leave it with several trench cuts.
12. Drainage and Grading Plan (Utility Plan) – The Soil Testing Note acknowledges ledge at 24" (approximately elevation 81.5), with the adjacent detention system having a bottom elevation of 81.0. Confirm that the required separation to ledge will be achieved.
13. Roadway Plan & Profile: Profile shows 2' sumps for catch basin structures. Plans indicate Rhode Island Standard Details for catch basins are to be used. Also a detail for catch basins are provided on plans. Profile should indicate 3-foot sumps per standard detail.
14. Construction Details-1 and 3: The Storm Drain System Maintenance Plan is shown on both sheets are they are not consistent.
15. Construction Layout-1: Change haybale reference throughout to Silt Fence if that is the intent.
16. Construction Layout-1: Change Note 4 from "West Greenwich" to "Bristol".
17. Construction Details-1: General Notes Number 6- change reference to Kent County Water Authority to Bristol County Water Authority.
18. Construction Details-2: On Proposed Road Cross Section call out cape cod berm if this is acceptable to the Town. Also, why is there no callout for surface course of asphalt.

We are available to review these comments with you at the upcoming TRC meeting on January 2, 2017.



BRISTOL FIRE & RESCUE

November 30, 2017

NCD Developers, Inc.
Michael Fonseca, President
370 Metacom Ave.
Bristol, RI 02809

Re: Hydrant Requirement Massasoit Avenue

Mr. Lannan,

Upon review of the existing conditions on Massasoit Avenue related to the need for an additional hydrant, the following has been determined:

1. The current Fire Code was adopted January 1, 2013. NFPA 1, 2102 edition, is the initial code that speaks to the requirements for fire department access and water supply. NFPA 1, 18.5.1, indicates the number and type of fire hydrants are based on the required fire flow. A table provided in Annex E of NFPA 1, 2012 edition describes the necessary spacing and distance requirements. Since the area is residential, the fire flow necessary would require a hydrant every 500 feet.

Based on the requirements of the current fire code, an additional hydrant would not be required as 1 hydrant already exists within 500 feet of the indicated area, located on Tower St at Beatrice Ln.. Furthermore, the reduced pressure in this area would make any additional hydrant impractical for fire suppression use.

Any violation, deficiency, or requirement which may have been overlooked in the course of this review is also subject to correction under the provisions of any applicable code.

Regards,

Michael A. DeMello
Chief of Department

2017 DEC 19 PM 6:11

12/19/17



Building & Site Contractor

370 Metacom Avenue, Bristol, Rhode Island 02809

Tel. 401.253.5825

Fax 401.254.0379

Email: office@ncddevelopers.com

Web: www.ncddevelopers.com

RE: Massasoit Avenue Subdivision

December 19, 2017

Construction Budget

<i>Description</i>	<i>Cost</i>
Strip and stockpile loam	\$2,000.00
160 LF of sewer – 2" forced main with four (4) laterals	\$21,000.00
160 LF of water	\$30,000.00
26 x 200 LF = 230 cubic yards of gravel	\$5,000.00
rainage	\$12,000.00
Retention basin	\$8,000.00
Spread loam and seed	\$2,000.00
Asphalt (2-1/2" binder)	\$9,000.00
Asphalt (1-1/2" finish) and berm	\$6,000.00
Granite bounds	\$800.00
Total:	\$95,800.00

NCD Developers Inc.

From: Tom Principe [principeengineering@gmail.com]
Sent: Monday, December 18, 2017 9:25 PM
To: Mike Fonseca
Subject: Massasoit Ave_ AP 158 Lots 20 & 25- Wetlands Note

Dear Mike,

As discussed for Massasoit Ave project, there is a note on the title sheet of the plan set, which this property lies outside any flood zone.

And, after walking the site, and conducting the soil testing for the drainage, there is NO wetlands on this site as well.

Please let us know if you or the town have any questions, or need anything else.

Thanks,

-Tom

Thomas J. Principe, III PE

PRINCIPE COMPANY
Engineering Division
27 Sakonnet Ridge Drive
Tiverton, RI 02878
Office: 401.816.5385
Cell: 401.265.1090

E-Mail: PrincipeEngineering@gmail.com
Website: www.PrincipeEngineering.com





Sale

REQUEST FOR CERTIFICATE

Item C1.

SECTION 44-7-11



Refinance

GENERAL LAWS OF RHODE ISLAND

Date: 12/19/2017 Requested by: Planning Board
 Address: _____

Taxpayer Name: Andrade Realty Associates, LLC Account #: 01-2085-25

Address: Massasoit Ave Prev. Acct # _____

Plat: 158 Lot: 20 & 25 Unit: _____ MV Acct # _____

BALANCE OUTSTANDING

Year	Original Tax	Exemption (if any)	Tax	Signature date Interest & Fees	Per Diem	Total Due (taxes, interest & fees)
2017	\$ 4,804.24	N/A	\$2,402.12			2,402.12
2016			\$0.00			Paid in full

Motor Vehicle/Excise Tax

2017						
2016						

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 assessed : N/A Remaining balance: N/A

**** Sewer Assessment may 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 & PENALITIES 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 19 DAY OF December 2017

Please Note: the information presented above is subject to provisions of RIGL 44-5-13.

Fee \$ 25.00

Town of Bristol
10 Court St
Bristol, RI 02809



Prepared By: Lucia Hon

Approved By: Marie E. Amarel



TOWN of BRISTOL, RI
PROPERTY TAX, USER FEE, AND ASSESSMENT BILL
 ASSESSED AS OF DECEMBER 31, 2016
 FOR THE CALENDAR YEAR 2017



19086 47 48

ANDRADE REALTY ASSOCIATES, LLC.

44 JANE HOWLAND DR
SEEKONK, MA 02771-2025

3182 1

Please see the back for important information

TOWN of BRISTOL / Tax Collector
10 Court Street
Bristol, RI 02809-2208

Pay online at www.bristolri.us
 or

www.ri.gov/bristol/tax/payment

ACH and electronic payment options available
 Call 253-7000 for information.

PROPERTY TAX Tax Rate: \$14.92 (Schools \$9.15 Municipal \$5.77)

Location	Plat-Lot-SubLot	Class	Assessed Value	Rate	Exemptions	
MASSASOIT AVE	158-0020-000	12	\$162,100.00	\$14.92	\$0.00	\$2,418.53
MASSASOIT AVE	158-0025-000	13	\$159,900.00	\$14.92	\$0.00	\$2,385.71

SEWER USER FEE AND SEWER ASSESSMENT 0120852501

BILL TOTAL MINIMUM TAX \$ 10.00

\$4,804.24

PLEASE DETACH STUB. TO FACILITATE ACCURATE PROCESSING BE SURE TO INCLUDE A STUB WITH YOUR PAYMENT.
 ANY PAYMENT NOT RECEIVED BY THE DUE DATE SHALL INCUR INTEREST OF 12% ON THE UNPAID BALANCE.

DUE MAY 15, 2018

PAYMENT #4

DUE FEBRUARY 15, 2018

PAYMENT #3

ACCOUNT NUMBER

AMOUNT

ACCOUNT NUMBER

AMOUNT

0120852501

\$1,201.06

0120852501

\$1,201.06



DUE NOVEMBER 15, 2017

PAYMENT #2

DUE AUGUST 15, 2017

PAYMENT #1

ACCOUNT NUMBER

AMOUNT

ACCOUNT NUMBER

AMOUNT

0120852501

\$1,201.06

0120852501

\$1,201.06





Town of Bristol, Rhode Island

Department of Community Development

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

December 18, 2017

TO: Mike Fonseca, NCD Developers

FROM: Diane M. Williamson

RE: **Massasoit Avenue Subdivision - Preliminary Application**

In review of the revised plans resubmitted on December 13, 2017, the application is still incomplete.

The following requisites from the previous memo have not been received:

1. Application Fee needed in the amount of \$800; *pd 12.19.17 ck# 7104*
2. Engineer Review fee needed in the amount of \$1,000-- see proposal from Pare; *pd 12.19.17*
3. Subdivision Plan (sheet 3) has not been stamped and signed as a class 1 survey by a licensed land surveyor; *done 12.19.17 ck# 7105*
4. An affidavit from a qualified wetlands biologist as to the status of any wetlands on the property; *rec'd 12.19.17*
5. Certification that the taxes are current; - *rec'd 12.19.17*
6. Proposed Construction schedule. *rec'd 12.19.17*

Upon receipt of the above we will continue to process the application.

T17-J-5004
Rev. 11/21/17

AMENDMENT
TO
AGREEMENT TO PURCHASE REAL ESTATE

WHEREAS, the undersigned parties hereby agree to amend that certain Agreement to Purchase Real Estate dated May 15, 2017 for the real estate located on Massasoit Avenue in Bristol, Rhode Island 02809 and further described as Lots 20 and 25 on Tax Assessors' Plat 158, as follows:

Paragraph 4 **PURCHASE PRICE:** The purchase price is changed to \$ 260,000.00.

Paragraph 5 **TIME FOR PERFORMANCE:**

(A) The transfer of title shall take place ninety (90) days after all of the Express Conditions stated below have expired and after all of the appeal periods stated in the Express Conditions have expired. In any event, the closing shall take place on or before December 29, 2017.

(B) Time is of the essence as to this Agreement.

(C) That there shall be no extension on this Agreement.

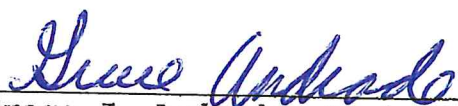
Paragraph 15 **PROJECT FEASIBILITY DUE DILIGENCE:** The Project Feasibility Due Diligence is hereby extended to December 29, 2017.

Paragraph 17 **TERMINATION:** In the event this Agreement does not close by December 29, 2017, then this Agreement shall terminate and become null and void and all deposits shall be promptly refunded to the Buyer.

WITNESS our hands and seals this 22nd day of November, 2017.

ANDRADE REALTY ASSOCIATES, LLC


Adriano G. Andrade, Member


Grace J. Andrade, Member

Lenor Andrade, Member

N.C.D. DEVELOPERS, INC.

 - Pres. ~~It~~
Michael J. Fonseca, Presiden

T17-J-5004
Rev. 11/21/17

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TO
AGREEMENT TO PURCHASE REAL ESTATE

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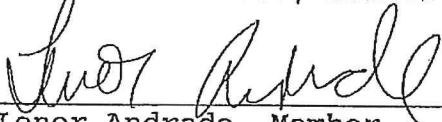
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WITNESS our hands and seals this 22nd day of November 22, 2017.

ANDRADE REALTY ASSOCIATES, LLC

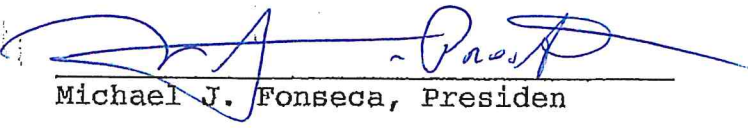
Adriano G. Andrade, Member

Grace J. Andrade, Member



Lenor Andrade, Member

N.C.D. DEVELOPERS, INC.



Michael J. Fonseca, Presiden



Town of Bristol, RI
WATER POLLUTION CONTROL DEPARTMENT
2 PLANT AVENUE
BRISTOL, RI 02809-3015
(401) 253-8877 fax: (401) 253-2910

TOWN HALL
10 COURT STREET
BRISTOL, RI 02809
(401) 253-7000

Jose' J. Da Silva, Superintendent

12/4/2017

To: Planning Board

RE: Subdivision Plan
Massasoit Avenue Extension
Plat 158, Lots 20-28, 53 & 54


Access to the Towns sanitary sewer system is available. The contractor will need to extend the service as proposed by installing a sanitary force sewer main for the development.

Respectfully,

Jose' J. Da Silva
Superintendent
Bristol Water Pollution Control Facility

2017 DEC 13 PM 6:11

04/01/2018

Water Availability Request		 BRISTOL COUNTY WATER AUTHORITY
Applicant Information	Date: _____	
	Property Owner Signature: <u>Andrade Realty Ass. Inc</u>	
	Owner (please print): <u>Adriano Andrade</u>	
	Corporate Title (if not an individual): <u>member</u>	
Location	Address: <u>C/O NCD Dev. Inc 370 Metacom Ave Bristol</u>	
	Phone: <u>401-641-7667</u>	Email: _____
	Contractor: <u>NCD Developers Inc</u> Email: <u>office@ncddevelopers.com</u>	
	Preliminary request is hereby made for a confirmation that public water is available from BCWA to service this property: Town: <u>Bristol</u> Location: <u>Massasolet Ave</u> Address/Plat and Lot: <u>Plat # 158 Lot # 13 20 + 25</u> <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Residential* </div> <div> <input type="checkbox"/> Commercial* Building Footprint: _____ Occupancy: _____ Estimated Water Use: _____ </div> </div> <p style="text-align: center;">*Site Plan Must Be Attached to All Applications</p>	
For BCWA Office Use Only	Action by the Bristol County Water Authority	
	<input checked="" type="checkbox"/> Water Available <input type="checkbox"/> Water Not Available	
	Approximate Static Pressure: <u>430 psi</u>	
	Conditions: <u>Owners must install/maintain booster pumping systems. No fire protection avail.</u> If connection to BCWA is desired, you must: <input checked="" type="checkbox"/> Submit Application for Main Extension Form and Engineering Plans for Review <input type="checkbox"/> Submit Application for New Water Service Installation and Fee	
Date of Review: <u>11/7/17</u> BCWA Engineer: <u>Susan H. Rawdean</u>		

2017 DEC 13 PM 6:11

11/13/17 10:47 AM
CWA/

NCD Developers Inc.

From: Sue Rabideau [SRabideau@bcwari.com]
Sent: Tuesday, December 05, 2017 8:26 AM
To: office@ncddevelopers.com
Subject: FW: BCWA water main extension on Massasoit Avenue, Bristol
Attachments: Water Available Massasoit 11.7.17.pdf; Application for Main Extension - 11.1.16.pdf

From: Sue Rabideau
Sent: Tuesday, November 07, 2017 8:36 AM
To: 'office@ncddevelopers.com' <office@ncddevelopers.com>
Cc: Pam Marchand <pmarchand@bcwari.com>; Ken Booth <Kbooth@bcwari.com>; 'Diane Williamson' <dianew@bristolri.us>; Michael Crawford <mcrawford@bcwari.com>; 'mdemello@bristolri.us' <mdemello@bristolri.us>
Subject: BCWA water main extension on Massasoit Avenue, Bristol

All, BCWA will allow our water main in Massasoit Avenue to be extended ,at the Owner's expense, to serve new house lots. Be advised that there is not adequate fire protection available and that the homeowners will be responsible for maintaining booster pump systems in their homes.

Please submit a formal Water Main Extension Request (attached) and BCWA will provide a more thorough review of the engineering plans for this extension.

Feel free to contact me if you have any questions.

Susan

Susan H. Rabideau, PE
Engineering Project Manager
Bristol County Water Authority
450 Child Street, Warren, RI 02885
401-245-2022, ext 38
401-297-8795 cell
srabideau@bcwari.com



450 Child St. • P.O. Box 447 • Warren, Rhode Island 02885-0447
www.bcwari.com • Fax: 401-245-2004 • Tel: 401-245-2022
A Public Agency

BRISTOL COUNTY WATER AUTHORITY

December 14, 2017

Mr. Adriano Andrade
Andrade Realty Association, Inc.
44 Howland Drive
Bristol, RI 02809

RE: Water Main Extension, Massasoit Avenue, Bristol - PRELIMINARY PLAN REVIEW

Dear Mr. Adriano:

Bristol County Water Authority has reviewed the plans prepared by Principe Company, Inc., titled Preliminary Minor Subdivision AP 158, Lots 20-28, 53 and 54 and Massasoit Avenue Extension, dated 8/17/17, for a proposed four lot residential subdivision in Bristol, RI.

BCWA must comply with the Rhode Island Department of Health's *Rules and Regulations Pertaining to Public Drinking Water*, which state that the design of water treatment works, water storage or water pumping facilities should reflect the guidance contained in (*Ten State Standards*) *Recommended Standards for Water Works: Policies for the Review and Approval of Plans and Specifications for Public Water Supplies* (most recent edition), where applicable. These facilities shall also be installed and constructed in accordance with applicable American Water Works Association (AWWA) Standards with reference to materials used and construction procedures to be followed.

As stated in Section 8.2.1 of the *Ten State Standards (attached)*, all water mains, including those not designed to provide fire protection, shall be designed to maintain a minimum pressure of 20 psi at ground level at all points in the distribution system under all conditions of flow. The normal working pressure in the distribution system shall be at least 35 psi and should be approximately 60 to 80 psi and not less than 35 psi.

AWWA's Manual of Water Supply Practices M32, the minimum pressure at a customer's tap during normal system operation is typically in the range of 35 – 50 psi. This ensures that there is adequate pressure to the second story fixtures within a property if internal plumbing is configured properly. It should also be noted that minimum pressure also affects the design of lawn irrigation systems and fire sprinkler systems, if applicable.

There is an existing 8" water main in Massasoit Avenue, which can be extended to serve the proposed subdivision. However, the average static water pressure in this area of the BCWA distribution system is less than 35 psi. BCWA will not approve of any additional customers in this low pressure area unless the owner agrees to design, purchase and install individual pressure booster systems, including backflow prevention devices, in each home - at no cost to BCWA. Please confirm that you will be providing BCWA approved booster pump systems in each new

home according to the attached requirements (or that you will record this requirement in the land evidence records for each lot) and that you will advise the new owners that the cost to maintain the systems will be borne by the homeowners.

BCWA requires any new water main extensions to be connected to nearby existing mains to eliminate "dead ends" in our system. This provides redundancy of supply to our customers and reduces the water age in the mains by providing better flow through the mains. The proposed new water main must be connected to the end of the existing water main in Abilio Road.

BCWA does not approve of a fire hydrant at any location on this water main extension. Fire flow in this water main would reduce the pressure at the high points in the main to less than 20 psi, which creates an unacceptable health risk to the water quality in the BCWA distribution system. A letter of acknowledgement must be provided from the Bristol Fire Chief.

The Plans must be revised to show the following:

- The new main shall be ductile iron pipe. BCWA standard construction details are attached. These shall be incorporated onto the Plan sheet 7. Pipe bedding shall be sand and trench backfill material shall be approved by BCWA prior to backfilling the trench.
- The new main shall be extended to connect to the end of the main in Abilio Road.
- The hydrant shown at the end of Massasoit Avenue must be deleted.
- All domestic corporation taps, corporations and service pipe shall be 1" diameter and service piping shall be aligned to enter the home in as straight a line as possible. The service for lot 2 shall be relocated to meet this requirement.
- Per BCWA policy, any water service greater than 100 feet in length must be installed with a meter pit at the property line. This includes House Lot 3. The cost of the meter pit shall be borne by the Owner.
- On sheet 6, change General Note 6 to reference Bristol (not Kent) County water Authority.

Please resubmit the revised Plans for further review and approval. If you have any questions, please call me at 245-2022, ext. 38.

Very truly yours,



Susan H. Rabideau, PE
Engineering Project Manager

Attachments:

10 state standards re: pressure and booster pumps
BCWA details for trench, blowoff, service connection, meter pit

Cc: Mike Fonseca, NCD Developers, Inc., 370 Metacom Avenue, Bristol, RI 02809
Diane Williamson, Chief DeMello, Town of Bristol



450 Child St. • P.O. Box 447 • Warren, Rhode Island 02885-0447
www.bcwari.com • Fax: 401-245-2004 • Tel: 401-245-2022
A Public Agency

BRISTOL COUNTY WATER AUTHORITY

2012 Edition Recommended Standards for Water Works Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers (excerpts)

6.4 BOOSTER PUMPS

Booster pumps shall be located or controlled so that:

- a. they will not produce negative pressure in their suction lines;
- b. pumps installed in the distribution system shall maintain inlet pressure as required in Section 8.2.1 under all operating conditions.
- c. automatic shutoff or low pressure controller shall maintain at least 20 psi (140 kPa) in the suction line under all operating conditions, unless otherwise acceptable to the reviewing authority.

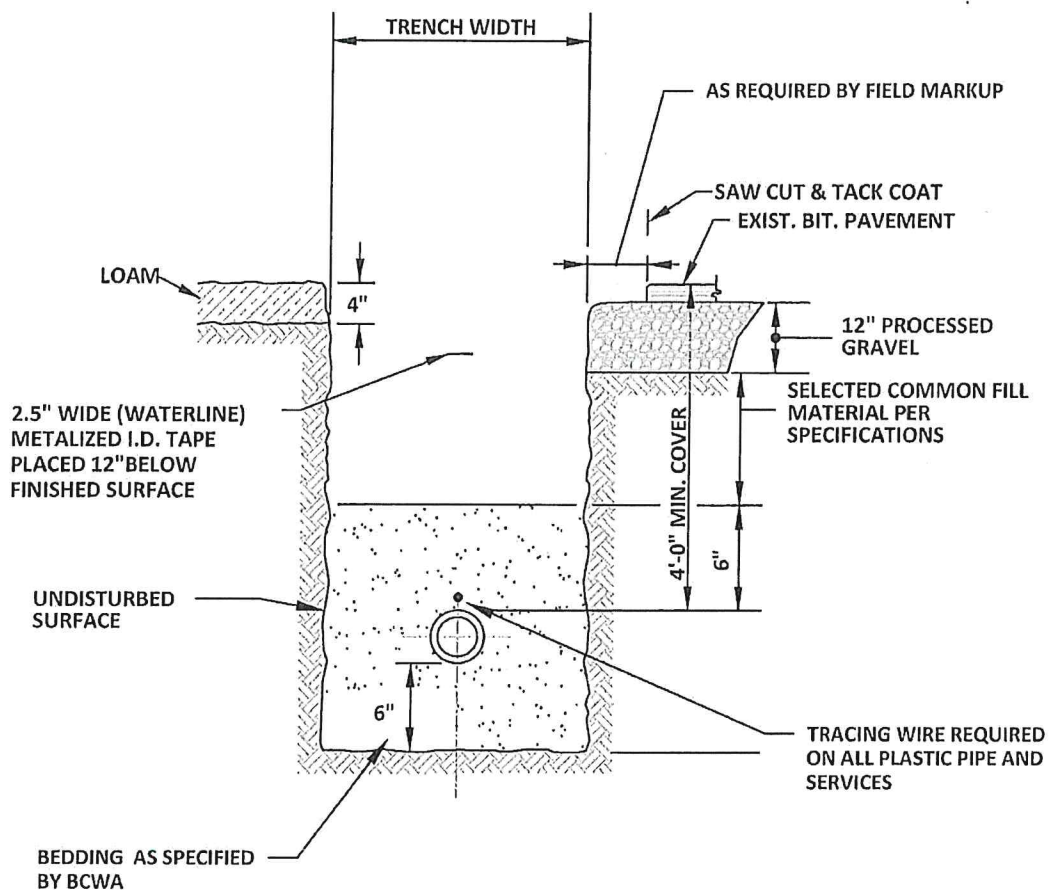
Pumps shall be equipped with automatic shutoffs or low pressure controllers as recommended by the pump manufacturer;

- d. automatic or remote control devices shall have a range between the start and cutoff pressure which will prevent excessive cycling;
- e. a bypass is available.

8.2 SYSTEM DESIGN

8.2.1 Pressure

All water mains, including those not designed to provide fire protection, shall be sized after a hydraulic analysis based on flow demands and pressure requirements. The system shall be designed to maintain a minimum pressure of 20 psi (140 kPa) at ground level at all points in the distribution system under all conditions of flow. The normal working pressure in the distribution system should be approximately 60 to 80 psi (410 - 550 kPa) and not less than 35 psi (240 kPa).

**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.

BCWA

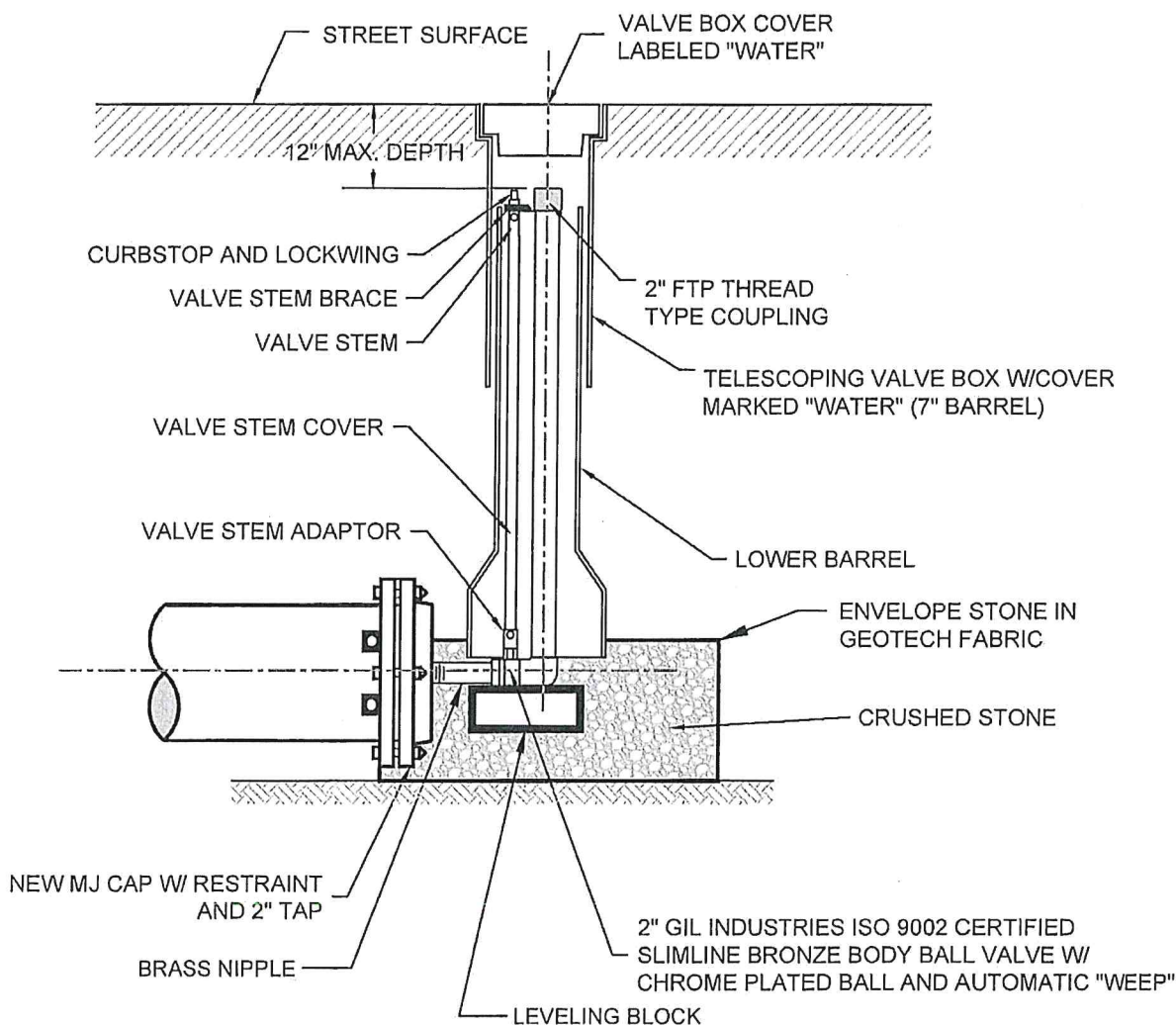
BRISTOL COUNTY WATER AUTHORITY

TRENCH DETAIL

NOT TO SCALE

450 CHILD STREET
WARREN, RHODE ISLAND
DATE: 5/2017

DETAIL
1.0

**NOTE:**

- 1.) ALL MATERIALS, BEDDING AND BACKFILL PER BCWA
- 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.

BCWA

BRISTOL COUNTY WATER AUTHORITY

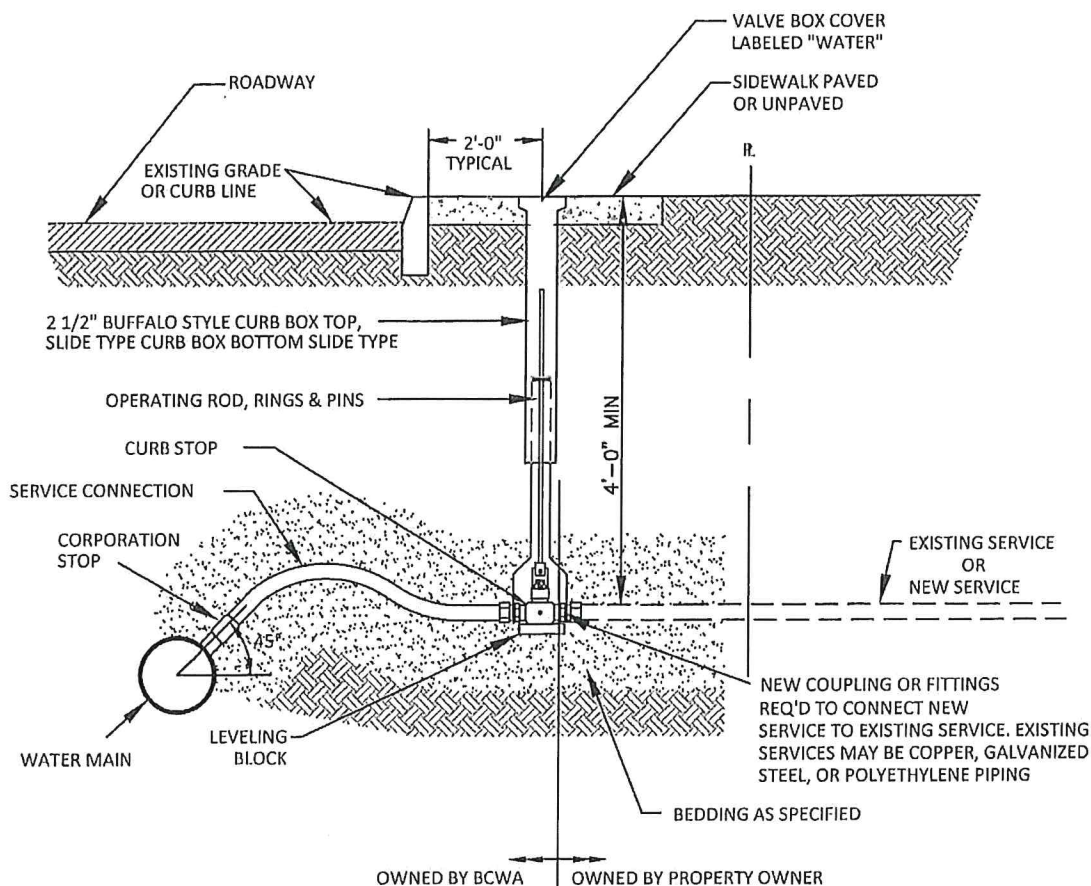
2" BLOWOFF ASSEMBLY

NOT TO SCALE

450 CHILD STREET
WARREN, RHODE ISLAND

DATE: 5/2017

DETAIL
7.0

**NOTE:**

- 1.) ALL SERVICE MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
- 2.) SERVICE LINE FROM CURB BOX TO BUILDING MUST BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
- 3.) THIS DETAIL NOT TO BE USED FOR SERVICE CONNECTIONS IN ASBESTOS CEMENT (TRANSITE), HDPE, OR PVC WATER MAINS.
- 4.) WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

BCWA

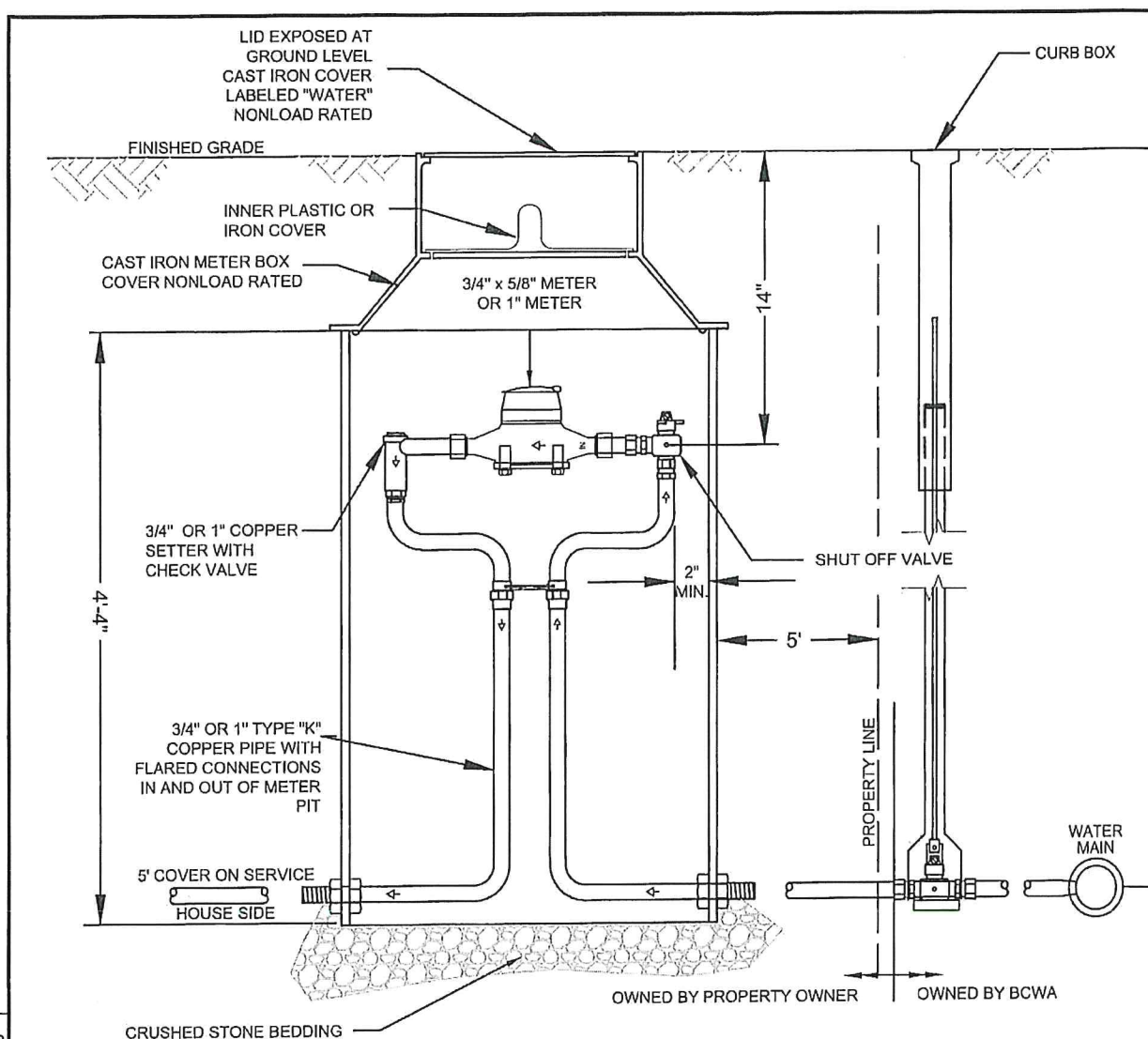
BRISTOL COUNTY WATER AUTHORITY
**IRON PIPE DIRECT TAP
 SERVICE CONNECTION**

NOT TO SCALE

450 CHILD STREET
 WARREN, RHODE ISLAND

DATE: 2/2016

DETAIL
 10a



NOTES:

- 1.) METER PIT SHALL BE FORD MODEL W-32 OR EQUAL. COVER TO BE FORD WABASH W32, DOUBLE LID AND MUST BE APPROVED BY BCWA.
- 2.) METER TO BE SUPPLIED BY BCWA.
- 3.) ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
- 4.) ALL WORK AND MATERIALS SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
- 5.) WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

BCWA

3/4" OR 1" SINGLE SERVICE METER PIT

NOT TO SCALE

BRISTOL COUNTY WATER AUTHORITY

450 CHILD STREET
WARREN, RHODE ISLAND

DATE: 6/2017

DETAIL
12b

12b SING-SERV-METERPIT-2017.DWG

Diane Williamson

From: John <john@REGO-LAW.COM>
To: Monday, December 04, 2017 11:02 AM
Diane M Williamson
Subject: Owner: Andrade Realty Associates, LLC, Applicant: N.C.D. Developers, Inc., Property:
Massasoit Avenue, Bristol, RI 02809, Plat 158 Lots 20 & 25
Attachments: 20171204110437163.pdf

TO:
Diane M. Williamson

FROM:
John G. Rego, Esq.

RE:
OWNER:
Andrade Realty Associates, LLC
APPLICANT:
N.C.D. Developers, Inc.
PROPERTY:
Massasoit Avenue
Bristol, RI 02809
Plat 158 Lots 20 & 25

Enclosed is an Executed Letter from Andrade Realty Associates, LLC authorizing N.C.D. Developers, Inc. to appear before the Bristol Planning Board on the above-stated real estate.

Thank you for your cooperation. Should you have any questions, please telephone.

John G. Rego, Esq.
Rego & Rego
443 Hope Street
Bristol, RI 02809
(401) 253-2500
Fax (401) 254-0235
john@rego-law.com
www.rego-law.com

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to whom they are addressed. If you have received this email in error please notify the system manager. This message contains confidential information and is intended only for the individual named. If you are not the named addressee you should not disseminate, distribute or copy this e-mail. Please notify the sender immediately by e-mail if you have received this e-mail by mistake and delete this e-mail from your system. If you are not the intended recipient you are notified that disclosing, copying, distributing or taking any action in reliance on the contents of this information is strictly prohibited.

