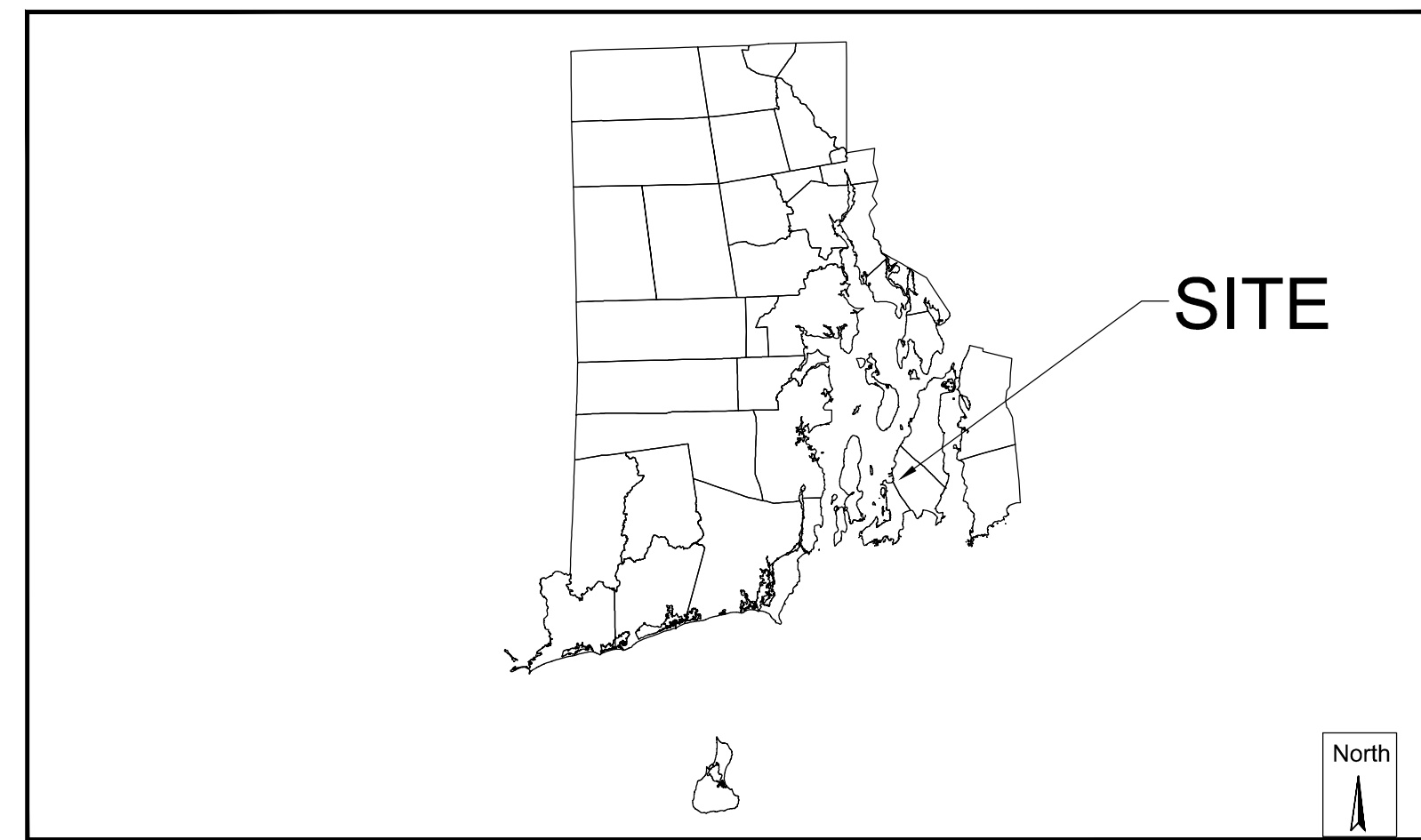


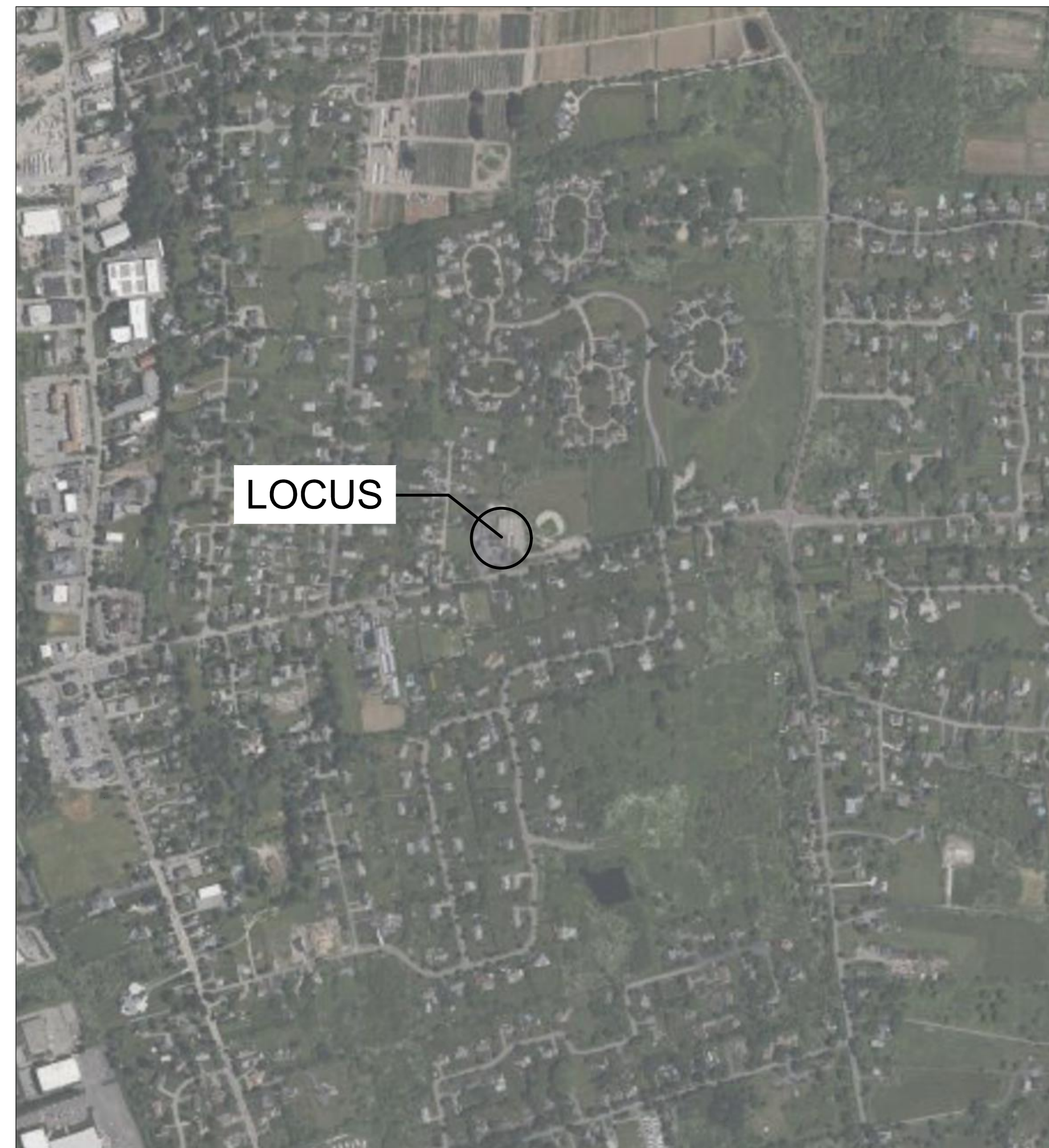
MASTER PLAN APPLICATION 650 GREEN END AVENUE MIDDLETOWN, RHODE ISLAND OCTOBER 2023



RHODE ISLAND
NOT TO SCALE



MIDDLETOWN
NOT TO SCALE



VICINITY MAP

Graphic Scale
1-inch = 500-feet

Sheet List Table	
Sheet Number	Sheet Title
1	COVER
2	NOTES
3	DEMO & EROSION CONTROL
4	ESC NOTES AND DETAILS
5	SITE PLAN
6	GRADING & DRAINAGE PLAN
7	UTILITY PLAN

GENERAL NOTES:

- THIS PLAN SET IS FOR PERMITTING ONLY AND NOT FOR CONSTRUCTION.
- SITE INFORMATION:
 PLAT: 120
 LOT: 27 & 27X
 ADDRESS: GREEN END AVENUE
 ZONING DISTRICT: PUBLIC

Plan Set:		MASTER PLAN APPLICATION 650 GREEN END AVENUE MIDDLETOWN, RHODE ISLAND	
Prepared For:		Town of Middletown 350 East Main Road Middletown, RI 02842	
Prepared By:		Horsley Witten Group, Inc. <i>Sustainable Environmental Solutions</i> www.horsleywitten.com	
Headquarters 90 Route 6A Sandwich, MA 02563 (508) 833-6600 voice (508) 833-3150 fax		112 Water Street 6th Floor Boston, MA 02109 (857) 263-8193 voice (617) 574-4799 fax	
One Turks Head Place Suite 300 Providence, RI 02906 (401) 272-1717 voice (401) 439-8368 fax		113 R2 Water Street Exeter, NH 03833 (603) 658-1660 voice	
Date Issued: OCTOBER 2023	Registration: JONATHAN A. FORD No. 8784 REGISTERED PROFESSIONAL ENGINEER (CIVIL)	Revisions	Project Number: 20047
Designed By: JK		Sheet Number: 1 of 7	
Drawn By: JK		Drawing Number: C-1	
Checked By: ---		Rev. Date By Appr. Description	

PERMITTING SET ONLY
NOT FOR CONSTRUCTION

GENERAL CONSTRUCTION NOTES:

- 1. ALL SITE WORK TO COMPLETE THIS PROJECT AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. IMMEDIATELY CONTACT AND COORDINATE WITH THE ENGINEER AND OWNER IF ANY DEVIATION OR ALTERATION OF THE WORK PROPOSED ON THESE DRAWINGS IS REQUIRED.
3. UTILIZE ALL PRECAUTIONS AND MEASURES TO ENSURE THE SAFETY OF THE PUBLIC, ALL PERSONNEL AND PROPERTY DURING CONSTRUCTION IN ACCORDANCE WITH OSHA STANDARDS...

