

**SITE IMPROVEMENT PLANS FOR A PROPOSED
5,250 SQ. FT. COMMERCIAL BUILDING
CONSISTING OF FIVE (5) INDUSTRIAL / COMMERCIAL FLEX SPACE UNITS**

**356 FARNUM PIKE
SMITHFIELD, RHODE ISLAND
AP 49 , LOT 134**

ZONING DISTRICT: (I) INDUSTRIAL



IMAGE COURTESY OF DIANE C. SOULE & ASSOCIATES, DATED MAY, 2022

APPROVALS:

TOWN OF SMITHFIELD ZONING BOARD OF REVIEW FOR A SPECIAL USE PERMIT AND DIMENSIONAL RELIEF (APRIL 6, 2022; CONT. MAY 11, 2022)

FILINGS:

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT - PRELIMINARY DETERMINATION (WETLANDS APPLICATION #22-0398)

RHODE ISLAND DEPARTMENT OF TRANSPORTATION - PHYSICAL ALTERATION PERMIT

SMITHFIELD TOWN ENGINEER - SOIL EROSION PERMIT

TOWN OF SMITHFIELD SEWER AUTHORITY

SMITHFIELD WATER SUPPLY BOARD

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAY 22 2023 FILE #: 22-0398
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

PROPOSED COMMERCIAL BUILDING
356 FARNUM PIKE
SMITHFIELD, RHODE ISLAND
AP 49, LOT 134

RI Environmental Management
APR 14 2023
Office of Water Resources

REVISIONS:

NO.	DATE	DESCRIPTION
1	4/2023	RIDEM RTC

DESIGNED BY: WMLJR
DRAWN BY: SEP/SD
CHECKED BY: JAC
DATE: JUNE 2022
PROJECT NO: 21-12a

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

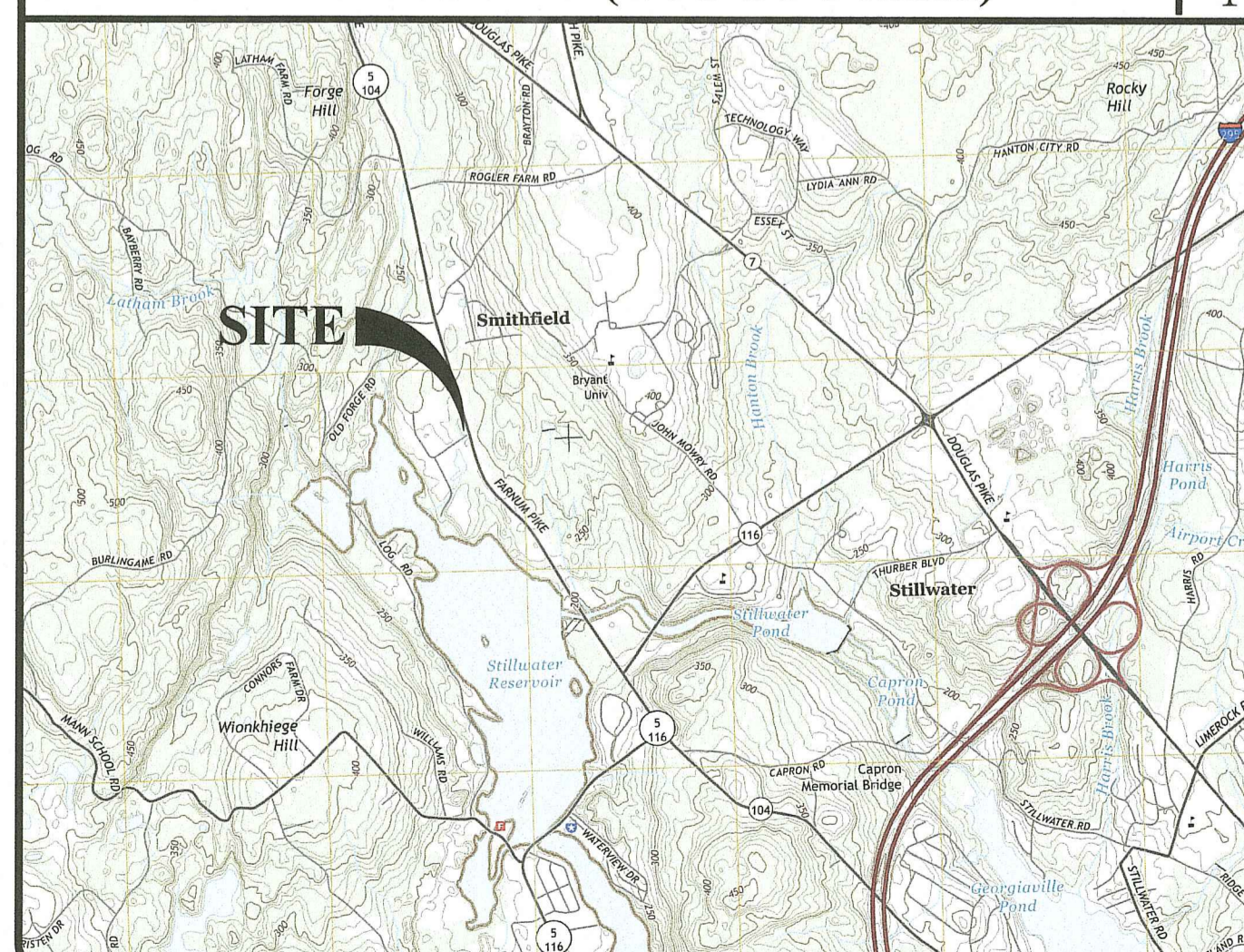
COVER SHEET

SHEET 1 OF 8

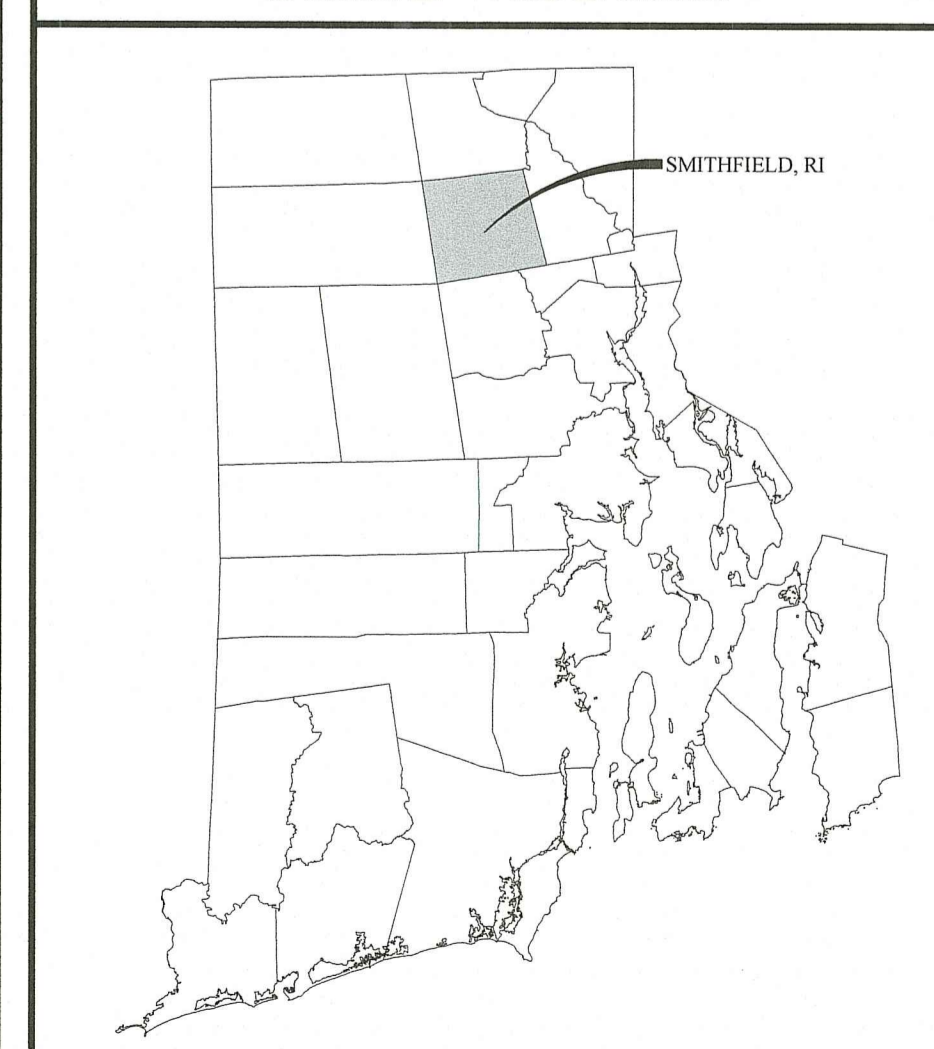
PROJECT TEAM

OWNER/ APPLICANT:	B & F ASSOCIATES 126 LOG ROAD SMITHFIELD, RI 02917 PHONE: 401-231-0007	CIVIL ENGINEER:	JOE CASALI ENGINEERING, INC. 300 POST ROAD WARWICK, RI 02888 PHONE: 401-944-1300 FAX: 401-944-1313
WETLAND BIOLOGIST:	NATURAL RESOURCE SERVICES, INC. P.O. BOX 311 HARRISVILLE, RI 02830 PHONE: 401-568-7390 FAX: 401-568-7490	SURVEYOR:	KELLY LAND SERVICES, INC. P.O. BOX 278 GREENVILLE, RI 02828 PHONE: 401-232-2620
		LANDSCAPE ARCHITECT:	DIANE C. SOULE & ASSOCIATES, ASLA 422 FARNUM PILE SMITHFIELD, RI 02917 PHONE: 401-231-0736

LOCUS MAP (NOT TO SCALE)



STATE WIDE MAP



INDEX OF DRAWINGS

SHEET NO.	PLAN
1	COVER SHEET
2	GENERAL NOTES AND LEGEND
3	EXISTING CONDITIONS & SITE PREPARATION PLAN
4	SITE & UTILITY PLAN
5	GRADING & DRAINAGE PLAN
6	RHODE ISLAND STANDARD DETAILS
7	SITE DETAILS
8	DRAINAGE DETAILS
R1	EXISTING CONDITIONS PLAN, PREPARED BY KELLY LAND SERVICES, INC., DATED NOVEMBER 5, 2021

GENERAL NOTES:

- 1. CLASS I COMPREHENSIVE BOUNDARY SURVEY AND CLASS III TOPOGRAPHIC SURVEY PROVIDED BY KELLY LAND SERVICES, INC., P.O. BOX 278, GREENVILLE, RI 02828 IN NOVEMBER 2021.
2. THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATEST AVAILABLE INFORMATION.
3. THE ENTIRE PROJECT SITE LIES WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD), AS SHOWN ON THE FIRM MAPS FOR PROVIDENCE COUNTY, COMMUNITY PANEL NUMBER 44007C0166H, EFFECTIVE OCTOBER 2, 2015.
4. FRESHWATER WETLANDS SHOWN HEREIN WERE DELINEATED ON MARCH 4, 2021 BY NATURAL RESOURCE SERVICES, INC., OF SMITHFIELD, RI.
5. SOILS EXISTING ON THE SITE CONSIST OF MERRIMAC FINE SANDY LOAM, 3-8% SLOPES (Mmb), AND RIDGEBURY LEICESTER, AND WHITMAN SOILS, 0 TO 8 PERCENT SLOPES, EXTREMELY STONY (Rf). TEST PIT EVALUATIONS WERE PERFORMED BY JOE CASALI ENGINEERING, INC. IN MARCH 2021.
6. THERE ARE NO KNOWN HIGH HAZARD AREAS ON THE PROJECT SITE.
7. THE PROPOSED DEVELOPMENT IS LOCATED WITHIN THE WOONASQUATUCKET RIVER WATERSHED.
8. THERE IS A 30-FOOT WIDE STORMWATER DRAIN EASEMENT CENTERED ON THE WESTERN PROPERTY LINE, WITH 15-FEET LOCATED ON THE SUBJECT PROPERTY.
9. TELEPHONE, ELECTRIC, SEWER, GAS, AND WATER SERVICES ARE ALL AVAILABLE FROM WITHIN EITHER INDUSTRIAL DRIVE OR FARNUM PIKE.

SITE NOTES:

- 1. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) OF ALL MATERIALS INDICATED ON THE PLANS.
2. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS, AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICAN WITH DISABILITIES ACT AND WITH ALL APPLICABLE STATE AND LOCAL LAWS AND REGULATIONS, WHICHEVER IS MORE STRINGENT.
3. STOCKPILES OF EARTH MATERIALS SHALL NOT BE LOCATED ADJACENT TO DRAINAGE STRUCTURES.
4. ALL DISTURBED AREAS OUTSIDE OF THE PAVED AREAS WILL RECEIVE A MINIMUM OF 6" OF LOAM AND SEED.
5. THE LAYOUT SHOWN REPRESENTS A GRAPHICAL DESIGN, AND PRIOR TO THE CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL LAND SURVEYOR (PLS) REGISTERED IN THE STATE OF RHODE ISLAND TO SET AND VERIFY ALL LINES AND GRADES.
6. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SURVEY LAYOUT SERVICES FOR THE WORK AND SHALL SUBMIT "AS-BUILT" DRAWINGS OF ALL WORK, WHICH SHALL BE STAMPED AND CERTIFIED BY A RHODE ISLAND REGISTERED PROFESSIONAL LAND SURVEYOR.
7. ANY ITEM OF WORK NOT SPECIFICALLY INDICATED ON THE PLANS BUT IS REQUIRED FOR THE COMPLETE CONSTRUCTION OF THE PROJECT WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND INCLUDED IN THE CONTRACT BID PRICE.
8. REFER TO ARCHITECTURAL PLANS, STRUCTURAL PLANS, PLUMBING PLANS AND ELECTRICAL PLANS FOR ACTUAL SIZE OF THE PROPOSED BUILDINGS AND WORK WITHIN 5 FEET OF THE PROPOSED BUILDINGS.
9. WHERE NECESSARY TO REMOVE CURBS, CATCH BASINS OR DRAINS TO COMPLETE WORK, THE CONTRACTOR SHALL REPLACE SUCH ITEMS TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
10. ANY EXISTING PIPE OR UTILITY DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE OWNER.
11. THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION OR REPLACE TREES, SHRUBS, FENCES, SIGNS, GUARDRAILS, DRIVEWAYS, SIDEWALKS AND ANY OTHER OBJECT AFFECTED BY THIS OPERATION, UNLESS OTHERWISE NOTED ON THE SITE PLANS.
12. THE TOPS OF ALL VALVE BOXES AND CURB BOXES SHALL BE FLUSH WITH GROUND OR PAVEMENT SURFACE LEVEL AND PLUMB, UNLESS OTHERWISE DIRECTED.
13. ROADWAYS SHALL BE LEFT PASSABLE AT ALL TIMES. CLOSURE OF ROADWAY IS NOT PERMITTED.
14. WATER SERVICE SHALL BE MAINTAINED AT ALL TIMES.
15. LEDGE TO BE REMOVED BY MECHANICAL MEANS OR BY BLASTING.
16. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN THE DRY. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ALL PUMPS, DRAINS, WET POINTS, SCREENS, OR OTHER FACILITIES NECESSARY TO CONTROL, COLLECT AND DISPOSE OF ALL SURFACE AND SUBSURFACE WATER ENCOUNTERED IN THE PERFORMANCE OF THE WORK.
17. ALL SITE WORK, INCLUDING BUT NOT LIMITED TO, BITUMINOUS PAVEMENT, ROADWAY CONSTRUCTION, AGGREGATE MATERIALS, DRAINAGE STRUCTURES, CURBING, SIDEWALK, LANDSCAPING, SAW CUTTING, ETC. SHALL CONFORM TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, AMENDED DECEMBER 2010 (WITH LATEST ADDENDA) AND THE RIDOT STANDARD DETAILS, 1998 EDITION (WITH LATEST ADDENDA).

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING POLICE PROTECTION. ALL TEMPORARY AND VEHICULAR SIGNS, BARRICADES AND LANE CLOSURES SHALL BE IN CONFORMANCE WITH THE LATEST REVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION.
2. TEMPORARY CONSTRUCTION SIGNS AND ALL APPLICABLE TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC.
3. THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS SHALL NOT BE PARKED IN THE STATE OR TOWN RIGHT-OF-WAY.
4. ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS CHANNELING DEVICES, ETC, SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION.
5. SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE RIDOT SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- 1. THE SILT FENCE / HAY BALE LINE ILLUSTRATED ON THESE PLANS SHALL SERVE AS THE STRICT LIMIT OF DISTURBANCE FOR THE PROJECT WITHIN OR ADJACENT TO REGULATED FRESHWATER WETLAND AREAS.
2. THE LIMITS OF CLEARING, GRADING, AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THESE LIMITS, AS DEPICTED ON THE PLAN SHALL BE TOTALLY UNDISTURBED, TO REMAIN IN NATURAL CONDITION.
3. ALL CATCH BASINS AND CULVERTS SHALL BE PROTECTED WITH STAKED HAYBALES (R.I. STD. 9.8.0) DURING CONSTRUCTION ACTIVITIES. ALL PROPOSED STORM WATER DISCHARGE AREAS SHALL BE LINED WITH A RIPRAP SPLASH PAD AND PROTECTED WITH STAKED HAYBALE OUTLET PROTECTION (R.I. STD. 9.1.0), OR STAKED HAYBALE WITH SILT FENCE (R.I. STD. 9.2.0) OUTLET PROTECTION (STAKED HAYBALE OR STAKED HAYBALE WITH SILT FENCE) SHALL ALSO BE INSTALLED AT ALL EXISTING STORMWATER DISCHARGE LOCATIONS WHERE DISTRIBUTING PIPES, CATCH BASINS, AND MANHOLES ARE TO BE CLEANED AND FLUSHED.
4. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL REGULARLY CHECK ALL SEEDED AREAS TO ENSURE THAT A GOOD STANDING OF VEGETATION IS MAINTAINED.
5. ALL SILT FENCE, TEMPORARY TREATMENT (HAY, STRAW, ETC.) AND TEMPORARY EROSION PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
6. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES OF NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED PER CONTRACT SPECIFICATIONS.
7. THE SILT FENCE/HAYBALES SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY SILT FENCE/HAYBALES AS NEEDED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE HAY-BALES BECOMES FILLED WITH SEDIMENTS.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL SOIL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE FOR THE ENTIRE DURATION OF THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL FOLLOW THE DIRECTION OF THE RESIDENT ENGINEER, TOWN ENGINEER, OR OWNER WITH REGARD TO INSTALLATION, MAINTENANCE, AND REPAIR OF ALL SOIL EROSION AND SEDIMENTATION CONTROLS ON THE PROJECT SITE. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS (HAYBALES, SILT FENCE, ETC.) SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND/OR RESEEDING ALL AREAS THAT DO NOT DEVELOP WITHIN ONE YEAR FROM THE COMPLETION OF CONSTRUCTION.
9. ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "RHODE ISLAND EROSION AND SEDIMENTATION HANDBOOK", DATED 1993 AMENDED 2014.

MISCELLANEOUS UTILITY NOTES:

- 1. PRIOR TO CONSTRUCTION ALL POTENTIAL UTILITY/DRAINAGE CONFLICTS MUST BE IDENTIFIED BY THE CONTRACTOR. ANY MODIFICATIONS TO THE PROPOSED UTILITIES TO AVOID CONFLICTS MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
2. OVERHEAD ELECTRIC AND TELEPHONE SERVICES ARE TO BE REMOVED BY THE APPROPRIATE UTILITY COMPANY AND COORDINATED BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL AT ALL TIMES PROVIDE A SUFFICIENT NUMBER OF WORKMEN AND GUARDS AS MAY BE NECESSARY TO PROPERLY SAFEGUARD THE PUBLIC FROM THEIR OPERATIONS.
4. THE CONTRACTOR SHALL TAKE PRECAUTIONS AGAINST DAMAGING OF PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES AND SHALL PROMPTLY REPAIR AT THEIR OWN EXPENSE ANY DAMAGE TO SUCH PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES TO THE SATISFACTION OF THE OWNER OR TOWN. ALL GRASSED AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE LOAMED AND SEEDED.
5. EXISTING UTILITY FRAMES AND COVERS FOR SANITARY SEWER, WATER, GAS, STORM DRAINAGE AND OTHER UTILITIES SHALL BE ADJUSTED TO GRADE AS REQUIRED IN NEW PAVING AND PAVEMENT OVERLAY AREAS.
6. THE CONTRACTOR SHALL CONFINE HIS CONSTRUCTION OPERATIONS AND ACTIVITIES TO WITHIN THE STREET LINES, EASEMENT AND/OR RIGHT-OF-WAY, AS SHOWN ON THE DRAWINGS.