ANDRADE REALTY ASSOCIATES, LLC
44 Jane Howland Drive
Seekonk, Massachusetts 02771

October 11, 2017

Bristol County Water Authority and Bristol Planning Board
450 Child Street, P.O. Box 447 10 Court Street
Bristol, RI 02809 Bristol, RI 02809

RE: Massasoit Avenue
Bristol, RI 02809
Plat 158 Lots 20 & 25

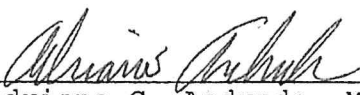
Gentlemen:

This is to advise you that Andrade Realty Associates, LLC, the Owner of Massasoit Avenue, Bristol, RI 02809 and further described as Lots 20 & 25 on Tax Assessors' Plat 158, hereby authorizes N.C.D. Developers, Inc. to appear before the Bristol Planning Board and to obtain approvals from the Bristol County Water Authority to install public water to the above-stated real estate.

Thank you for your cooperation. Should you have any questions, please telephone me at (401) 523-4685.

Sincerely yours,

ANDRADE REALTY ASSOCIATES, LLC



Adriano G. Andrade, Manager/Member

Water Availability Request	
Applicant Information	Date: _____ Property Owner Signature: <u>Andrade Realty Ass. Inc</u> Owner (please print): <u>Adriano Andrade</u> Corporate Title (if not an individual): <u>member</u> Address: <u>C/O NCD Dev. Inc 370 Metacomb Ave Bristol</u> Phone: <u>401-641-7667</u> Email: _____ Contractor: <u>NCD Developers Inc</u> Email: <u>office@ncddevelopers.com</u>
	Preliminary request is hereby made for a confirmation that public water is available from BCWA to service this property: Town: <u>Bristol</u> Location: <u>Massasoit Ave</u> Address/Plat and Lot: <u>Plat # 158 Lot # 13 20 + 25</u> <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Residential* </div> <div> <input type="checkbox"/> Commercial* Building Footprint: _____ Occupancy: _____ Estimated Water Use: _____ </div> </div> <p style="text-align: center;">*Site Plan Must Be Attached to All Applications</p>
For BCWA Office Use Only	Action by the Bristol County Water Authority <div style="display: flex; justify-content: space-around;"> <input checked="" type="checkbox"/> Water Available <input type="checkbox"/> Water Not Available </div> Approximate Static Pressure: <u>430 psi</u> Conditions: <u>Owners must install/maintain booster pumping systems. No fire protection avail.</u> If connection to BCWA is desired, you must: <div style="display: flex; justify-content: space-between;"> <input checked="" type="checkbox"/> Submit Application for Main Extension Form and Engineering Plans for Review <input type="checkbox"/> Submit Application for New Water Service Installation and Fee </div> Date of Review: <u>11/7/17</u> BCWA Engineer: <u>Susan H. Rawdean</u>

Diane Williamson

From: Sue Rabideau <SRabideau@bcwari.com>
To: Tuesday, November 07, 2017 8:36 AM
office@ncddevelopers.com
Cc: Pam Marchand; Ken Booth; Diane Williamson; Michael Crawford; mdemello@bristolri.us
Subject: BCWA water main extension on Massasoit Avenue, Bristol
Attachments: Water Available Massasoit 11.7.17.pdf; Application for Main Extension - 11.1.16.pdf

All, BCWA will allow our water main in Massasoit Avenue to be extended ,at the Owner's expense, to serve new house lots. Be advised that there is not adequate fire protection available and that the homeowners will be responsible for maintaining booster pump systems in their homes.

Please submit a formal Water Main Extension Request (attached) and BCWA will provide a more thorough review of the engineering plans for this extension.

Feel free to contact me if you have any questions.

Susan

Susan H. Rabideau, PE
Engineering Project Manager
Bristol County Water Authority
450 Child Street, Warren, RI 02885
401-245-2022, ext 38
401-297-8795 cell
srabideau@bcwari.com

T17-J-5004

REPORT OF TITLEMAY 26, 2017

MR. CHAIRMAN AND HONORABLE MEMBERS OF BRISTOL PLANNING BOARD:

APPLICANT: N.C.D. Developers, Inc.

OWNER: Andrade Realty Associates, LLC

PROPERTY: Massasoit Avenue
Bristol, RI 02809
Plat 158 Lots 20 & 25

In regards to the subject parcel of land, as of the above date stated, I find good title in the above-stated owner for the property.

The property is subject to the following:

1. MORTGAGES: None
2. RESTRICTIONS: None
3. EASEMENT: None
4. TAXES: Subject to taxes and assessments
assessed as of December 31, 2016,
not yet due and payable.

Attached hereto and made apart hereof is a copy of the title deed.

Rego & Rego
443 Hope Street
Bristol, RI 02809

By: 

John G. Rego, Esq.

Document Number 0000
BOOK 1363 PAGE 255QUITCLAIM DEED

KNOW ALL MEN BY THESE PRESENTS, THAT WE, ADRIANO G. ANDRADE and GRACE J. ANDRADE, husband and wife, of the Town and County of Bristol, State of Rhode Island for consideration paid and in full consideration of One Dollar (\$1.00) grant to ANDRADE REALTY ASSOCIATES, LLC, a Rhode Island limited liability company with an address of 225 Wood Street, Bristol, Rhode Island with QUITCLAIM COVENANTS:

PARCEL ONE: Those certain lots or parcels of land with all buildings and improvements thereon, situated on the northerly side of Massasoit Avenue in the Town and County of Bristol and State of Rhode Island, laid out and designated as Lots Nos. 207 (two hundred seven), 208 (two hundred eight), 255 (two hundred fifty-five) and 256 (two hundred fifty-six) on that plat entitled, "MOUNT HOPE TERRACE PLAT, SEPTEMBER 1906, W.W. PERRY AND C. ESTES, SURVEYORS", which plat is recorded with the Records of Land Evidence in said Town of Bristol.

PARCEL TWO: Those certain lots or parcels of land with all buildings and improvements thereon, situated on the northerly side of Massasoit Avenue in the Town and County of Bristol and State of Rhode Island, bounded southerly by Massasoit Avenue; westerly by Lot No. 256 on that plat entitled, "MOUNT HOPE TERRACE PLAT, SEPTEMBER 1906, W.W. PERRY AND C. ESTES, SURVEYORS", which plat is recorded with the Records of Land Evidence in said Town of Bristol; northerly by land now or lately of the Town of Bristol; and easterly by land now or lately of Frank J. Murphy, or however otherwise the same may be bounded and described.

PARCEL THREE: Those certain lots or parcels of land with all buildings and improvements thereon, situated on the southerly side of Massasoit Avenue in the Town and County of Bristol and State of Rhode Island, laid out and designated as Lots Nos. 209 (two hundred nine), 210 (two hundred ten), 211 (two hundred eleven), 252 (two hundred fifty-two), 253 (two hundred fifty-three) and 254 (two hundred fifty-four) on that plat entitled, "MOUNT HOPE TERRACE PLAT, SEPTEMBER 1906, W.W. PERRY AND C. ESTES, SURVEYORS", which plat is recorded with the Records of Land Evidence in said Town of Bristol.

Subject to taxes assessed December 31, 2006.

The undersigned hereby certifies that this transfer is not a sale, and is therefore exempt from the Smoke and Carbon Monoxide Detector Law, R.I.G.L. Section 23-28.35-1 et seq.

j/md/re/deed/andraderealtyllc.mass.br

Document Number 00001
BOOK 1363 PAGE 256

This transfer is by way of a gift and therefore no withholding is required under RIGL 44-30-71.3 and the consideration is such that no documentary stamps are required.


WITNESS our hands and seals this 22nd day of March, 2007.


Adriano G. Andrade


Grace J. Andrade

STATE OF RHODE ISLAND
COUNTY OF BRISTOL.

In Bristol on the 22nd day of March, 2007, before me personally appeared Adriano G. Andrade and Grace J. Andrade to me known and known by me to be the parties executing the foregoing instrument, and they acknowledged said instrument, by them executed, to be their free act and deed.


Notary Public

JENNIE B. DASILVA
NOTARY PUBLIC
COMMISSION EXPIRES
JULY 10, 2009

Recorded Mar 23, 2007 at 12:44:56P.
Louis P. Cirillo Town Clerk

this e-mail. Please notify the sender immediately by e-mail if you have received this e-mail by mistake and delete this e-mail from your system. If you are not the intended recipient you are notified that disclosing, copying, distributing or taking any action in reliance on the contents of this information is strictly prohibited.



Town of Bristol, Rhode Island

Department of Community Development

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

September 15, 2017

TO: Tom Principe, P.E.

FROM: Diane Williamson, Administrative Officer

RE: **Preliminary application for Minor Subdivision
Massasoit Extension**

In review of the above application submitted on September 12, 2017, the application is incomplete and is missing information from the requisite checklist.

The subdivision plans need to be class 1 survey plans prepared by a registered land surveyor. The existing conditions plans need to be updated (submission plans are from 2005).

In addition, there is no owner authorization for the applicant to submit.

The following additional information is also not provided: Deed, certification that the taxes are current, application fee, water letter, sewer letter, construction schedule, affidavit from a qualified professional stating that there are no wetlands or wetlands buffers on the property, area to be set aside as easement or conveyed to the Town for drainage.

With the owner's authorization, you can re-submit the plans for a concept plan – pre-application review.

cc: Michael Fonseca
Enclosure

APPLICATION FORM AND SUBMISSION CHECKLIST FOR MINOR SUBDIVISIONS

Minor Subdivision - A plan for a **residential** subdivision of land consisting of **five (5) or fewer** units or lots, provided that such subdivision does not require waivers or modifications.

The following completed application form together with the appropriate materials from Items A, B, C, D, and E for either a preliminary or a final application, as indicated on the attached checklist, shall be submitted to the Administrative Officer at least three weeks prior to the regularly scheduled meeting of the Planning Board.

Date Submission Due 9/12/17 Planning Board Meeting Date _____

APPLICATION FORM

Type of Application: Preliminary ☒ Final: _____

1. Name of proposed subdivision: MASSASOIT AVE EXTENSION

Name, address and telephone number of property owner: Andrade Realty Ass. LLC
44 Jane Howland Drive, Seekonk Mass 02771

2. Name, address of applicant, if different from owner: (A written, notarized confirmation from property owner authorizing the applicant to make the submission shall also be submitted): NCD DEVELOPERS INC, 370 Metacomb Ave
401-641-7667

3. Plat and lot number(s) of the parcel being subdivided: AP 158 Lots 20-28, 53 & 54

4. Area of the subdivision parcel(s): 1.839 Acres

5. Zoning District(s), including any special Town or State overlay districts (i.e. Historic District, CRMC Jurisdiction, etc): R20SP

6. Name and owner of existing streets or rights of way within and immediately adjacent to the parcel being subdivided: MASSASOIT AVE ABILIO DRIVE

7. Proposed number of buildable lots: 4

8. If a street creation or extension is proposed, attach a list of the names and current mailing addresses (and on mailing labels) of property owners within notice area (See Section 8.5) from the current real estate and assessment records of the Town, including plat and lot numbers.

Signed by Owner/Applicant: _____

Date 9/10/17

Notarized:

Subscribed and sworn to before me this 10 day of September, 192017

Mary Jo Fidalgo-Tavares
NOTARY PUBLIC

Mary Jo Fidalgo-Tavares

Notary Public of Rhode Island ID #62285

My Commission expires 05/19/2020



Drainage Summary
September 1, 2017

Plat 158 Lots 20-28, 53 & 54
Massasoit Avenue
Bristol, RI

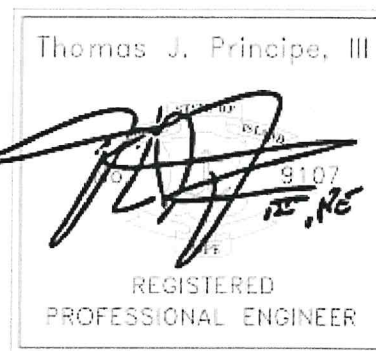
2017-09-01 12:58
09/01/2017 12:58

Prepared For:

NCD Developers, Inc

Prepared By:

Principle Engineering, Inc.
29 Silver Beech Road
Tiverton, Rhode Island



This summary and accompanying calculations have been prepared in support of the proposed stormwater management system for a residential subdivision site at the extension to Massasoit Avenue in Bristol, Rhode Island. As currently comprised, this property encompasses Town Plat 158 Lots 20-28, 53 and 54 and includes 80,126 square feet of land area situated at the easterly terminus of the existing improved Massasoit Avenue. Currently, the property features of a few existing wood frame structures located along the undeveloped platted right-of-way of Massasoit Avenue. There is no treatment and/or attenuation for stormwater flows generated from this site under existing conditions.

The proposed redevelopment consists of demolition of the existing building in favor of four (4) new residential subdivision lots (approximately 15,000 square feet each) and development of the rest of Massasoit Avenue with road materials, utilities and stormwater infrastructure. In order to re-develop this property, new water, sewer and electric connections are proposed along with associated driveway, stormwater and landscape areas. The stormwater management system will consist of the following:

- 1) Roof runoff treatment for the individual house lot roofs via underground cultec infiltration units on each lot,
- 2) Treatment and attenuation of peak flows from driveway and roadway runoff via a catch basin system draining to a sediment forebay and detention basin at the northeast corner of the property.

In order to properly analyze the pre vs. post conditions of the site, one sub-watershed area was identified. It is important to note that the subject property drains generally in an easterly direction across the property from the current terminus of Massasoit Avenue to the easterly property limits. Thus, there is one design point analyzed which is the entire easterly boundary line (running north-south). As shown on the pre and post development watershed maps and within the HydroCAD drainage calculations, the flow to the design point was analyzed under existing and proposed conditions. The goal was to reduce the post development runoff rate and volume when compared to the pre development numbers while providing treatment of impervious surface runoff that is not present under existing conditions.

Based on the detailed calculations attached, during all storm events up to and including the 100-year frequency, the proposed detention system and underground roof units will assist in a successful reduction of post development flows to each design point. The results of the pre versus post development runoff design calculations are summarized within the table below:

Design Point	1-yr storm	10-yr storm	25-yr storm	100-yr storm
Pre East	0.23 cfs	2.64 cfs	4.58 cfs	9.26 cfs
Post East	0.17 cfs	1.29 cfs	3.29 cfs	8.53 cfs

Based on the above, this re-development project will have no negative impacts on the surrounding environment or downstream neighboring properties and will provide a water quality benefit to the watershed that is lacking under existing conditions.

1S
PRE EAST

2S
POS DET BASIN

3S
POS EAST UNC

1P
DET BASIN

4S
ROOF TYP
2P
CULTEC 100

1L
POS EAST

Subcat

Reach

Pond

Link

Massasoit Drainage

Prepared by Microsoft

HydroCAD® 10.00-15 s/n 08247 © 2015 HydroCAD Software Solutions LLC

Printed 8/23/2017

Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.625	61	>75% Grass cover, Good, HSG B (2S, 3S)
0.612	98	Impervious (1S, 2S, 3S)
0.030	98	Roofs, HSG B (4S)
2.031	55	Woods, Good, HSG B (1S)
4.299	64	TOTAL AREA

Massasoit Drainage

Prepared by Microsoft

Printed 8/23/2017

HydroCAD® 10.00-15 s/n 08247 © 2015 HydroCAD Software Solutions LLC

Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
3.687	HSG B	1S, 2S, 3S, 4S
0.000	HSG C	
0.000	HSG D	
0.612	Other	1S, 2S, 3S
4.299		TOTAL AREA

Massasoit Drainage

Prepared by Microsoft

HydroCAD® 10.00-15 s/n 08247 © 2015 HydroCAD Software Solutions LLC

Printed 8/23/2017

Page 4

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.625	0.000	0.000	0.000	1.625	>75% Grass cover, Good	2S, 3S
0.000	0.000	0.000	0.000	0.612	0.612	Impervious	1S, 2S, 3S
0.000	0.030	0.000	0.000	0.000	0.030	Roofs	4S
0.000	2.031	0.000	0.000	0.000	2.031	Woods, Good	1S
0.000	3.687	0.000	0.000	0.612	4.299	TOTAL AREA	



Town of Bristol, RI
WATER POLLUTION CONTROL DEPARTMENT
2 PLANT AVENUE
BRISTOL, RI 02809-3015
(401) 253-8877 fax: (401) 253-2910

TOWN HALL
10 COURT STREET
BRISTOL, RI 02809
(401) 253-7000

Jose' J. Da Silva, Superintendent

9/21/2017

To: Planning Board

RE: Sub Division
Massasoit Ave
Plat 158 Lots 20 & 25

Access to the Town's sanitary sewer system is available and within reasonable reach for the above location.

The developer will need to pay the appropriate I & I fee, inflow and infiltration, in accordance with Sec. 22-401 (3) as stated in the Town's ordinance, before sewer permits will be issued.

Respectfully,

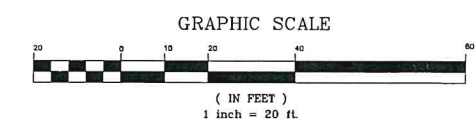
Jose' J. Da Silva
Superintendent
Bristol Water Pollution Control Facility





<u>R-20SP ZONING</u>	
MINIMUM LOT AREA	15,000 S.F. WITH TOWN SEWER & WATER
MINIMUM LOT WIDTH	120'
MINIMUM LOT FRONTAGE	120'
MINIMUM FRONT YARD SETBACK	35'
MINIMUM SIDE YARD SETBACK	20'
MINIMUM REAR YARD SETBACK	35'
MAXIMUM LOT BUILDING COVERAGE	25%
MAXIMUM BUILDING HEIGHT	35'

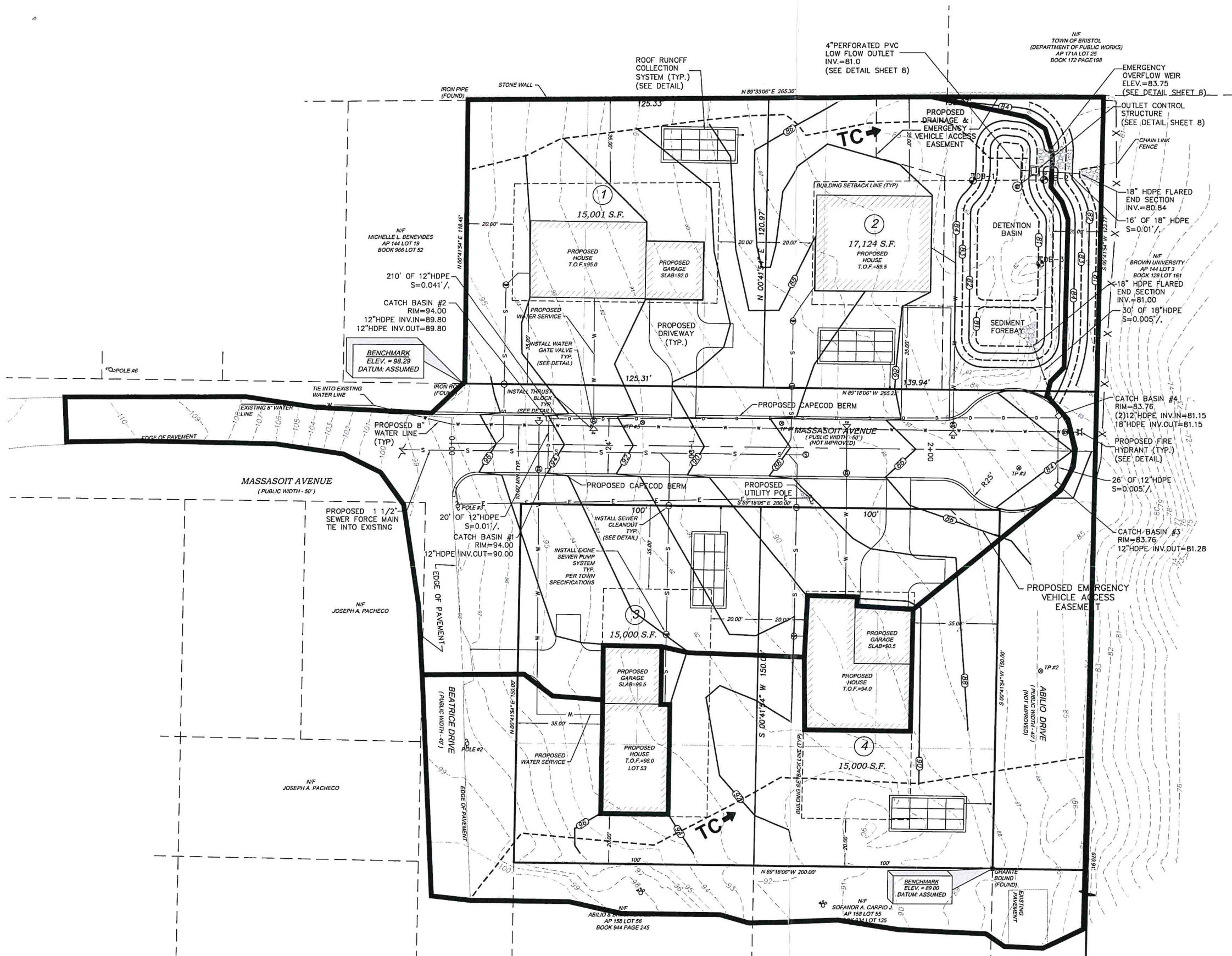
Corner lot: A corner lot will have more than one front lot line, all of which shall meet the front yard setback. The yard setback of one of the rear lot lines may be reduced to side yard setback requirements.

SOIL TESTING NOTE:
DATE EXCAVATED: 8/22/17
DB-1: LEDGE 24"
DB-2: LEDGE 72" (48" ESHGWT)
DB-3: LEDGE 96" (48" ESHGWT)



PRE-WATERSHED

<p>Thomas J. Principe, III</p> <div style="text-align: center;"><p>No. 9107</p><p>REGISTERED PROFESSIONAL ENGINEER</p></div>	<div style="text-align: center;"><p>PRINCIPE COMPANY, INC. <i>ENGINEERING DIVISION</i></p><p>PO BOX 298 TIVERTON, RI 02878 401.815.5385 WWW.PRINCIPLEENGINEERING.COM</p></div>
---	--



LEGEND & ABBREVIATIONS

N/F	- NOW OR FORMERLY	---	- PROPERTY LINE
A.P.	- ASSESSORS PLAT	- - - -	- ZONING SETBACK LINE
S.F.	- SQUARE FEET	- - - -	- EXISTING CONTOUR
AC.	- ACRES	- - - -	- STONE WALL
±	- PLUS OR MINUS	X	- FENCE
STY	- STORY	S	- SEWER LINE
W/F	- WOOD FRAMED	D	- DRAIN LINE
SHR	- STATE HIGHWAY PLAT	W	- WATER LINE
RET.	- RETAINING WALL	G	- GAS LINE
PED.	- PEDESTRIAN	E	- ELECTRIC LINE
(FND.)	- FOUND	⊗	- SANITARY SEWER MANHOLE
R/HB	- RI HIGHWAY BOUND	⊗	- CATCH BASIN
PK NAIL	- MASONRY NAIL	⊗	- STORM DRAIN MANHOLE
FE	- FLARED END	⊗	- WATER GATE
RCP	- REINFORCED CONCRETE PIPE	⊗	- GAS VALVE
CLF	- CHAIN LINK FENCE	⊗	- ELECTRIC MANHOLE
INV.	- INVERT	⊗	- CONCRETE BOUND
x 10.80	- SPOT GRADE	⊗	- DRILL HOLE
		⊗	- IRON PIPE

ZONING CRITERIA

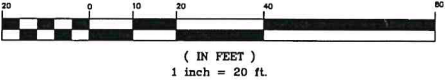
R-20SP ZONING

MINIMUM LOT AREA	15,000 S.F. WITH TOWN SEWER & WATER
MINIMUM LOT WIDTH	120'
MINIMUM LOT FRONTAGE	120'
MINIMUM FRONT YARD SETBACK	35'
MINIMUM SIDE YARD SETBACK	20'
MINIMUM REAR YARD SETBACK	35'
MAXIMUM LOT BUILDING COVERAGE	25%
MAXIMUM BUILDING HEIGHT	35'

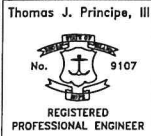
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DB-3: LEDGE 96" (48" ESHGWT)

GRAPHIC SCALE



POST WATERSHED



PRINCIPLE COMPANY, INC.
ENGINEERING DIVISION
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TIVERTON, RI 02878
401.816.5385
WWW.PRINCIPLEENGINEERING.COM

REVISIONS

No.	DATE	DRWN	CHKD

PRELIMINARY MINOR SUBDIVISION
AP 158 LOTS 20-28, 53 & 54
MASSASOIT AVENUE
IN
BRISTOL, RHODE ISLAND

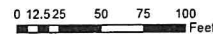
SCALE: 1"=20'		SHEET NO: 2 OF 2	
DRAWN BY: TJP		DESIGN BY: TJP	CHECKED BY: TJP
DATE: 8/17/17		PROJECT NO.: LDP 17-36	

APPLICANT:
NCD DEVELOPERS, INC.
C/O MICHAEL FONSECA
370 METACOM AVENUE
BRISTOL, RI 02809



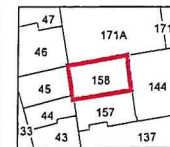
This map is for assessment purposes only and is not valid for legal description or conveyance.
Print Date: 7/28/2016 Map data is current through December 31, 2015

Disclaimer:
This Plat shall be used only to provide general information regarding lot dimensions, areas, etc. and does not represent, or take the place of, actual field surveys of the individual lots. The information on this map was compiled from the Town of Bristol's CAD Plat maps, which were compiled from Town records, including deeds, existing Plat cards, subdivision plans and similar documentation produced by others. Merge documents and subdivision plans for 2005 through 2014 were also used to update the Plats/properties. Neither the Town of Bristol, Robert Haig Associates, BETA Group, Inc. or MainStreetGIS, LLC assume responsibility for the accuracy of said information on this map.



TAX MAP
TOWN OF BRISTOL
Rhode Island
Prepared by MainStreetGIS, LLC

- Property Boundary
- Right of Way
- Paper Street
- Bluff
- Bridge
- Survey Line
- Water Boundary
- Town Boundary
- Easement
- Paper Street
- Map Boundary
- Leader Line
- Stream
- Water Body



Map Number

158

PRELIMINARY MINOR SUBDIVISION
AP 158 LOTS 20 & 25
AND
MASSASOIT AVENUE EXTENSION
IN
BRISTOL, RHODE ISLAND

APPLICANT/OWNER:
NCD DEVELOPERS, INC.
C/O MICHAEL FONSECA
370 METACOM AVENUE
BRISTOL, RI 02809

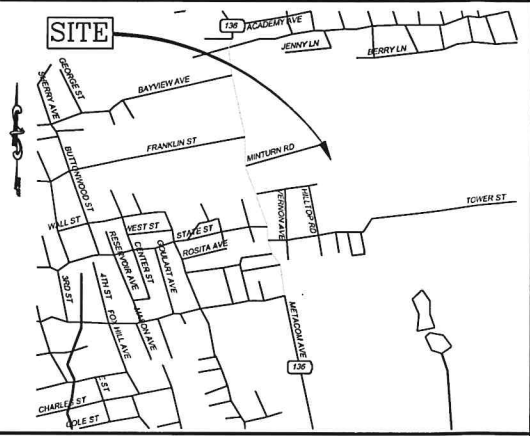


ESTABLISHED IN 1981

PREPARED BY:
PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
PO BOX 298
TIVERTON, RHODE ISLAND 02878
401.816.5385
INFO@PRINCIPEENGINEERING.COM
WWW.PRINCIPEENGINEERING.COM

AUGUST 17, 2017
REVISED: 12/12/17
1/3/18
1/19/18
4/9/18

TOWN OF BRISTOL
COMMUNITY DEV.
2018 APR 25 AM 9:45



LOCUS MAP
NOT TO SCALE

LIST OF DRAWINGS

- 1. COVER SHEET
- 2. EXISTING SURVEY
- 3. SITE DEVELOPMENT LAYOUT
- 4. DRAINAGE AND GRADING
- 5. ROADWAY PLAN AND PROFILE
- 6. CONSTRUCTION DETAILS
- 7. CONSTRUCTION DETAILS
- 8. CONSTRUCTION DETAILS
- 9. CONSTRUCTION DETAILS

PLANNING BOARD NOTE:

IN LIEU OF HAVING A DEAD END STREET THE PLANNING BOARD APPROVED THE CONNECTION OF ABILIO DRIVE ON JAN. 11, 2018 FOR SAFETY REASONS. DO TO SITE CONSTRAINTS THE ONE INCH WATER QUALITY RUNOFF HAS BEEN MITIGATED AS REQUESTED BY THE PLANNING BOARD WITH THE USE OF A STONE DRAINAGE INFILTRATION SWALE AND CORRESPONDING CALCULATIONS AS SHOWN ON SHEET 4 OF 9.

SOILS ON THE SITE CONSIST ENTIRELY OF SOIL TYPE CeC - CANTON AND CHARLTON-FINE SANDY LOAMS, VERY ROCKY 3-8% SLOPES

THE SITE IS LOCATED IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN) AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 44001C0014H MAP REVISED ON JULY 7, 2014

REFERENCE:

EXISTING CONDITIONS PLAN MASSASOIT AVENUE EXTENTION ASSESSOR'S PLAT 158, LOTS 20 AND 25 SITUATED AT MASSASOIT AVENUE IN BRISTOL, RHODE ISLAND PREPARED BY STEPHEN M. MURGO SR. DATED DEC. 6th. 2017

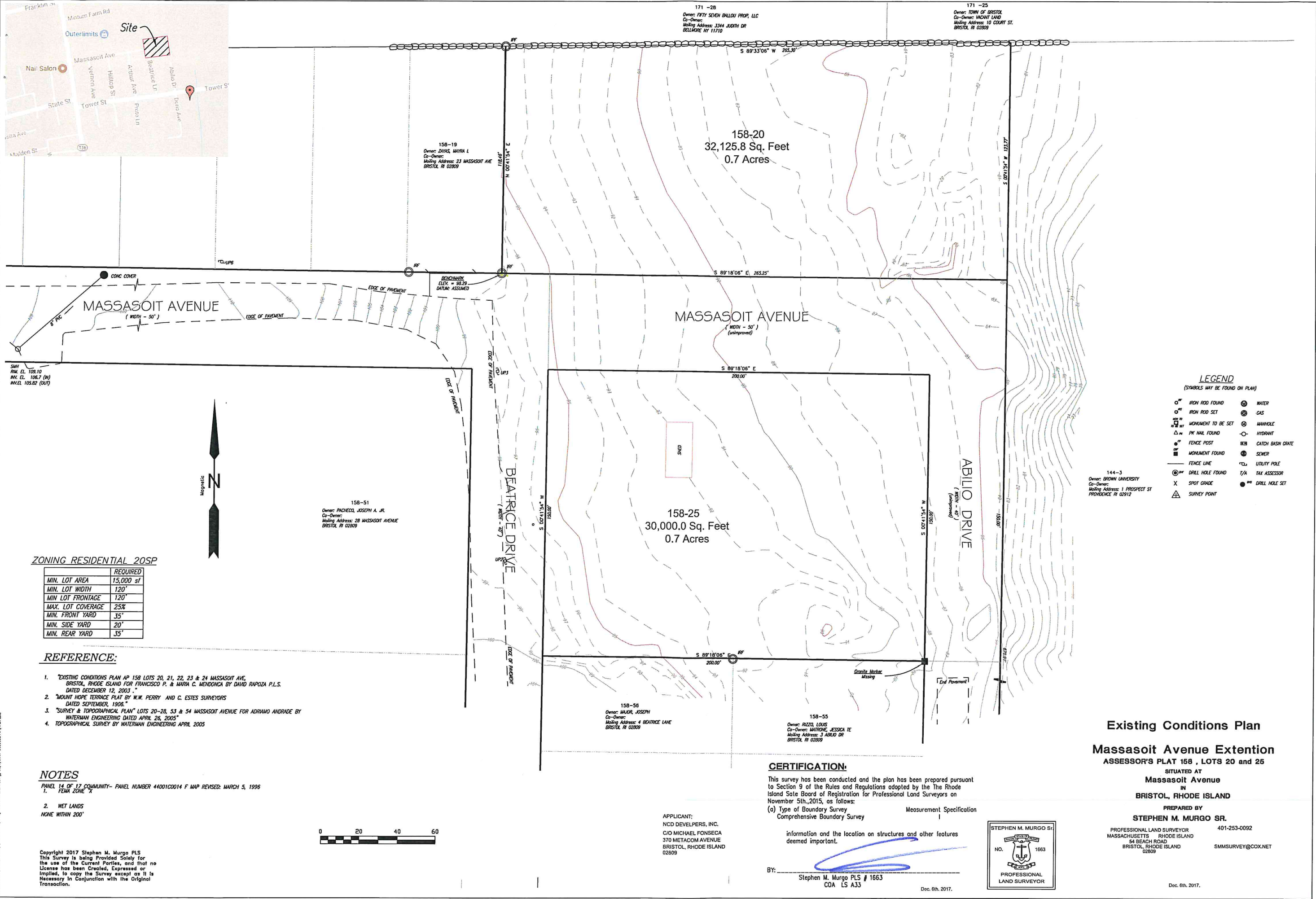
SURVEY & TOPOGRAPHIC PLAN AP 158 LOT 20-28, 53 & 54 MASSASOIT AVENUE BRISTOL, RHODE ISLAND FOR ADRIANO ANDRADE 225 WOOD STREET BRISTOL, RHODE ISLAND 02809 PREPARED BY WATERMAN ENGINEERING DATED APRIL 26, 2005

ZONING CRITERIA

R-20SP ZONING	
MINIMUM LOT AREA	15,000 S.F. WITH TOWN SEWER & WATER
MINIMUM LOT WIDTH	120'
MINIMUM LOT FRONTAGE	120'
*MINIMUM FRONT YARD SETBACK	35'
*MINIMUM SIDE YARD SETBACK	20'
*MINIMUM REAR YARD SETBACK	35'
MAXIMUM LOT BUILDING COVERAGE	25%
MAXIMUM BUILDING HEIGHT	35'

Corner lot: A corner lot will have more than one front lot line, all of which shall meet the front yard setback. The yard setback of one of the rear lot lines may be reduced to side yard setback requirements.





LEGEND & ABBREVIATIONS

NF	- NOW OR FORMERLY	---	- PROPERTY LINE
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S.F.	- SQUARE FEET	- - -	- EXISTING CONTOUR
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±	- PLUS OR MINUS	-----	- FENCE
STY	- STORY	-----	- SEWER LINE
WF	- WOOD FRAMED	-----	- DRAIN LINE
SH	- STATE HIGHWAY PLAT	-----	- WATER LINE
RET.	- RETAINING WALL	-----	- GAS LINE
PED.	- PEDESTRIAN	-----	- ELECTRIC LINE
(FND.)	- FOUND	-----	- SANITARY SEWER MANHOLE
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PK NAIL	- MASONRY NAIL	-----	- STORM DRAIN MANHOLE
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RCP	- REINFORCED CONCRETE PIPE	-----	- GAS VALVE
CLF	- CHAIN LINK FENCE	-----	- ELECTRIC MANHOLE
INV.	- INVERT	-----	- CONCRETE BOUND
x 10.80	- SPOT GRADE	-----	- DRILL HOLE
		-----	- IRON PIPE
		-----	- GRANITE BOUND WITH DRILL HOLE TO BE SET

ZONING CRITERIA

R-20SP ZONING

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Cover lot: A corner lot will have more than one front lot line, all of which shall meet the front yard setback. The yard setback of one of the rear lot lines may be reduced to side yard setback requirements.

CERTIFICATION:

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 State Board of Registration for Professional Land Surveyors on November 5th, 2015, as follows:

(a) Type of Boundary Survey
Comprehensive Boundary Survey

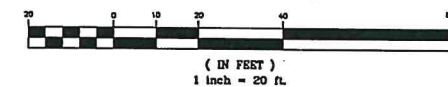
information and the location on structures and other features deemed important.

Stephen M. Murgos PLS # 1663
COA LS A33

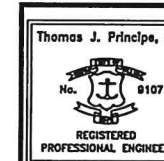
Dec 6th 2017.