GENERAL DEMOLITION NOTES:

- 1. UNLESS OTHERWISE NOTED, THE CONTRACTOR IS RESPONSIBLE FOR THE RELOCATION, DEMOLITION, REMOVAL AND DISPOSAL, IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES, OF ALL EXISTING SITE ELEMENTS AND STRUCTURES INCLUDING, BUT NOT LIMITED TO, BUILDINGS, ROADWAYS, PARKING AREAS, PARKING ISLANDS, BITUMINOUS CONCRETE, CEMENT CONCRETE, GRAVEL, CURBS, WALKWAYS, SIDEWALKS, BERMS, FENCES, BOLLARDS, POSTS, PLANTING BEDS, TREES, SHRUBS, UTILITIES, DRAINAGE STRUCTURES AND ALL OTHER STRUCTURES SHOWN AND NOT SHOWN WITHIN CONSTRUCTION LIMITS, AND WHERE NEEDED, TO ALLOW FOR NEW CONSTRUCTION...

BASIC CONSTRUCTION SEQUENCE:

- THE FOLLOWING CONSTRUCTION SEQUENCE IS TO BE USED AS A GENERAL GUIDELINE. COORDINATE WITH THE OWNER, ENGINEERS, AND LANDSCAPE ARCHITECT AND SUBMIT A PROPOSED CONSTRUCTION SEQUENCE FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
1. SURVEY AND STAKE THE PROPOSED LIMIT OF DISTURBANCE AND LIMIT OF SEDIMENTATION BARRIERS.
2. PLACE SEDIMENTATION BARRIERS AS INDICATED ON DRAWINGS AND STAKED OUT IN THE FIELD...

GENERAL GRADING AND DRAINAGE NOTES:

- 1. ALL CUT AND FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
2. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.
3. PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.
4. ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.

DEWATERING:

- HIGH WATER TABLE IS ANTICIPATED. IF THE WATER TABLE IS ENCOUNTERED DURING EXCAVATION, TEMPORARILY LOWER THE WATER TABLE AS INDICATED IN THE SPECIFICATIONS.
1. PRIOR TO ANY DEWATERING, THE DEWATERING PLAN MUST BE APPROVED BY THE ENGINEER.
2. IF DEWATERING IS NECESSARY DURING CONSTRUCTION, IMPLEMENT THE PROPER ESC MEASURES ON SITE TO PREVENT EROSION OR SEDIMENT RUNOFF...

STORMWATER FACILITY OPERATION & MAINTENANCE:

- THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER INSPECTION AND MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES AS OUTLINED BELOW DURING CONSTRUCTION AND UNTIL SUCH TIME THAT THE ROADWAYS AND ASSOCIATED UTILITIES ARE ACCEPTED BY THE OWNER AND THE ENGINEER.
1. INSPECT AND RESTORE/CLEAN ALL FACILITIES (INLETS, MANHOLES, INFILTRATION BASINS, STORMWATER MANAGEMENT AREAS AS DESCRIBED BELOW) OF SEDIMENT AND DEBRIS PRIOR TO THE OWNER'S ACCEPTANCE.
2. REMOVE AND DISPOSE ALL SEDIMENT AND DEBRIS TO A PRE-APPROVED LOCATION.

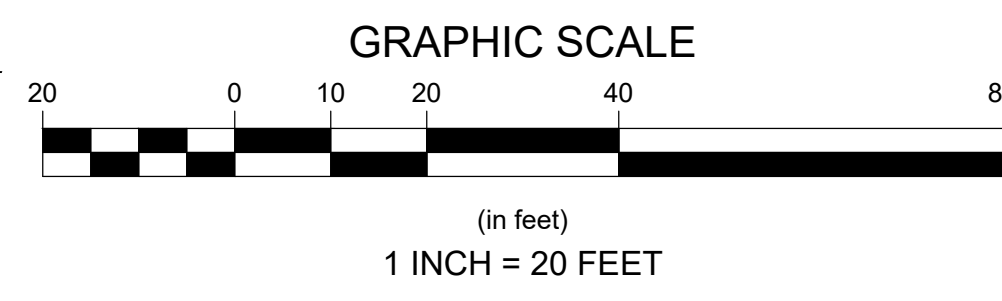
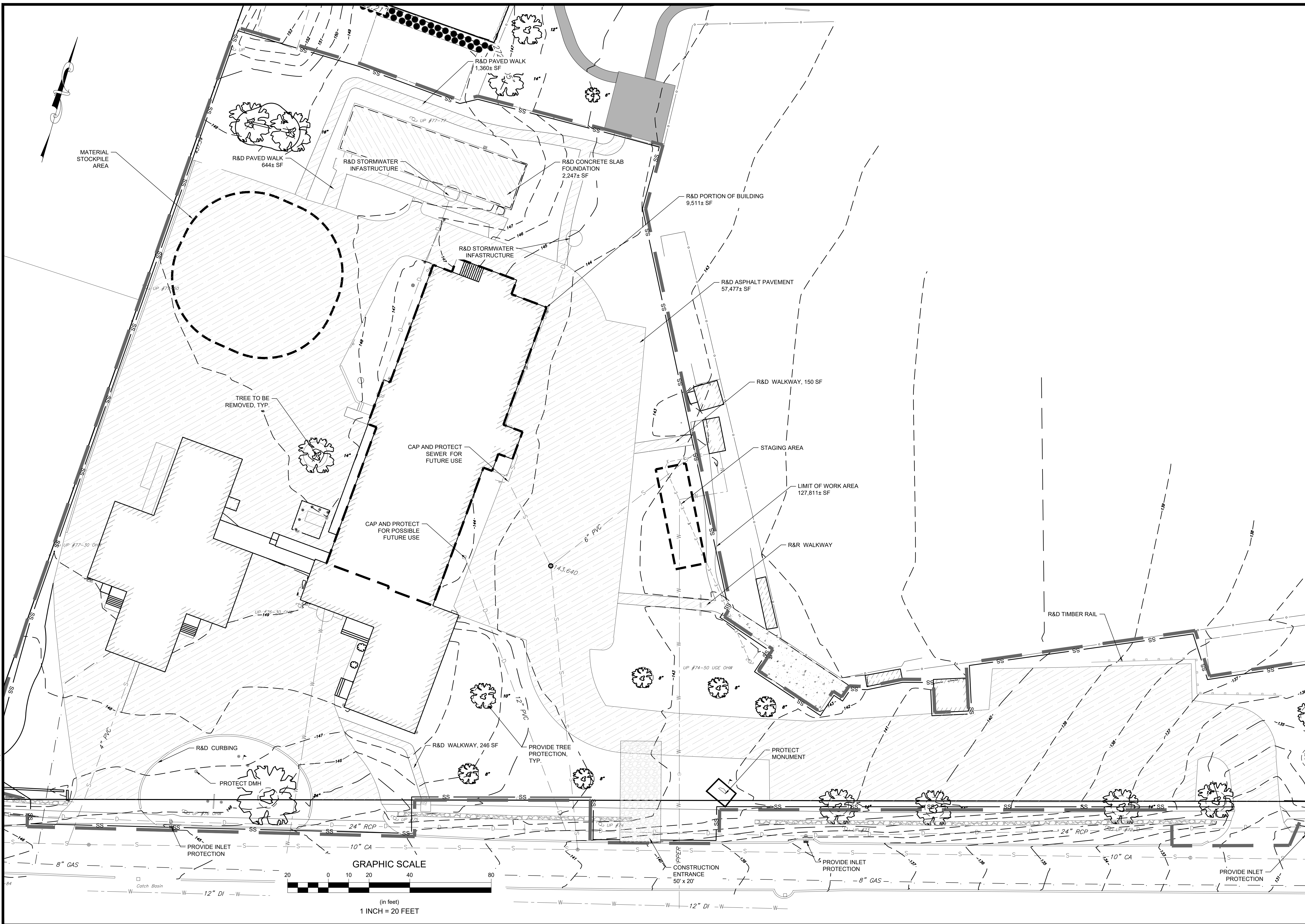
LEGEND:

Table with columns: GENERAL, SYMBOLS, and descriptions. Includes symbols for BERM, BENCHMARK, BOUNDARY, CONTROL POINT, EXISTING SHRUB, EXISTING TREE, etc.

PERMITTING SET ONLY NOT FOR CONSTRUCTION

Revisions table, Project Information (Horsley Witten Group, Inc.), Master Plan Application details (650 Green End Avenue, Middletown, Rhode Island), Town of Middletown information, Survey Provider (CROSSMAN ENGINEERING), and Professional Engineer seal for Jonathan A. Ford.

last modified: 11/01/23 by jk H:\Projects\2020\20047 Berkeley-Peckham School Field\Drawings\20047-ESC.dwg



Revisions	Date	By	Appr.	Description

Horsley Witten Group, Inc.
 Sustainable Environmental Solutions
 80 Route 6A
 Sandwich, MA 02563
 508-833-6600 voice
 508-833-3150 fax

Checked By: JK
 Drawn By: JK
 Designed By: JK
 Date: OCTOBER 2023

MASTER PLAN APPLICATION
650 GREEN END AVENUE
MIDDLETOWN, RHODE ISLAND

Plan Title: DEMO & EROSION CONTROL

Prepared For:
Town of Middletown
 350 East Main Road
 Middletown, RI 02842
 Phone: ---
 Fax: ---