SEQUENCE & STAGING OF PROPOSED CONSTRUCTION ACTIVITIES:

THIS IS A GENERAL SEQUENCE AND STAGING OF CONSTRUCTION ACTIVITIES. A DETAILED SEQUENCE WITH TIME LINES SHALL BE ESTABLISHED BY THE CONTRACTOR IN COORDINATION WITH THE OWNER, ENGINEER AND SITE CONTRACTORS PRIOR TO THE START OF CONSTRUCTION.

- 1. SURVEY AND STAKE THE PROPOSED DRAINAGE BMP'S (RAIN GARDE, WATER QUALITY TRENCH AND UIC), ROADWAY CENTERLINE, WATER LINE, SEWER LINE AND LIMIT OF DISTURBANCE. THE CONTRACTOR SHALL NOT COMPACT THE AREAS OF THE DRAINAGE BMP'S DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL INSTALL CONSTRUCTION FENCE TO PROTECT BMP'S.
2. PLACE SEDIMENTATION BARRIERS (SILT FENCE/COMPOST SOCK) AS SHOWN ON THE PLANS AND AS STAKED OUT IN THE FIELD. IN NO CASE IS THE LIMIT OF WORK TO EXTEND BEYOND THE SEDIMENTATION BARRIERS.
3. BEGIN SITE WORK (CLEARING AND GRUBBING, EXCAVATING AND GRADING ETC.) TOPSOIL IS TO STRIPPED AND STOCKPILED WITHIN DISTURBANCE LIMITS. THE STOCKPILES ARE TO BE PROTECTED BY A ROW OF SEDIMENTATION BARRIERS. STOCKPILES TO BE COVERED OR TEMPORARILY SEEDED.
4. EXCAVATE AND CONSTRUCT STORMWATER MANAGEMENT AREAS AND ASSOCIATED EMBANKMENTS AS SHOWN ON THE PLANS. DIVERT ALL THE RUNOFF FROM DISTURBED AREAS TO THE PROPOSED STORMWATER STORAGE AREA.
5. INSTALL UTILITIES AND DRAINAGE INCLUDING DRAINAGE PIPE. IMMEDIATELY PLACE THE RIP-RAP AT THE DISCHARGE POINTS. SEED ALL DISTURBED AREAS.
6. BEGIN PAVEMENT AND PROPOSED GRADING. BRING ROADWAY TO SUBBASE GRADE WITH GRAVEL. SEED ALL DISTURBED AREAS.
7. BEGIN BUILDING CONSTRUCTION.
8. FINISH PAVEMENT CONSTRUCTION.
9. MAINTAIN SEDIMENT AND EROSIONS CONTROLS WHILE BUILDINGS ARE CONSTRUCTED.
10. FINISH LANDSCAPING AND PERMANENT STABILIZATION.
11. INSPECT AND REPAIR ALL DRAINAGE STRUCTURES INCLUDING DISCHARGE POINTS. REMOVE ANY DEBRIS (LEAVES, TREE LIMBS, BOULDERS, ETC.) FROM DRAINAGE INLETS AND OUTLETS. FLUSH ALL SEDIMENTS FROM DRAINAGE PIPES AND APPLY TOPSOIL TO PONDS.
12. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ONCE VEGETATION HAS BEEN ESTABLISHED TO ALL DISTURBED AREAS.

SEDIMENTATION CONTROL PROGRAM:

- 1. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING THE STORMWATER MANAGEMENT AREAS. THESE AREAS CANNOT BE USED AS SEDIMENT CONTROL DEVICES.
2. ALL DISTURBED AREAS SUBJECT TO EROSION TENDENCIES WHETHER THEY ARE NEWLY FILLED OR EXCAVATED, SHALL RECEIVE SUITABLE SLOPE PROTECTION.
3. ALL UPSLOPED AREAS ARE TO BE STABILIZED PRIOR TO CONNECTING TO THE STORMWATER FACILITIES.
4. DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF DURING STORMS AND PERIODS OF RAINFALL.
5. CONTRACTOR SHALL CONSTRUCT TEMPORARY BERMS/BARS/CHANNELS AS NECESSARY TO DIRECT FLOW TO TEMPORARY SEDIMENT TRAPS. BERM/BAR/CHANNEL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE RI SOIL EROSION AND SEDIMENT CONTROL HANDBOOK (2016).
6. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED PERIODICALLY AND AFTER PERIODS OF RAINFALL. SUCH DEVICES SHALL BE REPAIRED OR REPLACED AS NEEDED.
7. REFERENCE THE "RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK" ISSUED IN 1989 (REVISED 2014, UPDATED 2016).
8. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES OF NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED PER CONTRACT SPECIFICATIONS.
9. MATERIAL STOCKPILES SHALL BE ENCLOSED BY SILT FENCE (RI STD. 9.2.0).

LOAMING & SEEDING

SEEDING ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH SECTION L.02 SEEDING OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, 2010 EDITION (WITH LATEST ADDENDA), AND SHALL ALSO CONFORM TO THE FOLLOWING:

- 1. AFTER ROUGH GRADING IS COMPLETED, ALL DISTURBED AREAS AND AREAS LABELED AS 'LOAM AND SEED' ARE TO BE BROUGHT TO AN ELEVATION OF 6" BELOW THE PROPOSED FINISHED GRADE. SCARIFY THE SUBGRADE TO A DEPTH OF 12" WITH THE TEETH OF A BACKHOE OR A POWER RAKE TO RESULT IN AN UNCOMPACTED SUBSOIL. 6" OF GOOD QUALITY TOPSOIL IS TO BE APPLIED AND RAKED TO FINISHED GRADE.
2. THE TOPSOIL IS TO BE GOOD QUALITY LOAM, FERTILE AND FREE OF WEEDS, STICKS AND STONES OVER 3/4" IN SIZE AND OTHERWISE COMPLYING WITH SECTION M.18.01 OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, 2010 EDITION (WITH LATEST ADDENDA).
3. PRIOR TO SEEDING OR SODDING, FERTILIZE WITH 10-10-10 OR EQUIVALENT ANALYSIS. AT LEAST 40% OF THE FERTILIZER NITROGEN SHALL BE IN SLOW RELEASE FORM. INCORPORATE THE FERTILIZER INTO THE TOP 1-2" OF THE PLANTING SOIL. APPLY AT A RATE OF 8 LBS. PER 1000 SQUARE FEET.
4. APPLY LIME AT A RATE OF ONE TON PER ACRE AND UNIFORMLY INCORPORATE INTO THE TOP 1-2" OF TOPSOIL.
5. SEEDING
AFTER THE SEED BED IS PREPARED, SEED IS TO BE BROADCAST EVENLY OVER THE SURFACE AND WORKED INTO THE TOP 1" OF SOIL. SEED SHALL BE APPROVED URI #2 OR APPROVED EQUAL. APPLY AT A RATE OF 4-5 LBS. PER 1000 SQUARE FEET OR AS OTHERWISE DIRECTED BY THE MANUFACTURER.

URI #2 IMPROVED SEED MIX, % BY WEIGHT:

- 40% CREEPING RED FESCUE
20% IMPROVED PERENNIAL RYEGRASS
20% IMPROVED KENTUCKY BLUEGRASS
20% KENTUCKY BLUEGRASS

RECOMMENDED SEEDING DATES ARE APRIL 1 TO JUNE 15 AND AUGUST 15 TO OCTOBER 15. AT THE CONTRACTORS DISCRETION, SEED MAY BE APPLIED BY HYDROSEEDING RATHER THAN THE METHOD DESCRIBED ABOVE.

- 6. THE TOPSOIL IN THE SAND FILTER SHALL CONSIST OF 40% COMPOST AND 60% SAND (ASTM C-33) THE TOPSOIL SHALL ALSO HAVE AN ORGANIC CONTENT BETWEEN 8-10% AND THE PERCENT PASSING THE #200 SIEVE BETWEEN 2-5%. TYPICAL GRADATION OF THE TOP SOIL MIXTURE SHALL MEET THE FOLLOWING:

Table with 2 columns: SIEVE SIZE and PERCENT PASSING. Rows include 3/8", #4, #10, #40, #100, #200.

DRAINAGE SYSTEM NOTES:

- 1. THE PROPOSED DRAINAGE LINES SHALL BE ADS N-12 HDPE PIPE OR AN APPROVED EQUAL UNLESS OTHERWISE NOTED ON THE SITE PLANS.
2. ALL RIM ELEVATIONS SHOWN ARE APPROXIMATE AND ARE TO BE SET FLUSH WITH FINAL GRADES.

DRAINAGE SYSTEM MAINTENANCE SCHEDULE:

UPON PROJECT COMPLETION, THE PROPERTY OWNER OR ASSOCIATION SHALL ADHERE TO THE FOLLOWING MAINTENANCE PLAN AND SCHEDULE:

- 1. MANHOLES AND DRAIN LINES: AN INSPECTION MUST OCCUR ON AN ANNUAL BASIS BY QUALIFIED PERSONAL TO ENSURE PROPER OPERATION. THE INSPECTION SHOULD, AS A MINIMUM, CONCENTRATE ON THE FOLLOWING:
- DAMAGE TO GRATE/ COVERS
- EVIDENCE OF STANDING WATER
- DEBRIS REMOVAL
- STRUCTURAL ALIGNMENT/ INTEGRITY

ANY DEFICIENCY NOTED DURING THE INSPECTION WILL BE IMMEDIATELY REPAIRED OR REPLACED.

ORDER OF PROCEDURE:

- 1. SEDIMENT CONTROL DEVICES SHALL SET IN PLACE PRIOR TO THE START OF ANY CONSTRUCTION.
2. ALL EROSION AND SEDIMENTATION CONTROL STRUCTURES SHALL BE PERIODICALLY CLEANED AND MAINTAINED DURING THE CONSTRUCTION.
3. IF WORK PROGRESS IS INTERRUPTED AT ANY TIME, REFERENCE EROSION & SEDIMENTATION PROGRAMS FOR TEMPORARY CONTROL.
4. SPECIFIED PLANTINGS ARE TO TAKE PLACE IN EARLY SPRING (APRIL 1 THRU JUNE 15) OR EARLY FALL (SEPTEMBER 1 THRU OCTOBER 15) AND ARE TO BE MAINTAINED FOR A PERIOD OF ONE GROWING SEASON AND SHALL BE REPLACED IF NECESSARY.

BMP MAINTENANCE SCHEDULE:

- 1. ALL MAINTENANCE (INCLUDING CLEANING) REQUIRED DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL INCLUDE:
A. MEASURES NEEDED TO ENSURE THE PROPER OPERATION OF THE STORMWATER RUNOFF (DRAINAGE) AND WATER QUALITY CONTROL SYSTEMS TO INCLUDE INSPECTION, CLEANING AND REPAIRS ALL PIPES, INTAKE AND DISCHARGE STRUCTURES, CATCH BASIN SUMPS, AND MANHOLES.
B. INSPECTION OF ALL SLOPES, BERMS, AND OTHER CONTROL STRUCTURES FOR STRUCTURAL INTEGRITY/STABILITY AND EVIDENCE OF SOIL EROSION PROCESSES, AND MAINTENANCE OF THESE STRUCTURES IF NECESSARY. INSPECTIONS SHALL BE PERFORMED FOLLOWING ALL RAIN EVENTS OF 1/2 INCH RAINFALL OR MORE IN A 24-HOUR PERIOD, OR BI-MONTHLY IF NO RAINFALL EVENT OCCURS.
2. UPON COMPLETION OF THE PROJECT CONSTRUCTION, AND PRIOR TO VACATING THE SITE, THE CONTRACTOR SHALL CONDUCT A FINAL INSPECTION AND CLEANING OF THE DRAINAGE SYSTEM AND ALL ASSOCIATED STRUCTURES.
3. ALL INSTALLATION, CLEANING, AND MAINTENANCE OF THE STORMWATER DRAINAGE SYSTEM SHALL FOLLOW AT LEAST THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION MINIMUM STANDARDS, SECTION 212 AND SECTION 708. WHERE APPROPRIATE, PROCEDURES REGARDING THE DRAINAGE INSTALLATION, CLEANING, INSPECTION, AND MAINTENANCE OF THE STORMWATER DRAINAGE SYSTEM SHALL BE FOLLOWED AS OUTLINED IN THE "RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL" (RIDEM/RICRMC, 2010).
4. AFTER CONSTRUCTION, STORMWATER BMP'S SHALL BE INSPECTED AND MAINTAINED BY THE OLD COUNTY VILLAGE CONDOMINIUM ASSOCIATION AS FOLLOWS:

CATCH BASINS/ DRAIN LINES

- INSPECTIONS SHALL BE PERFORMED A MINIMUM OF 2 TIMES PER YEAR (SPRING/FALL). UNITS SHALL BE CLEANED WHENEVER THE DEPTH OF SEDIMENT IS GREATER THAN OR EQUAL TO 2-FEET (LESS THAN 2-FEET FROM THE BOTTOM OF PIPE). ALL REMOVED SEDIMENT SHALL BE TESTED TO DETERMINE POLLUTANT CONTENT AND SHALL BE REMOVED IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
- THE INLET GRATE SHALL NOT BE WELDED TO THE FRAME SO THAT THE SUMP CAN BE EASILY INSPECTED AND MAINTAINED.

ROOF DRAIN LEADERS

- PERFORM ROUTINE ROOF INSPECTIONS QUARTERLY.
- KEEP ROOFS CLEAN AND FREE OF DEBRIS.
- KEEP ROOF DRAINAGE SYSTEMS CLEAR.

UNDERGROUND INFILTRATION SYSTEMS

- INFILTRATION SYSTEMS SHALL INITIALLY BE INSPECTED EVERY 6 MONTHS FOR THE FIRST YEAR, AND ANNUALLY AT MINIMUM THEREAFTER. FOR SUBSEQUENT YEARS, THE INSPECTION SHOULD BE ADJUSTED BASED UPON PREVIOUS OBSERVATION OF SEDIMENT DEPOSITION. THE SYSTEM SHALL BE INSPECTED FOLLOWING MAJOR RAIN EVENTS EXCEEDING THE 1-YEAR, 24-HOUR (TYPE III) RAINFALL EVENT (2.7 INCHES FOR PROVIDENCE COUNTY) TO ENSURE THAT THE SYSTEM IS FULLY DRAINING WITHIN THE REQUIRED 48 HOURS.
- THE INFILTRATION SYSTEM SHALL BE INSPECTED BI-ANNUALLY FOR SEDIMENT ACCUMULATIONS. IF THE SYSTEM HAS ACCUMULATED 3 INCHES OF SEDIMENT, THE SEDIMENT SHALL BE REMOVED BY FLUSHING FROM THE SYSTEM WITH HIGH PRESSURE WATER JETS AND AND VACUUMING THE SEDIMENT AND DEBRIS THROUGH THE ACCESS PORTS. ALL SEDIMENT REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL STATE AND FEDERAL REGULATIONS.

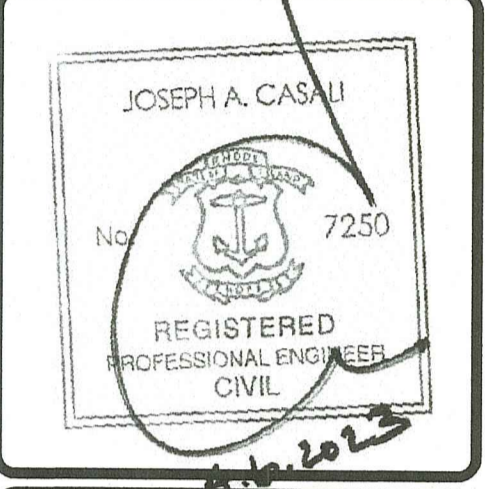
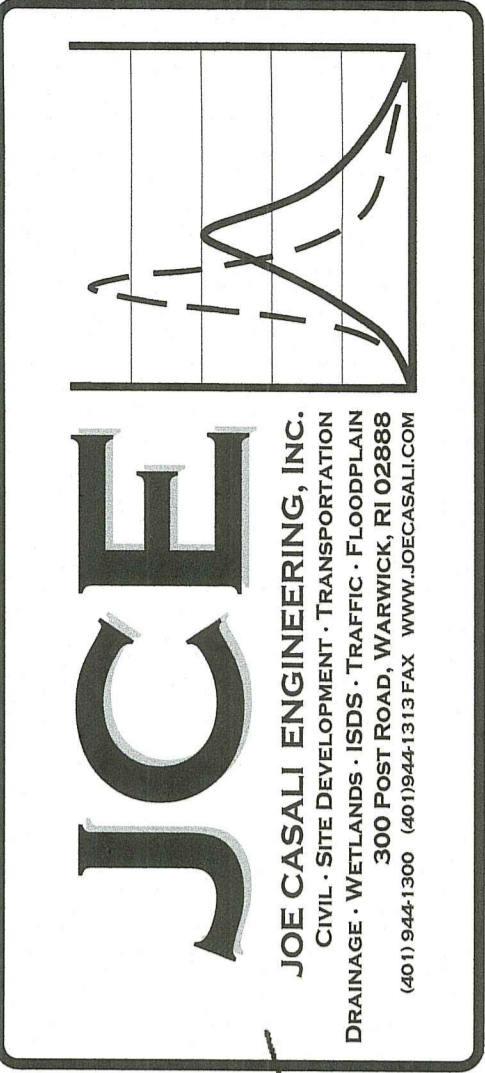
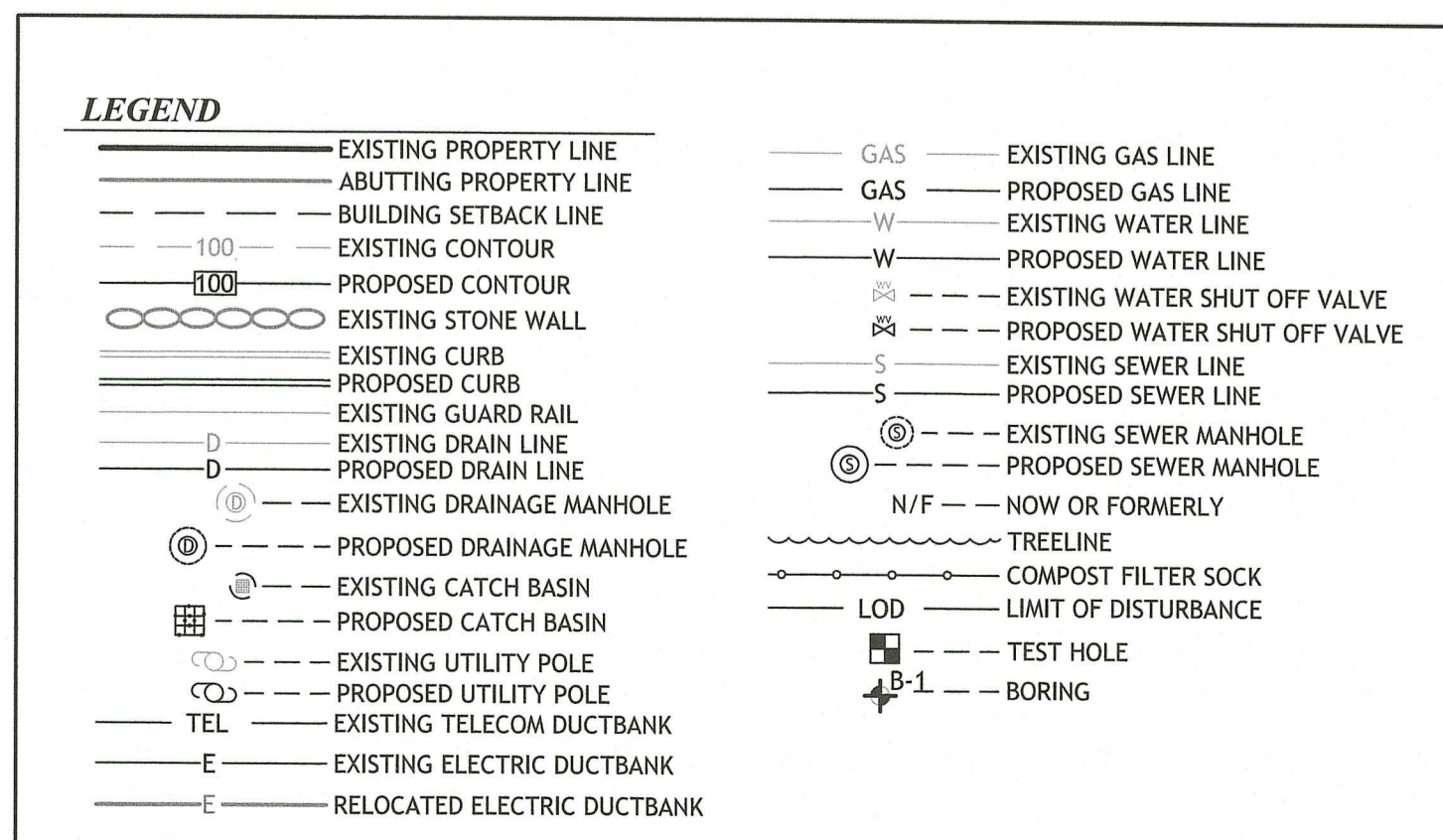
BIORETENTION BASIN:

- DURING THE FIRST SIX MONTHS IMMEDIATELY AFTER CONSTRUCTION, THE BIORETENTION BASIN SHALL BE INSPECTED AFTER THE FIRST TWO PRECIPITATION EVENTS OF AT LEAST 1.0 INCH TO ENSURE THAT THE SYSTEM IS FUNCTIONING PROPERLY. THEREAFTER, INSPECTIONS SHALL BE CONDUCTED ON AN ANNUAL BASIS AND AFTER STORM EVENTS GREATER THAN OR EQUAL TO 2 INCHES.
- SILTS/SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN ACCUMULATION EXCEEDS SIX INCHES, OR WHEN WATER PONDS ON THE SURFACE OF THE BASIN FOR MORE THAN 48 HOURS.
- SOIL EROSION OR REPLACEMENT OF WOODY VEGETATION SHALL OCCUR WHEN DEAD OR DYING VEGETATION IS OBSERVED.
- SOIL EROSION GULLIES SHALL BE REPAIRED AS THEY OCCUR.
- THE OUTLET DEVICES SHALL BE CLEANED/REPAIRED WHEN NECESSARY.
- TRASH AND DEBRIS SHALL BE REMOVED WHEN NECESSARY.
- FERTILIZER OR PESTICIDES SHALL NOT BE APPLIED TO PLANTS WITHIN THE BASIN.
- SNOW STORAGE IS PROHIBITED WITHIN THE BIORETENTION BASIN.