GRAPHIC SCALE



SITE DEVELOPMENT LAYOUT



PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
PO BOX 298
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401.816.5385
WWW.PRINCIPEENGINEERING.COM

REVISIONS

No.	DATE	DRWN	CHKD
1	12/12/17	TJP	TJP
2	1/5/18	TJP	TJP
3	1/19/18	TJP	TJP

PRELIMINARY MINOR SUBDIVISION
AP 158 LOTS 20 & 25
AND
MASSASOIT AVENUE EXTENSION
IN
BRISTOL, RHODE ISLAND

SCALE: 1"=20'

SHEET NO: 3 OF 9

DRAWN BY: TJP

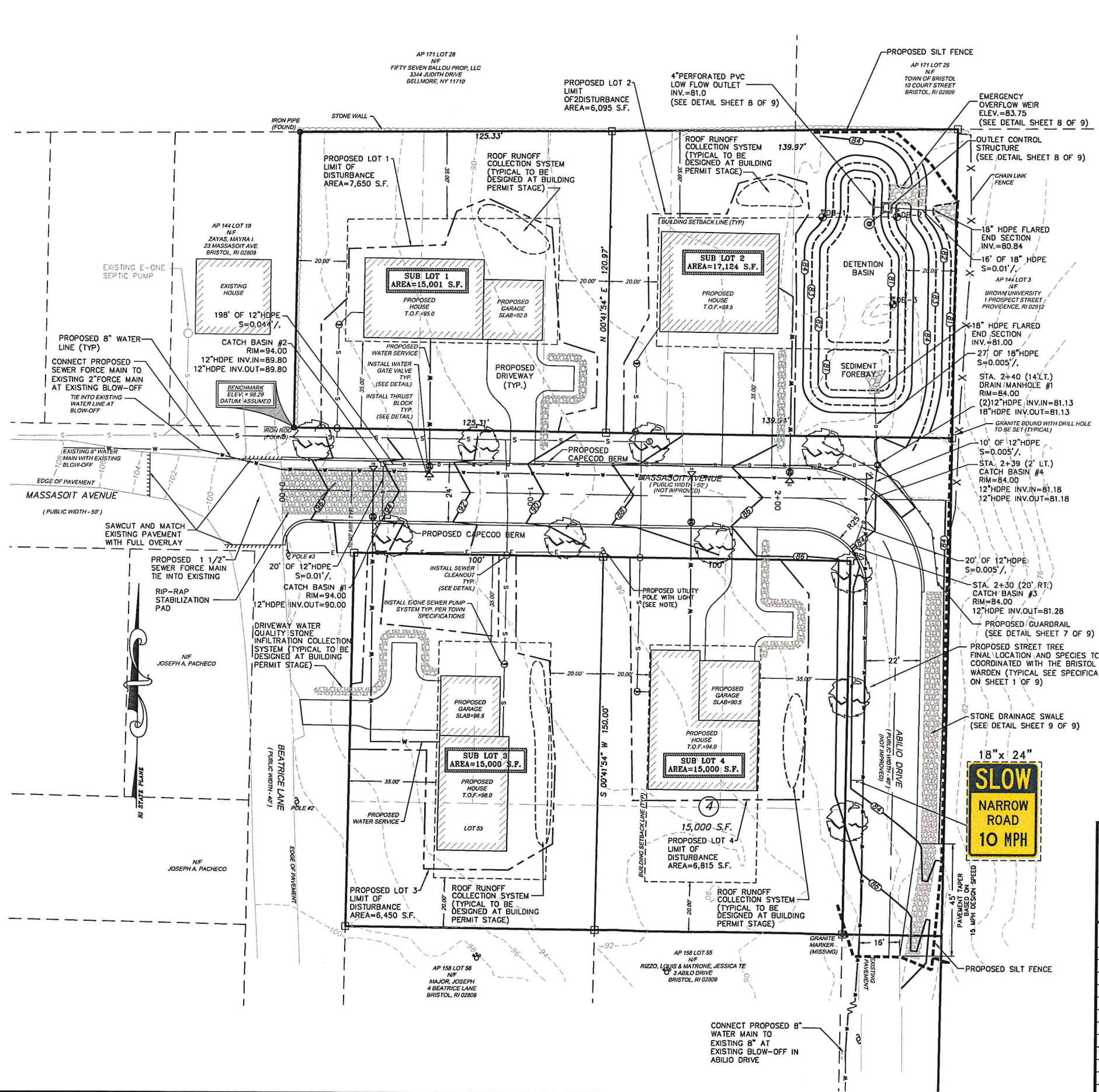
DESIGN BY: TJP

CHECKED BY: TJP

DATE: 8/17/17

PROJECT NO.: LDP 17-36

APPLICANT/OWNER:
NCD DEVELOPERS, INC.
C/O MICHAEL FONSECA
370 METACOM AVENUE
BRISTOL, RI 02809



LEGEND & ABBREVIATIONS

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W/F	- WOOD FRAMED	D	- DRAIN LINE
SHF	- STATE HIGHWAY PLAT	W	- WATER LINE
RET.	- RETAINING WALL	G	- GAS LINE
PEL.	- PEDESTRIAN	E	- ELECTRIC LINE
(PND)	- FOUND	SS	- SANITARY SEWER MANHOLE
RIBB	- RI HIGHWAY BOUND	CB	- CATCH BASIN
PK NAIL	- MASONRY NAIL	SDM	- STORM DRAIN MANHOLE
FE	- FLARED END	WG	- WATER GATE
RCP	- REINFORCED CONCRETE PIPE	GV	- GAS VALVE
CLF	- CHAIN LINK FENCE	EMH	- ELECTRIC MANHOLE
INV.	- INVERT	CB	- CONCRETE BOUND
± 10.80	- SPOT GRADE	PH	- DRILL HOLE
		IP	- IRON PIPE
		GB	- GRANITE BOUND WITH DRILL HOLE TO BE SET

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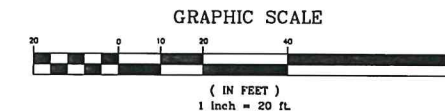
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SOIL TESTING NOTE:
DATE EXCAVATED: 8/22/17
DB-1: LEDGE 24"
DB-2: LEDGE 72" (48" ESHGWT)
DB-3: LEDGE 96" (48" ESHGWT)
(SEE SHEET 7 OF 9)

NOTE: PROPOSED STREET LIGHT TO BE MOUNTED ONTO PROPOSED UTILITY POLE AT HEIGHT AS REQUIRED BY BRISTOL DEPARTMENT OF PUBLIC WORKS. LIGHT FIXTURE TO BE ALL NEW COBRA HEAD STREET LIGHT (24 WATT LED) MANUFACTURED BY LEOTEK, MODEL NUMBER GCJ1-20G-MV-WW-2-GY-350 OR APPROVED EQUAL.

ABILIO DRIVE DRAINAGE CALCULATION:

ABILIO DRIVE PROPOSED SURFACE AREA = 3,996 S.F.
TOTAL VOLUME REQUIRED = 333 CU. FT. (USE 1" OF RUNOFF)
STONE SWALE VOLUME FROM ELEVATION 82.5 TO ELEVATION 83.5 = 382 CU. FT.



APPLICANT/OWNER:
NCD DEVELOPERS, INC.
C/O MICHAEL FONSECA
370 METACOM AVENUE
BRISTOL, RI 02809

DRAINAGE AND UTILITIES

Thomas J. Principe, III
No. 9107
REGISTERED PROFESSIONAL ENGINEER

PRINCIPLE COMPANY, INC.
ENGINEERING DIVISION
PO BOX 298
TIVERTON, RI 02878
401.816.5385
WWW.PRINCIPLEENGINEERING.COM

REVISIONS

No.	DATE	DRWN	CHKD
1	12/12/17	TJP	TJP
2	1/3/18	TJP	TJP
3	1/19/18	TJP	TJP
4	4/9/18	TJP	TJP

PRELIMINARY MINOR SUBDIVISION
AP 158 LOTS 20 & 25
AND
MASSASOIT AVENUE EXTENSION
IN
BRISTOL, RHODE ISLAND

SCALE: 1"=20'

SHEET NO: 4 OF 9

DRAWN BY: TJP DESIGN BY: TJP CHECKED BY: TJP

DATE: 8/17/17 PROJECT NO.: LDP 17-36

THIS PLAN WAS PREPARED BY THE PRINCIPLE COMPANY, INC. ENGINEERING DIVISION, 100 WEST STREET, TIVERTON, RHODE ISLAND 02878. THE PRINCIPLE COMPANY, INC. ENGINEERING DIVISION IS A PROFESSIONAL ENGINEERING FIRM LICENSED BY THE STATE OF RHODE ISLAND. THE PRINCIPLE COMPANY, INC. ENGINEERING DIVISION IS NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED BY THE CLIENT OR FOR THE CONSEQUENCES OF ANY ACTION OR INACTION BASED ON THIS PLAN. THE PRINCIPLE COMPANY, INC. ENGINEERING DIVISION IS NOT RESPONSIBLE FOR THE CONSEQUENCES OF ANY ACTION OR INACTION BASED ON THIS PLAN.

GENERAL NOTES:

1. THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION, AND THE RHODE ISLAND STANDARD DETAILS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO. THE 2004 STANDARD SPECIFICATIONS MAY BE OBTAINED AT THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION WEB PAGE. THESE SPECIFICATIONS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO.
2. ALL REQUIRED SITE IMPROVEMENTS SHALL BE INSPECTED BY THE TOWN ENGINEER TO ENSURE SATISFACTORY COMPLETION. IN NO CASE SHALL THE INSTALLATION OF ANY IMPROVEMENTS BE STARTED UNTIL PRIOR NOTIFICATION IS GIVEN TO THE TOWN ENGINEER. AT LEAST A 48-HOUR NOTICE SHALL BE GIVEN TO THE TOWN ENGINEER PRIOR TO ANY SUCH START OF CONSTRUCTION. A FINAL INSPECTION OF ALL SITE IMPROVEMENTS, UTILITIES AND GRADING WILL BE MADE TO DETERMINE WHETHER THE WORK IS SATISFACTORY AND IN SUBSTANTIAL AGREEMENT WITH THE APPROVED FINAL CONSTRUCTION DRAWING AND THE TOWN SPECIFICATIONS.
3. LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD. ANY DAMAGE TO EXISTING UTILITIES AS SHOWN OR NOT SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES ARE NOTIFIED 48-HOURS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY DIG-SAFE (1-800-344-7233) A MINIMUM OF 48 WORKING HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION AND/OR BLASTING WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION AND/OR BLASTING WORK MUST BE SUPPLIED TO DIG-SAFE, IF IT IS DIFFERENT FROM THE CALLER.
4. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY, BUT NOT LIMITED TO, THE STATE OF RHODE ISLAND, THE FEDERAL GOVERNMENT, THE TOWN OF BRISTOL AND ALL INDIVIDUAL UTILITY COMPANIES PRIOR TO COMMENCING ANY WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEDIMENTATION AND EROSION CONTROLS.
6. THE INSTALLATION OF THE WATER UTILITY IMPROVEMENTS SHALL CONFORM TO THE REQUIREMENTS OF THE BRISTOL COUNTY WATER DEPARTMENT AND THE AMERICAN WATER WORKS STANDARDS.
7. ALL MATERIAL FOR FILL SHALL BE CLEAN AND FREE OF MATTER WHICH COULD POLLUTE ANY DOWN STREAM WATERCOURSE.
8. VERTICAL DATUM: MEAN SEA LEVEL (NGVD 29).
9. FILL MATERIAL SHALL BE COMPACTED IN ONE FOOT (MAXIMUM) LIFTS TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D-1557 (MODIFIED PROCTOR TEST).

STORM DRAINAGE SYSTEM MAINTENANCE PLAN:

THE FOLLOWING LIST OF MAINTENANCE TASKS AND FREQUENCIES MUST BE ADHERED TO IN ORDER TO INSURE A SUCCESSFUL LONG TERM OPERATION OF THE STORM DRAINAGE SYSTEM.

1. DURING CONSTRUCTION ACTIVITIES ALL EROSION CONTROLS ON THE SITE SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY FOUR (24) HOURS AFTER AN EVENT WHICH GENERATES AT LEAST 0.25 INCHES OF RAIN IN A TWENTY FOUR (24) HOUR PERIOD.
2. SEDIMENTS SHALL BE REMOVED FROM THE ALL BASINS IMMEDIATELY AFTER SITE STABILIZATION.
3. ALL TRASH, LITTER AND OTHER DEBRIS SHALL BE REMOVED FROM ALL STORM WATER INLET AND OUTLET STRUCTURES A MINIMUM OF TWICE PER YEAR. THESE STRUCTURES SHALL ALSO BE INSPECTED TWICE PER YEAR. INSPECTIONS SHALL BE PERFORMED SEVERAL TIMES WITHIN THE FIRST SIX MONTHS OF OPERATION.
4. INSPECTIONS OF ALL CATCH BASINS SHALL OCCUR ON AN ANNUAL BASIS TO CHECK FOR DEBRIS REMOVAL (SEDIMENT AND HYDROCARBONS) AND STRUCTURAL INTEGRITY OR DAMAGE. SUCH DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.
5. REPAIRS OR REPLACEMENT OF INLET/OUTLET STRUCTURES OR ANY ELEMENT OF THE FACILITY SHALL BE DONE WITHIN THIRTY (30) DAYS OF DEFICIENCY REPORTS. IF AN EMERGENCY SITUATION IS IMMINENT THEN REPAIR/REPLACEMENT SHALL BE DONE IMMEDIATELY TO AVERT FAILURE OR DANGER TO NEARBY RESIDENTS.
6. MAKE REPAIRS IMMEDIATELY USING APPROPRIATE STONE SIZES. DO NOT PLACE STONES ABOVE FINISHED GRADE.
7. ALL REMOVED SEDIMENTS AND DEBRIS SHALL BE DISPOSED OF OFF SITE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
8. ALL OUTLET STRUCTURES AND OUTFLOW CHANNELS WILL BE INSPECTED ANNUALLY. INSPECTIONS WILL BE ACCOMPLISHED SEVERAL TIMES DURING THE FIRST SIX MONTHS OF OPERATION, ESPECIALLY AFTER RAINFALL EVENTS TO CHECK FOR CLOGGING OR, CONVERSELY, TOO RAPID OF A RELEASE.
9. REPAIRS OR REPLACEMENT OF INLET/OUTLET STRUCTURES, RIP-RAP CHANNELS, FENCES, OR OTHER ELEMENTS OF THE FACILITY WILL BE DONE WITHIN 30 DAYS OF DEFICIENCY REPORTS. IF AN EMERGENCY SITUATION IS IMMINENT THEN REPAIR/REPLACEMENT MUST BE DONE IMMEDIATELY TO AVERT FAILURE OR DANGER TO NEARBY RESIDENTS.
10. ALL SEDIMENT GENERATED DURING CONSTRUCTION AND AS A RESULT OF MAINTENANCE OF THE DRAINAGE SYSTEM MUST BE DISPOSED OF PROPERLY. SEDIMENT SHALL NOT BE DISPOSED OF IN OR NEAR STATE OR FEDERAL REGULATED WATERS.
11. RECORDS OF THE FIRST TWO YEARS OF MAINTENANCE FOLLOWING CONSTRUCTION SHALL BE SUBMITTED TO RIDEM DIVISION OF WATER RESOURCES. MAINTENANCE RECORDS FOR SUBSEQUENT YEARS SHALL BE KEPT ON FILE AND SUBMITTED TO RIDEM, DIVISION OF WATER RESOURCES, UPON REQUEST.

12. Grasses shall be planted around and within the detention basin immediately following construction to stabilize slopes and prevent erosion. Trees and shrubs are not to be planted on basin slopes.
13. All drainage structures are to be inspected at least three times in the first six months of operation. Evidence of clogging or rapid release of flow shall be remedied immediately.
14. Side slopes, embankments, and the upper stages of all detention basins are to be mowed at least three times per growing season, to prevent unwanted growth, and to maintain the capacity and integrity of the facilities. Mowing should include the removal of woody growth, which may compromise the integrity of the basin slopes.

15. The grossed areas of all basins are to be inspected at least twice a year to check for erosion problems. Areas subject to erosion problems shall be re-seeded immediately to stabilize any exposed soils. Where pools of stagnant water are observed in a detention basin, the deficiency shall be corrected immediately. This will prevent the formation of a nuisance habitat for insects.
16. Trash, litter and other debris are to be removed from all stormwater facilities at least twice a year to prevent blockage of inlet and outlet structures, and hence failure of the structure. Where the amounts of debris found are large, a careful inspection of all adjacent inlet and outlet structures shall be undertaken to identify any damage that may have occurred. Litter shall be removed from the detention basin prior to mowing operations.
17. If a blockage occurs to a basin outlet, it may necessary to drain the basin in order to effect a repair. All water that is drained from the basin shall be adequately filtered to remove suspended solids prior to discharge to a receiving body.
18. All catch basins shall be inspected at least twice a year for debris and the presence of potential pollutants. Catch basins and manholes shall be inspected twice a year for structural integrity.
19. Maintenance of the stormwater system during the construction process shall be the responsibility of the contractor.
20. On completion of construction maintenance of the stormwater system shall become the responsibility of the Town of Bristol.

EROSION CONTROL AND SOIL STABILIZATION PROGRAM:

1. DENUDED SLOPES SHALL NOT BE LEFT EXPOSED FOR EXCESSIVE PERIODS OF TIME, SUCH AS THE INACTIVE WINTER SEASONS.
2. TEMPORARY TREATMENTS SHALL CONSIST OF A HAY, STRAW, 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.
3. HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 2000 LBS/ACRE.
4. ALL HAY BALES OR TEMPORARY PROTECTION SHALL REMAIN IN-PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
5. 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 RHODE ISLAND STANDARD SPECIFICATION M.20.01.
6. THE SEED MIX SHALL BE INOCULATED WITHIN 24-HOURS BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
7. THE DESIGN MIX UTILIZED IN ALL DISTURBED AREAS TO BE SEEDED SHALL BE COMPRISED OF THE FOLLOWING:
- | TYPE | % BY WEIGHT | SEEDING DATE |
|---------------------|-------------|---------------------|
| CREEPING RED FESCUE | 70 | APRIL 1 - JUNE 15 |
| ASTORIA BENTGRASS | 5 | AUGUST 15 - OCTOBER |
| BIRDFOOT TREEFOIL | 15 | |
| PERENNIAL RYEGRASS | 10 | |
- APPLICATION RATE 100 LBS/ACRE
LIMING AND FERTILIZING AS REQUIRED TO COMPLEMENT OR UPGRADE EXISTING FERTILIZERS.
8. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR, AND SHALL DO SO AT NO ADDITIONAL EXPENSE.
9. THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1ST THROUGH OCTOBER 15TH.
10. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN FIFTEEN (15) DAYS OF FINAL GRADING.
11. STOCKPILES OF TOPSOIL AND EARTH MATERIALS SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN THIRTY PERCENT (30%) AND STOCKPILE SHALL ALSO BE SEEDED AND/OR STABILIZED.
12. ON BOTH STEEP AND LONG SLOPES, CONSIDERATION SHOULD BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.
13. TREES TO BE RETAINED SHALL BE FENCED OR ROPED OFF TO PROTECT THEM FROM CONSTRUCTION EQUIPMENT.
14. ALL PROPOSED PLANTINGS MUST BE ACCOMPLISHED AS EARLY AS POSSIBLE UPON COMPLETION OF GRADING AND CONSTRUCTION, AND AT LEAST PRIOR TO ANY ON-SITE OCCUPANCY.
15. ALL PROPOSED PLANTINGS MUST BE MAINTAINED BY THE PROPERTY OWNER TO ENSURE SURVIVAL.
16. SHOULD ANY OR ALL OF THE PROPOSED PLANTS FAIL TO SURVIVE AT LEAST ONE (1) FULL GROWING SEASON FROM THE TIME THEY HAVE BEEN PLANTED, THE OWNER SHALL BE FULLY RESPONSIBLE FOR REPLACING AND MAINTAINING THE SAME PLANT SPECIES FOR ONE (1) ADDITIONAL GROWING SEASON.
17. ALL DISTURBED AREAS MUST BE SEEDED OR PLANTED WITHIN THE CONSTRUCTION SEASON.
18. TEMPORARY SEEDING MUST BE DONE WITHIN ONE (1) MONTH AFTER DISTURBANCE.
19. ALL DISTURBED AREAS MUST BE PERMANENTLY SEEDED OR PLANTED BEFORE OCTOBER 1ST, IF NOT THEY MUST BE TEMPORARILY SEEDED.

MAINTENANCE RESPONSIBILITY

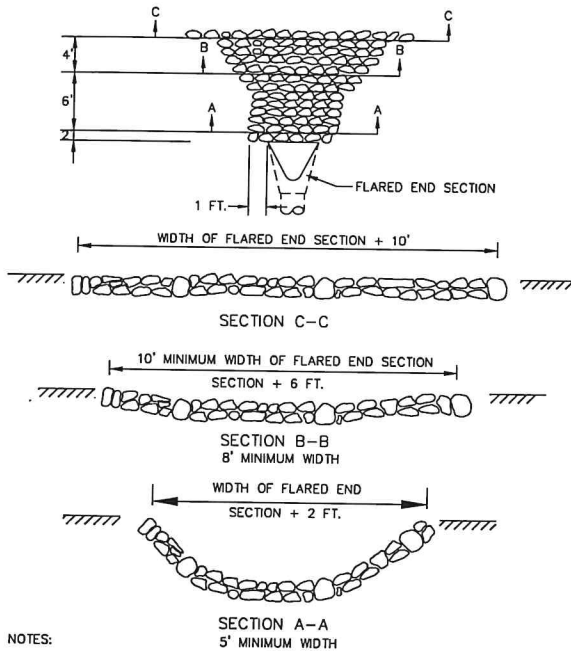
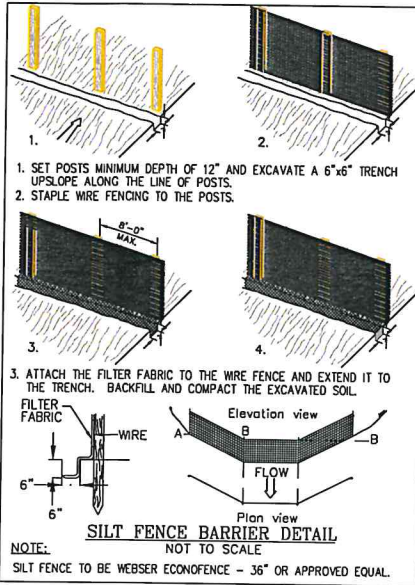
THE APPLICANT IS RESPONSIBLE FOR THE MAINTENANCE OF ALL DRAINAGE STRUCTURES.

SEDIMENTATION CONTROL PROGRAM:

1. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING DOWNSIDE DRAINAGE COURSES AND STORMWATER DRAINAGE SYSTEMS.
2. DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUN-OFF FLOW DURING STORMS AND PERIODS OF
3. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL. 4. CARE SHALL 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 STORMWATER FLOWAGE.
5. ADDITIONAL HAYBALES OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
6. SEDIMENTATION TRAPS SHALL BE PROVIDED AT ALL DRAINAGE STRUCTURES DURING CONSTRUCTION.
7. EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AT THE SITE PRIOR TO THE START OF CONSTRUCTION AND BE PROPERLY MAINTAINED UNTIL ALL DISTURBED AREAS ARE STABILIZED INCLUDING:
- A) THE INSTALLATION OF A CONTINUOUS LINE OF STAKED HAYBALES IN ALL LOCATIONS SHOWN ON THE APPROVED SITE PLANS AND WHERE OTHERWISE NECESSARY TO PREVENT SEDIMENTS FROM ENTERING DOWNSIDE WATERCOURSES AND STORMWATER DRAINAGE SYSTEMS.
- B) ALL DISTURBED AREAS ARE TO BE PERMANENTLY STABILIZED WITH APPROVED GROUND COVER PRIOR TO THE COMPLETION OF THE PROJECT. AREAS EXPOSED FOR EXTENDED TIME PERIODS ARE TO BE COMPLETELY COVERED WITH SPREAD HAY MULCH.
- C) CATCH BASINS WILL BE PROTECTED WITH HAYBALE FILTERS THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED. PUMPS ARE TO BE CLEANED IMMEDIATELY FOLLOWING INSTALLATION OF PERMANENT PAVEMENT.
- D) OUTFALLS ARE TO BE PROTECTED BY HAYBALE FILTERS UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED WITH APPROVED GROUND COVER.
- E) ALL CONTROL MEASURES WILL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
8. THE LIMITS OF ALL CLEARING, GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE SHALL REMAIN TOTALLY UNDISTURBED.
9. UPON COMPLETION OF CONSTRUCTION OF SITE IMPROVEMENTS AND THE STORMWATER DRAINAGE SYSTEM, ALL CATCH BASINS AND STORM DRAIN PIPING SHALL BE CLEANED OF SEDIMENT. DETENTION BASINS SHALL BE CLEANED OF SEDIMENT TO THE DESIGN GRADES INDICATED.
10. AT NO TIME DURING CONSTRUCTION SHALL THE SUBGRADE OF THE SITE BE SUCH THAT SURFACE RUNOFF WILL BE PERMITTED TO DIRECTLY ENTER ANY DRAINAGE STRUCTURE. A TEMPORARY DEPRESSED AREA AROUND THE STRUCTURE SHALL BE INCORPORATED AS A SEDIMENTATION TRAP. THE MOUTH OF THE TRAP SHALL BE LINED WITH HAYBALES AROUND THE COMPLETE PERIMETER. DURING ALL PRELIMINARY STAGES, THE TOP OF THE STRUCTURE SHALL ALWAYS BE HIGHER THAN THE SUBGRADE.
11. HAYBALE EROSION CHECKS SHALL BE MAINTAINED AROUND ALL CATCH BASINS UNTIL ALL UPGRADIENT DISTURBED AREAS ARE STABILIZED BY PAVEMENT OR VEGETATION.
12. ALL COMPONENTS OF THE DRAINAGE SYSTEM MUST BE CLEANED OF SEDIMENT BY THE APPLICANT OR HIS REPRESENTATIVE IMMEDIATELY AFTER CONSTRUCTION IS COMPLETED.
13. INSPECT TEMPORARY DIVERSIONS AND THEIR COMPONENTS ONCE A WEEK AND AFTER EVERY RAINFALL. DAMAGE CAUSED BY CONSTRUCTION TRAFFIC OR OTHER ACTIVITY SHOULD BE REPAIRED BEFORE THE END OF EACH WORKING DAY. A SEDIMENTATION TRAP. THE MOUTH OF THE TRAP SHALL BE LINED WITH HAYBALES AROUND THE COMPLETE PERIMETER. DURING ALL PRELIMINARY STAGES, THE TOP OF THE STRUCTURE SHALL ALWAYS BE HIGHER THAN THE SUBGRADE.
14. CHECK DAMS SHALL BE INSTALLED EVERY 300 FEET FOR SLOPES OF 1% OR LESS, EVERY 200 FEET FOR SLOPES OF 2%, EVERY 150 FEET FOR SLOPES OF 3% TO 5%, AND EVERY 100 FEET FOR SLOPES OF 5% OR GREATER.
15. SEDIMENTS SHOULD BE REMOVED FROM THE CHECK DAM WHEN IT REACHES ONE-HALF THE DAM HEIGHT.

CATCH BASIN AND WATER QUALITY INLET TANK SEDIMENTATION CONTROL AND MAINTENANCE:

1. AT NO TIME DURING CONSTRUCTION SHALL THE SUBGRADE OF THE SITE BE SUCH THAT SURFACE RUNOFF WILL BE PERMITTED TO DIRECTLY ENTER ANY DRAINAGE STRUCTURE. A TEMPORARY DEPRESSED AREA AROUND THE STRUCTURE SHALL BE INCORPORATED AS A SEDIMENTATION TRAP. THE MOUTH OF THE TRAP SHALL BE LINED WITH STRAW BALES AROUND THE COMPLETE PERIMETER. DURING ALL PRELIMINARY STAGES, THE TOP OF THE STRUCTURE SHALL ALWAYS BE HIGHER THAN THE SUBGRADE.
2. STRAW BALE EROSION CHECKS SHALL BE MAINTAINED AROUND ALL STRUCTURES UNTIL ALL UPGRADIENT DISTURBED AREAS ARE STABILIZED BY VEGETATION.
3. ALL COMPONENTS OF THE DRAINAGE SYSTEM MUST BE CLEANED OF SEDIMENT BY THE APPLICANT OR HIS REPRESENTATIVE IMMEDIATELY AFTER CONSTRUCTION IS COMPLETED.



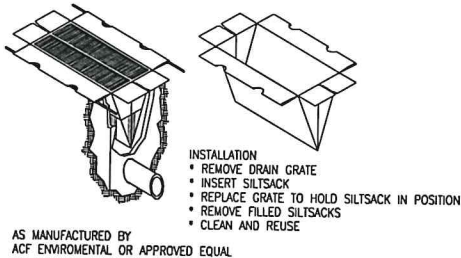
NOTES:

1. CLASS OF RIP-RAP AND BEDDING TO BE SPECIFIED IN CONTRACT DOCUMENTS.
2. DIMENSIONS MAY BE MODIFIED BY ENGINEER TO MEET FIELD CONDITIONS
3. UNLESS OTHERWISE SPECIFIED, DUMPED RIP-RAP SHALL BE USED.

ROCK FILL RIP-RAP @ FLARED END SECTIONS

RIP-RAP TABLE

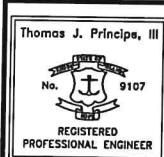
MO2.02.4	=	8"	-	95	/	100%,
		4"	-	0	/	25%
		2 1/2"	-	0	/	5%



SILT SACK DETAIL

NOT TO SCALE

CONSTRUCTION DETAILS-1



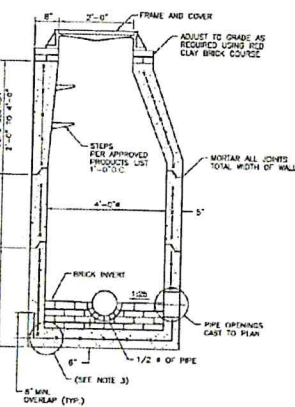
PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
PO BOX 298
TIVERTON, RI 02878
401.816.5385
WWW.PRINCIPEENGINEERING.COM

PRELIMINARY MINOR SUBDIVISION
AP 158 LOTS 20 & 25
AND
MASSASOIT AVENUE EXTENSION
IN
BRISTOL, RHODE ISLAND

SCALE: AS NOTED
SHEET NO: 6 OF 9
DRAWN BY: TJP
DESIGN BY: TJP
CHECKED BY: TJP
DATE: 8/17/17
PROJECT NO.: LDP 17-36

APPLICANT/OWNER:
NCD DEVELOPERS, INC.
C/O MICHAEL FONSECA
370 METACOM AVENUE
BRISTOL, RI 02809

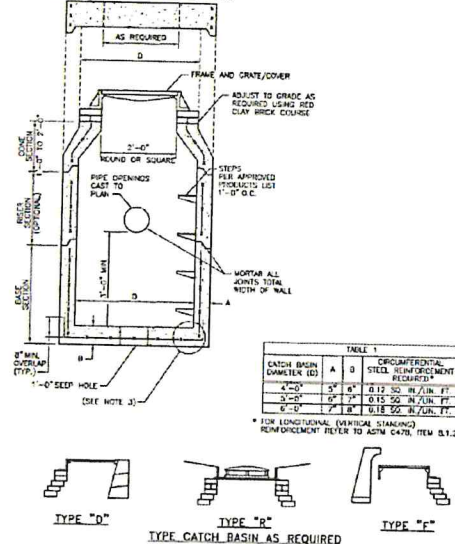
ALTERNATE TOP LOADING (SEE NOTES 7 AND 8)



- 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 FACE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
 4. ONE FOUR 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. 5.2.2 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 PRELIMINARY SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
 9. REFER TO STD. 5.2.2 FOR MAXIMUM PIPE SIZES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION			
PRECAST 4'-0" ROUND MANHOLE			
NO.	BY	DATE	REVISIONS
1	J. G. Gable	JUNE 15, 1998	4.2.0

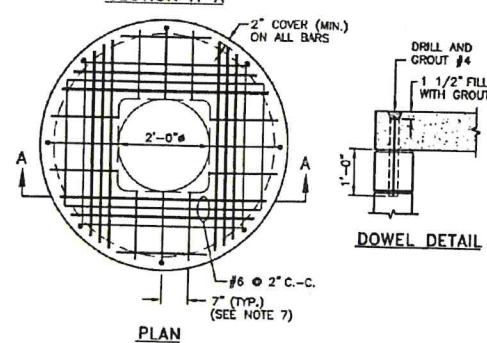
ALTERNATE TOP SLAB (SEE NOTES 10 AND 11)



- NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
 2. SET TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
 3. STEEL REINFORCEMENT FOR FACE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
 4. STEPS SHALL CONFORM TO STD. 5.2.2 AND SHALL BE INSTALLED AT THE CASTING PLANT.
 5. ONE FOUR 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. CATCH BASIN SHALL BE INSTALLED FOR THE "TONGUE" SECTION OF THE 4'-0" CATCH BASIN ONLY.
 8. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2" FROM THE STEPS.
 9. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
 10. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN PRELIMINARY SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
 11. REFER TO STD. 5.2.2 FOR MAXIMUM PIPE SIZES.

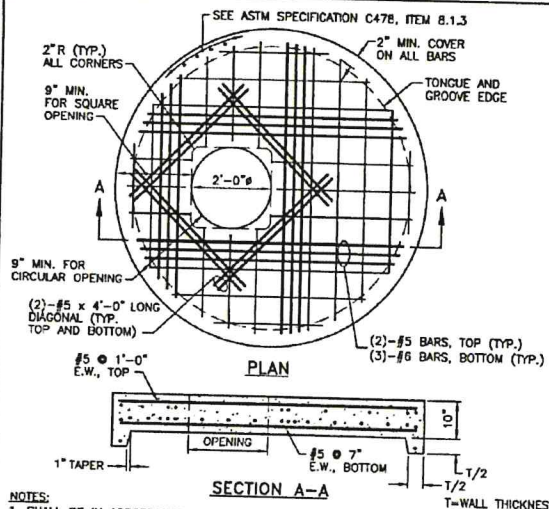
RHODE ISLAND DEPARTMENT OF TRANSPORTATION			
PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN			
NO.	BY	DATE	REVISIONS
1	J. G. Gable	JUNE 15, 1998	4.4.0

SECTION A-A



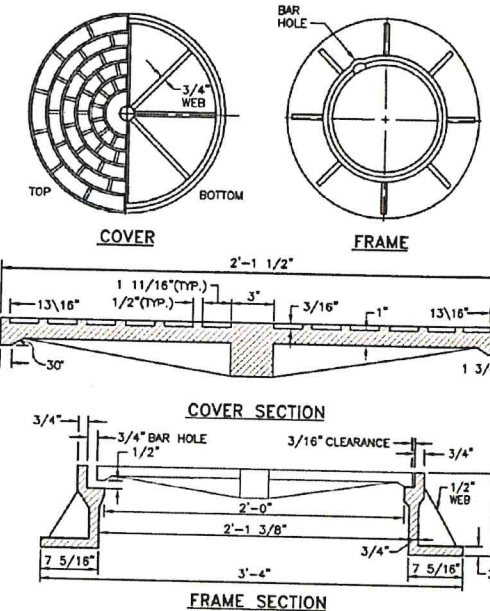
- NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
 2. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2" FROM THE STEPS.
 3. TOP SLAB HAS BEEN REINFORCED TO MEET OR EXCEED H-25 OR HS-25 LOADINGS WITH EARTH PRESSURES INCLUDED. THIS IMPLIES THAT THE TOP SLAB IS DESIGNED FOR AXLE LOADS OF NO MORE THAN 20 TONS.
 4. ALL REBARS ARE TO HAVE A MINIMUM 2" CLEARANCE FROM OPENING.
 5. PRECAST SECTION SHALL BE LIFTED USING APPROVED LIFTING LUGS LOCATED SUCH THAT NO DAMAGE TO THE SLAB OCCURS.
 6. DOWEL HOLES IN COVER TO BE FORMED OR CORED BY THE FABRICATOR.
 7. ALL REBARS IN THE BOTTOM MAT ARE #5 @ 7" BOTH WAYS, WITH 2" MINIMUM COVER, EXCEPT FOR REBARS ADJACENT TO THE OPENING. THESE REBARS SHALL BE #6 (SHOWN WITH HEAVIER LINE FOR CLARITY). REBARS IN THE TOP MAT ARE #6 BARS PLACED ADJACENT TO THE OPENING, BOTH WAYS, WITH 2" MINIMUM COVER.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION			
CONCRETE COVER FOR SHALLOW 4'-0" ROUND MANHOLES			
NO.	BY	DATE	REVISIONS
1	J. G. Gable	JUNE 15, 1998	4.6.0



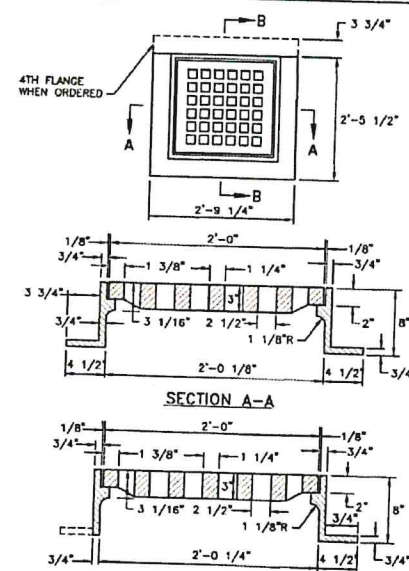
- NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
 2. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
 3. THE CENTER LINE OF THE OPENING MUST BE 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 @ 7" BOTH WAYS, WITH 2" MINIMUM COVER, EXCEPT FOR REBARS ADJACENT TO THE OPENING. THESE REBARS SHALL BE #6 (SHOWN WITH 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			
ALTERNATE TOP COVER FOR ROUND PRECAST MANHOLES AND CATCH BASINS			
NO.	BY	DATE	REVISIONS
1	J. G. Gable	JUNE 15, 1998	4.7.2

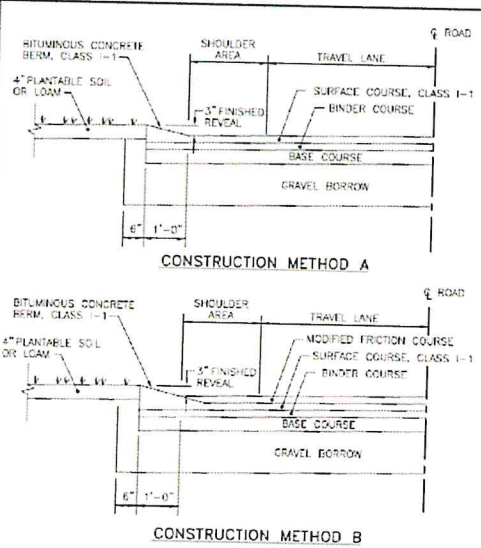


- NOTES:
1. FRAME AND GRATE SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.
 2. FRAME AND COVER SEATS MUST HAVE MACHINE FINISH.