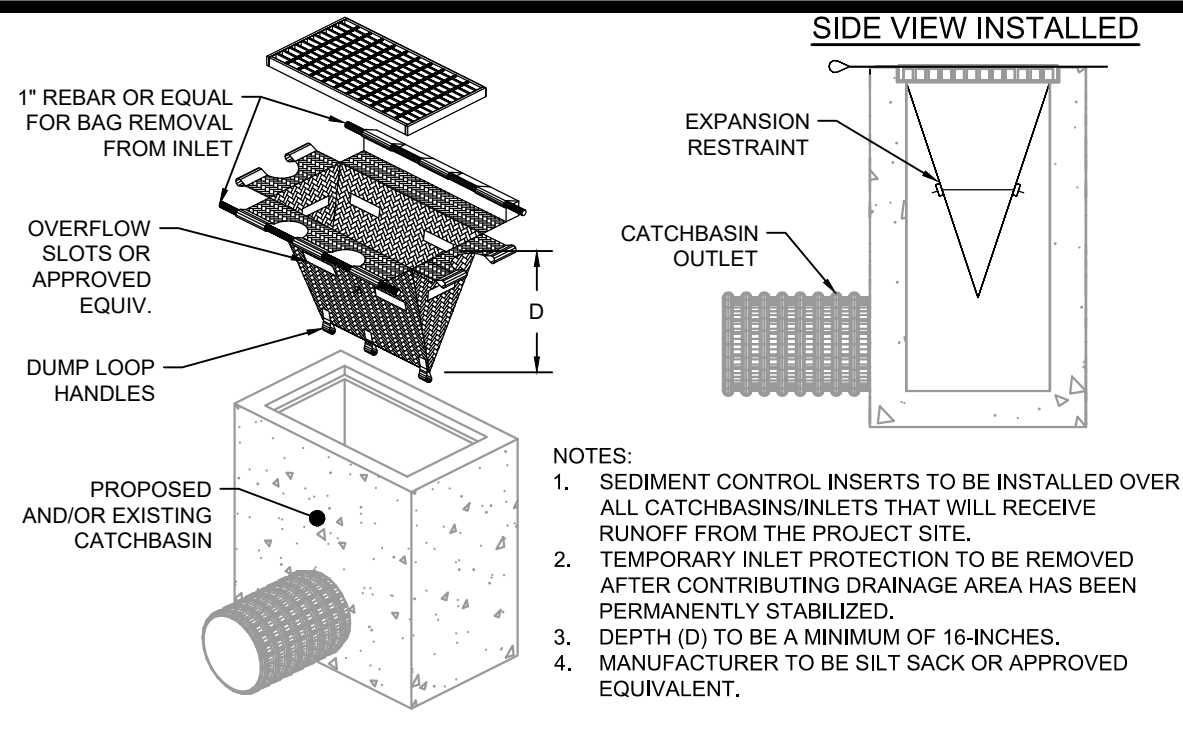
Survey Provided By:
CROSSMAN ENGINEERING
 151 Centerville Road
 Warwick, RI 02886
 Phone: (401) 736-5680
 Fax: ---
 Date: September 14, 2023

Registration:
JONATHAN A. FORD
 No. 8784
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)

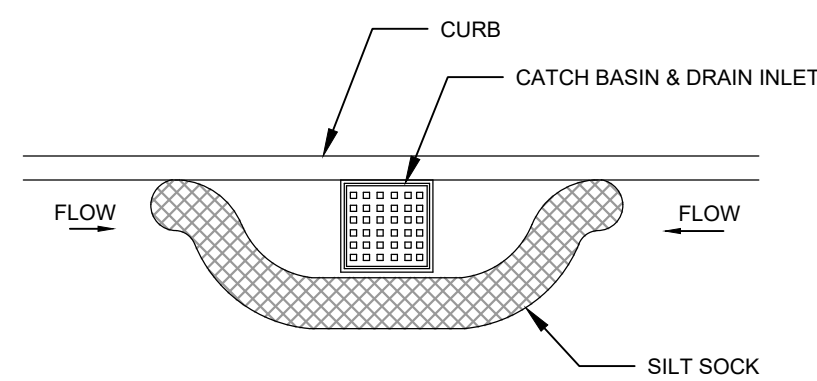
Project Number: 20047
 Sheet: 3 of 7
 Sheet Number: C-3

EROSION & SEDIMENT CONTROL NOTES:

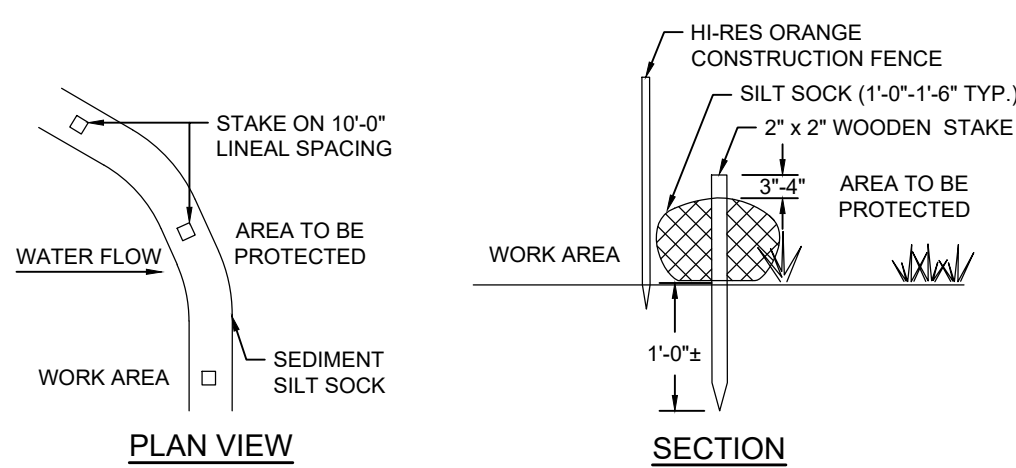
- PRIOR TO THE START OF CONSTRUCTION A NOTICE OF INTENT (NOI) MUST BE FILED WITH NPDES. REFER TO THE STORMWATER AND POLLUTION PREVENTION PLAN (SWPPP) REGARDING ALL EROSION CONTROL MATTERS. MAINTAIN A WORKING COPY OF THE SWPPP ON-SITE AT ALL TIMES. FOLLOW THE SWPPP PROTOCOL FOR SITE MAINTENANCE, INSPECTIONS AND PROPER DOCUMENTATION UNTIL THE SITE HAS BEEN ACCEPTED BY THE OWNER. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR OR OWNER MUST FILE A NOTICE OF TERMINATION WITH NPDES. IN ACCORDANCE WITH NPDES REGULATIONS, THE COMPLETED SWPPP MUST INCLUDE ALL OF THE SITE EROSION CONTROL DOCUMENTATION, WEEKLY EROSION INSPECTION REPORTS COMPLETED BY THE DESIGNATED SITE PERSONNEL, AND ANY OTHER PERTINENT SITE DOCUMENTATION MUST BE RETAINED FOR A MINIMUM OF 3 YEARS FROM THE DATE OF TERMINATION.
- DESIGNATE THE SITE CONSTRUCTION FOREMAN AS THE ON-SITE PERSONNEL RESPONSIBLE FOR THE DAILY INSPECTION AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROLS AND IMPLEMENTATION OF ALL NECESSARY MEASURES TO CONTROL EROSION AND PREVENT SEDIMENT FROM LEAVING THE SITE.
- INSTALL ALL EROSION AND SEDIMENT CONTROL (ESC) MEASURES AS INDICATED ON DRAWINGS IN CONSULTATION WITH THE CONSERVATION AGENT, AND ENGINEER BEFORE ANY CONSTRUCTION ACTIVITIES BEGIN. INSPECT, MAINTAIN REPAIR AND REPLACE EROSION CONTROL MEASURES, AS NECESSARY, DURING THE ENTIRE CONSTRUCTION PERIOD OF THE PROJECT. THE SITE PERIMETER EROSION CONTROLS ARE THE DESIGNATED LIMIT OF WORK. INFORM ALL PERSONNEL WORKING ON THE PROJECT SITE THAT NO CONSTRUCTION ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK AT ANY TIME THROUGHOUT THE CONSTRUCTION PERIOD.
- MAINTAIN A MINIMUM SURPLUS OF 100 FEET OF EROSION CONTROL BARRIER (SILT FENCE, STRAWBALE, &/OR SILT SOCK) ON-SITE AT ALL TIMES.
- PROTECT THE ADJACENT RESOURCE AREA FROM SEDIMENTATION DURING PROJECT CONSTRUCTION UNTIL ACCEPTANCE BY THE OWNER & IN CONFORMANCE WITH THE ORDER OF CONDITIONS.
- PROVIDE CONSTRUCTION EXITS AS INDICATED ON DRAWINGS TO SHED DIRT FROM CONSTRUCTION VEHICLE TIRES. CLEAN AND/OR REPLACE THE CRUSHED STONE PAD, AS NECESSARY, TO MAINTAIN ITS EFFECTIVENESS.
- KEEP THE LIMIT OF CLEARING, GRADING AND DISTURBANCES TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. PHASE THE SITE WORK IN A MANNER TO MINIMIZE AREAS OF EXPOSED SOIL. IF TREES ARE TO BE CUT ON THE ENTIRE SITE, CLEAR AND GRUB ONLY THOSE AREAS WHICH ARE ACTIVELY UNDER CONSTRUCTION. PROPERLY INSTALL THE SEDIMENTATION CONTROLS PRIOR TO BEGINNING ANY LAND CLEARING ACTIVITY AND/OR OTHER CONSTRUCTION RELATED WORK.
- MONITOR LOCAL WEATHER REPORTS DURING CONSTRUCTION AND PRIOR TO SCHEDULING EARTHMOVING OR OTHER CONSTRUCTION ACTIVITIES WHICH LEAVE LARGE DISTURBED AREAS UNSTABILIZED. IF INCLEMENT WEATHER IS PREDICTED, USE BEST PROFESSIONAL JUDGEMENT AND GOOD CONSTRUCTION PRACTICES WHEN SCHEDULING CONSTRUCTION ACTIVITIES AND ENSURE THE NECESSARY EROSION CONTROL DEVICES ARE INSTALLED AND FUNCTIONING PROPERLY TO MINIMIZE EROSION FROM ANY IMPENDING WEATHER EVENTS.
- INSPECT EROSION AND SEDIMENT CONTROL DEVICES AND STABILIZED SLOPES ON A WEEKLY BASIS AND AFTER EACH RAINFALL EVENT OF .25 INCH OR GREATER. REPAIR IDENTIFIED PROBLEMS WITHIN 24 HOURS TO ENSURE EROSION AND SEDIMENT CONTROLS ARE IN GOOD WORKING ORDER. RESET OR REPLACE MATERIALS AS REQUIRED.
- SURROUND THE PERIMETER OF SOIL STOCKPILES WITH SILT SOCK, SILT FENCE, STRAWBALES, OR A COMBINATION OF SILT FENCE WITH STRAWBALE, AS DETERMINED NECESSARY.
- DISTURBED AREAS AND SLOPES MUST NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON. PROVIDE APPROPRIATE STABILIZATION PRACTICES ON ALL DISTURBED AREAS AS SOON AS POSSIBLE BUT NOT MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED. REINFORCE TEMPORARY AREAS HAVING A SLOPE GREATER THAN 4:1 WITH EROSION BLANKETS OR APPROVED EQUAL UNTIL THE SITE IS PROPERLY STABILIZED. TEMPORARY SWALES MAY ALSO BE REQUIRED IF DETERMINED NECESSARY IN THE FIELD BY THE ENGINEER.
- INSTALL A SILT SOCK OR APPROVED EQUIVALENT IN EACH EXISTING CATCHBASIN RECEIVING RUNOFF FROM THE SITE. UPON THE INSTALLATION OF EACH CATCH BASIN, INSTALL A SILT SOCK OR APPROVED EQUIVALENT. INSPECT SILT SOCKS, AFTER EACH SIGNIFICANT STORM EVENT AND REMOVE AND EMPTY AS NEEDED FOR THE DURATION OF THE CONSTRUCTION PERIOD.
- SMALL SEDIMENTATION BASINS MAY BE CONSTRUCTED ON AN AS-NEEDED BASIS DURING CONSTRUCTION TO AID IN THE CAPTURE OF SITE RUNOFF AND SEDIMENT. IT WILL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR, IN CONSULTATION WITH THE ENGINEER, TO SIZE AND CREATE THESE BASINS IN APPROPRIATE LOCATIONS.
- CONTAIN ALL SEDIMENT ON-SITE. SWEEP ALL EXITS FROM THE SITE AS NECESSARY INCLUDING ANY SEDIMENT TRACKING. SWEEP PAVED AREAS AS NEEDED TO REMOVE SEDIMENT AND POTENTIAL POLLUTANTS ACCUMULATED DURING SITE CONSTRUCTION.
- REMOVE ACCUMULATED SEDIMENT FROM ALL TEMPORARY PRACTICES AND DISPOSE OF IN A PRE-APPROVED LOCATION.
- PROVIDE ON-SITE OR MAKE READILY AVAILABLE THE NECESSARY EQUIPMENT AND SITE PERSONNEL DURING CONSTRUCTION HOURS FOR THE DURATION OF THE PROJECT TO ENSURE ALL EROSION AND SEDIMENTATION CONTROL DEVICES ARE PROPERLY MAINTAINED AND REPAIRED IN A TIMELY AND RESPONSIBLE MANNER. IF SITE WORK IS SUSPENDED DURING THE WINTER MONTHS THE CONTRACTOR MUST CONTINUE TO PROVIDE PERSONNEL AND EQUIPMENT EITHER ON-SITE OR READILY AVAILABLE TO PROPERLY MAINTAIN AND REPAIR ALL EROSION AND SEDIMENTATION CONTROL DEVICES IN A TIMELY AND RESPONSIBLE MANNER.
- PRIOR TO THE INSTALLATION OF FILTER FABRIC AND MEDIA WITHIN THE BIORETENTION AREAS, REMOVE AND PROPERLY DISPOSE OF SEDIMENT ACCUMULATED IN ANY PARTIALLY CONSTRUCTED OR TEMPORARY BIORETENTION/DRAINAGE AREA USED FOR SEDIMENT CONTROL DURING CONSTRUCTION. PROVIDE A SURFACE ELEVATION AT A MINIMUM 1-FOOT ABOVE THE BOTTOM OF MEDIA ELEVATION AS SHOWN IN THE BIORETENTION SCHEDULE FOR PARTIALLY CONSTRUCTED BIORETENTION AREAS. THIS ALLOWS FOR AN OVER-DIG OF THE COLLECTED SEDIMENT FROM WITHIN THE BIORETENTION AREA PRIOR TO MEDIA/FABRIC INSTALLATION.
- CONTROL DUST BY WATERING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE DURING CONSTRUCTION OF ALL STORMWATER FACILITIES INSTALLED OR AFFECTED BY THE PROJECT. REMOVE SEDIMENT OR DEBRIS COLLECTED WITHIN THESE FACILITIES FROM THE PROJECT WORK PRIOR TO THE OWNER'S ACCEPTANCE.



