TOWN OF ASHLAND CITY
Planning Commission Meeting-
July 01, 2024 5:30 PM
Agenda

Chairwoman: Nicole Binkley
Committee Members: Vivian Foston, Gerald Greer, JT Smith, Mike Stuart, Steven Stratton, Jerome Terrell

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CALL TO ORDER
ROLL CALL
APPROVAL OF AGENDA
APPROVAL OF MINUTES

1. 06.03.24 PC Meeting Minutes

PUBLIC FORUM

2. ***Procedure for Speaking Before the Board***

* Speakers must complete the information form and submit it to the transcriber prior to the public forum. Be prepared to speak when your name is called.
* Each speaker will be allowed 4 minutes.
* Speakers may comment on issues scheduled for consideration at the meeting or other appropriate concerns pertinent to the operation of the town.
* Each speaker should state the following:
  - his/her name
  - whether they are an Ashland City resident and/or property owner
* No person shall be allowed to make obscene, derogatory, or slanderous remarks while addressing the Council/Board. Persons doing so will be asked to stop speaking and will forfeit the remainder of their time.
* All remarks shall be directed to the Council/Board as a body only.
* No person shall be allowed to disrupt or interfere with the procedures.
* Remarks shall end when the speaker's allotted time has expired. No time shall be shared with other speakers.
* Questions from the council/board members may be asked for clarification as well as council/board members may have brief comments; however, no person shall be permitted to enter any discussion or debate either directly with or through any member of the Council/Board or anyone present at the meeting.
* No one shall make open comments during the meeting.

OLD BUSINESS

3. AO Smith/ Ashland City Plat Approval
4. Site Plan Approval ACE Retail

NEW BUSINESS

5. Rezone Request: Parcel 055 019.00

OTHER

6. Zoning Ordinance Redline

ADJOURNMENT

Those with disabilities who require certain accommodations in order to allow them to observe and/or participate in this meeting, or who have questions regarding the accessibility of the meeting, should contact the ADA Coordinator at 615-792-6455, M-F 8:00 AM – 4:00 PM. The town will make reasonable accommodations for those persons.

Town of Ashland City
Building & Codes Department
233 Tennessee Waltz Parkway Suite 103
Ashland City TN 37015
(615) 792-6455

APPLICATION FOR SITE PLAN APPROVAL

Site Plan Review Fee: $100.00

Date Received: _____

Property Address: 1209 Highway 12 S.
Ashland City, TN 37015

Map # 055 **Parcel #** 036.00 **Acreage:** 5.19

Property Owner(s): Mark Yarbrough

Phone: 615-417-7659

Description of project being reviewed: Commercial Building consisting of shell retail spaces for tenant buildouts

Having submitted plans for review by the Ashland City Planning Commission, I understand that I am responsible for all review fees incurred by the Town of Ashland City. In understand that the fee paid at the time of submittal is not applicable for the fees incurred through review. With my signature, I verify that I fully understand that I am responsible for said fees, and that I have received a copy of Ordinance #165.

M [signature] 4/30/2024
Applicant Signature Date

Town of Ashland City
Building & Codes Department

233 Tennessee Waltz Parkway Suite 103
Ashland City TN 37015
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PLANNING COMMISSION SITE PLAN CHECKLIST

NAME OF SITE Ace Retail Center

LOCATION 1209 TN Hwy-12 South ZONING DISTRICT C-2

OWNER Mark & Tonya Yarbrough

ENGINEER Klober Engineering Services - Josh Lyon, P.E.

1. Three (3) copies of the site plan. Please indicate at time of application if you would like any of the remaining copies after your case is heard and voted on.

2. Three (3) copies and an electronic PDF of revised site plans made available to the Fire, Building and Life Safety Department – according to planner/engineer comments. Also written response to all comments to match what was changed on revised site plans.

3. Location map of the site at a scale of not less than 1"=2000' (USGS map is acceptable). Map must show the following:
    a. Approximate site boundary
    b. Public streets in the vicinity
    c. Types of development of surrounding parcels
    d. Public water and sewer lines serving the site
    e. Map # and Parcel # of site location

4. Site boundary, stamped and signed by a registered surveyor.

5. The shape, size and location of all existing buildings on the lot.

6. The existing and intended use of the lot and of structures on it. If residential, give the number of dwelling units per building.

7. Topographic survey of the site with contour intervals at no greater than 5' intervals, stamped and signed by a registered surveyor.

8. Location of all driveways and entrances with dimensions from the centerline of the drive to the nearest property corner and to the nearest intersection (if the intersection is closer than 200 feet).

9. Dimensioned layout and location of all parking spaces including handicapped spaces.

10. Dimensioned layout and location of off-street loading bays and docks.

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11. Location and area of open space.

12. A table showing the ground coverage, total floor area and building heights.

13. Location, dimension and heights of all fences and walls with materials specified.

14. Location, type and amount of landscaping.

15. Proposed means of surface drainage, including locations and sizes of all culverts, ditches and detention structures, storm-water system to be designed as per the requirements of the Ashland City Planning Commission.

16. Dimensioned location of all easements and right-of-ways.

17. Location of all portions of the site that are within the floodway and the 100-year floodplain. A note will be included which gives the FEMA map number from which this information was developed. In addition, if portions of the site are in the 100-year floodplain and/or the floodway, the 100-year flood elevation(s) at the site will be listed on the plan.

18. Location, size and distance to all public utilities serving the site including all fire hydrants.

19. Location, by type and size of all proposed signs, (Please note that signs larger than 40 sq. ft. are not permitted per the sign ordinance for the Town of Ashland City.

20. Vegetation, show at minimum the following:
    a. Existing tree masses and hedgerows
    b. General description of the tree types and sizes within the tree masses
    c. Location and identification of trees 15” in caliper (measured 4’ above the ground) or larger
    d. Description of landscaping requirements for the site based upon surrounding land uses (see Zoning Ordinance Section 3, 140)

21. Identification of slopes greater than 15% and identification of those soils (SCS soil mapping is acceptable) on those slopes.

22. Site plan application fee $100

23. Additional engineering review etc., site inspection charges are subject to Section 14-301 of the Ashland City Municipal Code per Ordinance #165.

24. Three (3) sets of the construction plans for the site.

25. Submittal must be made at least 20 working days prior to the Planning Commission meeting to be heard.

26. If application is requesting a variance, application is to be submitted to the Building Official in accordance with Section 7.080 of the Ashland City Zoning Ordinance.

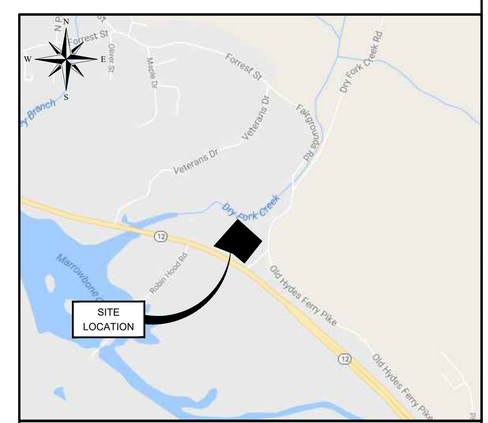
SITE PLAN FOR

ACE RETAIL CENTER

1209 TN HIGHWAY-12 SOUTH
ASHLAND CITY, TN 37015

SHEET INDEX:

C1.00 ——— EXISTING CONDITIONS
C1.01 ——— INITIAL EPSC PLAN
C1.02 ——— SITE PLAN
C1.03 ——— GRADING AND DRAINAGE PLAN
C1.04 ——— FINAL STABILIZATION PLAN
C2.01 ——— CONSTRUCTION DETAILS
C2.02 ——— CONSTRUCTION DETAILS
C2.03 ——— WATERLINE DETAILS
C2.04 ——— SEWER LINE DETAILS



Vicinity Map
Not to Scale

NOT FOR CONSTRUCTION

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www.klobereng.com

JOSHUA M. LYON, P.E. TN#112331

DATE: 05/15/2024

ACE RETAIL CENTER

PRESENT OWNER:

MARK & TONYA YARBROUGH
400 WARIOTO WAY #708
ASHLAND CITY, TN 37105

DEED REFERENCE:

MAP 55, PARCEL 36
LEE BATSON COMMERCIAL LOTS – LOT 1

PROPERTY INFORMATION:

AREA: 226,164 S.F. = 5.19 ACRES

ZONING:

COMMERCIAL C–2

SITE USE:

EXISTING USE: MINI STORAGE
PROPOSED USE: GENERAL RETAIL, PROFESSIONAL SERVICES–NON MEDICAL

SIGN NOTE:

ALL SIGNS SHALL COMPLY WITH THE MOST CURRENT EDITION OF THE ASHLAND CITY ZONING ORDINANCE. SEPARATE PERMIT REQUIRED.

LOT COVERAGE:

EXISTING BUILDING AREA = 49,755 S.F.
NEW BUILDING AREA = 20,552 S.F.
BUILDING COVERAGE = 31.1%
PROPOSED BUILDING HEIGHT: 33'–1"
MAX BUILDING HEIGHT: 40'–0"
EXISTING CONCRETE SURFACE: ±350 S.F.
EXISTING ASPHALT SURFACE: ±59,926 S.F.
EXISTING IMPERVIOUS AREA: ±110,031 S.F. = 48.65%
PROPOSED ASPHALT SURFACE: ±23,008 S.F.
PROPOSED ASPHALT SURFACE: ±1,528 S.F.
PROPOSED IMPERVIOUS AREA: ±45,088 S.F. = 20.00%

PARKING INFORMATION:

REQUIRED PARKING:
GENERAL RETAIL: 11,000/250 = 44 SPACES
PROFESSIONAL SERVICES: 9,552/400 = 24 SPACES

TOTAL PARKING: 68 SPACES,
INCLUDING 4 HANDICAP SPACES

UTILITY NOTE:

COORDINATE ALL UTILITY INSTALLATIONS WITH GOVERNING ENTITIES.

SECURITY GATE:

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GENERAL NOTES:

1. PRIOR TO BEGINNING CONSTRUCTION ON THIS SITE THE LOCATION OF UTILITIES MUST BE IDENTIFIED BY CALLING THE TOLL–FREE TENNESSEE ONE CALL REFERENCE NUMBER 1–800–351–1111.
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3. TOPSOIL SHALL BE PLACED ON EXCAVATED AREAS WHICH REQUIRE NEW VEGETATION. GROUND COVER SHALL BE REESTABLISHED WITH KENTUCKY 31 FESCUE SEEDED AT A MINIMUM OF 250 LBS. PER ACRE. SLOPES 3:1 OR GREATER SHALL BE LINED WITH NORTH AMERICAN GREEN S150 GRASS MATTING OR EQUAL.
4. SILT FENCE SHALL BE INSTALLED IN ALL EROSION AREAS WHICH COULD ALLOW UNTREATED STORMWATER RUNOFF TO BE DISCHARGED FROM THE PROPERTY. ALL EROSION CONTROL MEASURES SHALL BE CONSISTENT WITH THE PROVISIONS DESCRIBED IN THE MOST CURRENT EDITION OF THE TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK.
5. THE STORMWATER RUNOFF CALCULATIONS ON THIS SITE HAVE BEEN PERFORMED USING THE U.S. SOIL CONSERVATION SERVICE TR–55 METHOD. STORMWATER POND HAS BEEN SIZED TO HANDLE A 25 AND 100 YEAR STORM EVENT.
6. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS TAKEN FROM A SURVEY BY CHANDLER SURVEYING OF PLEASANT VIEW, TN.
7. CONSTRUCTION WILL BEGIN FOLLOWING PLAN APPROVAL BY THE CITY OF ASHLAND CITY.
8. ANY DUMPSTER SHALL BE FULLY ENCLOSED, MATCHING THE FACADE OF THE BUILDING, AND A WOODEN PRIVACY FENCE GATE THAT IS 8 FEET HIGH ON ALL SIDES AND ALL SERVICE BOXES AND MECHANICALS TO BE IN THE REAR OF THE BUILDING.
9. ALL ADDITIONS IN THE FUTURE MUST BE BUILT TO THESE STANDARDS.
10. ACCORDING TO **MAP 47021C0170E, DATED 02/26/2021**, PORTIONS OF THE SITE ARE LOCATED WITHIN FLOOD HAZARD AREAS 'AE' AND 'X'.

NPDES PERMIT NOTE:

THE MAXIMUM DISTURBED AREA FOR THIS PROJECT IS OVER 1 ACRE. THIS SITE IS CURRENTLY COVERED UNDER PERMIT NUMBER TNR245326.

JOSHUA M. LYON, P.E.
PROJECT MANAGER

EP&SC NOTES:

1. AN EROSION PREVENTION SILTATION CONTROL PLAN (EP&SC) AND LAND DISTURBANCE PERMIT (IF REQUIRED) SHALL BE IN PLACE PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY. EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD; GENERALLY CONSIDERED TO BE THROUGH THE COMPLETION OF RESTORATION. IF REQUIRED, THE EP&SC PLAN ALONG WITH AN INSPECTION CHECKLIST AND STORMWATER PERMIT MUST BE AT THE PROJECT SITE AT ALL TIMES. THE INSPECTION CHECKLIST SHALL HAVE A RECORD OF DATES EP&SC DEVICES ARE INSPECTED AND ANY CORRECTION ACTION TAKEN OR MAJOR OBSERVATIONS. BMP'S MUST BE INSPECTED BY A QUALIFIED PERSON WHO HAS TAKEN AN APPROVED EROSION AND SEDIMENTATION COURSE.
2. ALL EP&SC DEVICES ARE TO REMAIN IN PLACE UNTIL THE SITE HAS BEEN STABILIZED AND A GOOD STAND OF GRASS HAS BEEN ESTABLISHED.
3. EROSION PREVENTION AND SEDIMENT CONTROLS MUST BE INSPECTED AT LEAST TWICE EVERY CALENDAR WEEK AT LEAST 72 HOURS APART. INSPECTIONS ARE TO BE DOCUMENTED AND KEPT WITH THE SWPPP (IF REQUIRED).
4. SILT FENCE, OR OTHER SEDIMENT BARRIERS ARE TO BE INSTALLED PROPERLY ALONG TOPOGRAPHICAL CONTOURS DOWN SLOPE OF THE AREA TO BE DISTURBED PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY.
5. EXCAVATED TOPSOIL TO BE REUSED MUST BE STOCKPILED AND ENCIRCLED WITH SILT FENCING.
6. THIS SITE SHALL CONTAIN A TEMPORARY STONE CONSTRUCTION ENTRANCE THAT CONFORMS TO REQUIRED SPECIFICATIONS PRIOR TO GRADING COMMENCEMENT. THE STONE SHALL BE 2 TO 3 INCH IN DIAMETER AND SHALL BE KEPT CLEAN BY ADDING STONE AS NEEDED. IT SHALL BE AT LEAST 8 INCHES DEEP UNDERLAIN WITH FILTER FABRIC AND 20 FEET WIDE.
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12. SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN THE STREET OR DRAINAGE STRUCTURES MUST IMMEDIATELY BE PHYSICALLY REMOVED.
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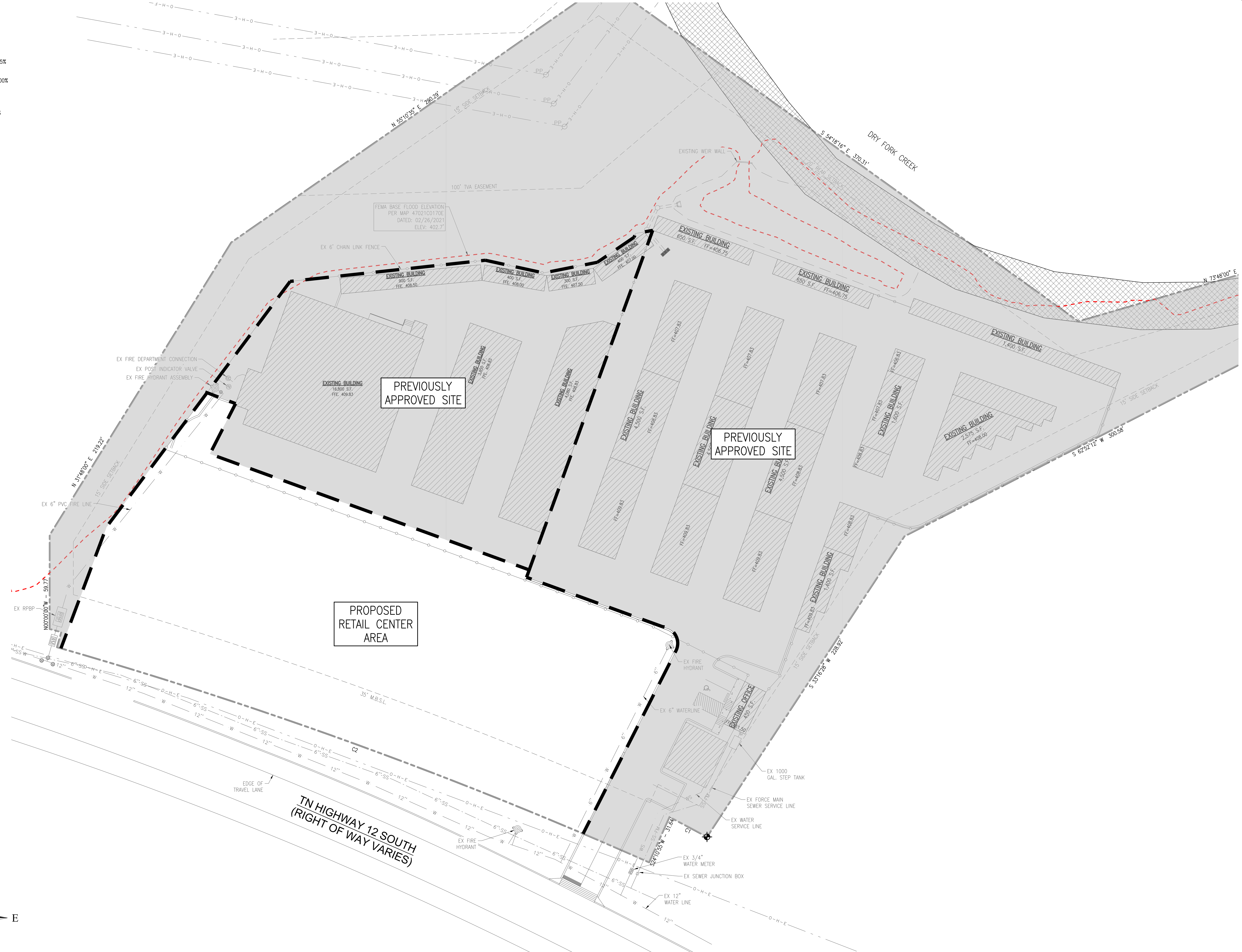

CALL BEFORE YOU DIG

CALL 811 NATIONWIDE

Know what's below.
Call before you dig.

IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND POSSIBLY INCOMPLETE, THEREFORE CERTIFICATION TO THE LOCATION OF ALL UNDERGROUND UTILITIES IS WITHHELD.

N W E S

30 0 30 60
SCALE IN FEET

LEGEND:

PROPERTY LINE
EXISTING WATER LINE
EXISTING SEWER LINE
OVERHEAD ELECTRIC LINE
FENCE
NEW CURB
SILT FENCE
EXISTING 5' CONTOUR
EXISTING 1' CONTOUR
NEW 1' CONTOUR
DEMO LINE
MANHOLE
CLEAN OUT
POWER POLE
WATER METER
FIRE HYDRANT
IR(O) IRON ROD OLD
IR(N) IRON ROD NEW
INV.–25.42 PIPE INVERT
28.14 SPOT ELEVATION
SLOPE DIRECTION

NOT FOR CONSTRUCTION

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NO.	BY	DATE	DESCRIPTION

REVISIONS

JOSHUA M. LYON, P.E. TN#112331

ACE RETAIL CENTER

1209 TN HWY-12 SOUTH
ASHLAND CITY, TN 37015
CHEATHAM COUNTY

DRAWN BY:	CJN
CHECKED BY:	JML
DATE:	5/7/24
PROJECT NO.:	C02624

EXISTING CONDITIONS

SHEET NUMBER
C1.00

ITEM # 4.

PRESENT OWNER:
MARK & TONYA YARBROUGH
400 WARIOTO WAY #708
ASHLAND CITY, TN 37105

DEED REFERENCE:
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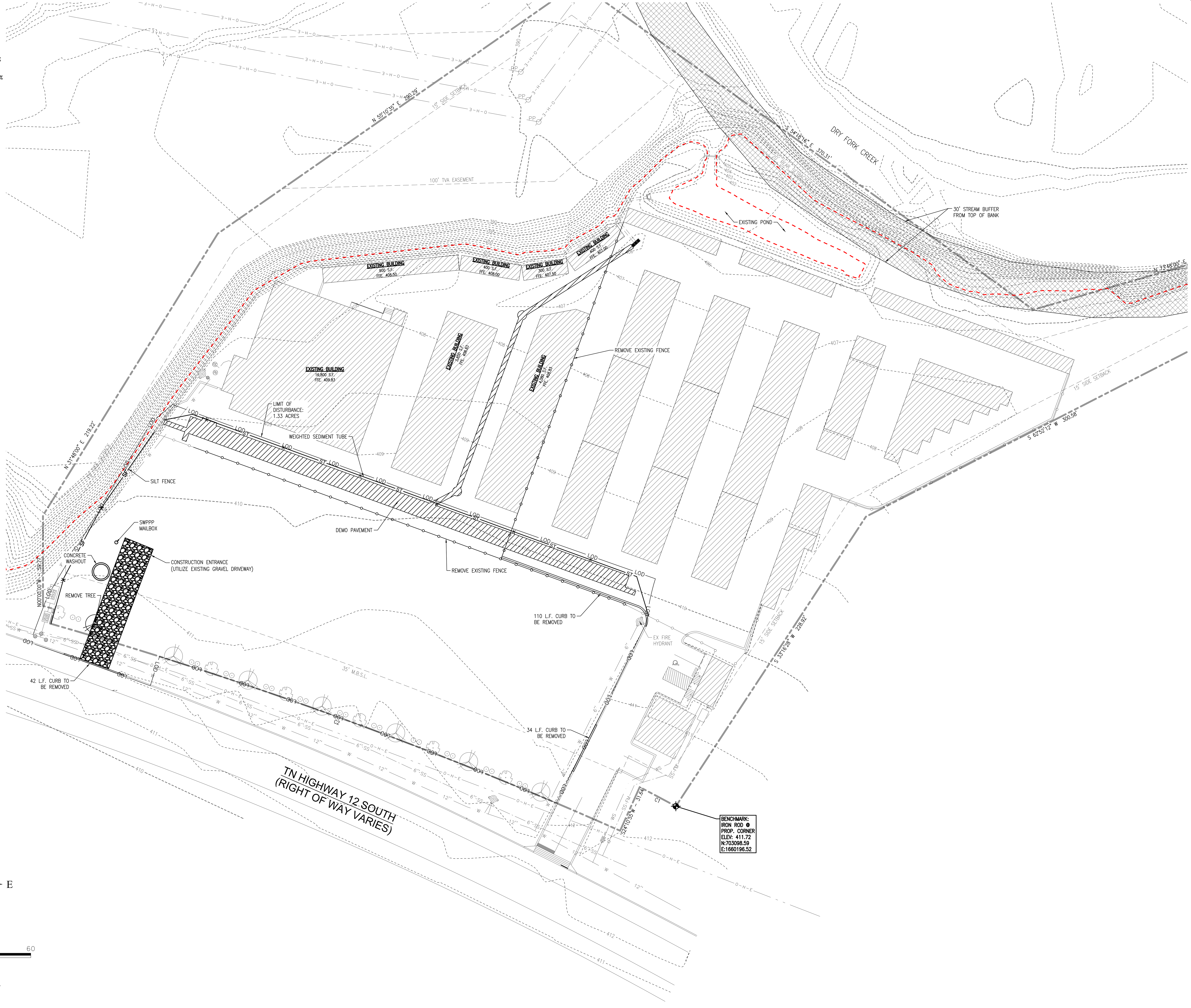

CALL BEFORE YOU DIG

811 CALL 811 NATIONWIDE
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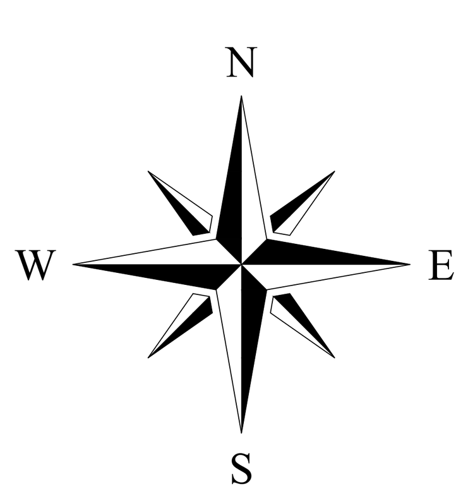

30 0 30 60
SCALE IN FEET

LEGEND:
PROPERTY LINE
EXISTING WATER LINE
EXISTING SEWER LINE
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FENCE
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SILT FENCE
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NO.	BY	DATE	DESCRIPTION

REVISIONS

JOSHUA M. LYON, P.E. TN#112331
NOT FOR CONSTRUCTION 5/15/24

ACE RETAIL CENTER
1209 TN HWY-12 SOUTH
ASHLAND CITY, TN 37015
CHEATHAM COUNTY

DRAWN BY:	CJN
CHECKED BY:	JML
DATE:	5/7/24
PROJECT NO.:	C02624

INITIAL EP&SC PLAN

SHEET NUMBER
C1.01

ITEM # 4.

\PROJECT\2024\CIVIL\C02624 Ace Retail Center – Ashland City\Current Civil Drawings\Ace Retail Center.dwg PLOTTED: 5/15/2024 9:17:06 AM

PRESENT OWNER:
MARK & TONYA YARBROUGH
400 WARIOTO WAY #708
ASHLAND CITY, TN 37105

DEED REFERENCE:
MAP 55, PARCEL 36
LEE BATSON COMMERCIAL LOTS – LOT 1

PROPERTY INFORMATION:
AREA: 226,164 S.F. = 5.19 ACRES

ZONING:
COMMERCIAL C–2

SITE USE:
EXISTING USE: MINI STORAGE
PROPOSED USE: GENERAL RETAIL, PROFESSIONAL SERVICES–NON MEDICAL

SIGN NOTE:
ALL SIGNS SHALL COMPLY WITH THE MOST CURRENT EDITION OF THE ASHLAND CITY ZONING ORDINANCE. SEPARATE PERMIT REQUIRED.

LOT COVERAGE:
EXISTING BUILDING AREA = 49,755 S.F.
NEW BUILDING AREA = 20,552 S.F.
BUILDING COVERAGE = 31.1%
PROPOSED BUILDING HEIGHT: 33'–1"
MAX BUILDING HEIGHT: 40'–0"
EXISTING CONCRETE SURFACE: ±350 S.F.
EXISTING ASPHALT SURFACE: ±59,926 S.F.
EXISTING IMPERVIOUS AREA: ±110,031 S.F. = 48.65%
PROPOSED ASPHALT SURFACE: ±23,008 S.F.
PROPOSED ASPHALT SURFACE: ±1,528 S.F.
PROPOSED IMPERVIOUS AREA: ±45,088 S.F. = 20.00%

PARKING INFORMATION:
REQUIRED PARKING:
GENERAL RETAIL: 11,000/250 = 44 SPACES
PROFESSIONAL SERVICES: 9,552/400 = 24 SPACES

TOTAL PARKING: 68 SPACES, INCLUDING 4 HANDICAP SPACES

UTILITY NOTE:
COORDINATE ALL UTILITY INSTALLATIONS WITH GOVERNING ENTITIES.

SECURITY GATE:
SECURITY GATES OR BARRIERS SHALL BE EQUIPPED WITH A RADIO OPERATED RECEIVER/CONTROLLER CAPABLE OF RECEIVING SIGNALS FROM A POLICE DEPARTMENT, SHERIFF'S DEPARTMENT (IF THE GATED FACILITY OR COMMUNITY IS IN THE COUNTY), FIRE DEPARTMENT, UTILITY AND EMERGENCY MEDICAL SERVICES' RADIO TRANSCEIVERS SERVING THE GATED FACILITY OR COMMUNITY WHICH ALLOW EMERGENCY RESPONDERS AND OTHER NECESSARY ON–DUTY EMPLOYEES TO OPEN THE SECURITY GATE OR BARRIER BY USE OF SUCH EQUIPMENT. ALL SECURITY GATES OR BARRIERS MUST MEET POLICIES DEEMED NECESSARY BY THE AUTHORITY HAVING JURISDICTION OVER THE GATED FACILITY OR COMMUNITY FOR RAPID, RELIABLE, AND MUTUAL AID ACCESS. SUCH EQUIPMENT SHALL BE FURNISHED, INSTALLED AND MAINTAINED BY THE GATED FACILITY OR COMMUNITY THAT IS SERVED BY SUCH EQUIPMENT.

GENERAL NOTES:

1. PRIOR TO BEGINNING CONSTRUCTION ON THIS SITE THE LOCATION OF UTILITIES MUST BE IDENTIFIED BY CALLING THE TOLL–FREE TENNESSEE ONE CALL REFERENCE NUMBER 1–800–351–1111.
2. ALL CONSTRUCTION ON THIS SITE SHALL COMPLY WITH APPLICABLE REGULATIONS AS SPECIFIED BY THE CITY OF MILLERSVILLE AND THE STATE OF TENNESSEE.
3. TOPSOIL SHALL BE PLACED ON EXCAVATED AREAS WHICH REQUIRE NEW VEGETATION. GROUND COVER SHALL BE REESTABLISHED WITH KENTUCKY 31 FESCUE SEEDED AT A MINIMUM OF 250 LBS. PER ACRE. SLOPES 3:1 OR GREATER SHALL BE LINED WITH NORTH AMERICAN GREEN S150 GRASS MATTING OR EQUAL.
4. SILT FENCE SHALL BE INSTALLED IN ALL EROSION AREAS WHICH COULD ALLOW UNTREATED STORMWATER RUNOFF TO BE DISCHARGED FROM THE PROPERTY. ALL EROSION CONTROL MEASURES SHALL BE CONSISTENT WITH THE PROVISIONS DESCRIBED IN THE MOST CURRENT EDITION OF THE TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK.
5. THE STORMWATER RUNOFF CALCULATIONS ON THIS SITE HAVE BEEN PERFORMED USING THE U.S. SOIL CONSERVATION SERVICE TR–55 METHOD. STORMWATER POND HAS BEEN SIZED TO HANDLE A 25 AND 100 YEAR STORM EVENT.
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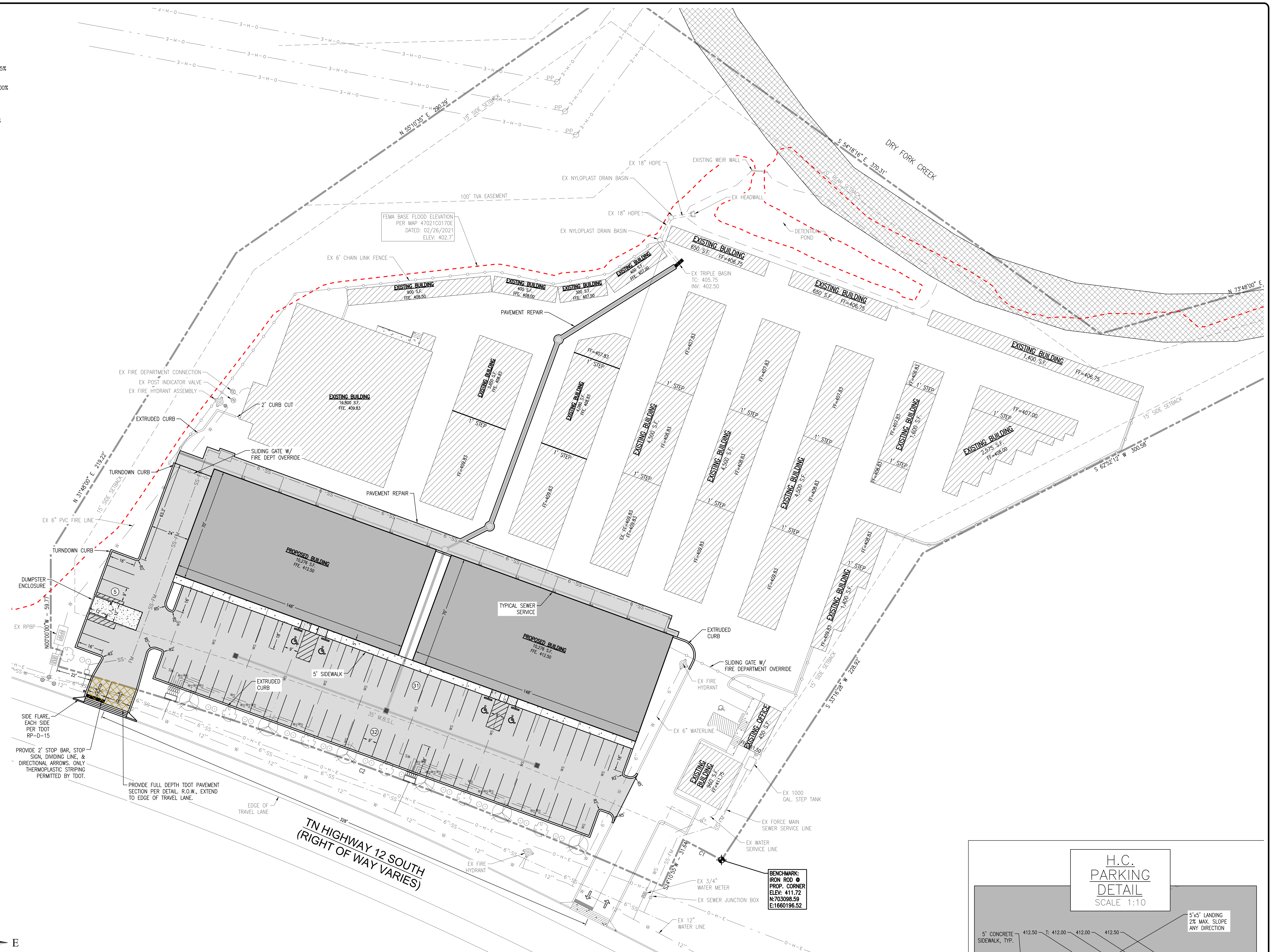
8. ANY DUMPSTER SHALL BE FULLY ENCLOSED, MATCHING THE FACADE OF THE BUILDING, AND A WOODEN PRIVACY FENCE GATE THAT IS 8 FEET HIGH ON ALL SIDES AND ALL SERVICE BOXES AND MECHANICALS TO BE IN THE REAR OF THE BUILDING.
9. ALL ADDITIONS IN THE FUTURE MUST BE BUILT TO THESE STANDARDS.
10. ACCORDING TO MAP 47021C0170E, DATED 02/26/2021, PORTIONS OF THE SITE ARE LOCATED WITHIN FLOOD HAZARD AREAS 'AE' AND 'X'.

NPDES PERMIT NOTE:
THE MAXIMUM DISTURBED AREA FOR THIS PROJECT IS OVER 1 ACRE. THIS SITE IS CURRENTLY COVERED UNDER PERMIT NUMBER TNR245326.