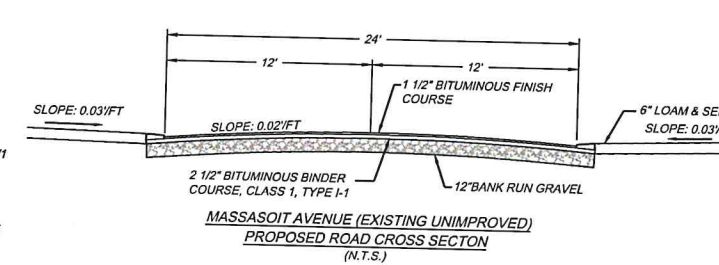
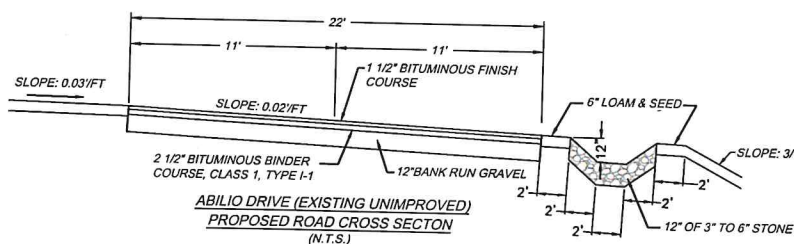
RHODE ISLAND DEPARTMENT OF TRANSPORTATION			
HEAVY-DUTY ROUND FRAME AND COVER			
NO.	BY	DATE	REVISIONS
1	J. G. Gable	JUNE 15, 1998	6.2.1



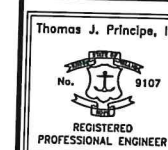
RHODE ISLAND DEPARTMENT OF TRANSPORTATION			
SQUARE FRAME AND GRATE			
NO.	BY	DATE	REVISIONS
1	J. G. Gable	JUNE 15, 1998	6.3.0



RHODE ISLAND DEPARTMENT OF TRANSPORTATION			
BITUMINOUS BERM			
NO.	BY	DATE	REVISIONS
1	J. G. Gable	JUNE 15, 1998	7.5.1



CONSTRUCTION DETAILS-4



REVISIONS			
NO.	DATE	DRWN	CHKD
1	1/3/18	TJP	TJP
2	1/19/18	TJP	TJP



PRELIMINARY MINOR SUBDIVISION
AP 158 LOTS 20 & 25
AND
MASSASOIT AVENUE EXTENSION
IN
BRISTOL, RHODE ISLAND

SCALE: AS NOTED	SHEET NO: 9 OF 9
DRAWN BY: TJP	DESIGN BY: TJP
DATE: 8/17/17	CHECKED BY: TJP
PROJECT NO.: LDP 17-36	

APPLICANT/OWNER:
 NCD DEVELOPERS, INC.
 C/O MICHAEL FONSECA
 370 METACOM AVENUE
 BRISTOL, RI 02809



March 3, 2023

Mr. Michael Fonseca, President
NCD Developers Inc.
370 Metacom Avenue
Bristol, RI 02809

RE: Water Main Extension, Massasoit Avenue, Bristol – PLAN APPROVAL

Dear Mr. Fonseca:

Bristol County Water Authority has reviewed your Application for a Water Main Extension and the related plans prepared and stamped by Principe Company, Inc., titled Preliminary Minor Subdivision AP 158, Lots 20 & 25 and Massasoit Avenue Extension, dated 8/17/17 with latest revision date 7/17/18. The Plans show a proposed four lot residential subdivision in Bristol, RI, which includes connecting the existing 8" water mains in Massasoit Avenue and Abilio Drive with approximately 550 feet of new 8" diameter cement lined ductile iron water main. BCWA approves the proposed water main extension with the following conditions:

1. The average static water pressure in this area of the BCWA distribution system is less than 35 psi; the developer of the subdivision must design, purchase and install individual pressure booster systems, including backflow prevention devices, in each home - at no cost to BCWA. This requirement must be recorded in the land evidence records for each lot. The new water mains will not be put into service until the recorded deeds are submitted to BCWA.
2. The contractor must contact BCWA prior to starting construction to complete all required paperwork and submit required proof of insurance, bond and fees. A current Contractor Certification Form must be signed and submitted with these documents. A Warranty Bond valued at \$25,000 shall be provided to BCWA (Bond template to be provided by BCWA). Shop drawings for all proposed materials and a construction schedule must be submitted for review and approval. BCWA personnel must be onsite for inspection during the installation of all water main and appurtenances. Reimbursement for inspection done by BCWA personnel shall be determined and paid prior to start of construction.
3. BCWA standard construction details, specifications and installation requirements shall be used for all water main work. Ductile iron pipe shall be zinc coated and V-Bio wrapped. Pipe bedding shall be gravel borrow in conformance with RIDOT "Standard Specifications for Road and Bridge Construction" Class B Bedding,

Article M.01.04. Backfill material shall be inspected and approved by BCWA prior to backfilling the trench.

4. Pressure/leakage tests and disinfection shall be performed in accordance with BCWA requirements. Contact BCWA to confirm procedures prior to completion of construction. BCWA will obtain water quality samples and have bacteriological analyses performed to confirm that the new mains have been adequately disinfected. The new water main shall not be connected to the BCWA distribution system or put into service until BCWA approval is received.
5. Corporations and service pipe shall be installed, up to and including the curb stop at the property line, by the Owner in accordance with BCWA Specifications. Please complete an application for each lot. Service piping to each home shall a continuous length of 1" diameter type K copper tubing. Water meters for lots 1, 2 and 4 shall be installed inside the home per BCWA detail and shall be easily accessible by BCWA personnel for inspections, repairs, etc. The water meter for Lot 3 shall be installed in a meter pit located near the property line. The water service pipe from the meter pit to the home may be PE plastic tubing, if installed in a continuous length (no joints), from the meter pit to the home.

If you require additional information, please contact me at 245-2022 ext 38.

Very truly yours,



Susan H. Rabideau, PE
Engineering Project Manager

Attachments: Contractor Certification, BCWA Material and Installation Specifications, Meter details, New Service Connection Application Form

Cc: Diane Williamson, Town of Bristol

Rev May 2018



Bristol County Water Authority
Approved Material Specification
For Water Main, Services and Appurtenances
2019

Pipe:	<p>Size: 4'' thru 30''</p> <p>Type: Ductile Iron, AWWA C151, American Manufacture</p> <p>Thickness Class: 52, AWWA C150</p> <p>Joint Type: Push on Joints, AWWA C111</p> <p>Gasket: Rubber, AWWA C111</p> <p>Interior Surface: Cement Mortar lining, double thickness, with bituminous material seal coat, AWWA C104</p> <p>Exterior Surface: Active inner layer of 200 g/m² of pure metallic zinc under asphaltic coating, AWWA C151, ISO 8179-1, Ductile Iron Pipes-External Zinc-based Coating-Part 1: Metallic Zinc with Finishing Layer (ISO 2004)</p> <p>Model Accepted: US Pipe, TYTON® Joint Pipe or approved equal</p>
Polyethylene Encasement:	<p>Size: 4'' thru 30''</p> <p>Type: V-BIO polyethylene encasement</p> <p>Spec: Consists of three layers of co-extruded linear low-density polyethylene film fused into one 8 mil thick. The inside surface must be infused with a proprietary blend of an anti-microbial compound to mitigate microbiologically influenced corrosion and a volatile corrosion inhibitor to control galvanic corrosion. Installation must be in accordance with AWWA C600 and M41</p> <p>Model Accepted: V-BIO Polyethylene Encasement ANSI/AWWA C105/A21.5 or approved equal, Trumbull PolyWrap Tape Model #364-9975 or approved equal</p>
Service Pipe:	<p>Size: 1''</p> <p>Material Accepted: Type "K" Copper ASTM-B88, AWWA C800</p> <p>Size: 2''</p> <p>Material Accepted: Type "K" Copper ASTM-B88, AWWA C800 or PE 4710 CTS, AWWA C901</p> <p>Model Accepted: Cambridge-Lee Industries LLC, smooth wall copper, Endot Endopure PE 4710 or approved equal</p>

Restrained Joint Pipe:	<p>Size: 4'' thru 30''</p> <p>Type: Ductile Iron, AWWA C151, American Manufacture</p> <p>Thickness Class: 54, AWWA C150</p> <p>Joint Type: Restrained Push-On Joints, AWWA C111 (TR-Flex, as manufactured by U.S. Pipe & Foundry Co.)</p> <p>Gasket: Rubber, AWWA C111</p> <p>Interior Surface: Cement-mortar lining, double thickness, with bituminous material seal coat, AWWA C104</p> <p>Exterior Surface: Asphaltic coating approx. 1-mil thick, AWWA C151</p> <p>Model Accepted: US Pipe, TR FLEX® Restrained Joint Pipe or approved equal</p>
Restrained Couplings:	<p>Size: 4'' thru 30'' Ductile iron, 4'' thru 12'' HDPE in conjunction with wall stiffening insert</p> <p>Model Accepted: MEGA-COUPLING Series 3800, as manufactured by EBAA Iron, Inc. of Eastland, TX, AWWA C219 or approved equal.</p>
Restraint Devices:	<p>Size: 4'' thru 30''</p> <p>Material: ASTM A536 Ductile Iron, with M.J (DEC accessory kit)</p> <p>Model Accepted: EBAA MEGALUG Series 1100DEC thrust restraint wedge kit, or approved equal</p>
Pipe Fittings:	<p>Size: 4'' thru 24''</p> <p>Type: Ductile Iron, AWWA C153 (compact)</p> <p>Pressure Rating: 350 psi</p> <p>Joint Type: Mechanical Joints, AWWA C111 Gasket: Rubber, AWWA C111</p> <p>Interior Surface: Cement-mortar lining, double thickness, with bituminous material seal coat, AWWA C104</p> <p>Exterior Surface: Asphaltic coating approx. 1-mil thick, AWWA C151</p> <p>Model Accepted: US Pipe model C153 (Compact) Mechanical Joint or approved equal</p>

Pipe Couplings:	<p>Size: 2'' thru 16''</p> <p>Type: Cast, bolted straight and transition, epoxy coated and 304 Stainless Steel hardware with fluoropolymer coated nuts to prevent galling</p> <p>Model Accepted: Smith-Blair No. 441, AWWA C219 or approved equal</p>
Wide Range Coupling	<p>Size: 2'' thru 12''</p> <p>Type: Body will be made of steel, AISI 304 stainless steel nuts and bolts with rolled thread and anti-galling coating, 100% fusion bonded epoxy for enhanced corrosion protection (nominal thickness 14 mil), EPDM gaskets, capable of 4 degree dynamic deflection per end</p> <p>Pressure rating: 260 psi working pressure</p> <p>Model Accepted: Krausz Hymax AWWA C-219, NSF 61, NSF 372, Smith Blair 421 or approved equal</p>
Air Release:	<p>Size: 1'' thru 2''</p> <p>Body Style: Curb Valve F.I.P. thread - both ends</p> <p>Quarter turn check and drain, with a copper riser tube (to include TWO: 1" IPT to 1" type "K" copper fittings).</p> <p>Model Accepted: Mueller H-10284 or approved equal</p>
Blow-off:	<p>Size: 2"</p> <p>Type: 2" stop & drain valve, top of riser pipe shall be female thread, 2" riser pipe to the length required, must be capable to be installed within a 5 1/4" telescope type valve box with cover marked "WATER".</p> <p>Installation Material: Must be used in conjunction with 2'' red brass schedule 80 nipple, then attached to a 2'' IPT tapped cap with a mechanical joint end, 2'' IPT plug with a mechanical joint end or 2'' approved corporation stop.</p> <p>Model Accepted: "6HS Slimline model" Gil Industries Aquarius Blow-Off System of Pensacola Florida, or approved equal.</p>
Mainline Repair Clamps:	<p>Size: 2'' thru 12''</p> <p>Body Style: All Stainless Steel full circle repair clamp, 7.5'' or 10'' length</p> <p>Model Accepted: Ford Style F1 (Single Section) or approved equal.</p>

Service Saddle:	Size: 2'' thru 30'' Body Style: Stainless steel band saddle Model Accepted: Ford FS202 or approved equal
Tapping Sleeve:	Size: 4'' thru 30'' Style: Full Circle Material: 18-8 type 304 Stainless steel Hardware: Shall be 18-8 type 304 Stainless steel, Nut shall be heavy hex and coated to prevent galling Model Accepted: Ford FTSS or approved equal
Tapping Valve:	Size: 2'' thru 12'', OPEN RIGHT, Flanged x Mechanical Joint Hardware: Type 304 Stainless steel Interior and Exterior Coating: Epoxy coated with a minimum thickness of 8 mils Model Accepted: Mueller T-2360-16, AWWA C509, or approved equal
Gate Valves:	Size: 4'' thru 12'', OPEN RIGHT, Mechanical Joint Hardware: Type 304 Stainless steel Interior and Exterior Coating: Epoxy coated with a minimum thickness of 8 mils Model Accepted: Mueller A-2362-23, AWWA C509 or approved equal.
Insertion Valves:	Size: 4'' thru 16'', OPEN RIGHT Model Accepted: EZ Valve as manufactured by Advanced Valve Technologies, LLC, TEAM InsertValve, AWWA C509 for material specifications, or approved equal.
Butterfly Valves:	Size: 4'' thru 24'', OPEN RIGHT, Mechanical Joint Model Accepted: M&H Style 4500, AWWA Class 150B Butterfly valves or approved equal
Valve Boxes:	Size: 5-1/4" shaft, 2-Piece Type: Sliding Type, with cover marked "WATER". Model Accepted: Bingham and Taylor model 4908, size number 5564-S or approved equal.

Curb Boxes:	<p>Size: 2-½" shaft, 2 piece</p> <p>Top Section: 29" long</p> <p>Bottom Section: 37.5" long</p> <p>Type: Buffalo style, sliding type with 33inch long stationary rod, ring and pin with cover marked "WATER"</p> <p>Model Accepted: Bingham and Taylor model 4901, size number 94-F or approved equal.</p>
Corporation Stops:	<p>Size: 1" or 2"</p> <p>Body Style: AWWA/CC taper thread inlet by pack joint outlet for copper.</p> <p>Model Accepted: Ford FB1000 Ball Corp, AWWA C800, or approved equal. Product must meet or exceed NSF 61 and NSF 372.</p>
Curb Stop:	<p>Size: 1" or 2"</p> <p>Body Style: pack joint for copper by pack joint for copper</p> <p>Model Accepted: (1") Ford B-44-444-NL, (2") Ford B44-777-NL or approved equal. Product must meet or exceed NSF 61 and NSF 372.</p>
Meter Coupling:	<p>Size: 5/8" thru 2"</p> <p>Body Style: (NO LEAD) Straight meter coupling by male iron pipe thread</p> <p>Model Accepted: Ford model C38-23-2-5-NL thru C38-77-NL or approved equal. Product must meet or exceed NSF 61 and NSF 372.</p>
Meter Flange:	<p>Size: 1-½" thru 2"</p> <p>Body style: (NO LEAD) meter flange, 2 steel bolts and nuts (5/8"x 2-1/2", zinc plated) and drop in rubber gasket</p> <p>Model Accepted: Ford model CF31-66-NL thru CF38-77-2-125-NL or approved equal. Product must meet or exceed NSF 61 and NSF 372.</p>
Meter Pit:	<p>Size: 5/8" meter to 2" meter</p> <p>Body Style: Standard Plastic Pit Setter for moderate to cold climates, double lid with top lid labeled "WATER"</p> <p>Model Accepted: 5/8"x ¾" Ford model PDVHH-244-18-48-NL, 1" Ford model PDVHH-488-20-48-NL, 1-½-2" Ford model PDVHH-788-36HB-48-NL or approved equal.</p>

Above ground

Meter vault:

The vault shall be an insulated heated enclosure of aluminum construction and shall comply with ASSE 1060, Class I. The vault interior dimensions shall be appropriately sized by the manufacturer based on interior piping items. The enclosure must be capable of maintaining a minimum temperature of 40F (4C) and shall be supported by a concrete pad in accordance with the manufacturer's recommendations. It shall be manufactured by Hot Box or an approved equal. Vaults located in open areas such as public parks, playgrounds or ballfields shall be enclosed by a 6-foot high chain link fence and locking gate in accordance with RIDOT Standard 31.2.

Hydrants (Barrington):

Hose Nozzle Size: 2 1/2" hose nozzle (G.A.N.S thread)

Pumper Nozzle Size: 4-1/2" pumper nozzle (G.A.N.S thread)

Base: 6" Mechanical Joint Base

Valve Opening: 5 1/4" main valve opening

Operating Nut and Caps: 1-3/8" point to flat pentagon (OPEN LEFT)

Color: Shall be two coats of factory applied paint. Barrel shall be Safety Yellow gloss exterior alkyd enamel; the bonnet and caps shall be Silver Aluminum gloss exterior alkyd enamel, **NO SUBSTITUTION.**

Model Accepted: Mueller Super Centurion 250 with 5-1/4" valve or American Darling B-84-B with 5-1/4 valve, **NO SUBSTITUTION.**

Hydrants (Bristol/Warren):

Hose Nozzle Size: 2-1/2" hose nozzle (G.A.N.S thread)

Pumper Nozzle Size: 4" pumper nozzle (G.A 7-465 thread)

Base: 6" Mechanical Joint Base

Valve Opening: 5-1/4" main valve opening

Operating Nut and Caps: 1-3/8" point to flat pentagon (OPEN LEFT)

Color: Shall be two coats of factory applied paint. Barrel shall be Safety Yellow gloss exterior alkyd enamel; the bonnet and caps shall be Silver Aluminum gloss exterior alkyd enamel, **NO SUBSTITUTION.**

Model Accepted: Mueller Super Centurion 250 with 5-1/4" valve or American Darling B-84-B with 5-1/4" valve, **NO SUBSTITUTION.**

Hydrant Repair Kit

American Darling B-84-B: **Model Accepted:** American Darling product number 42714 or approved equal

Hydrant Extension for

American Darling B-84-B: **Model Accepted:** B-84-B-5 top extension product number 42720-42720 3 or approved equal.

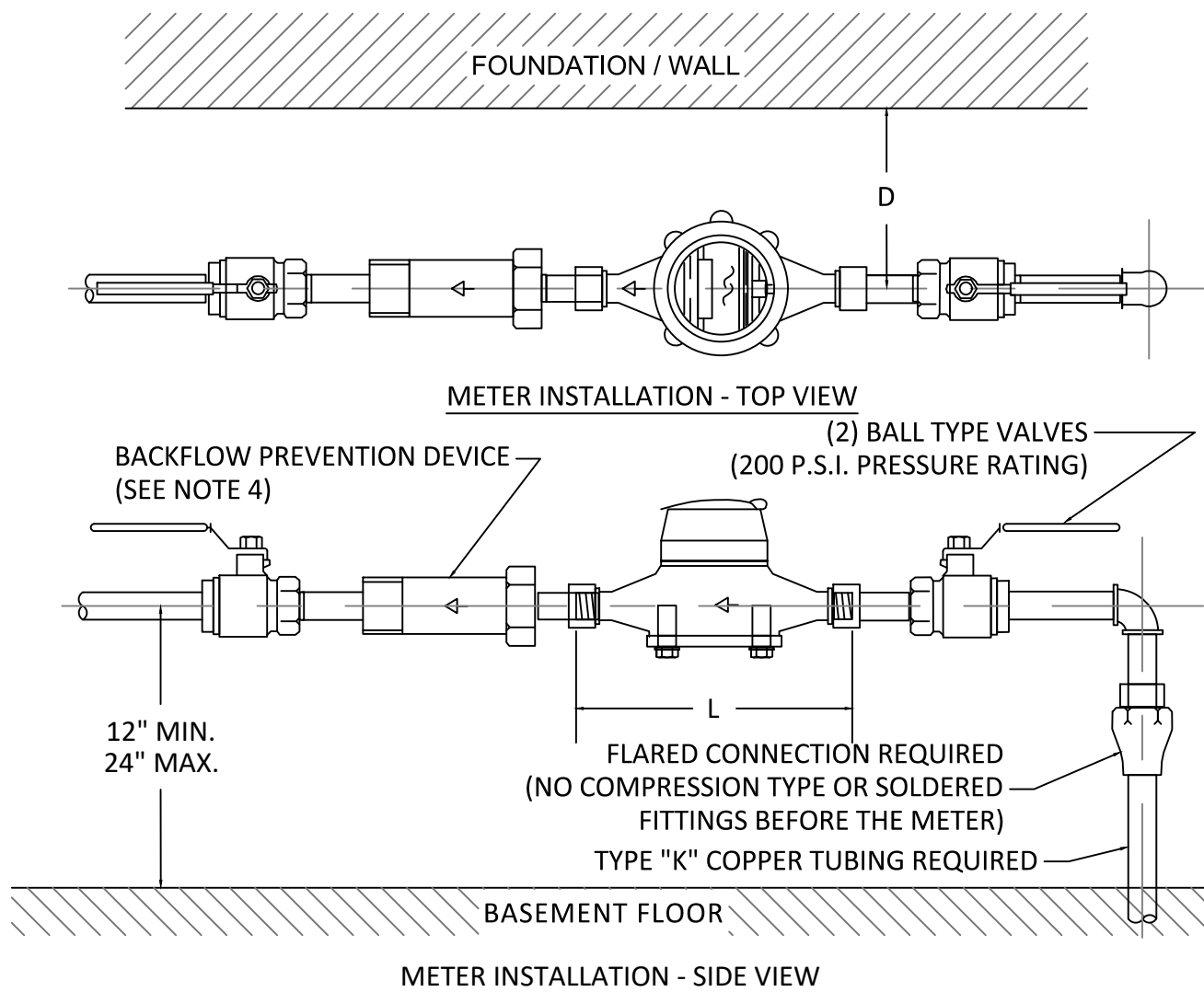
Hydrant Repair Kit Mueller

Super Centurion 200/250: **Model Accepted:** Mueller product number A-300 (4 ½" valve), A-301 (5 ¼" valve) or approved equal

Hydrant Extension Kit for

Mueller Super Centurion 250: **Model Accepted:** Mueller product number A-319 (4 ½" valve), A-320 (5 ¼" valve) or approved equal

2" HDPE main <https://www.endot.com/products/endopure>



NOTES:

1. THE METER SHALL BE INSTALLED AT THE POINT WHERE THE SERVICE LINE ENTERS THE FOUNDATION. OPEN ACCESS SHALL BE PROVIDED AROUND METER SETTING TO ALLOW FOR MAINTENANCE. METER SETTINGS IN CRAWL SPACES OR UNDER STAIRWELLS IS UNACCEPTABLE.
2. THE METER SHALL BE INSTALLED HORIZONTALLY.
3. METERS INSTALLED INSIDE BUILDINGS SHALL NOT BE INSTALLED IN PITS.
4. INDIVIDUAL RESIDENCES (RESTRICTED TO 3-UNIT RESIDENCES OR LESS) REQUIRE A RESIDENTIAL DUAL CHECK VALVE; ALL OTHER WATER SERVICES REQUIRE A BCWA APPROVED TESTABLE BACKFLOW PREVENTION DEVICE IN ACCORDANCE WITH BCWA RULES & REGULATIONS. ALL MODELS OF BACKFLOW PREVENTION DEVICES SHALL MEET NSF 61 LEAD FREE REQUIREMENTS.
5. UL APPROVED ELECTRICAL JUMPER REQUIRED IF GROUNDING.

METER SIZE	L	D
5/8"	7 1/2"	12"
3/4"	9"	12"
1"	10 3/4"	12"
1 1/2" (FLANGED END)	13"	18"
2" (FLANGED END)	17"	18"

BRISTOL COUNTY WATER AUTHORITY

450 CHILD STREET, WARREN, RHODE ISLAND

METER INSTALLATION DETAIL

NOT TO SCALE

SECTION
WATER MAIN
INSTALLATION

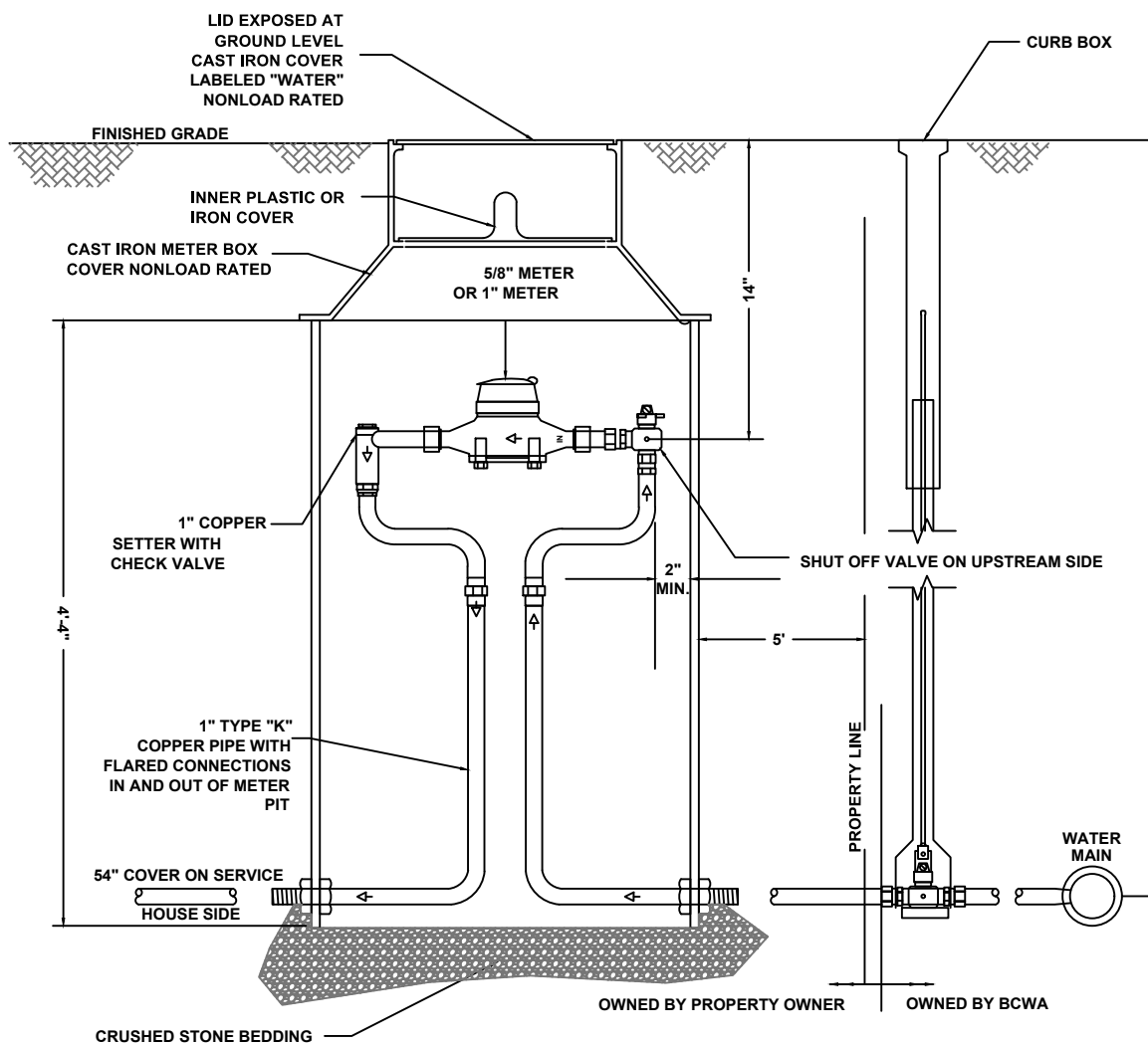
DECEMBER 2018

DETAIL No.

WM-1

REVISIONS:

11/2018 - CONVERTED TO AUTOCAD

**NOTES:**

- 1.) METER PIT SHALL BE FORD MODEL W-32 OR EQUAL. COVER TO BE FORD WABASH W32, DOUBLE LID AND MUST BE APPROVED BY BCWA.
- 2.) METER TO BE SUPPLIED BY BCWA.
- 3.) ALL MATERIALS, BEDDING AND BACKFILL PER BCWA SPECIFICATIONS.
- 4.) ALL WORK AND MATERIALS SHALL BE INSPECTED AND APPROVED BY THE BCWA PRIOR TO BEING BACKFILLED AND/OR ACTIVATED.
- 5.) WHENEVER THERE IS A DISCREPANCY BETWEEN THIS DETAIL AND THE WRITTEN SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

BRISTOL COUNTY WATER AUTHORITY

450 CHILD STREET, WARREN, RHODE ISLAND

1-INCH SINGLE SERVICE PIT

NOT TO SCALE

SECTION
WATER MAIN
INSTALLATION


DECEMBER 2018

DETAIL No.

WM-2

REVISIONS:

11/2018 - CONVERTED TO AUTOCAD

Application for New Water Service or Meter Installation																								
Applicant Information	<p>Date: _____</p> <p>Property Owner (please print): _____</p> <p>Owner's Signature: _____</p> <p>Corporate Title (if not an individual): _____</p> <p>Address: _____</p> <p>Phone: _____ Email: _____</p> <p>Contractor: _____</p> <p>Phone: _____ Email: _____</p>																							
Location	<p>Preliminary request is hereby made for a ____ connection ____ reconnection to BCWA public water system to serve this property (site plan attached):</p> <p>Address/Plat and Lot: _____ Town _____</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> Domestic Service (Residential or Commercial) </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> Fire Service* </td> <td style="width: 33%;"></td> </tr> <tr> <td># Residential Units: _____</td> <td>Commercial</td> <td>Dry System: _____</td> </tr> <tr> <td># Bathrooms: _____</td> <td>Bldg Footprint: _____</td> <td>Wet System: _____</td> </tr> <tr> <td>Pool/HotTub? _____</td> <td>Occupancy: _____</td> <td>*Demand calculations req'd</td> </tr> <tr> <td>Irrigation? _____</td> <td>Est. Water Use: _____</td> <td>* Attach Fire Flow Test Results</td> </tr> <tr> <td>Meter size requested _____</td> <td>Meter size requested _____</td> <td></td> </tr> </table>		<input type="checkbox"/> Domestic Service (Residential or Commercial)	<input type="checkbox"/> Fire Service*		# Residential Units: _____	Commercial	Dry System: _____	# Bathrooms: _____	Bldg Footprint: _____	Wet System: _____	Pool/HotTub? _____	Occupancy: _____	*Demand calculations req'd	Irrigation? _____	Est. Water Use: _____	* Attach Fire Flow Test Results	Meter size requested _____	Meter size requested _____					
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Irrigation? _____	Est. Water Use: _____	* Attach Fire Flow Test Results																						
Meter size requested _____	Meter size requested _____																							
For BCWA Office Use Only	<p>Action by the Bristol County Water Authority</p> <table style="width: 100%; border: none;"> <tr> <td>Water Main in Front of Lot? YES NO</td> <td>Exisitng Service Available? YES NO</td> </tr> <tr> <td>Additional Paving Required: YES NO</td> <td>Add'l Rock Excavation Required: YES NO</td> </tr> <tr> <td>High Service? YES NO</td> <td>Approximate Static Pressure: _____ psi</td> </tr> <tr> <td>Recommended Meter Size: _____</td> <td>Meter Pit? (service > 75 feet) YES NO</td> </tr> <tr> <td>Backflow Device Required: YES NO</td> <td>Type _____</td> </tr> </table> <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Application Reviewed</td> <td>BCWA Operations Dept: _____</td> </tr> <tr> <td><input type="checkbox"/> Application Approved</td> <td>BCWA Engineering Dept: _____ Date _____</td> </tr> <tr> <td><input type="checkbox"/> Added to GIS Map</td> <td>BCWA Engineering Dept: _____ Date _____</td> </tr> </table> <p>Conditions: 1. Service pipe on property to be a continuous run of 1" diameter type K copper tubing.</p> <p>2. Contact BCWA for inspection prior to backfill. 401-245-2022 ext 38</p> <p>3. _____</p> <p>Meter and Connection Fee: CASH OR CHECK MADE OUT TO BCWA ONLY</p> <p>BCWA Service Number: _____ Property Street Address _____</p> <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> TAP (1" tap est. \$ 4000)</td> <td><input type="checkbox"/> METER(s) (5/8 " = \$185)</td> <td>Total Due _____</td> </tr> <tr> <td>\$ _____</td> <td>\$ _____</td> <td></td> </tr> </table> <p>Payment Received</p> <p>Date: _____ Amount: _____</p> <p style="text-align: right; font-weight: bold; font-size: 1.2em;">Deposited to Acct 90510</p>		Water Main in Front of Lot? YES NO	Exisitng Service Available? YES NO	Additional Paving Required: YES NO	Add'l Rock Excavation Required: YES NO	High Service? YES NO	Approximate Static Pressure: _____ psi	Recommended Meter Size: _____	Meter Pit? (service > 75 feet) YES NO	Backflow Device Required: YES NO	Type _____	<input type="checkbox"/> Application Reviewed	BCWA Operations Dept: _____	<input type="checkbox"/> Application Approved	BCWA Engineering Dept: _____ Date _____	<input type="checkbox"/> Added to GIS Map	BCWA Engineering Dept: _____ Date _____	<input type="checkbox"/> TAP (1" tap est. \$ 4000)	<input type="checkbox"/> METER(s) (5/8 " = \$185)	Total Due _____	\$ _____	\$ _____	
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\$ _____	\$ _____																							

PRELIMINARY MINOR SUBDIVISION

AP 158 LOTS 20 & 25

AND

MASSASOIT AVENUE EXTENSION

IN

BRISTOL, RHODE ISLAND

APPLICANT/OWNER:

NCD DEVELOPERS, INC.
C/O MICHAEL FONSECA
370 METACOM AVENUE
BRISTOL, RI 02809



PREPARED BY:

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION

PO BOX 298
TIVERTON, RHODE ISLAND 02878
401.816.5385
INFO@PRINCIPEENGINEERING.COM
WWW.PRINCIPEENGINEERING.COM

AUGUST 17, 2017

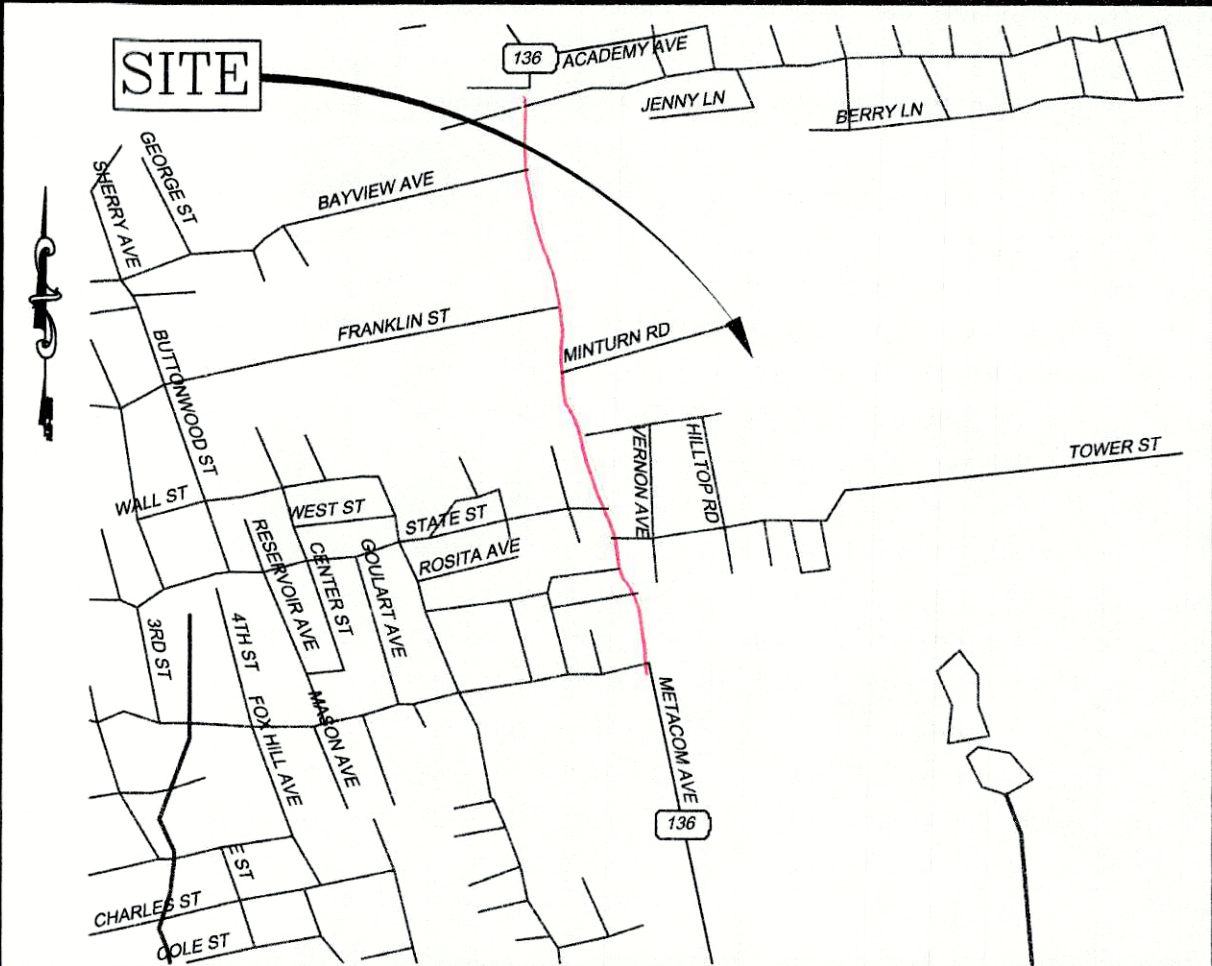
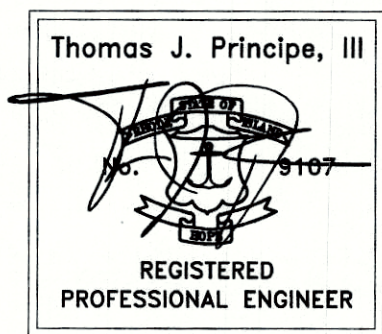
REVISED: 12/12/17
1/3/18
1/19/18
4/9/18
7/17/18

APPROVED

As Noted: *Pressure Booster system to be installed in each home by the developer.*

Signature: *Steven H. Rabideau* Date: *8/19/18*

*Contact BCWA Engineering Dept prior to construction



LOCUS MAP
NOT TO SCALE

LIST OF DRAWINGS

1. COVER SHEET
2. EXISTING SURVEY
3. SITE DEVELOPMENT LAYOUT
4. DRAINAGE AND GRADING
5. ROADWAY PLAN AND PROFILE
6. CONSTRUCTION DETAILS
7. CONSTRUCTION DETAILS
8. CONSTRUCTION DETAILS
9. CONSTRUCTION DETAILS

PLANNING BOARD NOTE:

IN LIEU OF HAVING A DEAD END STREET THE PLANNING BOARD APPROVED THE CONNECTION OF ABILIO DRIVE ON JAN. 11, 2018 FOR SAFETY REASONS. DO TO SITE CONSTRAINTS THE ONE INCH WATER QUALITY RUNOFF HAS BEEN MITIGATED AS REQUESTED BY THE PLANNING BOARD WITH THE USE OF A STONE DRAINAGE INFILTRATION SWALE AND CORRESPONDING CALCULATIONS AS SHOWN ON SHEET 4 OF 9.