INFILTRATION TRENCHES

- AFTER CONSTRUCTION, THE INFILTRATION TRENCHES SHALL BE INSPECTED ON AN ANNUAL BASIS FOR SEDIMENT BUILDUP AND SEDIMENT SHALL BE REMOVED WHEN IT REACHES 25% OF THE TOTAL STORAGE VOLUME.
- LITTER AND DEBRIS SHALL BE REMOVED AND PROPERLY DISPOSED OF.
- VEGETATION ALONG THE SYSTEM SHOULD BE MOWED AS FREQUENTLY AS NEEDED TO MAINTAIN HEIGHTS BETWEEN 2 TO 3 INCHES.
- SNOW STORAGE IS PROHIBITED WITHIN INFILTRATION TRENCHES.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAY 2 2 2023 FILE #: 22-0398
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



PROPOSED COMMERCIAL BUILDING
356 FARNUM PIKE
SMITHFIELD, RHODE ISLAND
AP 49, LOT 134
RI Environmental Management
APR 14 2023
Office of Water Resources

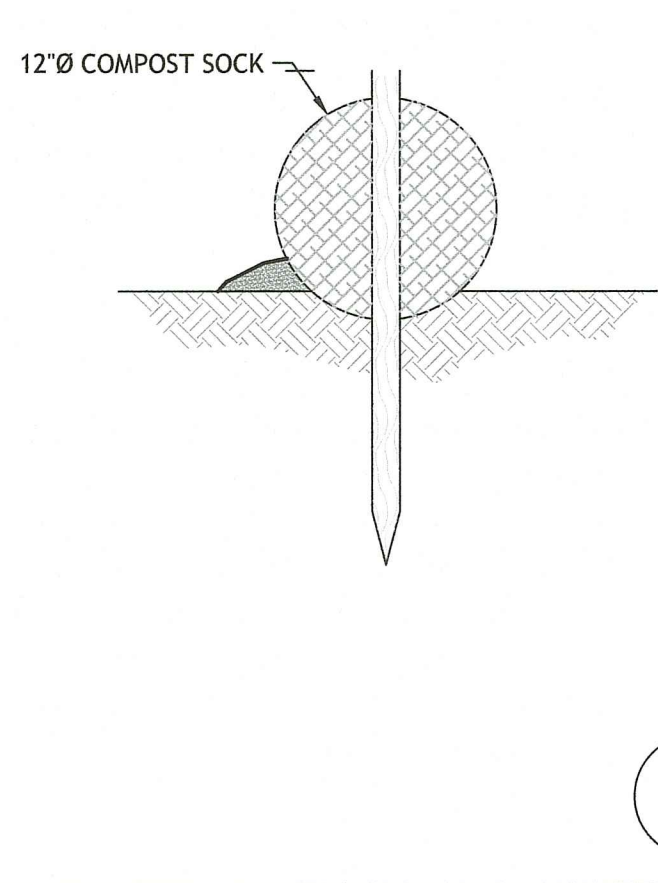
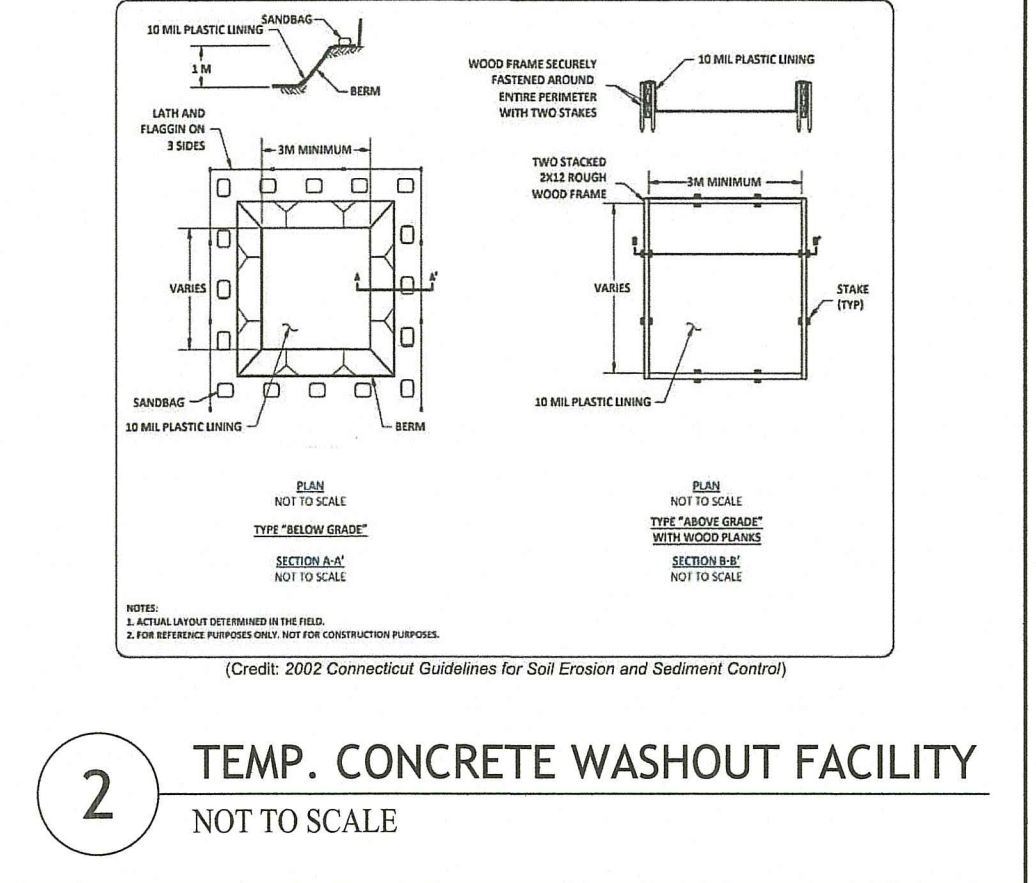
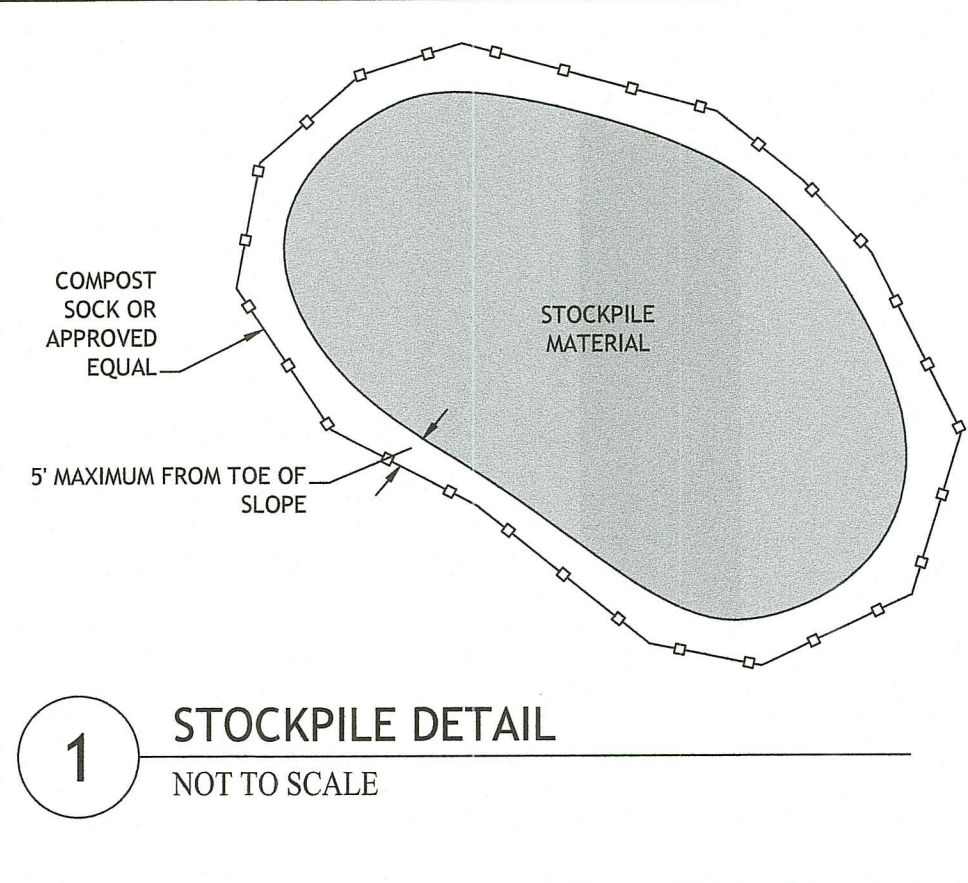
REVISIONS table with columns: NO., DATE, DESCRIPTION. Row 1: 4-2023, RIDEM RTC.

DESIGNED BY: WMLJR
DRAWN BY: SEP/SD
CHECKED BY: JAC
DATE: JUNE 2022
PROJECT NO: 21-12a

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GENERAL
NOTES &
LEGEND

SHEET
2 OF 8



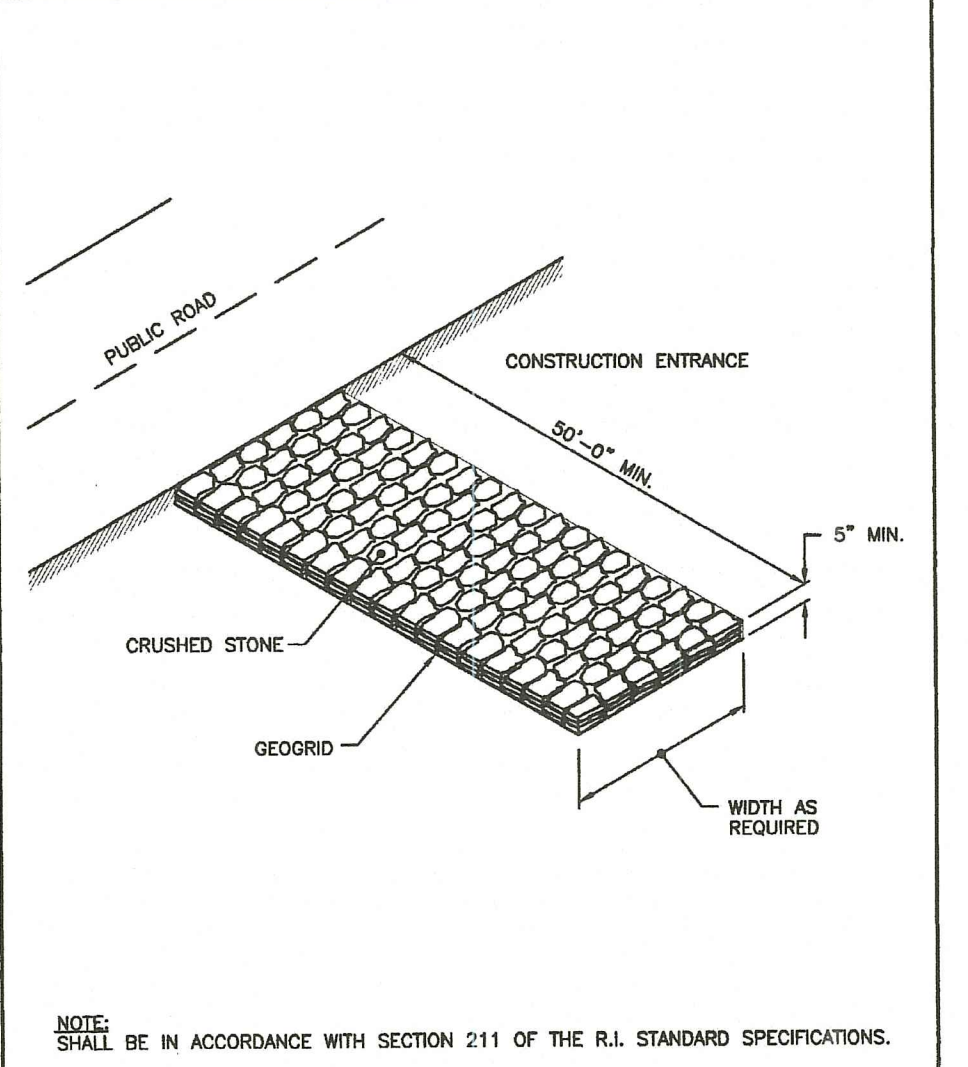
NOTES:

- BEGIN SOCK INSTALLATION BY EXCAVATING A 2 TO 3-INCH-DEEP BY 9" WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE OR ALONG THE EXISTING GROUND SURFACE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE OR ON THE DISTURBED SIDE OF THE ANCHOR TRENCH.
- PLACE SOCK IN THE TRENCH SUCH THAT IT CONTOURS TO THE EXISTING SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE SOCK ON THE UP-SLOPE OR DISTURBED SIDE. ADJACENT SOCKS SHOULD TIGHTLY ABUT.
- SECURE SOCK WITH 18 TO 24-INCH-LONG STAKES. INSTALL AN ADDITIONAL STAKE AT EACH END OF THE SOCK. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE SOCK LEAVING AT LEAST 2 TO 3 INCHES OF STAKE EXTENDING ABOVE. THE STAKES SHOULD BE DRIVEN PERPENDICULAR TO THE SLOPE FACE OR GROUND SURFACE.
- COMPOST FILTER SOCK SPACING BASED ON 12-INCH DIAMETER SOCK; SHOULD SMALLER OR LARGER DIAMETER SOCK BE USED, SPACING SHALL BE ADJUSTED BASED ON TABLE 2 (TO THE RIGHT).
- COMPOST FILTER SOCK INSTALLATION AND MAINTENANCE SHALL BE IN ACCORDANCE WITH THE RI SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, 2014.
- COMPOST FILTER SOCKS SHALL BE MAINTAINED UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED.

Slope %	Diameter of compost filter sock required			
	8-inch (200-mm)	12-inch (300-mm)	18-inch (450-mm)	24-inch (600-mm)
2 (or less)	300 (90)	375 (110)	500 (150)	650 (200)
5	200 (60)	250 (75)	275 (85)	325 (100)
10	100 (30)	125 (38)	150 (45)	200 (60)
15	70 (20)	85 (25)	100 (30)	150 (45)
20	60 (15)	65 (20)	70 (20)	130 (40)
25	40 (12)	50 (15)	55 (16)	100 (30)
30	30 (9)	40 (12)	45 (13)	65 (20)
35	30 (9)	40 (12)	45 (13)	55 (18)
40	30 (9)	40 (12)	45 (13)	50 (15)
45	20 (6)	25 (8)	30 (9)	40 (12)
50	20 (6)	25 (8)	30 (9)	35 (10)

FIGURE 2: RECOMMENDED SPACING AND DIAMETER REQUIREMENTS FOR COMPOST FILTER SOCKS

	SURFACE EL.	SHWT / EL.
TH-1	242.10	70' / 236.26
TH-2	242.26	70' / 236.42
TH-3	242.30	66' / 236.80



RHODE ISLAND DEPARTMENT OF TRANSPORTATION

CONSTRUCTION ACCESS

APPROVED: *[Signature]* JUNE 15, 1999

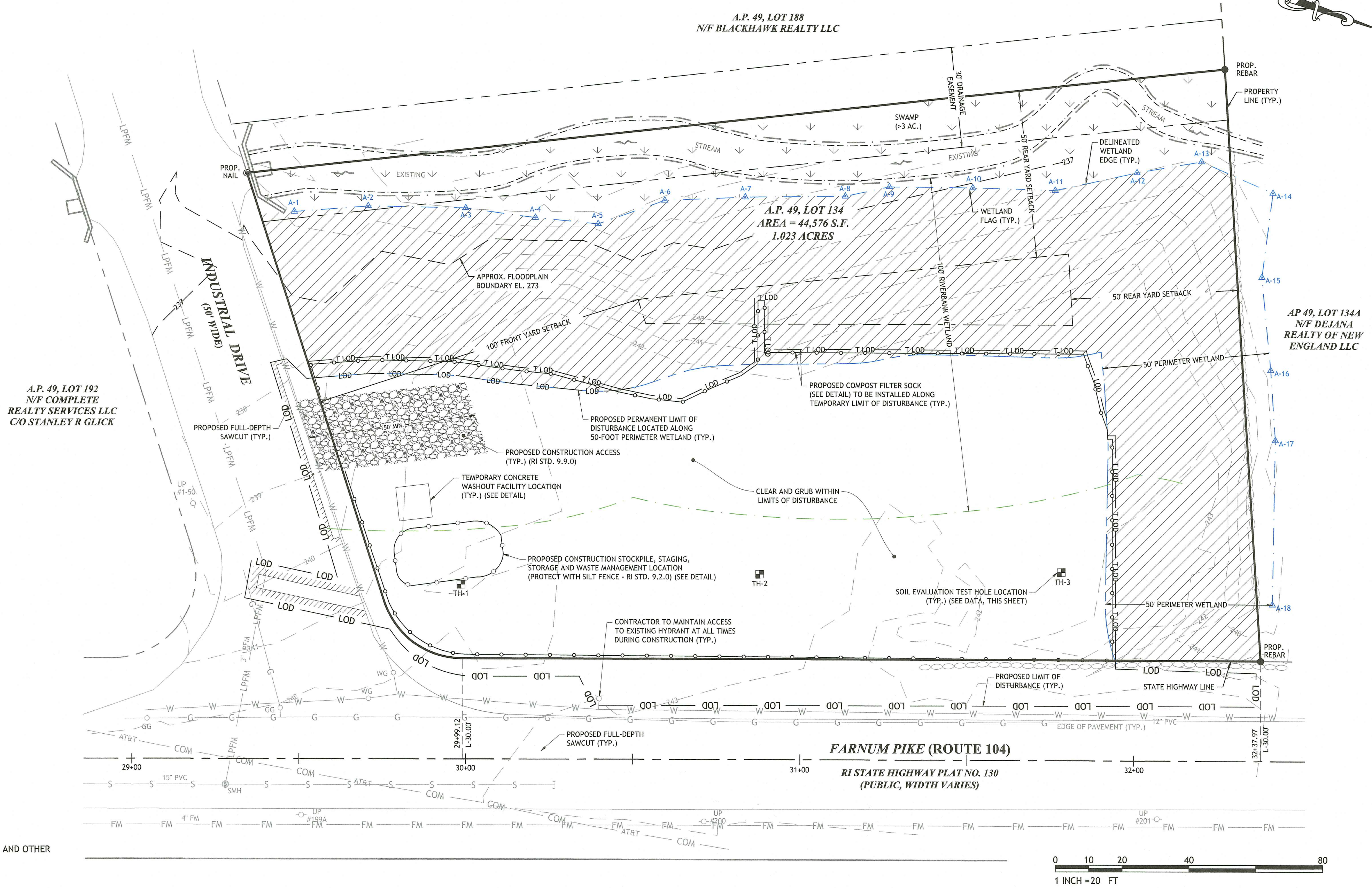
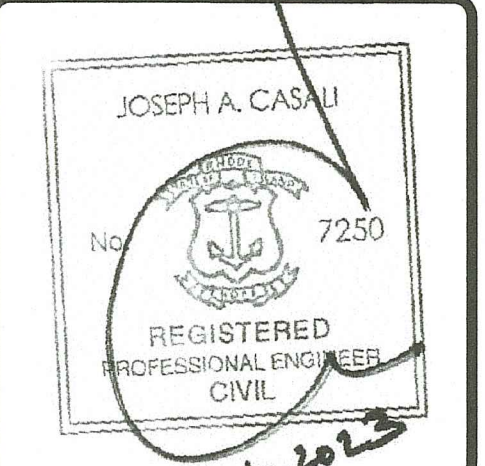
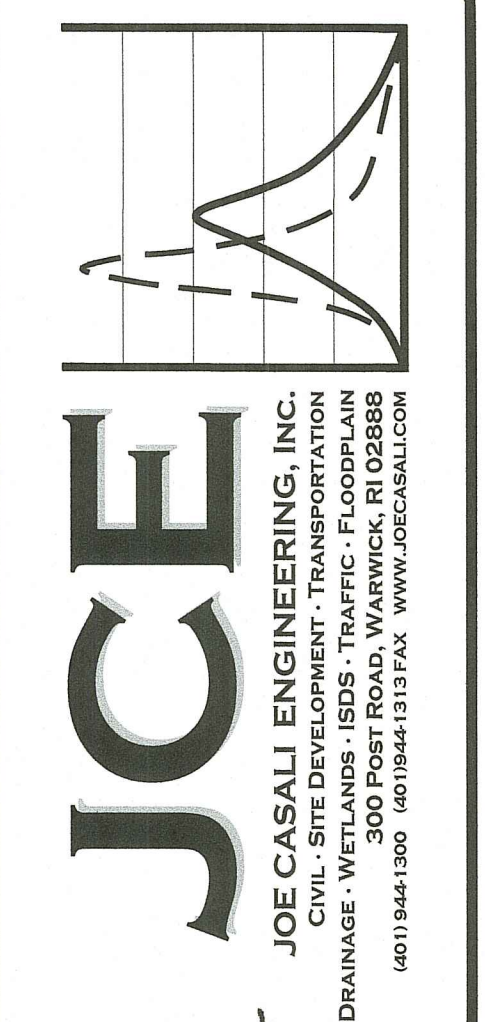
R.I. STANDARD 9.9.0