JOSHUA M. LYON, P.E.
PROJECT MANAGER

EP&SC NOTES:

1. AN EROSION PREVENTION SILTATION CONTROL PLAN (EP&SC) AND LAND DISTURBANCE PERMIT (IF REQUIRED) SHALL BE IN PLACE PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY. EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD; GENERALLY CONSIDERED TO BE THROUGH THE COMPLETION OF RESTORATION. IF REQUIRED, THE EP&SC PLAN ALONG WITH AN INSPECTION CHECKLIST AND STORMWATER PERMIT MUST BE AT THE PROJECT SITE AT ALL TIMES. THE INSPECTION CHECKLIST SHALL HAVE A RECORD OF DATES EP&SC DEVICES ARE INSPECTED AND ANY CORRECTION ACTION TAKEN OR MAJOR OBSERVATIONS. BMP'S MUST BE INSPECTED BY A QUALIFIED PERSON WHO HAS TAKEN AN APPROVED EROSION AND SEDIMENTATION COURSE.
2. ALL EP&SC DEVICES ARE TO REMAIN IN PLACE UNTIL THE SITE HAS BEEN STABILIZED AND A GOOD STAND OF GRASS HAS BEEN ESTABLISHED.
3. EROSION PREVENTION AND SEDIMENT CONTROLS MUST BE INSPECTED AT LEAST TWICE EVERY CALENDAR WEEK AT LEAST 72 HOURS APART. INSPECTIONS ARE TO BE DOCUMENTED AND KEPT WITH THE SWPPP (IF REQUIRED).
4. SILT FENCE, OR OTHER SEDIMENT BARRIERS ARE TO BE INSTALLED PROPERLY ALONG TOPOGRAPHICAL CONTOURS DOWN SLOPE OF THE AREA TO BE DISTURBED PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY.
5. EXCAVATED TOPSOIL TO BE REUSED MUST BE STOCKPILED AND ENCIRCLED WITH SILT FENCING.
6. THIS SITE SHALL CONTAIN A TEMPORARY STONE CONSTRUCTION ENTRANCE THAT CONFORMS TO REQUIRED SPECIFICATIONS PRIOR TO GRADING COMMENCEMENT. THE STONE SHALL BE 2 TO 3 INCH IN DIAMETER AND SHALL BE KEPT CLEAN BY ADDING STONE AS NEEDED. IT SHALL BE AT LEAST 8 INCHES DEEP UNDERLAIN WITH FILTER FABRIC AND 20 FEET WIDE.
7. APPROVED INLET PROTECTIONS FOR NEARBY STORM SEWER CURB AND DROP INLETS MUST BE INSTALLED WITHIN 24 HOURS OF GRADING COMMENCEMENT.
8. VEGETATIVE BUFFERS OR OTHER PROTECTION MUST BE PROVIDED ALONG STREAMS, RIVERS, AND PONDS TO AVOID EROSION OF BANKS.
9. STABILIZATION MEASURES MUST BE PERFORMED WITHIN SEVEN (7) DAYS IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND WITHIN FIFTEEN (15) DAYS AFTER FINAL GRADING.
10. ALL TREES DESIGNATED TO REMAIN, MUST BE PROTECTED. HEAVY EQUIPMENT SHOULD NOT BE OPERATED OR STORED, NOR MATERIALS HANDLED OR STORED, WITHIN THE DRIP LINES OF TREES.
11. SEDIMENT MUST BE REMOVED FROM SEDIMENT BARRIERS, PONDS, AND OTHER SEDIMENT CONTROLS WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 33%
12. SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN THE STREET OR DRAINAGE STRUCTURES MUST IMMEDIATELY BE PHYSICALLY REMOVED.
13. BUILDING AND WASTE MATERIALS, AND NON STORM WATER DISCHARGES, SUCH AS CONCRETE, PAINT WASH WATER, OR MACHINERY LEAKAGE, OR SPILLAGE MUST BE MANAGED TO PREVENT THEM FROM ENTERING THE STORM WATER SYSTEM, GROUND WATER, OR NEARBY WATER BODY.
14. THE PROJECT IS SUBJECT TO INSPECTION BY THE CITY AT ANY TIME AND ITEMS FOUND DEFICIENT SHALL BE IMMEDIATELY CORRECTED. THE CITY MAY STOP CONSTRUCTION OR PROPERTIES, OR ADMINISTER OTHER ENFORCEMENT ACTIONS AS DEFINED BY THE CITY



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30 0 30 60
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EXISTING SEWER LINE	POWER POLE
OVERHEAD ELECTRIC LINE	WATER METER
FENCE	FIRE HYDRANT
NEW CURB	IRON ROD OLD
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EXISTING 5' CONTOUR	INV.–25.42 PIPE INVERT
EXISTING 1' CONTOUR	28.14 SPOT ELEVATION
NEW 1' CONTOUR	SLOPE DIRECTION
DEMO LINE	

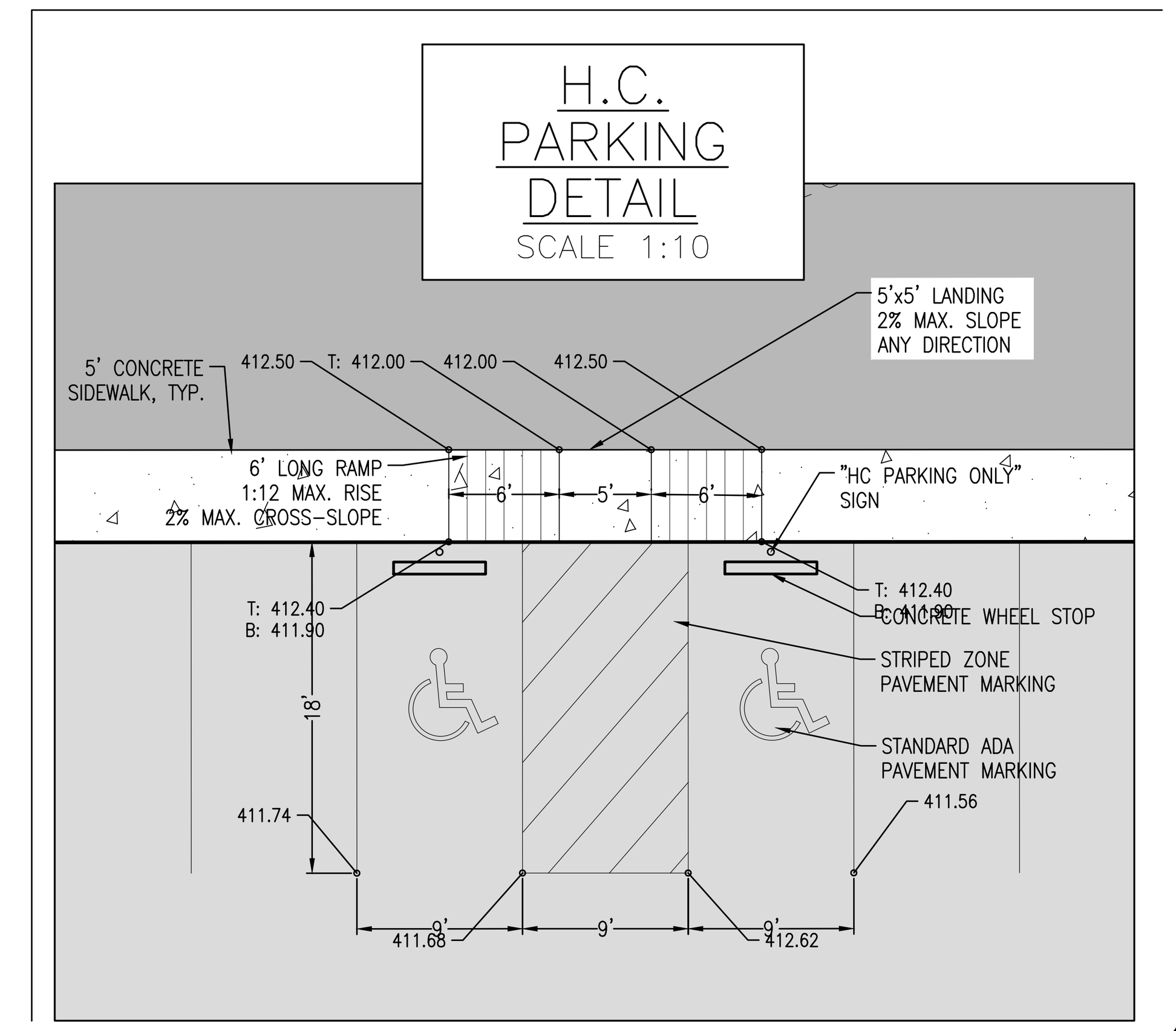
TDOT DRAINAGE NOTE:
THERE WILL BE NO INCREASE IN THE Q_{50} RUNOFF FROM THE DEVELOPMENT ONTO THE STATE R.O.W.

Q50 PRE: 27.00 CFS
Q50 POST: 23.68 CFS

Q100 PRE: 30.24 CFS
Q100 POST: 26.20 CFS

SIGHT DISTANCE NOTE:
THIS SITE COMPLIES WITH THE AASHTO GREENBOOK INTERSECTION SITE DISTANCE.

NOT FOR CONSTRUCTION



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REVISIONS

NOT FOR CONSTRUCTION
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5/15/24

ACE RETAIL CENTER

1209 TN HWY-12 SOUTH
ASHLAND CITY, TN 37015
CHEATHAM COUNTY

DRAWN BY:	CJN
CHECKED BY:	JML
DATE:	5/7/24
PROJECT NO.:	C02624

SITE PLAN

SHEET NUMBER
C1.02

ITEM # 4.

PRESENT OWNER:
MARK & TONYA YARBROUGH
400 WARIOTO WAY #708
ASHLAND CITY, TN 37105

DEED REFERENCE:
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JOSHUA M. LYON, P.E.
PROJECT MANAGER

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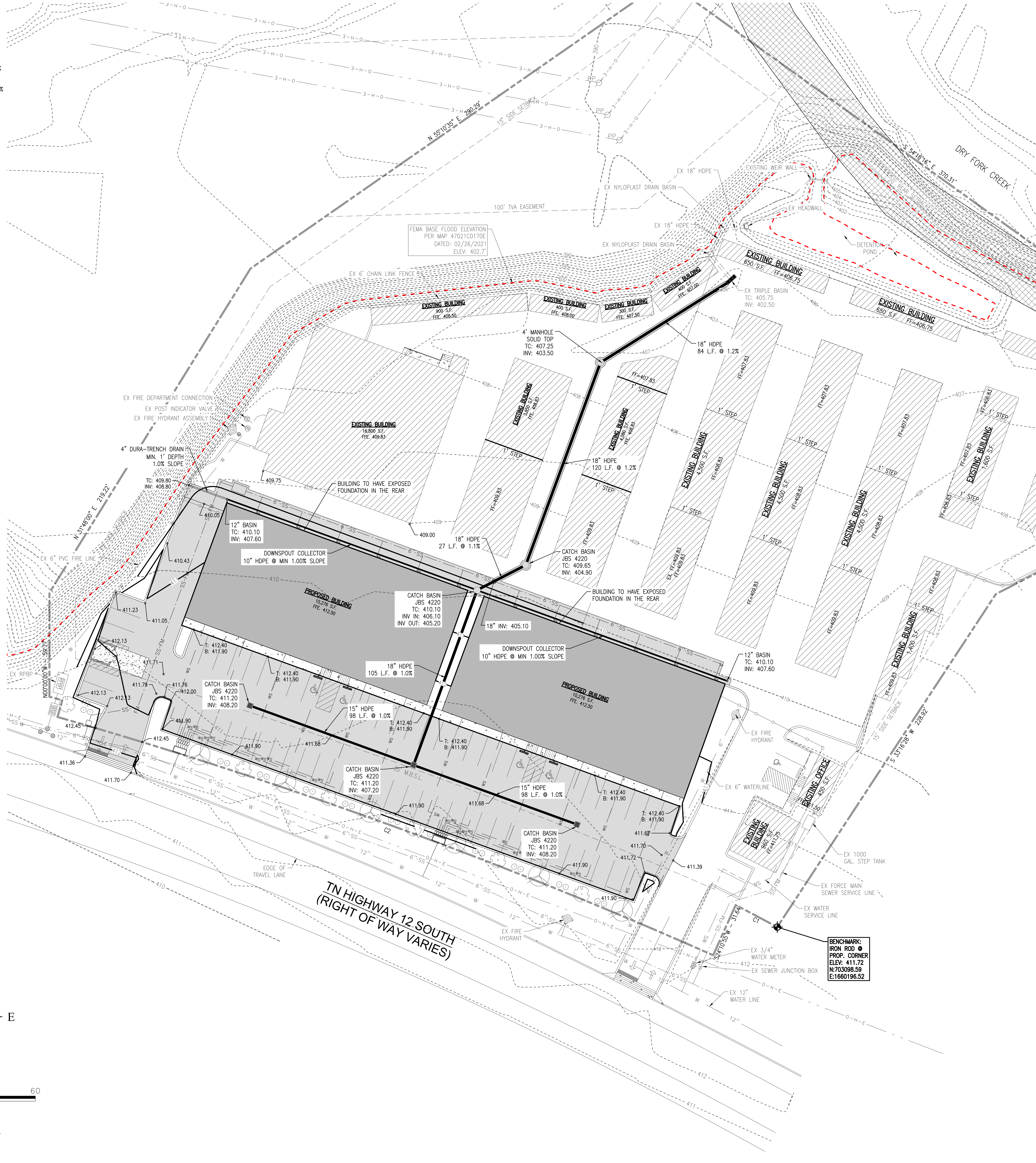

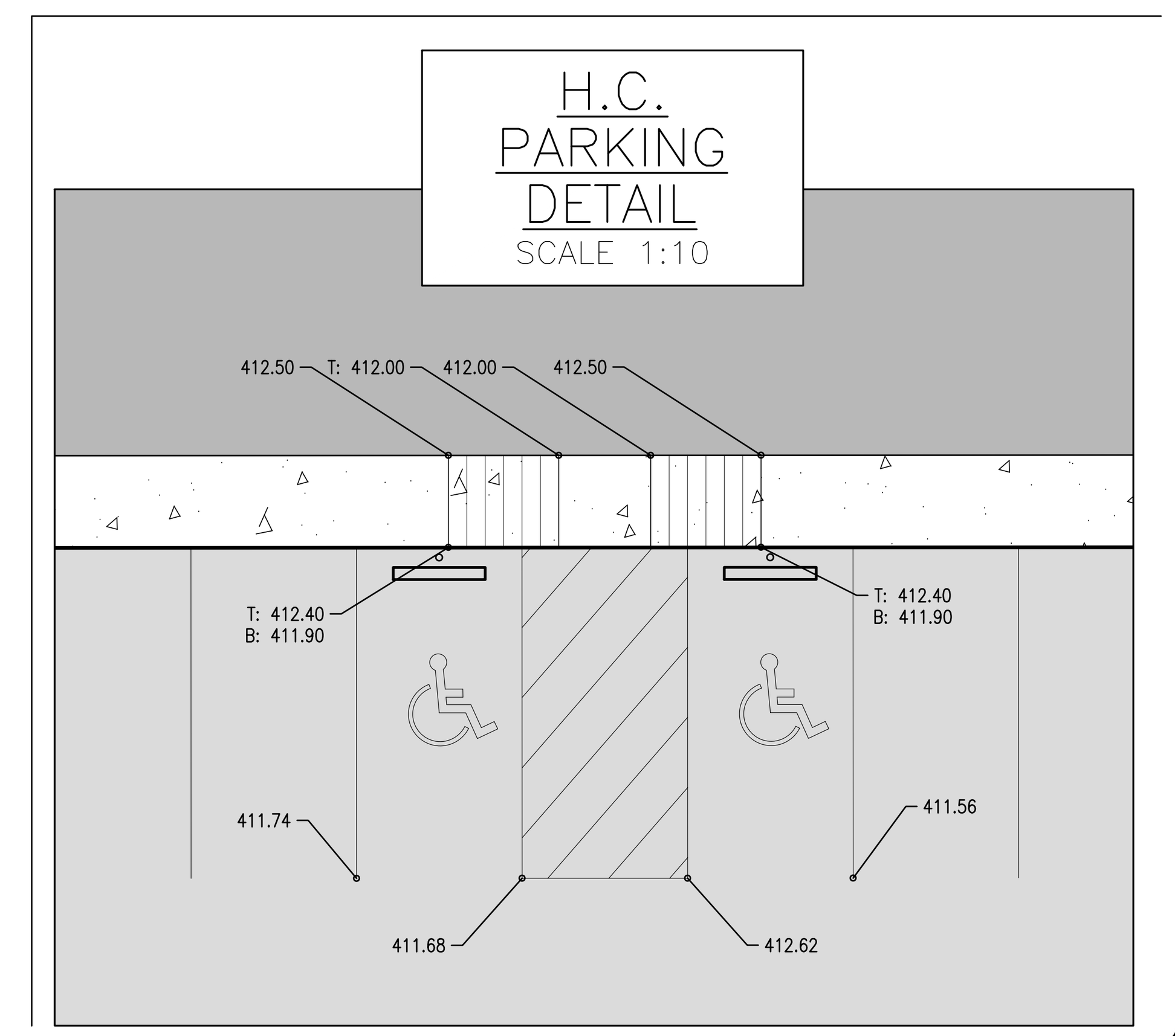

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NO.	BY	DATE	DESCRIPTION
REVISIONS			

JOSHUA M. LYON, P.E. TN#112331
NOT FOR CONSTRUCTION

ACE RETAIL CENTER

1209 TN HWY-12 SOUTH
ASHLAND CITY, TN 37015
CHEATHAM COUNTY

DRAWN BY:	CJN
CHECKED BY:	JML
DATE:	5/7/24
PROJECT NO.:	C02624

GRADING & DRAINAGE PLAN

SHEET NUMBER
C1.03

ITEM # 4.

PRESENT OWNER:
MARK & TONYA YARBROUGH
400 WARIOTO WAY #708
ASHLAND CITY, TN 37105

DEED REFERENCE:
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2. ALL CONSTRUCTION ON THIS SITE SHALL COMPLY WITH APPLICABLE REGULATIONS AS SPECIFIED BY THE CITY OF MILLERSVILLE AND THE STATE OF TENNESSEE.
3. TOPSOIL SHALL BE PLACED ON EXCAVATED AREAS WHICH REQUIRE NEW VEGETATION. GROUND COVER SHALL BE REESTABLISHED WITH KENTUCKY 31 FESCUE SEEDED AT A MINIMUM OF 250 LBS. PER ACRE. SLOPES 3:1 OR GREATER SHALL BE LINED WITH NORTH AMERICAN GREEN S150 GRASS MATTING OR EQUAL.
4. SILT FENCE SHALL BE INSTALLED IN ALL EROSION AREAS WHICH COULD ALLOW UNTREATED STORMWATER RUNOFF TO BE DISCHARGED FROM THE PROPERTY. ALL EROSION CONTROL MEASURES SHALL BE CONSISTENT WITH THE PROVISIONS DESCRIBED IN THE MOST CURRENT EDITION OF THE TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK.
5. THE STORMWATER RUNOFF CALCULATIONS ON THIS SITE HAVE BEEN PERFORMED USING THE U.S. SOIL CONSERVATION SERVICE TR–55 METHOD. STORMWATER POND HAS BEEN SIZED TO HANDLE A 25 AND 100 YEAR STORM EVENT.
6. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS TAKEN FROM A SURVEY BY CHANDLER SURVEYING OF PLEASANT VIEW, TN.
7. CONSTRUCTION WILL BEGIN FOLLOWING PLAN APPROVAL BY THE CITY OF ASHLAND CITY.
8. ANY DUMPSTER SHALL BE FULLY ENCLOSED, MATCHING THE FACADE OF THE BUILDING, AND A WOODEN PRIVACY FENCE GATE THAT IS 8 FEET HIGH ON ALL SIDES AND ALL SERVICE BOXES AND MECHANICALS TO BE IN THE REAR OF THE BUILDING.
9. ALL ADDITIONS IN THE FUTURE MUST BE BUILT TO THESE STANDARDS.
10. ACCORDING TO MAP 47021C0170E, DATED 02/26/2021, PORTIONS OF THE SITE ARE LOCATED WITHIN FLOOD HAZARD AREAS 'AE' AND 'X'.

NPDES PERMIT NOTE:
THE MAXIMUM DISTURBED AREA FOR THIS PROJECT IS OVER 1 ACRE. THIS SITE IS CURRENTLY COVERED UNDER PERMIT NUMBER TNR245326.

JOSHUA M. LYON, P.E.
PROJECT MANAGER

EP&SC NOTES:

1. AN EROSION PREVENTION SILTATION CONTROL PLAN (EP&SC) AND LAND DISTURBANCE PERMIT (IF REQUIRED) SHALL BE IN PLACE PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY. EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD; GENERALLY CONSIDERED TO BE THROUGH THE COMPLETION OF RESTORATION. IF REQUIRED, THE EP&SC PLAN ALONG WITH AN INSPECTION CHECKLIST AND STORMWATER PERMIT MUST BE AT THE PROJECT SITE AT ALL TIMES. THE INSPECTION CHECKLIST SHALL HAVE A RECORD OF DATES EP&SC DEVICES ARE INSPECTED AND ANY CORRECTION ACTION TAKEN OR MAJOR OBSERVATIONS. BMP'S MUST BE INSPECTED BY A QUALIFIED PERSON WHO HAS TAKEN AN APPROVED EROSION AND SEDIMENTATION COURSE.
2. ALL EP&SC DEVICES ARE TO REMAIN IN PLACE UNTIL THE SITE HAS BEEN STABILIZED AND A GOOD STAND OF GRASS HAS BEEN ESTABLISHED.
3. EROSION PREVENTION AND SEDIMENT CONTROLS MUST BE INSPECTED AT LEAST TWICE EVERY CALENDAR WEEK AT LEAST 72 HOURS APART. INSPECTIONS ARE TO BE DOCUMENTED AND KEPT WITH THE SWPPP (IF REQUIRED).
4. SILT FENCE, OR OTHER SEDIMENT BARRIERS ARE TO BE INSTALLED PROPERLY ALONG TOPOGRAPHICAL CONTOURS DOWN SLOPE OF THE AREA TO BE DISTURBED PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY.
5. EXCAVATED TOPSOIL TO BE REUSED MUST BE STOCKPILED AND ENCIRCLED WITH SILT FENCING.
6. THIS SITE SHALL CONTAIN A TEMPORARY STONE CONSTRUCTION ENTRANCE THAT CONFORMS TO REQUIRED SPECIFICATIONS PRIOR TO GRADING COMMENCEMENT. THE STONE SHALL BE 2 TO 3 INCH IN DIAMETER AND SHALL BE KEPT CLEAN BY ADDING STONE AS NEEDED. IT SHALL BE AT LEAST 8 INCHES DEEP UNDERLAIN WITH FILTER FABRIC AND 20 FEET WIDE.
7. APPROVED INLET PROTECTIONS FOR NEARBY STORM SEWER CURB AND DROP INLETS MUST BE INSTALLED WITHIN 24 HOURS OF GRADING COMMENCEMENT.
8. VEGETATIVE BUFFERS OR OTHER PROTECTION MUST BE PROVIDED ALONG STREAMS, RIVERS, AND PONDS TO AVOID EROSION OF BANKS.
9. STABILIZATION MEASURES MUST BE PERFORMED WITHIN SEVEN (7) DAYS IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND WITHIN FIFTEEN (15) DAYS AFTER FINAL GRADING.
10. ALL TREES DESIGNATED TO REMAIN, MUST BE PROTECTED. HEAVY EQUIPMENT SHOULD NOT BE OPERATED OR STORED, NOR MATERIALS HANDLED OR STORED, WITHIN THE DRIP LINES OF TREES.
11. SEDIMENT MUST BE REMOVED FROM SEDIMENT BARRIERS, PONDS, AND OTHER SEDIMENT CONTROLS WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 33%
12. SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN THE STREET OR DRAINAGE STRUCTURES MUST IMMEDIATELY BE PHYSICALLY REMOVED.
13. BUILDING AND WASTE MATERIALS, AND NON STORM WATER DISCHARGES, SUCH AS CONCRETE, PAINT WASH WATER, OR MACHINERY LEAKAGE, OR SPILLAGE MUST BE MANAGED TO PREVENT THEM FROM ENTERING THE STORM WATER SYSTEM, GROUND WATER, OR NEARBY WATER BODY.
14. THE PROJECT IS SUBJECT TO INSPECTION BY THE CITY AT ANY TIME AND ITEMS FOUND DEFICIENT SHALL BE IMMEDIATELY CORRECTED. THE CITY MAY STOP CONSTRUCTION OR PROPERTIES, OR ADMINISTER OTHER ENFORCEMENT ACTIONS AS DEFINED BY THE CITY

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30 0 30 60
SCALE IN FEET

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LEGEND:

Symbol	Description
	PROPERTY LINE
·W· 6"	EXISTING WATER LINE
8"-SS	EXISTING SEWER LINE
O–H–E	OVERHEAD ELECTRIC LINE
	FENCE
	NEW CURB
SF	SILT FENCE
	EXISTING 5' CONTOUR
	EXISTING 1' CONTOUR
	NEW 1' CONTOUR
	DEMO LINE
S	MANHOLE
CO	CLEAN OUT
PP	POWER POLE
WM	WATER METER
	FIRE HYDRANT
IR(O)	IRON ROD OLD
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INV.–25.42	PIPE INVERT
28.14	SPOT ELEVATION
	SLOPE DIRECTION

NOT FOR CONSTRUCTION

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www.klobereng.com

NO.	BY	DATE	DESCRIPTION

REVISIONS

JOSHUA M. LYON, P.E. TN#112331

ACE RETAIL CENTER
1209 TN HWY-12 SOUTH
ASHLAND CITY, TN 37015
CHEATHAM COUNTY

DRAWN BY:	CJN
CHECKED BY:	JML
DATE:	5/7/24
PROJECT NO.:	C02624

GRADING & DRAINAGE PLAN

SHEET NUMBER
C1.04

ITEM # 4.

PRESENT OWNER:

MARK & TONYA YARBROUGH
400 WARIOTO WAY #708
ASHLAND CITY, TN 37105

DEED REFERENCE:

MAP 55, PARCEL 36
LEE BATSON COMMERCIAL LOTS – LOT 1

PROPERTY INFORMATION:

AREA: 226,164 S.F. = 5.19 ACRES

ZONING:

COMMERCIAL C–2

SITE USE:

EXISTING USE: MINI STORAGE
PROPOSED USE: GENERAL RETAIL, PROFESSIONAL SERVICES–NON MEDICAL

SIGN NOTE:

ALL SIGNS SHALL COMPLY WITH THE MOST CURRENT EDITION OF THE ASHLAND CITY ZONING ORDINANCE. SEPARATE PERMIT REQUIRED.

LOT COVERAGE:

EXISTING BUILDING AREA = 49,755 S.F.
NEW BUILDING AREA = 20,552 S.F.
BUILDING COVERAGE = 31.1%
PROPOSED BUILDING HEIGHT: 33'–1"
MAX BUILDING HEIGHT: 40'–0"
EXISTING CONCRETE SURFACE: ±350 S.F.
EXISTING ASPHALT SURFACE: ±59,926 S.F.
EXISTING IMPERVIOUS AREA: ±110,031 S.F. = 48.65%
PROPOSED ASPHALT SURFACE: ±23,008 S.F.
PROPOSED ASPHALT SURFACE: ±1,528 S.F.
PROPOSED IMPERVIOUS AREA: ±45,088 S.F. = 20.00%

PARKING INFORMATION:

REQUIRED PARKING:
GENERAL RETAIL: 11,000/250 = 44 SPACES
PROFESSIONAL SERVICES: 9,552/400 = 24 SPACES

TOTAL PARKING: 68 SPACES,
INCLUDING 4 HANDICAP SPACES

UTILITY NOTE:

COORDINATE ALL UTILITY INSTALLATIONS WITH GOVERNING ENTITIES.

SECURITY GATE:

SECURITY GATES OR BARRIERS SHALL BE EQUIPPED WITH A RADIO OPERATED RECEIVER/CONTROLLER CAPABLE OF RECEIVING SIGNALS FROM A POLICE DEPARTMENT, SHERIFF'S DEPARTMENT (IF THE GATED FACILITY OR COMMUNITY IS IN THE COUNTY), FIRE DEPARTMENT, UTILITY AND EMERGENCY MEDICAL SERVICES' RADIO TRANSCEIVERS SERVING THE GATED FACILITY OR COMMUNITY WHICH ALLOW EMERGENCY RESPONDERS AND OTHER NECESSARY ON–DUTY EMPLOYEES TO OPEN THE SECURITY GATE OR BARRIER BY USE OF SUCH EQUIPMENT. ALL SECURITY GATES OR BARRIERS MUST MEET POLICIES DEEMED NECESSARY BY THE AUTHORITY HAVING JURISDICTION OVER THE GATED FACILITY OR COMMUNITY FOR RAPID, RELIABLE, AND MUTUAL AID ACCESS. SUCH EQUIPMENT SHALL BE FURNISHED, INSTALLED AND MAINTAINED BY THE GATED FACILITY OR COMMUNITY THAT IS SERVED BY SUCH EQUIPMENT.

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JOSHUA M. LYON, P.E.
PROJECT MANAGER

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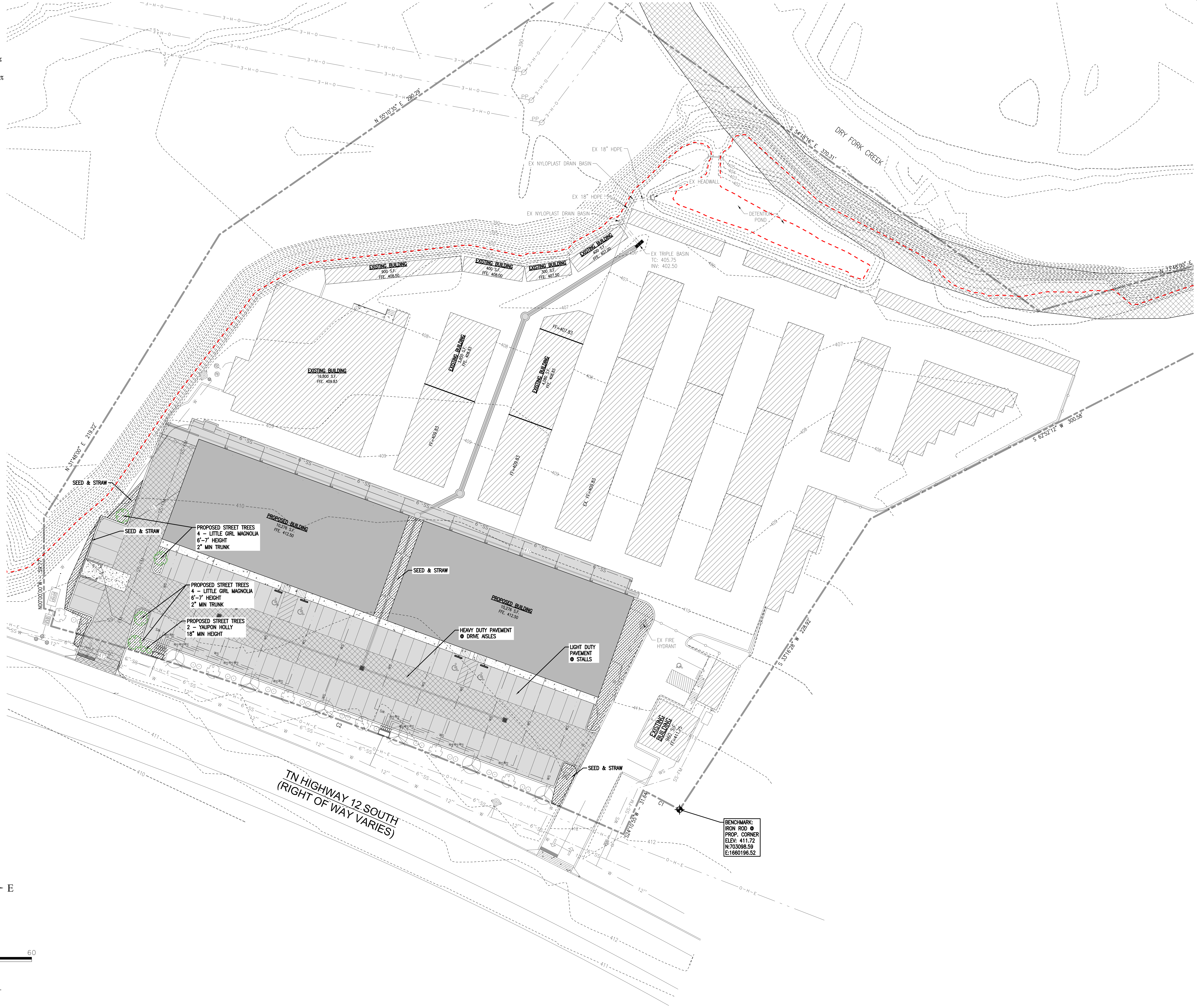

CALL BEFORE YOU DIG

811 CALL 811 NATIONWIDE

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N W E S

30 0 30 60
SCALE IN FEET

LEGEND:

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EXISTING SEWER LINE
OVERHEAD ELECTRIC LINE
FENCE
NEW CURB
SILT FENCE
EXISTING 5' CONTOUR
EXISTING 1' CONTOUR
NEW 1' CONTOUR
DEMO LINE
MANHOLE
CO CLEAN OUT
PP POWER POLE
WM WATER METER
FIRE HYDRANT
IR(O) IRON ROD OLD
IR(N) IRON ROD NEW
INV.–25.42 PIPE INVERT
28.14 SPOT ELEVATION
SLOPE DIRECTION

NOT FOR CONSTRUCTION

PLOTTED: 5/15/2024 9:17:08 AM

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JOSHUA M. LYON, P.E. TN#112331

NOT FOR CONSTRUCTION

ACE RETAIL CENTER

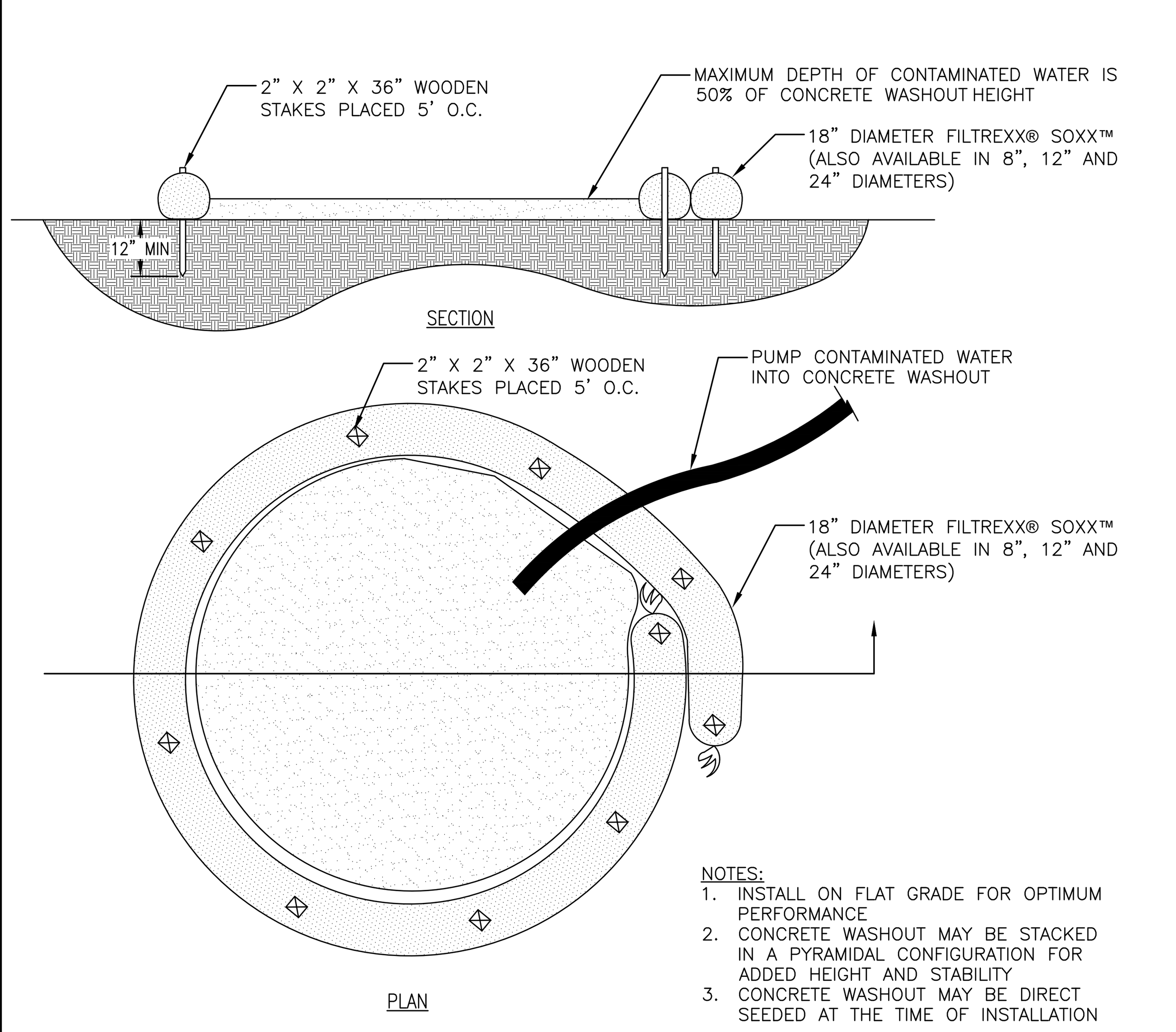
1209 TN HWY-12 SOUTH
ASHLAND CITY, TN 37015
CHEATHAM COUNTY

DRAWN BY:	CJN
CHECKED BY:	JML
DATE:	5/7/24
PROJECT NO.:	C02624

FINAL STABILIZATION PLAN

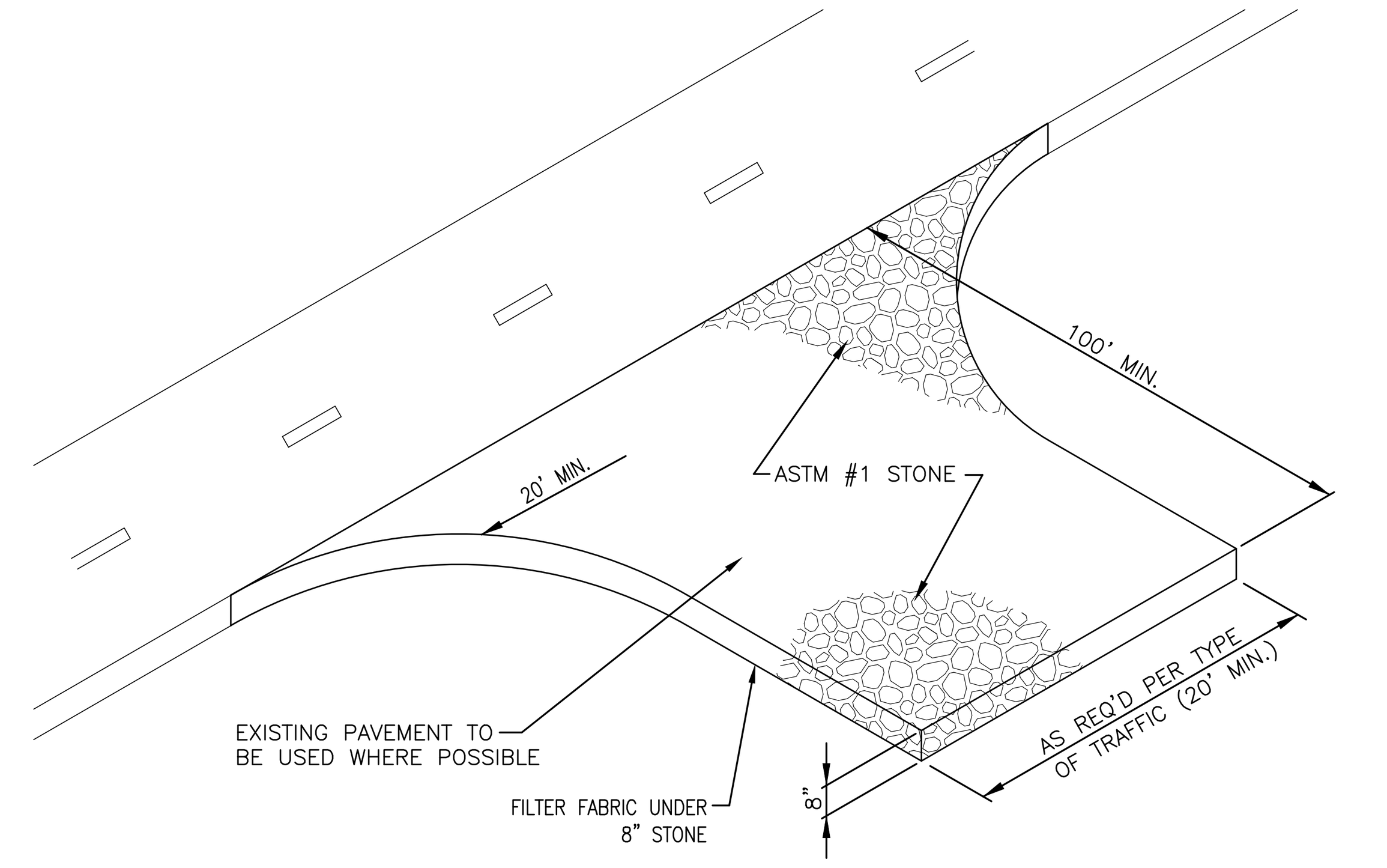
SHEET NUMBER
C1.05

ITEM # 4.



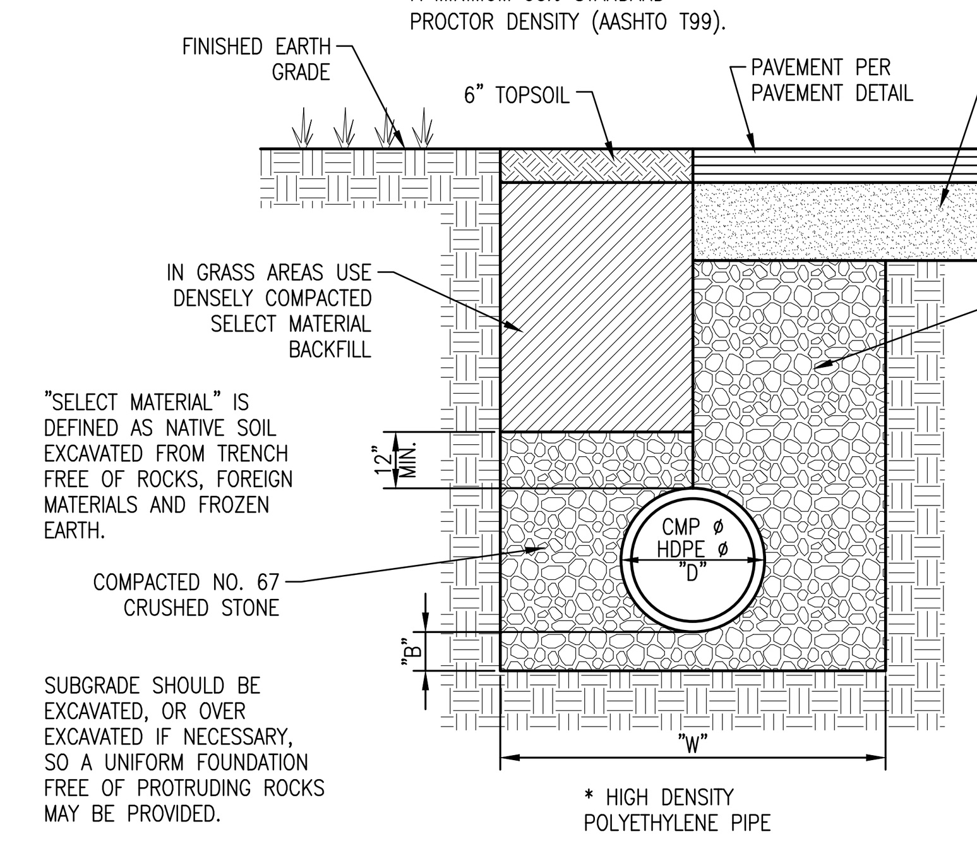
NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
2. CONCRETE WASHOUT MAY BE STACKED IN A PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT AND STABILITY
3. CONCRETE WASHOUT MAY BE DIRECT SEEDED AT THE TIME OF INSTALLATION

FILTREXX® CONCRETE WASHOUT
NOT TO SCALE



TEMPORARY CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE METRO STORMWATER MANAGEMENT MANUAL TCP-03

NOTE:
ALL BACKFILL AND BEDDING SHALL BE PLACED IN 6-INCH LAYERS AND THOROUGHLY COMPACTED TO A MINIMUM 95% STANDARD PROCTOR DENSITY (AASHTO T99).