SOILS ON THE SITE CONSIST ENTIRELY OF SOIL TYPE CeC - CANTON AND CHARLTON-FINE SANDY LOAMS, VERY ROCKY 3-8% SLOPES

THE SITE IS LOCATED IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN) AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 44001C0014H MAP REVISED ON JULY 7, 2014

REFERENCE:

EXISTING CONDITIONS PLAN MASSASOIT AVENUE EXTENTION ASSESSOR'S PLAT 158, LOTS 20 AND 25 SITUATED AT MASSASOIT AVENUE IN BRISTOL, RHODE ISLAND PREPARED BY STEPHEN M. MURGO SR. DATED DEC. 6th. 2017

SURVEY & TOPOGRAPHIC PLAN AP 158 LOT 20-28, 53 & 54 MASSASOIT AVENUE BRISTOL, RHODE ISLAND FOR ADRIANO ANDRADE 225 WOOD STREET BRISTOL, RHODE ISLAND 02809 PREPARED BY WATERMAN ENGINEERING DATED APRIL 26, 2005

BRISTOL COUNTY WATER AUTHORITY REQUIREMENTS:

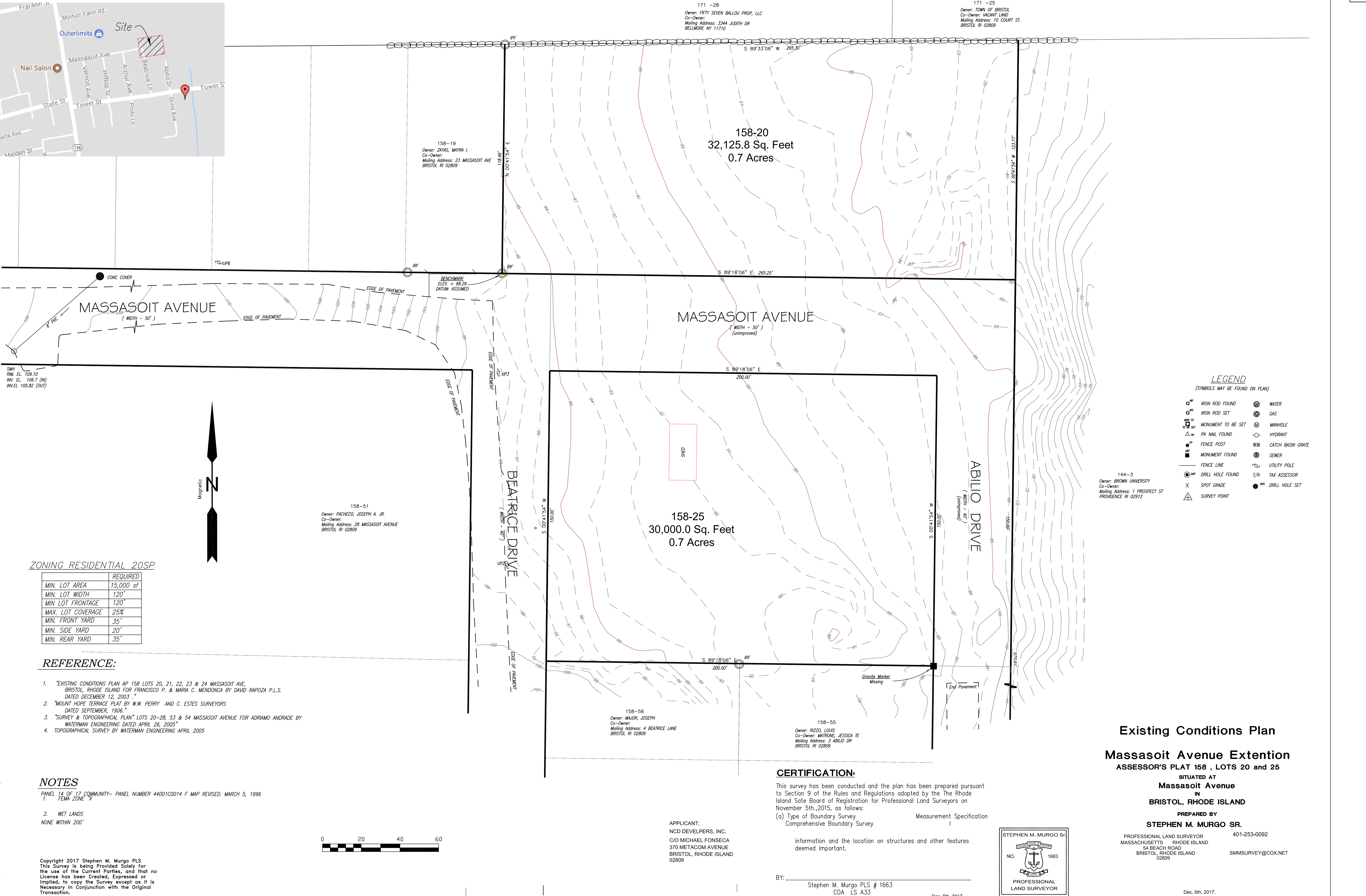
*EACH LOT IS REQUIRED TO HAVE DESIGNED AND INSTALLED AN INDIVIDUAL PRESSURE BOOSTER SYSTEM, INCLUDING BACKFLOW PREVENTION DEVICES IN AT NO COST TO BCWA. THIS REQUIREMENT MUST BE RECORDED IN THE LAND EVIDENCE RECORDS FOR EACH LOT INDICATING THAT THE COST TO MAINTAIN THE SYSTEMS WILL BE BORNE BY THE HOMEOWNERS.

ZONING CRITERIA

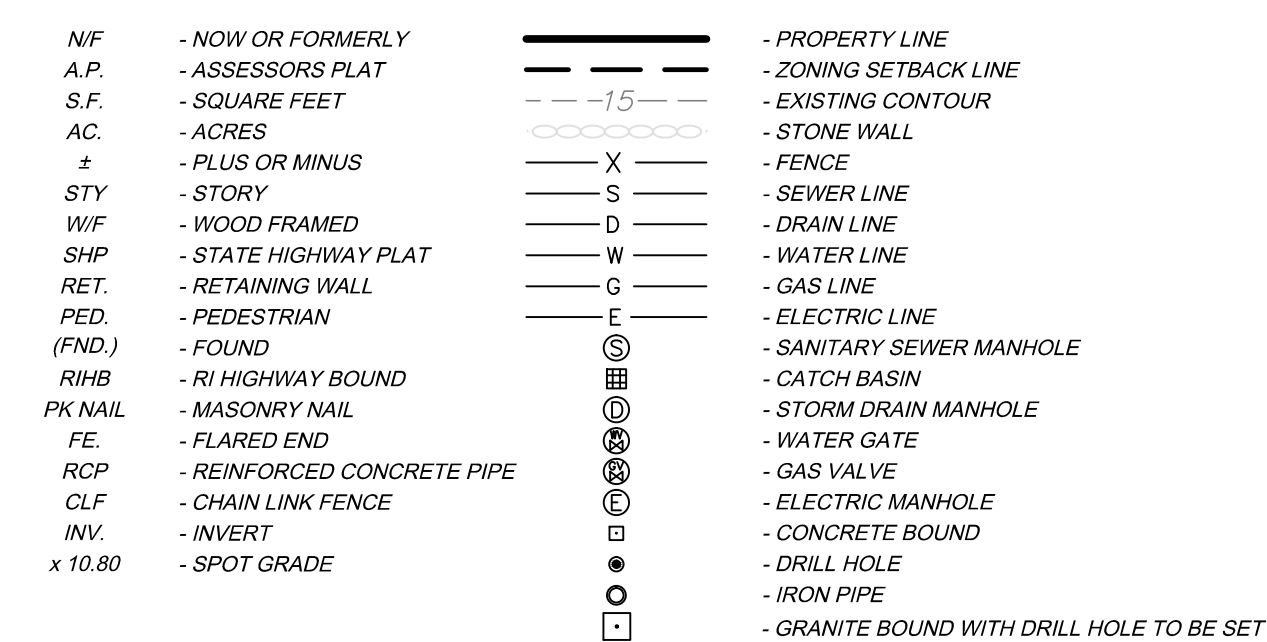
R-20SP ZONING

MINIMUM LOT AREA	15,000 S.F. WITH TOWN SEWER & WATER
MINIMUM LOT WIDTH	120'
MINIMUM LOT FRONTAGE	120'
*MINIMUM FRONT YARD SETBACK	35'
*MINIMUM SIDE YARD SETBACK	20'
*MINIMUM REAR YARD SETBACK	35'
MAXIMUM LOT BUILDING COVERAGE	25%
MAXIMUM BUILDING HEIGHT	35'

Corner lot: A corner lot will have more than one front lot line, all of which shall meet the front yard setback. The yard setback of one of the rear lot lines may be reduced to side yard setback requirements.



C:\Users\Stephen\Desktop\CAD FILES\MASSASOIT AVE\EXT.dwg, 12/7/2017 9:15:02 AM, TDP:rie



R-20SP ZONING

MINIMUM LOT AREA	15,000 S.F. WITH TOWN SEWER & WATER
MINIMUM LOT WIDTH	120'
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MINIMUM FRONT YARD SETBACK	35'
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MAXIMUM BUILDING HEIGHT	35'

Corner lot: A corner lot will have more than one front lot line, all of which shall meet the front yard setback. The yard setback of one of the rear lot lines may be reduced to side yard setback requirements.

This survey has been conducted and the plan has been prepared pursuant to Section 9 of the Rules and Regulations adopted by the The Rhode Island State Board of Registration for Professional Land Surveyors on November 5th.,2015, as follows:

(a) Type of Boundary Survey
Comprehensive Boundary Survey

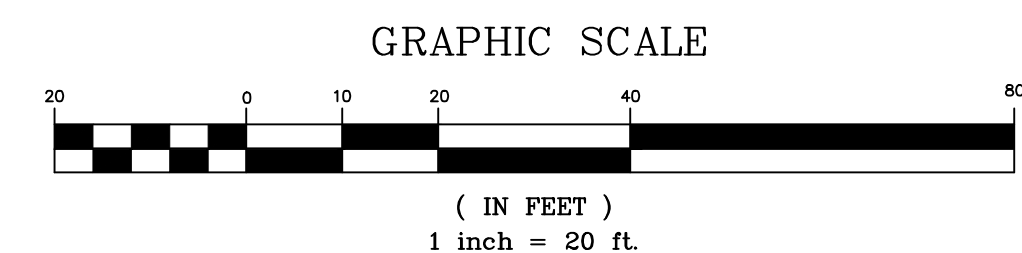
Measurement Specification

Stephen M. Murgu PLS # 1663
COA LS A33

Dec. 6th. 2017.



information and the location on structures and other features deemed important.

[illegible]

LEGEND & ABBREVIATIONS

N/F	- NOW OR FORMERLY	—	- PROPERTY LINE
A.P.	- ASSESSORS PLAT	—	- ZONING SETBACK LINE
S.F.	- SQUARE FEET	---	- EXISTING CONTOUR
AC.	- ACRES	-----	- STONE WALL
±	- PLUS OR MINUS	-----	- FENCE
STY	- STORY	X	- SEWER LINE
W/F	- WOOD FRAMED	S	- DRAIN LINE
SH/P	- STATE HIGHWAY PLAT	D	- WATER LINE
RET.	- RETAINING WALL	W	- GAS LINE
PED.	- PEDESTRIAN	G	- ELECTRIC LINE
(FND.)	- FOUND	E	- SANITARY SEWER MANHOLE
R/HB	- RI HIGHWAY BOUND	⊗	- CATCH BASIN
PK NAIL	- MASONRY NAIL	⊗	- STORM DRAIN MANHOLE
FE	- FLARED END	⊗	- WATER GATE
RCP	- REINFORCED CONCRETE PIPE	⊗	- GAS VALVE
CLF	- CHAIN LINK FENCE	⊗	- ELECTRIC MANHOLE
INV.	- INVERT	⊗	- CONCRETE BOUND
x 10.80	- SPOT GRADE	⊗	- DRILL HOLE
		⊗	- IRON PIPE
		⊗	- GRANITE BOUND WITH DRILL HOLE TO BE SET

ZONING CRITERIA

R-20SP ZONING

MINIMUM LOT AREA	15,000 S.F. WITH TOWN SEWER & WATER
MINIMUM LOT WIDTH	120'
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Corner lot: A corner lot will have more than one front lot line, all of which shall meet the front yard setback. The yard setback of one of the rear lot lines may be reduced to side yard setback requirements.

SOIL TESTING NOTE:

DATE EXCAVATED: 8/22/17
DB-1: LEDGE 24"
DB-2: LEDGE 72" (48" ESHGWT)
DB-3: LEDGE 96" (48" ESHGWT)
(SEE SHEET 7 OF 9)

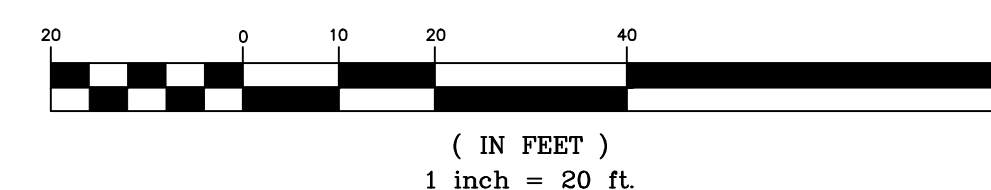
NOTE: PROPOSED STREET LIGHT TO BE MOUNTED ONTO PROPOSED UTILITY POLE AT HEIGHT AS REQUIRED BY BRISTOL DEPARTMENT OF PUBLIC WORKS. LIGHT FIXTURE TO BE ALL NEW COBRA HEAD STREET LIGHT (24 WATT LED) MANUFACTURED BY LEOTEK, MODEL NUMBER GCJ1-20G-MV-WW-2-GY-350 OR APPROVED EQUAL.

ABILIO DRIVE DRAINAGE CALCULATION:

ABILIO DRIVE PROPOSED SURFACE AREA = 3,996 S.F.

TOTAL VOLUME REQUIRED = 333 CU. FT. (USE 1" OF RUNOFF)
STONE SWALE VOLUME FROM ELEVATION 82.5 TO ELEVATION 83.5 = 382 CU. FT.

GRAPHIC SCALE

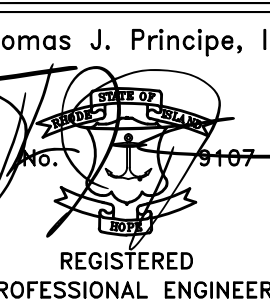


APPLICANT/OWNER:

NCD DEVELOPERS, INC.
C/O MICHAEL FONSECA
370 METACOM AVENUE
BRISTOL, RI 02809

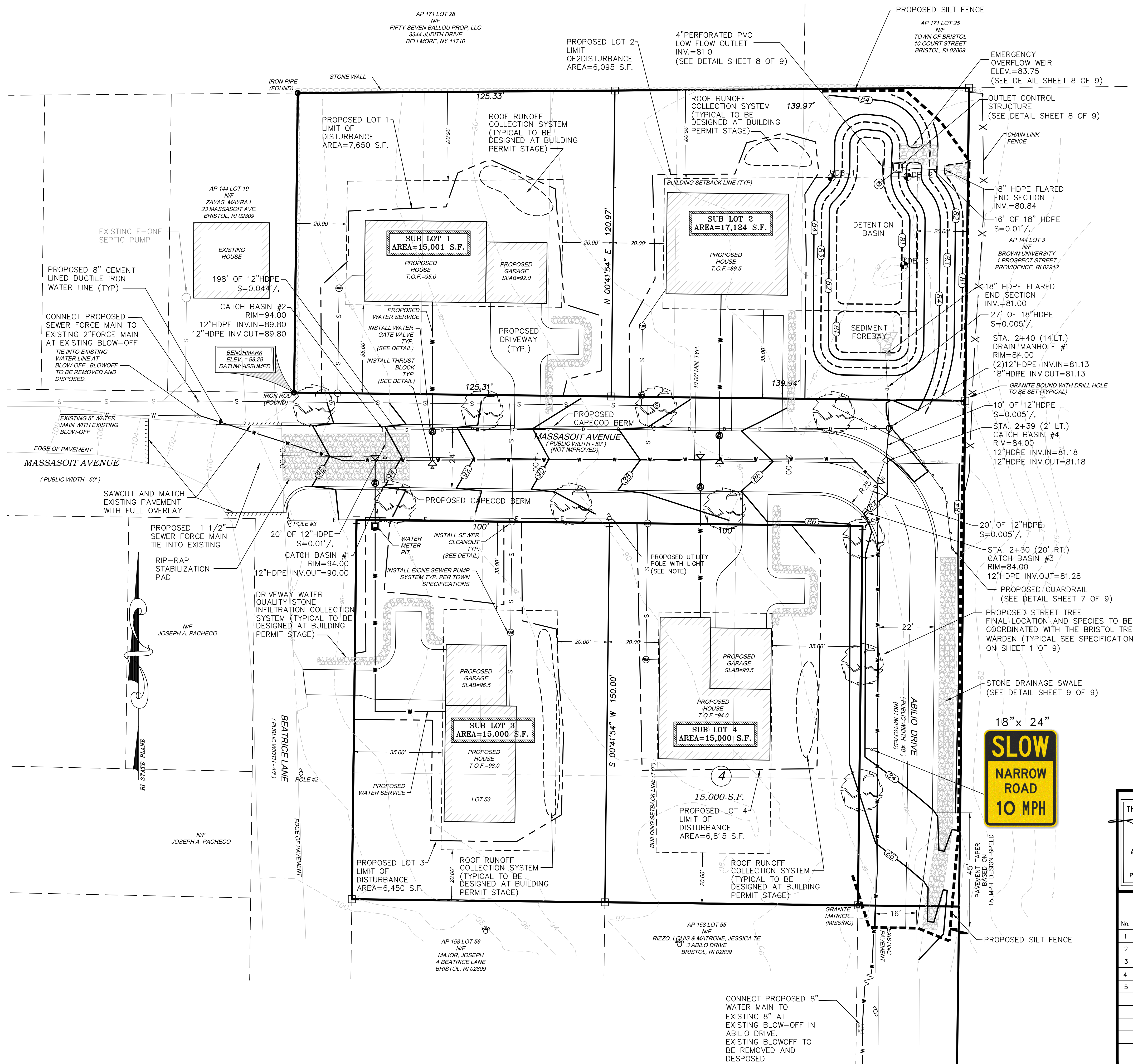
DRAINAGE AND UTILITIES

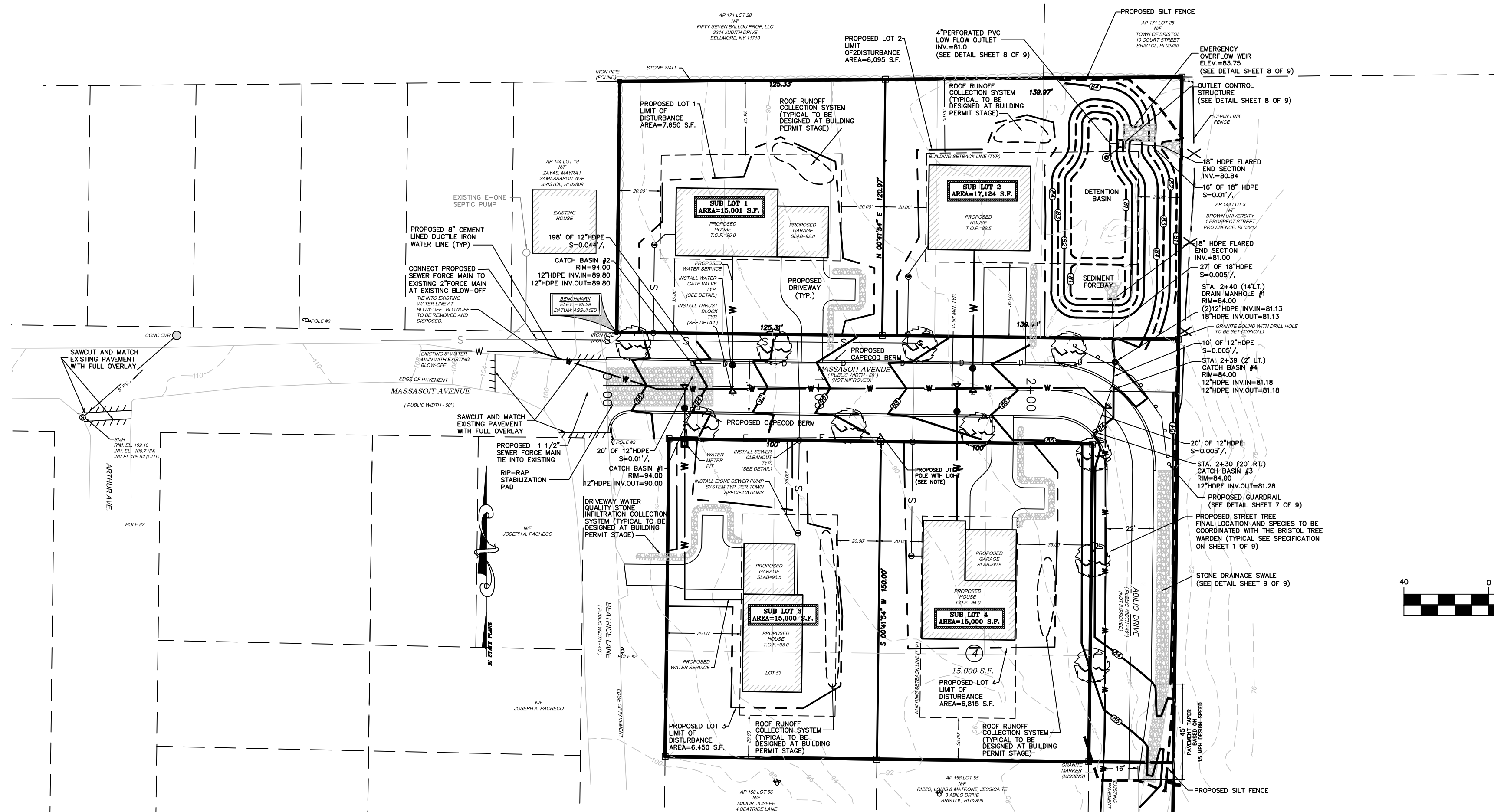
 PRINCIPE COMPANY, INC. ENGINEERING DIVISION PO BOX 298 TIVERTON, RI 02878 401.816.5385 WWW.PRINCIPEENGINEERING.COM	PRELIMINARY MINOR SUBDIVISION AP 158 LOTS 20 & 25 AND MASSASOIT AVENUE EXTENSION IN BRISTOL, RHODE ISLAND	
	SCALE: 1"=20' DRAWN BY: TJP DATE: 8/17/17	SHEET NO: 4 OF 9 DESIGN BY: TJP PROJECT NO.: LDP 17-36



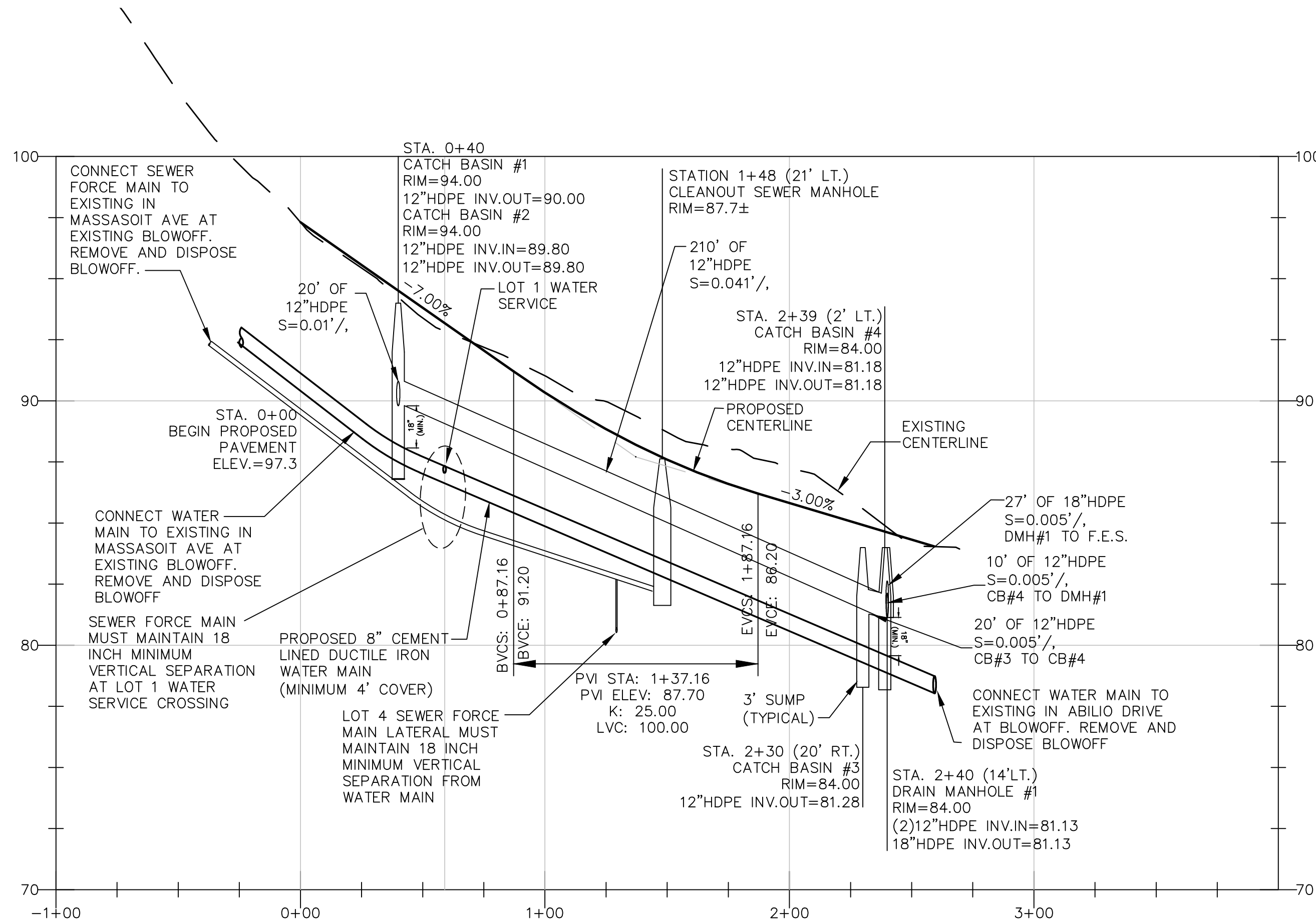
REVISIONS

No.	DATE	DRWN	CHKD
1	12/12/17	TJP	TJP
2	1/3/18	TJP	TJP
3	1/19/18	TJP	TJP
4	4/9/18	TJP	TJP
5	7/17/18	TJP	TJP





ROADWAY PLAN
SCALE: 1"=40'



ROADWAY PROFILE
SCALE: 1"=40' HORIZONTAL / 1"=4' VERTICAL

APPLICANT/OWNER:
NCD DEVELOPERS, INC.
C/O MICHAEL FONSECA
370 METACOM AVENUE
BRISTOL, RI 02809

LEGEND & ABBREVIATIONS

N/F	- NOW OR FORMERLY	- PROPERTY LINE
A.P.	- ASSESSORS PLAT	- ZONING SETBACK LINE
S.F.	- SQUARE FEET	- EXISTING CONTOUR
AC.	- ACRES	- STONE WALL
±	- PLUS OR MINUS	- FENCE
STY	- STORY	- SEWER LINE
W/F	- WOOD FRAMED	- DRAIN LINE
SH/P	- STATE HIGHWAY PLAT	- WATER LINE
RET.	- RETAINING WALL	- GAS LINE
PED.	- PEDESTRIAN	- ELECTRIC LINE
(FND.)	- FOUND	- SANITARY SEWER MANHOLE
R/HB	- RI HIGHWAY BOUND	- CATCH BASIN
PK NAIL	- MASONRY NAIL	- STORM DRAIN MANHOLE
FE.	- FLARED END	- WATER GATE
RCP	- REINFORCED CONCRETE PIPE	- GAS VALVE
CLF	- CHAIN LINK FENCE	- ELECTRIC MANHOLE
INV.	- INVERT	- CONCRETE BOUND
x 10.80	- SPOT GRADE	- DRILL HOLE
		- IRON PIPE
		- GRANITE BOUND WITH DRILL HOLE TO BE SET

ZONING CRITERIA

R-20SP ZONING

MINIMUM LOT AREA	15,000 S.F. WITH TOWN SEWER & WATER
MINIMUM LOT WIDTH	120'
MINIMUM LOT FRONTAGE	120'
MINIMUM FRONT YARD SETBACK	35'
MINIMUM SIDE YARD SETBACK	20'
MINIMUM REAR YARD SETBACK	35'
MAXIMUM LOT BUILDING COVERAGE	25%
MAXIMUM BUILDING HEIGHT	35'

Corner lot: A corner lot will have more than one front lot line, all of which shall meet the front yard setback. The yard setback of one of the rear lot lines may be reduced to side yard setback requirements.

BRISTOL COUNTY WATER AUTHORITY REQUIREMENTS:

EACH LOT IS REQUIRED TO HAVE DESIGNED AND INSTALLED AN INDIVIDUAL PRESSURE BOOSTER SYSTEM, INCLUDING BACKFLOW PREVENTION DEVICES IN AT NO COST TO BCWA. THIS REQUIREMENT MUST BE RECORDED IN THE LAND EVIDENCE RECORDS FOR EACH LOT INDICATING THAT THE COST TO MAINTAIN THE SYSTEMS WILL BE BORNE BY THE HOMEOWNERS.

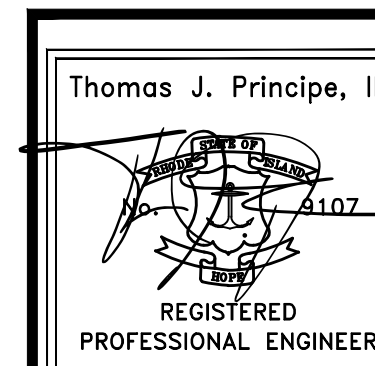
THE 8" CEMENT LINED DUCTILE IRON WATER MAIN SHALL MAINTAIN A 10 FOOT MINIMUM HORIZONTAL SEPERATION FROM ALL OTHER UTILITIES AND A MINIMUM OF 18 INCHES VERTICAL SEPERATION AT ALL UTILITY CROSSINGS.

WHERE WATER LINES CROSS SEWER LINES, THE SEWER LINE SHALL BE A MINIMUM OF 18 INCHES BELOW THE WATER LINE.

ALL DOMESTIC CORPORATION TAPS ON THE WATER MAIN SHALL BE INSTALLED BY BCWA OPERATORS. CORPORATION TAPS AND SERVICE PIPE SHALL BE 1 INCH DIAMETER AND SERVICE PIPING SHALL BE ALIGNED TO ENTER THE CENTER OF THE HOME IN AS STRAIGHT A LINE AS POSSIBLE.

ANY WATER SERVICE GREATER THAN 100 FEET IN LENGTH MUST BE INSTALLED WITH A METER PIT AT THE PROPERTY LINE. THE COST TO FURNISH AND INSTALL THE METER MIT SHALL BE BORNE BY THE OWNER.

ROADWAY PLAN AND PROFILE



PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
PO BOX 298
TIVERTON, RI 02878
401.816.5385
WWW.PRINCIPEENGINEERING.COM

REVISIONS

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1	12/12/17	TJP	TJP
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PRELIMINARY MINOR SUBDIVISION AP 158 LOTS 20 & 25 AND MASSASOIT AVENUE EXTENSION IN BRISTOL, RHODE ISLAND

SCALE: AS NOTED		SHEET NO: 5 of 9	
DRAWN BY: TJP	DESIGN BY: TJP		CHECKED BY: TJP
DATE: 8/17/17		PROJECT NO.: LDP 17-36	

GENERAL NOTES:

1. THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION, AND THE RHODE ISLAND STANDARD DETAILS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO. THE 2004 STANDARD SPECIFICATIONS MAY BE OBTAINED AT THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION WEB PAGE. THESE SPECIFICATIONS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO.
2. ALL REQUIRED SITE IMPROVEMENTS SHALL BE INSPECTED BY THE TOWN ENGINEER TO ENSURE SATISFACTORY COMPLETION. IN NO CASE SHALL THE INSTALLATION OF ANY IMPROVEMENTS BE STARTED UNTIL PRIOR NOTIFICATION IS GIVEN TO THE TOWN ENGINEER. AT LEAST A 48-HOUR NOTICE SHALL BE GIVEN TO THE TOWN ENGINEER PRIOR TO ANY SUCH START OF CONSTRUCTION. A FINAL INSPECTION OF ALL SITE IMPROVEMENTS, UTILITIES AND GRADING WILL BE MADE TO DETERMINE WHETHER THE WORK IS SATISFACTORY AND IN SUBSTANTIAL AGREEMENT WITH THE APPROVED FINAL CONSTRUCTION DRAWING AND THE TOWN SPECIFICATIONS.
3. LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD. ANY DAMAGE TO EXISTING UTILITIES AS SHOWN OR NOT SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES ARE NOTIFIED 48-HOURS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY DIG-SAFE (1-800-344-7233) A MINIMUM OF 48 WORKING HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION AND/OR BLASTING WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION AND/OR BLASTING WORK MUST BE SUPPLIED TO DIG-SAFE, IF IT IS DIFFERENT FROM THE CALLER.
4. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY, BUT NOT LIMITED TO, THE STATE OF RHODE ISLAND, THE FEDERAL GOVERNMENT, THE TOWN OF BRISTOL AND ALL INDIVIDUAL UTILITY COMPANIES PRIOR TO COMMENCING ANY WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEDIMENTATION AND EROSION CONTROLS.
6. THE INSTALLATION OF THE WATER UTILITY IMPROVEMENTS SHALL CONFORM TO THE REQUIREMENTS OF THE BRISTOL COUNTY WATER DEPARTMENT AND THE AMERICAN WATER WORKS STANDARDS.
7. ALL MATERIAL FOR FILL SHALL BE CLEAN AND FREE OF MATTER WHICH COULD POLLUTE ANY DOWN STREAM WATERCOURSE.
8. VERTICAL DATUM: MEAN SEA LEVEL (NGVD 29).
9. FILL MATERIAL SHALL BE COMPACTED IN ONE FOOT (MAXIMUM) LIFTS TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D-1557 (MODIFIED PROCTOR TEST).