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATED: MAY 22 2023 FILE #: 22-0398

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
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ZONING DISTRICT	REQUIRED	EXISTING
ZONING DISTRICT	INDUSTRIAL	INDUSTRIAL
MINIMUM LOT AREA	200,000 SF	44,576 SF ⁽¹⁾
MINIMUM FRONTAGE AND LOT WIDTH	300 FT	133.92 FT ⁽¹⁾
MINIMUM FRONT YARD DEPTH	100 FT	N/A
MINIMUM SIDE YARD DEPTH	40 FT	N/A
MINIMUM REAR YARD DEPTH	50 FT	N/A
MAXIMUM LOT COVERAGE ⁽¹⁾	50%	N/A
MAXIMUM IMPERVIOUS SURFACE ⁽²⁾	N/A	N/A
MAXIMUM FLOOR AREA RATIO	0.5	N/A
MAXIMUM HEIGHT	48 FT	N/A

- NOTES:**
- LOT COVERAGE INCLUDES STRUCTURES ONLY.
 - IMPERVIOUS SURFACE INCLUDES STRUCTURES, PAVEMENT, SIDEWALKS, AND OTHER IMPERVIOUS SURFACES.
 - PRE-EXISTING, NON-CONFORMING CONDITION.

PROPOSED COMMERCIAL BUILDING
356 FARNUM PIKE
SMITHFIELD, RHODE ISLAND
AP 49, LOT 134

RI Environmental Management
APR 14 2023
Office of Water Resources

REVISIONS:

NO.	DATE	DESCRIPTION
1	4/2023	RIDEM RTC

DESIGNED BY: WMLJR
DRAWN BY: SEP/SD
CHECKED BY: JAC
DATE: JUNE 2022
PROJECT NO: 21-12a

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EXISTING
CONDITION
& SITE PREP.
PLAN

SHEET
3 OF 8

ZONING DISTRICT	REQUIRED	EXISTING	PROPOSED
ZONING DISTRICT	INDUSTRIAL	INDUSTRIAL	INDUSTRIAL
MINIMUM LOT AREA	200,000 SF	44,576 SF ⁽³⁾	44,576 SF ⁽³⁾
MINIMUM FRONTAGE AND LOT WIDTH	300 FT	133.92 FT ⁽³⁾	133.92 FT ⁽³⁾
MINIMUM FRONT YARD DEPTH	100 FT	N/A	10 FT
MINIMUM SIDE YARD DEPTH	40 FT	N/A	N/A
MINIMUM REAR YARD DEPTH	50 FT	N/A	50 FT
MAXIMUM LOT COVERAGE ⁽¹⁾	50%	N/A	11.78%
MAXIMUM IMPERVIOUS SURFACE ⁽²⁾	N/A	N/A	N/A
MAXIMUM FLOOR AREA RATIO	0.5	N/A	0.12
MAXIMUM HEIGHT	48 FT	N/A	<48 FT

- NOTES:
- LOT COVERAGE INCLUDES STRUCTURES ONLY.
 - IMPERVIOUS SURFACE INCLUDES STRUCTURES, PAVEMENT, SIDEWALKS, AND OTHER IMPERVIOUS SURFACES.
 - PRE-EXISTING, NON-CONFORMING CONDITION.

OFF-STREET PARKING SPACE REQUIREMENTS:

WHOLESALE ESTABLISHMENTS, MANUFACTURING, AND INDUSTRIAL DISTRICT USES

ONE (1) SPACE FOR EVERY 500 SF OF FLOOR AREA DEVOTED TO MANUFACTURING, COMPOUNDING, ASSEMBLING, OR PACKAGING OPERATIONS OR

ONE (1) SPACE PER EMPLOYEE ON THE MAXIMUM SHIFT, WHICHEVER IS GREATER

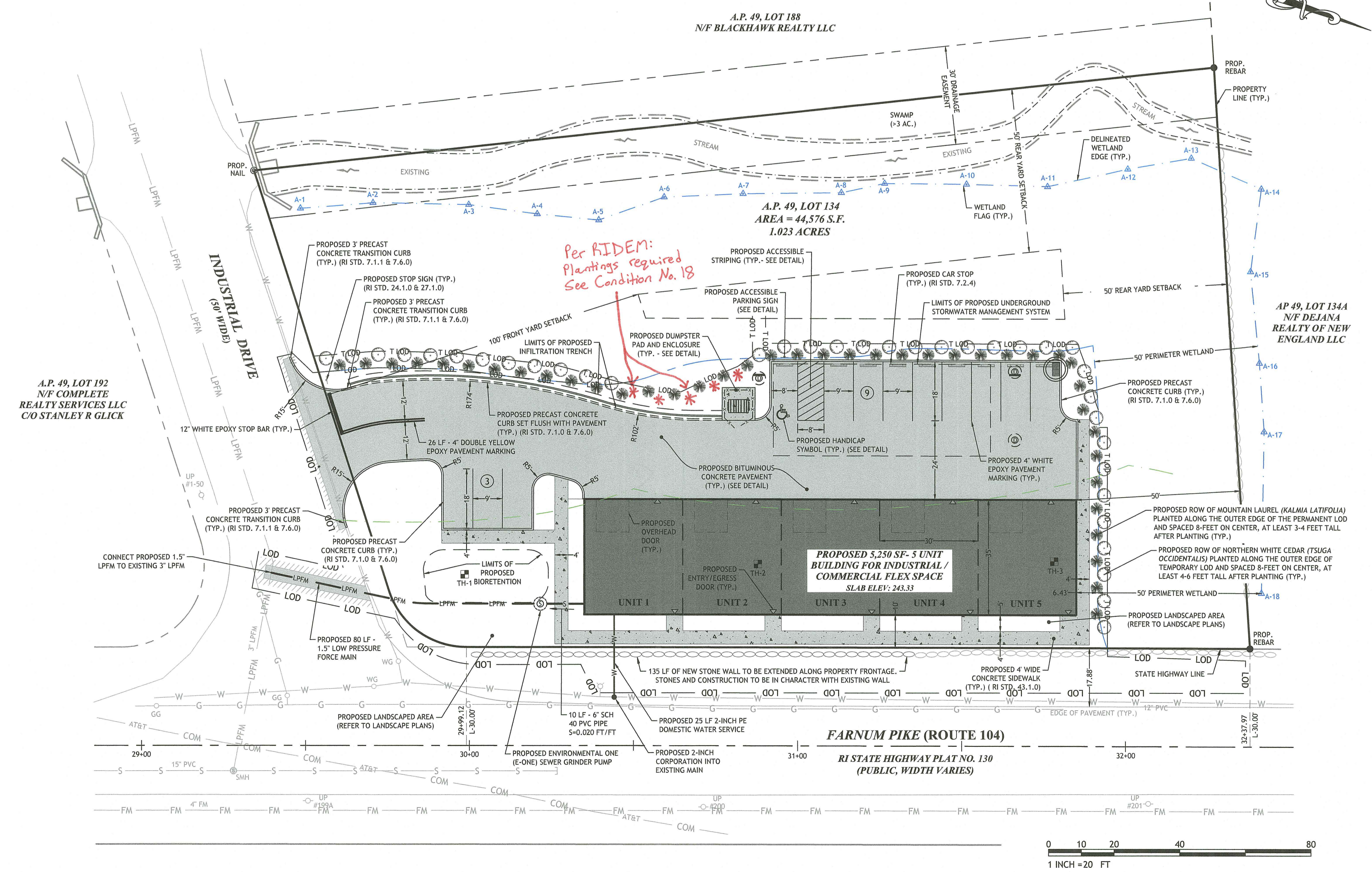
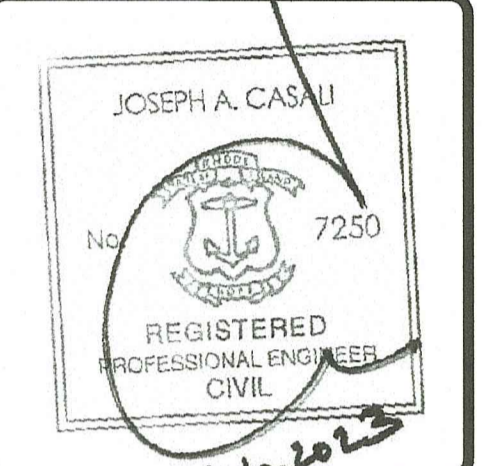
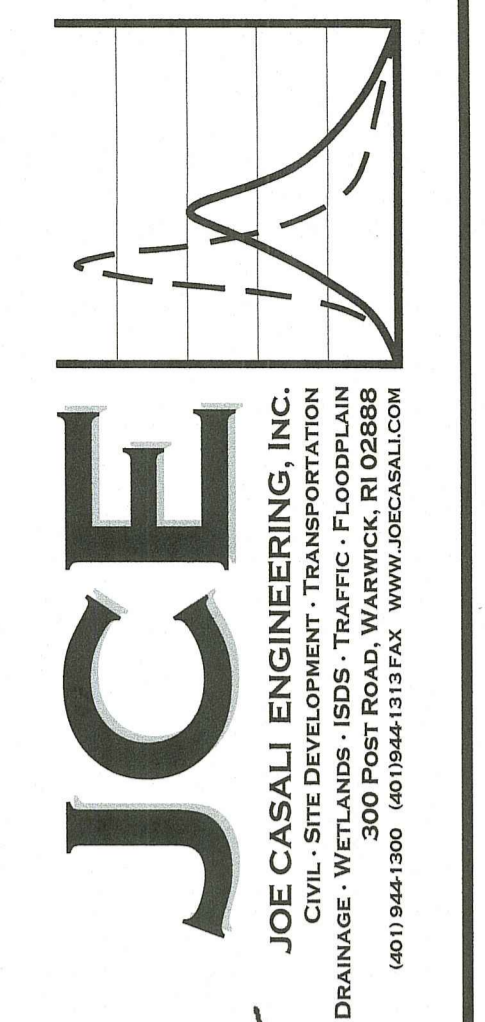
5,250 SF / 1 SPACE PER 500 SF = 10.5 OR 11 SPACES

REQUIRED: 11 SPACES
PROVIDED: 12 SPACES (1 ADA)

RELIEF RECEIVED

- SPECIAL USE PERMIT GRANTED TO CONSTRUCT NEW 5,250 SF BUILDING TO HOUSE TRADE ESTABLISHMENTS
- PER SECTION 5.4 - TABLE 1 - DIMENSIONAL REGULATIONS INDUSTRIAL DISTRICT: MINIMUM FRONT YARD SETBACK: 100 FEET
REQUIRED: 100 FT. PROPOSED: 10 FT. RELIEF RECEIVED: 90 FT.
- PER SECTION 6.1 - ON ANY CORNER LOT, NO DRIVEWAY OR VEHICULAR ACCESSWAY SHALL BE CONSTRUCTED WITHIN 75 FEET OF THE POINT OF INTERSECTION OF TWO (2) STREET LINES
REQUIRED: 75 FT. PROPOSED: 73.27 FT. RELIEF RECEIVED: 1.73 FT.
- PER SECTION 7.2 - PARKING AREAS WITHIN REQUIRED FRONT YARDS SHALL NOT BE PERMITTED UNLESS APPROVED WITH A SITE PLAN IN ACCORDANCE WITH SECTION 10.9
RELIEF RECEIVED

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAY 22 2023 FILE # 220398
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



PROPOSED COMMERCIAL BUILDING
356 FARNUM PIKE
SMITHFIELD, RHODE ISLAND
AP 49, LOT 134

RI Environmental Management
APR 14 2023
Office of Water Resources

REVISIONS:

NO.	DATE	DESCRIPTION
1	4/2023	RIDEM RTC

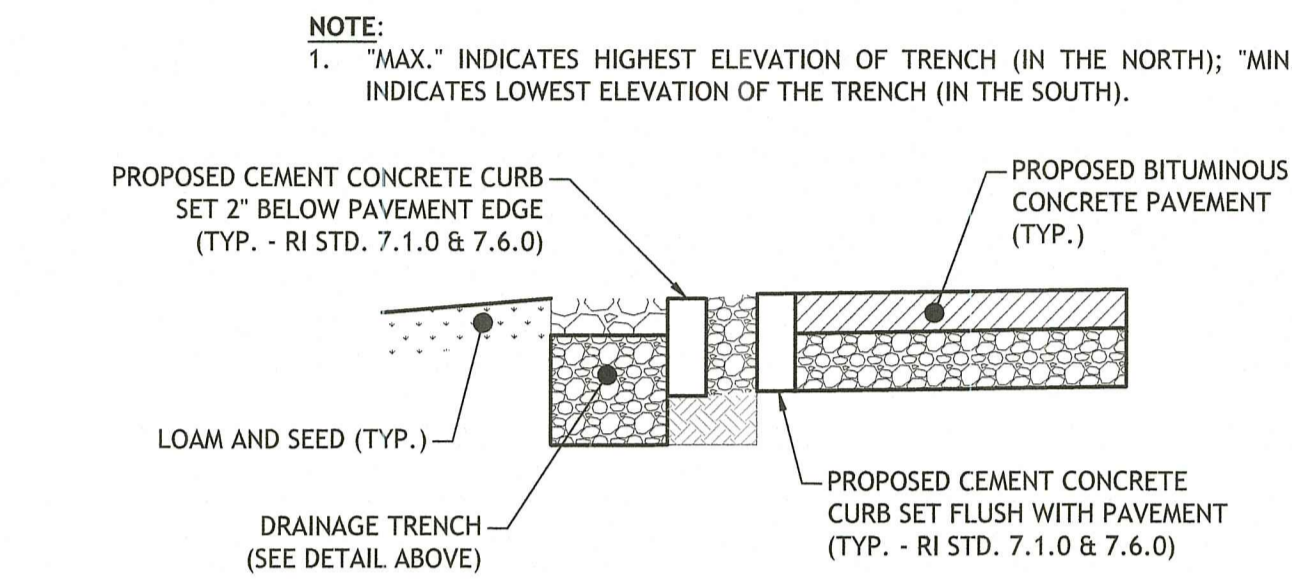
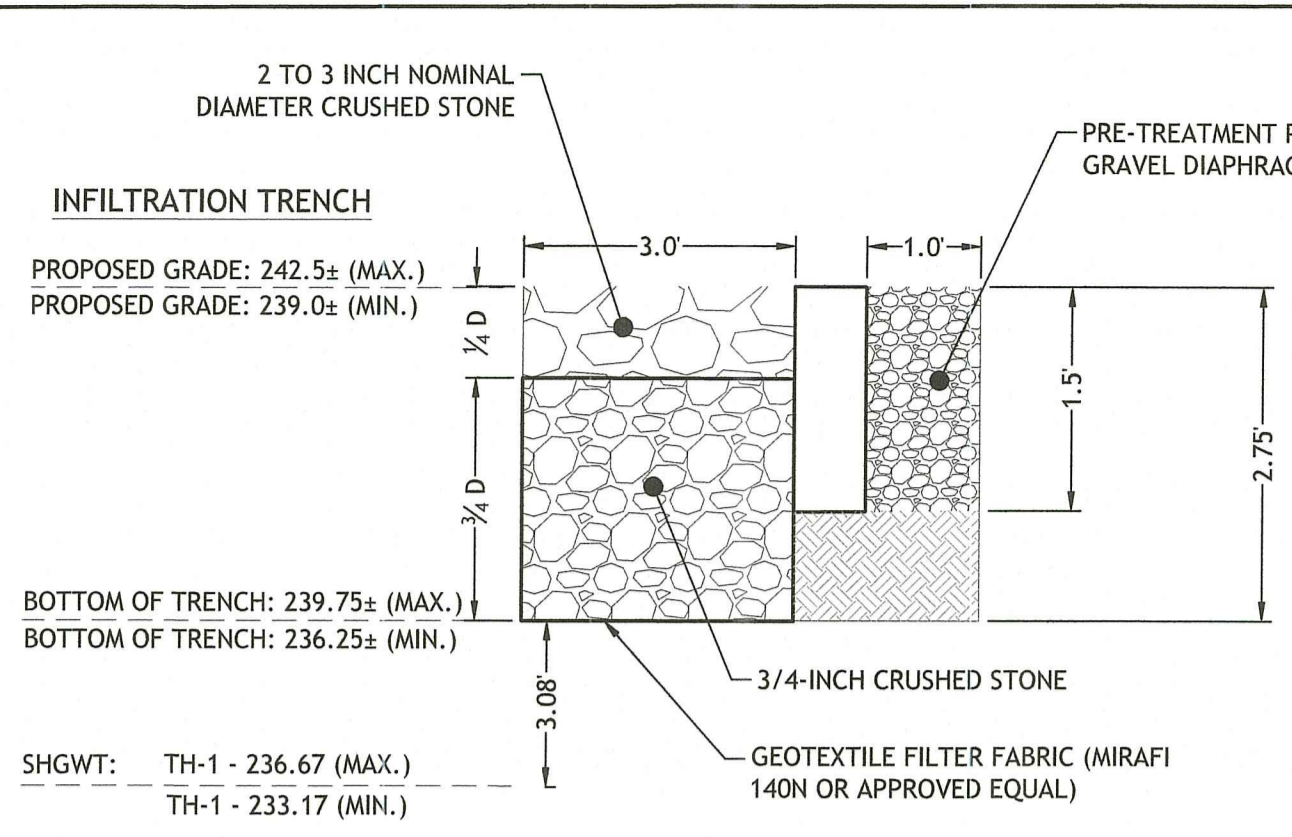
DESIGNED BY: WMLJR
DRAWN BY: SEP/SD
CHECKED BY: JAC
DATE: JUNE 2022
PROJECT NO: 21-12a