"SELECT MATERIAL" IS DEFINED AS NATIVE SOIL EXCAVATED FROM TRENCH FREE OF ROCKS, FOREIGN MATERIALS AND FROZEN EARTH.

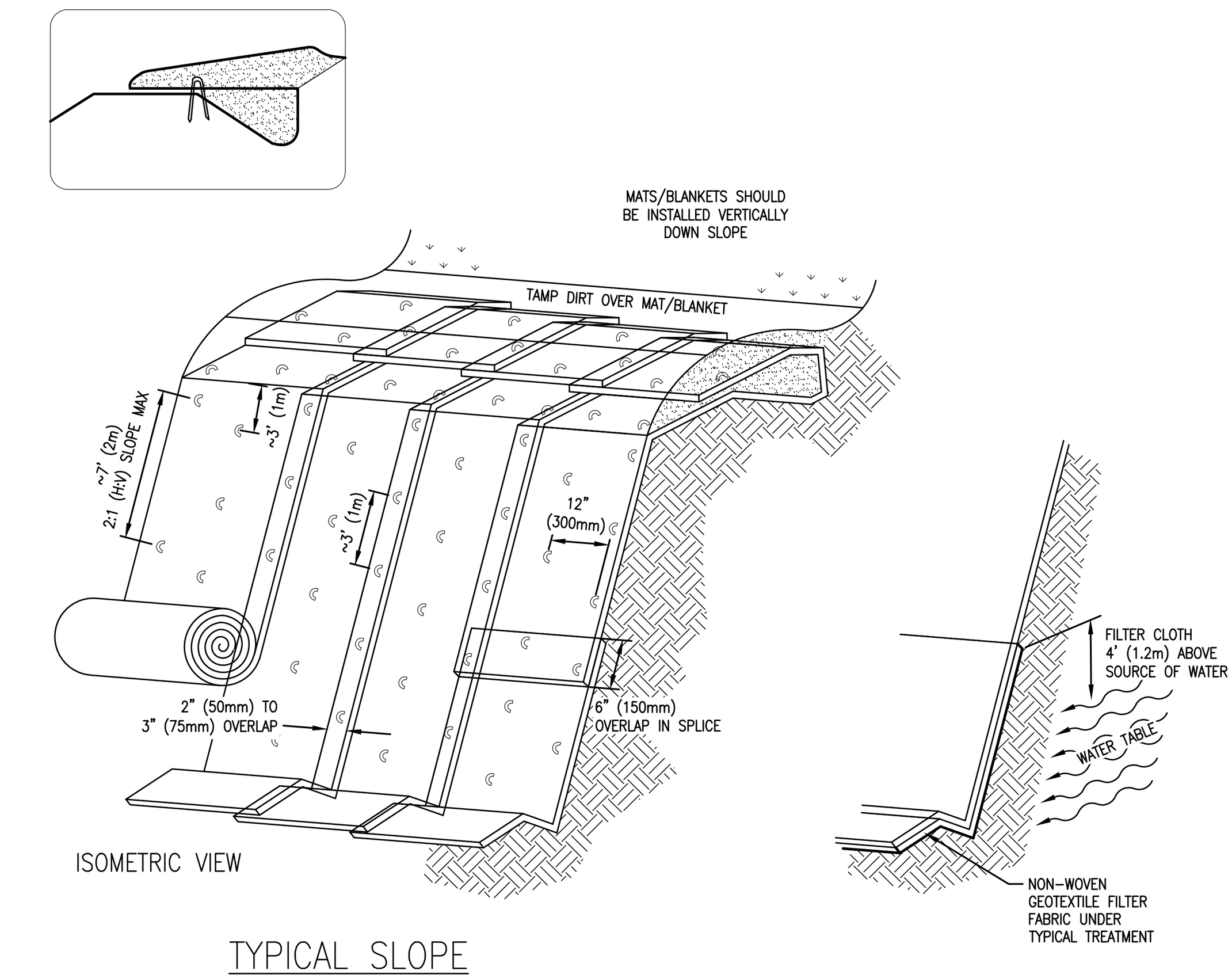
SUBGRADE SHOULD BE EXCAVATED, OR OVER EXCAVATED IF NECESSARY, SO A UNIFORM FOUNDATION FREE OF PROTRUDING ROCKS MAY BE PROVIDED.

* HIGH DENSITY POLYETHYLENE PIPE

MINIMUM DIMENSIONS
TRENCH OR OPEN DITCH INSTALLATIONS

NOMINAL DIAMETER	MINIMUM THICKNESS	MINIMUM COVER	MIN. TRENCH WIDTH
"D"	"B"		"W"
3"	4"	12"	20"
4"	4"	12"	21"
6"	4"	12"	23"
8"	4"	12"	25"
10"	4"	12"	28"
12"	5"	12"	31"
15"	5"	12"	34"
18"	6"	12"	39"
24"	6"	12"	48"
36"	6"	18"	60"

CMP OR HDPE* BEDDING (NON-PERFORATED)
NOT TO SCALE

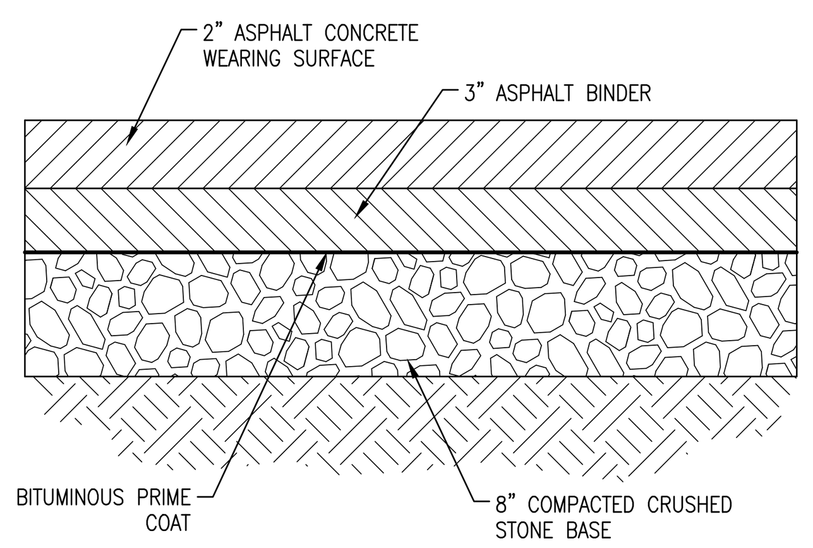


TYPICAL SLOPE SOIL STABLIZATION
N.T.S.

WET SLOPE LINING
N.T.S.

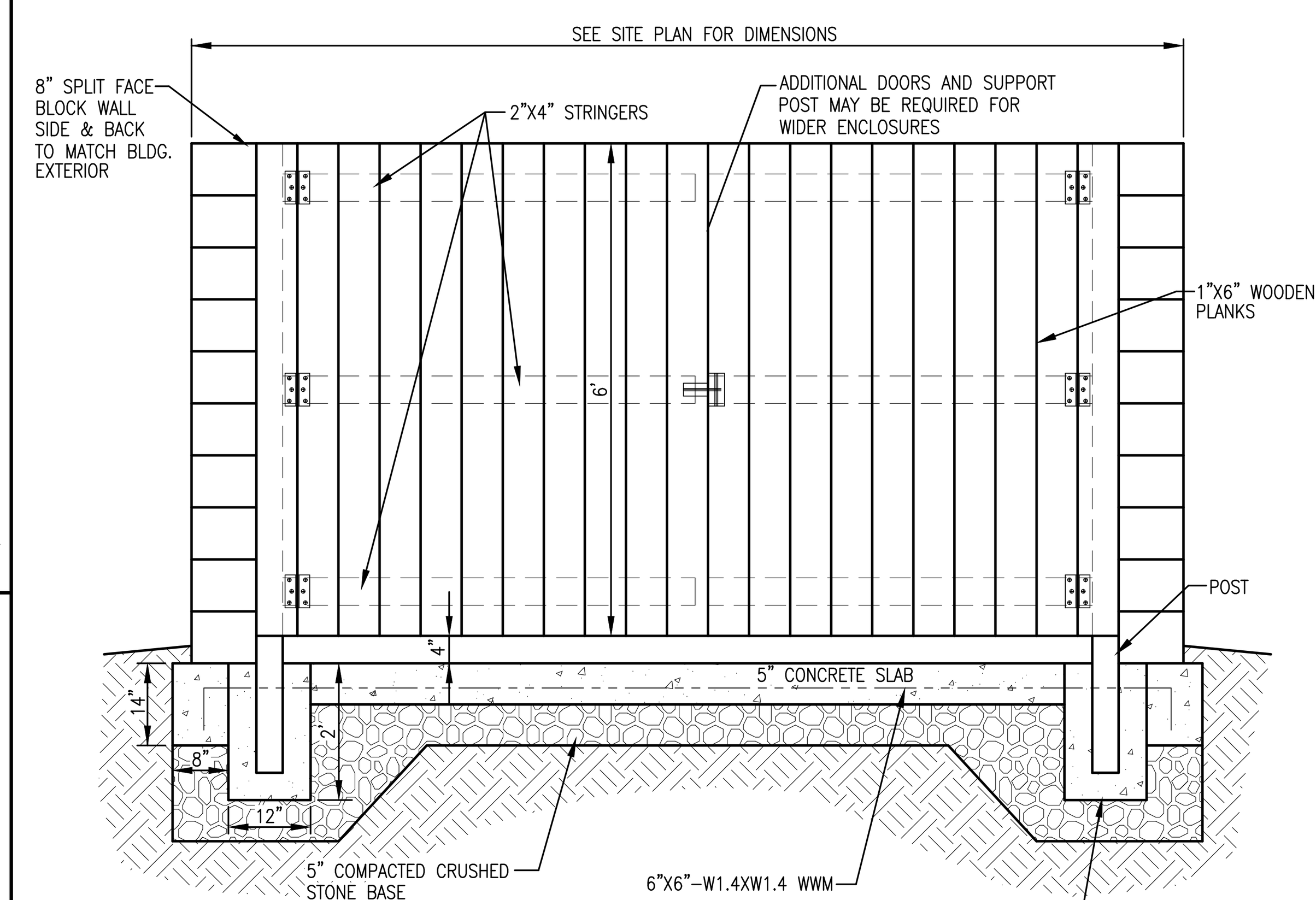
NOTES:
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, SOIL CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT
2. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

GRASS MATTING PLACEMENT
METRO STORMWATER MANAGEMENT MANUAL PESC-02



HEAVY DUTY ASPHALT PAVING DETAIL
NOT TO SCALE

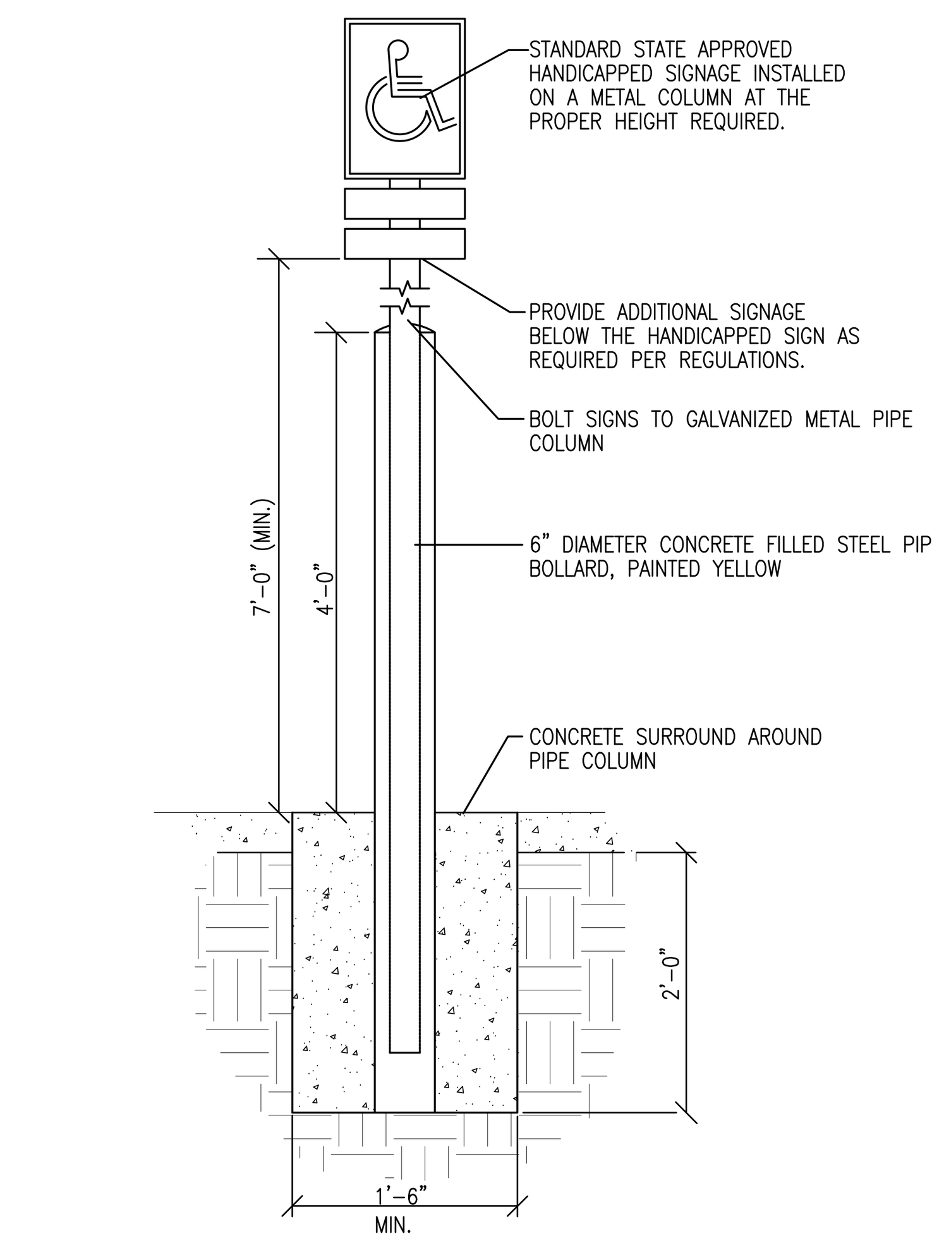
VERIFY PAVEMENT AND STONE THICKNESS WITH ANY CURRENT GEOTECH REPORT



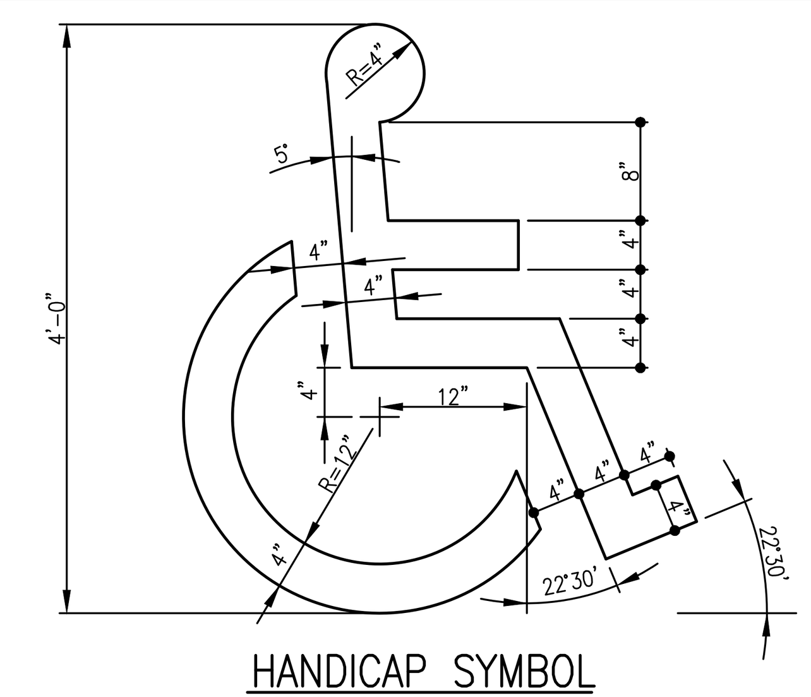
DUMPSTER ENCLOSURE NOTE:
THE FRONT OF THE ENCLOSURE IS TO BE A WOODEN GATE, PAINTED TO MATCH EXTERIOR COLOR ON THE FRONT OF THE BUILDING. THE SIDES AND BACK OF THE ENCLOSURE ARE TO HAVE THE SAME APPEARANCE OF THE FACADE OF THE PRINCIPLE STRUCTURE.

NOTES:
1. ALL LUMBER TO BE PRESSURE TREATED
2. CONCRETE PAD WITHIN ENCLOSURE TO BE CLASS "A" CONCRETE (3,500 PSI).

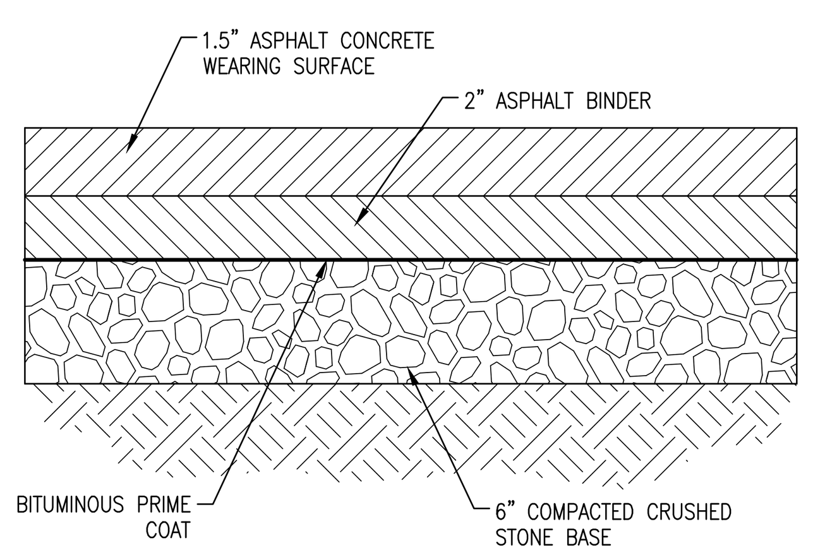
TRASH & RECYCLING BIN ENCLOSURE DETAIL
NOT TO SCALE



EXTERIOR HANDICAPPED SIGN
NOT TO SCALE

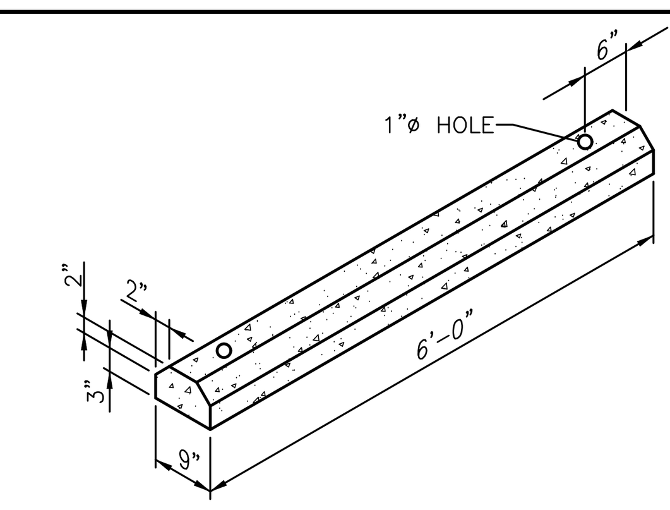


HANDICAP SYMBOL
NOT TO SCALE



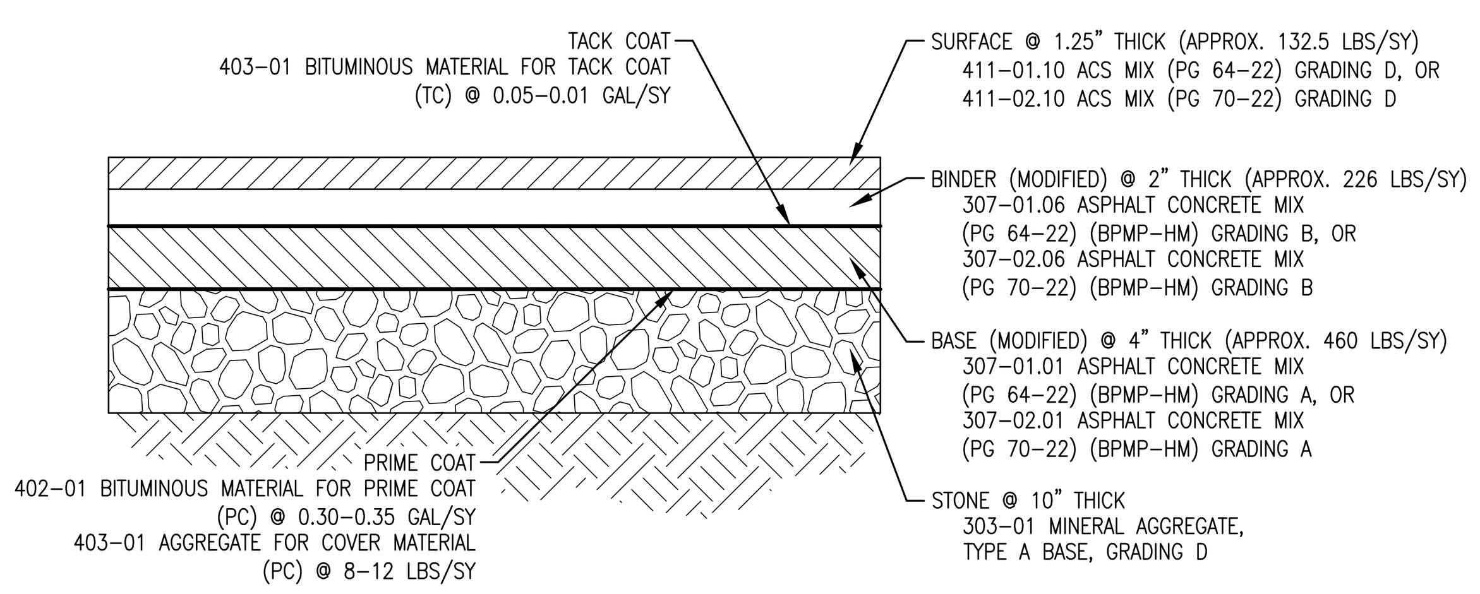
LIGHT DUTY ASPHALT PAVING DETAIL
NOT TO SCALE

VERIFY PAVEMENT AND STONE THICKNESS WITH ANY CURRENT GEOTECH REPORT

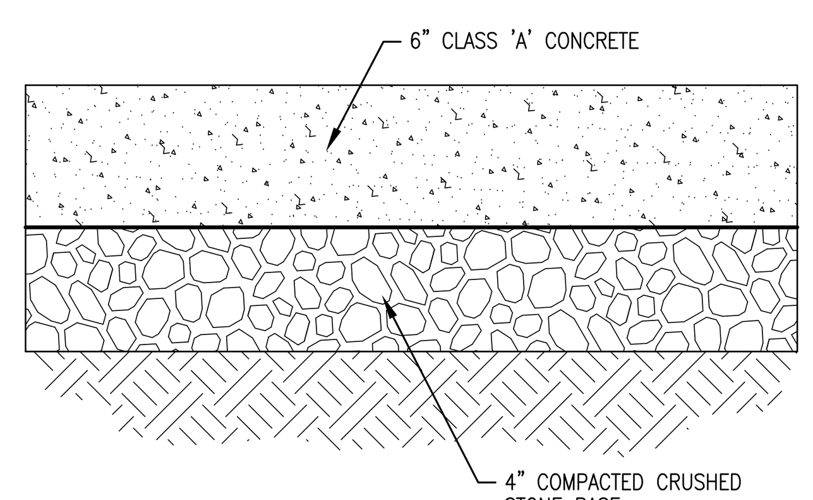


REQUIRES 2, 5/8" X 2'0" STEEL BAR STAKES FOR EACH CURB SECTION. CURB REINF. W/2 #3 BARS. LOCATE WHEEL STOP 2' FROM FACE OF SIDEWALK HEADER OR EDGE OF PAVEMENT.

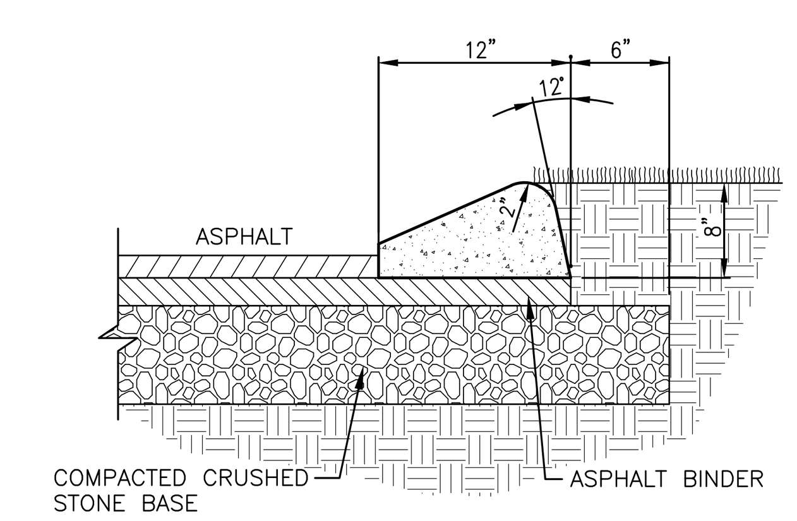
TYPICAL PARKING CURB
NOT TO SCALE



TDOT ASPHALT PAVING DETAIL (IN R.O.W.)
NOT TO SCALE



ALTERNATE TDOT CONCRETE ENTRANCE DETAIL (IN R.O.W.)
NOT TO SCALE



EXTRUDED CURB DETAIL
NOT TO SCALE

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NOT FOR CONSTRUCTION 5/15/24

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CHEATHAM COUNTY

DRAWN BY:	CJN
CHECKED BY:	JML
DATE:	5/7/24
PROJECT NO.:	C02624

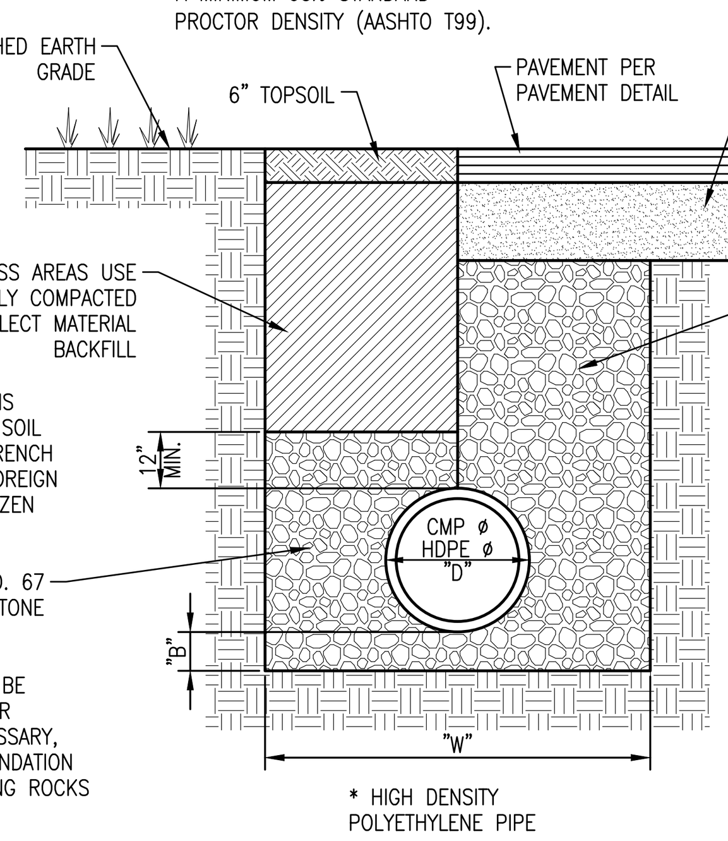
CONSTRUCTION DETAILS

SHEET NUMBER
C2.01

PLOTTED: 5/15/2024 9:17:09 AM

ITEM # 4.

NOTE:
ALL BACKFILL AND BEDDING SHALL BE PLACED IN 6-INCH LAYERS AND THOROUGHLY COMPACTED TO A MINIMUM 95% STANDARD PROCTOR DENSITY (AASHTO T99).



"SELECT MATERIAL" IS DEFINED AS NATIVE SOIL EXCAVATED FROM TRENCH FREE OF ROCKS, FOREIGN MATERIALS AND FROZEN EARTH.

SUBGRADE SHOULD BE EXCAVATED, OR OVER EXCAVATED IF NECESSARY, SO A UNIFORM FOUNDATION FREE OF PROTRUDING ROCKS MAY BE PROVIDED.

* HIGH DENSITY POLYETHYLENE PIPE

MINIMUM DIMENSIONS
TRENCH OR OPEN DITCH INSTALLATIONS

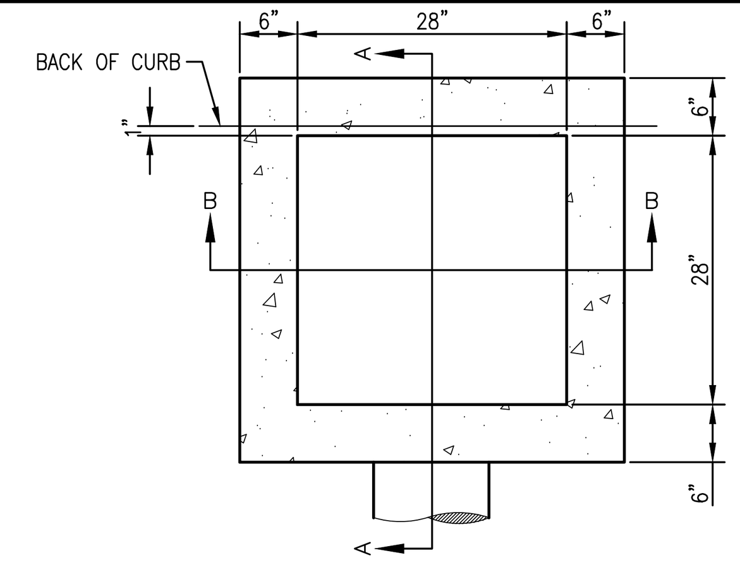
NOMINAL DIAMETER "D"	MINIMUM THICKNESS "B"	MINIMUM COVER	MIN. TRENCH WIDTH "W"
3"	4"	12"	20"
4"	4"	12"	21"
6"	4"	12"	23"
8"	4"	12"	25"
10"	4"	12"	28"
12"	5"	12"	31"
15"	5"	12"	34"
18"	6"	12"	39"
24"	6"	12"	48"
36"	6"	18"	60"

CMP OR HDPE* BEDDING (NON-PERFORATED)

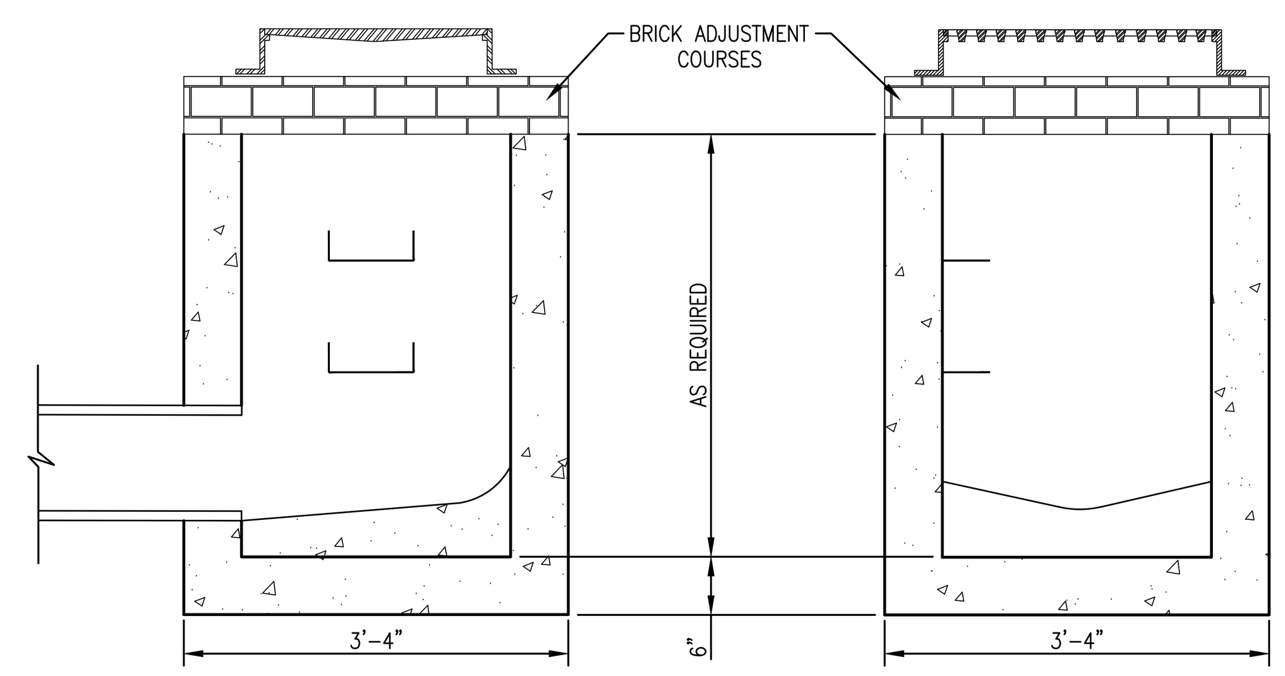
NOT TO SCALE

NOTE:
CASTING FOR STANDARD CURB AND GUTTER SHOWN. CONTACT THE DIRECTOR OF PUBLIC WORKS OR THE ENGINEERING DEPARTMENT FOR ACCEPTABLE SUBSTITUTES.

- CASTING: JB#4200 OR AS DIRECTED BY PUBLIC WORKS DEPT.
- CONCRETE: 4000 PSI AT 28 DAYS REINFORCED WITH #4, GRADE 60 BARS.



