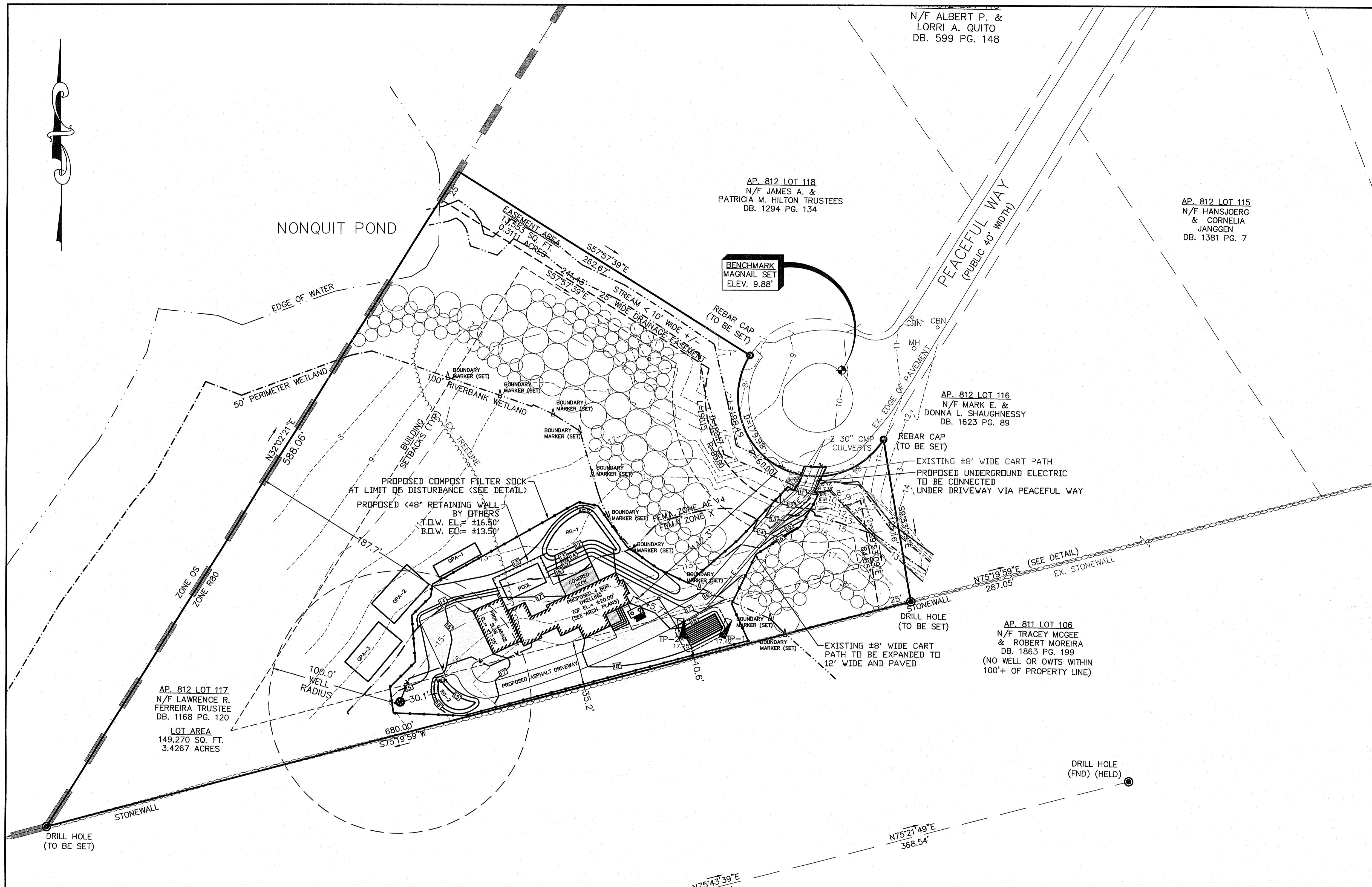


C:\Users\jostua\Principle Engineering Dropbox\ERSC PLANS\2021\ERSC-2021-25_0 Peaceful Way_Tiverton DWTS Joint Permit.dwg, DWG To PDF.pc3