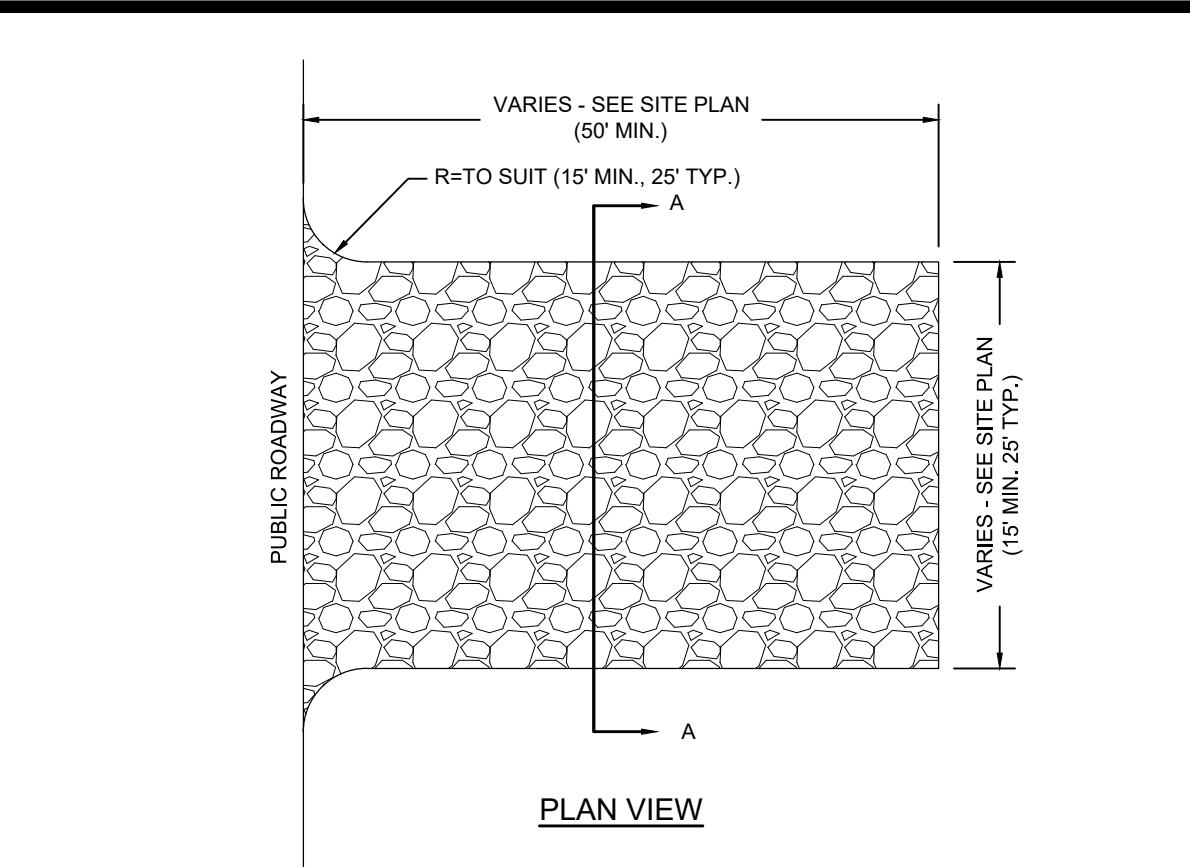
TEMPORARY CATCH BASIN INSERT WITH INLET PROTECTION
NOT TO SCALE



SILT SOCK FOR INLET PROTECTION DETAIL AT DRAIN INLET
NOT TO SCALE

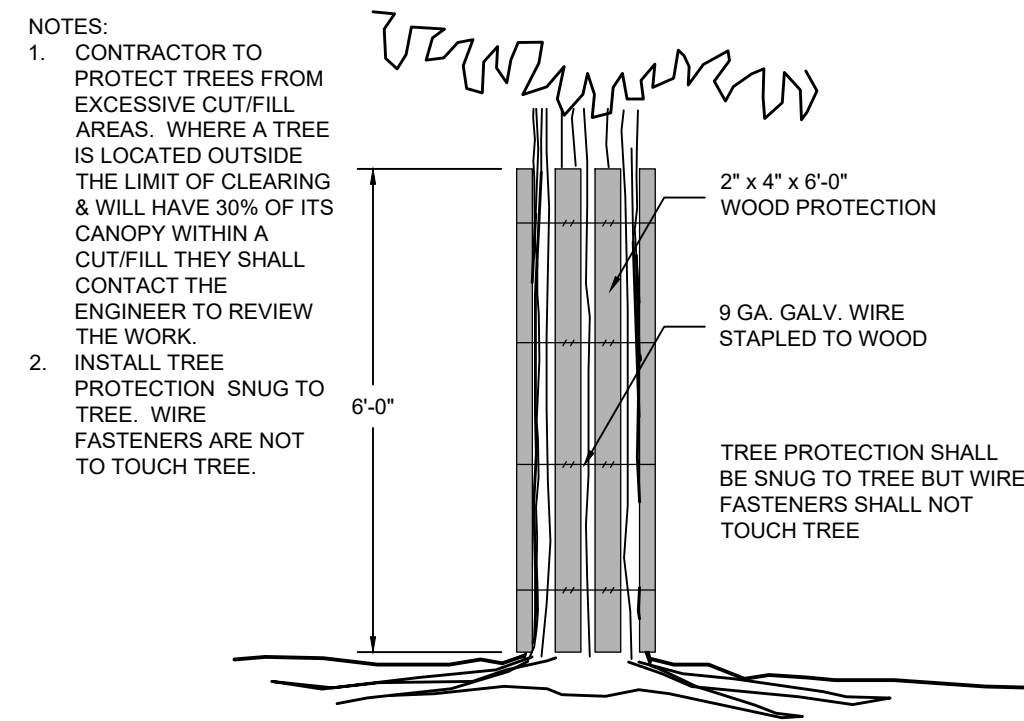


SEDIMENT SILT SOCK
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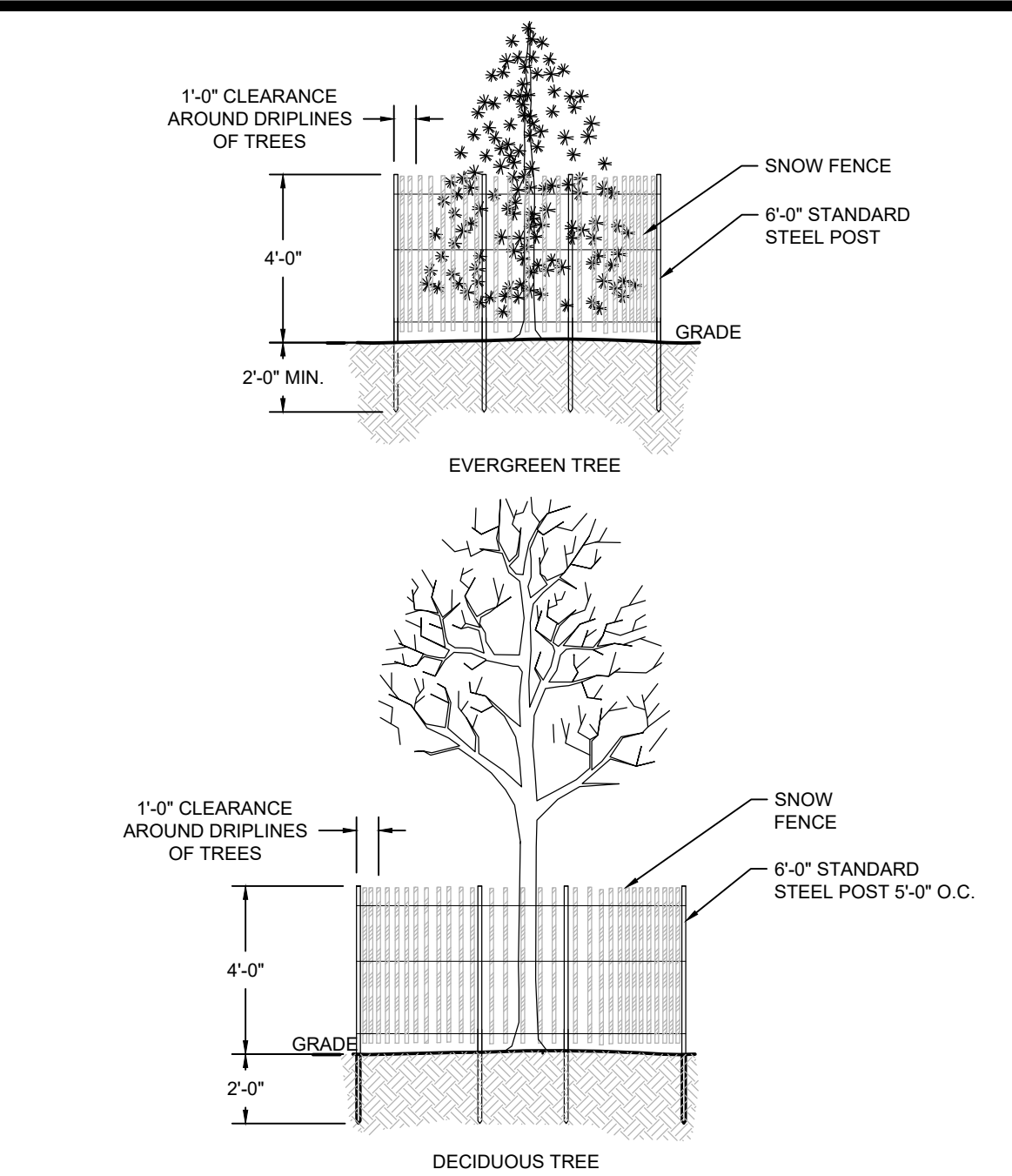


SECTION A-A

STONE CONSTRUCTION ENTRANCE
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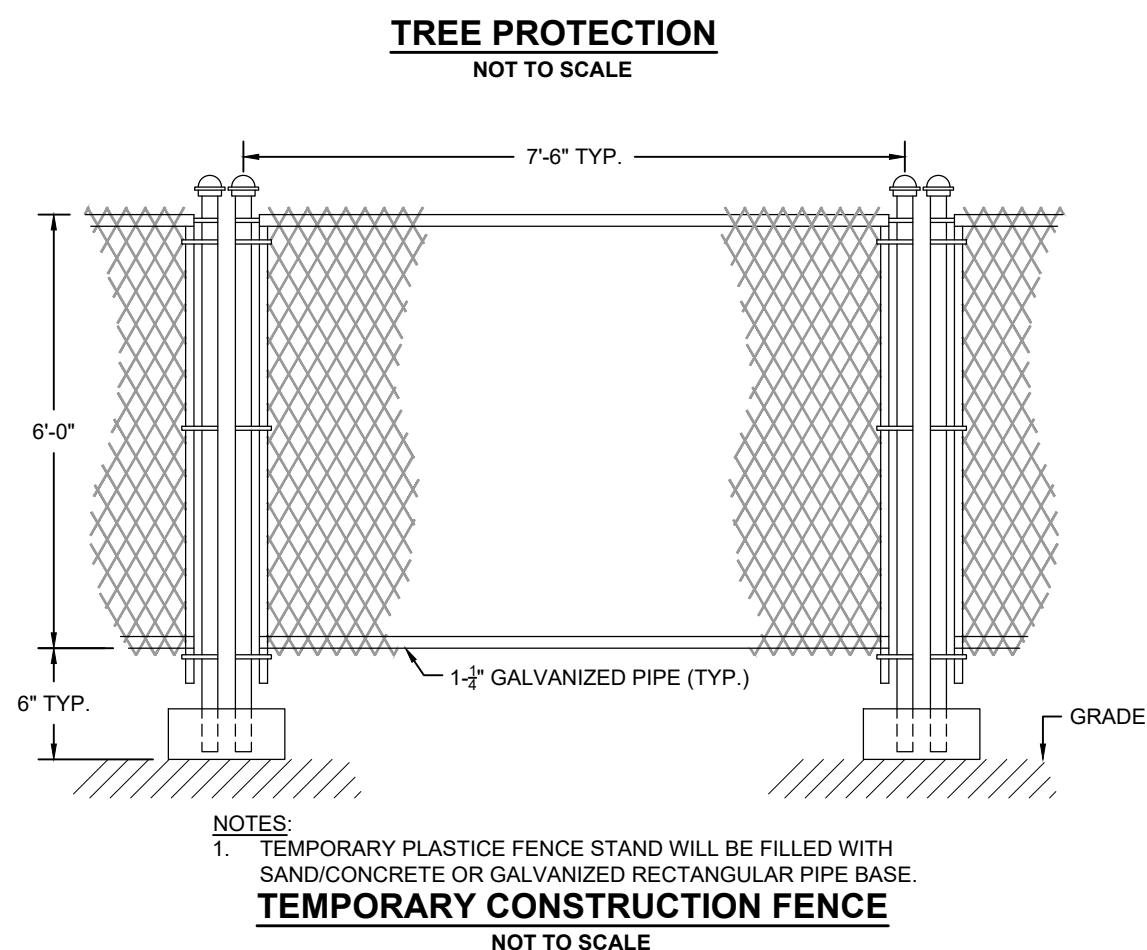


TREE PROTECTION
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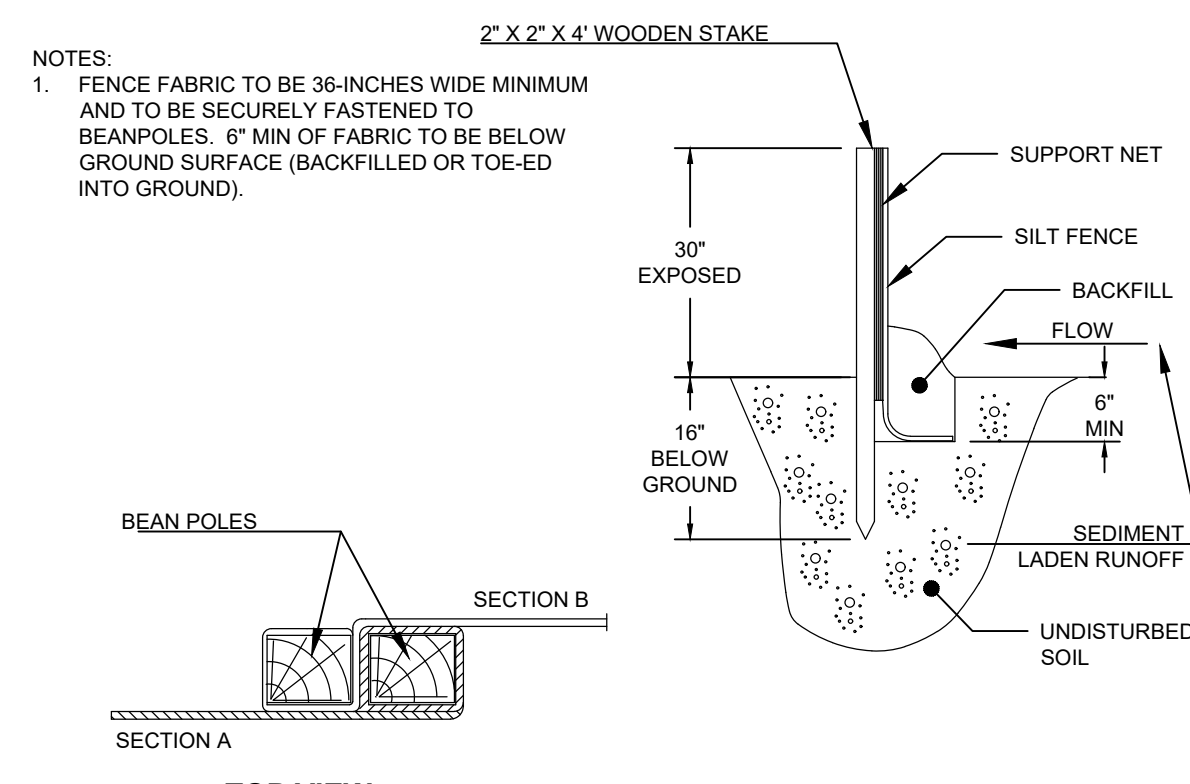