PLAN VIEW

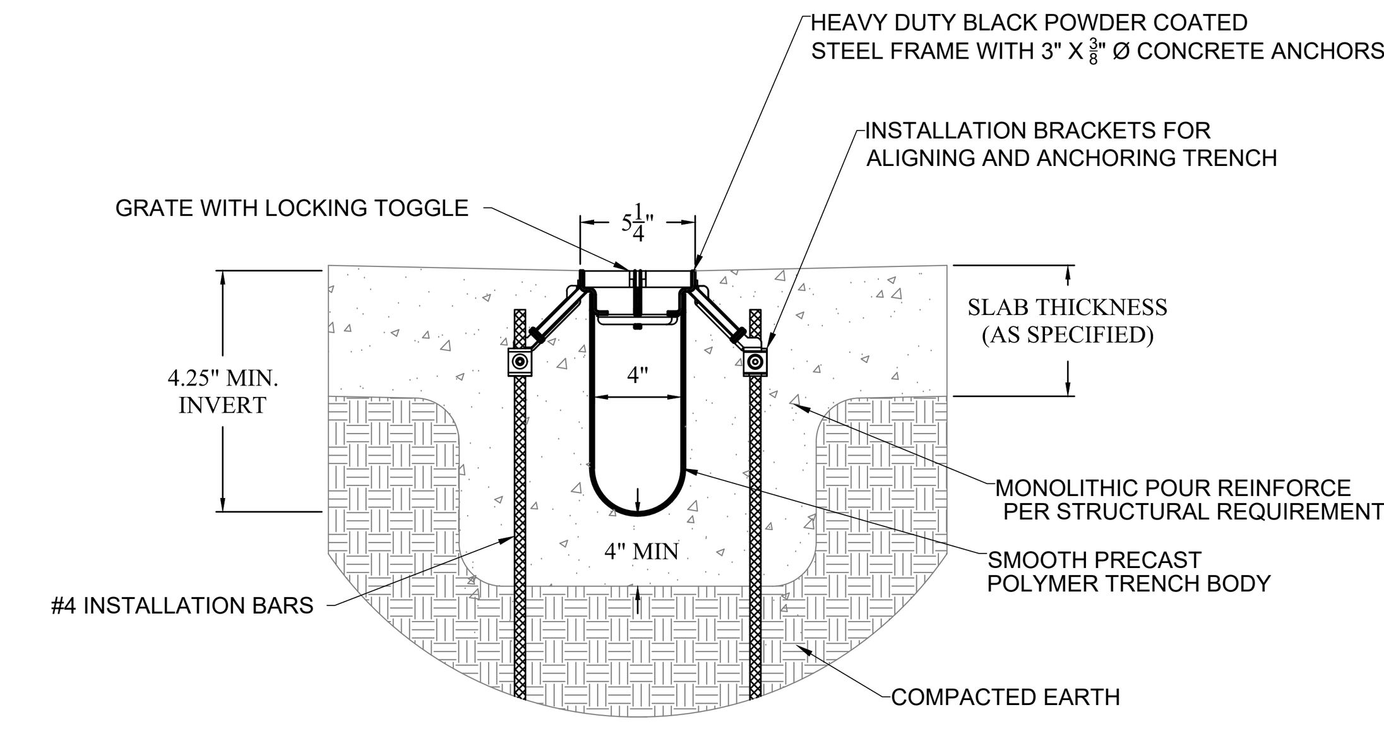


SECTION A–A

SECTION B–B

TYPICAL PRECAST SINGLE INLET

NOT TO SCALE

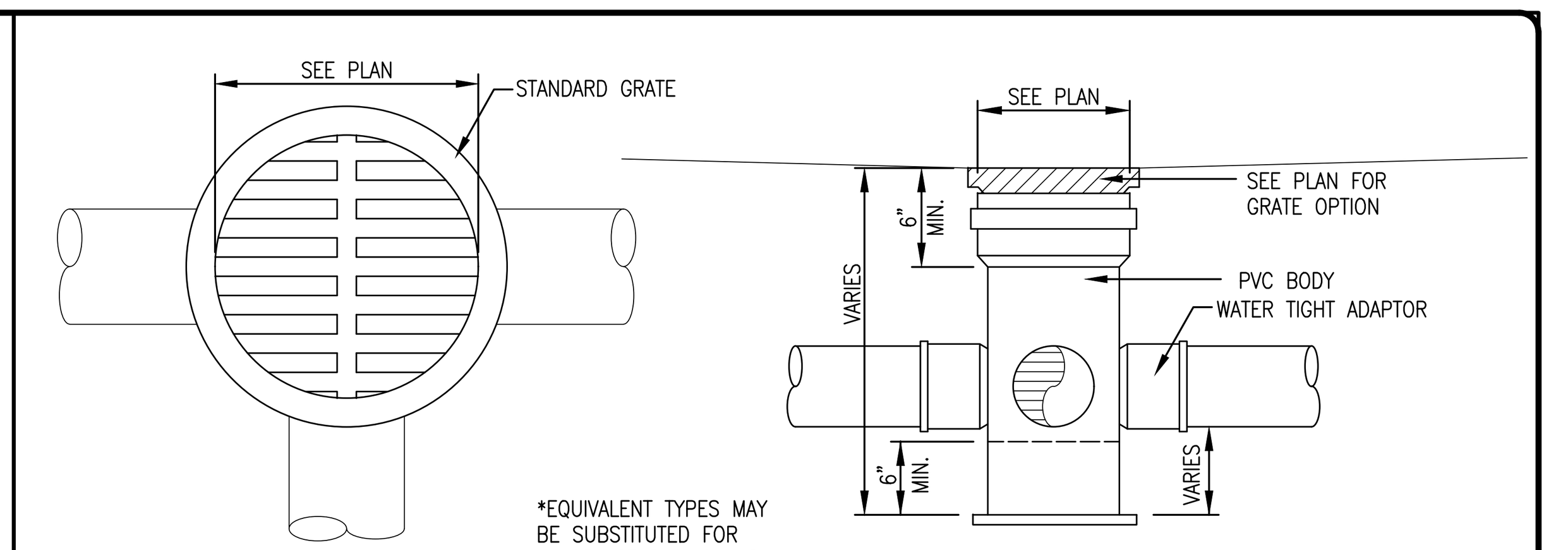


NOTES:
1. STANDARD SLOPE IS 0.5% UNLESS OTHERWISE SPECIFIED
2. REINFORCE ACCORDING TO STRUCTURAL REQUIREMENTS
3. TRENCH DRAIN MUST BE 1/8" BELOW FINISHED CONCRETE GRADE

TYPICAL DTPF4-HDBP08ZSA TRENCH SECTION

4" DURA–TRENCH TRENCH DRAIN

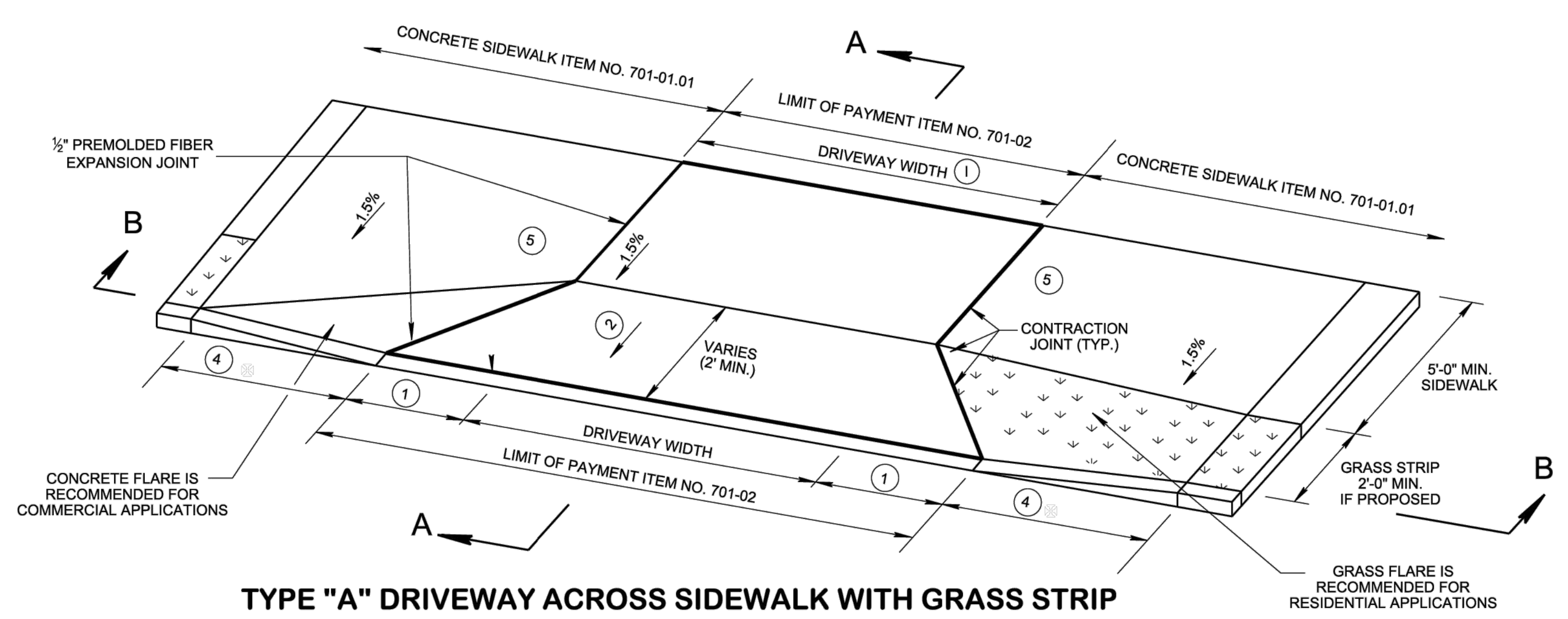
NOT TO SCALE



*EQUIVALENT TYPES MAY BE SUBSTITUTED FOR NYLOPLAST BASINS AND GRATES

NYLOPLAST DRAIN BASIN

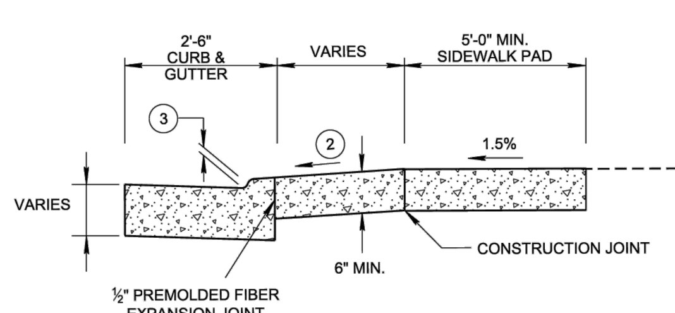
NOT TO SCALE



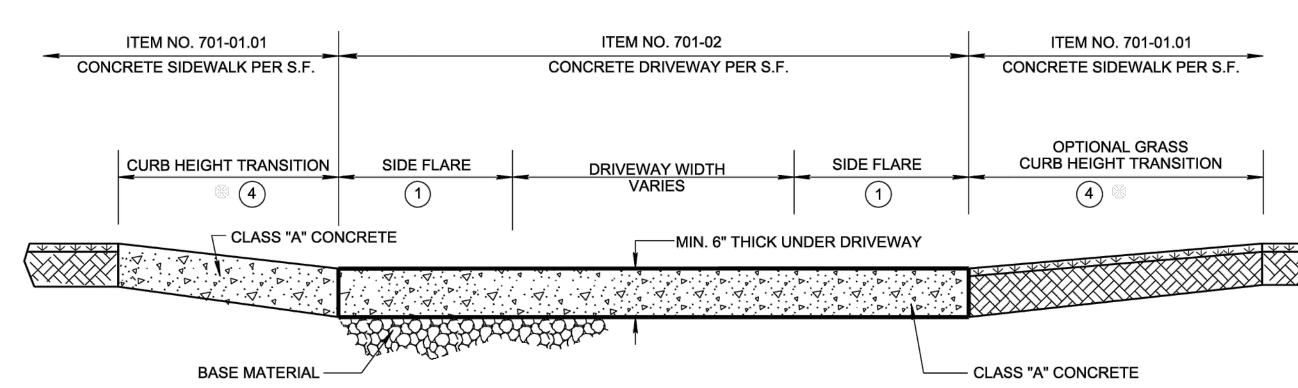
TYPE "A" DRIVEWAY ACROSS SIDEWALK WITH GRASS STRIP

LEGEND

✠ DIMENSION VARIES RELATIVE TO LONGITUDINAL ROADWAY GRADE.



SECTION A-A



SECTION B-B

REV. 7-15-08: UPDATED SIDEWALK DIMENSIONS.
REV. 4-8-16: ADDED ITEM NUMBERS. UPDATED SLOPES AND DIMENSIONS. UPDATED NOTES.
REV. 07-16-18: ADDED NOTES TO CONC. FLARE AND GRASS FLARE IN ISOMETRIC VIEW. ADDED GENERAL NOTE Ⓚ. CHANGED REFERENCED STD. DWG. FROM RP-NMC-10 TO RP-VC-10. ADDED NOTE Ⓛ AND RENUMBERED THE REST. ADDED SPECIAL NOTE. REDREW SHEET.
REV. 01-07-19: CORRECTED SPELLING. REDREW SHEET.

FOOTNOTES

① SIDE FLARE WIDTH SHOULD BE A MINIMUM 7'-0" FOR COMMERCIAL DRIVEWAYS. SIDE FLARE WIDTH SHOULD BE A MINIMUM 3'-6" FOR RESIDENTIAL DRIVEWAYS.

② DRIVEWAY RAMP GRADE VARIES, 15% MAX. (10% RECOMMENDED) APRON GRADE FOR RESIDENTIAL DRIVEWAYS. 8% MAX. (5% RECOMMENDED) APRON GRADE FOR COMMERCIAL DRIVEWAYS.

③ HEIGHT OF LOWERED CURB SHALL BE 2.25 INCHES. SEE STD DWG RP-VC-10 & RP-VC-11.

④ THE SLOPE OF THE SIDEWALK AND/OR CURB HEIGHT TRANSITION VARIES TO A MAXIMUM OF 8.33% LENGTH OF TRANSITION IS RELATIVE TO THE LONGITUDINAL ROADWAY GRADE.

⑤ COMMERCIAL DRIVEWAY ENTRANCE TYPICALLY (MAX. 40' WIDE) MAY REQUIRE DETECTABLE WARNING SURFACES IF ENTRANCE SERVES MORE THAN 400 VEHICLES PER DAY. SEE STD. DWG. NOS. MM-CR- SERIES FOR DETAILS.

⑥ 3R PROJECTS MAY REQUIRE SLOPE CORRECTION, PARALLEL CROSS-WALK MARKINGS (ESPECIALLY AT TWO WAY DRIVEWAY ENTRANCES), AND DETECTABLE DOME SURFACE TO MAINTAIN CONTINUITY AT COMMERCIAL DRIVE ENTRANCES. ADDITIONAL SIGNS (WATCH FOR PED) MAY BE ADDED AT DRIVEWAYS BY THE DIRECTION OF AN ENGINEER IF NEEDED.

GENERAL NOTES

Ⓐ THIS TYPE OF DRIVEWAY IS PREFERED OVER THE LOWERED TYPE AS SHOWN ON RP-D-16 BECAUSE THE ELEVATION OF THE SIDEWALK REMAINS A CONSTANT FOR PEDESTRIANS.

Ⓑ 5'-0" MINIMUM SIDEWALK WITH A MAXIMUM CROSS SLOPE OF 1.5% THROUGH DRIVEWAYS.

Ⓒ DESIGNER TO CHECK GUTTER FLOW DEPTH AT DRIVEWAY LOCATIONS TO ASSURE THAT THE DESIGN FLOW DOES NOT OVERTOP THE SIDEWALK AREA. IF OVERTOPPING OCCURS, PLACE AN INLET AT THE UPSTREAM SIDE OF THE DRIVEWAY OR PERFORM OTHER DESIGN MITIGATION.

Ⓓ THE SLOPE OF THE LANDING AREA SHALL NOT EXCEED 1.5% IN THE SIDEWALK AREA.

Ⓔ DRIVEWAYS TO BE BUILT COMPLETE OR IN PART AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

Ⓕ ALL DRIVEWAYS TO BE 6" UNIFORM THICKNESS, UNLESS OTHERWISE SHOWN ON PLANS.

Ⓖ EXPANSION JOINTS TO BE PLACED AS INDICATED ON THE PLANS EXCEPT JOINT AT BACK OF DRIVEWAY WHICH WILL BE PLACED WHEN DRIVEWAY ABUTS A RIGID DRIVEWAY OR BUILDING.

Ⓗ THE ROADWAY DESIGNER SHALL CONSIDER THE USE OF A CATCH BASIN ON EITHER SIDE OF THE DRIVEWAY. CAREFUL CONSIDERATION TO THE PLACEMENT OF CATCH BASINS SHALL BE TAKEN IF THE DRIVEWAY IS IN A VERTICAL SAG CURVE.

Ⓘ ITEM NUMBERS: 701-02, CONCRETE DRIVEWAY, PER SF.

Ⓙ TYPICAL DRIVEWAY WIDTHS ARE 12' (14" TWO WAY) FOR RESIDENTIAL AND 24' (40' MAX.) FOR COMMERCIAL.

Ⓚ REFER TO SECTION 5.1.3. IN THE RULES AND REGULATIONS FOR CONSTRUCTING DRIVEWAY ENTRANCES ON STATE HIGHWAY RIGHTS-OF-WAY (2015) FOR RADIUS OF CURVATURE GUIDANCE.

Ⓛ ALL SIDEWALKS SHALL BE A MINIMUM THICKNESS OF 4" CONCRETE.

◘ MINOR REVISION – FHWA APPROVAL NOT REQUIRED

STATE OF TENNESSEE
STANDARD DRAWING
DEPARTMENT OF TRANSPORTATION

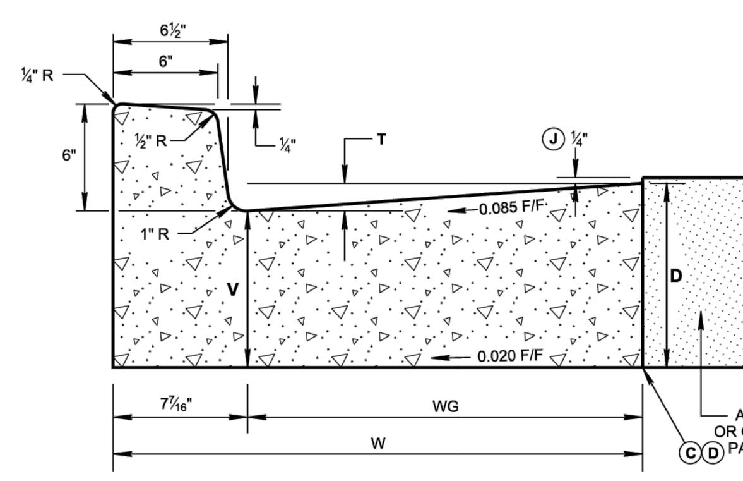
DETAILS OF STANDARD CONCRETE DRIVEWAYS

02-15-2007 RP-D-15

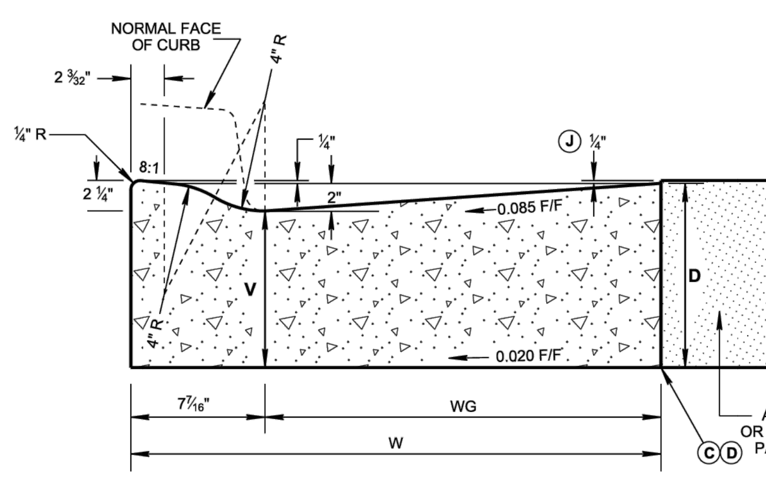
NOT TO SCALE

3/8/2019 12:27:42 PM
C:\Users\j00547\Desktop\TDOT Multimodal Drawing Update\RPD15-20190107.DGN

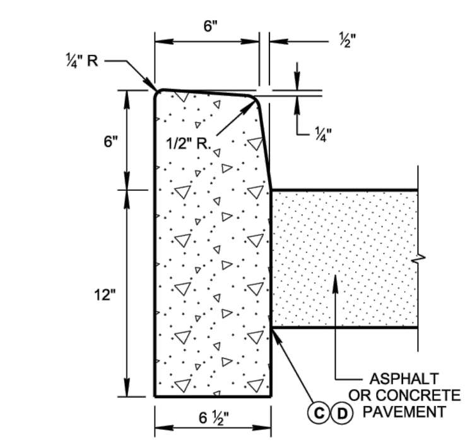
11/26/2019 9:56:37 AM
P:\StandDraw\DESIGN STANDARDS\Standards Drawings Library\Standard Roadway Drawings - CURRENT\In Progress\10-104.00 Roadway, Pavement Appurtenances and Fence (P/R)\RPVC10-20190...



6" CONCRETE COMBINED CURB AND GUTTER 🌢



LOWERED CONCRETE CURB AND GUTTER ❖



6" DETACHED CONCRETE CURB

REV. 08-28-19: REVISED DETAILS FOR LOWERED CONCRETE CURB, 6" DETACHED CONCRETE CURB AND 6" CONCRETE COMBINED CURB AND GUTTER. GENERAL NOTES: REVISED NOTES Ⓒ AND Ⓓ, ADDED NOTE Ⓙ, MOVED LOWERED CONCRETE CURB NOTES TO NOTE NOS. Ⓚ, Ⓛ & Ⓜ. ADJUSTED WIDTH OF GUTTER (WG) DIMENSIONS. REDREW SHEET.

6" CONCRETE COMBINED CURB AND GUTTER TABLE

TYPE	TOTAL WIDTH (W) IN INCHES	WIDTH OF GUTTER (WG) IN INCHES	VERTICAL DROP (T) IN INCHES	VERTICAL DEPTH (V) OF GUTTER AT FLOW LINE ✠
6-30	30	22 9/16"	2	D - 1.53"
6-36	36	28 9/16"	2½	D - 1.91"
6-42	42	34 9/16"	3	D - 2.29"

✠ VERTICAL DEPTH (V) MUST ALWAYS EXCEED SIX (6) INCHES.

LEGEND

D = VERTICAL DEPTH OF GUTTER (IS BASED ON PAVEMENT DESIGN)
T = VERTICAL DROP IN GUTTER FROM FRONT EDGE TO FACE OF CURB
V = VERTICAL DEPTH OF GUTTER AT FLOW LINE
W = TOTAL WIDTH OF COMBINED CURB AND GUTTER
WG = WIDTH OF GUTTER

QUANTITIES FOR DETACHED CURB

HEIGHT OF CURB	CUBIC YARD PER LINEAR FOOT
6"	0.02950
LOWERED CURB	0.02534

QUANTITIES FOR COMBINED CURB AND GUTTER

HEIGHT OF CURB	TOTAL WIDTH (W) IN INCHES	DEPTH (D) OF GUTTER IN INCHES	CUBIC YARDS PER LINEAR FOOT	DEPTH (D) OF GUTTER IN INCHES	CUBIC YARDS PER LINEAR FOOT	DEPTH (D) OF GUTTER IN INCHES	CUBIC YARDS PER LINEAR FOOT	DEPTH (D) OF GUTTER IN INCHES	CUBIC YARDS PER LINEAR FOOT	DEPTH (D) OF GUTTER IN INCHES	CUBIC YARDS PER LINEAR FOOT
LOWERED CURB ❖	30	8	0.05711	9	0.06483	10	0.07254	11	0.08026	12	0.08799
	36	8	0.07085	9	0.08011	10	0.08934	11	0.09860	12	0.10786
	42			9	0.09631	10	0.10711	11	0.11791	12	0.12872
6" 🌢	30	8	0.06409	9	0.07181	10	0.07953	11	0.08724	12	0.09496
	36	8	0.07780	9	0.08706	10	0.09632	11	0.10558	12	0.11484
	42			9	0.10329	10	0.11409	11	0.12489	12	0.13570

GENERAL NOTES

Ⓐ FOR SPECIFICATIONS SEE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION, SECTION 702 - CEMENT CONCRETE CURB, GUTTER AND COMBINED CURB AND GUTTER.

Ⓑ THE FRONT FACE OF THE CONCRETE CURBS FOR ALL DEGREES OF CURVATURE SHALL CONFORM TO THE CONTOUR OF THE CURVE AND NO CHORD SECTIONS WILL BE PERMITTED.

Ⓒ CONCRETE EXPANSION JOINT MATERIAL IS TO BE 1/2" IN THICKNESS AT ALL LOCATIONS. ALL MATERIAL IS TO BE PRE-MOLDED FIBER IN ACCORDANCE WITH SECTION 905 - JOINT MATERIALS OF THE STANDARD SPECIFICATIONS.

Ⓓ EXPANSION JOINTS ARE TO BE PLACED AS FOLLOWS:
1. AT TANGENT POINTS OF CIRCULAR CURBS.
2. BETWEEN CURBS AND ABUTTING RIGID OBJECTS.
3. AT OTHER PLACES WHERE STRESSES MAY DEVELOP.
4. TO LINE UP WITH PAVEMENT JOINTS WHERE THE ADJACENT PAVEMENT IS CONCRETE.
5. THE MAXIMUM SPACING IS TO BE 100 FEET.
6. BETWEEN CONCRETE CURBS OR CURB AND GUTTERS AND CONCRETE PAVEMENT. IT IS NOT REQUIRED WHEN CURBS OR CURB AND GUTTERS ARE ADJACENT TO ASPHALT.

Ⓔ CONTRACTION JOINTS ARE TO BE SPACED AT 10 FEET. THE SPACING 0F 10 FEET MAY BE REDUCED FOR CLOSURES, BUT NOT LESS THAN 6 FEET.

Ⓕ EDGES OF JOINTS SHALL BE FINISHED ON 1/4" RADII.

Ⓖ ALL COST OF JOINTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS.

Ⓗ THE UNIT PRICE BID FOR CONCRETE CURB, CONCRETE CURB AND GUTTER AND CONCRETE PAVEMENT WILL INCLUDE ANY CIRCULAR SECTION REQUIRED TO BE BUILT CONFORMING TO SECTIONS SHOWN ON THIS SHEET.

Ⓘ PAYMENT WILL BE AS FOLLOWS:
ITEM NO. 702-01, CONCRETE CURB, PER C.Y.
ITEM NO. 702-03, CONCRETE COMBINED CURB AND GUTTER, PER C.Y.

Ⓙ THE 1/4" HEIGHT IS FOR WHEN ASPHALT PAVEMENT IS ADJACENT TO CONCRETE CURB AND GUTTER ONLY. CONCRETE PAVEMENT WILL BE FLUSH WITH THE TOP OF THE GUTTER.

LOWERED CONCRETE CURB NOTES

Ⓚ TO BE BUILT AS COMBINED CURB AND GUTTER, DETACHED CURB OR INTEGRAL CURB AS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

Ⓛ FOR DETACHED CURB, OMIT RADIUS AT FLOW LINE.

Ⓜ TO BE USED FOR PROPOSED RAMP OPENINGS.

(Replaced Std Dwg RP-NMC-10)

STATE OF TENNESSEE
STANDARD DRAWING
DEPARTMENT OF TRANSPORTATION

VERTICAL CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS

05-15-2018 RP-VC-10

NOT TO SCALE

NOT FOR CONSTRUCTION

KLOBER ENGINEERING SERVICES
SERVING CLIENTS WITH CIVIL ENGINEERING & LAND DEVELOPMENT SERVICES
3556 TOM AUSTIN HWY, SUITE 1, SPRINGFIELD, TN 37172
PHONE: (615) 382-2000 FAX: (888) 373-4485
www.klobereng.com

NO.	BY	DATE	DESCRIPTION

REVISIONS

JOSHUA M. LYON, P.E. TN#112331
NOT FOR CONSTRUCTION
5/6/24

ACE RETAIL CENTER

1209 TN HWY-12 SOUTH
ASHLAND CITY, TN 37015
CHEATHAM COUNTY

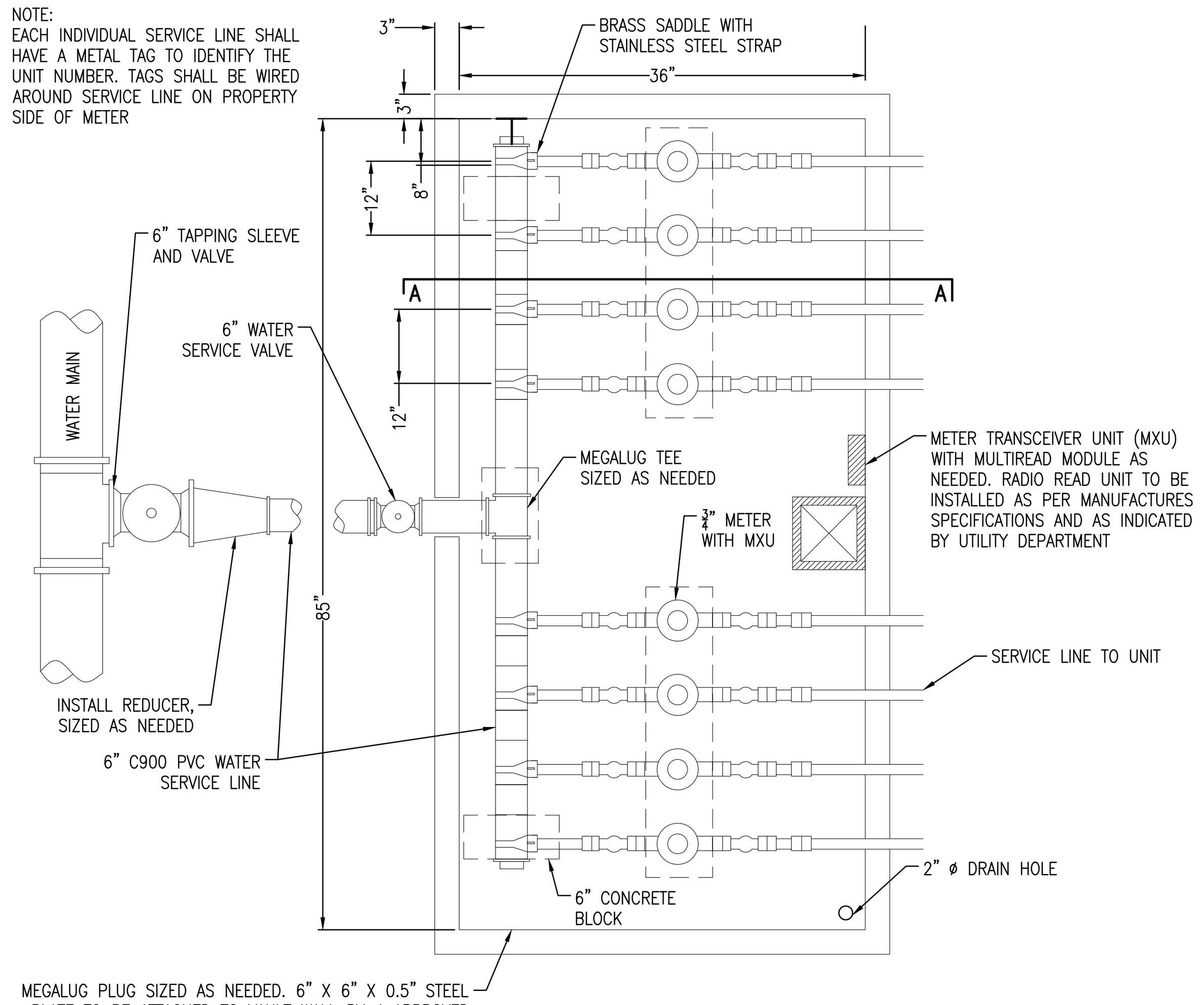
DRAWN BY:	CJN
CHECKED BY:	JML
DATE:	5/7/24
PROJECT NO.:	C02624

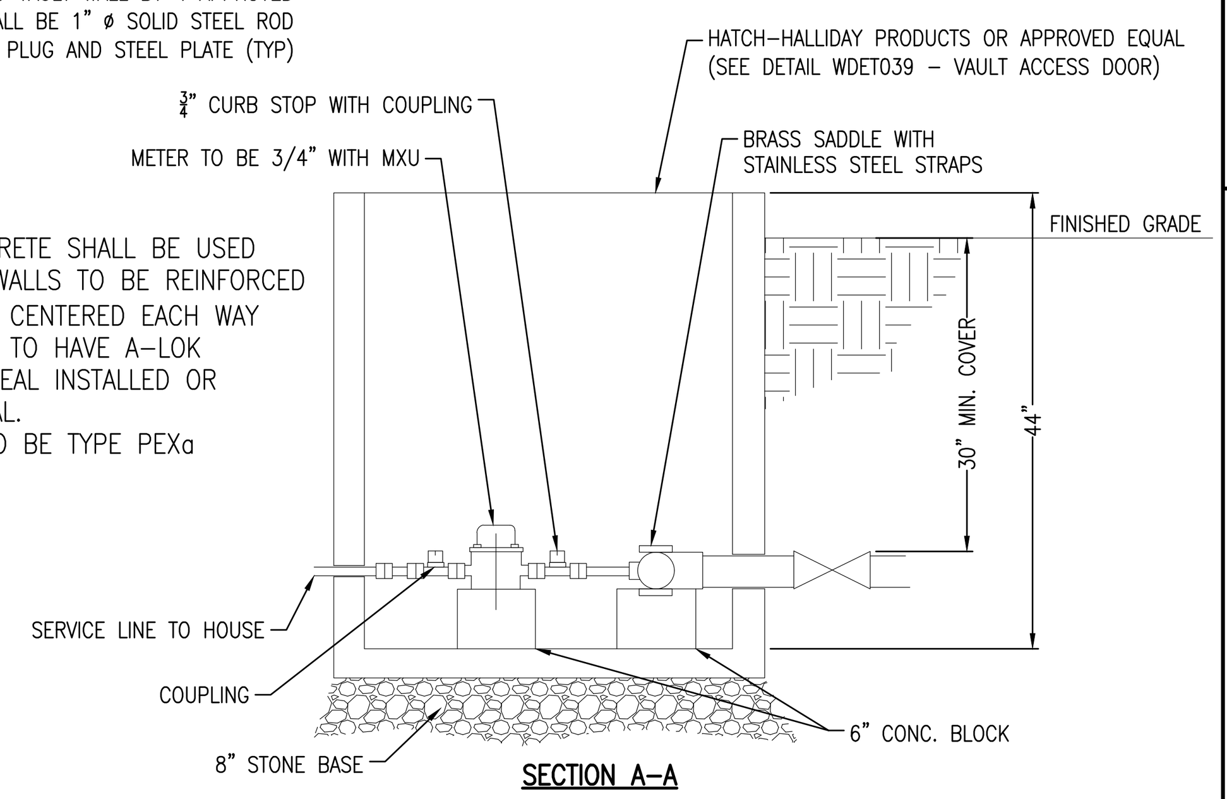
WATERLINE DETAILS

SHEET NUMBER
C2.02

ITEM # 4.

NOTE:
EACH INDIVIDUAL SERVICE LINE SHALL HAVE A METAL TAG TO IDENTIFY THE UNIT NUMBER. TAGS SHALL BE WIRED AROUND SERVICE LINE ON PROPERTY SIDE OF METER

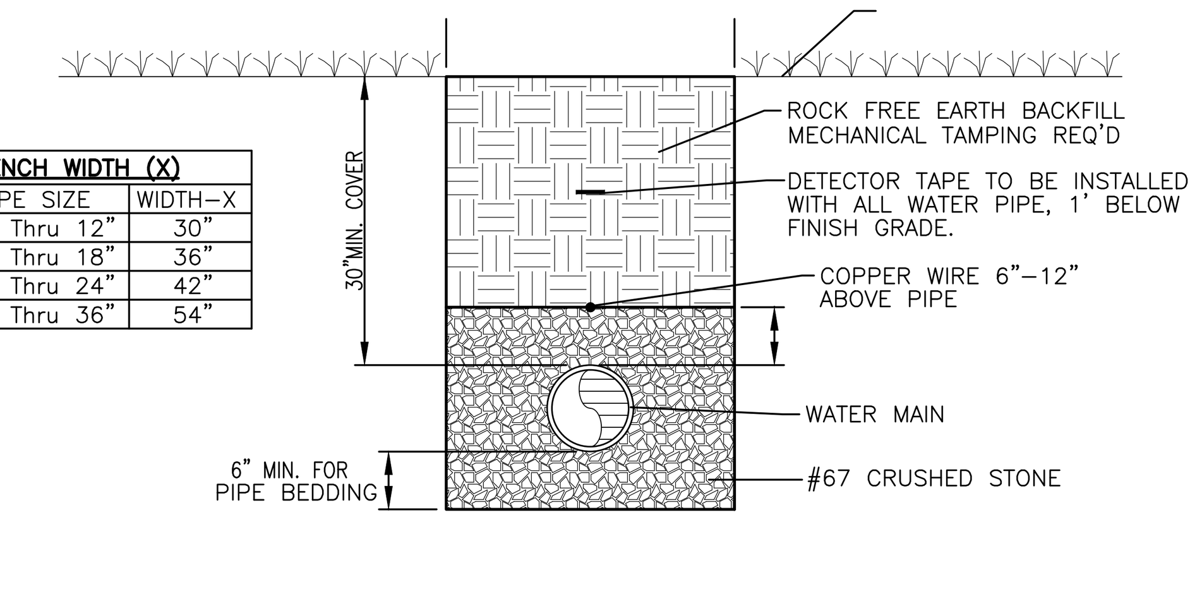




VAULT NOTES"
- 4000 PSI CONCRETE SHALL BE USED
- CONCRETE SIDEWALLS TO BE REINFORCED WITH #3 REBAR CENTERED EACH WAY
- CORE FOR PIPE TO HAVE A-LOK COMPRESSION SEAL INSTALLED OR APPROVED EQUAL.
- SERVICE LINE TO BE TYPE PEXa

SINGLE METER VAULT WITH SERVICE LINE MANIFOLD FOR MULTI METERS
NOT TO SCALE

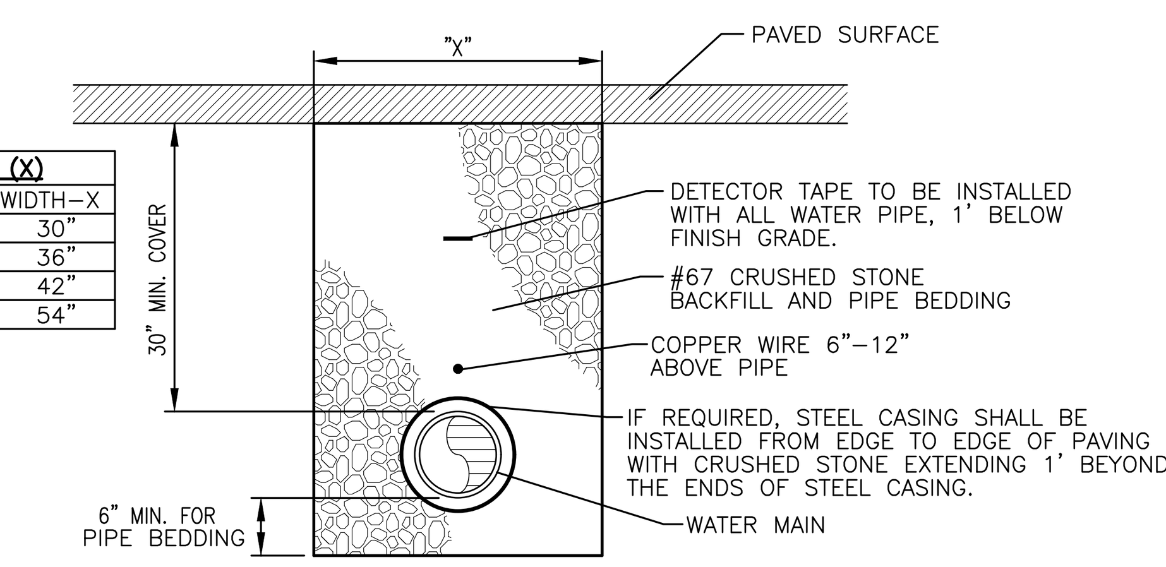
TRENCH WIDTH (X)	
PIPE SIZE	WIDTH-X
4" Thru 12"	30"
14" Thru 18"	36"
20" Thru 24"	42"
26" Thru 36"	54"



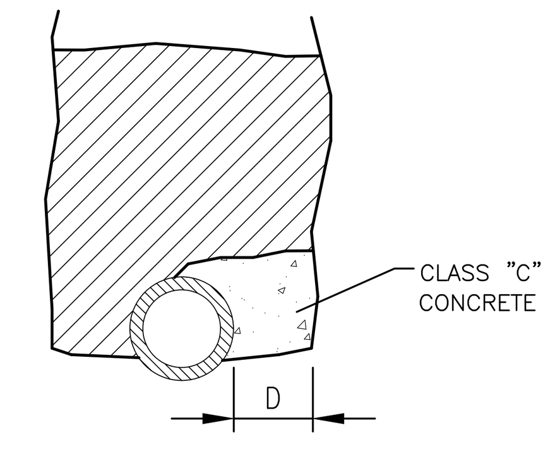
TYPICAL BEDDING & BACKFILL OUTSIDE ROADWAY

NOT TO SCALE

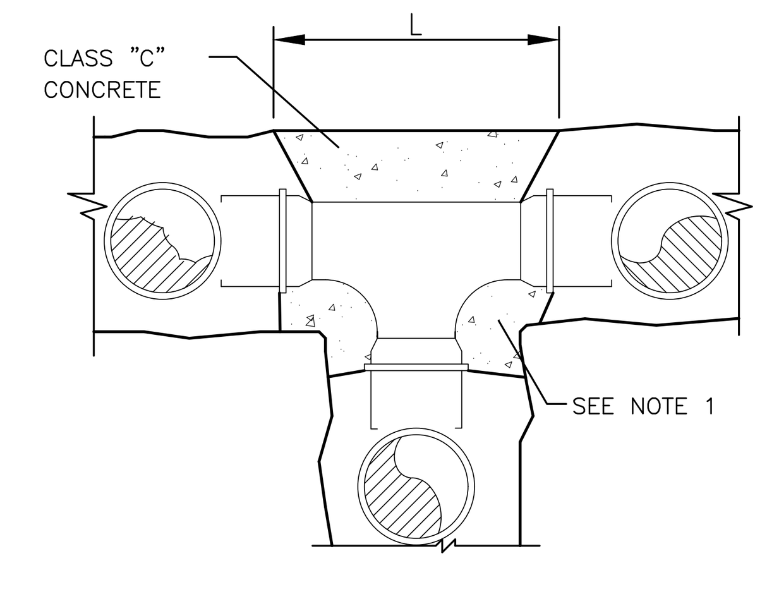
TRENCH WIDTH (X)	
PIPE SIZE	WIDTH-X
4" Thru 12"	30"
14" Thru 18"	36"
20" Thru 24"	42"
26" Thru 36"	54"



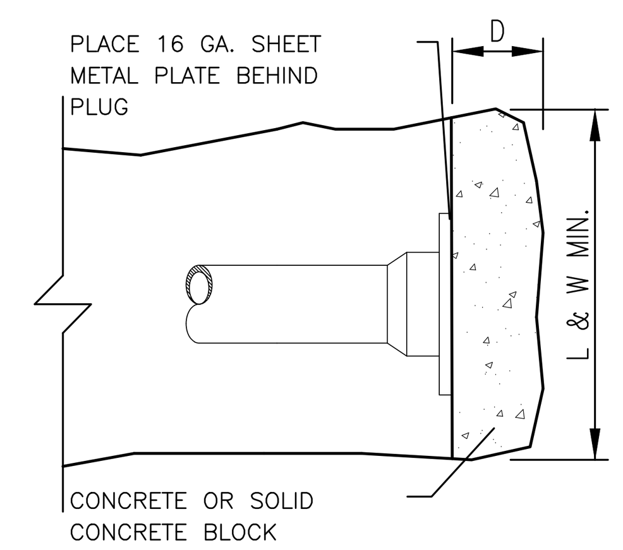
TYPICAL BEDDING & BACKFILL IN ROADWAY
NOT TO SCALE

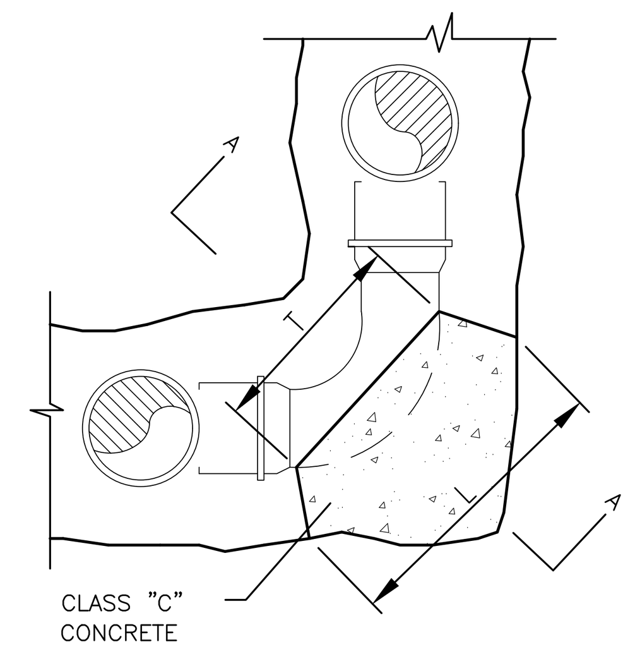


SECTION A-A



TEES





45° & 90° BENDS

NOTE 1:
RESTRAINED JOINTS REQUIRED: CONCRETE THRUST BLOCKS MAY BE USED IN ADDITION TO RESTRAINED JOINTS, PER 3.3.1 AND 3.3.2.