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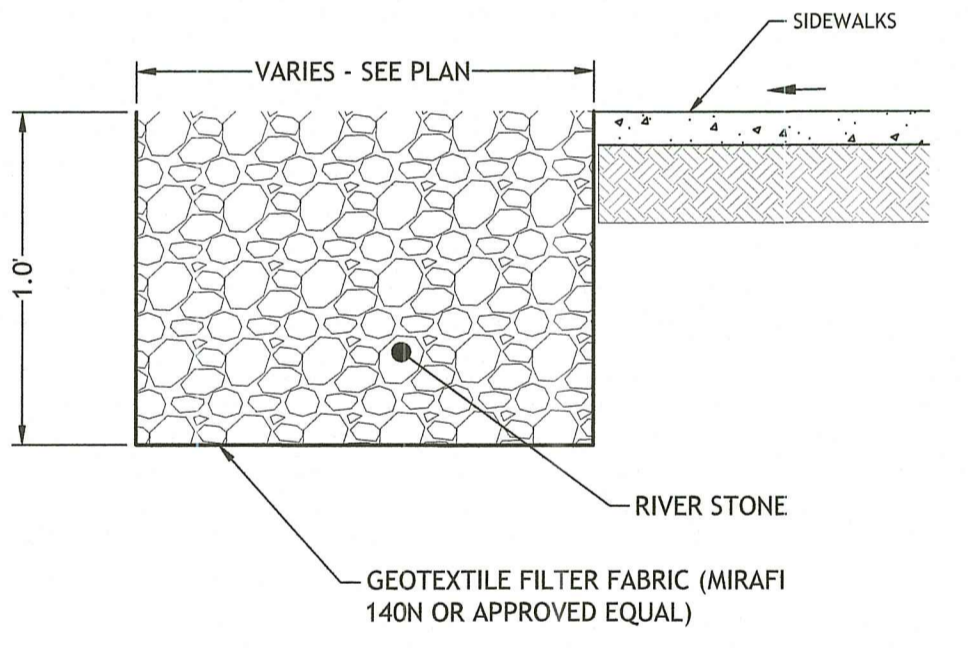
SITE & UTILITY PLAN

SHEET 4 OF 8

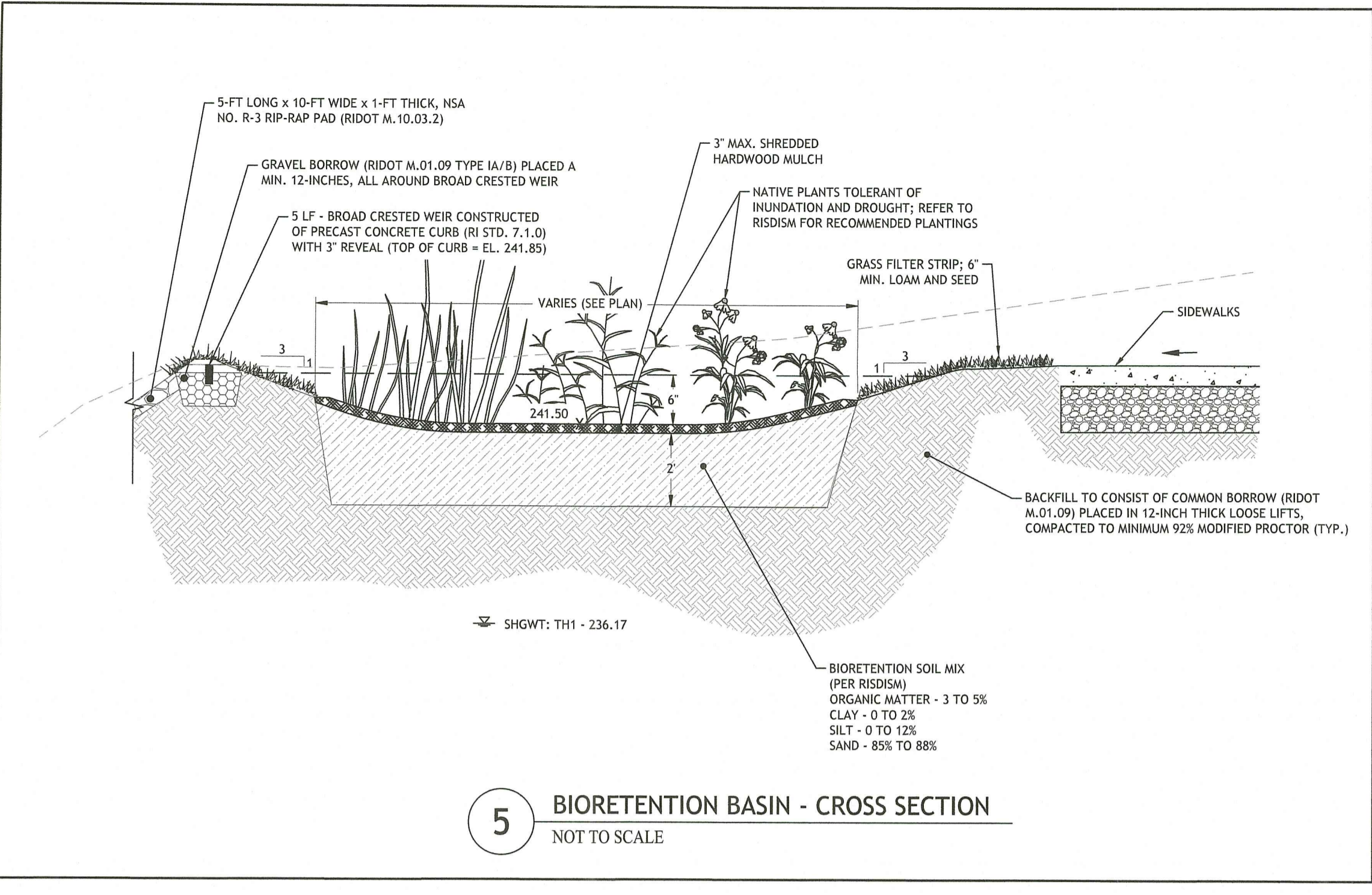
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4 CRUSHED STONE TRENCH DETAIL
NOT TO SCALE

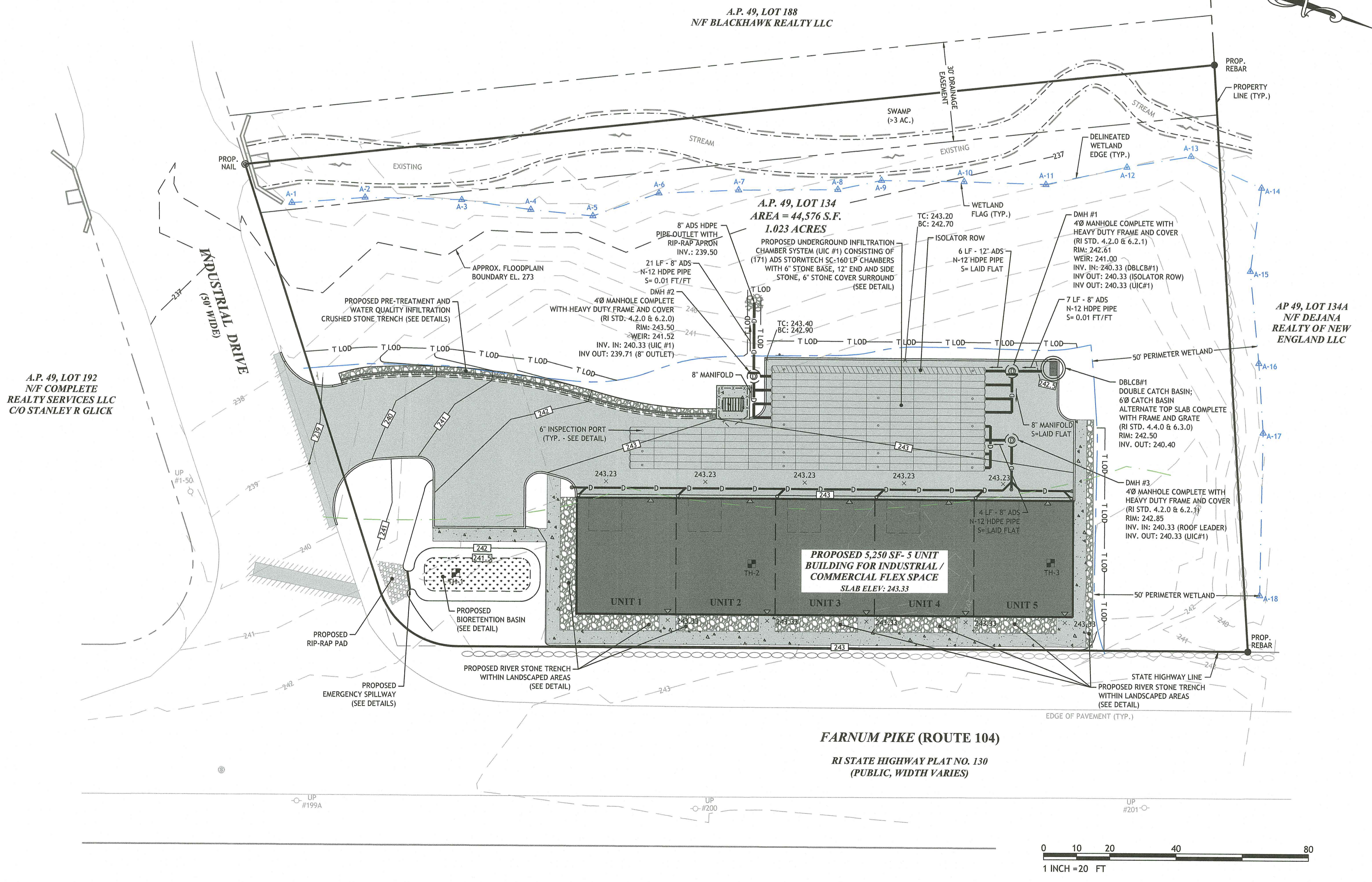
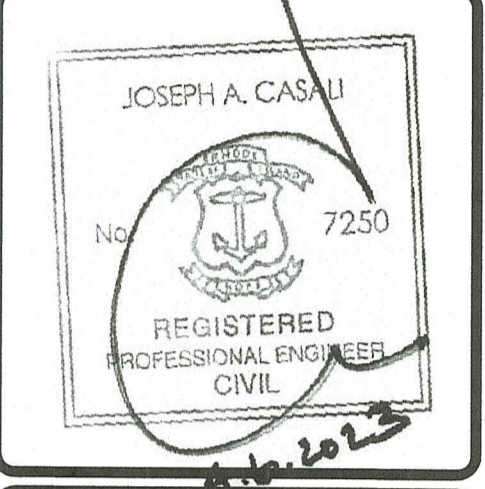
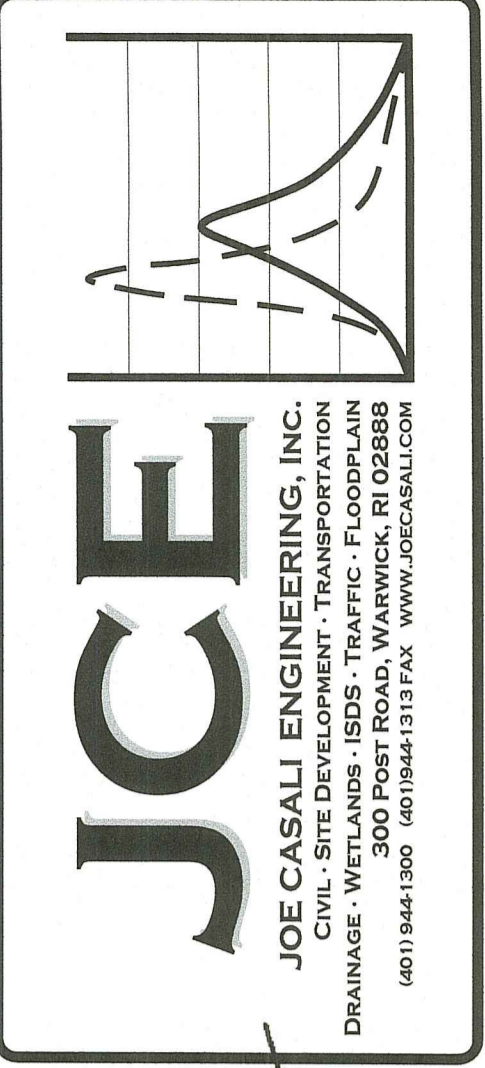


6 RIVER STONE TRENCH DETAIL
NOT TO SCALE



5 BIORETENTION BASIN - CROSS SECTION
NOT TO SCALE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAY 22 2023 FILE #: 22-0398
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PROPOSED COMMERCIAL BUILDING
356 FARNUM PIKE
SMITHFIELD, RHODE ISLAND
AP 49, LOT 134

RI Environmental Management
Office of Water Resources
APR 14 2023

NO.	DATE	DESCRIPTION
1	4/2023	RIDEM RTC

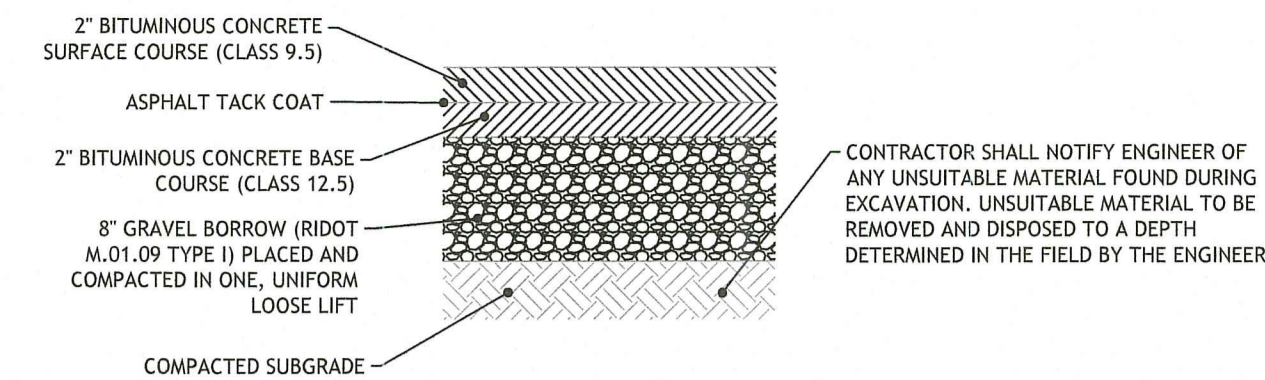
DESIGNED BY: WMLR
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PROJECT NO: 21-12a

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GRADING & DRAINAGE PLAN

SHEET 5 OF 9

Q:\21-12 Rusty Boyle\21-12a 356 Farnum Pike\ACAD\356 Farnum (PERMIT SET).dwg Apr. 10, 2023 2:31pm



NOTES:

- IF UNSUITABLE MATERIALS ARE ENCOUNTERED AT SUBGRADE ELEVATION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. THE DEPTH OF UNSUITABLE MATERIAL TO BE REMOVED WILL BE DETERMINED IN THE FIELD. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE THE UNSUITABLE MATERIALS AND REPLACE WITH SUITABLE MATERIAL APPROVED BY THE ENGINEER.
- MINIMUM COMPACTION FOR GRAVEL BORROW SUB-BASE AND SUBGRADE: 95% MODIFIED PROCTOR.

7 BITUMINOUS CONCRETE PAVEMENT
NOT TO SCALE



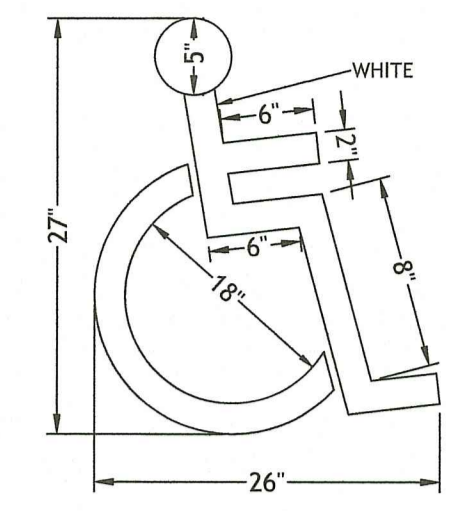
NOTE: SIGNS ARE TO CONFORM WITH THE MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

* VAN ACCESSIBLE SIGNS FOR SPACES ADJACENT TO THE 8' STRIPED ISLE.

SIGN NOTES:

- SIGN POSTS SHALL BE GALVANIZED STEEL U-CHANNEL (3 1/2" WIDE-MIN) AND INSTALLED IN CONFORMANCE TO M.U.T.C.D. AND RHODE ISLAND STANDARD SPECIFICATIONS.
- POSTS SHALL BE DRIVEN TO A DEPTH OF 4 FEET (MIN).
- THE EDGE OF THE SIGN SHALL BE 18" FROM THE FACE OF THE CURB.
- WITHIN SIDEWALK LOCATIONS THE SIGN POST WILL BE INSTALLED WITHIN A 8'X8' SQUARE BOX FORM.

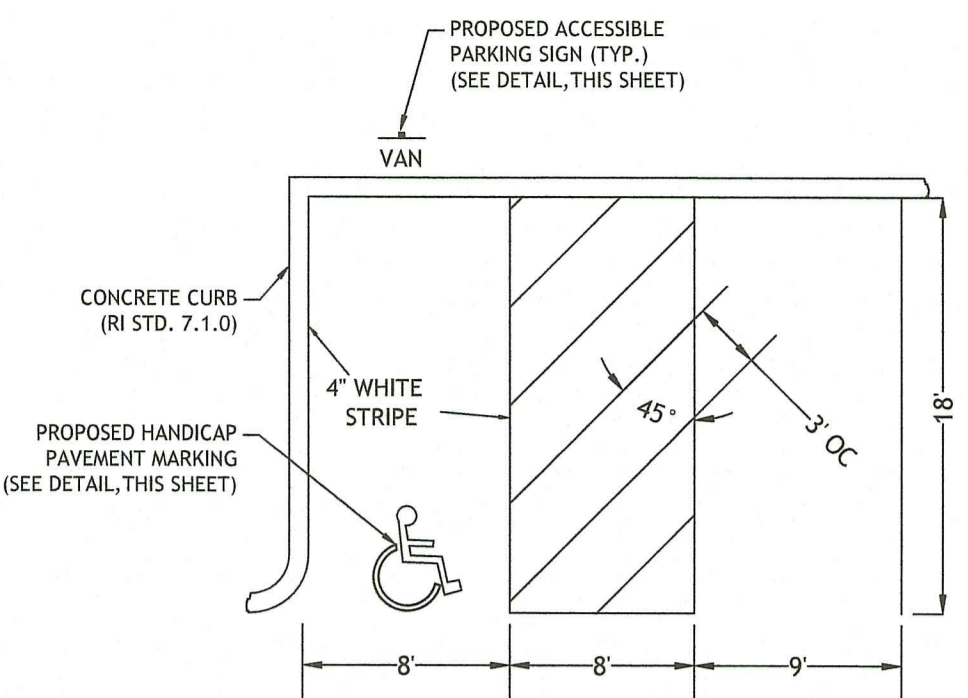
8 HANDICAP PARKING SIGNS
NOT TO SCALE



NOTE:

- ALL HANDICAP PARKING AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND STATE BUILDING CODE.