TREE PROTECTION
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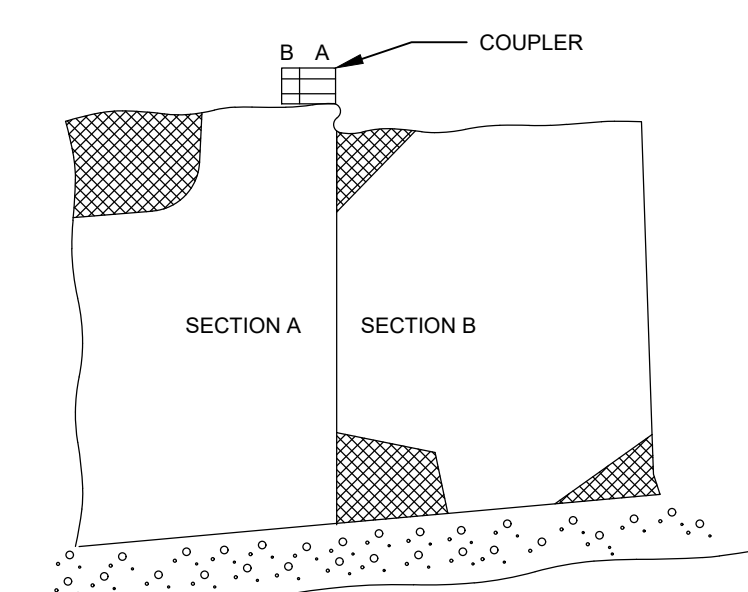
- NOTES:
- FENCING SHALL BE ORANGE RESINET SM60 BARRIER FENCE "SNOW FENCE" OR APPROVED EQUIVALENT.
 - POST SHALL BE HOT ROLLED RAIL STEEL AND FORMED INTO A "T" DIMENSIONS OF "T" POST SECTION, APPROXIMATELY 1 7/16" X 1 5/16" X 1/8" X 6' (SIX FEET) LONG. THE POST SHALL BE PAINTED GREEN OR GALVANIZED.
 - THE FENCING SHALL REMAIN IN PLACE UNTIL ALL EXCAVATION HAS BEEN COMPLETED AND THE SURFACE HAS BEEN RE-ESTABLISHED.