NOTE 2:
FELT PAPER OR PLASTIC SHEET SHALL BE INSTALLED AROUND TEE BEFORE KICKER IS POURED TO PROTECT HARDWARE.

PLUGS & TEES							
SIZE	2"	3"	4"	6"	8"	10"	12"
D	6"	6"	6"	6"	6"	6"	6"
L&W	14"	16"	18"	20"	22"	24"	24"

(45°) EIGHTH BENDS							
SIZE	2"	3"	4"	6"	8"	10"	12"
D	6"	6"	6"	6"	6"	6"	6"
L	12"	14"	16"	18"	20"	22"	24"
T	10"	12"	14"	16"	16"	18"	18"

(90°) QUARTER BENDS							
SIZE	2"	3"	4"	6"	8"	10"	12"
D	6"	6"	6"	8"	10"	12"	12"
L	15"	18"	21"	24"	27"	30"	34"
T	10"	12"	14"	16"	18"	20"	22"

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www.kloberenq.com

NO.	BY	DATE	DESCRIPTION
REVISIONS			

NOT FOR CONSTRUCTION

JOSHUA M. LYON, P.E. TN#112331

ACE RETAIL CENTER
1209 TN HWY-12 SOUTH
ASHLAND CITY, TN 37015
CHEATHAM COUNTY

DRAWN BY:	CJN
CHECKED BY:	JML
DATE:	5/7/24
PROJECT NO.:	C02624

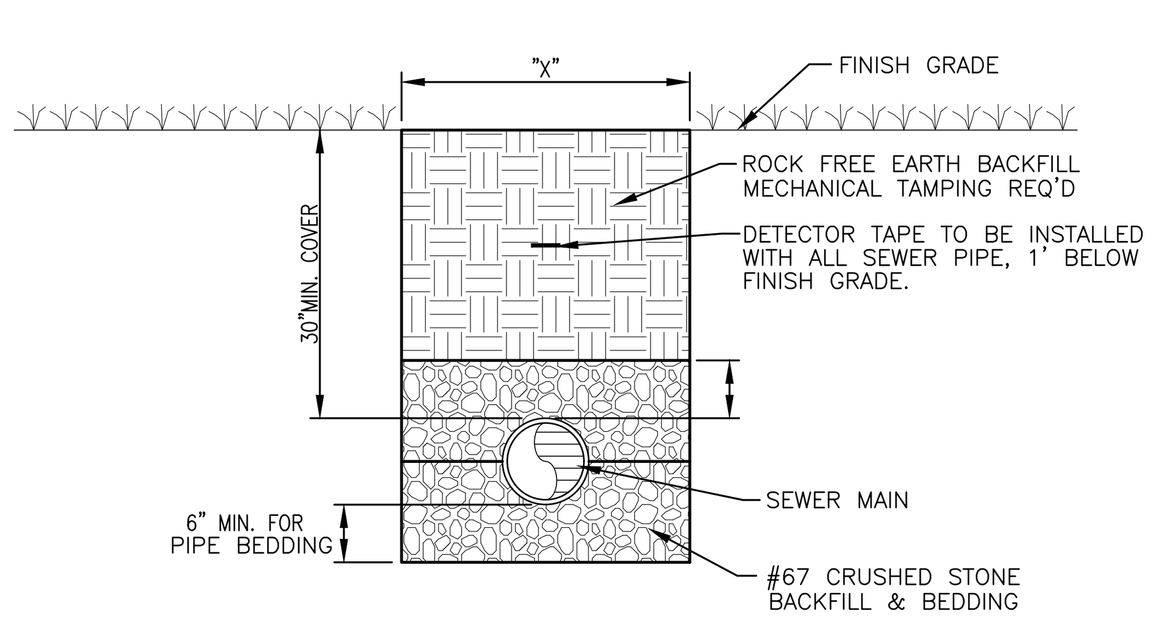
WATERLINE DETAILS

SHEET NUMBER
C2.03

NOT FOR CONSTRUCTION

TRENCH WIDTH (X)

PIPE SIZE	BUCKET WIDTH–X
6"	18"
8"	24"
10"	30"



TYPICAL BEDDING & BACKFILL OUTSIDE ROADWAY

NOT TO SCALE

PLUGS & TEES

SIZE	2"	3"	4"	6"	8"	10"	12"
D	6"	6"	6"	6"	6"	6"	6"
L&W	14"	16"	18"	20"	22"	24"	24"

(45°) EIGHTH BENDS

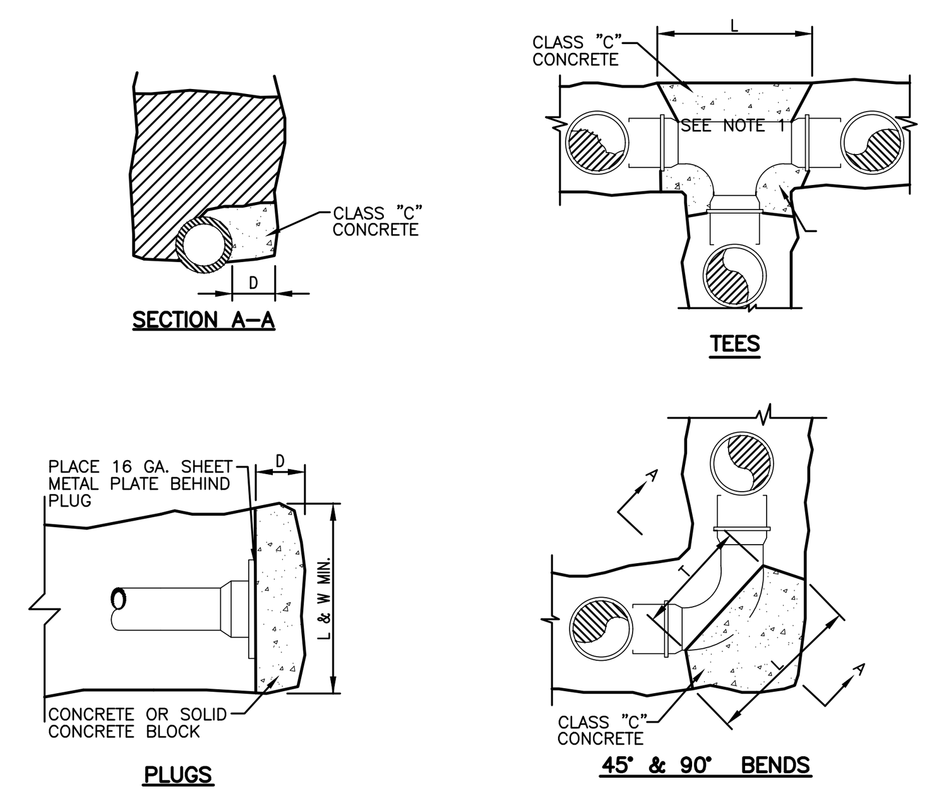
SIZE	2"	3"	4"	6"	8"	10"	12"
D	6"	6"	6"	6"	6"	6"	6"
L	12"	14"	16"	18"	20"	22"	24"
T	10"	12"	14"	16"	16"	18"	18"

(90°) QUARTER BENDS

SIZE	2"	3"	4"	6"	8"	10"	12"
D	6"	6"	6"	8"	10"	12"	12"
L	15"	18"	21"	24"	27"	30"	34"
T	10"	12"	14"	16"	18"	20"	22"

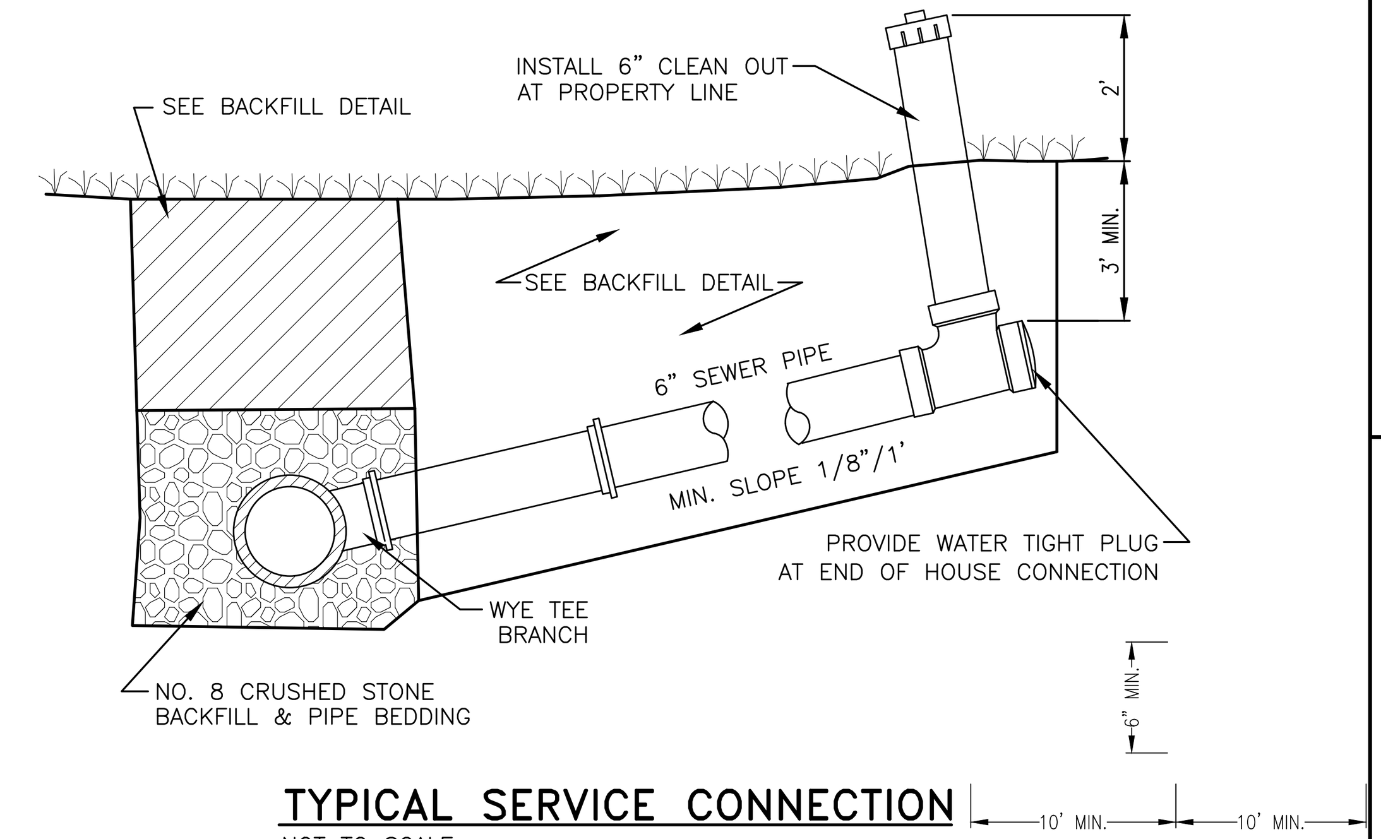
NOTE 1:
Restrained Joints Required: Concrete Thrust Blocks May Be Used In Addition To Restrained Joints, Per 3.3.1 And 3.3.2.

NOTE 2:
Felt Paper Or Plastic Sheet Shall Be Installed Around Tee Before Kicker Is Poured To Protect Hardware.



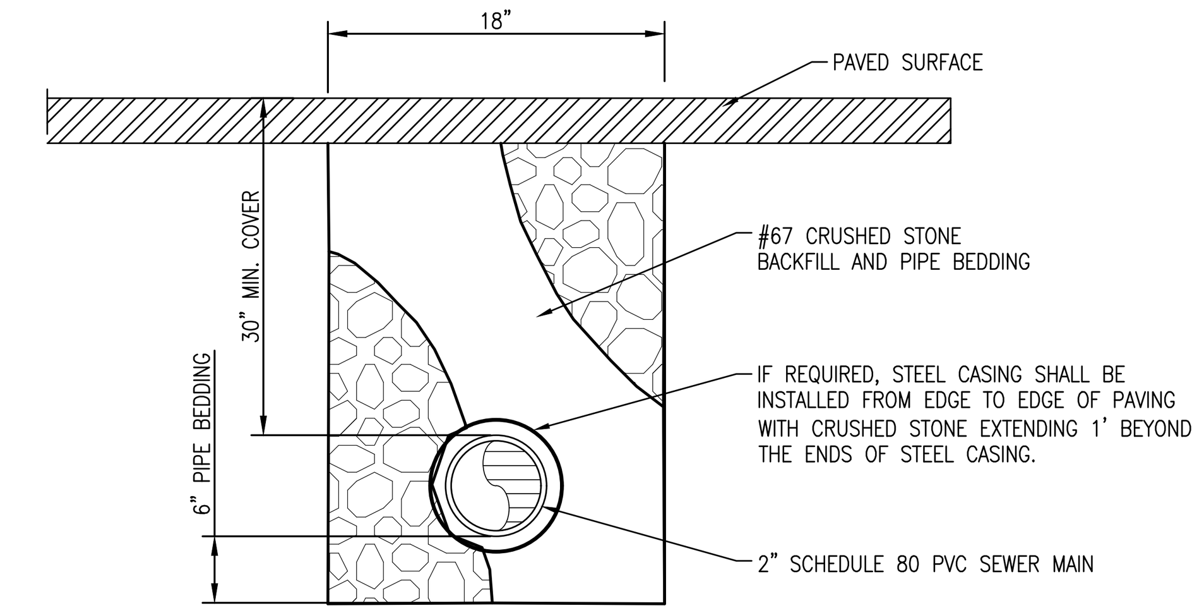
CONCRETE THRUST BLOCK DETAIL

NOT TO SCALE



TYPICAL SERVICE CONNECTION

NOT TO SCALE



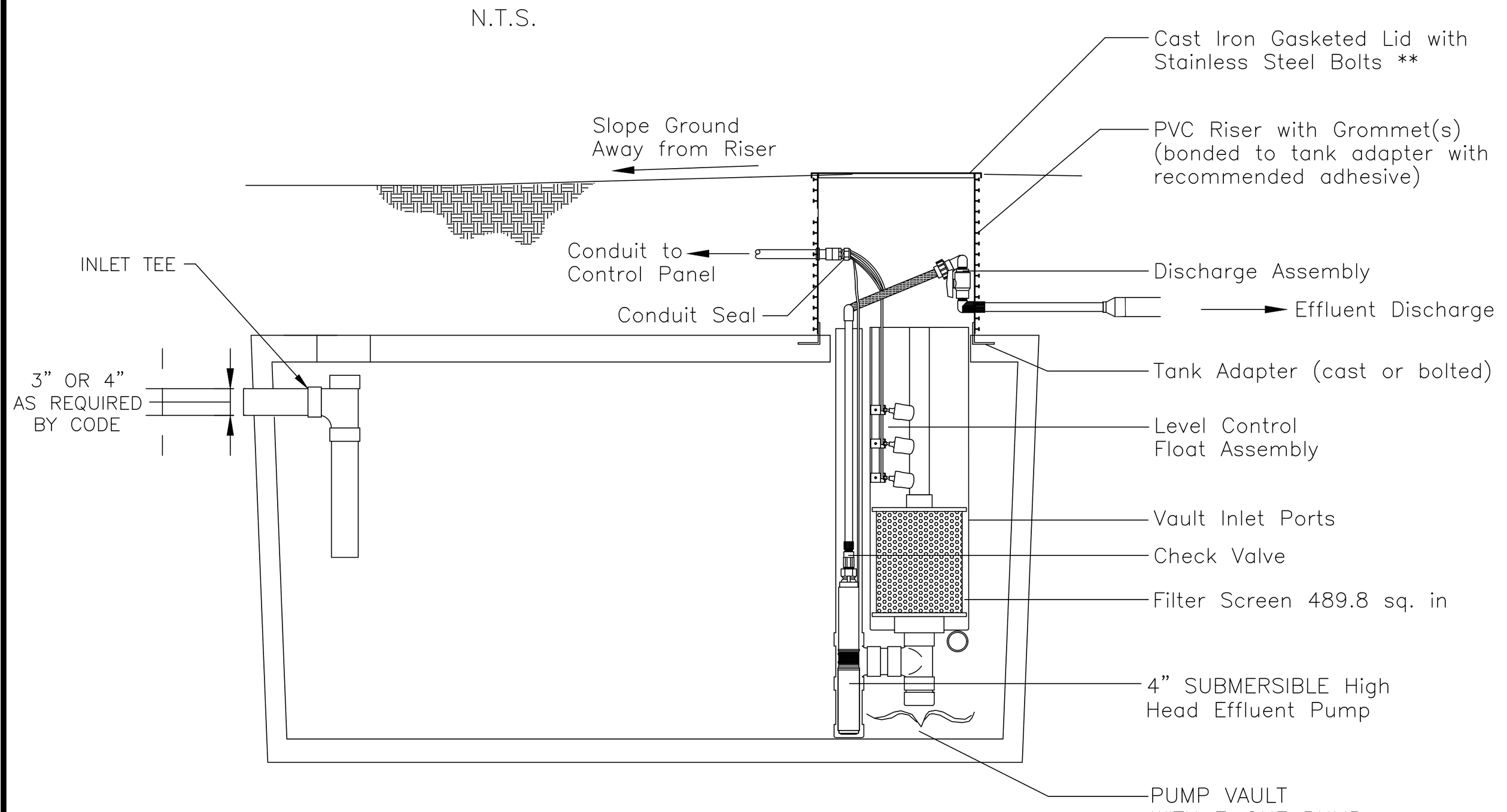
TYPICAL BEDDING & BACKFILL IN ROADWAY

NOT TO SCALE

** POLYCARONITE/FIBERGLASS LIDS ARE NO LONGER ACCEPTABLE

PLAN VIEW

N.T.S.



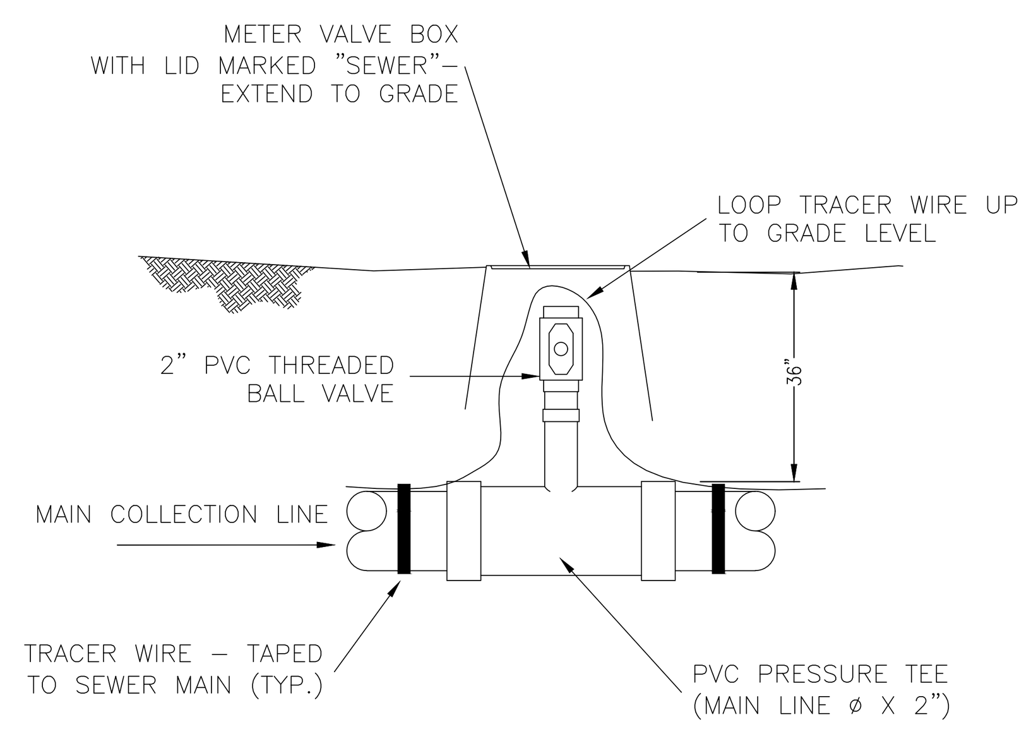
1500 GALLON STEP TANK

N.T.S.

ALL TANKS SHALL BE ONE-PIECE, STRUCTURALLY SOUND, WATERTIGHT TANKS AS MANUFACTURED BY JARRETT CONCRETE PRODUCTS, OR APPROVED EQUAL

TANK WILL BE A 1500 GALLON, WATERTIGHT PRE-CAST STEP TANK, AS MANUFACTURED BY JARRETT CONCRETE PRODUCTS, OR APPROVED EQUAL.
CONTACT: 615.792.9332

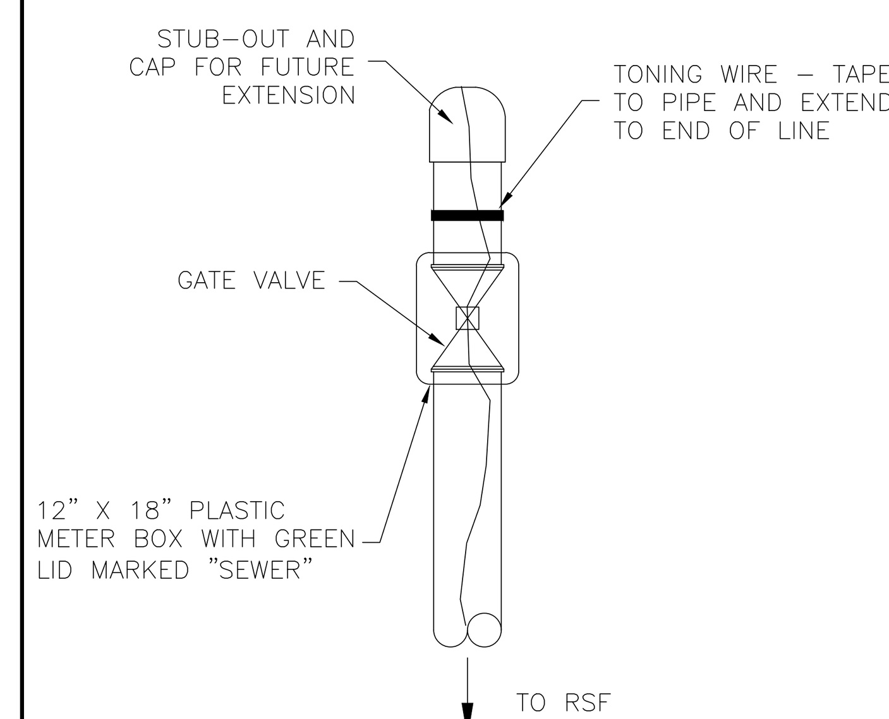
** IN ORDER TO DEMONSTRATE WATER TIGHTNESS, TANKS SHALL BE TESTED TWICE PRIOR TO ACCEPTANCE. EACH TANK SHALL BE TESTED AT THE FACTORY, PRIOR TO SHIPPING, BY FILLING TO TWO (2) INCHES ABOVE THE TOP OF THE LID AND THE EXFILTRATION RATE SHALL BE DETERMINED BY MEASURING THE WATER LOSS DURING THE NEXT TWO HOURS. THE SAME TEST WILL BE CONDUCTED ONCE THE TANK IS IN THE FIELD, PRIOR TO BACKFILLING. AFTER TANKS ARE FILLED 2" INTO THE RISER, THERE SHOULD BE LESS THAN 1/2" DROP IN 24 HOURS.



TYPICAL COLLECTION MAIN TESTING PORT

N.T.S.

INSTALL ONE (1) TESTING PORT PER COLLECTION LINE. COORDINATE INSTALLATION/LOCATION WITH UTILITY INSPECTOR, OR ADENUS ENGINEER. LOCATION OF TESTING PORT TO BE NOTED ON AS-BUILT DRAWINGS.



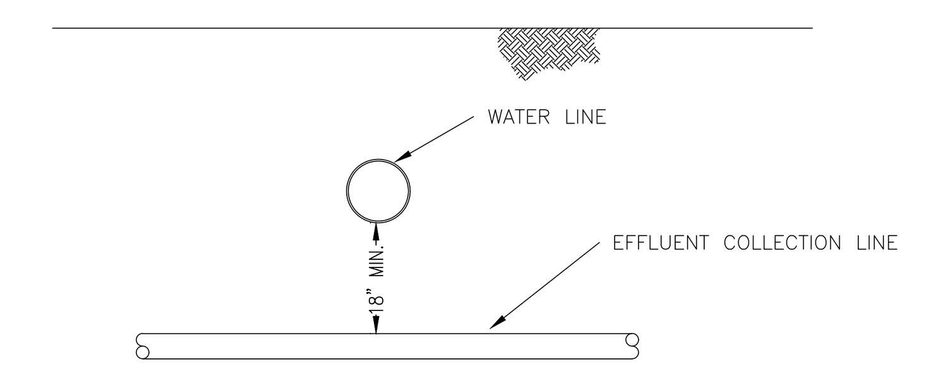
TYPICAL STUB FOR EXTENSION

N.T.S.

** GATE VALVE / BALL VALVE NOTE

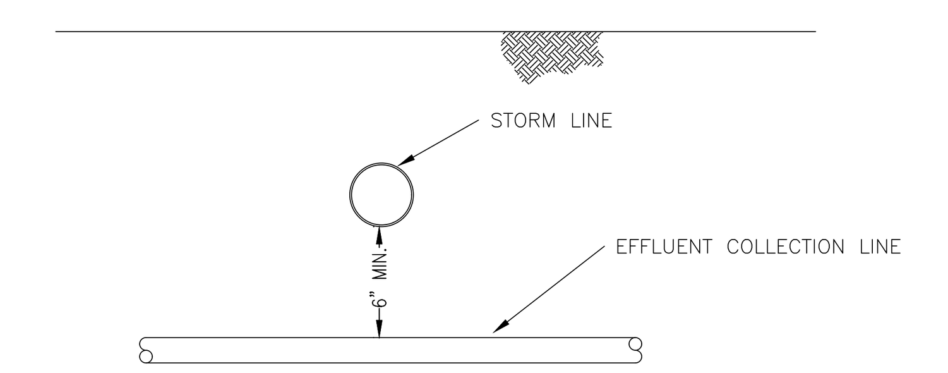
ON COLLECTION LINES 4"ø, AND SMALLER, SCH40 PVC BALL VALVES WILL BE USED.

ON COLLECTION LINES 6"ø, AND LARGER, FLOWMASTER MECHANICAL JOINT SQUARE HEAD VALVES, OR EQUAL WILL BE USED.



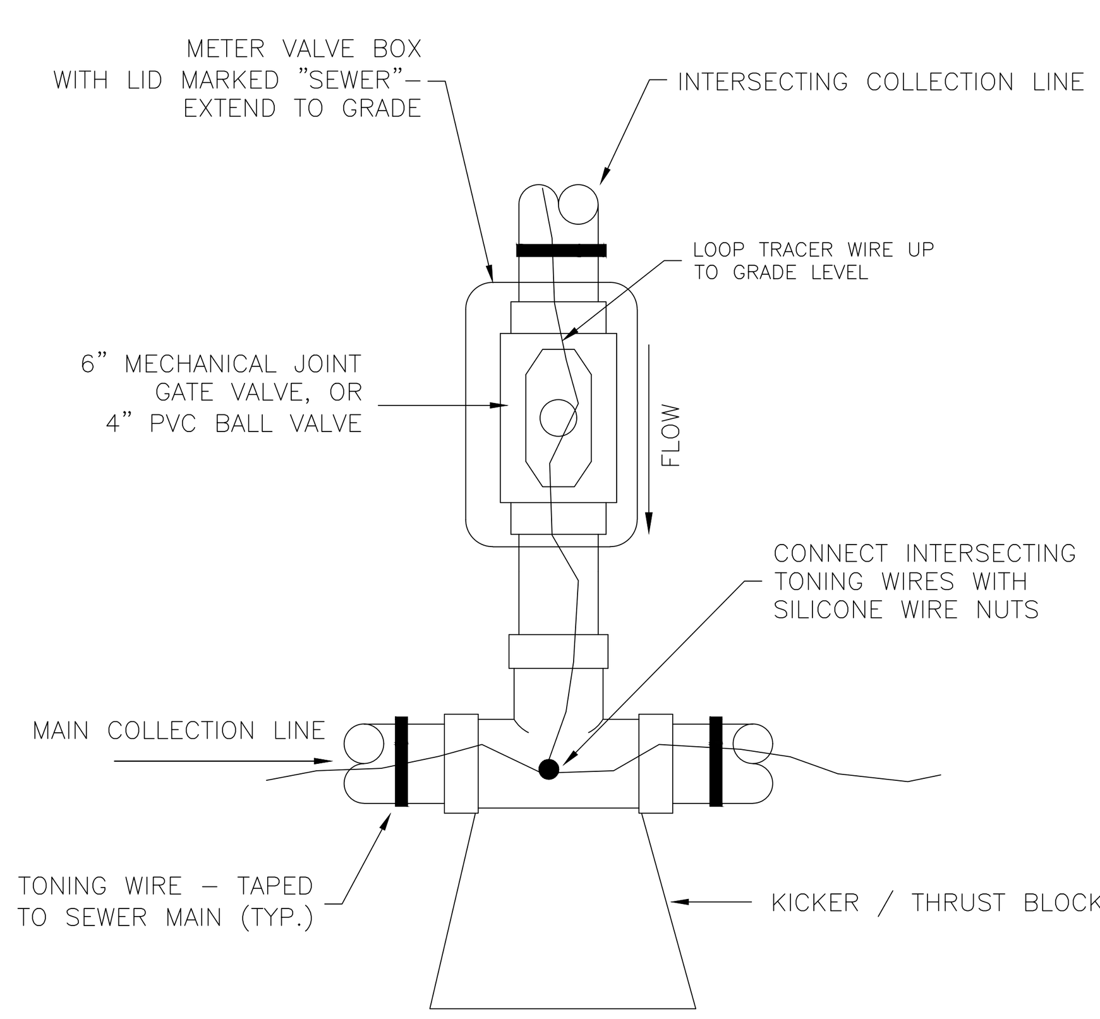
TYPICAL SEWER – WATER LINE CROSSING

SCALE: N.T.S.



TYPICAL SEWER – STORM LINE CROSSING

SCALE: N.T.S.



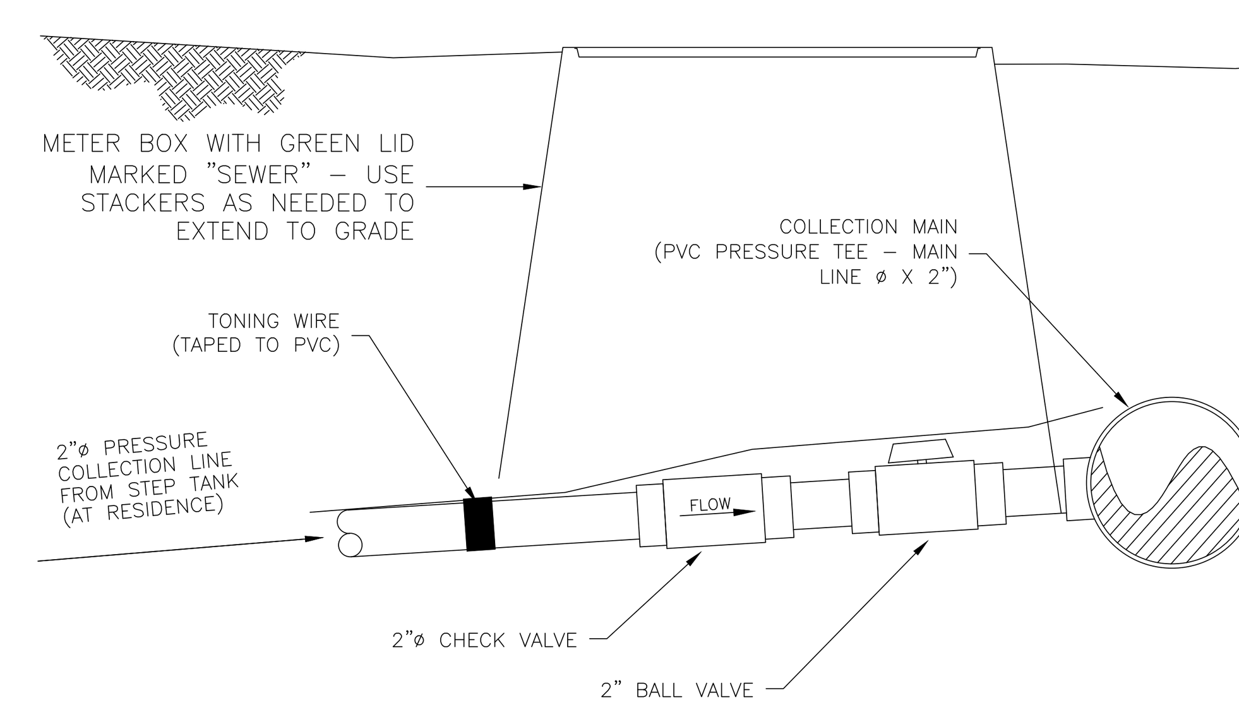
TYPICAL COLLECTION LINE INTERSECTION

SCALE: N.T.S.

** GATE VALVE / BALL VALVE NOTE

ON COLLECTION LINES 4"ø, AND SMALLER, SCH40 PVC BALL VALVES WILL BE USED.

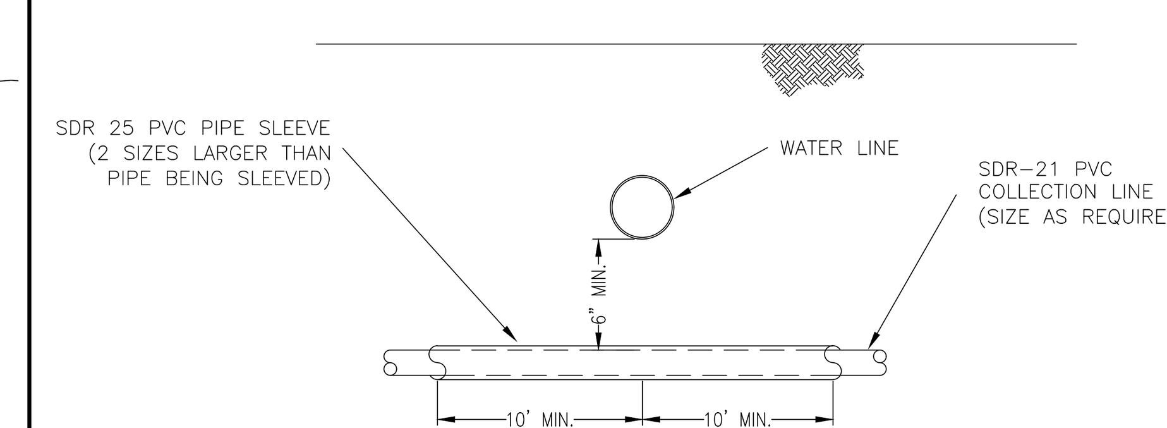
ON COLLECTION LINES 6"ø, AND LARGER, MECHANICAL JOINT GATE VALVES WILL BE USED.



TYPICAL SERVICE CONNECTION (PRESSURE)

N.T.S.

ALL FITTINGS AND VALVES TO BE SCH40 PVC GLUE JOINT PRESSURE RATED



TYPICAL SEWER – WATER LINE CROSSING (WITH SLEEVE)

SCALE: N.T.S.

** ONLY 6" (MIN.) OF SEPARATION MUST BE MAINTAINED IF SEWER LINE IS SLEEVED 10' (MIN.) BEYOND BOTH SIDES OF CROSSING WITH WATER LINE. OTHERWISE, 18" (MIN.) OF SEPARATION MUST BE MAINTAINED.