9 HANDICAP PAVEMENT MARKING
NOT TO SCALE

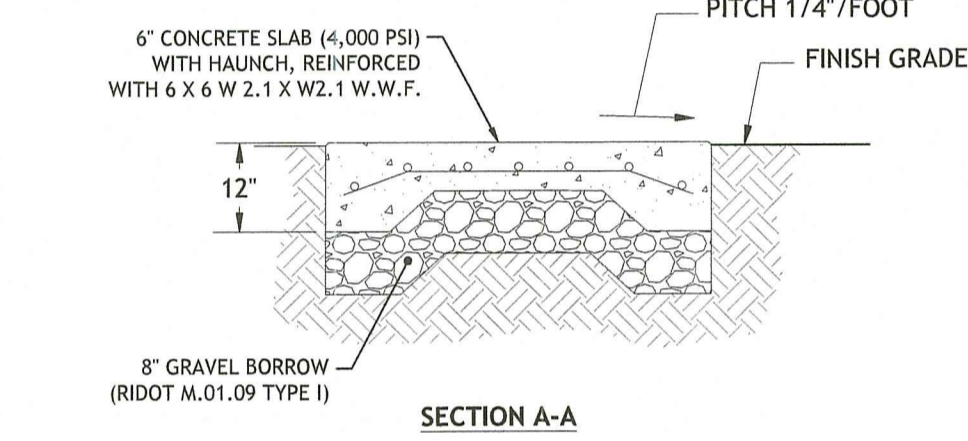
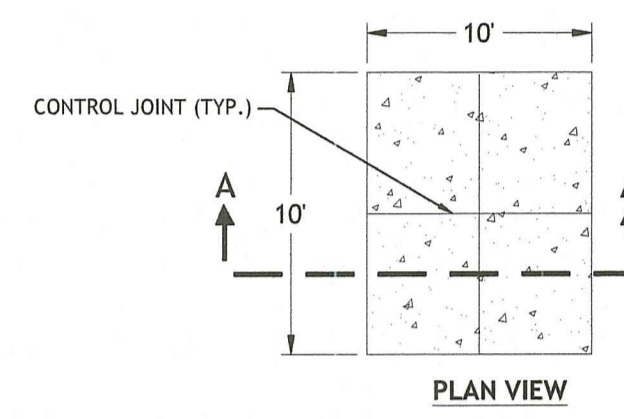


10 HANDICAP PARKING STALLS
NOT TO SCALE

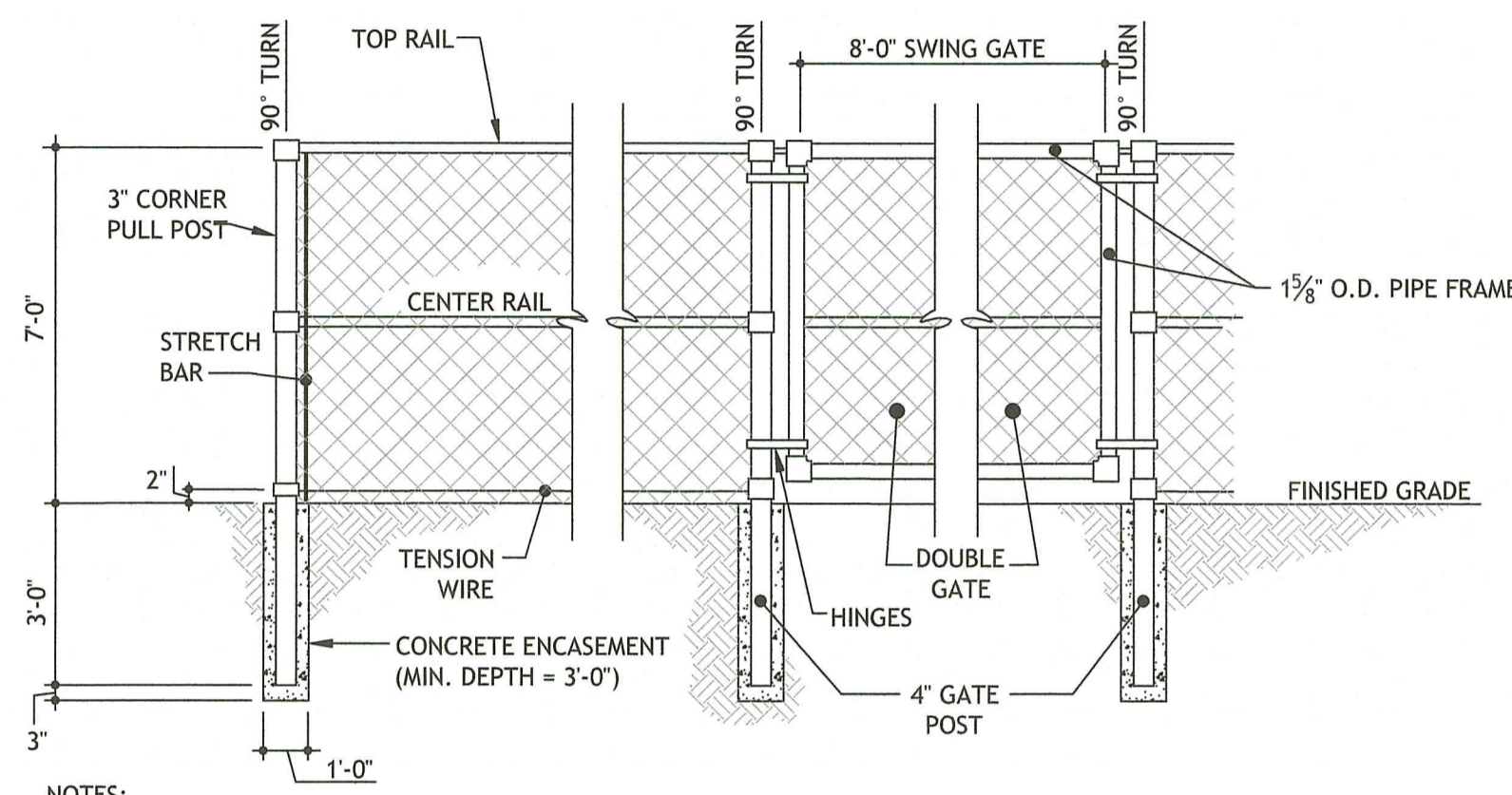
RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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JOE CASALI ENGINEERING, INC.
CIVIL - SITE DEVELOPMENT - TRANSPORTATION
DRAINAGE - WETLANDS - ISDS - TRAFFIC - FLOODPLAIN
300 WOOD ROAD, WARWICK, RI 02886
(401)844-1300 (0109)844-1314 WWW.JOEENGINEERING.COM

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL



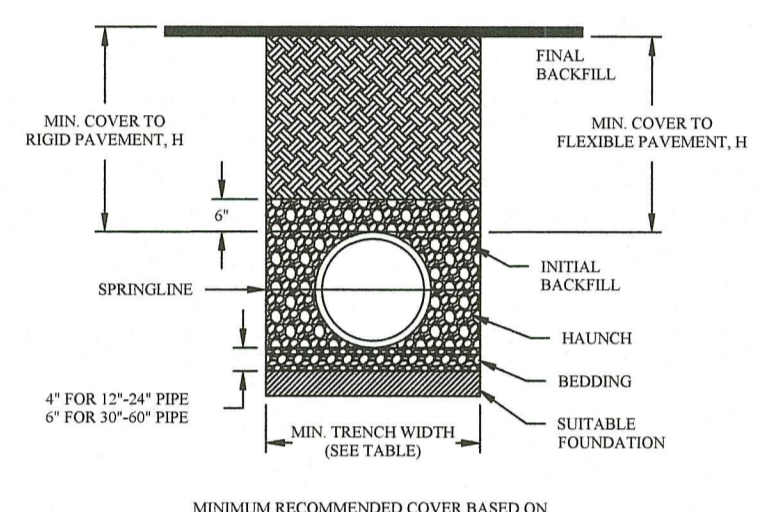
11 DUMPSTER PAD DETAIL
NOT TO SCALE



NOTES:

- DOUBLE GATE SHALL HAVE A LOCKING MECHANISM, DROP ROD, AND TRUSS ROD.
- ALL FENCING MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 902 OF THE RHODE ISLAND STANDARD SPECIFICATIONS.
- FENCE MESH TO BE SECURED TO TOP RAIL AND CORNER POSTS USING THE WIRES SPACED 12" ON CENTER.
- PRIVACY SLATS TO BE INSTALLED AT THE COMPLETION OF CONSTRUCTION. PRIVACY SLATS SHALL BE GREEN AND SHALL BE BOTTOM-LOCKING AS MANUFACTURED BY PDS FENCE PRODUCTS INC. OR APPROVED EQUAL.

12 CHAIN-LINK FENCE DETAIL
NOT TO SCALE



RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	24"
6"	27"
8"	30"
10"	33"
12"	36"
15"	39"
18"	42"
24"	48"
30"	54"
36"	60"
42"	66"
48"	72"
54"	78"
60"	84"

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

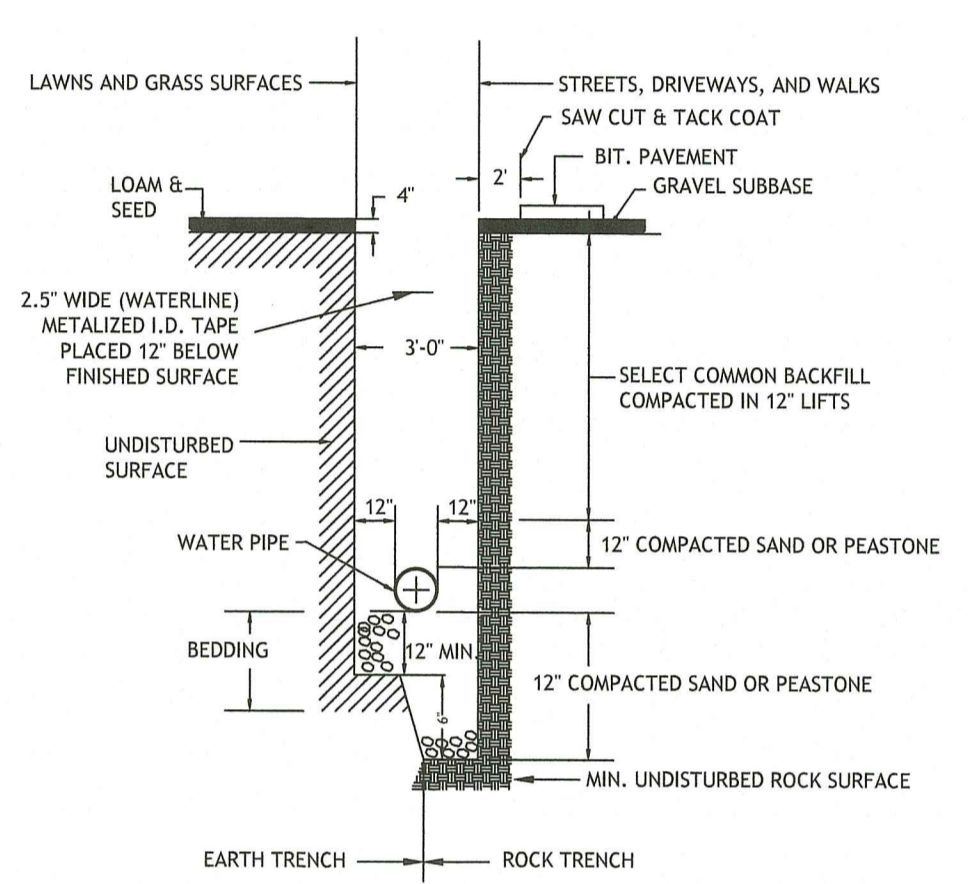
PIPE DIAM.	MIN. COVER
12" - 48"	12"
54" - 60"	24"

* VEHICLES IN EXCESS OF 15T MAY REQUIRE ADDITIONAL COVER.

NOTES:

- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2221, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
- MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL DELGATE TO A GEOPHYSICIAN BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- BEDDING: SUITABLE MATERIAL SHALL BE CLASS 1, B OR H. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4" - 24" (100mm-600mm); 6" (150mm) FOR 30" - 40" (750mm-900mm).
- INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS 1, B OR H IN THE PIPE ZONE EXTENDING NOT LESS THAN 6' ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2221, LATEST EDITION.
- MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54" - 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

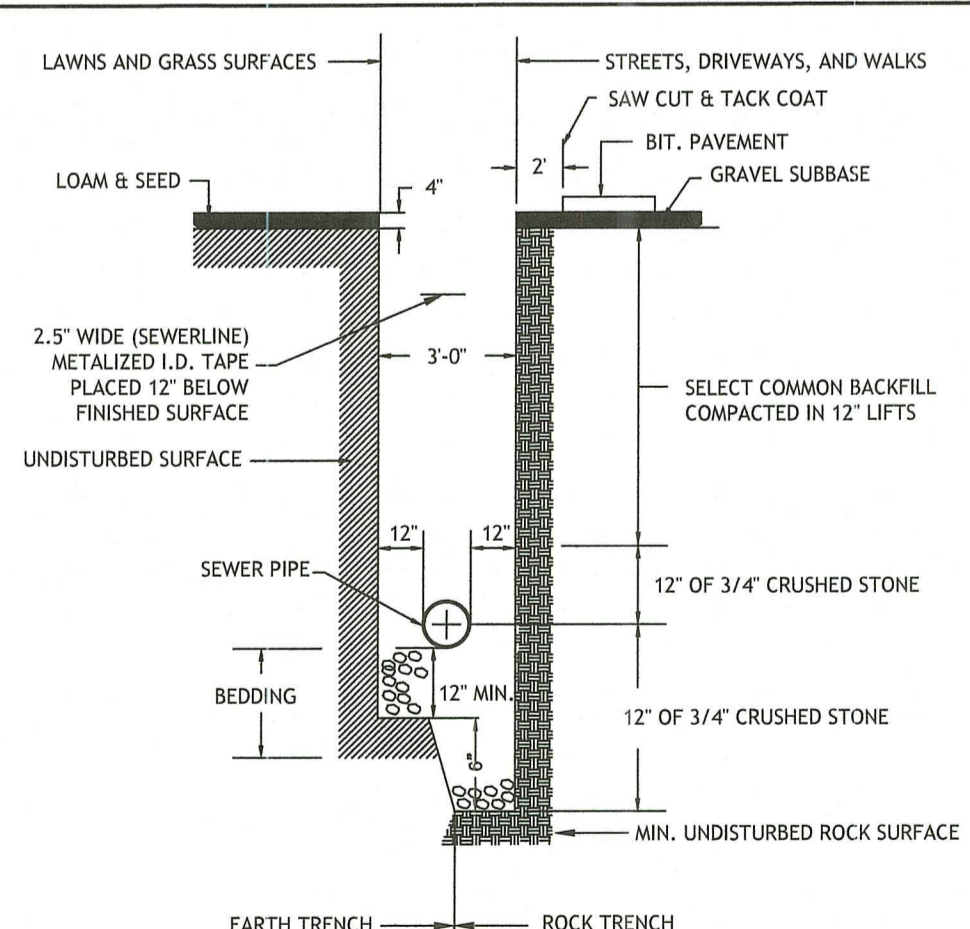
13 DRAIN PIPE TRENCH INSTALLATION DETAIL
NOT TO SCALE



NOTES:

- COMPACTED SAND OR PEASTONE FOUNDATION SHALL BE PLACED 12" UNDER THE PIPE UP TO THE PIPE GRADE. THE PIPE LAD THEREON, AND COMPACTED SAND OR PEASTONE PULLED AGAINST THE PIPE SIDE TO FIRMLY HOLD THE PIPE IN PLACE. NO BLOCKS OR STONES SHALL BE USED TO SUPPORT THE PIPE.
- COMPACTED SAND OR PEASTONE HAUNCHING SHALL BE BROUGHT LEVEL TO THE TOP OF THE PIPE AND OUT TO THE TRENCH WALL AT THIS ELEVATION FOR ALL PIPE. COMPACTED SAND OR PEASTONE BLANKET SHALL BE PLACED 12" ABOVE THE PIPE.
- WATER PIPE SHALL HAVE AT LEAST 5-FEET OF COVER AT ALL TIMES.

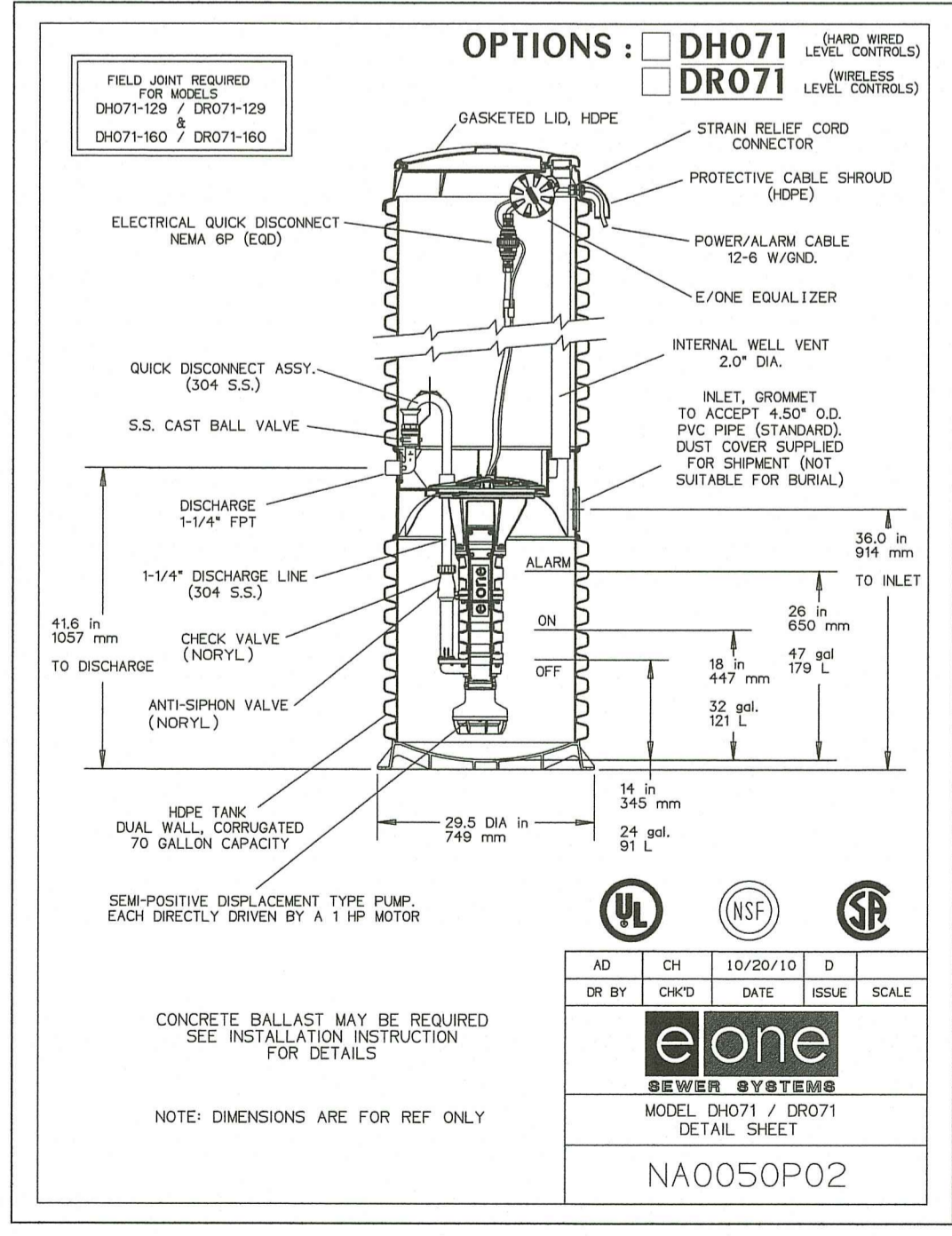
14 WATER LINE TRENCH DETAIL
NOT TO SCALE



NOTES:

- 3/4-INCH CRUSHED STONE FOUNDATION SHALL BE PLACED 12" UNDER THE PIPE UP TO THE PIPE GRADE. THE PIPE LAID THEREON, AND 3/4-INCH CRUSHED STONE PULLED AGAINST THE PIPE SIDE TO FIRMLY HOLD THE PIPE IN PLACE. NO BLOCKS OR STONES SHALL BE USED TO SUPPORT THE PIPE.
- 3/4-INCH CRUSHED STONE HAUNCHING SHALL BE BROUGHT LEVEL TO THE TOP OF THE PIPE AND OUT TO THE TRENCH WALL AT THIS ELEVATION FOR ALL PIPE. 3/4-INCH CRUSHED STONE BLANKET SHALL BE PLACED 12" ABOVE THE PIPE.