TEMPORARY CONSTRUCTION FENCE
NOT TO SCALE

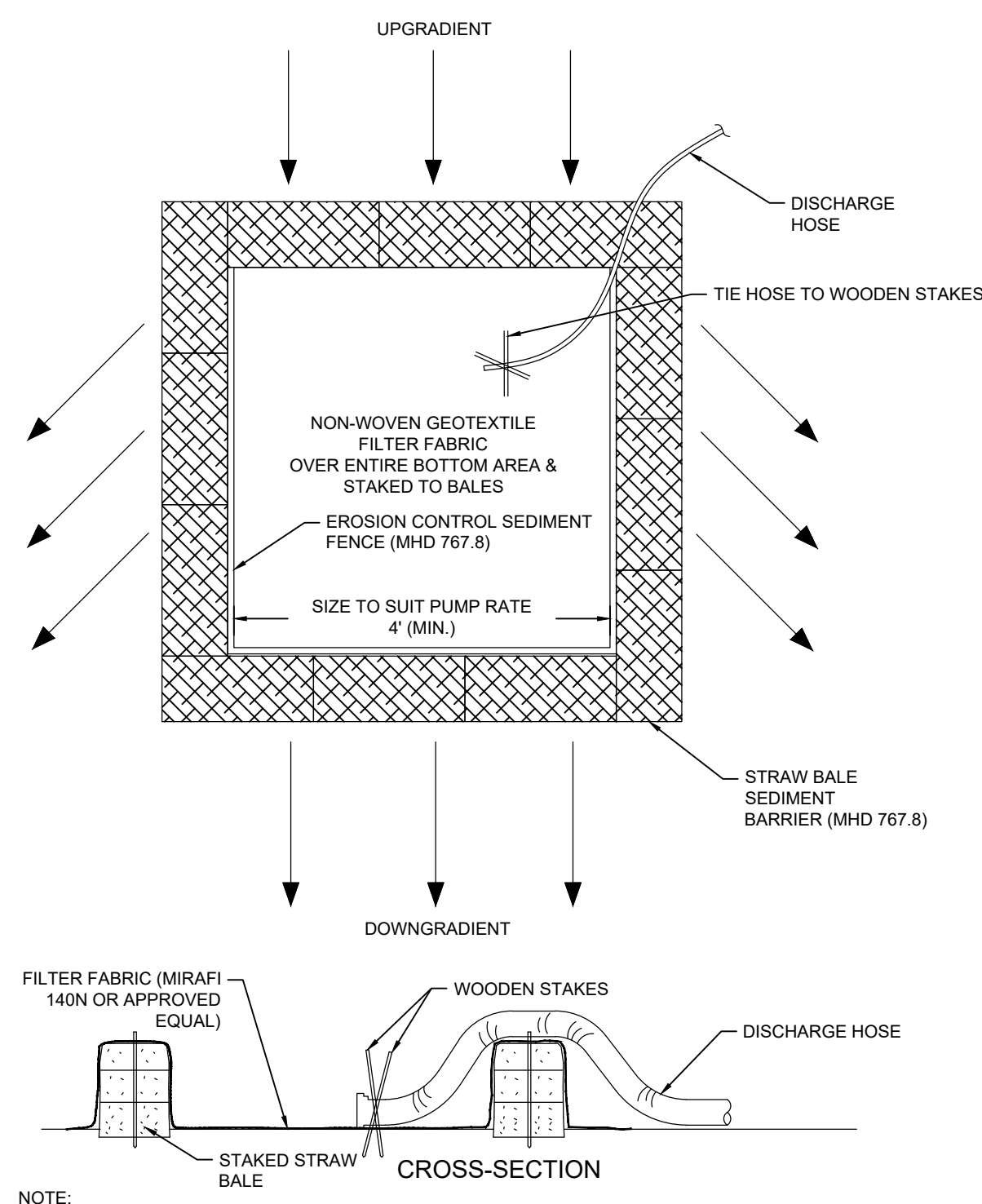


TOP VIEW



JOINING SECTIONS OF FENCE

EROSION/SILTATION CONTROL FENCE
NOT TO SCALE



- NOTE:
- CONSTRUCT IN ACCORDANCE WITH MHD 991.1
 - FILTER FABRIC TO BE MIRAFI 140N OR APPROVED EQUIVALENT.
 - NUMBER OF BALES MAY VARY DEPENDING ON SITE CONDITIONS.
 - THE BASIN TO BE SIZED TO PREVENT DISCHARGE WATER FROM OVERTOPPING BASIN (SEE PLAN IF APPLICABLE).

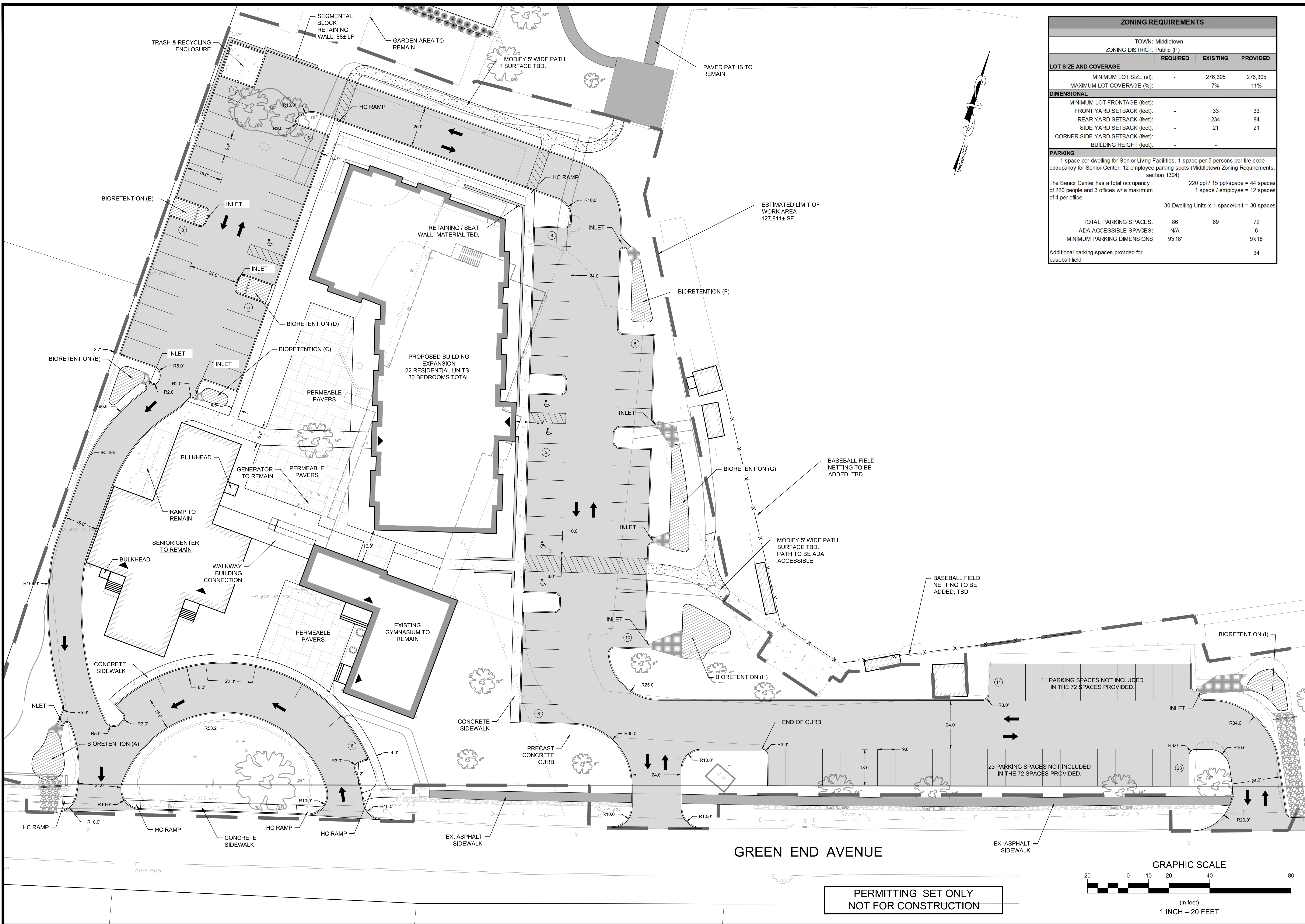
DEWATERING CONTAINMENT AREA DETAIL
NOT TO SCALE

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<p>Revisions</p> <table border="1"> <tr> <th>No.</th> <th>Date</th> <th>By</th> <th>Appr.</th> <th>Description</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		No.	Date	By	Appr.	Description					
No.	Date	By	Appr.	Description							
<p>Horsley Witten Group, Inc. Sustainable Environmental Solutions www.horsleywitten.com 80 Route 6A Sandwich, MA 02563 508-833-6600 voice 508-833-3150 fax</p>											
<p>Checked By: _____ Designed By: _____ Drawn By: _____ Date: OCTOBER 2023</p>	<p>Plan Set:</p> <p>MASTER PLAN APPLICATION 650 GREEN END AVENUE MIDDLETOWN, RHODE ISLAND</p>										
<p>Prepared For: Town of Middletown 350 East Main Road Middletown, RI 02842 Phone: _____ Fax: _____</p>	<p>Survey Provided By: CROSSMAN ENGINEERING 151 Centerville Road Warwick, RI 02886 Phone: (401) 736-5680 Fax: _____ Date: September 14, 2023</p>										
<p>Registration: JONATHAN A. FORD No. B784 REGISTERED PROFESSIONAL ENGINEER (CIVIL)</p>	<p>Project Number: 20047 Sheet: 4 of 7</p>										
<p>Sheet Number: C - 4</p>											