NOT FOR CONSTRUCTION

KLOBER ENGINEERING SERVICES
SERVING CLIENTS WITH CIVIL ENGINEERING & LAND DEVELOPMENT SERVICES
3558 TOM AUSTIN HWY, SUITE 1, SPRINGFIELD, TN 37172
PHONE: (615) 382-2000 FAX: (888) 373-4485
www.kloberengineering.com

NO.	BY	DATE	REVISIONS DESCRIPTION

JOSHUA M. LYON, P.E. TN#112331

NOT FOR CONSTRUCTION

ACE RETAIL CENTER

1209 TN HWY-12 SOUTH
ASHLAND CITY, TN 37015
CHEATHAM COUNTY

DRAWN BY:	CJN
CHECKED BY:	JML
DATE:	5/7/24
PROJECT NO.:	C02624

SEWER LINE DETAILS

SHEET NUMBER
C2.04

STORMWATER DESIGN CALCULATIONS

FOR

Ace Retail Center

1209 TN-Hwy 12
Ashland City, TN 37015

May 15, 2024

Prepared By

KLOBER ENGINEERING SERVICES
3556 Tom Austin Hwy, Suite 1
Springfield, Tennessee 37172
(615) 382-2000

KLOBER
ENGINEERING SERVICES

Serving clients with Civil and Environmental Engineering Services

3556 Tom Austin Hwy, Suite 1
Springfield, Tennessee 37172
(615) 382-2000 Office
(888) 373-4485 Fax

STORM WATER CALCULATIONS

NOTE: Storm water runoff is calculated using the TR-55 Method. All flow calculations are based on methods established in the Nashville / Davidson County Stormwater Management Manual.

The following pages contain calculations for the storm water drainage system.

The following table illustrates storm water runoff data for pre and post developed conditions for the above referenced property. Predeveloped runoff is based on

Storm Event	Total Pre-Developed Runoff (1R)	Post-Developed to Pond (3S)	Post-Developed Pond Bypass (4S)	Total Post Developed Discharge (2R)	Pond Elevation: TOB: 405.50
2 yr.	13.38	16.23	0.63	12.69	403.16
5 yr.	16.98	20.10	0.94	15.59	403.45
10 yr.	19.82	23.16	1.21	17.88	403.67
25 yr.	23.81	27.53	1.61	21.07	403.98
50 yr.	27.00	31.06	1.95	23.57	404.23
100yr.	30.24	34.67	2.31	26.05	404.49

Water Quantity:

The existing detention pond on this site has been sized to handle the additional stormwater runoff generated by the site development and to reduce the peak discharge at or below predeveloped conditions. The pond and outlet structure had been designed for the complete build out of the site for all phases. Storm events are controlled by a weir structure built into the pond wall.

PRE-DEVELOPED

PRESENT OWNER:
MARK & TONYA YARBROUGH
400 WARIOTO WAY #708
ASHLAND CITY, TN 37105

DEED REFERENCE:
MAP 55, PARCEL 36
LEE BATSON COMMERCIAL LOTS – LOT 1

PROPERTY INFORMATION:
AREA: 226,164 S.F. = 5.19 ACRES

ZONING:
COMMERCIAL C–2

SITE USE:
EXISTING USE: MINI STORAGE
PROPOSED USE: MINI STORAGE

SIGN NOTE:
ALL SIGNS SHALL COMPLY WITH THE MOST CURRENT EDITION OF THE ASHLAND CITY ZONING ORDINANCE. SEPARATE PERMIT REQUIRED.

LOT COVERAGE:
EXISTING BUILDING AREA = 22,225 S.F.
NEW BUILDING AREA = 24,090 S.F.
BUILDING COVERAGE = 20.5%
MAX BUILDING HEIGHT: 40'–0"
EXISTING CONCRETE SURFACE: ±350 S.F.
EXISTING ASPHALT SURFACE: ±41,782 S.F.
EXISTING IMPERVIOUS AREA: ±64,357 S.F. = 28.46%
PROPOSED ASPHALT SURFACE: ±18,144 S.F.
PROPOSED IMPERVIOUS AREA: ±106,591 S.F. = 47.13%

PARKING INFORMATION:
REQUIRED PARKING:
EXISTING: 3 SPACES, INCLUDING 1 HANDICAP SPACES

PROVIDED: 2 SPACES

TOTAL PARKING: 5 SPACES, INCLUDING 1 HANDICAP SPACES

UTILITY NOTE:
COORDINATE ALL UTILITY INSTALLATIONS WITH GOVERNING ENTITIES.

SECURITY GATE:
SECURITY GATES OR BARRIERS SHALL BE EQUIPPED WITH A RADIO OPERATED RECEIVER/CONTROLLER CAPABLE OF RECEIVING SIGNALS FROM A POLICE DEPARTMENT, SHERIFF'S DEPARTMENT (IF THE GATED FACILITY OR COMMUNITY IS IN THE COUNTY), FIRE DEPARTMENT, UTILITY AND EMERGENCY MEDICAL SERVICES' RADIO TRANSCEIVERS SERVING THE GATED FACILITY OR COMMUNITY WHICH ALLOW EMERGENCY RESPONDERS AND OTHER NECESSARY ON–DUTY EMPLOYEES TO OPEN THE SECURITY GATE OR BARRIER BY USE OF SUCH EQUIPMENT. ALL SECURITY GATES OR BARRIERS MUST MEET POLICIES DEEMED NECESSARY BY THE AUTHORITY HAVING JURISDICTION OVER THE GATED FACILITY OR COMMUNITY FOR RAPID, RELIABLE, AND MUTUAL AID ACCESS. SUCH EQUIPMENT SHALL BE FURNISHED, INSTALLED AND MAINTAINED BY THE GATED FACILITY OR COMMUNITY THAT IS SERVED BY SUCH EQUIPMENT.

GENERAL NOTES:
1. PRIOR TO BEGINNING CONSTRUCTION ON THIS SITE THE LOCATION OF UTILITIES MUST BE IDENTIFIED BY CALLING THE TOLL–FREE TENNESSEE ONE CALL REFERENCE NUMBER 1–800–351–1111.
2. ALL CONSTRUCTION ON THIS SITE SHALL COMPLY WITH APPLICABLE REGULATIONS AS SPECIFIED BY THE CITY OF MILLERSVILLE AND THE STATE OF TENNESSEE.
3. TOPSOIL SHALL BE PLACED ON EXCAVATED AREAS WHICH REQUIRE NEW VEGETATION. GROUND COVER SHALL BE REESTABLISHED WITH KENTUCKY 31 FESCUE SEEDED AT A MINIMUM OF 250 LBS. PER ACRE. SLOPES 3:1 OR GREATER SHALL BE LINED WITH NORTH AMERICAN GREEN S150 GRASS MATTING OR EQUAL.
4. SILT FENCE SHALL BE INSTALLED IN ALL EROSION AREAS WHICH COULD ALLOW UNTREATED STORMWATER RUNOFF TO BE DISCHARGED FROM THE PROPERTY. ALL EROSION CONTROL MEASURES SHALL BE CONSISTENT WITH THE PROVISIONS DESCRIBED IN THE MOST CURRENT EDITION OF THE TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK.
5. THE STORMWATER RUNOFF CALCULATIONS ON THIS SITE HAVE BEEN PERFORMED USING THE U.S. SOIL CONSERVATION SERVICE TR–55 METHOD. STORMWATER POND HAS BEEN SIZED TO HANDLE A 25 AND 100 YEAR STORM EVENT.
6. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS TAKEN FROM A SURVEY BY STEVEN E ARTZ SURVEYING OF SPRINGFIELD, TN.
7. CONSTRUCTION WILL BEGIN FOLLOWING PLAN APPROVAL BY THE CITY OF ASHLAND CITY.
8. THE BUILDING SHOULD FRONT TED DORRIS ROAD, AND BE SERVICED BY UNDERGROUND UTILITY LINES.
9. ANY DUMPSTER SHALL BE FULLY ENCLOSED, MATCHING THE FACADE OF THE BUILDING, AND A WOODEN PRIVACY FENCE GATE THAT IS 8 FEET HIGH ON ALL SIDES AND ALL SERVICE BOXES AND MECHANICALS TO BE IN THE REAR OF THE BUILDING.
10. ALL ADDITIONS IN THE FUTURE MUST BE BUILT TO THESE STANDARDS.
11. THIS PROPERTY IN LOCATED IN ZONE "A" AND ZONE "X" (AREAS OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS SHOWN ON NFIP FIRM MAP ACCORDING TO THE FEMA MAP PANEL NUMBER 47021C0170D, DATED 9/10/2010,

NPDES PERMIT NOTE:
THE MAXIMUM DISTURBED AREA FOR THIS PROJECT IS OVER 1 ACRE. THIS SITE IS CURRENTLY COVERED UNDER PERMIT NUMBER TNR245326.

JOSHUA M. LYON, P.E.
PROJECT MANAGER

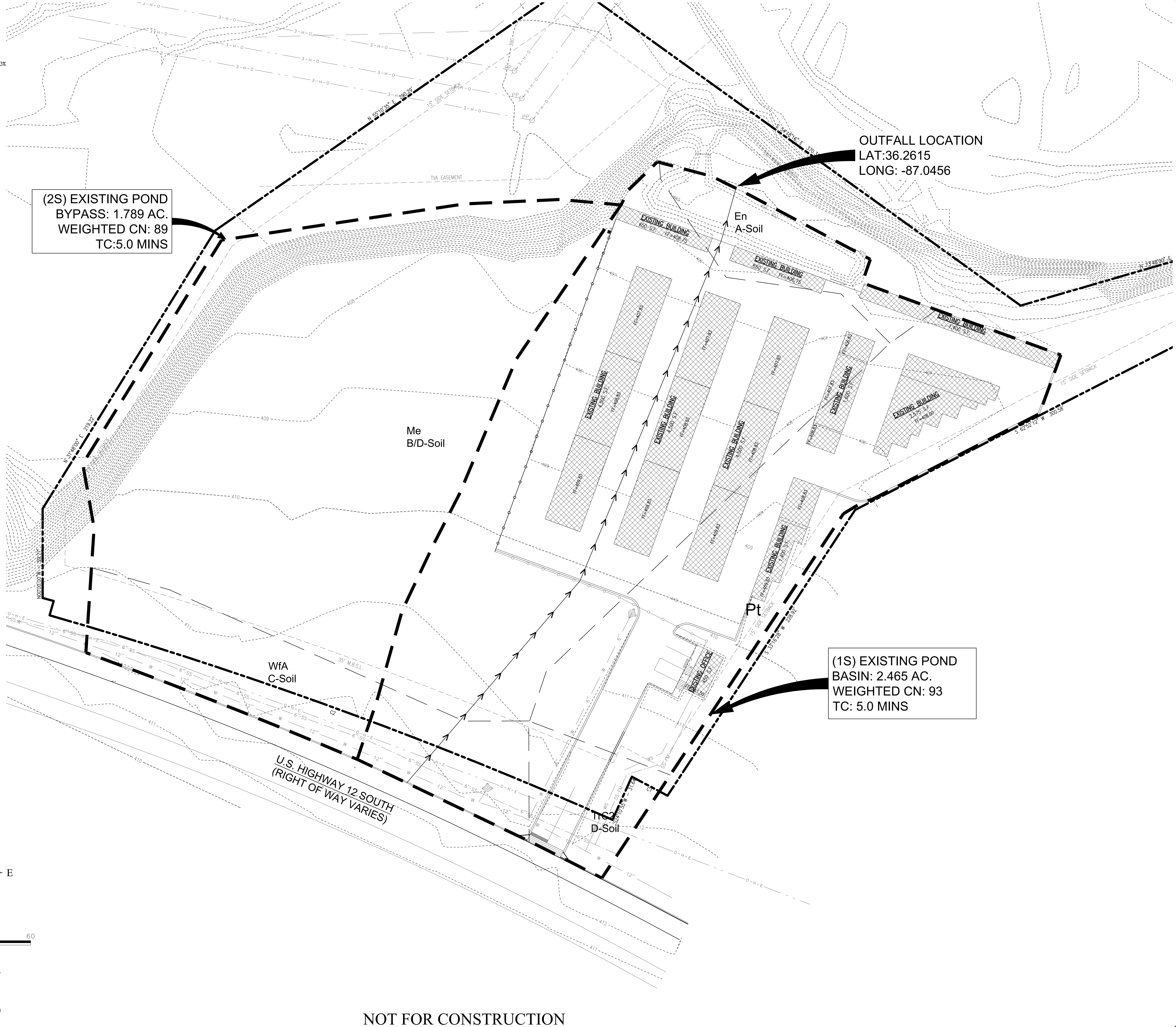
EP&SC NOTES:
1. AN EROSION PREVENTION SILTATION CONTROL PLAN (EP&SC) AND LAND DISTURBANCE PERMIT (IF REQUIRED) SHALL BE IN PLACE PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY. EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD; GENERALLY CONSIDERED TO BE THROUGH THE COMPLETION OF RESTORATION. IF REQUIRED, THE EP&SC PLAN ALONG WITH AN INSPECTION CHECKLIST AND STORMWATER PERMIT MUST BE AT THE PROJECT SITE AT ALL TIMES. THE INSPECTION CHECKLIST SHALL HAVE A RECORD OF DATES EP&SC DEVICES ARE INSPECTED AND ANY CORRECTION ACTION TAKEN OR MAJOR OBSERVATIONS. BMP'S MUST BE INSPECTED BY A QUALIFIED PERSON WHO HAS TAKEN AN APPROVED EROSION AND SEDIMENTATION COURSE.
2. ALL EP&SC DEVICES ARE TO REMAIN IN PLACE UNTIL THE SITE HAS BEEN STABILIZED AND A GOOD STAND OF GRASS HAS BEEN ESTABLISHED.
3. EROSION PREVENTION AND SEDIMENT CONTROLS MUST BE INSPECTED AT LEAST TWICE EVERY CALENDAR WEEK AT LEAST 72 HOURS APART. INSPECTIONS ARE TO BE DOCUMENTED AND KEPT WITH THE SWPPP (IF REQUIRED).
4. SILT FENCE, OR OTHER SEDIMENT BARRIERS ARE TO BE INSTALLED PROPERLY ALONG TOPOGRAPHICAL CONTOURS DOWN SLOPE OF THE AREA TO BE DISTURBED PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY.
5. EXCAVATED TOPSOIL TO BE REUSED MUST BE STOCKPILED AND ENCIRCLED WITH SILT FENCING.
6. THIS SITE SHALL CONTAIN A TEMPORARY STONE CONSTRUCTION ENTRANCE THAT CONFORMS TO REQUIRED SPECIFICATIONS PRIOR TO GRADING COMMENCEMENT. THE STONE SHALL BE 2 TO 3 INCH IN DIAMETER AND SHALL BE KEPT CLEAN BY ADDING STONE AS NEEDED. IT SHALL BE AT LEAST 8 INCHES DEEP UNDERLAIN WITH FILTER FABRIC AND 20 FEET WIDE.
7. APPROVED INLET PROTECTIONS FOR NEARBY STORM SEWER CURB AND DROP INLETS MUST BE INSTALLED WITHIN 24 HOURS OF GRADING COMMENCEMENT.
8. VEGETATIVE BUFFERS OR OTHER PROTECTION MUST BE PROVIDED ALONG STREAMS, RIVERS, AND PONDS TO AVOID EROSION OF BANKS.
9. STABILIZATION MEASURES MUST BE PERFORMED WITHIN SEVEN (7) DAYS IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND WITHIN FIFTEEN (15) DAYS AFTER FINAL GRADING.
10. ALL TREES DESIGNATED TO REMAIN, MUST BE PROTECTED. HEAVY EQUIPMENT SHOULD NOT BE OPERATED OR STORED, NOR MATERIALS HANDLED OR STORED, WITHIN THE DRIP LINES OF TREES.
11. SEDIMENT MUST BE REMOVED FROM SEDIMENT BARRIERS, PONDS, AND OTHER SEDIMENT CONTROLS WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 33%
12. SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN THE STREET OR DRAINAGE STRUCTURES MUST IMMEDIATELY BE PHYSICALLY REMOVED.
13. BUILDING AND WASTE MATERIALS, AND NON STORM WATER DISCHARGES, SUCH AS CONCRETE, PAINT WASH WATER, OR MACHINERY LEAKAGE, OR SPILLAGE MUST BE MANAGED TO PREVENT THEM FROM ENTERING THE STORM WATER SYSTEM, GROUND WATER, OR NEARBY WATER BODY.
14. THE PROJECT IS SUBJECT TO INSPECTION BY THE CITY AT ANY TIME AND ITEMS FOUND DEFICIENT SHALL BE IMMEDIATELY CORRECTED. THE CITY MAY STOP CONSTRUCTION OR PROPERTIES, OR ADMINISTER OTHER ENFORCEMENT ACTIONS AS DEFINED BY THE CITY

PLOTTED: 8/25/2023 10:42:32 AM

CALL BEFORE YOU DIG

811 CALL 811 NATIONWIDE
Know what's below. Call before you dig.

IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND POSSIBLY INCOMPLETE. THEREFORE CERTIFICATION TO THE LOCATION OF ALL UNDERGROUND UTILITIES IS WITHHELD.



LEGEND:
PROPERTY LINE
EXISTING WATER LINE
EXISTING SEWER LINE
OVERHEAD ELECTRIC LINE
FENCE
NEW CURB
SILT FENCE
EXISTING 5' CONTOUR
EXISTING 1' CONTOUR
NEW 1' CONTOUR
DEMO LINE
MANHOLE
CO CLEAN OUT
PP POWER POLE
WM WATER METER
FIRE HYDRANT
IR(O) IRON ROD OLD
IR(N) IRON ROD NEW
INV.–25.42 PIPE INVERT
28.14 SPOT ELEVATION
SLOPE DIRECTION

NOT FOR CONSTRUCTION

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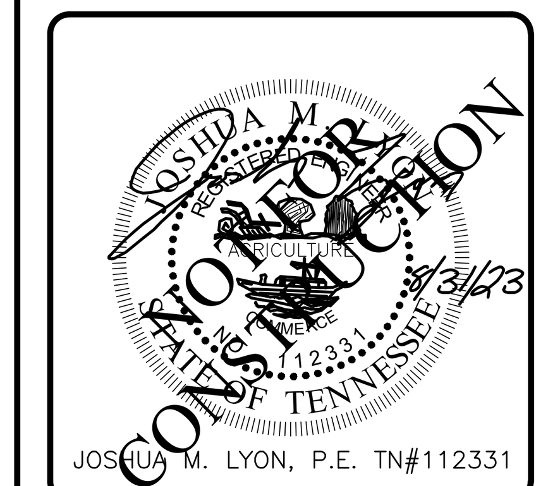
www.klobereng.com

REVISIONS

NO.	BY	DATE	DESCRIPTION



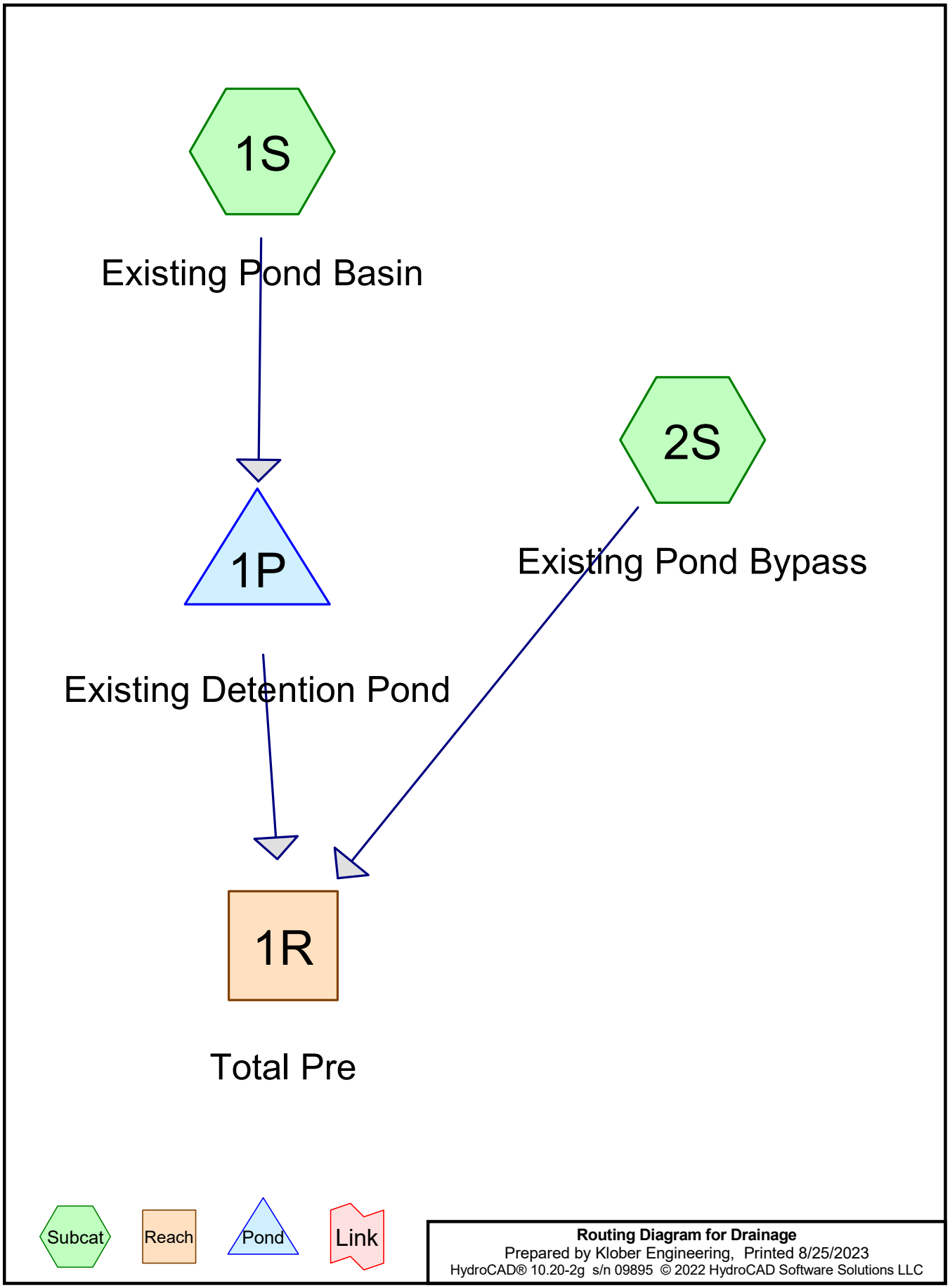
ACE
MINI STORAGE
ASHLAND CITY, TN
CHEATHAM COUNTY

DRAWN BY:	CJN
CHECKED BY:	JML
DATE:	8/31/23
PROJECT NO.:	C05823

PRE DEVELOPED DRAINAGE

SHEET NUMBER
DM-1

ITEM # 4.



Routing Diagram for Drainage
Prepared by Klober Engineering, Printed 8/25/2023
HydroCAD® 10.20-2g s/n 09895 © 2022 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S: Existing Pond Basin

Runoff = 9.75 cfs @ 12.11 hrs, Volume= 0.552 af, Depth> 2.69"
Routed to Pond 1P : Existing Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 2-Year Rainfall=3.60"

	Area (ac)	CN	Description
	0.219	79	50-75% Grass cover, Fair, HSG C
	0.124	49	50-75% Grass cover, Fair, HSG A
	0.113	98	Paved parking, HSG C
	1.491	96	Gravel surface, HSG C
*	0.510	98	Roofs, HSG C
	0.008	98	Unconnected pavement, HSG C
	2.465	93	Weighted Average
	1.834		74.40% Pervious Area
	0.631		25.60% Impervious Area
	0.008		1.27% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2S: Existing Pond Bypass

Runoff = 6.34 cfs @ 12.11 hrs, Volume= 0.345 af, Depth> 2.31"
Routed to Reach 1R : Total Pre

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 2-Year Rainfall=3.60"

Area (ac)	CN	Description
0.215	79	50-75% Grass cover, Fair, HSG C
0.303	69	50-75% Grass cover, Fair, HSG B
1.271	96	Gravel surface, HSG C
1.789	89	Weighted Average
1.789		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 1R: Total Pre

Inflow Area = 4.254 ac, 14.83% Impervious, Inflow Depth > 2.53" for 2-Year event
Inflow = 13.38 cfs @ 12.14 hrs, Volume= 0.896 af
Outflow = 13.38 cfs @ 12.14 hrs, Volume= 0.896 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Existing Detention Pond

Inflow Area = 2.465 ac, 25.60% Impervious, Inflow Depth > 2.69" for 2-Year event
Inflow = 9.75 cfs @ 12.11 hrs, Volume= 0.552 af
Outflow = 7.59 cfs @ 12.17 hrs, Volume= 0.551 af, Atten= 22%, Lag= 3.4 min
Primary = 7.59 cfs @ 12.17 hrs, Volume= 0.551 af
Routed to Reach 1R : Total Pre

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 402.65' @ 12.17 hrs Surf.Area= 2,933 sf Storage= 2,453 cf

Plug-Flow detention time= 4.9 min calculated for 0.551 af (100% of inflow)
Center-of-Mass det. time= 4.1 min (760.2 - 756.1)

Volume	Invert	Avail.Storage	Storage Description
#1	401.25'	11,230 cf	**DETENTION POND (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.25	16	16.0	0	0	16
402.00	2,505	355.0	680	680	10,025
403.00	3,174	346.0	2,833	3,513	10,638
404.00	3,860	357.0	3,511	7,025	11,346
405.00	4,561	368.0	4,206	11,230	12,077

Device	Routing	Invert	Outlet Devices
#1	Primary	401.45'	**2.0' long x 3.50' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=7.42 cfs @ 12.17 hrs HW=402.63' (Free Discharge)
↑—**1=Sharp-Crested Rectangular Weir** (Weir Controls 7.42 cfs @ 3.56 fps)

Summary for Subcatchment 1S: Existing Pond Basin

Runoff = 12.21 cfs @ 12.11 hrs, Volume= 0.702 af, Depth> 3.42"
Routed to Pond 1P : Existing Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 5-Year Rainfall=4.39"

	Area (ac)	CN	Description
	0.219	79	50-75% Grass cover, Fair, HSG C
	0.124	49	50-75% Grass cover, Fair, HSG A
	0.113	98	Paved parking, HSG C
	1.491	96	Gravel surface, HSG C
*	0.510	98	Roofs, HSG C
	0.008	98	Unconnected pavement, HSG C
	2.465	93	Weighted Average
	1.834		74.40% Pervious Area
	0.631		25.60% Impervious Area
	0.008		1.27% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2S: Existing Pond Bypass

Runoff = 8.15 cfs @ 12.11 hrs, Volume= 0.451 af, Depth> 3.02"
Routed to Reach 1R : Total Pre

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 5-Year Rainfall=4.39"

Area (ac)	CN	Description
0.215	79	50-75% Grass cover, Fair, HSG C
0.303	69	50-75% Grass cover, Fair, HSG B
1.271	96	Gravel surface, HSG C
1.789	89	Weighted Average
1.789		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 1R: Total Pre

Inflow Area = 4.254 ac, 14.83% Impervious, Inflow Depth > 3.25" for 5-Year event
Inflow = 16.98 cfs @ 12.14 hrs, Volume= 1.152 af
Outflow = 16.98 cfs @ 12.14 hrs, Volume= 1.152 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Existing Detention Pond

Inflow Area = 2.465 ac, 25.60% Impervious, Inflow Depth > 3.42" for 5-Year event
Inflow = 12.21 cfs @ 12.11 hrs, Volume= 0.702 af
Outflow = 9.52 cfs @ 12.17 hrs, Volume= 0.701 af, Atten= 22%, Lag= 3.4 min
Primary = 9.52 cfs @ 12.17 hrs, Volume= 0.701 af
Routed to Reach 1R : Total Pre

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 402.87' @ 12.17 hrs Surf.Area= 3,085 sf Storage= 3,117 cf

Plug-Flow detention time= 4.9 min calculated for 0.701 af (100% of inflow)
Center-of-Mass det. time= 4.1 min (755.8 - 751.7)

Volume	Invert	Avail.Storage	Storage Description
#1	401.25'	11,230 cf	**DETENTION POND (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.25	16	16.0	0	0	16
402.00	2,505	355.0	680	680	10,025
403.00	3,174	346.0	2,833	3,513	10,638
404.00	3,860	357.0	3,511	7,025	11,346
405.00	4,561	368.0	4,206	11,230	12,077

Device	Routing	Invert	Outlet Devices
#1	Primary	401.45'	**2.0' long x 3.50' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=9.32 cfs @ 12.17 hrs HW=402.85' (Free Discharge)
↑—**1=Sharp-Crested Rectangular Weir** (Weir Controls 9.32 cfs @ 3.87 fps)

Summary for Subcatchment 1S: Existing Pond Basin

Runoff = 14.15 cfs @ 12.11 hrs, Volume= 0.823 af, Depth> 4.00"
Routed to Pond 1P : Existing Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 10-Year Rainfall=5.02"

	Area (ac)	CN	Description
	0.219	79	50-75% Grass cover, Fair, HSG C
	0.124	49	50-75% Grass cover, Fair, HSG A
	0.113	98	Paved parking, HSG C
	1.491	96	Gravel surface, HSG C
*	0.510	98	Roofs, HSG C
	0.008	98	Unconnected pavement, HSG C
	2.465	93	Weighted Average
	1.834		74.40% Pervious Area
	0.631		25.60% Impervious Area
	0.008		1.27% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2S: Existing Pond Bypass

Runoff = 9.59 cfs @ 12.11 hrs, Volume= 0.536 af, Depth> 3.60"
Routed to Reach 1R : Total Pre

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 10-Year Rainfall=5.02"

Area (ac)	CN	Description
0.215	79	50-75% Grass cover, Fair, HSG C
0.303	69	50-75% Grass cover, Fair, HSG B
1.271	96	Gravel surface, HSG C
1.789	89	Weighted Average
1.789		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 1R: Total Pre

Inflow Area = 4.254 ac, 14.83% Impervious, Inflow Depth > 3.83" for 10-Year event
Inflow = 19.82 cfs @ 12.14 hrs, Volume= 1.357 af
Outflow = 19.82 cfs @ 12.14 hrs, Volume= 1.357 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Existing Detention Pond

Inflow Area = 2.465 ac, 25.60% Impervious, Inflow Depth > 4.00" for 10-Year event
Inflow = 14.15 cfs @ 12.11 hrs, Volume= 0.823 af
Outflow = 11.04 cfs @ 12.17 hrs, Volume= 0.821 af, Atten= 22%, Lag= 3.4 min
Primary = 11.04 cfs @ 12.17 hrs, Volume= 0.821 af
Routed to Reach 1R : Total Pre

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 403.04' @ 12.17 hrs Surf.Area= 3,201 sf Storage= 3,645 cf

Plug-Flow detention time= 4.9 min calculated for 0.819 af (100% of inflow)
Center-of-Mass det. time= 4.1 min (753.2 - 749.1)

Volume	Invert	Avail.Storage	Storage Description
#1	401.25'	11,230 cf	**DETENTION POND (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.25	16	16.0	0	0	16
402.00	2,505	355.0	680	680	10,025
403.00	3,174	346.0	2,833	3,513	10,638
404.00	3,860	357.0	3,511	7,025	11,346
405.00	4,561	368.0	4,206	11,230	12,077

Device	Routing	Invert	Outlet Devices
#1	Primary	401.45'	**2.0' long x 3.50' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=10.81 cfs @ 12.17 hrs HW=403.02' (Free Discharge)
↑—**1=Sharp-Crested Rectangular Weir** (Weir Controls 10.81 cfs @ 4.09 fps)

Summary for Subcatchment 1S: Existing Pond Basin

Runoff = 16.92 cfs @ 12.11 hrs, Volume= 0.994 af, Depth> 4.84"
Routed to Pond 1P : Existing Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 25-Year Rainfall=5.92"

	Area (ac)	CN	Description
	0.219	79	50-75% Grass cover, Fair, HSG C
	0.124	49	50-75% Grass cover, Fair, HSG A
	0.113	98	Paved parking, HSG C
	1.491	96	Gravel surface, HSG C
*	0.510	98	Roofs, HSG C
	0.008	98	Unconnected pavement, HSG C
	2.465	93	Weighted Average
	1.834		74.40% Pervious Area
	0.631		25.60% Impervious Area
	0.008		1.27% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2S: Existing Pond Bypass

Runoff = 11.64 cfs @ 12.11 hrs, Volume= 0.659 af, Depth> 4.42"
Routed to Reach 1R : Total Pre

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 25-Year Rainfall=5.92"

Area (ac)	CN	Description
0.215	79	50-75% Grass cover, Fair, HSG C
0.303	69	50-75% Grass cover, Fair, HSG B
1.271	96	Gravel surface, HSG C
1.789	89	Weighted Average
1.789		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 1R: Total Pre

Inflow Area = 4.254 ac, 14.83% Impervious, Inflow Depth > 4.66" for 25-Year event
Inflow = 23.81 cfs @ 12.13 hrs, Volume= 1.652 af
Outflow = 23.81 cfs @ 12.13 hrs, Volume= 1.652 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Existing Detention Pond

Inflow Area = 2.465 ac, 25.60% Impervious, Inflow Depth > 4.84" for 25-Year event
Inflow = 16.92 cfs @ 12.11 hrs, Volume= 0.994 af
Outflow = 13.16 cfs @ 12.17 hrs, Volume= 0.993 af, Atten= 22%, Lag= 3.4 min
Primary = 13.16 cfs @ 12.17 hrs, Volume= 0.993 af
Routed to Reach 1R : Total Pre

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 403.27' @ 12.17 hrs Surf.Area= 3,355 sf Storage= 4,404 cf

Plug-Flow detention time= 4.9 min calculated for 0.990 af (100% of inflow)
Center-of-Mass det. time= 4.2 min (750.3 - 746.1)

Volume	Invert	Avail.Storage	Storage Description
#1	401.25'	11,230 cf	**DETENTION POND (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.25	16	16.0	0	0	16
402.00	2,505	355.0	680	680	10,025
403.00	3,174	346.0	2,833	3,513	10,638
404.00	3,860	357.0	3,511	7,025	11,346
405.00	4,561	368.0	4,206	11,230	12,077

Device	Routing	Invert	Outlet Devices
#1	Primary	401.45'	**2.0' long x 3.50' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=12.89 cfs @ 12.17 hrs HW=403.24' (Free Discharge)
↑—**1=Sharp-Crested Rectangular Weir** (Weir Controls 12.89 cfs @ 4.38 fps)

Summary for Subcatchment 1S: Existing Pond Basin

Runoff = 19.16 cfs @ 12.11 hrs, Volume= 1.134 af, Depth> 5.52"
Routed to Pond 1P : Existing Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 50-Year Rainfall=6.65"

	Area (ac)	CN	Description
	0.219	79	50-75% Grass cover, Fair, HSG C
	0.124	49	50-75% Grass cover, Fair, HSG A
	0.113	98	Paved parking, HSG C
	1.491	96	Gravel surface, HSG C
*	0.510	98	Roofs, HSG C
	0.008	98	Unconnected pavement, HSG C
	2.465	93	Weighted Average
	1.834		74.40% Pervious Area
	0.631		25.60% Impervious Area
	0.008		1.27% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2S: Existing Pond Bypass

Runoff = 13.29 cfs @ 12.11 hrs, Volume= 0.760 af, Depth> 5.10"
Routed to Reach 1R : Total Pre

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 50-Year Rainfall=6.65"

Area (ac)	CN	Description
0.215	79	50-75% Grass cover, Fair, HSG C
0.303	69	50-75% Grass cover, Fair, HSG B
1.271	96	Gravel surface, HSG C
1.789	89	Weighted Average
1.789		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 1R: Total Pre

Inflow Area = 4.254 ac, 14.83% Impervious, Inflow Depth > 5.34" for 50-Year event
Inflow = 27.00 cfs @ 12.13 hrs, Volume= 1.892 af
Outflow = 27.00 cfs @ 12.13 hrs, Volume= 1.892 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Existing Detention Pond

Inflow Area = 2.465 ac, 25.60% Impervious, Inflow Depth > 5.52" for 50-Year event
Inflow = 19.16 cfs @ 12.11 hrs, Volume= 1.134 af
Outflow = 14.84 cfs @ 12.17 hrs, Volume= 1.132 af, Atten= 23%, Lag= 3.4 min
Primary = 14.84 cfs @ 12.17 hrs, Volume= 1.132 af
Routed to Reach 1R : Total Pre

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 403.45' @ 12.17 hrs Surf.Area= 3,478 sf Storage= 5,026 cf

Plug-Flow detention time= 4.9 min calculated for 1.129 af (100% of inflow)
Center-of-Mass det. time= 4.2 min (748.5 - 744.2)

Volume	Invert	Avail.Storage	Storage Description
#1	401.25'	11,230 cf	**DETENTION POND (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.25	16	16.0	0	0	16
402.00	2,505	355.0	680	680	10,025
403.00	3,174	346.0	2,833	3,513	10,638
404.00	3,860	357.0	3,511	7,025	11,346
405.00	4,561	368.0	4,206	11,230	12,077

Device	Routing	Invert	Outlet Devices
#1	Primary	401.45'	**2.0' long x 3.50' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=14.54 cfs @ 12.17 hrs HW=403.42' (Free Discharge)
↑—**1=Sharp-Crested Rectangular Weir** (Weir Controls 14.54 cfs @ 4.59 fps)

Summary for Subcatchment 1S: Existing Pond Basin

Runoff = 21.45 cfs @ 12.11 hrs, Volume= 1.277 af, Depth> 6.22"
Routed to Pond 1P : Existing Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 100-Year Rainfall=7.40"

	Area (ac)	CN	Description
	0.219	79	50-75% Grass cover, Fair, HSG C
	0.124	49	50-75% Grass cover, Fair, HSG A
	0.113	98	Paved parking, HSG C
	1.491	96	Gravel surface, HSG C
*	0.510	98	Roofs, HSG C
	0.008	98	Unconnected pavement, HSG C
	2.465	93	Weighted Average
	1.834		74.40% Pervious Area
	0.631		25.60% Impervious Area
	0.008		1.27% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2S: Existing Pond Bypass

Runoff = 14.98 cfs @ 12.11 hrs, Volume= 0.864 af, Depth> 5.79"
Routed to Reach 1R : Total Pre

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 100-Year Rainfall=7.40"

Area (ac)	CN	Description
0.215	79	50-75% Grass cover, Fair, HSG C
0.303	69	50-75% Grass cover, Fair, HSG B
1.271	96	Gravel surface, HSG C
1.789	89	Weighted Average
1.789		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 1R: Total Pre

Inflow Area = 4.254 ac, 14.83% Impervious, Inflow Depth > 6.03" for 100-Year event
Inflow = 30.24 cfs @ 12.13 hrs, Volume= 2.139 af
Outflow = 30.24 cfs @ 12.13 hrs, Volume= 2.139 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Existing Detention Pond

Inflow Area = 2.465 ac, 25.60% Impervious, Inflow Depth > 6.22" for 100-Year event
Inflow = 21.45 cfs @ 12.11 hrs, Volume= 1.277 af
Outflow = 16.53 cfs @ 12.17 hrs, Volume= 1.276 af, Atten= 23%, Lag= 3.4 min
Primary = 16.53 cfs @ 12.17 hrs, Volume= 1.276 af
Routed to Reach 1R : Total Pre

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 403.64' @ 12.17 hrs Surf.Area= 3,604 sf Storage= 5,673 cf

Plug-Flow detention time= 4.9 min calculated for 1.271 af (100% of inflow)
Center-of-Mass det. time= 4.3 min (746.9 - 742.7)

Volume	Invert	Avail.Storage	Storage Description
#1	401.25'	11,230 cf	**DETENTION POND (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.25	16	16.0	0	0	16
402.00	2,505	355.0	680	680	10,025
403.00	3,174	346.0	2,833	3,513	10,638
404.00	3,860	357.0	3,511	7,025	11,346
405.00	4,561	368.0	4,206	11,230	12,077

Device	Routing	Invert	Outlet Devices
#1	Primary	401.45'	**2.0' long x 3.50' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=16.21 cfs @ 12.17 hrs HW=403.60' (Free Discharge)
↑—**1=Sharp-Crested Rectangular Weir** (Weir Controls 16.21 cfs @ 4.80 fps)

POST-DEVELOPED

PRESENT OWNER:
MARK & TONYA YARBROUGH
400 WARIOTO WAY #708
ASHLAND CITY, TN 37105

DEED REFERENCE:
MAP 55, PARCEL 36
LEE BATSON COMMERCIAL LOTS – LOT 1

PROPERTY INFORMATION:
AREA: 226,164 S.F. = 5.19 ACRES

ZONING:
COMMERCIAL C–2

SITE USE:
EXISTING USE: MINI STORAGE
PROPOSED USE: GENERAL RETAIL,
PROFESSIONAL SERVICES–NON MEDICAL

SIGN NOTE:
ALL SIGNS SHALL COMPLY WITH THE MOST CURRENT EDITION OF THE ASHLAND CITY ZONING ORDINANCE. SEPARATE PERMIT REQUIRED.