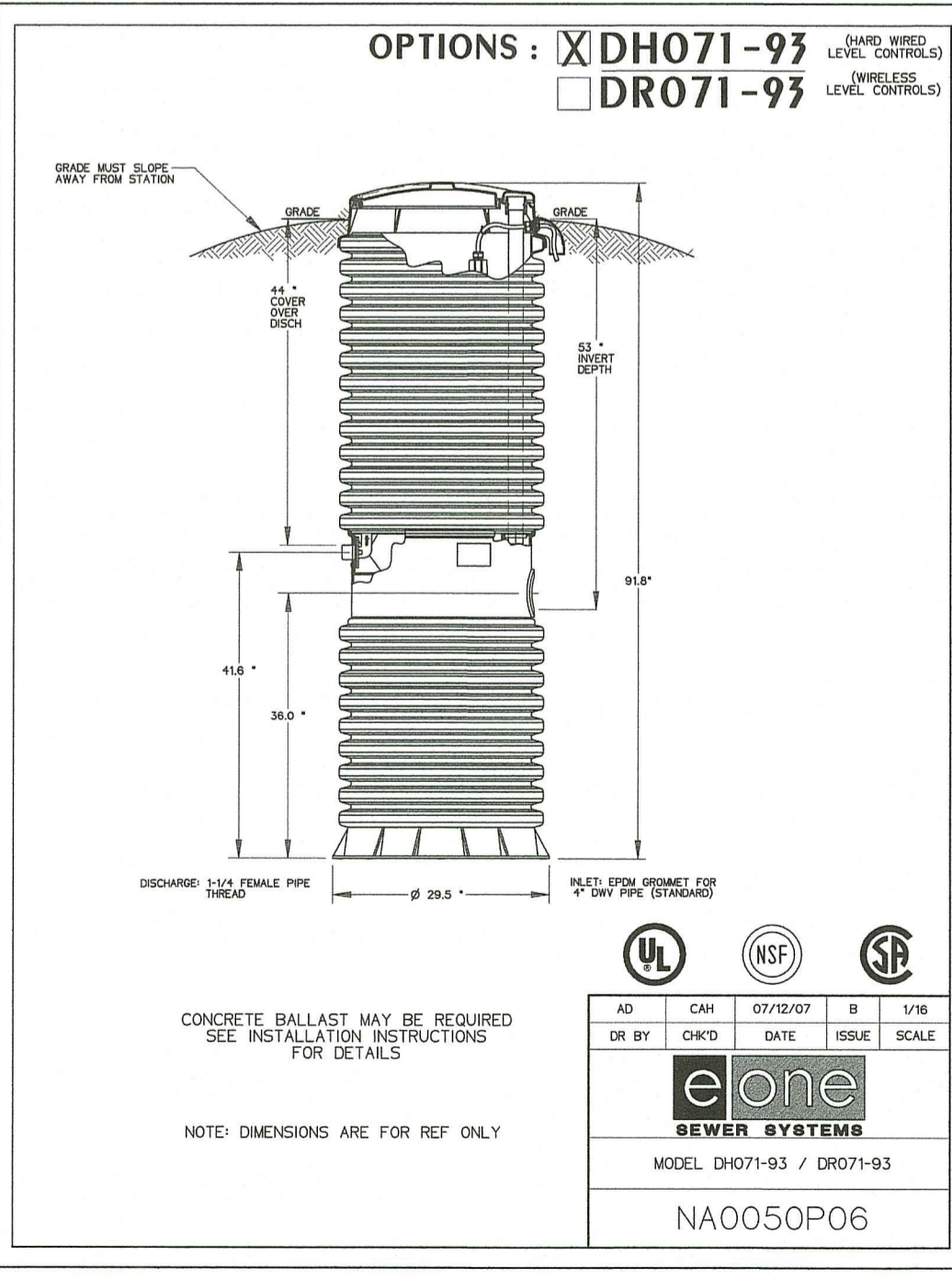
15 TYPICAL SEWER LINE TRENCH DETAIL
NOT TO SCALE



CONCRETE BALLAST MAY BE REQUIRED
SEE INSTALLATION INSTRUCTION FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY

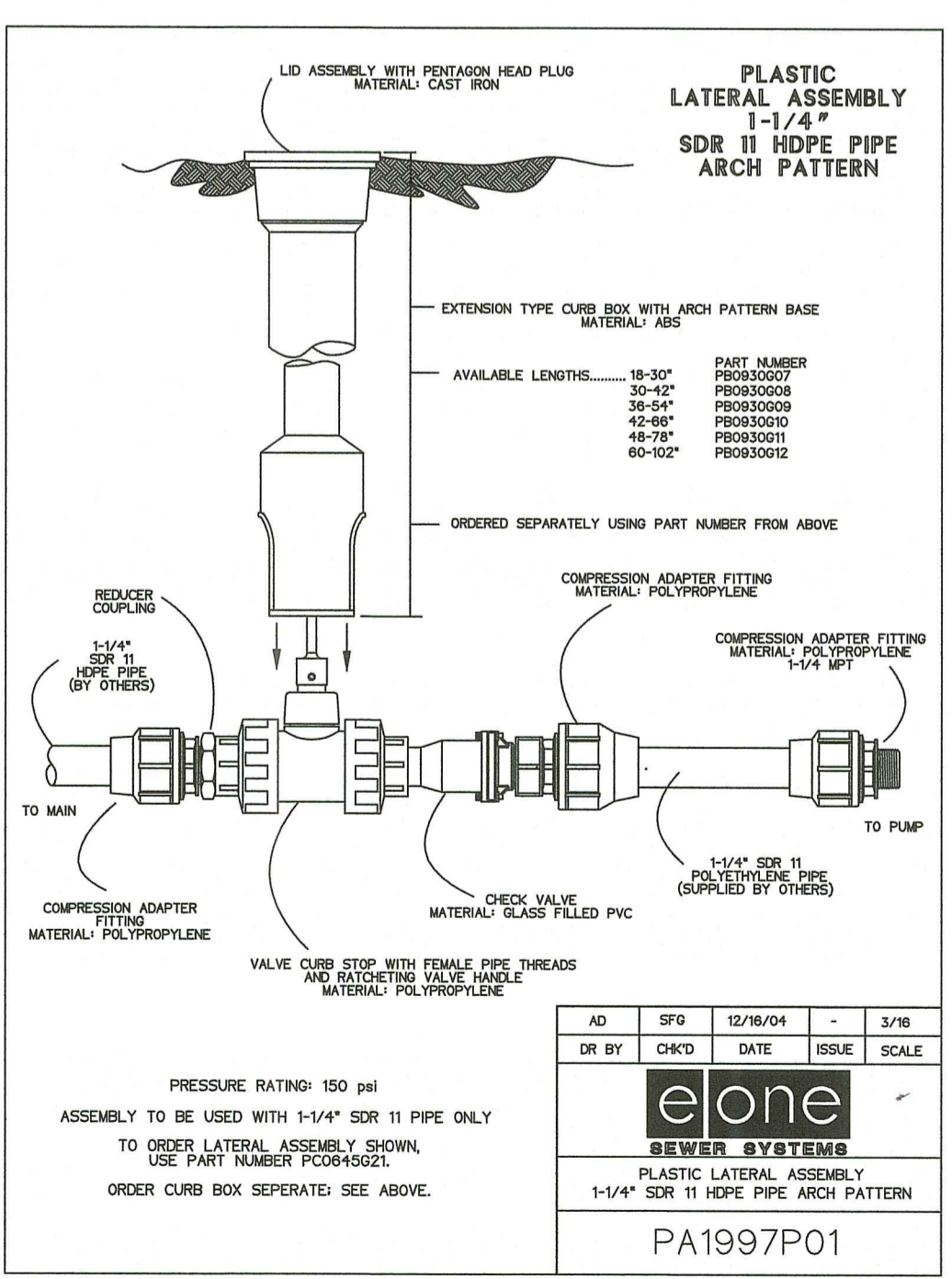
eone SEWER SYSTEMS
MODEL: DH071 / DR071
DETAIL SHEET
NA0050P02



CONCRETE BALLAST MAY BE REQUIRED
SEE INSTALLATION INSTRUCTION FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY

eone SEWER SYSTEMS
MODEL: DH071-93 / DR071-93
DETAIL SHEET
NA0050P06



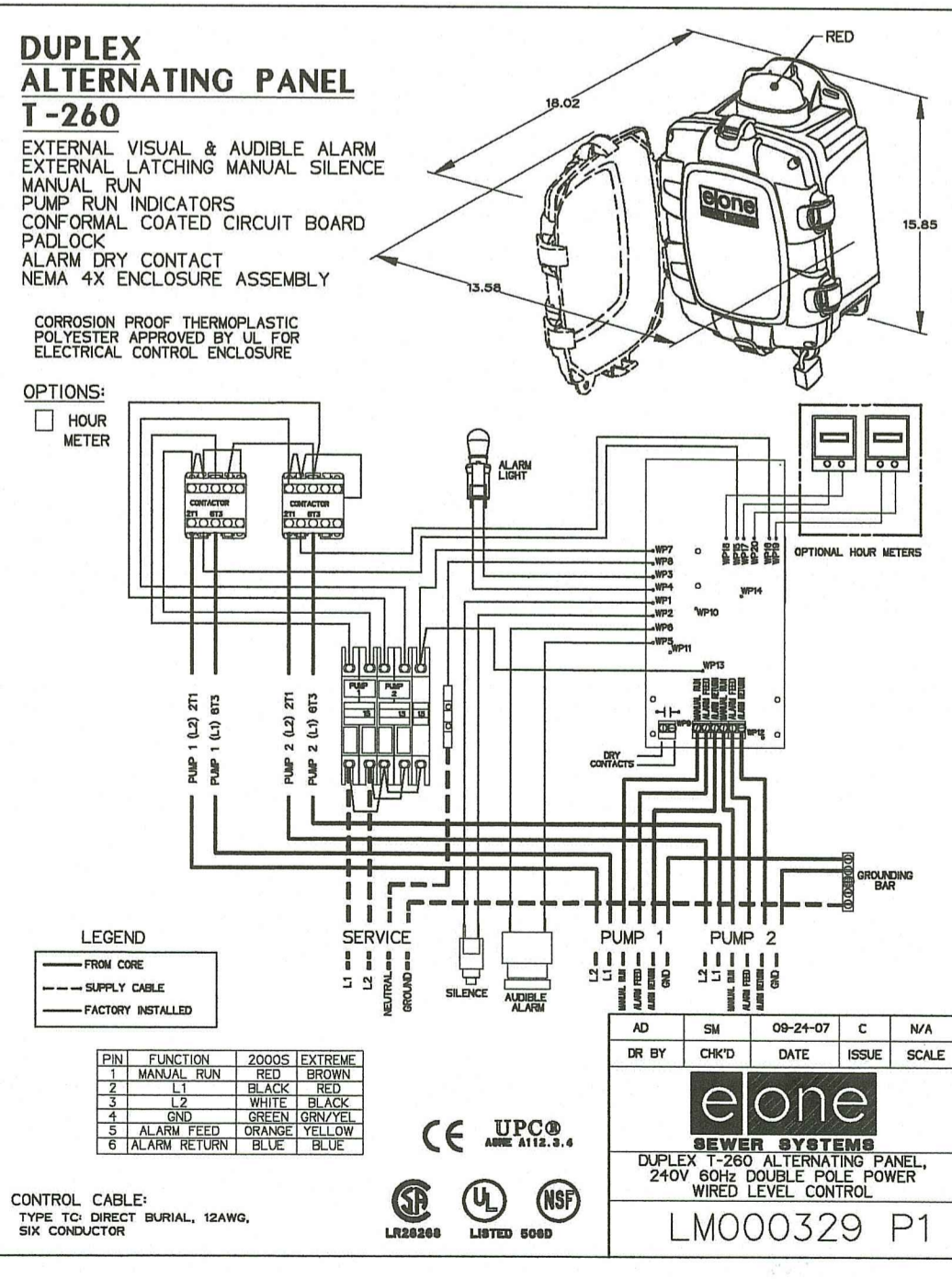
**ASSEMBLY TO BE USED WITH 1-1/4\"/>

TO ORDER LATERAL ASSEMBLY SHOWN, USE PART NUMBER P0040000.

ORDER CURB BOX SEPARATELY. SEE ABOVE.

eone SEWER SYSTEMS
PLASTIC LATERAL ASSEMBLY
1-1/4\"/>

PA1997P01**



CONTROL CABLE:
TYPE: 12 CONDUCTOR BURIAL, 12AWG, SHV CONDUCTOR

eone SEWER SYSTEMS
DUPLEX I-260 ALTERNATING PANEL
240V 60Hz DOUBLE POLE POWER
WIRE LEVEL CONTROL
LM000329 P1

PROPOSED COMMERCIAL BUILDING
356 FARNUM PIKE
SMITHFIELD, RHODE ISLAND
AP 49, LOT 134

RI Environmental Management
APR 14 2023
Office of Water Resources

REVISIONS:

NO.	DATE	DESCRIPTION
1	4/2023	RIDEM RTC

DESIGNED BY: WMLR
DRAWN BY: SEP/SD
CHECKED BY: JAC
DATE: JUNE 2022
PROJECT NO: 21-12a

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

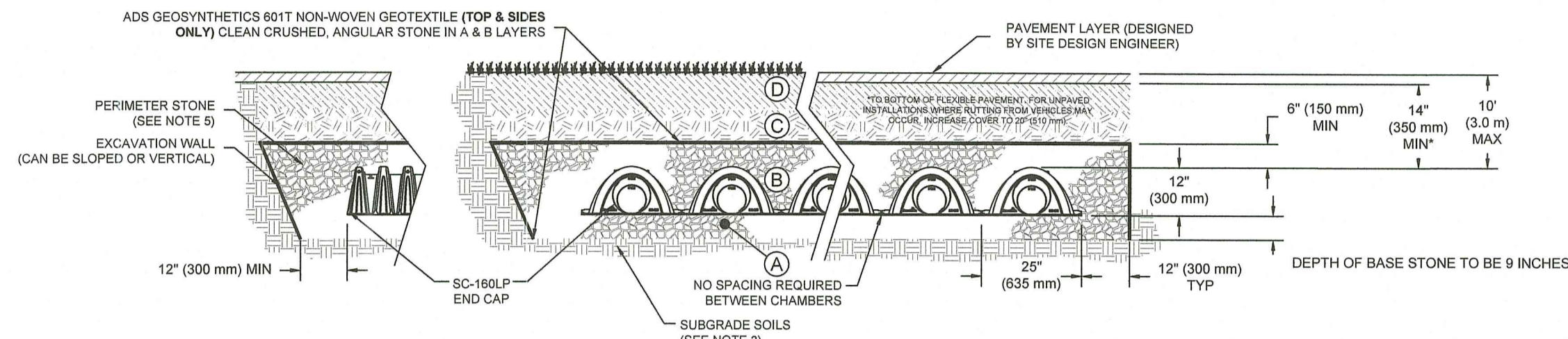
SITE DETAILS

SHEET 7 OF 9

ACCEPTABLE FILL MATERIALS: STORMTECH SC-160LP CHAMBER SYSTEMS

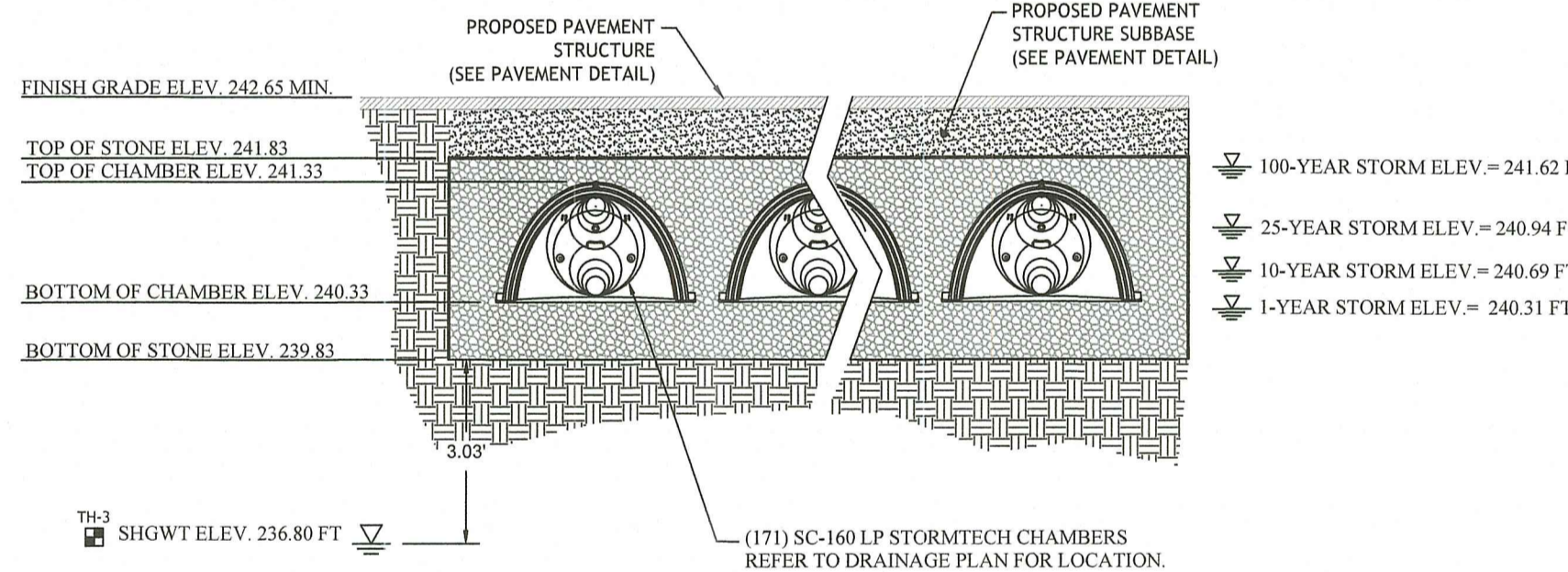
MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('A' LAYER) TO 1" (25.4 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'C' LAYER.	AASHTO M145 ¹ A-1, A-2.4, A-3 OR AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 90% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN), DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ¹

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTIONED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

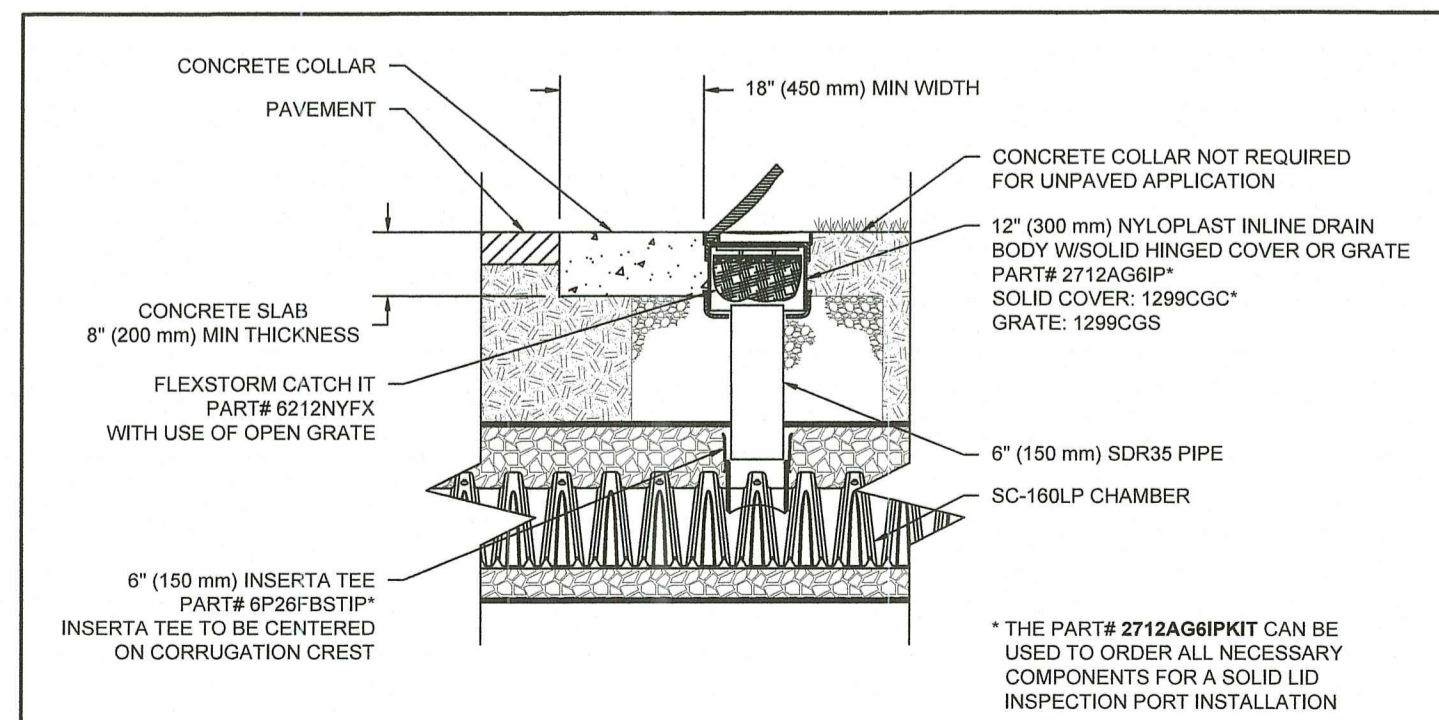


- NOTES:**
- SC-160LP CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
 - THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF SOIL MOISTURE CONDITIONS.
 - PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
 - ONCE LAYER 'C' IS PLACED, ANY SOLID MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