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ZONING REQUIREMENTS			
TOWN: Middletown			
ZONING DISTRICT: Public (P)			
	REQUIRED	EXISTING	PROVIDED
LOT SIZE AND COVERAGE			
MINIMUM LOT SIZE (sf):	-	276,305	276,305
MAXIMUM LOT COVERAGE (%):	-	7%	11%
DIMENSIONAL			
MINIMUM LOT FRONTAGE (feet):	-		
FRONT YARD SETBACK (feet):	-	33	33
REAR YARD SETBACK (feet):	-	234	84
SIDE YARD SETBACK (feet):	-	21	21
CORNER SIDE YARD SETBACK (feet):	-	-	-
BUILDING HEIGHT (feet):	-	-	-
PARKING			
1 space per dwelling for Senior Living Facilities, 1 space per 5 persons per fire code occupancy for Senior Center, 12 employee parking spots (Middletown Zoning Requirements, section 1304)			
The Senior Center has a total occupancy of 220 people and 3 offices w/ a maximum of 4 per office.		220 ppl / 15 ppl/space = 44 spaces 1 space / employee = 12 spaces of 4 per office.	
		30 Dwelling Units x 1 space/unit = 30 spaces	
TOTAL PARKING SPACES:	86	69	72
ADA ACCESSIBLE SPACES:	N/A	-	6
MINIMUM PARKING DIMENSIONS:	9x18'	-	9x18'
Additional parking spaces provided for baseball field			34

Revisions	Date	By	Appr.	Description

Horsley Witten Group, Inc.
 Sustainable Environmental Solutions
 80 Route 6A
 Sandwich, MA 02563
 508-833-6600 voice
 508-833-3150 fax

Town: OCTOBER 2023
 Designer: JK
 Domain: JK
 Checker: JK

MASTER PLAN APPLICATION
650 GREEN END AVENUE
MIDDLETOWN, RHODE ISLAND

Plan Set:
 Plan Title:

Prepared For:
Town of Middletown
 350 East Main Road
 Middletown, RI 02842
 Phone: ---
 Fax: ---

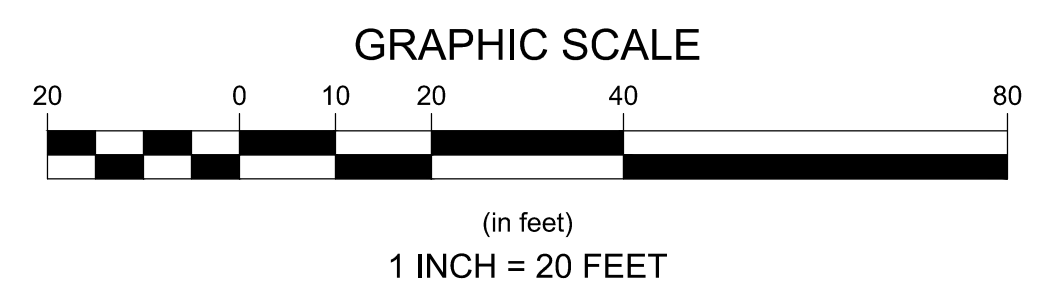
Survey Provided By:
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 151 Centerville Road
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 Phone: (401) 736-5680
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Registration:
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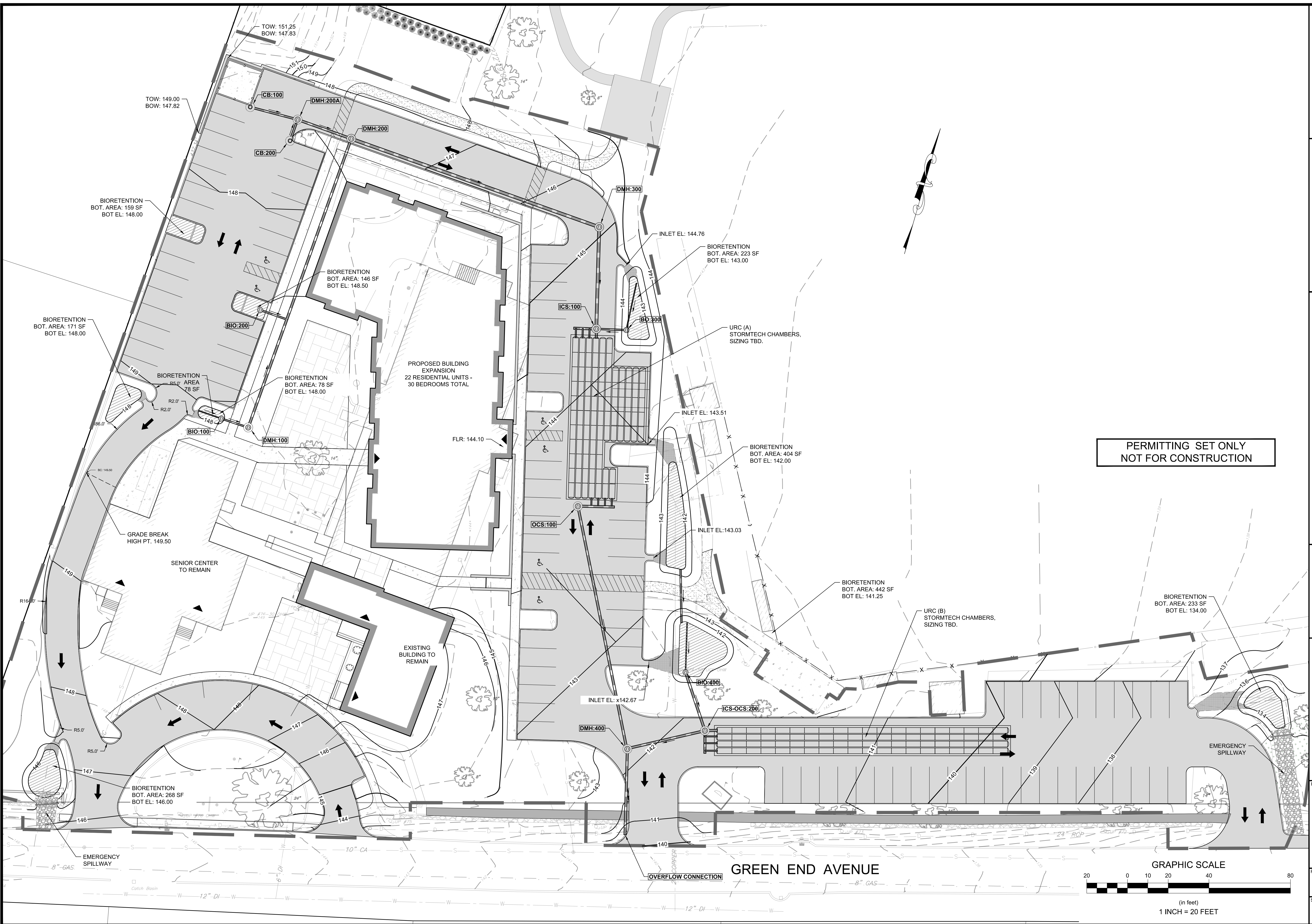
Project Number: 20047
 Sheet: 5 of 7
 Sheet Number: C-5

GREEN END AVENUE

PERMITTING SET ONLY
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Rev	Date	By	Appr	Description
1				
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Horsley Witten Group, Inc.
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 80 Route 6A
 Sandwich, MA 02563
 508-833-6600 voice
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Drawn By: JK
 Design By: JK
 Checked By: JK
 Date: OCTOBER 2023

MASTER PLAN APPLICATION
 650 GREEN END AVENUE
 MIDDLETOWN, RHODE ISLAND

Plan Set: _____
 Plan Title: **GRADING & DRAINAGE PLAN**

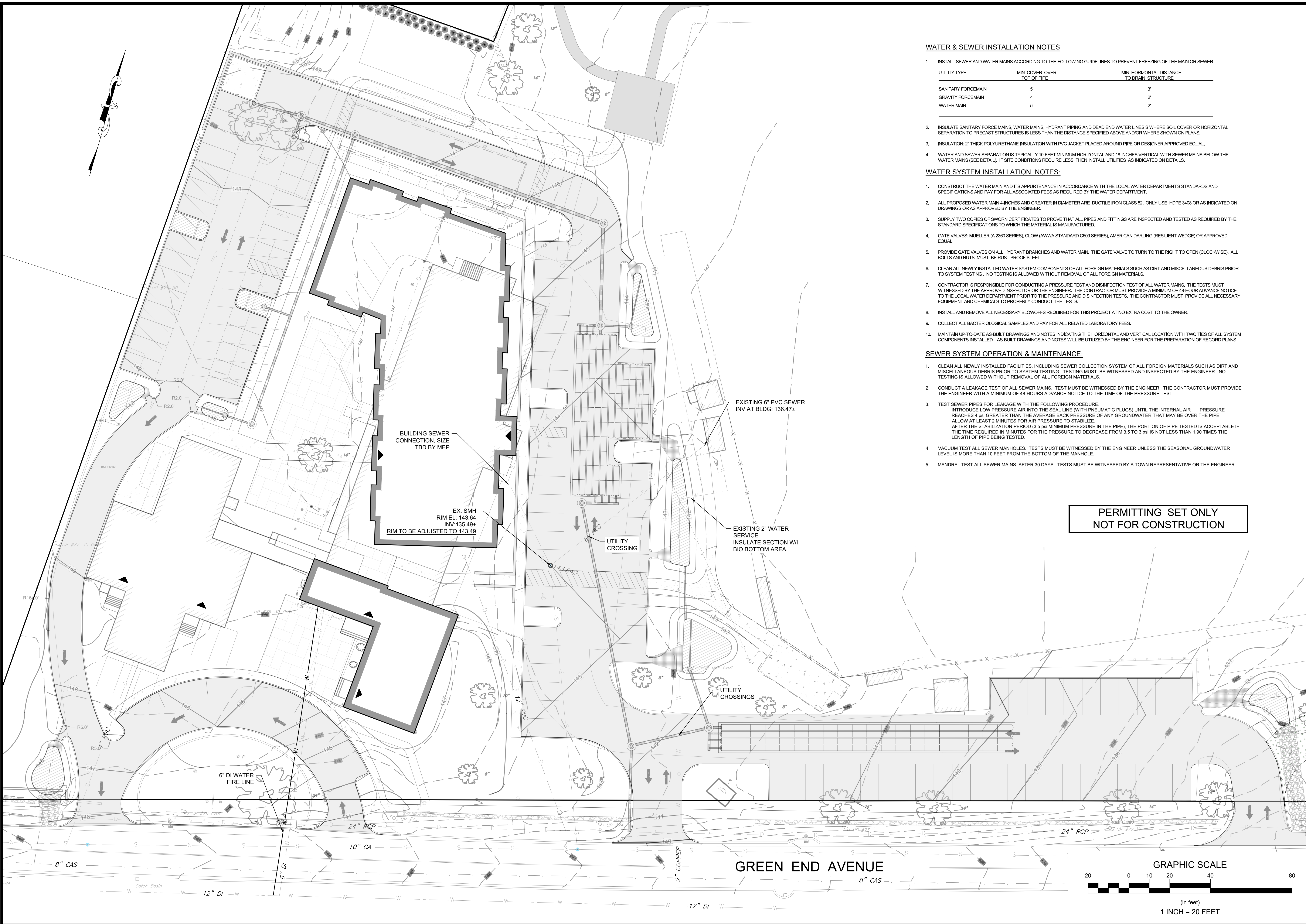
Prepared For:
Town of Middletown
 350 East Main Road
 Middletown, RI 02842
 Phone: _____
 Fax: _____