LOT COVERAGE:
EXISTING BUILDING AREA = 49,755 S.F.
NEW BUILDING AREA = 20,552 S.F.
BUILDING COVERAGE = 31.1%
PROPOSED BUILDING HEIGHT: 33'–1"
MAX BUILDING HEIGHT: 40'–0"
EXISTING CONCRETE SURFACE: ±350 S.F.
EXISTING ASPHALT SURFACE: ±59,926 S.F.
EXISTING IMPERVIOUS AREA: ±110,031 S.F. = 48.65%
PROPOSED ASPHALT SURFACE: ±23,008 S.F.
PROPOSED ASPHALT SURFACE: ±1,528 S.F.
PROPOSED IMPERVIOUS AREA: ±45,088 S.F. = 20.00%

PARKING INFORMATION:
REQUIRED PARKING:
GENERAL RETAIL: 11,000/250 = 44 SPACES
PROFESSIONAL SERVICES: 9,552/400 = 24 SPACES

TOTAL PARKING: 68 SPACES,
INCLUDING 4 HANDICAP SPACES

UTILITY NOTE:
COORDINATE ALL UTILITY INSTALLATIONS WITH GOVERNING ENTITIES.

SECURITY GATE:
SECURITY GATES OR BARRIERS SHALL BE EQUIPPED WITH A RADIO OPERATED RECEIVER/CONTROLLER CAPABLE OF RECEIVING SIGNALS FROM A POLICE DEPARTMENT, SHERIFF'S DEPARTMENT (IF THE GATED FACILITY OR COMMUNITY IS IN THE COUNTY), FIRE DEPARTMENT, UTILITY AND EMERGENCY MEDICAL SERVICES' RADIO TRANSCEIVERS SERVING THE GATED FACILITY OR COMMUNITY WHICH ALLOW EMERGENCY RESPONDERS AND OTHER NECESSARY ON–DUTY EMPLOYEES TO OPEN THE SECURITY GATE OR BARRIER BY USE OF SUCH EQUIPMENT. ALL SECURITY GATES OR BARRIERS MUST MEET POLICIES DEEMED NECESSARY BY THE AUTHORITY HAVING JURISDICTION OVER THE GATED FACILITY OR COMMUNITY FOR RAPID, RELIABLE, AND MUTUAL AID ACCESS. SUCH EQUIPMENT SHALL BE FURNISHED, INSTALLED AND MAINTAINED BY THE GATED FACILITY OR COMMUNITY THAT IS SERVED BY SUCH EQUIPMENT.

GENERAL NOTES:

1. PRIOR TO BEGINNING CONSTRUCTION ON THIS SITE THE LOCATION OF UTILITIES MUST BE IDENTIFIED BY CALLING THE TOLL–FREE TENNESSEE ONE CALL REFERENCE NUMBER 1–800–351–1111.
2. ALL CONSTRUCTION ON THIS SITE SHALL COMPLY WITH APPLICABLE REGULATIONS AS SPECIFIED BY THE CITY OF MILLERSVILLE AND THE STATE OF TENNESSEE.
3. TOPSOIL SHALL BE PLACED ON EXCAVATED AREAS WHICH REQUIRE NEW VEGETATION. GROUND COVER SHALL BE REESTABLISHED WITH KENTUCKY 31 FESCUE SEEDED AT A MINIMUM OF 250 LBS. PER ACRE. SLOPES 3:1 OR GREATER SHALL BE LINED WITH NORTH AMERICAN GREEN S150 GRASS MATTING OR EQUAL.
4. SILT FENCE SHALL BE INSTALLED IN ALL EROSION AREAS WHICH COULD ALLOW UNTREATED STORMWATER RUNOFF TO BE DISCHARGED FROM THE PROPERTY. ALL EROSION CONTROL MEASURES SHALL BE CONSISTENT WITH THE PROVISIONS DESCRIBED IN THE MOST CURRENT EDITION OF THE TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK.
5. THE STORMWATER RUNOFF CALCULATIONS ON THIS SITE HAVE BEEN PERFORMED USING THE U.S. SOIL CONSERVATION SERVICE TR–55 METHOD. STORMWATER POND HAS BEEN SIZED TO HANDLE A 25 AND 100 YEAR STORM EVENT.
6. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS TAKEN FROM A SURVEY BY CHANDLER SURVEYING OF PLEASANT VIEW, TN.
7. CONSTRUCTION WILL BEGIN FOLLOWING PLAN APPROVAL BY THE CITY OF ASHLAND CITY.
8. ANY DUMPSTER SHALL BE FULLY ENCLOSED, MATCHING THE FACADE OF THE BUILDING, AND A WOODEN PRIVACY FENCE GATE THAT IS 8 FEET HIGH ON ALL SIDES AND ALL SERVICE BOXES AND MECHANICALS TO BE IN THE REAR OF THE BUILDING.
9. ALL ADDITIONS IN THE FUTURE MUST BE BUILT TO THESE STANDARDS.
10. ACCORDING TO MAP 47021C0170E, DATED 02/26/2021, PORTIONS OF THE SITE ARE LOCATED WITHIN FLOOD HAZARD AREAS 'AE' AND 'X'.

NPDES PERMIT NOTE:
THE MAXIMUM DISTURBED AREA FOR THIS PROJECT IS OVER 1 ACRE. THIS SITE IS CURRENTLY COVERED UNDER PERMIT NUMBER TNR245326.

JOSHUA M. LYON, P.E.
PROJECT MANAGER

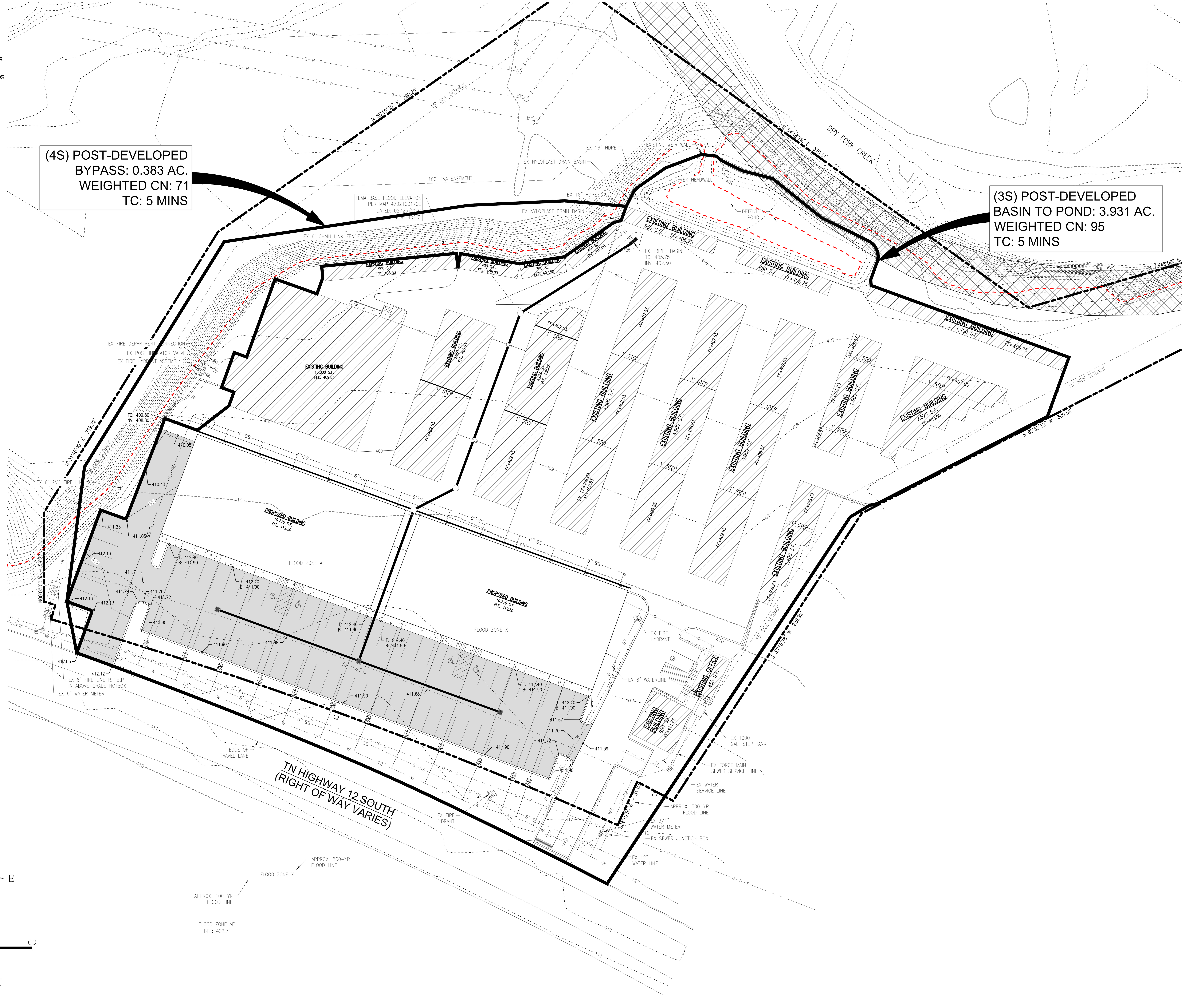
EP&SC NOTES:

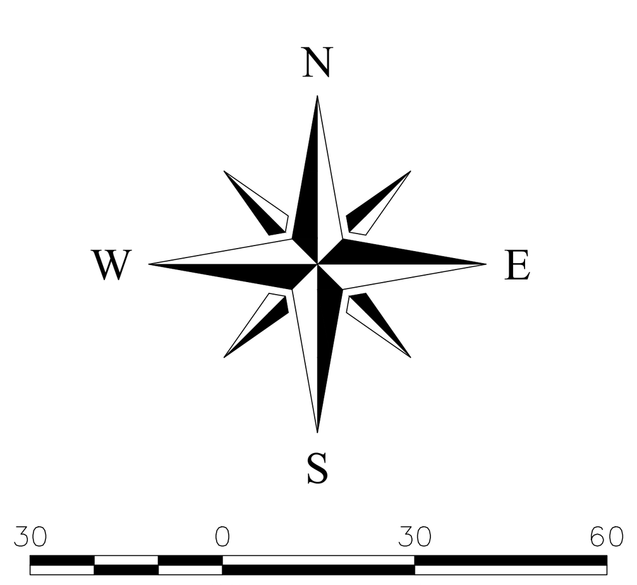
1. AN EROSION PREVENTION SILTATION CONTROL PLAN (EP&SC) AND LAND DISTURBANCE PERMIT (IF REQUIRED) SHALL BE IN PLACE PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY. EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD; GENERALLY CONSIDERED TO BE THROUGH THE COMPLETION OF RESTORATION. IF REQUIRED, THE EP&SC PLAN ALONG WITH AN INSPECTION CHECKLIST AND STORMWATER PERMIT MUST BE AT THE PROJECT SITE AT ALL TIMES. THE INSPECTION CHECKLIST SHALL HAVE A RECORD OF DATES EP&SC DEVICES ARE INSPECTED AND ANY CORRECTION ACTION TAKEN OR MAJOR OBSERVATIONS. BMP'S MUST BE INSPECTED BY A QUALIFIED PERSON WHO HAS TAKEN AN APPROVED EROSION AND SEDIMENTATION COURSE.
2. ALL EP&SC DEVICES ARE TO REMAIN IN PLACE UNTIL THE SITE HAS BEEN STABILIZED AND A GOOD STAND OF GRASS HAS BEEN ESTABLISHED.
3. EROSION PREVENTION AND SEDIMENT CONTROLS MUST BE INSPECTED AT LEAST TWICE EVERY CALENDAR WEEK AT LEAST 72 HOURS APART. INSPECTIONS ARE TO BE DOCUMENTED AND KEPT WITH THE SWPPP (IF REQUIRED).
4. SILT FENCE, OR OTHER SEDIMENT BARRIERS ARE TO BE INSTALLED PROPERLY ALONG TOPOGRAPHICAL CONTOURS DOWN SLOPE OF THE AREA TO BE DISTURBED PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY.
5. EXCAVATED TOPSOIL TO BE REUSED MUST BE STOCKPILED AND ENCIRCLED WITH SILT FENCING.
6. THIS SITE SHALL CONTAIN A TEMPORARY STONE CONSTRUCTION ENTRANCE THAT CONFORMS TO REQUIRED SPECIFICATIONS PRIOR TO GRADING COMMENCEMENT. THE STONE SHALL BE 2 TO 3 INCH IN DIAMETER AND SHALL BE KEPT CLEAN BY ADDING STONE AS NEEDED. IT SHALL BE AT LEAST 8 INCHES DEEP UNDERLAIN WITH FILTER FABRIC AND 20 FEET WIDE.
7. APPROVED INLET PROTECTIONS FOR NEARBY STORM SEWER CURB AND DROP INLETS MUST BE INSTALLED WITHIN 24 HOURS OF GRADING COMMENCEMENT.
8. VEGETATIVE BUFFERS OR OTHER PROTECTION MUST BE PROVIDED ALONG STREAMS, RIVERS, AND PONDS TO AVOID EROSION OF BANKS.
9. STABILIZATION MEASURES MUST BE PERFORMED WITHIN SEVEN (7) DAYS IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND WITHIN FIFTEEN (15) DAYS AFTER FINAL GRADING.
10. ALL TREES DESIGNATED TO REMAIN, MUST BE PROTECTED. HEAVY EQUIPMENT SHOULD NOT BE OPERATED OR STORED, NOR MATERIALS HANDLED OR STORED, WITHIN THE DRIP LINES OF TREES.
11. SEDIMENT MUST BE REMOVED FROM SEDIMENT BARRIERS, PONDS, AND OTHER SEDIMENT CONTROLS WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 33%
12. SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN THE STREET OR DRAINAGE STRUCTURES MUST IMMEDIATELY BE PHYSICALLY REMOVED.
13. BUILDING AND WASTE MATERIALS, AND NON STORM WATER DISCHARGES, SUCH AS CONCRETE, PAINT WASH WATER, OR MACHINERY LEAKAGE, OR SPILLAGE MUST BE MANAGED TO PREVENT THEM FROM ENTERING THE STORM WATER SYSTEM, GROUND WATER, OR NEARBY WATER BODY.
14. THE PROJECT IS SUBJECT TO INSPECTION BY THE CITY AT ANY TIME AND ITEMS FOUND DEFICIENT SHALL BE IMMEDIATELY CORRECTED. THE CITY MAY STOP CONSTRUCTION OR PROPERTIES, OR ADMINISTER OTHER ENFORCEMENT ACTIONS AS DEFINED BY THE CITY

PLOTTED: 5/15/2024 9:07:37 AM

CALL BEFORE YOU DIG

811 CALL 811 NATIONWIDE
Know what's below. Call before you dig.





LEGEND:

PROPERTY LINE
EXISTING WATER LINE
EXISTING SEWER LINE
OVERHEAD ELECTRIC LINE
FENCE
NEW CURB
SILT FENCE
EXISTING 5' CONTOUR
EXISTING 1' CONTOUR
NEW 1' CONTOUR
DEMO LINE
MANHOLE
CLEAN OUT
POWER POLE
WATER METER
FIRE HYDRANT
IR(O) IRON ROD OLD
IR(N) IRON ROD NEW
INV.–25.42 PIPE INVERT
28.14 SPOT ELEVATION
SLOPE DIRECTION

CONSTRUCTION DOCUMENTS

KLOBER ENGINEERING SERVICES
SERVING CLIENTS WITH CIVIL ENGINEERING & LAND DEVELOPMENT SERVICES
3556 TOM AUSTIN HWY, SUITE 1, SPRINGFIELD, TN 37172
PHONE: (615) 382-2000 FAX: (888) 373-4485
www.klobereng.com

NO.	BY	DATE	DESCRIPTION

REVISIONS

NOT FOR CONSTRUCTION
JOSHUA M. LYON, P.E. TN#112331

ACE RETAIL CENTER

1209 TN HWY-12 SOUTH
ASHLAND CITY, TN 37015
CHEATHAM COUNTY

DRAWN BY:	CJN
CHECKED BY:	JML
DATE:	5/7/24
PROJECT NO.:	C02624

POST DEVELOPED DRAINAGE MAP

SHEET NUMBER
DM-2

ITEM # 4.

PRESENT OWNER:
MARK & TONYA YARBROUGH
400 WARIOTO WAY #708
ASHLAND CITY, TN 37105

DEED REFERENCE:
MAP 55, PARCEL 36
LEE BATSON COMMERCIAL LOTS – LOT 1

PROPERTY INFORMATION:
AREA: 226,164 S.F. = 5.19 ACRES

ZONING:
COMMERCIAL C-2

SITE USE:
EXISTING USE: MINI STORAGE
PROPOSED USE: GENERAL RETAIL, PROFESSIONAL SERVICES–NON MEDICAL

SIGN NOTE:
ALL SIGNS SHALL COMPLY WITH THE MOST CURRENT EDITION OF THE ASHLAND CITY ZONING ORDINANCE. SEPARATE PERMIT REQUIRED.

LOT COVERAGE:
EXISTING BUILDING AREA = 49,755 S.F.
NEW BUILDING AREA = 20,552 S.F.
BUILDING COVERAGE = 31.1%
PROPOSED BUILDING HEIGHT: 33'-1"
MAX BUILDING HEIGHT: 40'-0"
EXISTING CONCRETE SURFACE: ±350 S.F.
EXISTING ASPHALT SURFACE: ±59,926 S.F.
EXISTING IMPERVIOUS AREA: ±110,031 S.F. = 48.65%
PROPOSED ASPHALT SURFACE: ±23,008 S.F.
PROPOSED ASPHALT SURFACE: ±1,528 S.F.
PROPOSED IMPERVIOUS AREA: ±45,088 S.F. = 20.00%

PARKING INFORMATION:
REQUIRED PARKING:
GENERAL RETAIL: 11,000/250 = 44 SPACES
PROFESSIONAL SERVICES: 9,552/400 = 24 SPACES

TOTAL PARKING: 68 SPACES, INCLUDING 4 HANDICAP SPACES

UTILITY NOTE:
COORDINATE ALL UTILITY INSTALLATIONS WITH GOVERNING ENTITIES.

SECURITY GATE:
SECURITY GATES OR BARRIERS SHALL BE EQUIPPED WITH A RADIO OPERATED RECEIVER/CONTROLLER CAPABLE OF RECEIVING SIGNALS FROM A POLICE DEPARTMENT, SHERIFF'S DEPARTMENT (IF THE GATED FACILITY OR COMMUNITY IS IN THE COUNTY), FIRE DEPARTMENT, UTILITY AND EMERGENCY MEDICAL SERVICES' RADIO TRANSCEIVERS SERVING THE GATED FACILITY OR COMMUNITY WHICH ALLOW EMERGENCY RESPONDERS AND OTHER NECESSARY ON-DUTY EMPLOYEES TO OPEN THE SECURITY GATE OR BARRIER BY USE OF SUCH EQUIPMENT. ALL SECURITY GATES OR BARRIERS MUST MEET POLICIES DEEMED NECESSARY BY THE AUTHORITY HAVING JURISDICTION OVER THE GATED FACILITY OR COMMUNITY FOR RAPID, RELIABLE, AND MUTUAL AID ACCESS. SUCH EQUIPMENT SHALL BE FURNISHED, INSTALLED AND MAINTAINED BY THE GATED FACILITY OR COMMUNITY THAT IS SERVED BY SUCH EQUIPMENT.

GENERAL NOTES:

1. PRIOR TO BEGINNING CONSTRUCTION ON THIS SITE THE LOCATION OF UTILITIES MUST BE IDENTIFIED BY CALLING THE TOLL-FREE TENNESSEE ONE CALL REFERENCE NUMBER 1-800-351-1111.
2. ALL CONSTRUCTION ON THIS SITE SHALL COMPLY WITH APPLICABLE REGULATIONS AS SPECIFIED BY THE CITY OF MILLERSVILLE AND THE STATE OF TENNESSEE.
3. TOPSOIL SHALL BE PLACED ON EXCAVATED AREAS WHICH REQUIRE NEW VEGETATION. GROUND COVER SHALL BE REESTABLISHED WITH KENTUCKY 31 FESCUE SEEDED AT A MINIMUM OF 250 LBS. PER ACRE. SLOPES 3:1 OR GREATER SHALL BE LINED WITH NORTH AMERICAN GREEN S150 GRASS MATTING OR EQUAL.
4. SILT FENCE SHALL BE INSTALLED IN ALL EROSION AREAS WHICH COULD ALLOW UNTREATED STORMWATER RUNOFF TO BE DISCHARGED FROM THE PROPERTY. ALL EROSION CONTROL MEASURES SHALL BE CONSISTENT WITH THE PROVISIONS DESCRIBED IN THE MOST CURRENT EDITION OF THE TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK.
5. THE STORMWATER RUNOFF CALCULATIONS ON THIS SITE HAVE BEEN PERFORMED USING THE U.S. SOIL CONSERVATION SERVICE TR-55 METHOD. STORMWATER POND HAS BEEN SIZED TO HANDLE A 25 AND 100 YEAR STORM EVENT.
6. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS TAKEN FROM A SURVEY BY CHANDLER SURVEYING OF PLEASANT VIEW, TN.
7. CONSTRUCTION WILL BEGIN FOLLOWING PLAN APPROVAL BY THE CITY OF ASHLAND CITY.
8. ANY DUMPSTER SHALL BE FULLY ENCLOSED, MATCHING THE FACADE OF THE BUILDING, AND A WOODEN PRIVACY FENCE GATE THAT IS 8 FEET HIGH ON ALL SIDES AND ALL SERVICE BOXES AND MECHANICALS TO BE IN THE REAR OF THE BUILDING.
9. ALL ADDITIONS IN THE FUTURE MUST BE BUILT TO THESE STANDARDS.
10. ACCORDING TO MAP 47021C0170E, DATED 02/26/2021, PORTIONS OF THE SITE ARE LOCATED WITHIN FLOOD HAZARD AREAS 'AE' AND 'X'.

NPDES PERMIT NOTE:
THE MAXIMUM DISTURBED AREA FOR THIS PROJECT IS OVER 1 ACRE. THIS SITE IS CURRENTLY COVERED UNDER PERMIT NUMBER TNR245326.

JOSHUA M. LYON, P.E.
PROJECT MANAGER

EP&SC NOTES:

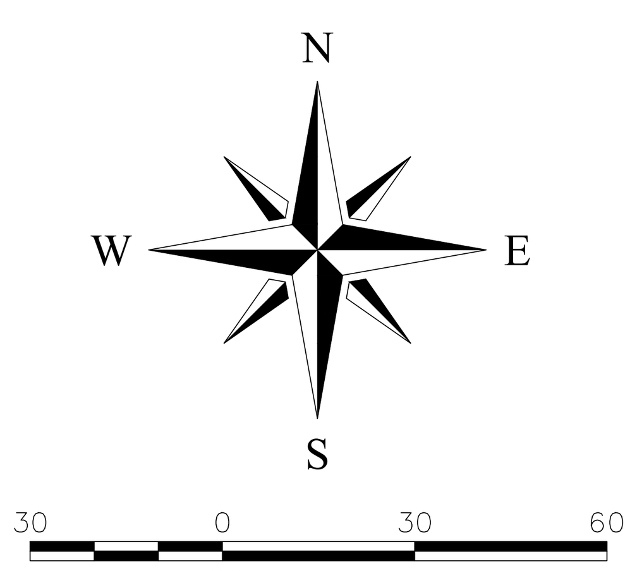
1. AN EROSION PREVENTION SILTATION CONTROL PLAN (EP&SC) AND LAND DISTURBANCE PERMIT (IF REQUIRED) SHALL BE IN PLACE PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY. EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD; GENERALLY CONSIDERED TO BE THROUGH THE COMPLETION OF RESTORATION. IF REQUIRED, THE EP&SC PLAN ALONG WITH AN INSPECTION CHECKLIST AND STORMWATER PERMIT MUST BE AT THE PROJECT SITE AT ALL TIMES. THE INSPECTION CHECKLIST SHALL HAVE A RECORD OF DATES EP&SC DEVICES ARE INSPECTED AND ANY CORRECTION ACTION TAKEN OR MAJOR OBSERVATIONS. BMP'S MUST BE INSPECTED BY A QUALIFIED PERSON WHO HAS TAKEN AN APPROVED EROSION AND SEDIMENTATION COURSE.
2. ALL EP&SC DEVICES ARE TO REMAIN IN PLACE UNTIL THE SITE HAS BEEN STABILIZED AND A GOOD STAND OF GRASS HAS BEEN ESTABLISHED.
3. EROSION PREVENTION AND SEDIMENT CONTROLS MUST BE INSPECTED AT LEAST TWICE EVERY CALENDAR WEEK AT LEAST 72 HOURS APART. INSPECTIONS ARE TO BE DOCUMENTED AND KEPT WITH THE SWPPP (IF REQUIRED).
4. SILT FENCE, OR OTHER SEDIMENT BARRIERS ARE TO BE INSTALLED PROPERLY ALONG TOPOGRAPHICAL CONTOURS DOWN SLOPE OF THE AREA TO BE DISTURBED PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY.
5. EXCAVATED TOPSOIL TO BE REUSED MUST BE STOCKPILED AND ENCIRCLED WITH SILT FENCING.
6. THIS SITE SHALL CONTAIN A TEMPORARY STONE CONSTRUCTION ENTRANCE THAT CONFORMS TO REQUIRED SPECIFICATIONS PRIOR TO GRADING COMMENCEMENT. THE STONE SHALL BE 2 TO 3 INCH IN DIAMETER AND SHALL BE KEPT CLEAN BY ADDING STONE AS NEEDED. IT SHALL BE AT LEAST 8 INCHES DEEP UNDERLAIN WITH FILTER FABRIC AND 20 FEET WIDE.
7. APPROVED INLET PROTECTIONS FOR NEARBY STORM SEWER CURB AND DROP INLETS MUST BE INSTALLED WITHIN 24 HOURS OF GRADING COMMENCEMENT.
8. VEGETATIVE BUFFERS OR OTHER PROTECTION MUST BE PROVIDED ALONG STREAMS, RIVERS, AND PONDS TO AVOID EROSION OF BANKS.
9. STABILIZATION MEASURES MUST BE PERFORMED WITHIN SEVEN (7) DAYS IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND WITHIN FIFTEEN (15) DAYS AFTER FINAL GRADING.
10. ALL TREES DESIGNATED TO REMAIN, MUST BE PROTECTED. HEAVY EQUIPMENT SHOULD NOT BE OPERATED OR STORED, NOR MATERIALS HANDLED OR STORED, WITHIN THE DRIP LINES OF TREES.
11. SEDIMENT MUST BE REMOVED FROM SEDIMENT BARRIERS, PONDS, AND OTHER SEDIMENT CONTROLS WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 33%
12. SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN THE STREET OR DRAINAGE STRUCTURES MUST IMMEDIATELY BE PHYSICALLY REMOVED.
13. BUILDING AND WASTE MATERIALS, AND NON STORM WATER DISCHARGES, SUCH AS CONCRETE, PAINT WASH WATER, OR MACHINERY LEAKAGE, OR SPILLAGE MUST BE MANAGED TO PREVENT THEM FROM ENTERING THE STORM WATER SYSTEM, GROUND WATER, OR NEARBY WATER BODY.
14. THE PROJECT IS SUBJECT TO INSPECTION BY THE CITY AT ANY TIME AND ITEMS FOUND DEFICIENT SHALL BE IMMEDIATELY CORRECTED. THE CITY MAY STOP CONSTRUCTION OR PROPERTIES, OR ADMINISTER OTHER ENFORCEMENT ACTIONS AS DEFINED BY THE CITY

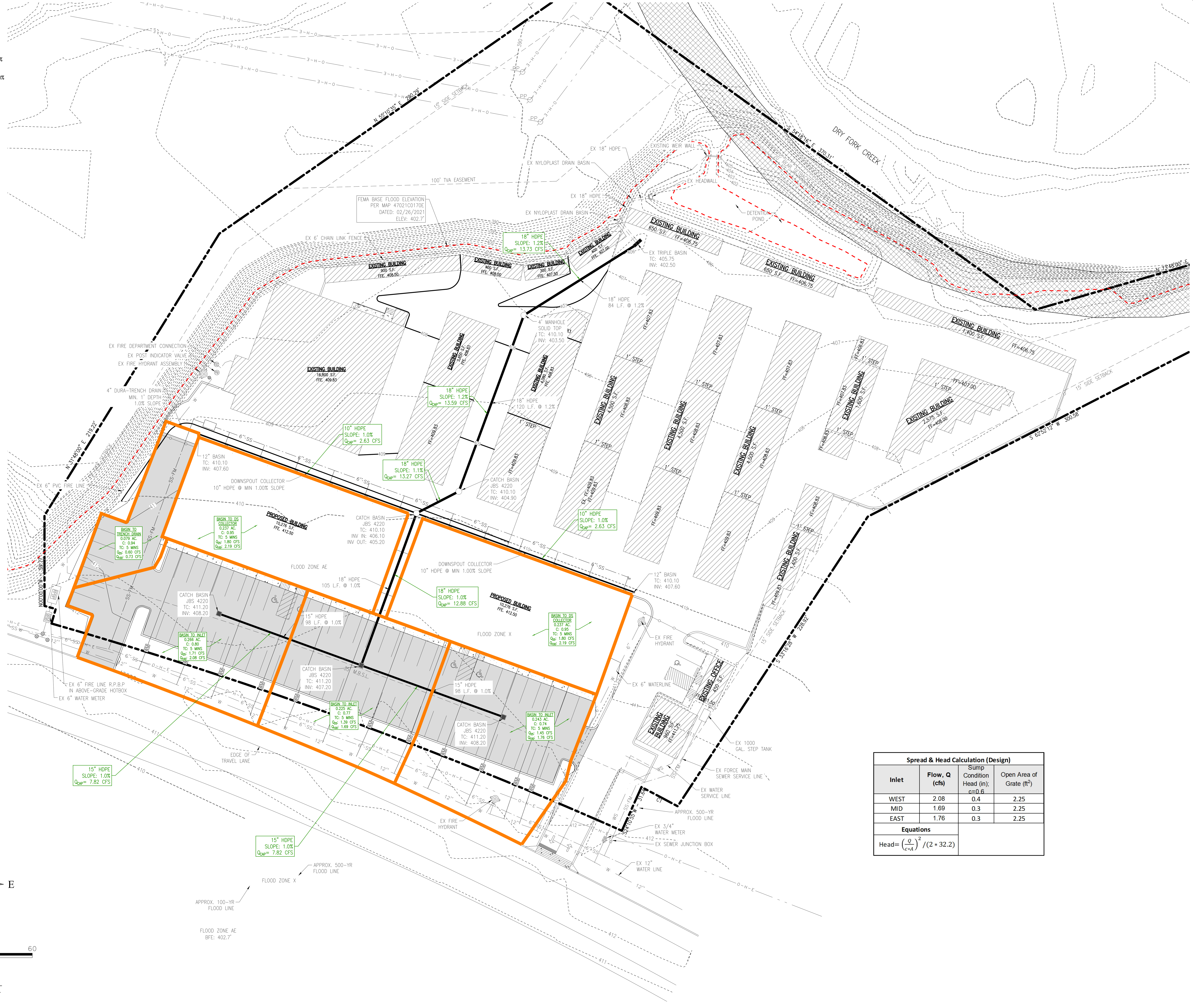
CALL BEFORE YOU DIG

811 CALL 811 NATIONWIDE

Know what's below. Call before you dig.

IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND POSSIBLY INCOMPLETE, THEREFORE CERTIFICATION TO THE LOCATION OF ALL UNDERGROUND UTILITIES IS WITHHELD.





Spread & Head Calculation (Design)			
Inlet	**Flow, Q (cfs)**	Sump Condition Head (in); c=0.6	Open Area of Grate (ft^2)
WEST	2.08	0.4	2.25
MID	1.69	0.3	2.25
EAST	1.76	0.3	2.25
Equations			
Head= $\left(\frac{Q}{c*A}\right)^2/(2*32.2)$			

LEGEND:

PROPERTY LINE	MANHOLE
EXISTING WATER LINE	CLEAN OUT
EXISTING SEWER LINE	POWER POLE
OVERHEAD ELECTRIC LINE	WATER METER
FENCE	FIRE HYDRANT
NEW CURB	IRON ROD OLD
SILT FENCE	IRON ROD NEW
EXISTING 5' CONTOUR	INV.-25.42 PIPE INVERT
EXISTING 1' CONTOUR	28.14 SPOT ELEVATION
NEW 1' CONTOUR	SLOPE DIRECTION
DEMO LINE	

CONSTRUCTION DOCUMENTS

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PHONE: (615) 382-2000 FAX: (888) 373-4485
www.klobereng.com

REVISIONS			
NO.	BY	DATE	DESCRIPTION

JOSHUA M. LYON, P.E. TN#112331
NOT FOR CONSTRUCTION
5/15/24

ACE RETAIL CENTER

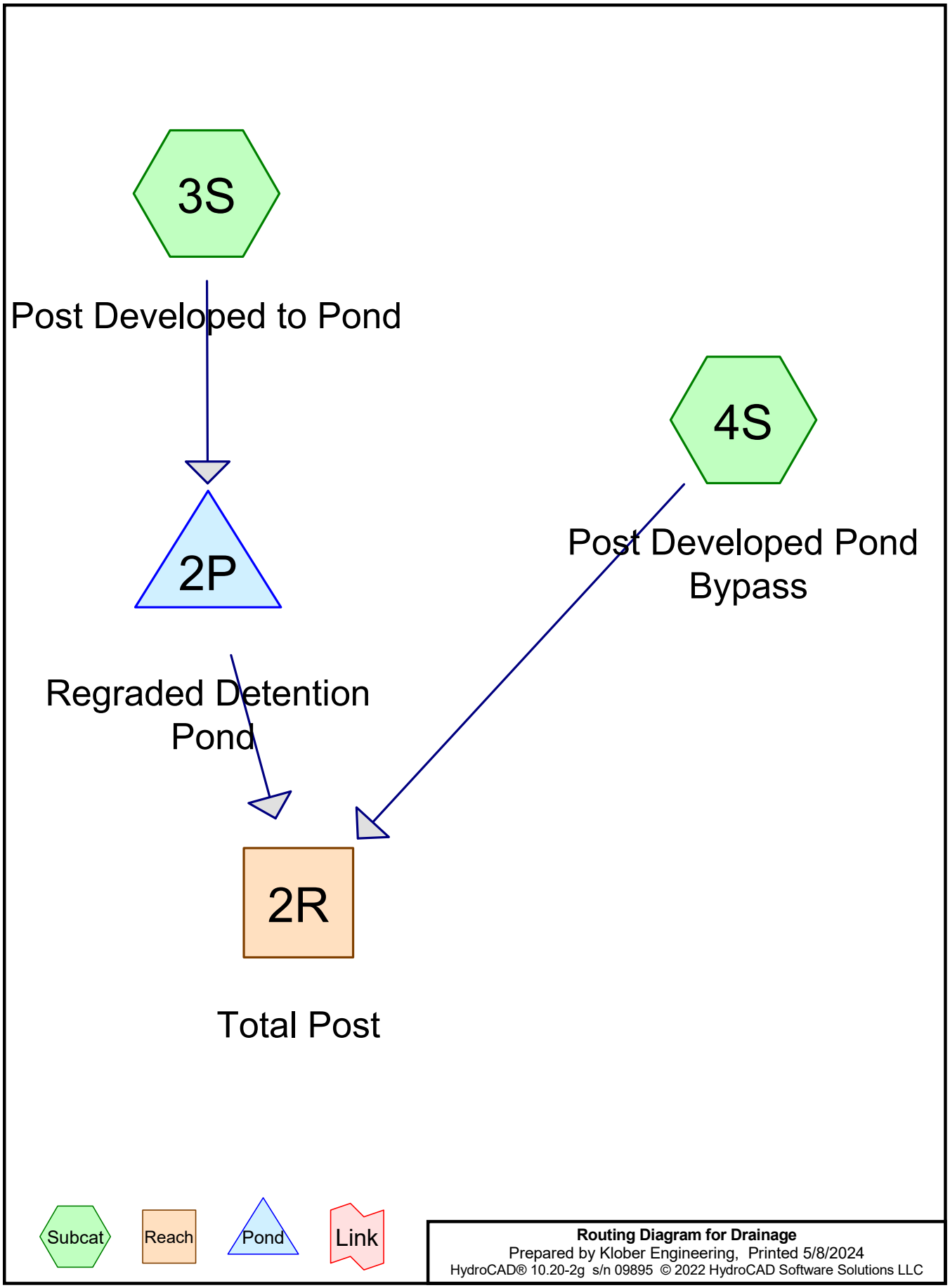
1209 TN HWY-12 SOUTH
ASHLAND CITY, TN 37015
CHEATHAM COUNTY

DRAWN BY:	CJN
CHECKED BY:	JML
DATE:	5/7/24
PROJECT NO.:	C02624

SUBCATCHMENT MAP

SHEET NUMBER
DM-3

ITEM # 4.