STORM DRAINAGE SYSTEM MAINTENANCE PLAN:

THE FOLLOWING LIST OF MAINTENANCE TASKS AND FREQUENCIES MUST BE ADHERED TO IN ORDER TO INSURE A SUCCESSFUL LONG TERM OPERATION OF THE STORM DRAINAGE SYSTEM.

1. DURING CONSTRUCTION ACTIVITIES ALL EROSION CONTROLS ON THE SITE SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY FOUR (24) HOURS AFTER AN EVD WHICH GENERATES AT LEAST 0.25 INCHES OF RAIN IN A TWENTY FOUR (24) HOUR PERIOD.
2. SEDIMENTS SHALL BE REMOVED FROM THE ALL BASINS IMMEDIATELY AFTER SITE STABILIZATION.
3. ALL TRASH, LITTER AND OTHER DEBRIS SHALL BE REMOVED FROM ALL STORM WATER INLET AND OUTLET STRUCTURES A MINIMUM OF TWICE PER YEAR. THESE STRUCTURES SHALL ALSO BE INSPECTED TWICE PER YEAR. INSPECTIONS SHALL BE PERFORMED SEVERAL TIMES WITHIN THE FIRST SIX MONTHS OF OPERATION.
4. INSPECTIONS OF ALL CATCH BASINS SHALL OCCUR ON AN ANNUAL BASIS TO CHECK FOR DEBRIS REMOVAL (SEDIMENT AND HYDROCARBONS) AND STRUCTURAL INTEGRITY OR DAMAGE. SUCH DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.
5. REPAIRS OR REPLACEMENT OF INLET/OUTLET STRUCTURES OR ANY ELEMENT OF THE FACILITY SHALL BE DONE WITHIN THIRTY (30) DAYS OF DEFICIENCY REPORTS. IF AN EMERGENCY SITUATION IS IMMINENT THEN REPAIR/REPLACEMENT SHALL BE DONE IMMEDIATELY TO AVERT FAILURE OR DANGER TO NEARBY RESIDENTS.
6. MAKE REPAIRS IMMEDIATELY USING APPROPRIATE STONE SIZES. DO NOT PLACE STONES ABOVE FINISHED GRADE.
7. ALL REMOVED SEDIMENTS AND DEBRIS SHALL BE DISPOSED OF OFF SITE IN IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
8. ALL OUTLET STRUCTURES AND OUTFLOW CHANNELS WILL BE INSPECTED ANNUALLY. INSPECTIONS WILL BE ACCOMPLISHED SEVERAL TIMES DURING THE FIRST SIX MONTHS OF OPERATION, ESPECIALLY AFTER RAINFALL EVENTS TO CHECK FOR CLOGGING OR, CONVERSELY, TOO RAPID OF A RELEASE.
9. REPAIRS OR REPLACEMENT OF INLET/OUTLET STRUCTURES, RIP-RAP CHANNELS, FENCES, OR OTHER ELEMENTS OF THE FACILITY WILL BE DONE WITHIN 30 DAYS OF DEFICIENCY REPORTS. IF AN EMERGENCY SITUATION IS IMMINENT THEN REPAIR/REPLACEMENT MUST BE DONE IMMEDIATELY TO AVERT FAILURE OR DANGER TO NEARBY RESIDENTS.
10. ALL SEDIMENT GENERATED DURING CONSTRUCTION AND AS A RESULT OF MAINTENANCE OF THE DRAINAGE SYSTEM MUST BE DISPOSED OF PROPERLY. SEDIMENT SHALL NOT BE DISPOSED OF IN OR NEAR STATE OR FEDERAL REGULATED WATERS.
11. RECORDS OF THE FIRST TWO YEARS OF MAINTENANCE FOLLOWING CONSTRUCTION SHALL BE SUBMITTED TO RIDEM DIVISION OF WATER RESOURCES. MAINTENANCE RECORDS FOR SUBSEQUENT YEARS SHALL BE KEPT ON FILE AND SUBMITTED TO RIDEM, DIVISION OF WATER RESOURCES, UPON REQUEST.
12. Grasses shall be planted around and within the detention basin immediately following construction to stabilize slopes and prevent erosion. Trees and shrubs are not to be planted on basin slopes.
13. All drainage structures are to be inspected at least three times in the first six months of operation. Evidence of clogging or rapid release of flow shall be remedied immediately.
14. Side slopes, embankments, and the upper stages of all detention basins are to be mowed at least three times per growing season, to prevent unwanted growth, and to maintain the capacity and integrity of the facilities. Mowing should include the removal of woody growth, which may compromise the integrity of the basin slopes.

15. The grassed areas of all basins are to be inspected at least twice a year to check for erosion problems. Areas subject to erosion problems shall be re-seeded immediately to stabilize any exposed soils. Where pools of stagnant water are observed in a detention basin, the deficiency shall be corrected immediately. This will prevent the formation of a nuisance habitat for insects.
16. Trash, litter and other debris are to be removed from all stormwater facilities at least twice a year to prevent blockage of inlet and outlet structures, and hence failure of the structure. Where the amounts of debris found are large, a careful inspection of all adjacent inlet and outlet structures shall be undertaken to identify any damage that may have occurred. Litter shall be removed from the detention basin prior to mowing operations.
17. If a blockage occurs to a basin outlet, it may necessary to drain the basin in order to effect a repair. All water that is drained from the basin shall be adequately filtered to remove suspended solids prior to discharge to a receiving body.
18. All catch basins shall be inspected at least twice a year for debris and the presence of potential pollutants. Catch basins and manholes shall be inspected twice a year for structural integrity.
19. Maintenance of the stormwater system during the construction process shall be the responsibility of the contractor.
20. On completion of construction maintenance of the stormwater system shall become the responsibility of the Town of Bristol.

EROSION CONTROL AND SOIL STABILIZATION PROGRAM:

1. DENUDE SLOPES SHALL NOT BE LEFT EXPOSED FOR EXCESSIVE PERIODS OF TIME, SUCH AS THE INACTIVE WINTER SEASONS.
2. TEMPORARY TREATMENTS SHALL CONSIST OF A HAY, STRAW, 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.
3. HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 2000 LBS./ACRE.
4. ALL HAY BALES OR TEMPORARY PROTECTION SHALL REMAIN IN-PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
5. 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 RHODE ISLAND STANDARD SPECIFICATION M.20.01.
6. THE SEED MIX SHALL BE INOCULATED WITHIN 24-HOURS BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
7. THE DESIGN MIX UTILIZED IN ALL DISTURBED AREAS TO BE SEEDED SHALL BE COMPRISED OF THE FOLLOWING:
- | TYPE | % BY WEIGHT | SEEDING DATE |
|---------------------|-------------|---------------------|
| CREEPING RED FESCUE | 70 | APRIL 1 - JUNE 15 |
| ASTORIA BENTGRASS | 5 | AUGUST 15 - OCTOBER |
| BIRDFOOT TREFOIL | 15 | |
| PERENNIAL RYEGRASS | 10 | |
- APPLICATION RATE 100 LBS./ACRE
LIMING AND FERTILIZING AS REQUIRED TO COMPLIMENT OR UPGRADE EXISTING CONDITIONS.
8. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR, AND SHALL DO SO AT NO ADDITIONAL EXPENSE.
9. THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1ST THROUGH OCTOBER 15TH.
10. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN FIFTEEN (15) DAYS OF FINAL GRADING.
11. STOCKPILES OF TOPSOIL AND EARTH MATERIALS SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN THIRTY PERCENT (30%) AND STOCKPILE SHALL ALSO BE SEEDED AND/OR STABILIZED.
12. ON BOTH STEEP AND LONG SLOPES, CONSIDERATION SHOULD BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.
13. TREES TO BE RETAINED SHALL BE FENCED OR ROPED OFF TO PROTECT THEM FROM CONSTRUCTION EQUIPMENT.
14. ALL PROPOSED PLANTINGS MUST BE ACCOMPLISHED AS EARLY AS POSSIBLE UPON COMPLETION OF GRADING AND CONSTRUCTION, AND AT LEAST PRIOR TO ANY ON-SITE OCCUPANCY.
15. ALL PROPOSED PLANTINGS MUST BE MAINTAINED BY THE PROPERTY OWNER TO ENSURE SURVIVAL.
16. SHOULD ANY OR ALL OF THE PROPOSED PLANTS FAIL TO SURVIVE AT LEAST ONE (1) FULL GROWING SEASON FROM THE TIME THEY HAVE BEEN PLANTED, THE OWNER SHALL BE FULLY RESPONSIBLE FOR REPLACING AND MAINTAINING THE SAME PLANT SPECIES FOR ONE (1) ADDITIONAL GROWING SEASON.
17. ALL DISTURBED AREAS MUST BE SEEDED OR PLANTED WITHIN THE CONSTRUCTION SEASON.
18. TEMPORARY SEEDING MUST BE DONE WITHIN ONE (1) MONTH AFTER DISTURBANCE.
19. ALL DISTURBED AREAS MUST BE PERMANENTLY SEEDED OR PLANTED BEFORE OCTOBER 1ST, IF NOT THEY MUST BE TEMPORARILY SEEDED.

MAINTENANCE RESPONSIBILITY

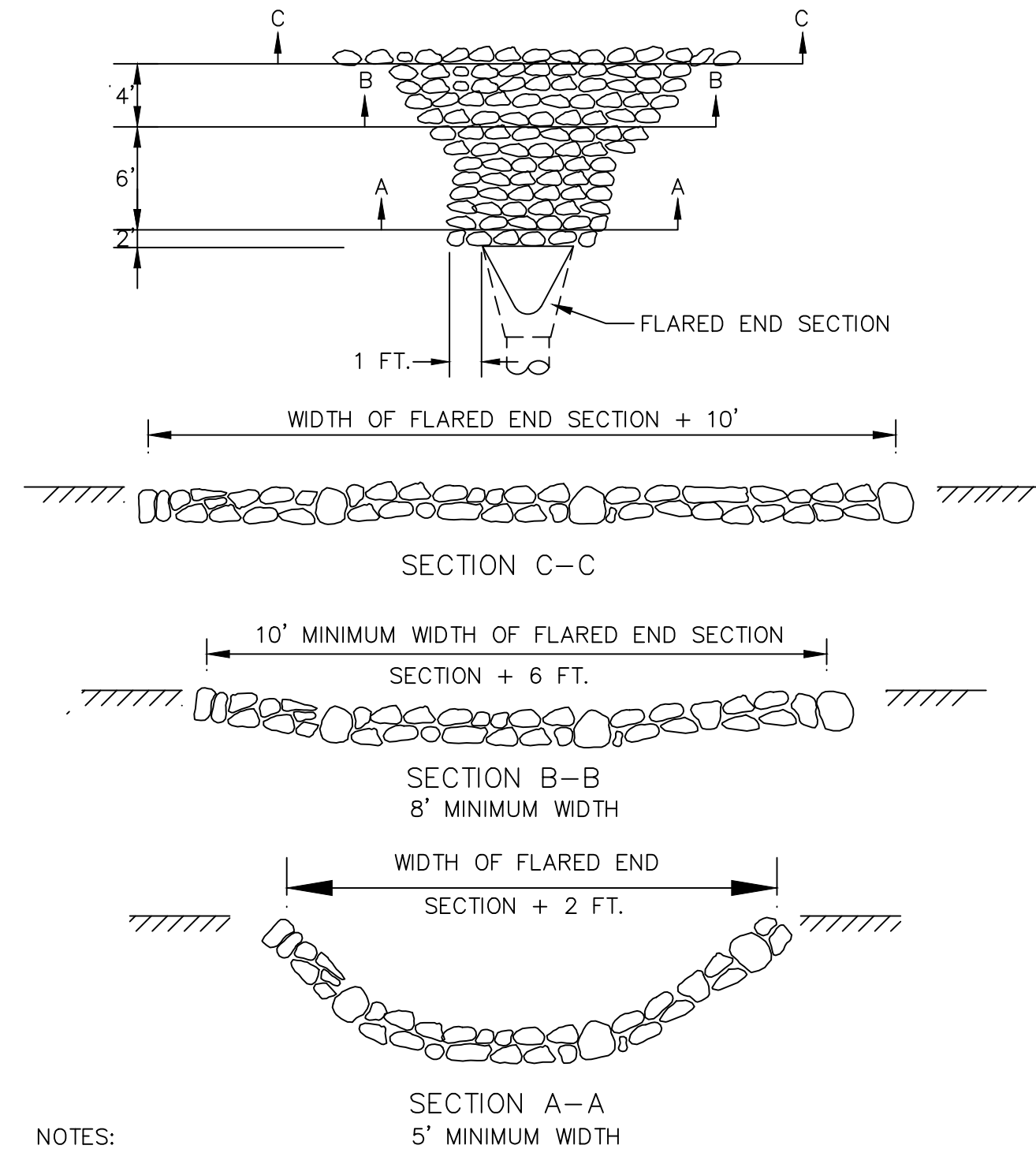
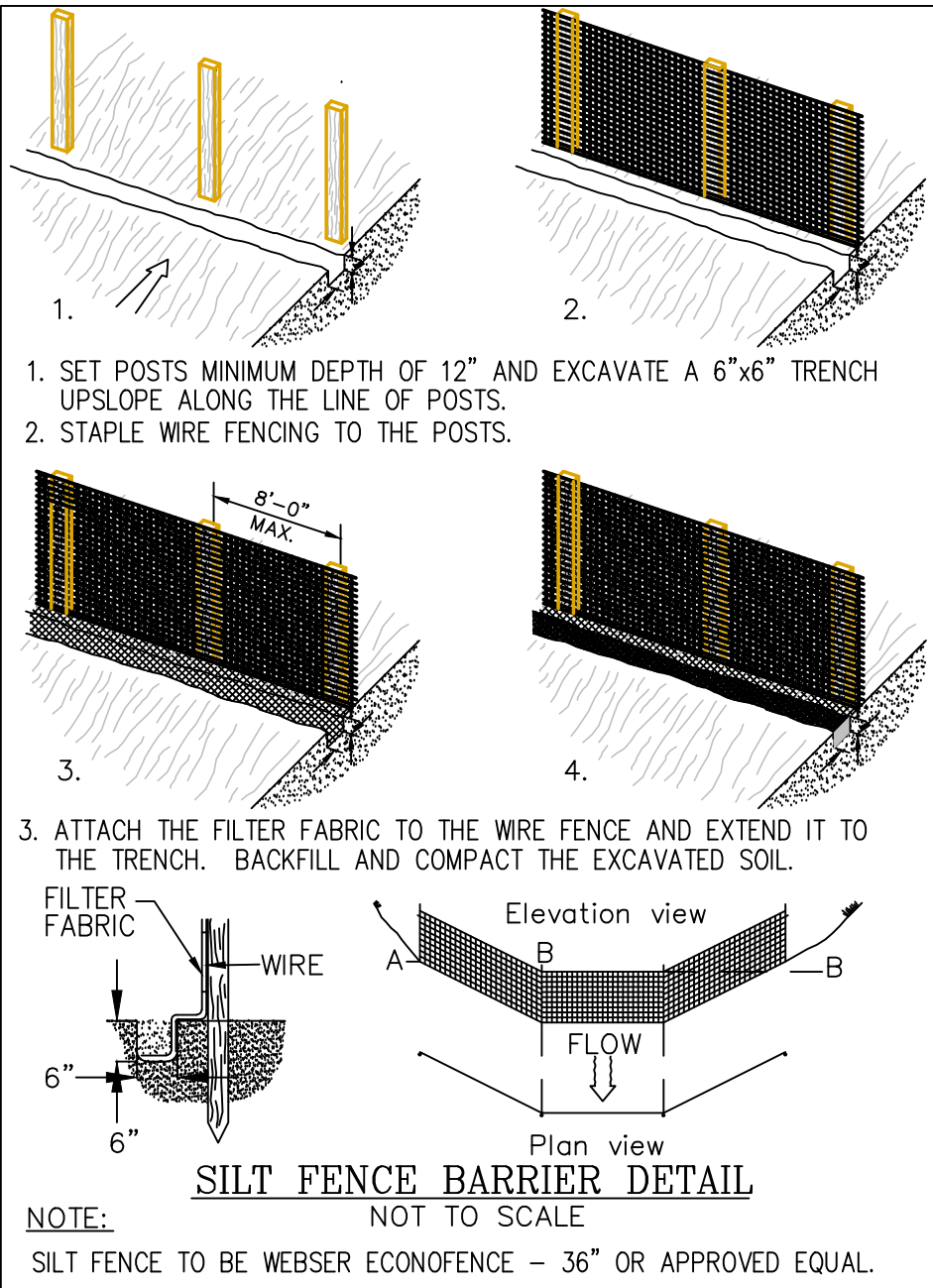
THE APPLICANT IS RESPONSIBLE FOR THE MAINTENANCE OF ALL DRAINAGE STRUCTURES.

SEDIMENTATION CONTROL PROGRAM:

1. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING DOWNSTREAM WATERCOURSES AND STORMWATER DRAINAGE SYSTEMS.
2. DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUN-OFF FLOW DURING STORMS AND PERIODS OF
3. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL. CARE SHALL 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 STORMWATER FLOWAGE.
5. ADDITIONAL HAYBALES OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
6. SEDIMENTATION TRAPS SHALL BE PROVIDED AT ALL DRAINAGE STRUCTURES DURING CONSTRUCTION.
7. EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AT THE SITE PRIOR TO THE START OF CONSTRUCTION AND BE PROPERLY MAINTAINED UNTIL ALL DISTURBED AREAS ARE STABILIZED INCLUDING:
- A) THE INSTALLATION OF A CONTINUOUS LINE OF STAKED HAYBALES IN ALL LOCATIONS SHOWN ON THE APPROVED SITE PLANS AND WHERE OTHERWISE NECESSARY TO PREVENT SEDIMENTS FROM ENTERING DOWNSTREAM WATERCOURSES AND STORMWATER DRAINAGE SYSTEMS.
- B) ALL DISTURBED AREAS ARE TO BE PERMANENTLY STABILIZED WITH APPROVED GROUND COVER PRIOR TO THE COMPLETION OF THE PROJECT. AREAS EXPOSED FOR EXTENDED PERIODS ARE TO BE COMPLETELY COVERED WITH SPREAD HAY MULCH.
- C) CATCH BASINS WILL BE PROTECTED WITH HAYBALE FILTERS THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED. SUMPS ARE TO BE CLEANED IMMEDIATELY FOLLOWING INSTALLATION OF PERMANENT PAVEMENT.
- D) OUTFALLS ARE TO BE PROTECTED BY HAYBALE FILTERS UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED WITH APPROVED GROUND COVER.
- E) ALL CONTROL MEASURES WILL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
8. THE LIMITS OF ALL CLEARING, GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE SHALL REMAIN TOTALLY UNDISTURBED.
9. UPON COMPLETION OF CONSTRUCTION OF SITE IMPROVEMENTS AND THE STORMWATER DRAINAGE SYSTEM, ALL CATCH BASINS AND STORM DRAIN PIPING SHALL BE CLEANED OF SEDIMENT. DETENTION BASINS SHALL BE CLEANED OF SEDIMENT TO THE DESIGN GRADES INDICATED
10. AT NO TIME DURING CONSTRUCTION SHALL THE SUBGRADE OF THE SITE BE SUCH THAT SURFACE RUNOFF WILL BE PERMITTED TO DIRECTLY ENTER ANY DRAINAGE STRUCTURE. A TEMPORARY DEPRESSED AREA AROUND THE STRUCTURE SHALL BE INCORPORATED AS A SEDIMENTATION TRAP. THE MOUTH OF THE TRAP SHALL BE LINED WITH HAYBALES AROUND THE COMPLETE PERIMETER. DURING ALL PRELIMINARY STAGES, THE TOP OF THE STRUCTURE SHALL ALWAYS BE HIGHER THAN THE SUBGRADE.
11. HAYBALE EROSION CHECKS SHALL BE MAINTAINED AROUND ALL CATCH BASINS UNTIL ALL UPGRADIENT DISTURBED AREAS ARE STABILIZED BY PAVEMENT OR VEGETATION.
12. ALL COMPONENTS OF THE DRAINAGE SYSTEM MUST BE CLEANED OF SEDIMENT BY THE APPLICANT OR HIS REPRESENTATIVE IMMEDIATELY AFTER CONSTRUCTION IS COMPLETED.
13. INSPECT TEMPORARY DIVERSIONS AND THEIR COMPONENTS ONCE A WEEK AND AFTER EVERY RAINFALL. DAMAGE CAUSED BY CONSTRUCTION TRAFFIC OR OTHER ACTIVITY SHOULD BE REPAIRED BEFORE THE END OF EACH WORKING DAY. A SEDIMENTATION TRAP. THE MOUTH OF THE TRAP SHALL BE LINED WITH HAYBALES AROUND THE COMPLETE PERIMETER. DURING ALL PRELIMINARY STAGES, THE TOP OF THE STRUCTURE SHALL ALWAYS BE HIGHER THAN THE SUBGRADE.
14. CHECK DAMS SHALL BE INSTALLED EVERY 300 FEET FOR SLOPES OF 1% OR LESS, EVERY 200 FEET FOR SLOPES OF 2%, EVERY 150 FEET FOR SLOPES OF 3% TO 5%, AND EVERY 100 FEET FOR SLOPES OF 5% OR GREATER.
15. SEDIMENTS SHOULD BE REMOVED FROM THE CHECK DAM WHEN IT REACHES ONE-HALF THE DAM HEIGHT.

CATCH BASIN AND WATER QUALITY INLET TANK
SEDIMENTATION CONTROL AND MAINTENANCE:

1. AT NO TIME DURING CONSTRUCTION SHALL THE SUBGRADE OF THE SITE BE SUCH THAT SURFACE RUNOFF WILL BE PERMITTED TO DIRECTLY ENTER ANY DRAINAGE STRUCTURE. A TEMPORARY DEPRESSED AREA AROUND THE STRUCTURE SHALL BE INCORPORATED AS A SEDIMENTATION TRAP. THE MOUTH OF THE TRAP SHALL BE LINED WITH STRAW BALES AROUND THE COMPLETE PERIMETER. DURING ALL PRELIMINARY STAGES, THE TOP OF THE STRUCTURE SHALL ALWAYS BE HIGHER THAN THE SUBGRADE.
2. STRAW BALE EROSION CHECKS SHALL BE MAINTAINED AROUND ALL STRUCTURES UNTIL ALL UPGRADIENT DISTURBED AREAS ARE STABILIZED BY VEGETATION.
3. ALL COMPONENTS OF THE DRAINAGE SYSTEM MUST BE CLEANED OF SEDIMENT BY THE APPLICANT OR HIS REPRESENTATIVE IMMEDIATELY AFTER CONSTRUCTION IS COMPLETED.



NOTES:

1. CLASS OF RIP-RAP AND BEDDING TO BE SPECIFIED IN CONTRACT DOCUMENTS.
2. DIMENSIONS MAY BE MODIFIED BY ENGINEER TO MEET FIELD CONDITIONS
3. UNLESS OTHERWISE SPECIFIED, DUMPED RIP-RAP SHALL BE USED.

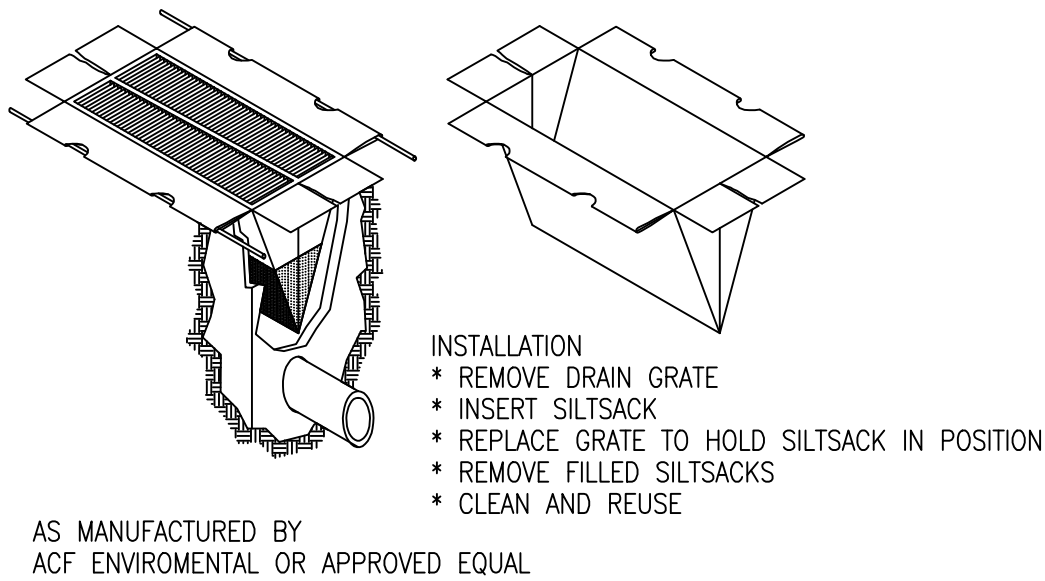
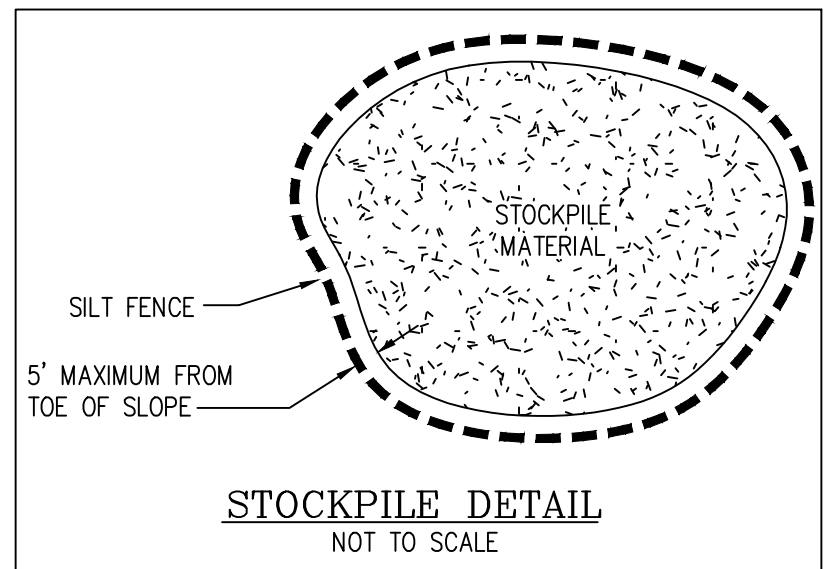
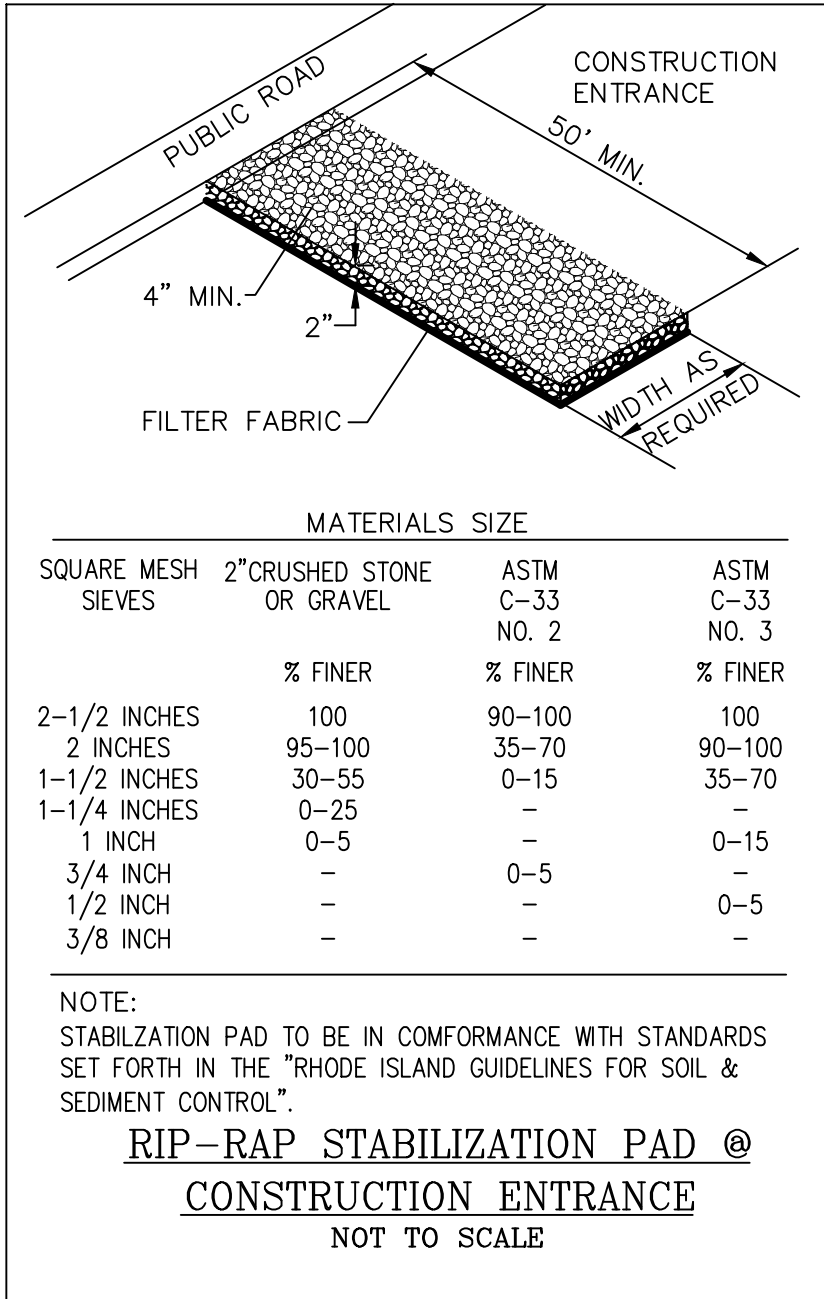
ROCK FILL RIP-RAP
@ FLARED END SECTIONS
NOT TO SCALE

RIP-RAP TABLE

M02.02.4	=	8"	-	95	/	100%,
		4"	-	0	/	25%
		2½"	-	0	/	5%

APPLICANT/OWNER:

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C/O MICHAEL FONSECA
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BRISTOL, RI 02809