Survey Provided By:
CROSSMAN ENGINEERING
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 Warwick, RI 02886
 Phone: (401) 736-5660
 Fax: _____
 Date: September 14, 2023

Registration:
JONATHAN A. FORD
 No. 8784
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)

Project Number: 20047
 Sheet: 6 of 7
 Sheet Number: C-6

last modified: 10/11/23 printed: 11/01/23 by jk H:\Projects\2020\20047 Berkeley-Peckham School Field\Drawings\20047-UT.dwg



WATER & SEWER INSTALLATION NOTES

UTILITY TYPE	MIN. COVER OVER TOP OF PIPE	MIN. HORIZONTAL DISTANCE TO DRAIN STRUCTURE
SANITARY FORCE MAIN	5'	3'
GRAVITY FORCE MAIN	4'	2'
WATER MAIN	5'	2'

- INSTALL SEWER AND WATER MAINS ACCORDING TO THE FOLLOWING GUIDELINES TO PREVENT FREEZING OF THE MAIN OR SEWER:
- INSULATE SANITARY FORCE MAINS, WATER MAINS, HYDRANT PIPING AND DEAD END WATER LINES WHERE SOIL COVER OR HORIZONTAL SEPARATION TO PRECAST STRUCTURES IS LESS THAN THE DISTANCE SPECIFIED ABOVE AND/OR WHERE SHOWN ON PLANS.
- INSULATION: 2" THICK POLYURETHANE INSULATION WITH PVC JACKET PLACED AROUND PIPE OR DESIGNER APPROVED EQUAL.
- WATER AND SEWER SEPARATION IS TYPICALLY 10-FOOT MINIMUM HORIZONTAL AND 18-INCHES VERTICAL WITH SEWER MAINS BELOW THE WATER MAINS (SEE DETAIL). IF SITE CONDITIONS REQUIRE LESS, THEN INSTALL UTILITIES AS INDICATED ON DETAILS.

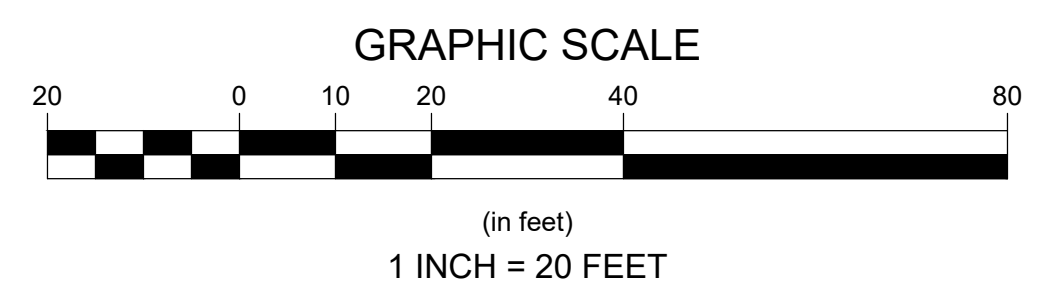
WATER SYSTEM INSTALLATION NOTES:

- CONSTRUCT THE WATER MAIN AND ITS APPURTENANCE IN ACCORDANCE WITH THE LOCAL WATER DEPARTMENT'S STANDARDS AND SPECIFICATIONS AND PAY FOR ALL ASSOCIATED FEES AS REQUIRED BY THE WATER DEPARTMENT.
- ALL PROPOSED WATER MAIN 4-INCHES AND GREATER IN DIAMETER ARE DUCTILE IRON CLASS 52. ONLY USE HDPE 3408 OR AS INDICATED ON DRAWINGS OR AS APPROVED BY THE ENGINEER.
- SUPPLY TWO COPIES OF SWRM CERTIFICATES TO PROVE THAT ALL PIPES AND FITTINGS ARE INSPECTED AND TESTED AS REQUIRED BY THE STANDARD SPECIFICATIONS TO WHICH THE MATERIAL IS MANUFACTURED.
- GATE VALVES: MUELLER (A 2360 SERIES), CLOW (AWWA STANDARD C509 SERIES), AMERICAN DARLING (RESILIENT WEDGE) OR APPROVED EQUAL.
- PROVIDE GATE VALVES ON ALL HYDRANT BRANCHES AND WATER MAIN. THE GATE VALVE TO TURN TO THE RIGHT TO OPEN (CLOCKWISE). ALL BOLTS AND NUTS MUST BE RUST PROOF STEEL.
- CLEAR ALL NEWLY INSTALLED WATER SYSTEM COMPONENTS OF ALL FOREIGN MATERIALS SUCH AS DIRT AND MISCELLANEOUS DEBRIS PRIOR TO SYSTEM TESTING. NO TESTING IS ALLOWED WITHOUT REMOVAL OF ALL FOREIGN MATERIALS.
- CONTRACTOR IS RESPONSIBLE FOR CONDUCTING A PRESSURE TEST AND DISINFECTION TEST OF ALL WATER MAINS. THE TESTS MUST BE WITNESSED BY THE APPROVED INSPECTOR OR THE ENGINEER. THE CONTRACTOR MUST PROVIDE A MINIMUM OF 48-HOUR ADVANCE NOTICE TO THE LOCAL WATER DEPARTMENT PRIOR TO THE PRESSURE AND DISINFECTION TESTS. THE CONTRACTOR MUST PROVIDE ALL NECESSARY EQUIPMENT AND CHEMICALS TO PROPERLY CONDUCT THE TESTS.
- INSTALL AND REMOVE ALL NECESSARY BLOWOFFS REQUIRED FOR THIS PROJECT AT NO EXTRA COST TO THE OWNER.
- COLLECT ALL BACTERIOLOGICAL SAMPLES AND PAY FOR ALL RELATED LABORATORY FEES.
- MAINTAIN UP-TO-DATE AS-BUILT DRAWINGS AND NOTES INDICATING THE HORIZONTAL AND VERTICAL LOCATION WITH TWO TIES OF ALL SYSTEM COMPONENTS INSTALLED. AS-BUILT DRAWINGS AND NOTES WILL BE UTILIZED BY THE ENGINEER FOR THE PREPARATION OF RECORD PLANS.

SEWER SYSTEM OPERATION & MAINTENANCE:

- CLEAN ALL NEWLY INSTALLED FACILITIES, INCLUDING SEWER COLLECTION SYSTEM OF ALL FOREIGN MATERIALS SUCH AS DIRT AND MISCELLANEOUS DEBRIS PRIOR TO SYSTEM TESTING. TESTING MUST BE WITNESSED AND INSPECTED BY THE ENGINEER. NO TESTING IS ALLOWED WITHOUT REMOVAL OF ALL FOREIGN MATERIALS.
- CONDUCT A LEAKAGE TEST OF ALL SEWER MAINS. TEST MUST BE WITNESSED BY THE ENGINEER. THE CONTRACTOR MUST PROVIDE THE ENGINEER WITH A MINIMUM OF 48-HOURS ADVANCE NOTICE TO THE TIME OF THE PRESSURE TEST.
- TEST SEWER PIPES FOR LEAKAGE WITH THE FOLLOWING PROCEDURE:
INTRODUCE LOW PRESSURE AIR INTO THE SEAL LINE (WITH PNEUMATIC PLUGS) UNTIL THE INTERNAL AIR PRESSURE REACHES 4 PSI GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY BE OVER THE PIPE.
ALLOW AT LEAST 2 MINUTES FOR AIR PRESSURE TO STABILIZE.
AFTER THE STABILIZATION PERIOD (3.5 PSI MINIMUM PRESSURE IN THE PIPE), THE PORTION OF PIPE TESTED IS ACCEPTABLE IF THE TIME REQUIRED IN MINUTES FOR THE PRESSURE TO DECREASE FROM 3.5 TO 3 PSI IS NOT LESS THAN 1.90 TIMES THE LENGTH OF PIPE BEING TESTED.
- VACUUM TEST ALL SEWER MANHOLES. TESTS MUST BE WITNESSED BY THE ENGINEER UNLESS THE SEASONAL GROUNDWATER LEVEL IS MORE THAN 10 FEET FROM THE BOTTOM OF THE MANHOLE.
- MANDREL TEST ALL SEWER MAINS AFTER 30 DAYS. TESTS MUST BE WITNESSED BY A TOWN REPRESENTATIVE OR THE ENGINEER.

**PERMITTING SET ONLY
NOT FOR CONSTRUCTION**



Revisions

Rev	Date	By	Appr	Description
1				
2				
3				
4				
5				

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Checked By: JJK
Drawn By: JJK
Designed By: JJK
Date: OCTOBER 2023

MASTER PLAN APPLICATION
650 GREEN END AVENUE
MIDDLETOWN, RHODE ISLAND

UTILITY PLAN

Plan Set

Prepared For:
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Middletown, RI 02842
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Survey Provided By:
CROSSMAN ENGINEERING
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Warwick, RI 02886
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Date: September 14, 2023

Registration:

Project Number: 20047 Sheet: 7 of 7

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