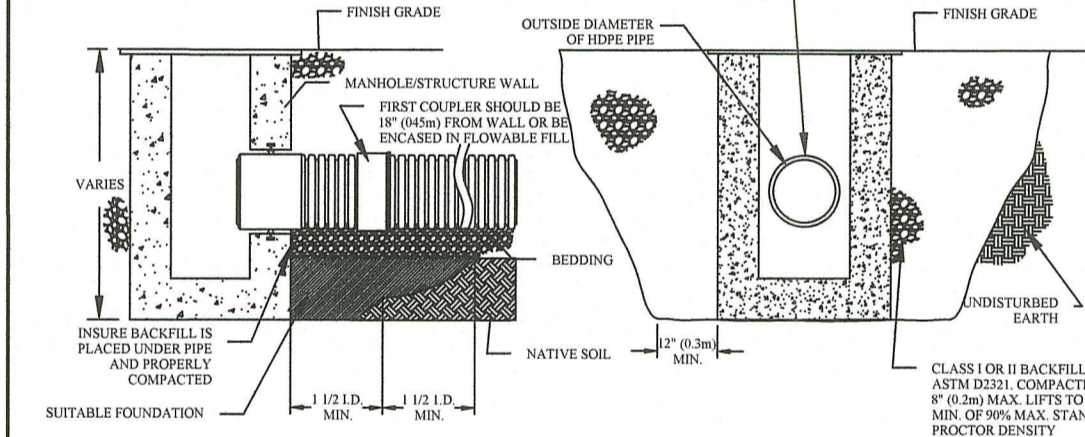
16 STORMTECH SC-160LP CROSS SECTION DETAIL
NOT TO SCALE



18 UIC #1 INSTALLATION ELEVATION DETAIL
NOT TO SCALE



21 SC-160LP 6" INSPECTION PORT DETAIL
NOT TO SCALE

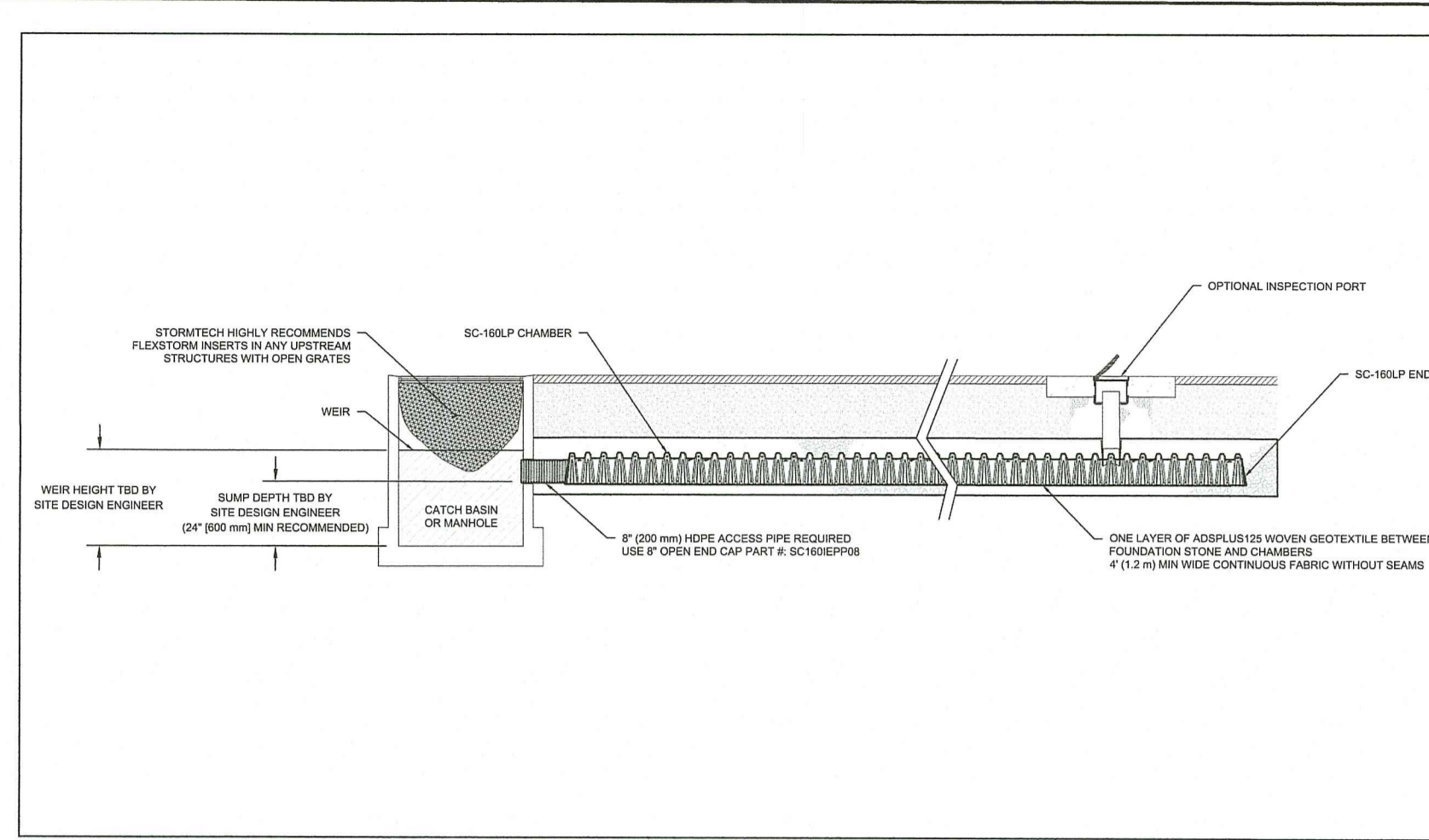


- NOTES:**
- MAXIMUM INSERTION ANGLE SHALL NOT EXCEED REQUIREMENTS AS SPECIFIED BY THE MANUFACTURER.
 - SEE STANDARD DETAILS STD-202 (A-B) THROUGH STD-204 (A-E) FOR STRUCTURE CONNECTIONS, PRODUCT INFORMATION AND DIMENSIONAL PIPE DATA. INSTALLATION RECOMMENDATIONS ARE ALSO SPECIFIED IN TECHNICAL NOTE 5.04: HDPE CONNECTIONS TO MANHOLES AND STRUCTURES.
 - PERFORMANCE HIGHLY DEPENDENT ON INSTALLATION. CONTRACTOR MUST INSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.

19 STRUCTURE CONNECTION INSTALLATION DETAIL
NOT TO SCALE

SC-160LP STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-160LP.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LOGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 1.5".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.85 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.



17 STORMTECH SC-160LP ISOLATOR ROW DETAIL
NOT TO SCALE

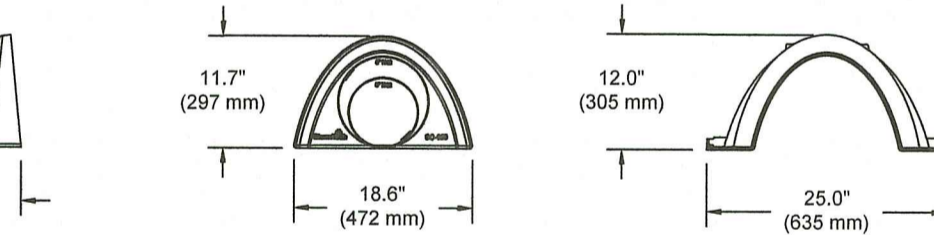
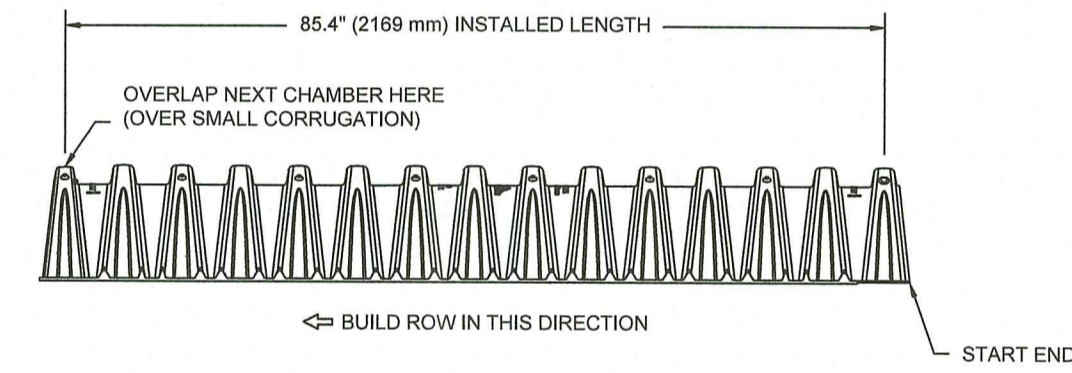
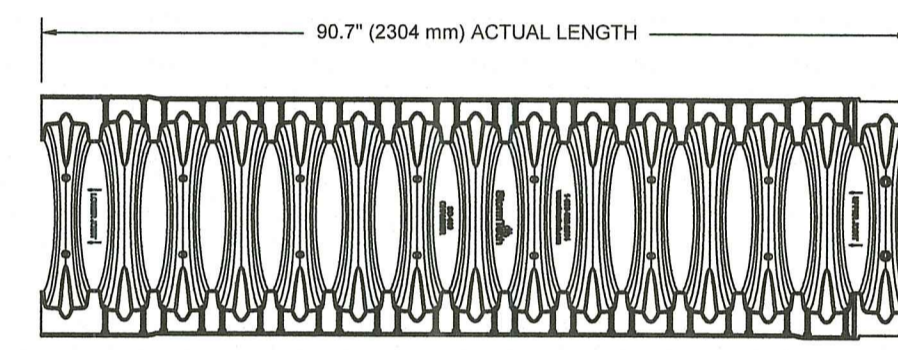
INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXFORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

SC-160LP TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	25.0' X 12.0' X 85.4'	(635 mm X 305 mm X 2169 mm)
CHAMBER STORAGE	6.85 CUBIC FEET	(0.19 m ³)
MINIMUM INSTALLED STORAGE*	16.0 CUBIC FEET	(0.45 m ³)
WEIGHT	24.0 lbs.	(10.9 kg)

*ASSUMES 6" (152 mm) ABOVE, 6" (152 mm) BELOW, AND STONE BETWEEN CHAMBERS WITH 40% STONE POROSITY.

PART #	STUB	A
SC160EPP	6" (150 mm)	0.66" (16 mm)
SC160EPP08	6" (200 mm)	0.80" (20 mm)
SC160EPP08	6" (200 mm)	0.96" (24 mm)

ALL STUBS ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

NOTE: ALL DIMENSIONS ARE NOMINAL.

20 SC-160 TECHNICAL SPECIFICATION
NOT TO SCALE

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-160LP SYSTEM

- STORMTECH SC-160LP CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-160LP CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
- FOUNDATION STONE AND EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE, AASHTO M43 #3,357, 4, 467, 5, 56, OR 57.
- THE FOUNDATION STONE SHALL BE LEVELLED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- THE DEPTH OF FOUNDATION STONE SHALL BE DETERMINED BASED ON THE SUBGRADE BEARING CAPACITY PROVIDED BY THE SITE DESIGN ENGINEER.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES CONCERNING CHAMBER FOUNDATION DESIGN AND SUBGRADE BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- CHAMBERS SHALL BE INSTALLED "TOE TO TOE". NO ADDITIONAL SPACING BETWEEN ROWS IS REQUIRED.
- STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - NO RUBBER TIRE LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- ADS RECOMMENDS THE USE OF "FLEXFORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-160LP CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER TIRE LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
 - FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
- CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL

PROPOSED COMMERCIAL BUILDING
356 FARNUM PIKE
SMITHFIELD, RHODE ISLAND
AP 49, LOT 134

RI Environmental Management
APR 14 2023
Office of Water Resources

REVISIONS:

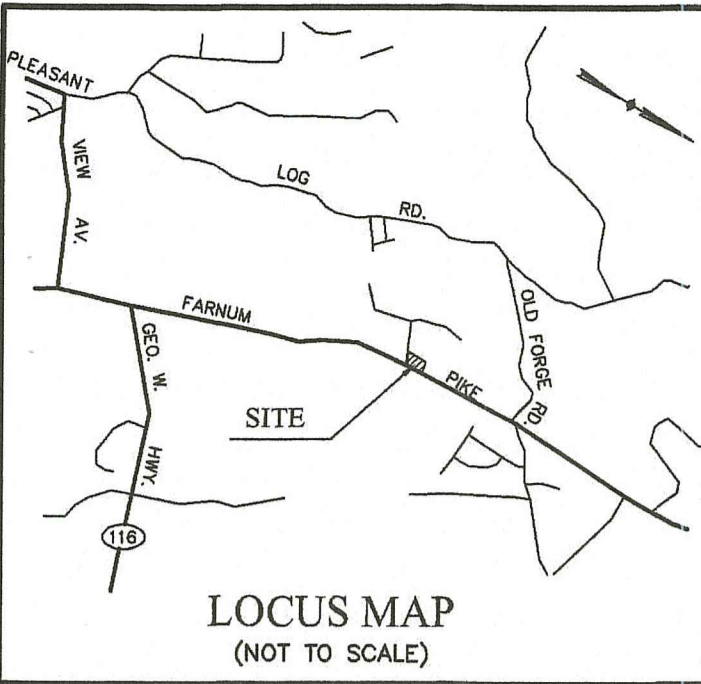
NO.	DATE	DESCRIPTION
1	4/20/23	RIDEM RTC

DESIGNED BY: WMLJR
DRAWN BY: SEPSD
CHECKED BY: JAC
DATE: JUNE 2022
PROJECT NO: 21-12a

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

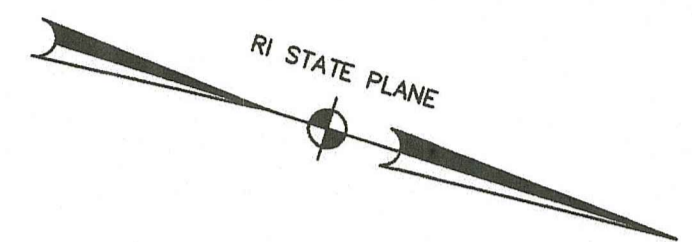
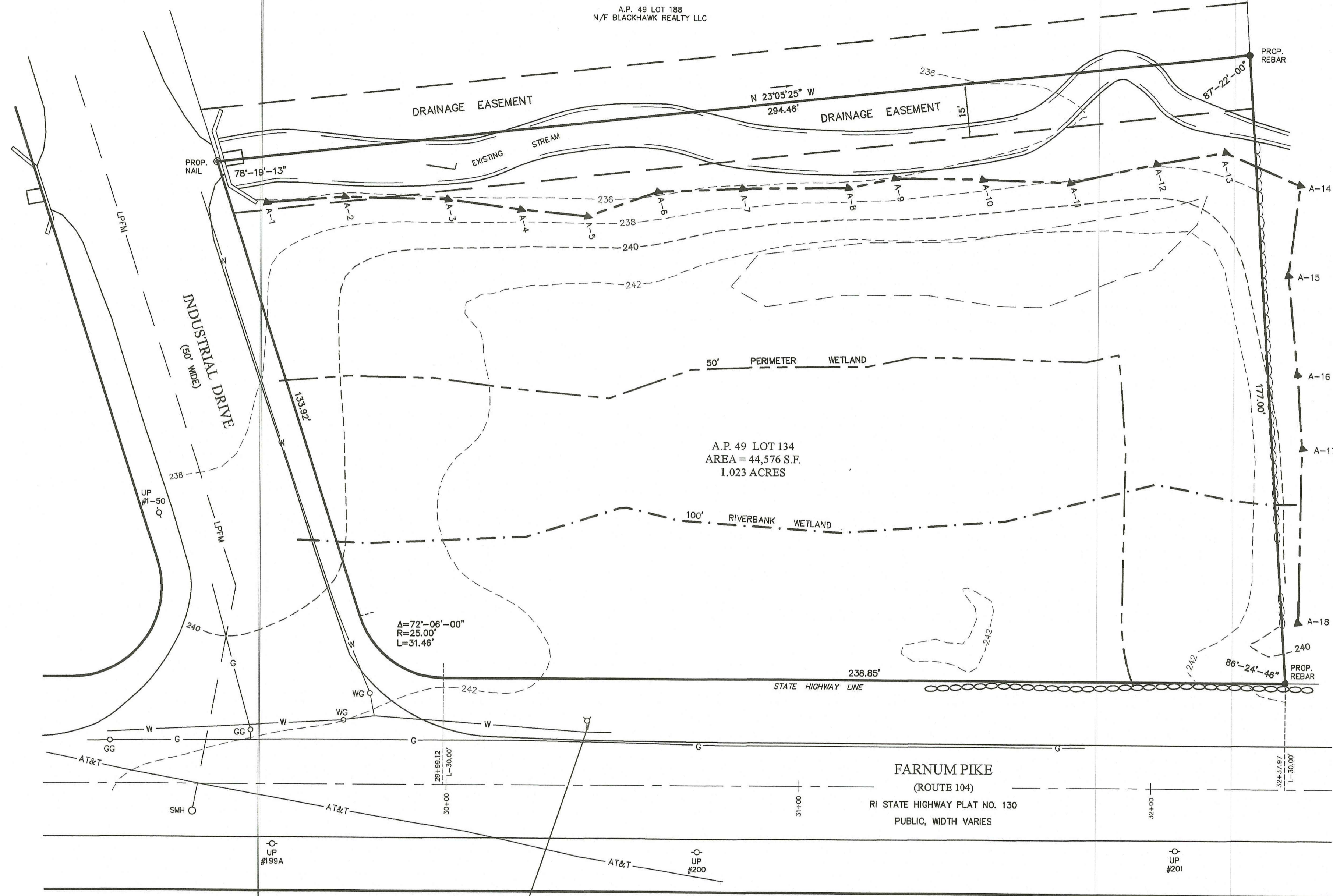
**DRAINAGE
DETAILS**

**SHEET
8 OF 8**



LEGEND

- EXISTING CONTOUR - - - 240
- EXISTING WATER LINE — W —
- EXISTING WATER GATE ○ WG
- EXISTING HYDRANT ○ HYD.
- EXISTING LOW PRESSURE FORCE MAIN SEWER LINE — LPFM —
- EXISTING SEWER MANHOLE ○ SMH
- EXISTING GAS LINE — G —
- EXISTING GAS GATE ○ GG
- EXISTING COMMUNICATION LINE — AT&T —
- EXISTING STONE WALL = = =
- EXISTING UTILITY POLE ○
- WETLAND EDGE WITH FLAG - - -
- 50' PERIMETER WETLAND - - -
- 100' RIVERBANK WETLAND - - -

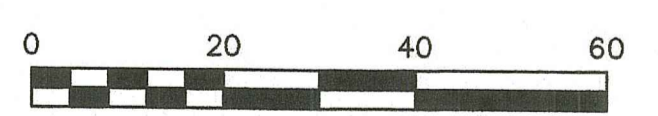


ZONING I

MINIMUMS:	
AREA	200,000 (40,000 FOR CLUSTER)
FRONTAGE	300'
SETBACKS:	
FRONT	100'
SIDE	40'
REAR	50'

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED MAY 22 2023 FILE # 22-0398
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

STREET INDEX
 FARNUM PIKE (RT. 104)
 INDUSTRIAL DRIVE



REFERENCE
 DEED BOOK 1277, PAGE 204
 RI HIGHWAY PLAT NO. 130
 BOUNDS LOCATED AT PT STA. 24+87.44, R-30'
 AND PT STA. 50+17.94, L-30'

UTILITY NOTE
 THE UTILITIES HEREON ARE SHOWN FROM FIELD LOCATIONS OF SURFACE STRUCTURES AND PAINT MARKINGS. ALL UTILITIES MAY NOT BE SHOWN. CONTACT DIG-SAFE (1-888-DIG-SAFE or 811) PRIOR TO ANY EXCAVATION.

CERTIFICATION
 THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 435-RICR-00-00-1.9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON MAY 4, 2016 AS FOLLOWS:
 TYPE OF BOUNDARY SURVEY: COMPREHENSIVE BOUNDARY SURVEY
 MEASUREMENT SPECIFICATION: CLASS I
 VERTICAL CONTROL STANDARD: V-3
 TOPOGRAPHIC SURVEY ACCURACY: T-2

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS:
 SURVEY PLAN WITH EXISTING CONDITIONS

BY: Patricia A. Kelly 11/5/21
 PATRICIA A. KELLY, PLS #1958 COA #A734 DATE

RI Environmental Management
 APR 14 2023
 Office of Water Resources



NO.	REVISION	DATE	BY

EXISTING CONDITIONS PLAN

B & F ASSOCIATES
 FARNUM PIKE & INDUSTRIAL DRIVE
 SMITHFIELD, RI
 A.P. 49 LOT 134

KELLY LAND SERVICES, INC.
 LAND SURVEYING - SUBDIVISIONS - SEPTIC DESIGNS - SOIL EVALUATIONS
 97 BUCKS WAY TIVERTON, RI 02878 DATE: 11/05/21
 401-293-0535 SCALE: 1"=20'
 PO BOX 278 GREENVILLE, RI 02828 SHEET NO. 9 OF 9
 401-232-2620 PROJ. NO: 210904-SP

kellylandservices@gmail.com