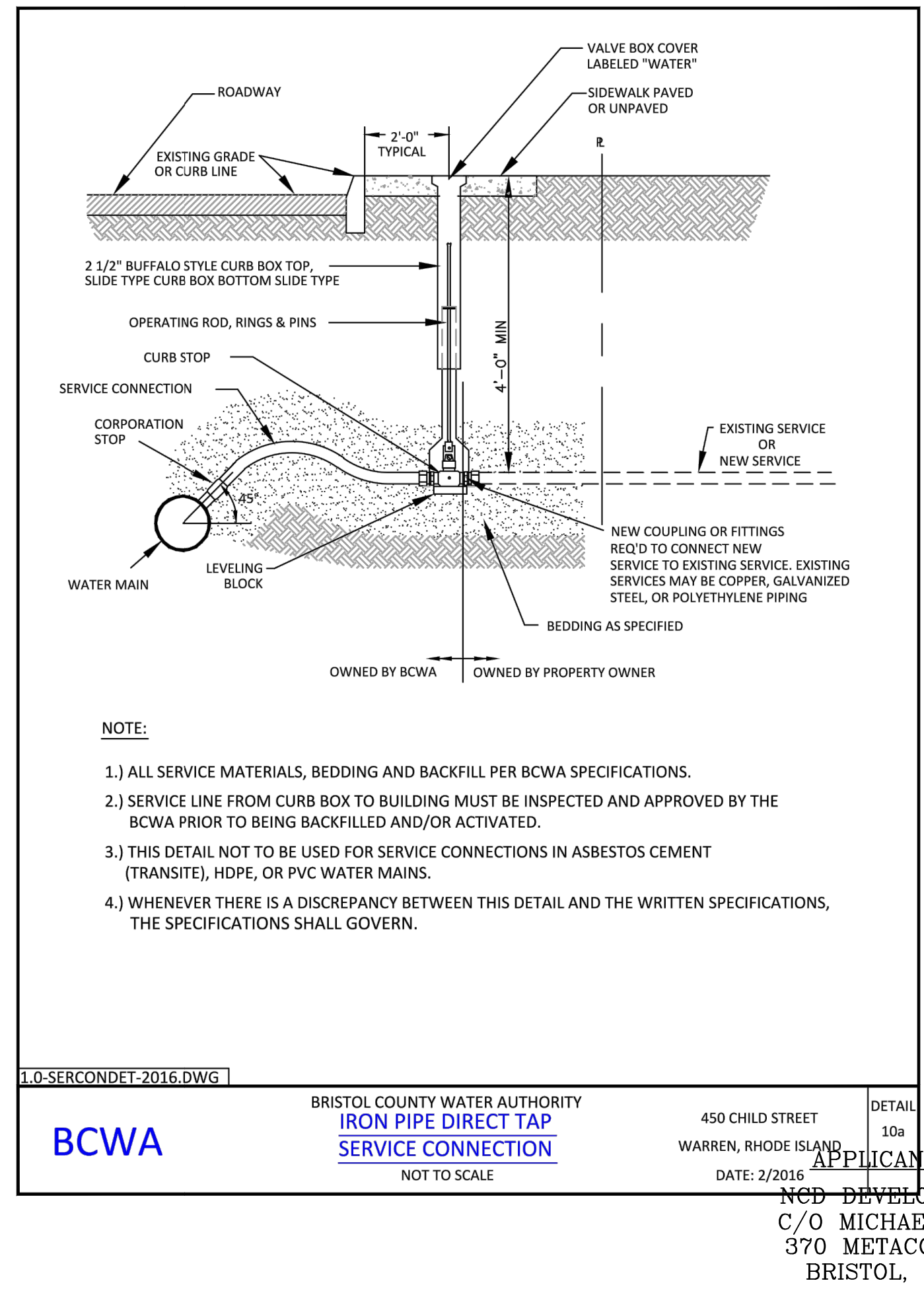
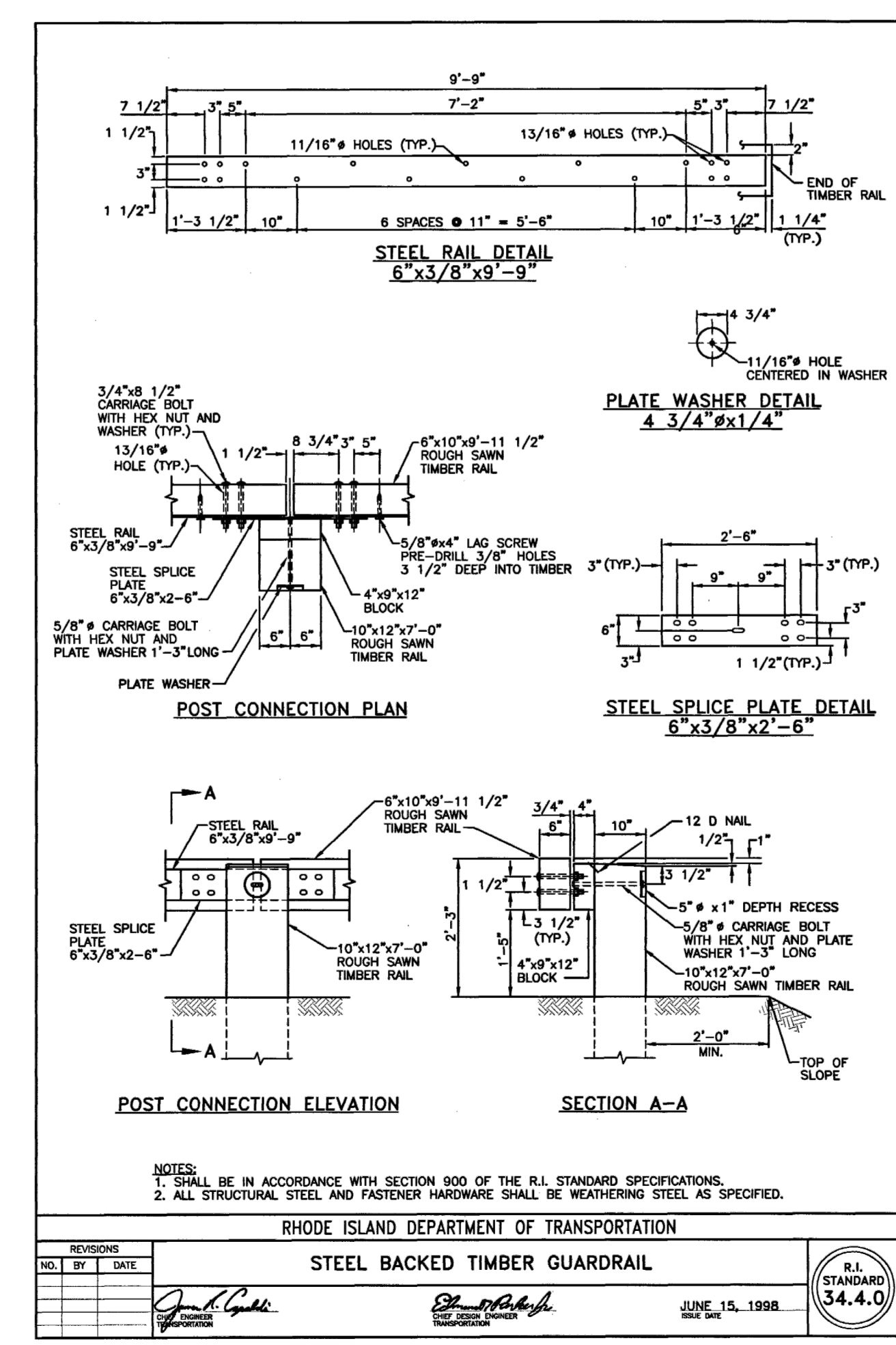
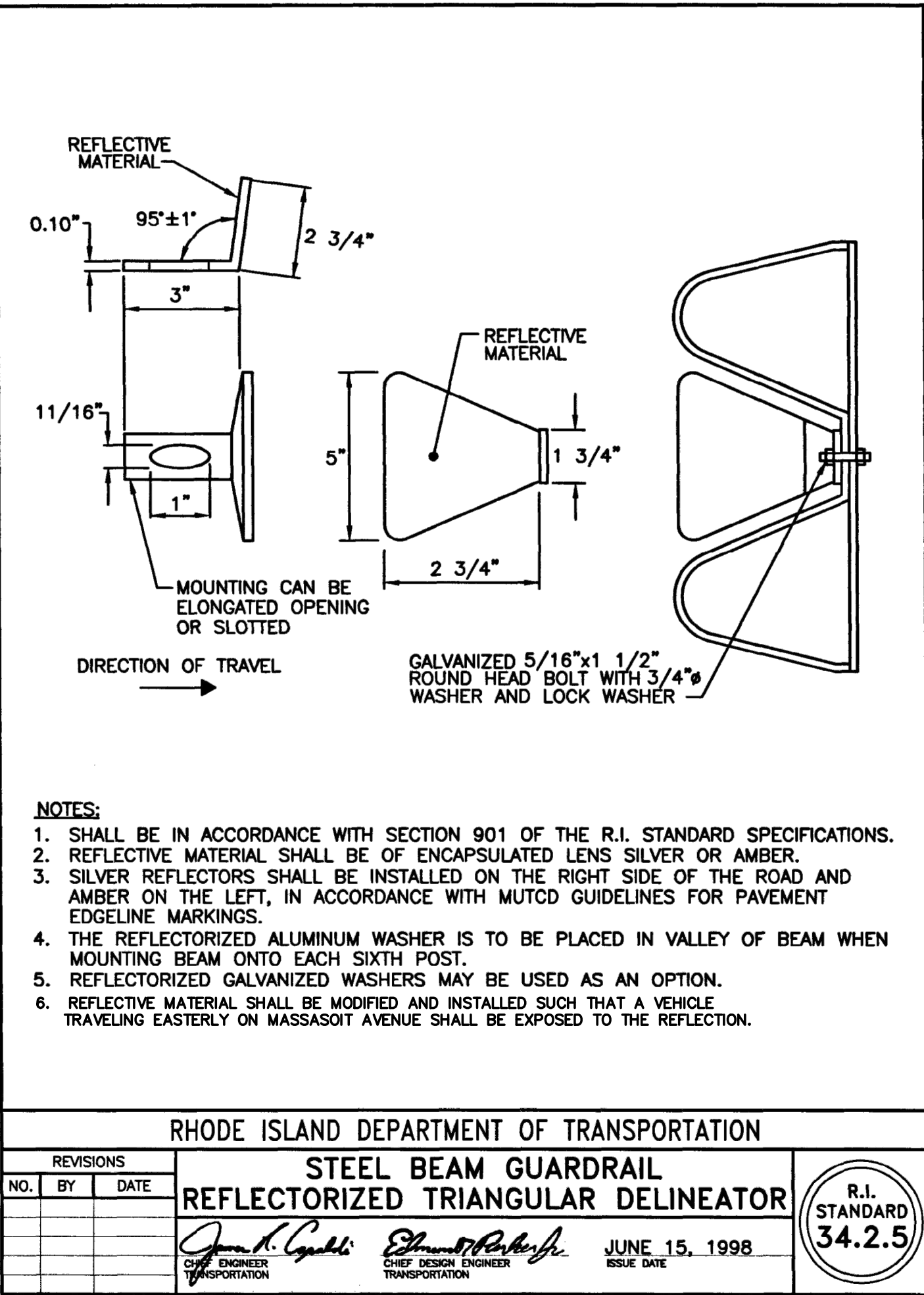
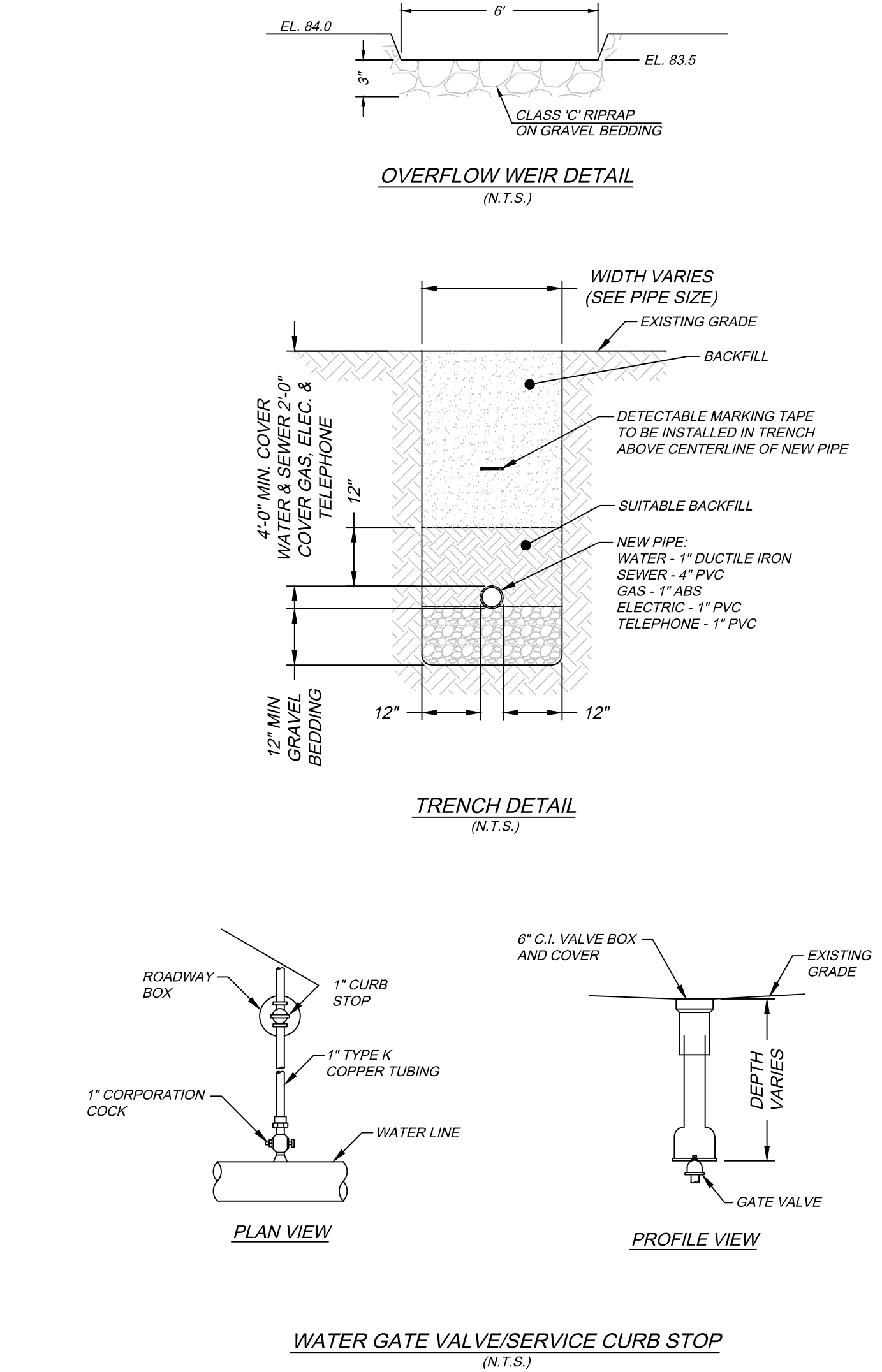
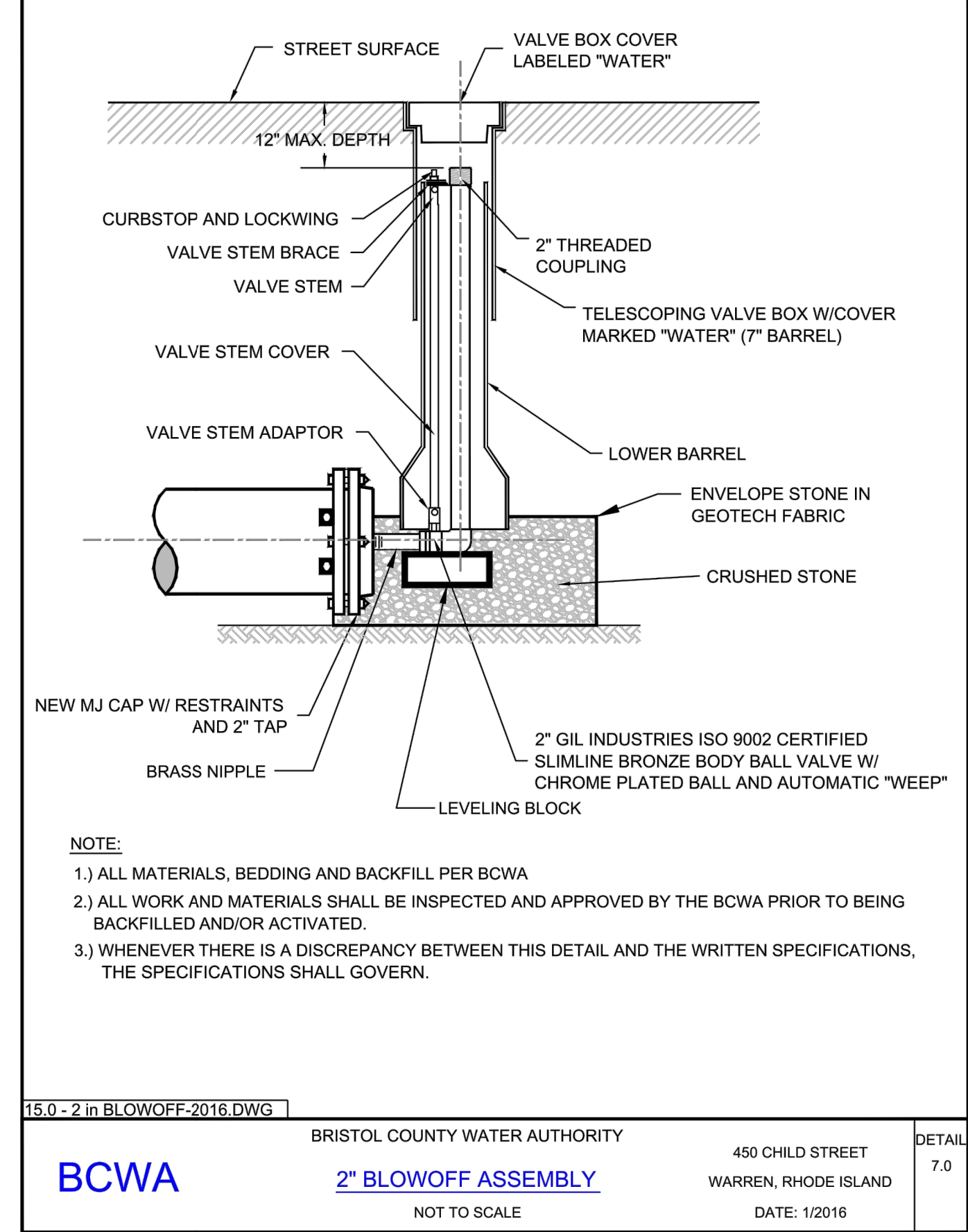
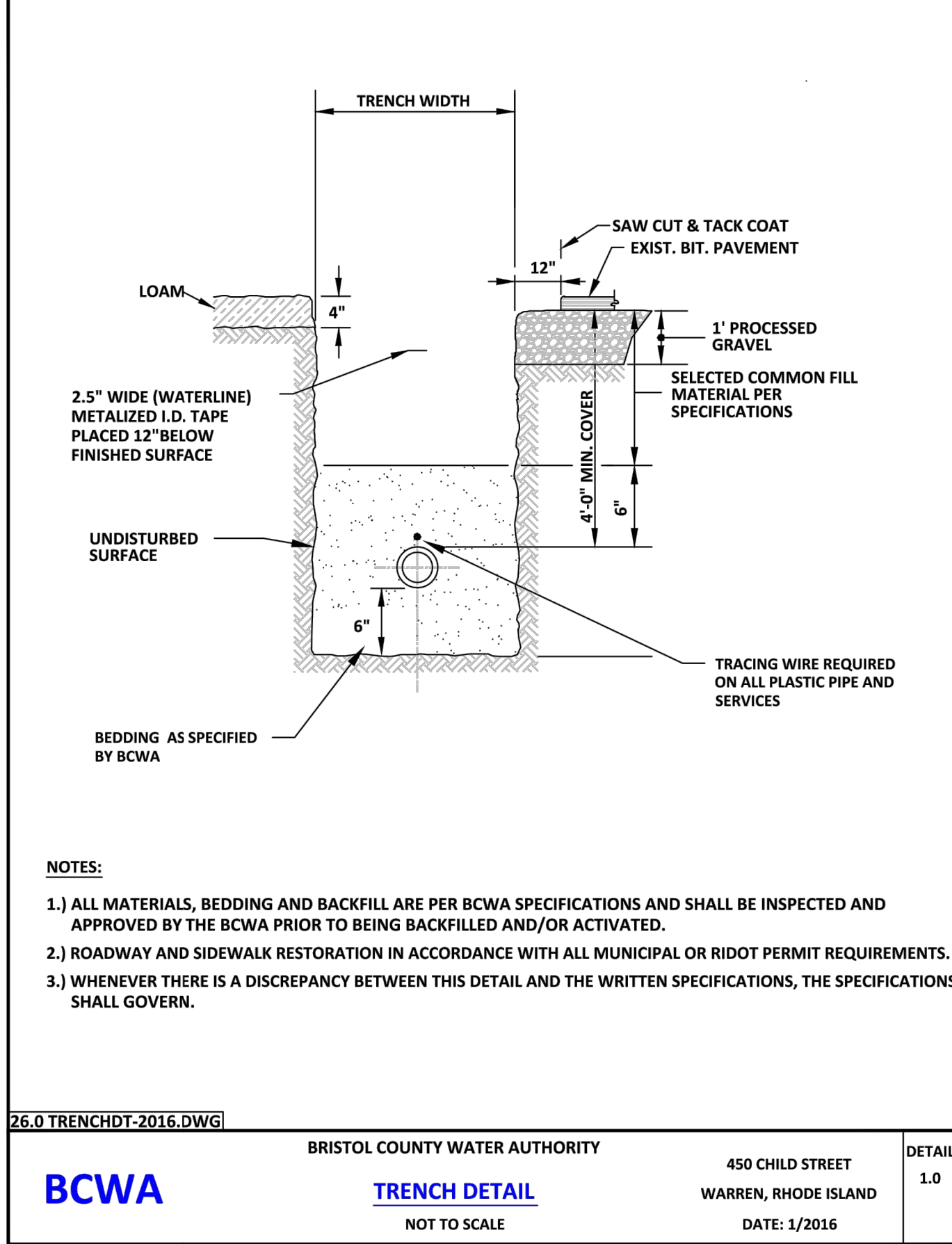
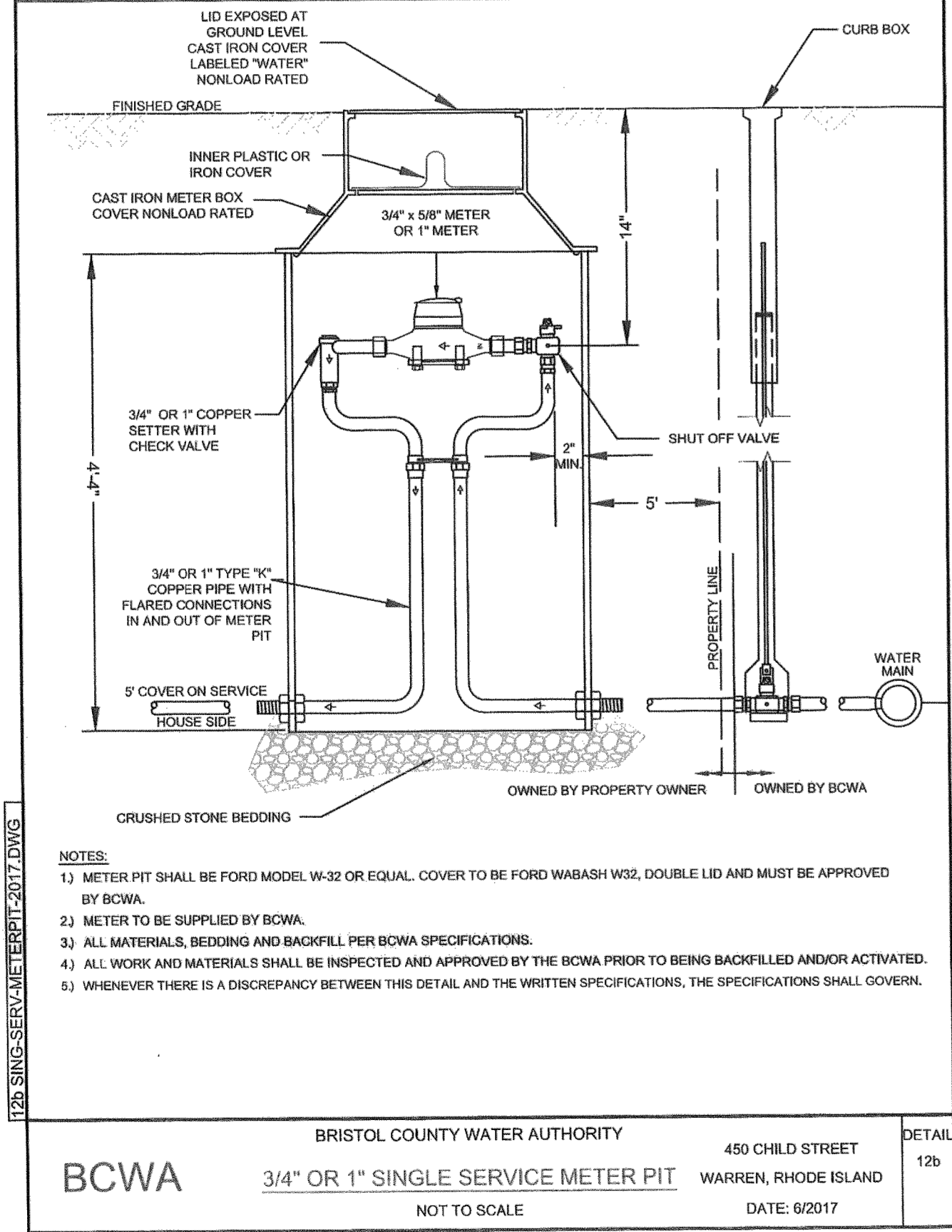


SILT SACK DETAIL
NOT TO SCALE

CONSTRUCTION DETAILS-1

	PRINCIPE COMPANY, INC. ENGINEERING DIVISION PO BOX 298 TIVERTON, RI 02878 401.816.5385 WWW.PRINCIPEENGINEERING.COM	
PRELIMINARY MINOR SUBDIVISION AP 158 LOTS 20 & 25 AND MASSASOIT AVENUE EXTENSION IN BRISTOL, RHODE ISLAND		
SCALE: AS NOTED	SHEET NO.: 6 OF 9	
DRAWN BY: TJP	DESIGN BY: TJP	CHECKED BY: TJP
DATE: 8/17/17	PROJECT NO.: LDP 17-36	

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(13) Street Trees.

Where existing tree growth is determined by the Planning Board or Technical Review Committee (TRC) to be insufficient, the Planning Board or TRC shall require the applicant to plant street trees along both sides of all new streets within developments or along the existing streets abutting the development in accordance with the approved landscape plan. Street trees shall be appropriate for the terrain, soil and climatic conditions encountered in the development, and in accordance with the following standards:

(a) Location – Street trees shall be planted within street rights-of-way along both sides of the street.

(b) Spacing – Trees shall be planted at distances of not less than thirty (30) feet nor more than fifty (50) feet apart along each side of the street pavement. At street corners, trees shall not be planted within twentyfive (25) feet of the intersecting right-of-way lines.

(c) Type – Trees shall be of nursery stock grown under local climatic conditions and of a type as recommended by the Bristol Conservation Commission and approved by the Planning Board. Species which have been introduced to this region by way of Bristol are preferred, (see town approved planting list).

CONSTRUCTION DETAILS-2

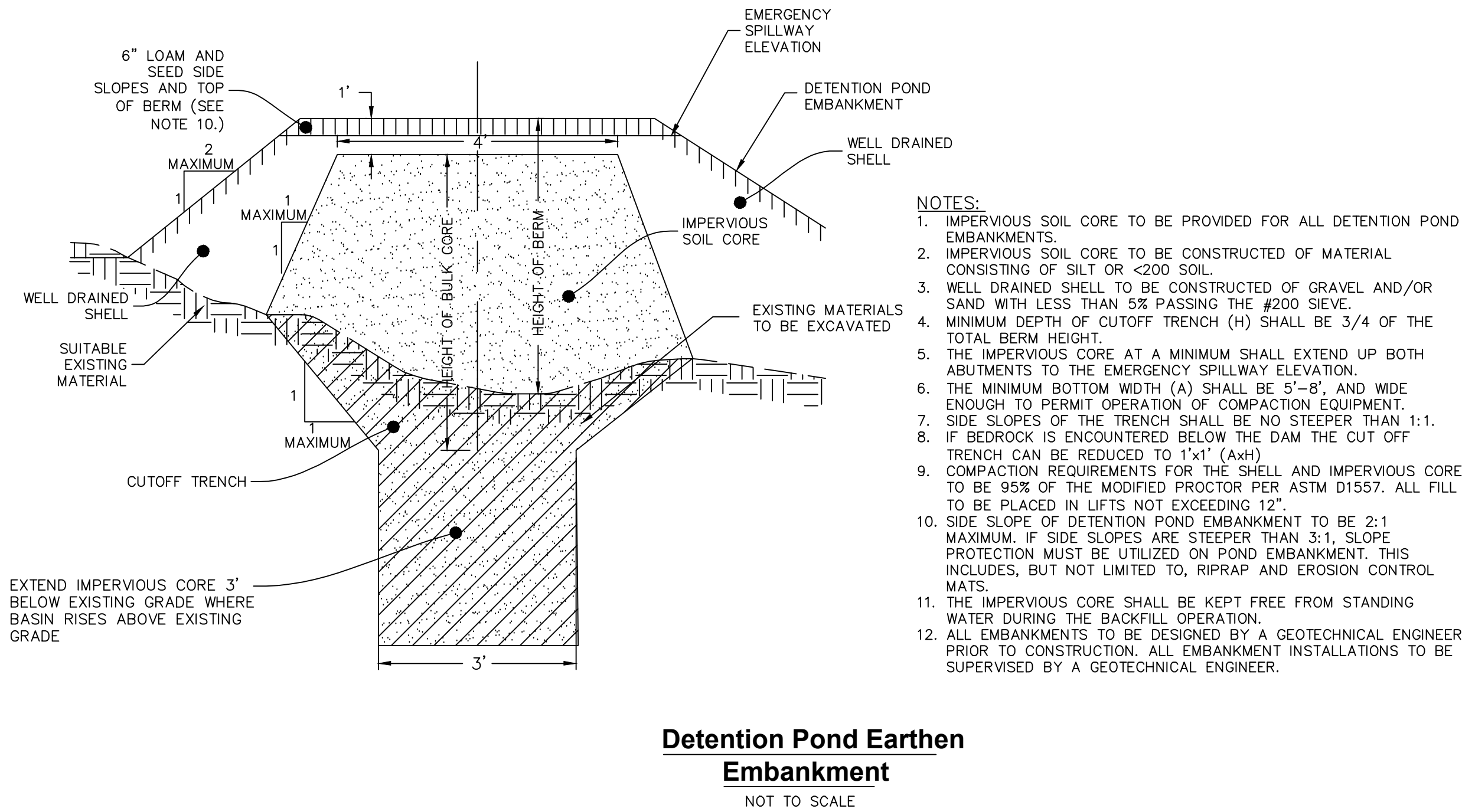
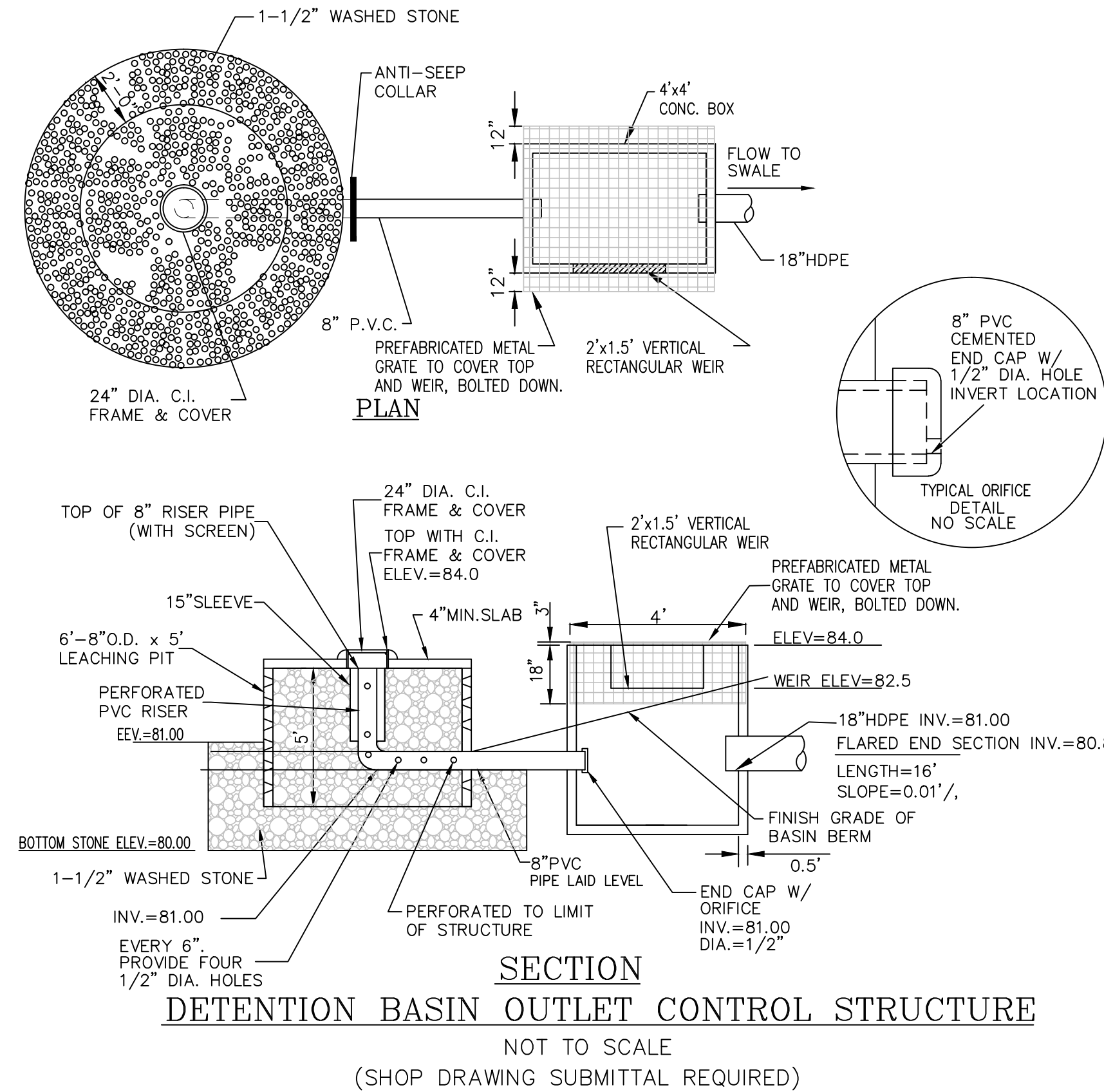
Thomas J. Principe, III
REGISTERED PROFESSIONAL ENGINEER

PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
PO BOX 298
TIVERTON, RI 02878
401.816.5385
WWW.PRINCIPEENGINEERING.COM

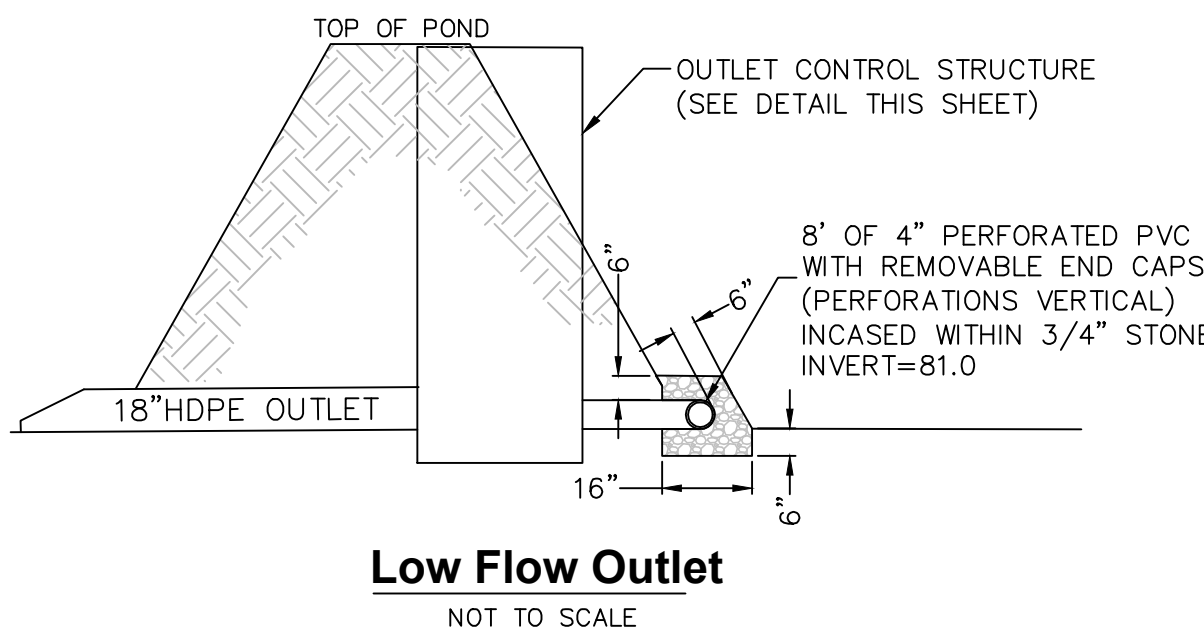
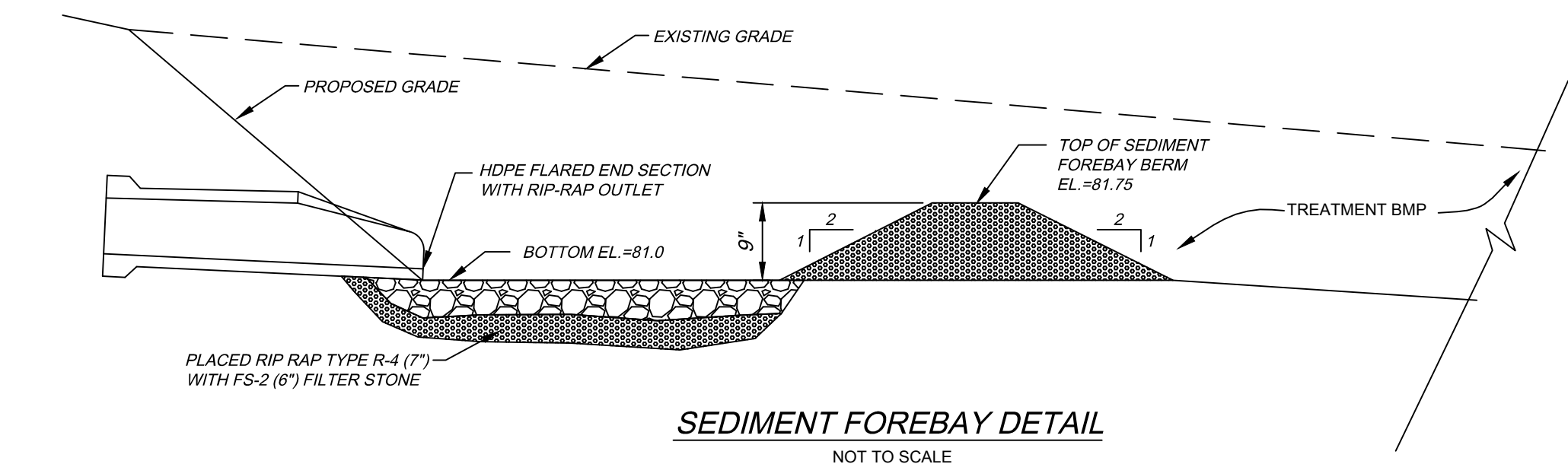
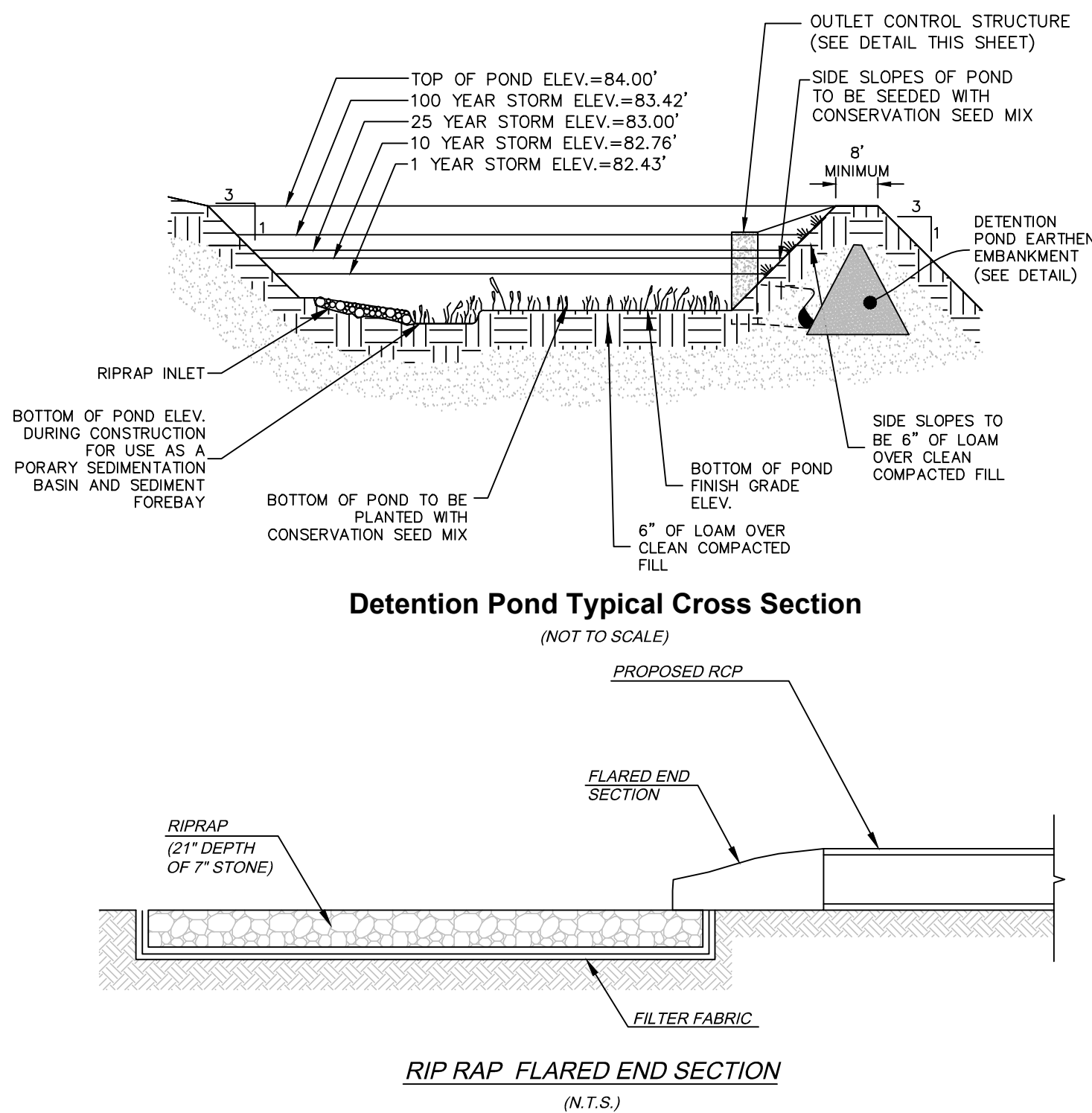
PRELIMINARY MINOR SUBDIVISION
AP 158 LOTS 20 & 25
AND
MASSASOIT AVENUE EXTENSION
IN
BRISTOL, RHODE ISLAND

No.	DATE	DRWN	CHKD
1	1/3/18	TJP	TJP
2	1/19/18	TJP	TJP
3	7/17/18	TJP	TJP

SCALE: AS NOTED
SHEET NO: 7 OF 9
DRAWN BY: TJP
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PROJECT NO.: LDP 17-36



- DRAINAGE AND UTILITY NOTES:**
1. UTILITY LOCATION VERIFICATION IS TO INCLUDE TEST HOLES AS NEEDED.
 2. WATER MAINS AND APPURTENANCES, INCLUDING SERVICE CONNECTIONS SHALL BE INSTALLED IN CONFORMITY WITH THE SPECIFICATIONS OF THE BRISTOL COUNTY WATER AUTHORITY.
 3. THE CONTRACTOR IS REQUIRED TO SCHEDULE AND COORDINATE WATER SERVICE INSTALLATIONS, SHUT DOWNS AND DISRUPTIONS WHICH AFFECT THE SITE AND SITE ADJACENT USERS WITH THE LOCAL WATER AUTHORITY AND THE LOCAL FIRE DEPARTMENT.
 4. UNDERGROUND UTILITIES, ELECTRIC, TELEPHONE, FIRE ALARM CABLE, TELEVISION AND GAS SERVICES SHALL BE INSTALLED PER THE REQUIREMENTS OF THE APPLICABLE SITE UTILITY PROVIDER
 5. METALLIC WARNING TAPE SHALL BE INSTALLED 12" ABOVE ALL STORM DRAIN AND OTHER UTILITIES.
 6. IT SHALL 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.