Routing Diagram for Drainage
Prepared by Klober Engineering, Printed 5/8/2024
HydroCAD® 10.20-2g s/n 09895 © 2022 HydroCAD Software Solutions LLC

Summary for Subcatchment 3S: Post Developed to Pond

Runoff = 16.23 cfs @ 12.11 hrs, Volume= 0.945 af, Depth> 2.88"
Routed to Pond 2P : Regraded Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 2-Year Rainfall=3.60"

	Area (ac)	CN	Description
	0.139	49	50-75% Grass cover, Fair, HSG A
	0.062	79	50-75% Grass cover, Fair, HSG C
	0.228	79	50-75% Grass cover, Fair, HSG C
	0.074	84	50-75% Grass cover, Fair, HSG D
	0.091	96	Gravel surface, HSG C
*	1.428	98	Roofs, HSG C
	1.909	98	Unconnected pavement, HSG C
	3.931	95	Weighted Average
	0.594		15.11% Pervious Area
	3.337		84.89% Impervious Area
	1.909		57.21% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 4S: Post Developed Pond Bypass

Runoff = 0.63 cfs @ 12.13 hrs, Volume= 0.033 af, Depth> 1.03"
Routed to Reach 2R : Total Post

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 2-Year Rainfall=3.60"

Area (ac)	CN	Description
0.362	69	50-75% Grass cover, Fair, HSG B
0.021	98	Paved parking, HSG B
0.383	71	Weighted Average
0.362		94.52% Pervious Area
0.021		5.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 2R: Total Post

Inflow Area = 4.314 ac, 77.84% Impervious, Inflow Depth > 2.72" for 2-Year event
Inflow = 12.69 cfs @ 12.17 hrs, Volume= 0.977 af
Outflow = 12.69 cfs @ 12.17 hrs, Volume= 0.977 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 2P: Regraded Detention Pond

Inflow Area = 3.931 ac, 84.89% Impervious, Inflow Depth > 2.88" for 2-Year event
Inflow = 16.23 cfs @ 12.11 hrs, Volume= 0.945 af
Outflow = 12.15 cfs @ 12.17 hrs, Volume= 0.944 af, Atten= 25%, Lag= 3.6 min
Primary = 12.15 cfs @ 12.17 hrs, Volume= 0.944 af
Routed to Reach 2R : Total Post

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 403.16' @ 12.17 hrs Surf.Area= 4,137 sf Storage= 3,864 cf

Plug-Flow detention time= 2.7 min calculated for 0.941 af (100% of inflow)
Center-of-Mass det. time= 2.6 min (751.2 - 748.6)

Volume	Invert	Avail.Storage	Storage Description
#1	401.45'	12,821 cf	**DETENTION POND (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.45	16	16.0	0	0	16
402.00	1,807	216.0	365	365	3,709
403.00	4,007	353.0	2,835	3,200	9,919
404.00	4,834	361.0	4,414	7,614	10,497
405.00	5,589	331.0	5,207	12,821	12,185

Device	Routing	Invert	Outlet Devices
#1	Primary	401.45'	**2.0' long x 3.50' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#2	Primary	404.95'	**10.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=11.93 cfs @ 12.17 hrs HW=403.14' (Free Discharge)
1=Sharp-Crested Rectangular Weir (Weir Controls 11.93 cfs @ 4.25 fps)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Subcatchment 3S: Post Developed to Pond

Runoff = 20.10 cfs @ 12.11 hrs, Volume= 1.185 af, Depth> 3.62"
Routed to Pond 2P : Regraded Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 5-Year Rainfall=4.39"

	Area (ac)	CN	Description
	0.139	49	50-75% Grass cover, Fair, HSG A
	0.062	79	50-75% Grass cover, Fair, HSG C
	0.228	79	50-75% Grass cover, Fair, HSG C
	0.074	84	50-75% Grass cover, Fair, HSG D
	0.091	96	Gravel surface, HSG C
*	1.428	98	Roofs, HSG C
	1.909	98	Unconnected pavement, HSG C
	3.931	95	Weighted Average
	0.594		15.11% Pervious Area
	3.337		84.89% Impervious Area
	1.909		57.21% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 4S: Post Developed Pond Bypass

Runoff = 0.94 cfs @ 12.12 hrs, Volume= 0.049 af, Depth> 1.54"
Routed to Reach 2R : Total Post

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 5-Year Rainfall=4.39"

Area (ac)	CN	Description
0.362	69	50-75% Grass cover, Fair, HSG B
0.021	98	Paved parking, HSG B
0.383	71	Weighted Average
0.362		94.52% Pervious Area
0.021		5.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 2R: Total Post

Inflow Area = 4.314 ac, 77.84% Impervious, Inflow Depth > 3.43" for 5-Year event
Inflow = 15.59 cfs @ 12.17 hrs, Volume= 1.234 af
Outflow = 15.59 cfs @ 12.17 hrs, Volume= 1.234 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 2P: Regraded Detention Pond

Inflow Area = 3.931 ac, 84.89% Impervious, Inflow Depth > 3.62" for 5-Year event
Inflow = 20.10 cfs @ 12.11 hrs, Volume= 1.185 af
Outflow = 14.80 cfs @ 12.17 hrs, Volume= 1.185 af, Atten= 26%, Lag= 3.8 min
Primary = 14.80 cfs @ 12.17 hrs, Volume= 1.185 af
Routed to Reach 2R : Total Post

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 403.45' @ 12.17 hrs Surf.Area= 4,370 sf Storage= 5,086 cf

Plug-Flow detention time= 3.0 min calculated for 1.181 af (100% of inflow)
Center-of-Mass det. time= 2.9 min (748.0 - 745.1)

Volume	Invert	Avail.Storage	Storage Description
#1	401.45'	12,821 cf	**DETENTION POND (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.45	16	16.0	0	0	16
402.00	1,807	216.0	365	365	3,709
403.00	4,007	353.0	2,835	3,200	9,919
404.00	4,834	361.0	4,414	7,614	10,497
405.00	5,589	331.0	5,207	12,821	12,185

Device	Routing	Invert	Outlet Devices
#1	Primary	401.45'	**2.0' long x 3.50' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#2	Primary	404.95'	**10.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=14.53 cfs @ 12.17 hrs HW=403.42' (Free Discharge)
1=Sharp-Crested Rectangular Weir (Weir Controls 14.53 cfs @ 4.59 fps)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Subcatchment 3S: Post Developed to Pond

Runoff = 23.16 cfs @ 12.11 hrs, Volume= 1.377 af, Depth> 4.20"
Routed to Pond 2P : Regraded Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 10-Year Rainfall=5.02"

	Area (ac)	CN	Description
	0.139	49	50-75% Grass cover, Fair, HSG A
	0.062	79	50-75% Grass cover, Fair, HSG C
	0.228	79	50-75% Grass cover, Fair, HSG C
	0.074	84	50-75% Grass cover, Fair, HSG D
	0.091	96	Gravel surface, HSG C
*	1.428	98	Roofs, HSG C
	1.909	98	Unconnected pavement, HSG C
	3.931	95	Weighted Average
	0.594		15.11% Pervious Area
	3.337		84.89% Impervious Area
	1.909		57.21% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 4S: Post Developed Pond Bypass

Runoff = 1.21 cfs @ 12.12 hrs, Volume= 0.063 af, Depth> 1.98"
Routed to Reach 2R : Total Post

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 10-Year Rainfall=5.02"

Area (ac)	CN	Description
0.362	69	50-75% Grass cover, Fair, HSG B
0.021	98	Paved parking, HSG B
0.383	71	Weighted Average
0.362		94.52% Pervious Area
0.021		5.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 2R: Total Post

Inflow Area = 4.314 ac, 77.84% Impervious, Inflow Depth > 4.01" for 10-Year event
Inflow = 17.88 cfs @ 12.17 hrs, Volume= 1.440 af
Outflow = 17.88 cfs @ 12.17 hrs, Volume= 1.440 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 2P: Regraded Detention Pond

Inflow Area = 3.931 ac, 84.89% Impervious, Inflow Depth > 4.20" for 10-Year event
Inflow = 23.16 cfs @ 12.11 hrs, Volume= 1.377 af
Outflow = 16.81 cfs @ 12.18 hrs, Volume= 1.377 af, Atten= 27%, Lag= 3.9 min
Primary = 16.81 cfs @ 12.18 hrs, Volume= 1.377 af
Routed to Reach 2R : Total Post

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 403.67' @ 12.18 hrs Surf.Area= 4,551 sf Storage= 6,055 cf

Plug-Flow detention time= 3.2 min calculated for 1.372 af (100% of inflow)
Center-of-Mass det. time= 3.1 min (746.1 - 743.1)

Volume	Invert	Avail.Storage	Storage Description
#1	401.45'	12,821 cf	**DETENTION POND (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.45	16	16.0	0	0	16
402.00	1,807	216.0	365	365	3,709
403.00	4,007	353.0	2,835	3,200	9,919
404.00	4,834	361.0	4,414	7,614	10,497
405.00	5,589	331.0	5,207	12,821	12,185

Device	Routing	Invert	Outlet Devices
#1	Primary	401.45'	**2.0' long x 3.50' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#2	Primary	404.95'	**10.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=16.57 cfs @ 12.18 hrs HW=403.64' (Free Discharge)
1=Sharp-Crested Rectangular Weir (Weir Controls 16.57 cfs @ 4.84 fps)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Subcatchment 3S: Post Developed to Pond

Runoff = 27.53 cfs @ 12.11 hrs, Volume= 1.651 af, Depth> 5.04"
Routed to Pond 2P : Regraded Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 25-Year Rainfall=5.92"

	Area (ac)	CN	Description
	0.139	49	50-75% Grass cover, Fair, HSG A
	0.062	79	50-75% Grass cover, Fair, HSG C
	0.228	79	50-75% Grass cover, Fair, HSG C
	0.074	84	50-75% Grass cover, Fair, HSG D
	0.091	96	Gravel surface, HSG C
*	1.428	98	Roofs, HSG C
	1.909	98	Unconnected pavement, HSG C
	3.931	95	Weighted Average
	0.594		15.11% Pervious Area
	3.337		84.89% Impervious Area
	1.909		57.21% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 4S: Post Developed Pond Bypass

Runoff = 1.61 cfs @ 12.12 hrs, Volume= 0.084 af, Depth> 2.64"
Routed to Reach 2R : Total Post

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 25-Year Rainfall=5.92"

Area (ac)	CN	Description
0.362	69	50-75% Grass cover, Fair, HSG B
0.021	98	Paved parking, HSG B
0.383	71	Weighted Average
0.362		94.52% Pervious Area
0.021		5.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 2R: Total Post

Inflow Area = 4.314 ac, 77.84% Impervious, Inflow Depth > 4.83" for 25-Year event
Inflow = 21.07 cfs @ 12.17 hrs, Volume= 1.735 af
Outflow = 21.07 cfs @ 12.17 hrs, Volume= 1.735 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 2P: Regraded Detention Pond

Inflow Area = 3.931 ac, 84.89% Impervious, Inflow Depth > 5.04" for 25-Year event
Inflow = 27.53 cfs @ 12.11 hrs, Volume= 1.651 af
Outflow = 19.68 cfs @ 12.18 hrs, Volume= 1.651 af, Atten= 29%, Lag= 4.0 min
Primary = 19.68 cfs @ 12.18 hrs, Volume= 1.651 af
Routed to Reach 2R : Total Post

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 403.98' @ 12.18 hrs Surf.Area= 4,819 sf Storage= 7,528 cf

Plug-Flow detention time= 3.4 min calculated for 1.645 af (100% of inflow)
Center-of-Mass det. time= 3.3 min (744.1 - 740.8)

Volume	Invert	Avail.Storage	Storage Description
#1	401.45'	12,821 cf	**DETENTION POND (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.45	16	16.0	0	0	16
402.00	1,807	216.0	365	365	3,709
403.00	4,007	353.0	2,835	3,200	9,919
404.00	4,834	361.0	4,414	7,614	10,497
405.00	5,589	331.0	5,207	12,821	12,185

Device	Routing	Invert	Outlet Devices
#1	Primary	401.45'	**2.0' long x 3.50' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#2	Primary	404.95'	**10.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=19.42 cfs @ 12.18 hrs HW=403.95' (Free Discharge)
1=Sharp-Crested Rectangular Weir (Weir Controls 19.42 cfs @ 5.17 fps)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Subcatchment 3S: Post Developed to Pond

Runoff = 31.06 cfs @ 12.11 hrs, Volume= 1.873 af, Depth> 5.72"
Routed to Pond 2P : Regraded Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 50-Year Rainfall=6.65"

	Area (ac)	CN	Description
	0.139	49	50-75% Grass cover, Fair, HSG A
	0.062	79	50-75% Grass cover, Fair, HSG C
	0.228	79	50-75% Grass cover, Fair, HSG C
	0.074	84	50-75% Grass cover, Fair, HSG D
	0.091	96	Gravel surface, HSG C
*	1.428	98	Roofs, HSG C
	1.909	98	Unconnected pavement, HSG C
	3.931	95	Weighted Average
	0.594		15.11% Pervious Area
	3.337		84.89% Impervious Area
	1.909		57.21% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 4S: Post Developed Pond Bypass

Runoff = 1.95 cfs @ 12.12 hrs, Volume= 0.102 af, Depth> 3.21"
Routed to Reach 2R : Total Post

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 50-Year Rainfall=6.65"

Area (ac)	CN	Description
0.362	69	50-75% Grass cover, Fair, HSG B
0.021	98	Paved parking, HSG B
0.383	71	Weighted Average
0.362		94.52% Pervious Area
0.021		5.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 2R: Total Post

Inflow Area = 4.314 ac, 77.84% Impervious, Inflow Depth > 5.49" for 50-Year event
Inflow = 23.57 cfs @ 12.17 hrs, Volume= 1.975 af
Outflow = 23.57 cfs @ 12.17 hrs, Volume= 1.975 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 2P: Regraded Detention Pond

Inflow Area = 3.931 ac, 84.89% Impervious, Inflow Depth > 5.72" for 50-Year event
Inflow = 31.06 cfs @ 12.11 hrs, Volume= 1.873 af
Outflow = 21.93 cfs @ 12.18 hrs, Volume= 1.872 af, Atten= 29%, Lag= 4.1 min
Primary = 21.93 cfs @ 12.18 hrs, Volume= 1.872 af
Routed to Reach 2R : Total Post

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 404.23' @ 12.18 hrs Surf.Area= 5,006 sf Storage= 8,766 cf

Plug-Flow detention time= 3.6 min calculated for 1.872 af (100% of inflow)
Center-of-Mass det. time= 3.5 min (742.9 - 739.4)

Volume	Invert	Avail.Storage	Storage Description
#1	401.45'	12,821 cf	**DETENTION POND (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.45	16	16.0	0	0	16
402.00	1,807	216.0	365	365	3,709
403.00	4,007	353.0	2,835	3,200	9,919
404.00	4,834	361.0	4,414	7,614	10,497
405.00	5,589	331.0	5,207	12,821	12,185

Device	Routing	Invert	Outlet Devices
#1	Primary	401.45'	**2.0' long x 3.50' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#2	Primary	404.95'	**10.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=21.65 cfs @ 12.18 hrs HW=404.20' (Free Discharge)
1=Sharp-Crested Rectangular Weir (Weir Controls 21.65 cfs @ 5.43 fps)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Subcatchment 3S: Post Developed to Pond

Runoff = 34.67 cfs @ 12.11 hrs, Volume= 2.100 af, Depth> 6.41"
Routed to Pond 2P : Regraded Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 100-Year Rainfall=7.40"

	Area (ac)	CN	Description
	0.139	49	50-75% Grass cover, Fair, HSG A
	0.062	79	50-75% Grass cover, Fair, HSG C
	0.228	79	50-75% Grass cover, Fair, HSG C
	0.074	84	50-75% Grass cover, Fair, HSG D
	0.091	96	Gravel surface, HSG C
*	1.428	98	Roofs, HSG C
	1.909	98	Unconnected pavement, HSG C
	3.931	95	Weighted Average
	0.594		15.11% Pervious Area
	3.337		84.89% Impervious Area
	1.909		57.21% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 4S: Post Developed Pond Bypass

Runoff = 2.31 cfs @ 12.12 hrs, Volume= 0.122 af, Depth> 3.81"
Routed to Reach 2R : Total Post

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 100-Year Rainfall=7.40"

Area (ac)	CN	Description
0.362	69	50-75% Grass cover, Fair, HSG B
0.021	98	Paved parking, HSG B
0.383	71	Weighted Average
0.362		94.52% Pervious Area
0.021		5.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 2R: Total Post

Inflow Area = 4.314 ac, 77.84% Impervious, Inflow Depth > 6.18" for 100-Year event
Inflow = 26.05 cfs @ 12.17 hrs, Volume= 2.221 af
Outflow = 26.05 cfs @ 12.17 hrs, Volume= 2.221 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 2P: Regraded Detention Pond

Inflow Area = 3.931 ac, 84.89% Impervious, Inflow Depth > 6.41" for 100-Year event
Inflow = 34.67 cfs @ 12.11 hrs, Volume= 2.100 af
Outflow = 24.15 cfs @ 12.18 hrs, Volume= 2.100 af, Atten= 30%, Lag= 4.2 min
Primary = 24.15 cfs @ 12.18 hrs, Volume= 2.100 af
Routed to Reach 2R : Total Post

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 404.49' @ 12.18 hrs Surf.Area= 5,198 sf Storage= 10,080 cf

Plug-Flow detention time= 3.8 min calculated for 2.093 af (100% of inflow)
Center-of-Mass det. time= 3.6 min (741.9 - 738.3)

Volume	Invert	Avail.Storage	Storage Description
#1	401.45'	12,821 cf	**DETENTION POND (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.45	16	16.0	0	0	16
402.00	1,807	216.0	365	365	3,709
403.00	4,007	353.0	2,835	3,200	9,919
404.00	4,834	361.0	4,414	7,614	10,497
405.00	5,589	331.0	5,207	12,821	12,185

Device	Routing	Invert	Outlet Devices
#1	Primary	401.45'	**2.0' long x 3.50' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#2	Primary	404.95'	**10.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=23.86 cfs @ 12.18 hrs HW=404.46' (Free Discharge)
1=Sharp-Crested Rectangular Weir (Weir Controls 23.86 cfs @ 5.67 fps)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

4 INTERNAL TRENCH WIDTH

0.013 MANNINGS ROUGHNESS (CONC)
0.009 MANNINGS ROUGHNESS (FRP)
0.75 GRATE HEIGHT (IN)
2 BOTTOM CORNER RADIUS (IN)

*NOTES: All flow and volume calculations are below grate
All section depths can be made with no slope. Sections shown are 8' long (typ.)

SLOPE (%)	SECTION #	START INVERT (IN)	END INVERT (IN)	FLOW RATE FORMING SYSTEMS (CFS)	FLOW RATE FORMING SYSTEMS (GPM)	FLOW RATE PRECAST SYSTEM (CFS)	FLOW RATE PRECAST SYSTEM (GPM)	RADIUS SECTION STORAGE (GAL)
0.5	4.5	4.0	4.5	0.17	78	0.25	113	5.5
	5.0	4.5	5.0	0.21	93	0.30	134	6.4
	5.5	5.0	5.5	0.24	108	0.35	155	7.2
	6.0	5.5	6.0	0.27	122	0.39	177	8.0
	6.5	6.0	6.5	0.31	137	0.44	198	8.8
	7.0	6.5	7.0	0.34	152	0.49	219	9.7
	7.5	7.0	7.5	0.37	167	0.54	241	10.5
	8.0	7.5	8.0	0.41	182	0.59	263	11.3
	8.5	8.0	8.5	0.44	197	0.63	284	12.2
	9.0	8.5	9.0	0.47	212	0.68	306	13.0
	9.5	9.0	9.5	0.51	227	0.73	328	13.8
	10.0	9.5	10.0	0.54	242	0.78	350	14.7
	10.5	10.0	10.5	0.57	257	0.83	371	15.5
	11.0	10.5	11.0	0.61	272	0.88	393	16.3
	11.5	11.0	11.5	0.64	287	0.92	415	17.2
	12.0	11.5	12.0	0.67	303	0.97	437	18.0
	12.5	12.0	12.5	0.71	318	1.02	459	18.8
	13.0	12.5	13.0	0.74	333	1.07	481	19.6
	13.5	13.0	13.5	0.78	348	1.12	503	20.5
	14.0	13.5	14.0	0.81	363	1.17	525	21.3
	14.5	14.0	14.5	0.84	378	1.22	547	22.1
	15.0	14.5	15.0	0.88	394	1.27	569	23.0
	15.5	15.0	15.5	0.91	409	1.32	591	23.8
	16.0	15.5	16.0	0.94	424	1.36	613	24.6
	16.5	16.0	16.5	0.98	439	1.41	635	25.5
	17.0	16.5	17.0	1.01	455	1.46	657	26.3
	17.5	17.0	17.5	1.05	470	1.51	679	27.1
	18.0	17.5	18.0	1.08	485	1.56	701	28.0
	18.5	18.0	18.5	1.11	500	1.61	723	28.8
	19.0	18.5	19.0	1.15	515	1.66	745	29.6
	19.5	19.0	19.5	1.18	531	1.71	767	30.5
	20.0	19.5	20.0	1.22	546	1.76	789	31.3
	20.5	20.0	20.5	1.25	561	1.81	811	32.1
	21.0	20.5	21.0	1.28	576	1.86	833	32.9
	21.5	21.0	21.5	1.32	592	1.90	855	33.8
	22.0	21.5	22.0	1.35	607	1.95	877	34.6
	22.5	22.0	22.5	1.39	622	2.00	899	35.4

SLOPE (%)	SECTION #	START INVERT (IN)	END INVERT (IN)	FLOW RATE FORMING SYSTEMS (CFS)	FLOW RATE FORMING SYSTEMS (GPM)	FLOW RATE PRECAST SYSTEM (CFS)	FLOW RATE PRECAST SYSTEM (GPM)	RADIUS SECTION STORAGE (GAL)
1.0	5	4.0	5.0	0.29	131	0.42	190	6.4
	6	5.0	6.0	0.39	173	0.56	250	8.0
	7	6.0	7.0	0.48	215	0.69	310	9.7
	8	7.0	8.0	0.57	257	0.83	371	11.3
	9	8.0	9.0	0.67	300	0.96	433	13.0
	10	9.0	10.0	0.76	342	1.10	494	14.7
	11	10.0	11.0	0.86	385	1.24	556	16.3
	12	11.0	12.0	0.95	428	1.38	618	18.0
	13	12.0	13.0	1.05	471	1.51	680	19.6
	14	13.0	14.0	1.14	514	1.65	742	21.3
	15	14.0	15.0	1.24	557	1.79	804	23.0
	16	15.0	16.0	1.34	600	1.93	866	24.6
	17	16.0	17.0	1.43	643	2.07	928	26.3
	18	17.0	18.0	1.53	686	2.21	991	28.0
	19	18.0	19.0	1.62	729	2.35	1053	29.6
	20	19.0	20.0	1.72	772	2.48	1115	31.3
	21	20.0	21.0	1.82	815	2.62	1178	32.9
	22	21.0	22.0	1.91	858	2.76	1240	34.6
	23	22.0	23.0	2.01	902	2.90	1302	36.3
	24	23.0	24.0	2.10	945	3.04	1365	37.9
	25	24.0	25.0	2.20	988	3.18	1427	39.6
	26	25.0	26.0	2.30	1031	3.32	1489	41.3
	27	26.0	27.0	2.39	1074	3.46	1552	42.9
	28	27.0	28.0	2.49	1118	3.60	1614	44.6
	29	28.0	29.0	2.59	1161	3.74	1677	46.2
	30	29.0	30.0	2.68	1204	3.87	1739	47.9
	31	30.0	31.0	2.78	1247	4.01	1801	49.6
	32	31.0	32.0	2.87	1290	4.15	1864	51.2
	33	32.0	33.0	2.97	1334	4.29	1926	52.9
	34	33.0	34.0	3.07	1377	4.43	1989	54.6
	35	34.0	35.0	3.16	1420	4.57	2051	56.2
	36	35.0	36.0	3.26	1463	4.71	2114	57.9
	37	36.0	37.0	3.36	1506	4.85	2176	59.5
	38	37.0	38.0	3.45	1550	4.99	2238	61.2
	39	38.0	39.0	3.55	1593	5.13	2301	62.9
	40	39.0	40.0	3.65	1636	5.27	2363	64.5
	41	40.0	41.0	3.74	1679	5.40	2426	66.2

Map Scale: 1:1,800 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cheatham County, Tennessee
Survey Area Data: Version 14, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 21, 2019—Apr 10, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
En	Ennis gravelly silt loam, occasionally flooded	A	0.4	5.6%
Me	Melvin silt loam, frequently flooded	B/D	3.6	48.9%
Ne	Newark silt loam, frequently flooded	B/D	0.5	7.1%
Pt	Pits, quarry		1.4	19.3%
TrC2	Tarklin gravelly silt loam, 5 to 12 percent slopes, eroded	D	0.5	6.4%
WfA	Wolftever silty clay loam, 0 to 2 percent slopes, occasionally flooded	C	1.0	12.8%
Totals for Area of Interest			**7.4**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Town of Ashland City
Building & Codes Department
233 Tennessee Waltz Parkway Suite 103
Ashland City TN 37015
(615) 792-6455

Application for
Reclassification of Property Under the Zoning Ordinance

Application Fee: $100.00

Application is hereby made to the Mayor and City Council, which first must be reviewed by the City Planning Commission, to reclassify the property described below now in a R-1 district.

Description of Property (Attach Map): Map 055 Parcel 019.00
1.58 Ac at marrowbone creek bridge Hwy 12 by the lake

Reason for Reclassification Request: Request for C-2 zoning for highest and best use.

Address: 1070 Hwy 12 South Ashland City TN 37015

NOTE:

1. All applications for rezoning must be turned into City Hall no later than thirty (30) days prior to the upcoming planning commission meeting if they are to be entertained at said meeting.
2. An accurate graphic plat prepared and stamped by a registered design professional and a legal description of property to be rezoned must be submitted to the Building Official prior to consideration by the Town Planning Commissioners. In certain circumstances (i.e. large annexation requests having irregular boundaries) these legal descriptions must be submitted prior to planning commission consideration.
3. The applicant will submit the names and addresses of all owners of adjacent property within 1,000 feet. The applicant must also submit a map showing the property within 200 feet of said property.

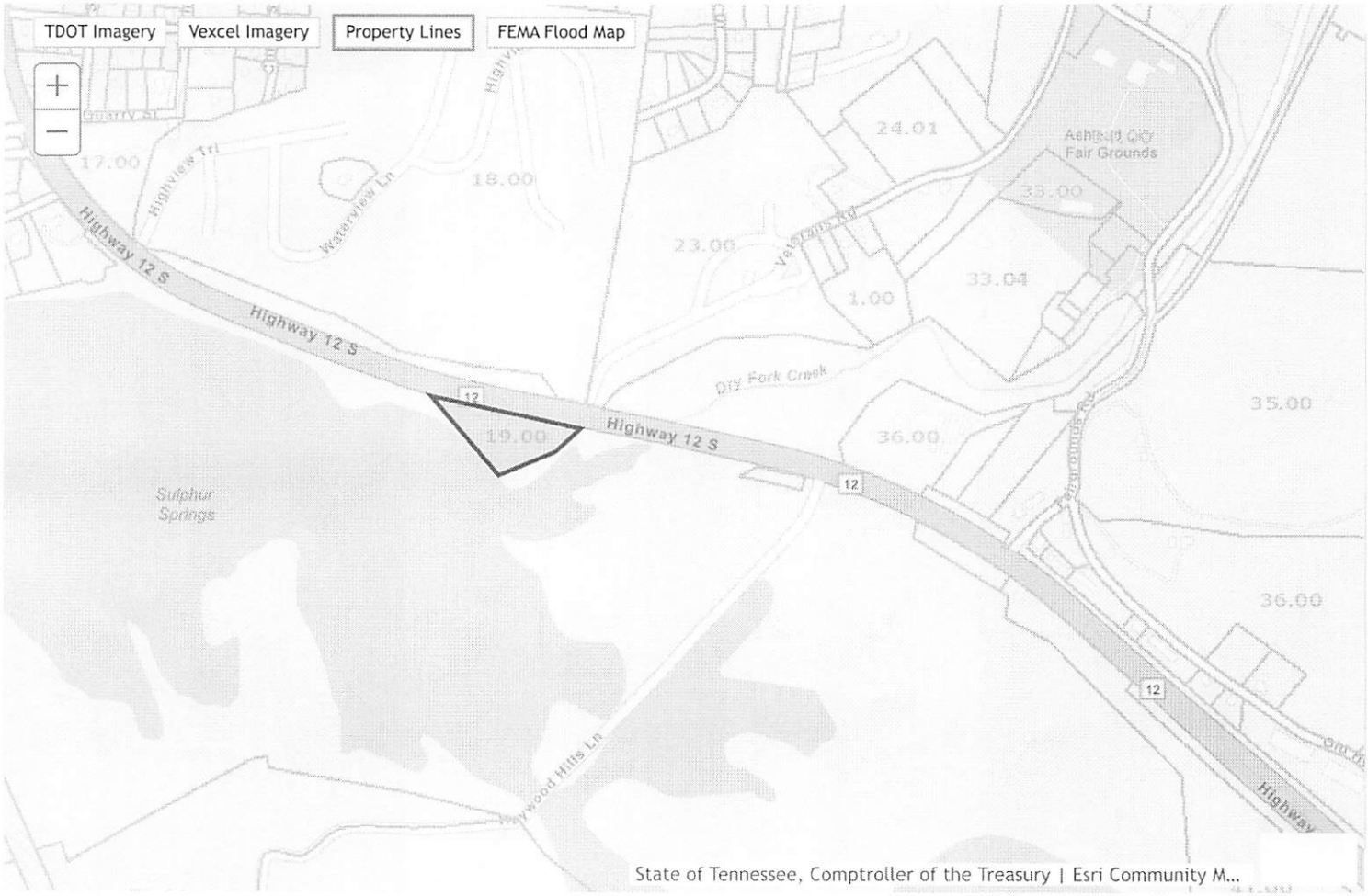
Send application and other documents to amartin@ashlandcitytn.gov

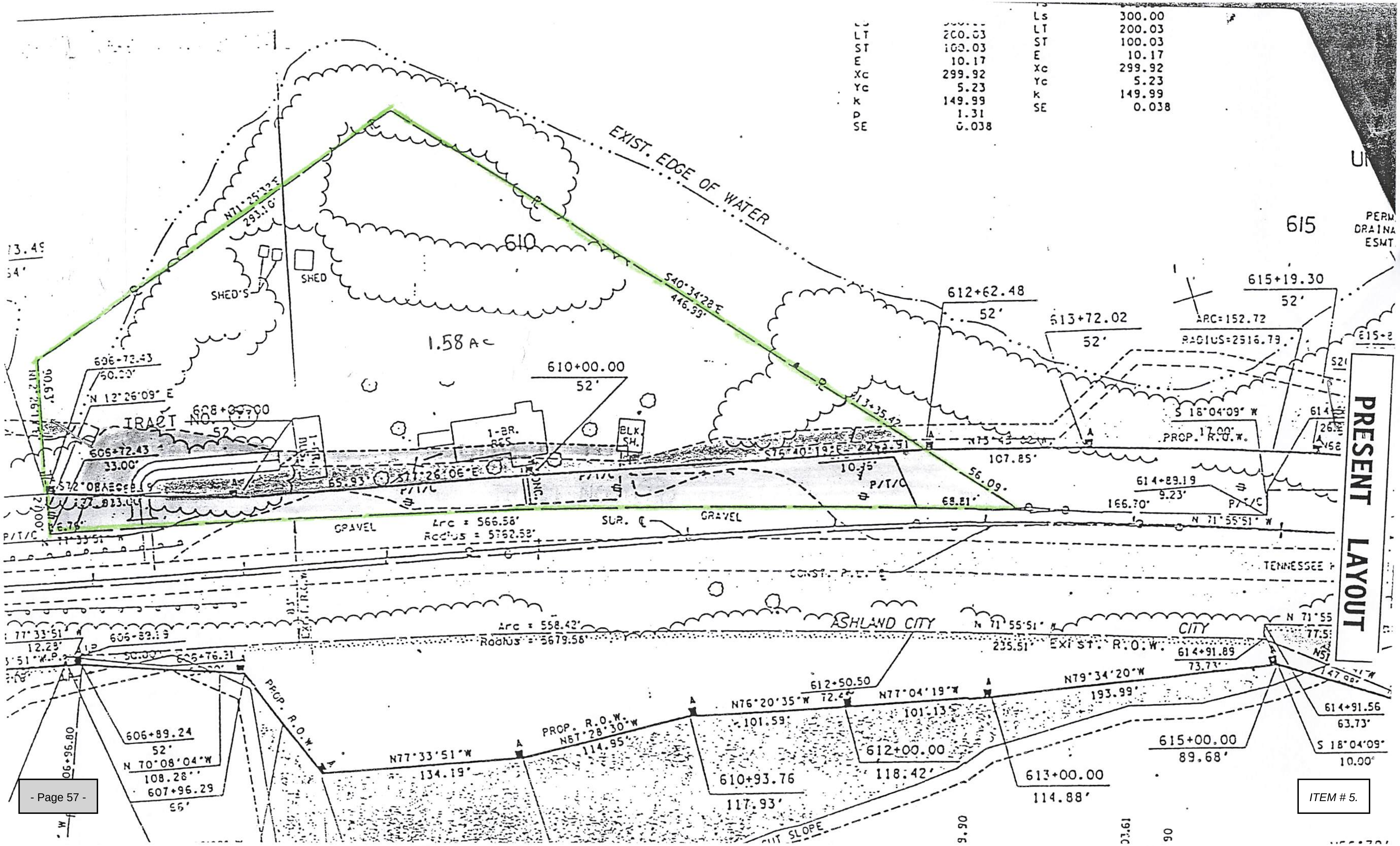
J. W. Le — 5-28-24

Applicant — Date

John W. MELTON

Tennessee Property Viewer




PRESENT LAYOUT
EXIST. EDGE OF WATER
610
615
1.58 Ac
SHED
SHED'S
TRACT NO.
1-BR. RES.
BLK. SH.
GRAVEL
ASHLAND CITY
EXIST. R.O.W.
PROP. R.O.W.
TENNESSEE
CUT SLOPE
PERM. DRAINA ESMT
Ls 300.00
LT 200.03
ST 100.03
E 10.17
Xc 299.92
Yc 5.23
k 149.99
SE 0.038
LT 200.03
ST 100.03
E 10.17
Xc 299.92
Yc 5.23
k 149.99
p 1.31
SE 0.038
N71°25'32"E 293.10'
S40°34'28"E 446.53'
612+62.48 52'
613+72.02 52'
615+19.30 52'
ARC=152.72
RADIUS=2516.79
610+00.00 52'
606+72.43 50.00'
N 12°26'09" E
606+72.43 33.00'
608+00.00 52
Arc = 566.58'
Radius = 5762.58'
Arc = 558.42'
Radius = 5679.58'
S 18°04'09" W
107.85'
56.09
614+89.19 9.23'
166.70'
N 71°55'51" W
235.51'
614+91.89 73.73'
N79°34'20"W 193.99'
N77°04'19"W 101.13'
N76°20'35"W 101.59'
612+50.50
PROP. R.O.W. N87°28'30"W 114.95'
N77°33'51"W 134.19'
606+89.24 52'
N 70°08'04"W 108.28'
607+96.29 55'
610+93.76 117.93'
612+00.00 118.42'
613+00.00 114.88'
615+00.00 89.68'
614+91.56 63.73'
S 18°04'09" 10.00'

Town of Ashland City
Building & Codes Department

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PLANNING COMMISSION SITE PLAN CHECKLIST

NAME OF SITE _____

LOCATION _____ ZONING DISTRICT_____

OWNER_____

ENGINEER _____

1. Three (3) copies of the site plan at a scale no smaller than 1"=60'. Please indicate at time of application if you would like any of the remaining copies after your case is heard and voted on.

2. Three (3) copies and an electronic PDF of revised site plans made available to the Building and Codes Department – according to planner/engineer comments. Also written response to all comments to match what was changed on revised site plans.

3. Location map of the site at a scale of not less than 1" = 2000' (USGS map is acceptable). Map must show the following:
    a. Approximate site boundary
    b. Public streets in the vicinity
    c. Types of development of surrounding parcels
    d. Public water and sewer lines serving the site
    e. Map # and Parcel # of site location

4. Site boundary, stamped and signed by a registered surveyor.

5. The number of stories of all proposed structures on the site (residential and commercial structures three (3) or more stories in height must have their plans approved by the State Fire Marshall's Office)..

6. The number of dwelling units per acre, if applicable.

7. The shape, size, and location of all existing buildings on the lot.

8. The existing zoning and existing and intended use of the lot and of structures on it. If residential, give the number of dwelling units per building.

9. Topographic survey of the entire site development with contour intervals at no greater than 2' intervals (no less than 10' beyond the limits of proposed grading), stamped and signed by a registered surveyor.

10. Location of all driveways and entrances with dimensions from the centerline of the drive to the nearest property corner and to the nearest intersection (if the intersection is closer than 200 feet).

11. All required building setbacks and other yard requirements.

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12. List minimum parking requirements and parking provided.

13. Dimensioned layout and location of all parking spaces including handicapped spaces and statement that plans meet all applicable handicap rules and regulations.

14. Indication/Notation of any major design criteria utilized in development and aiding in design intent of the site plans.

15. Dimensioned layout and location of on-site and off-street loading bays, docks and maneuvering areas.

16. Location and area of open space.

17. A table showing the ground coverage, total floor area and building heights.

18. Location, dimension and heights of all fences and walls with materials specified.

19. Location, type and amount of landscaping demonstrating compliance with Town regulations.

20. Proposed means of surface drainage, including locations and sizes of all culverts, ditches and detention structures, storm-water system to be designed as per the requirements of the Ashland City Planning Commission.

21. Provide all finished floor elevations for all structures as required by Ordinance #477 Ashland City Municipal Floodplain Zoning Ordinance.

22. Provide detail sheet for items, including, but not limited to: site features, headwalls, detention structures, pavement, curb, sidewalk width and thickness, and landscape plantings, etc.

23. Openings for ingress and egress to public streets.

24. Location of the centerline, right(s)-of-way, and the edge of pavement of existing streets, as well as the location of existing curbing where applicable.

25. Total square footage of all on-site paved areas.

26. Dimensioned location of all easements and right-of-ways.

27. Location of all portions of the site that are within the floodway and the 100-year floodplain. A note will be included which gives the FEMA map number from which this information was developed. In addition, if portions of the site are within the 100-year floodplain and/or the floodway, the 100-year flood elevation(s) at the site will be listed on the plan.

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28. Location, size, and distance to all public utilities serving the site including all existing and proposed fire hydrants (dimension to nearest existing). Include all proposed private-side utility installations necessary for the site development. Details shall be included in accordance with the applicable servicing public utility.

29. Any offsite utility installations (public or private) that may be required as part of the site development and resultant capacity analyses provided by the utility providers.

30. Location, by type and size of all proposed signs, (Please note that signs larger than 50 sq. ft. are not permitted per the sign ordinance for the Town of Ashland City.

31. Location and details about all lighting proposed on the site and to be attached to building(s).

32. Location and screening methods of dumpsters.

33. Vegetation, show at minimum the following:
    a. Existing tree masses and hedgerows
    b. General description of the tree types and sizes within the tree masses
    c. Location and identification of trees 18" in caliper (measured 4' above the ground) or larger
    d. Description of landscaping requirements for the site based upon surrounding land uses (see Zoning Ordinance Section 3.140)

34. Identification of slopes greater than 15% and identification of those soils (SCS soil mapping is acceptable) on those slopes.

35. Location and types of all erosion control and tree protection methods in accordance with applicable Town and State requirements.

36. Sidewalks in accordance with Ordinance #527

37. Site plan application fee $100

38. Additional engineering review etc., site inspection charges are subject to Section 14-301 of the Ashland City Municipal Code per Ordinance #165.

39. Three (3) sets of the construction plans for the site.

40. Submittal must be made at least 20 working days?? prior to the Planning Commission meeting to be heard.

41. If applicant is requesting a variance, application is to be submitted to the Building Official in accordance with Section 7.080 of the Ashland City Zoning Ordinance.