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Environmental Management
Office of Water Resources
Onsite Wastewater Treatment System Program

Site Evaluation Form
Part A - Soil Profile Description
Application Number

Property Owner: NCD DEVELOPERS, INC.
Property Location: AP 158 LOTS 20 & 25, MASSASOIT AVE, BRISTOL
Date of Test Hole: 8/22/17
Soil Evaluator: Thomas J. Principe, III, PE License Number: D-4075
Weather: Sunny TSE Shaded: Yes ☐ No ☒ Time: _____

TH	Horizon	Depth	Horizon Boundaries	Soil Colors	Pb-Dox	Texture	Structure	Consistence	Soil Category		
			Dist	Topo	Matrix	Pb-Dox Features	Ab. S. Contr.				
TH DB-2	Horizon	0-18"									
	C	18"-72"	9	5	10YR 5/4	7.5YR 4/6	C-m-p	SL	0, MA	FR	8
TH DB-3	Horizon	0-20"									
	C	20"-96"	9	5	10YR 5/4	7.5YR 4/6	C-m-p	SL	0, MA	FR	8

TH DB-2 Soil Class B Total Depth 72" Impervious/Limiting Layer Depth 72" (cg) GW Seepage Depth NONE SHWT 48" (cg)
TH DB-3 Soil Class B Total Depth 96" Impervious/Limiting Layer Depth 96" (cg) GW Seepage Depth NONE SHWT 48" (cg)
Comments: DB-2 = 24" ledge. C&C (CANTON AND CHARLTON FINE SANDY LOAM) HYDRAIC SEAL GRAP B

Revised 1/31/14

APPLICANT/OWNER:
NCD DEVELOPERS, INC.
C/O MICHAEL FONSECA
370 METACOM AVENUE
BRISTOL, RI 02809

Thomas J. Principe, III
REGISTERED PROFESSIONAL ENGINEER

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TIVERTON, RI 02878
401.816.5385
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REVISIONS

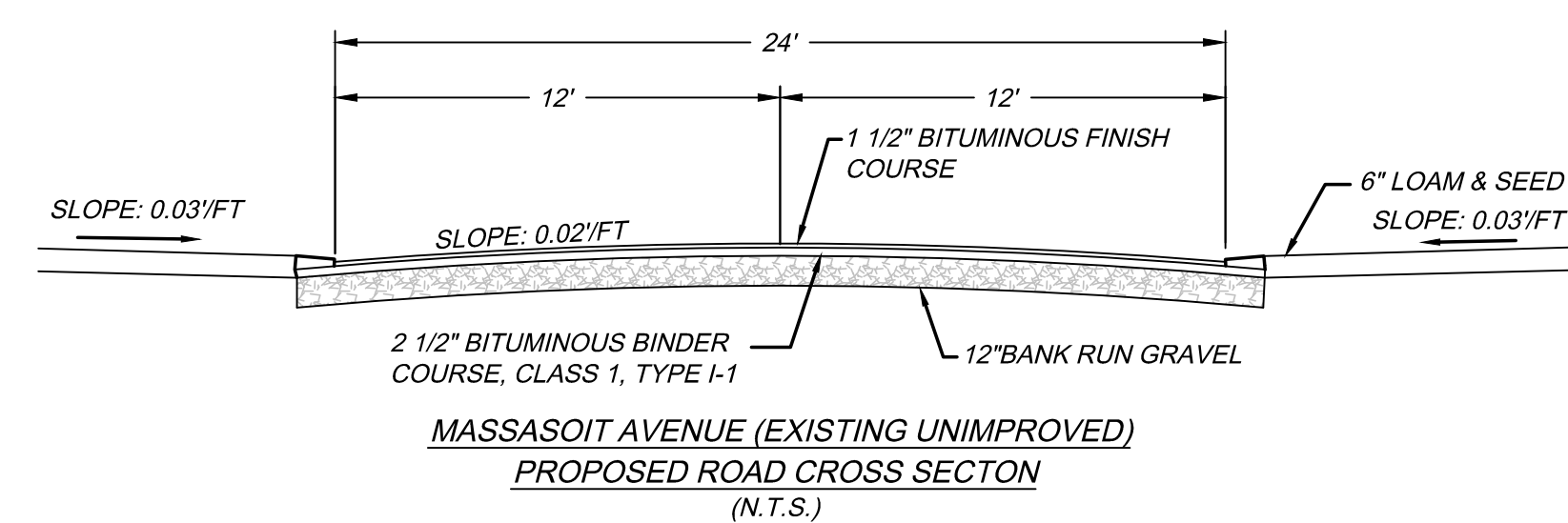
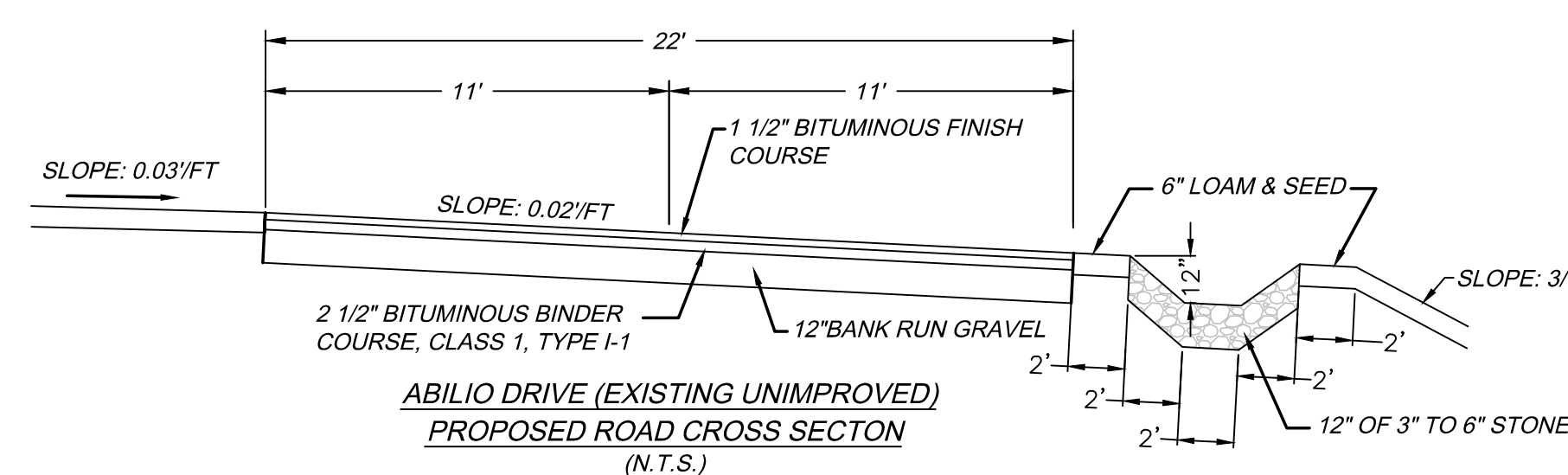
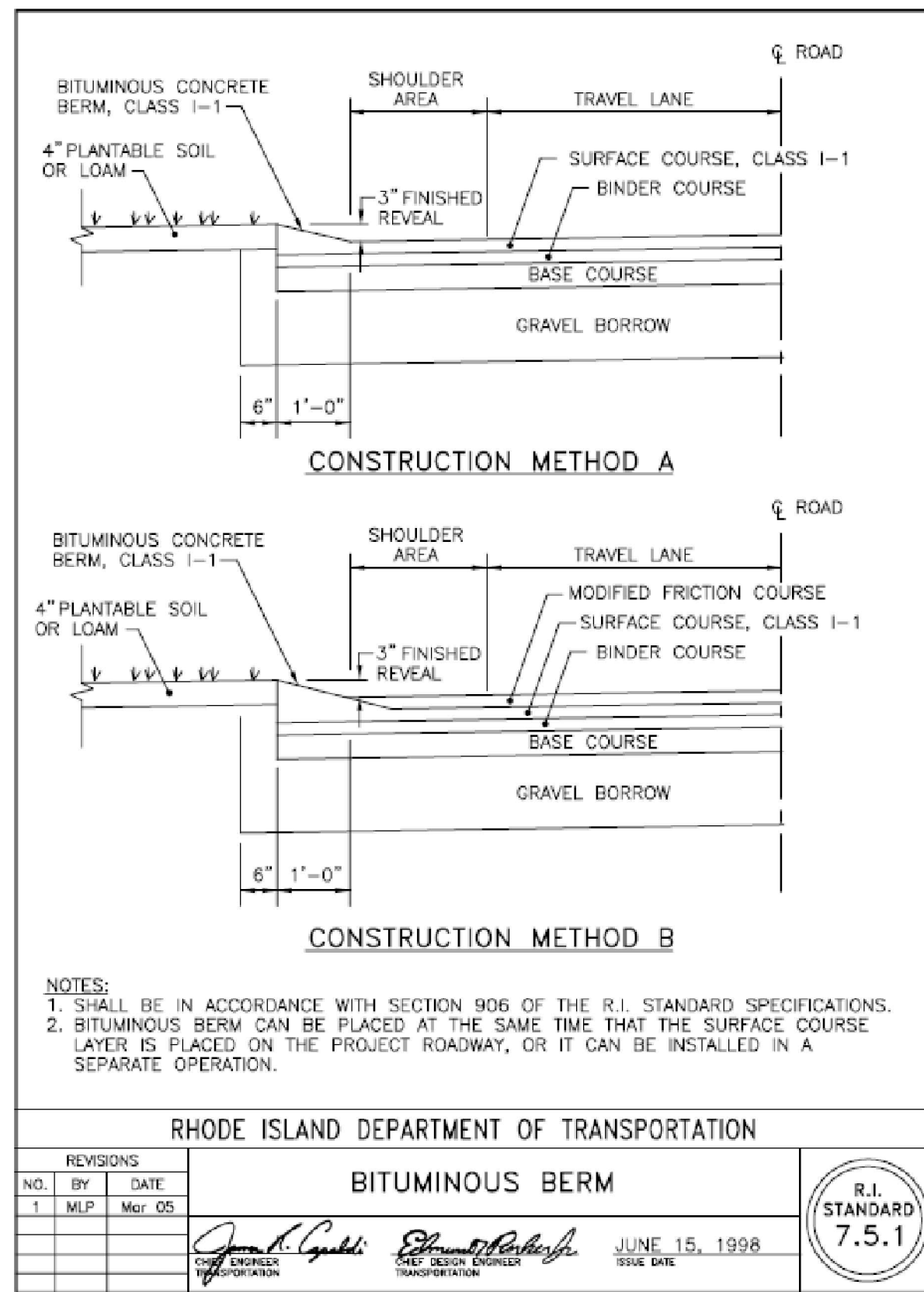
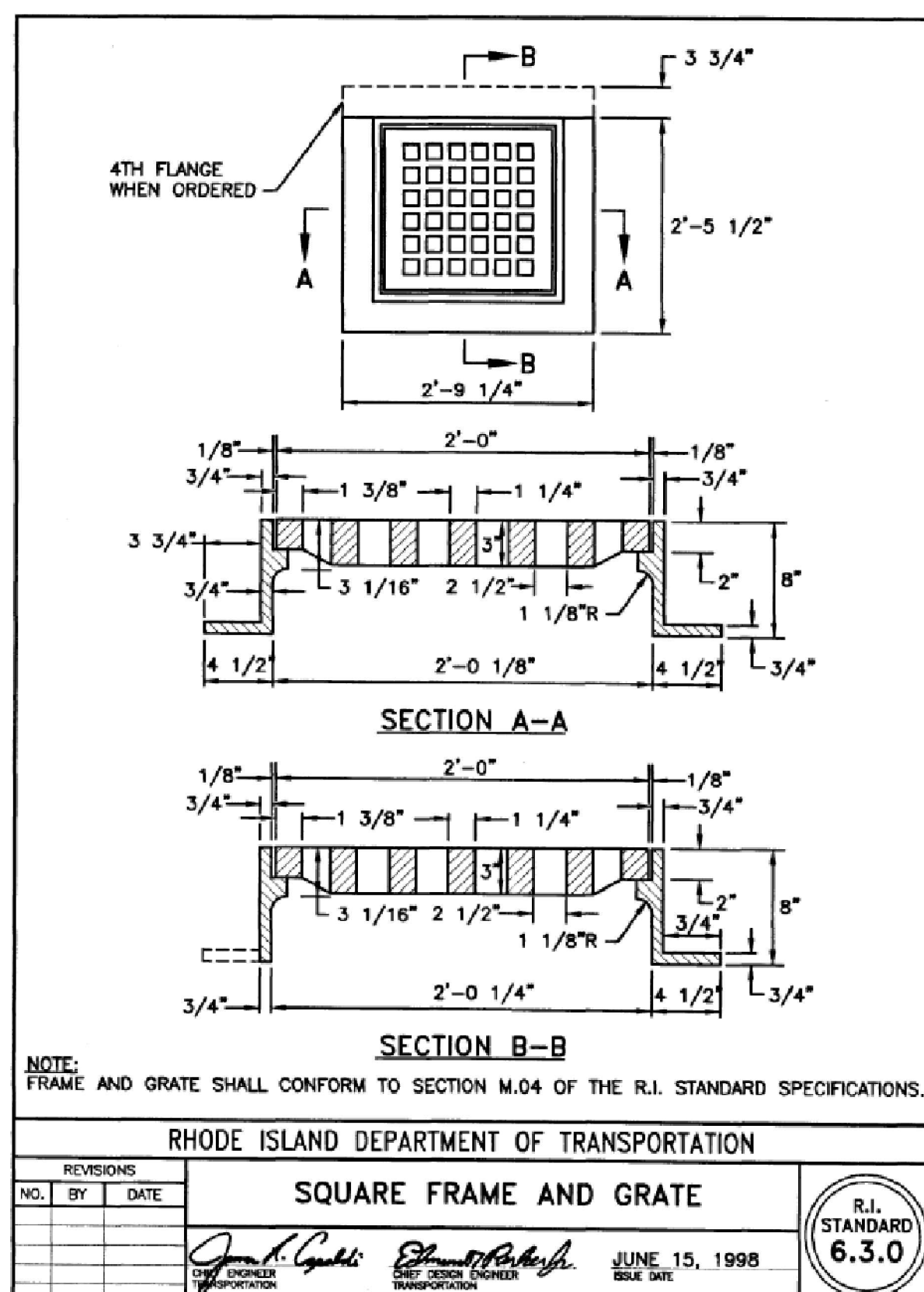
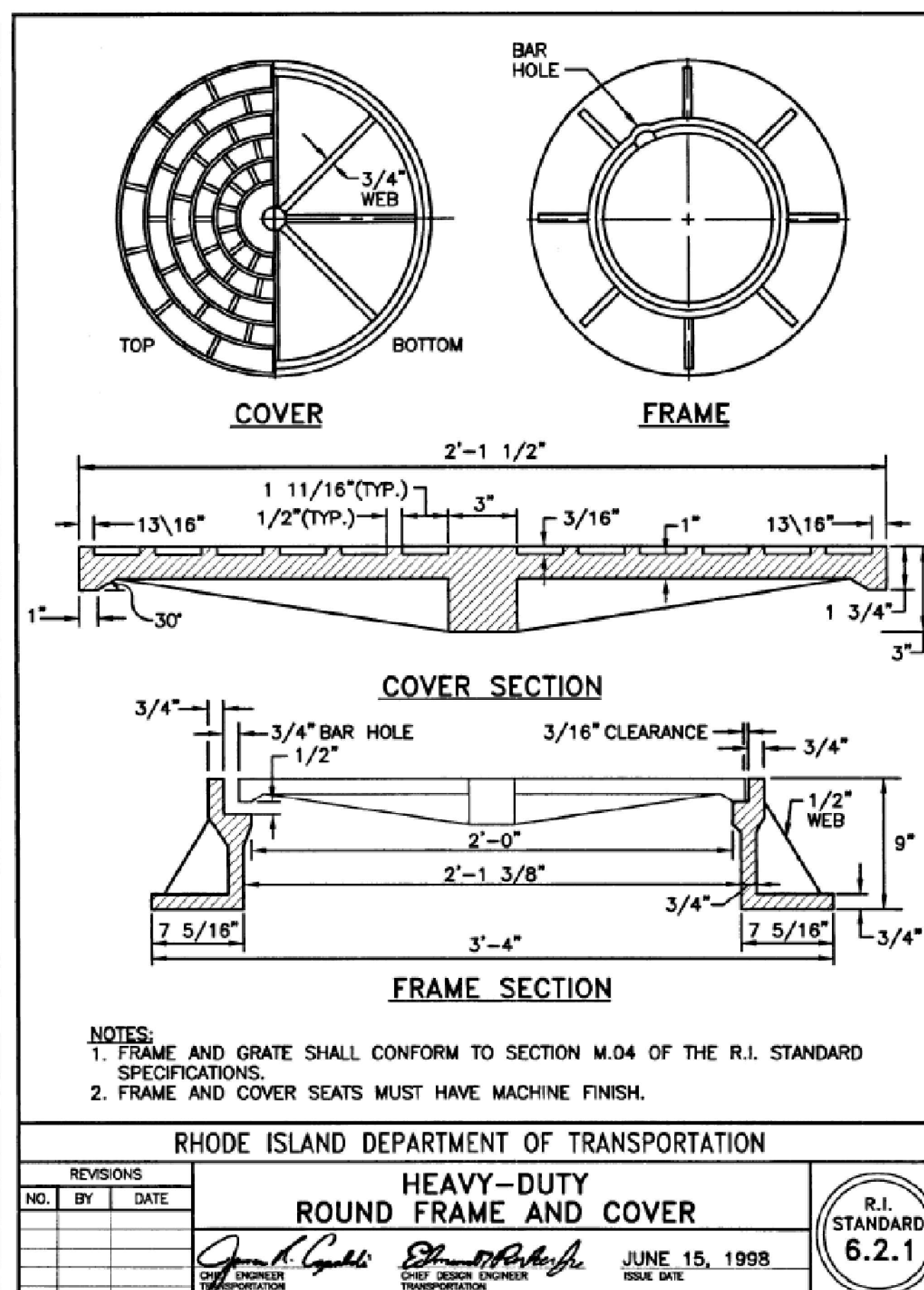
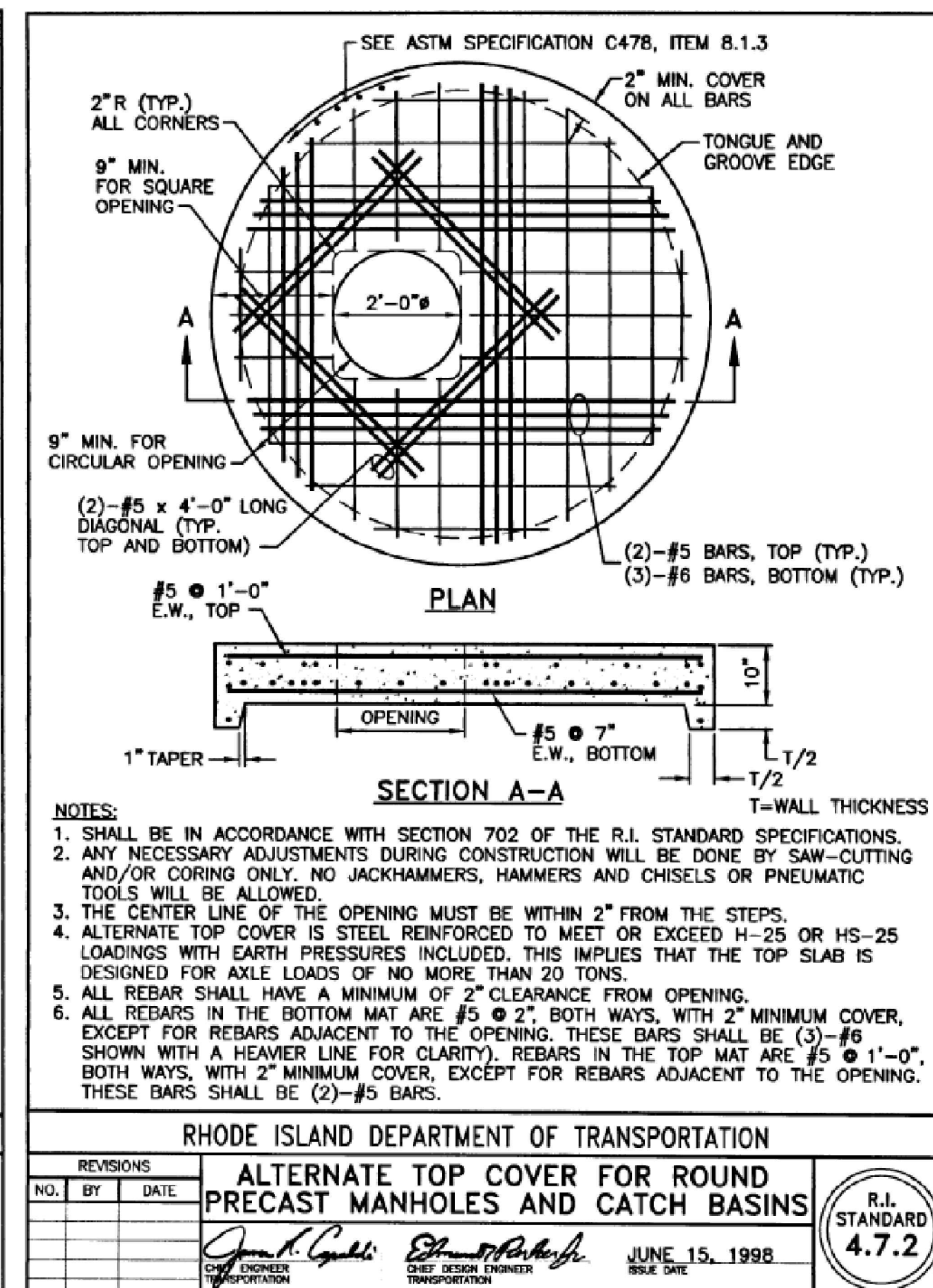
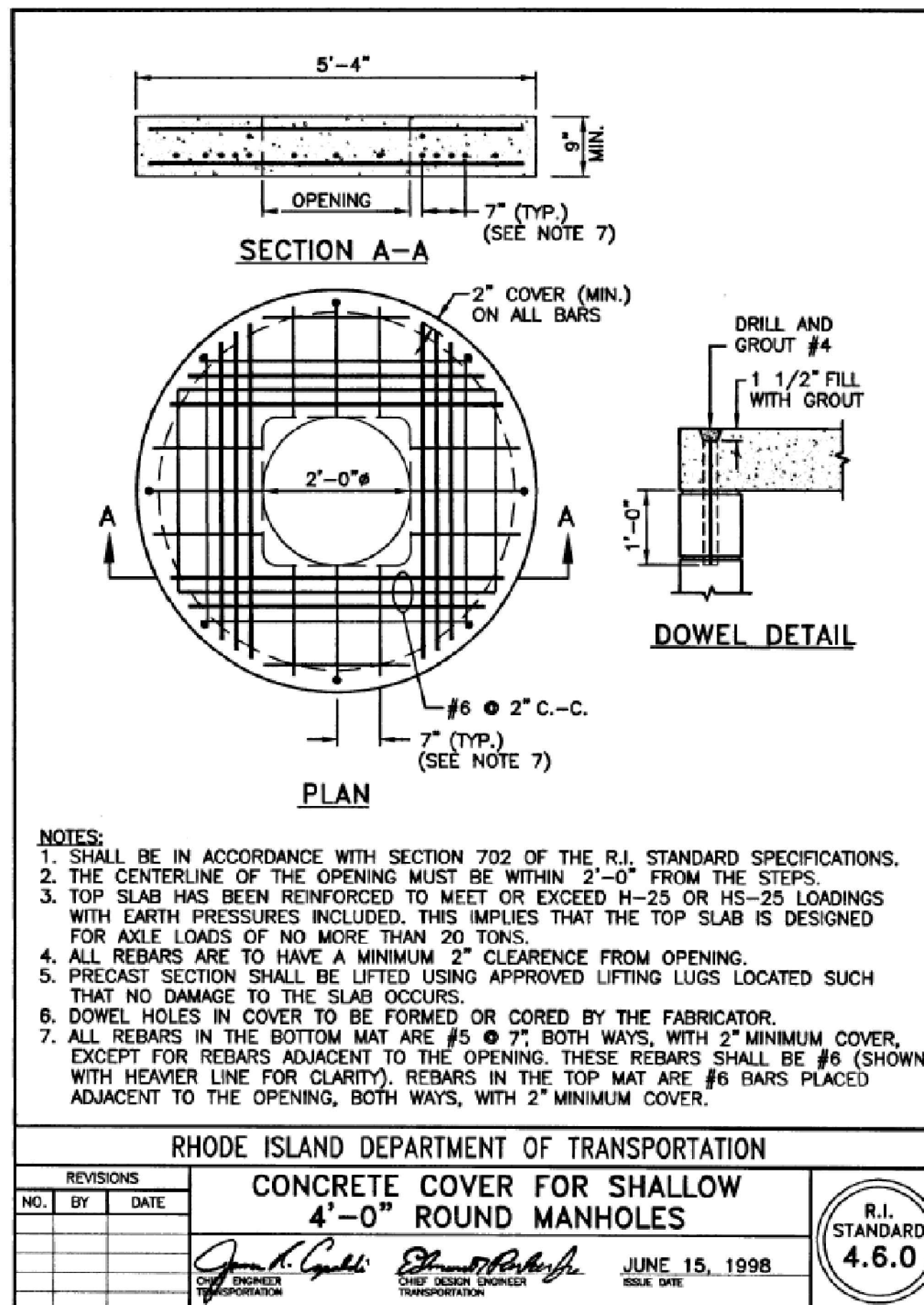
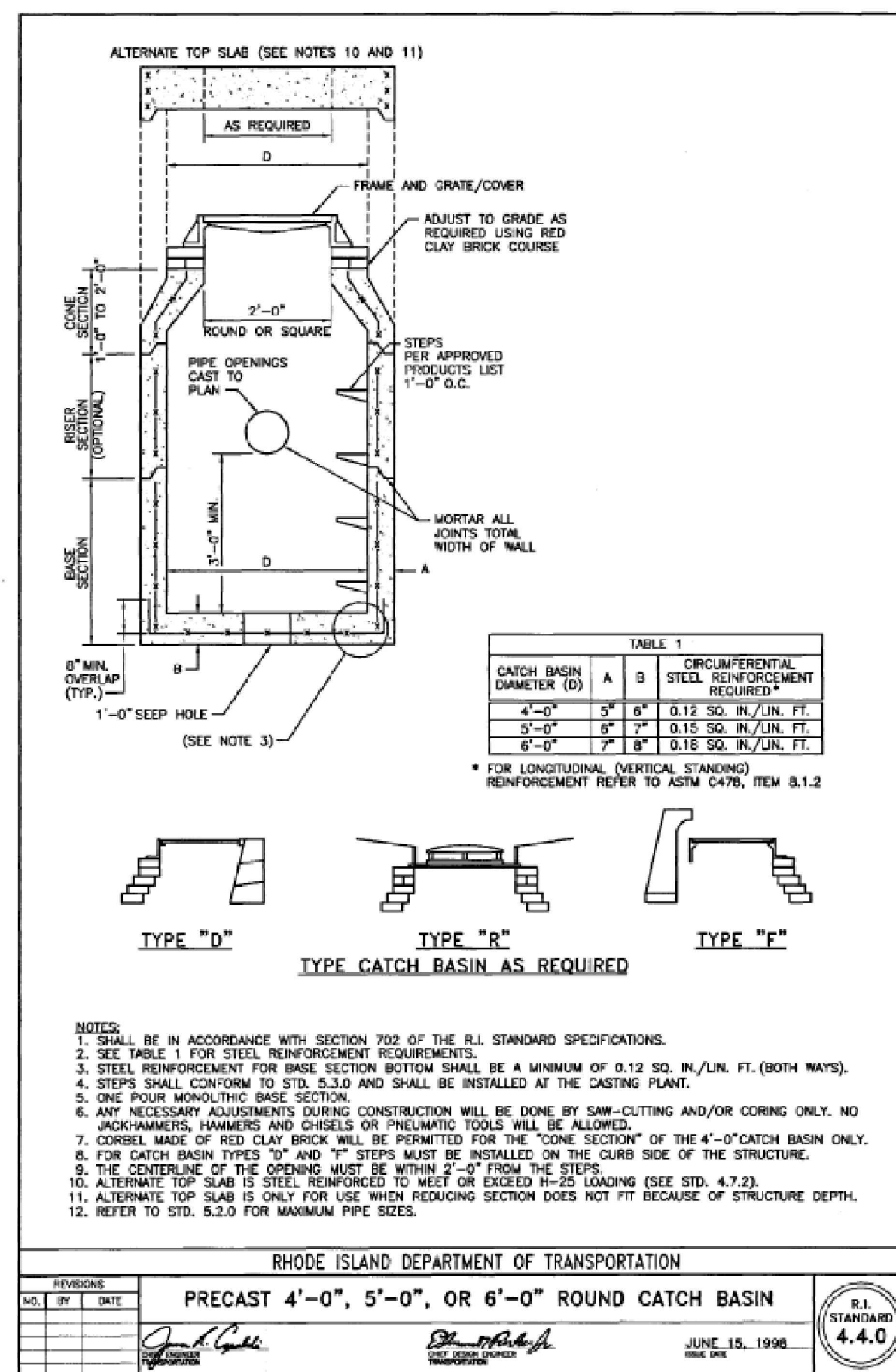
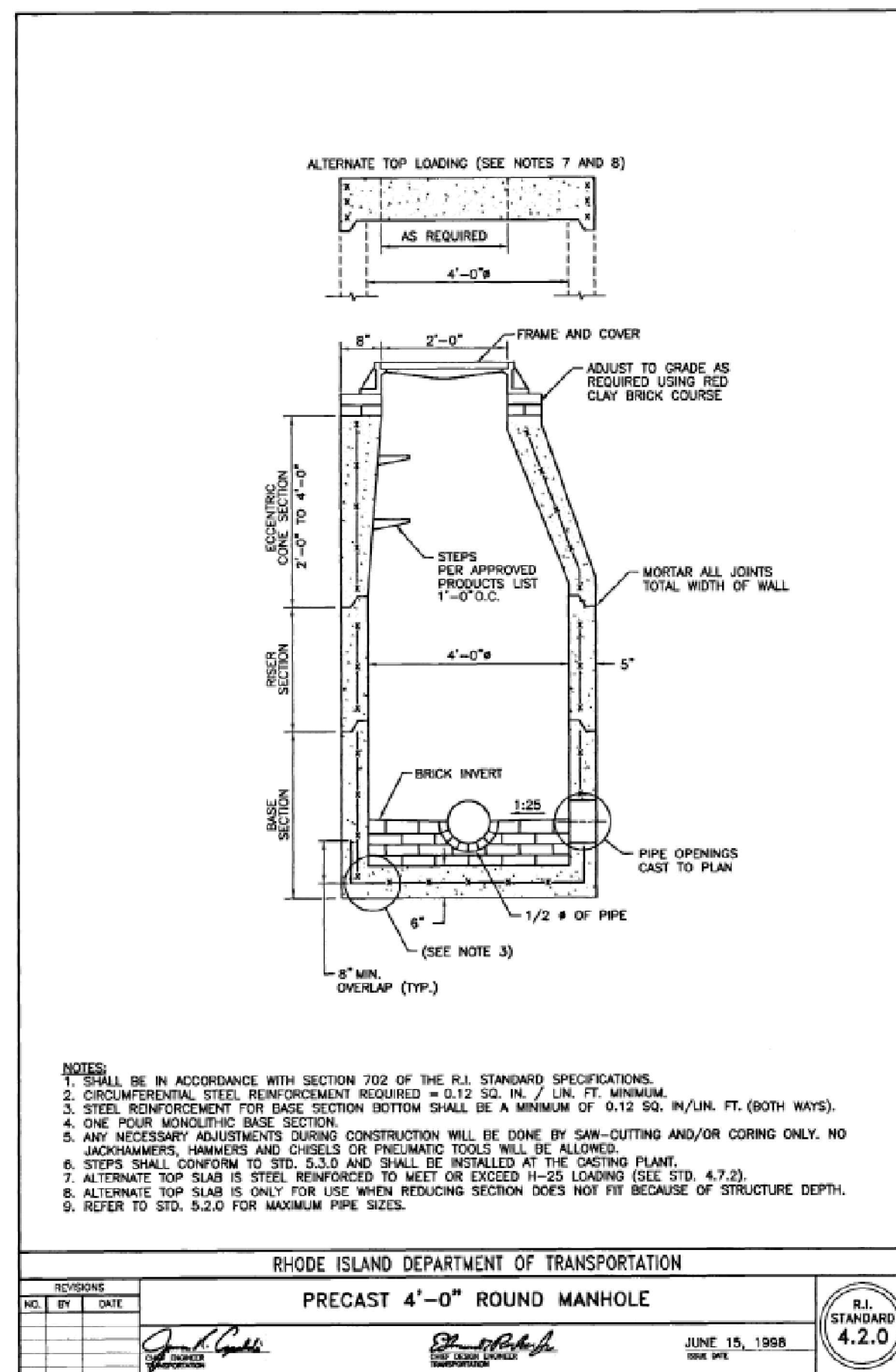
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PRELIMINARY MINOR SUBDIVISION
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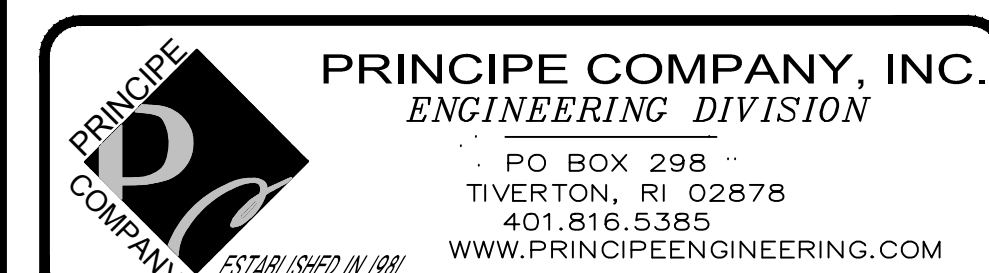
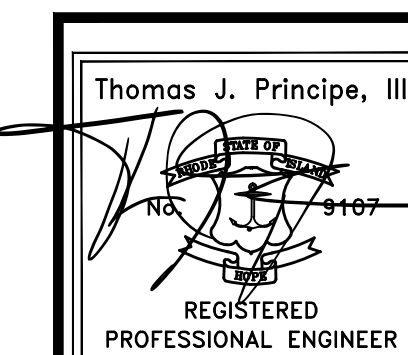
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DRAWN BY: TJP
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SHEET NO: 8 OF 9
DESIGN BY: TJP
PROJECT NO.: LDP 17-36

CHECKED BY: TJP



CONSTRUCTION DETAILS-4



REVISIONS			
No.	DATE	DRWN	CHKD
1	1/3/18	TJP	TJP
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3	7/17/18	TJP	TJP

PRELIMINARY MINOR SUBDIVISION
AP 158 LOTS 20 & 25
AND
MASSASOIT AVENUE EXTENSION
IN
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SCALE: AS NOTED SHEET NO: 9 OF 9
DRAWN BY: TJP DESIGN BY: TJP CHECKED BY: TJP
DATE: 8/17/17 PROJECT NO.: LDP 17-36

APPLICANT/OWNER:
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C/O MICHAEL FONSECA
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BRISTOL, RI 02809