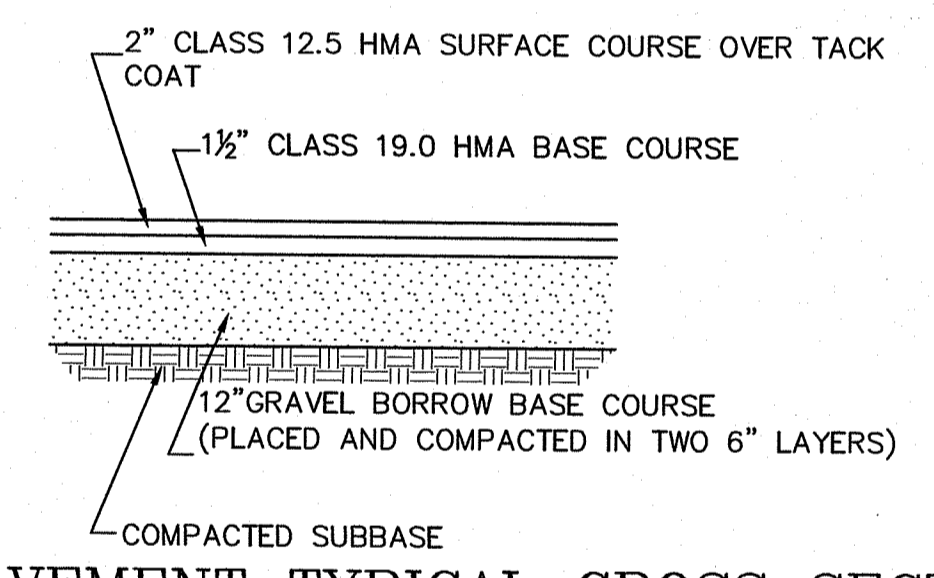
SITE LOCUS NOT TO SCALE

PLAN REFERENCE:

- 1) ARCHITECT PLANS TAKEN FROM: GREGORY J. SNIDER ARCHITECTS, 534 ANGELL STREET, PROVIDENCE, RI 02903, 401.421.3130
 - 2) CLASS I BOUNDARY SURVEY PREPARED BY: PRINCEPI COMPANY, INC. - SURVEYING DIVISION, 27 SAKONNET RIDGE DRIVE, TIVERTON, RI 02878, 401.816.5385
 - 3.) RIDEM PERMIT NO. 2233-0037, APPROVED 11/20/2022, PLANS PREPARED BY: PRINCEPI COMPANY, INC., 27 SAKONNET RIDGE DR., TIVERTON, RI 02878
- PLAN ENTITLED "EXISTING CONDITIONS for KIM BOTHELHO AP 812 LOT 117 PEACEFUL WAY in TIVERTON, RHODE ISLAND". PREPARED BY PRINCEPI COMPANY INC. SURVEYING DIVISION. DATED: 3/30/22 - JOB NO. ERSC-2021-25

ZONING: R-80

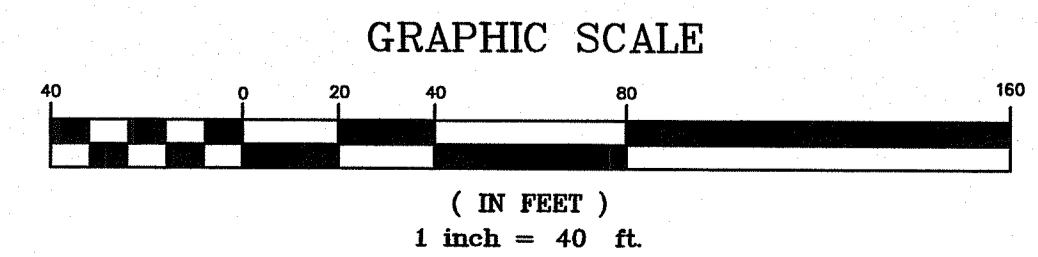
- REQUIRED
- MINIMUM LOT AREA = 80,000 S.F.
 - MINIMUM FRONT YARD = 50'
 - MINIMUM SIDE YARD = 35'
 - MINIMUM REAR YARD = 80'
 - MAXIMUM BUILDING COVERAGE = 10%



SITE PAVEMENT TYPICAL CROSS SECTION NOT TO SCALE

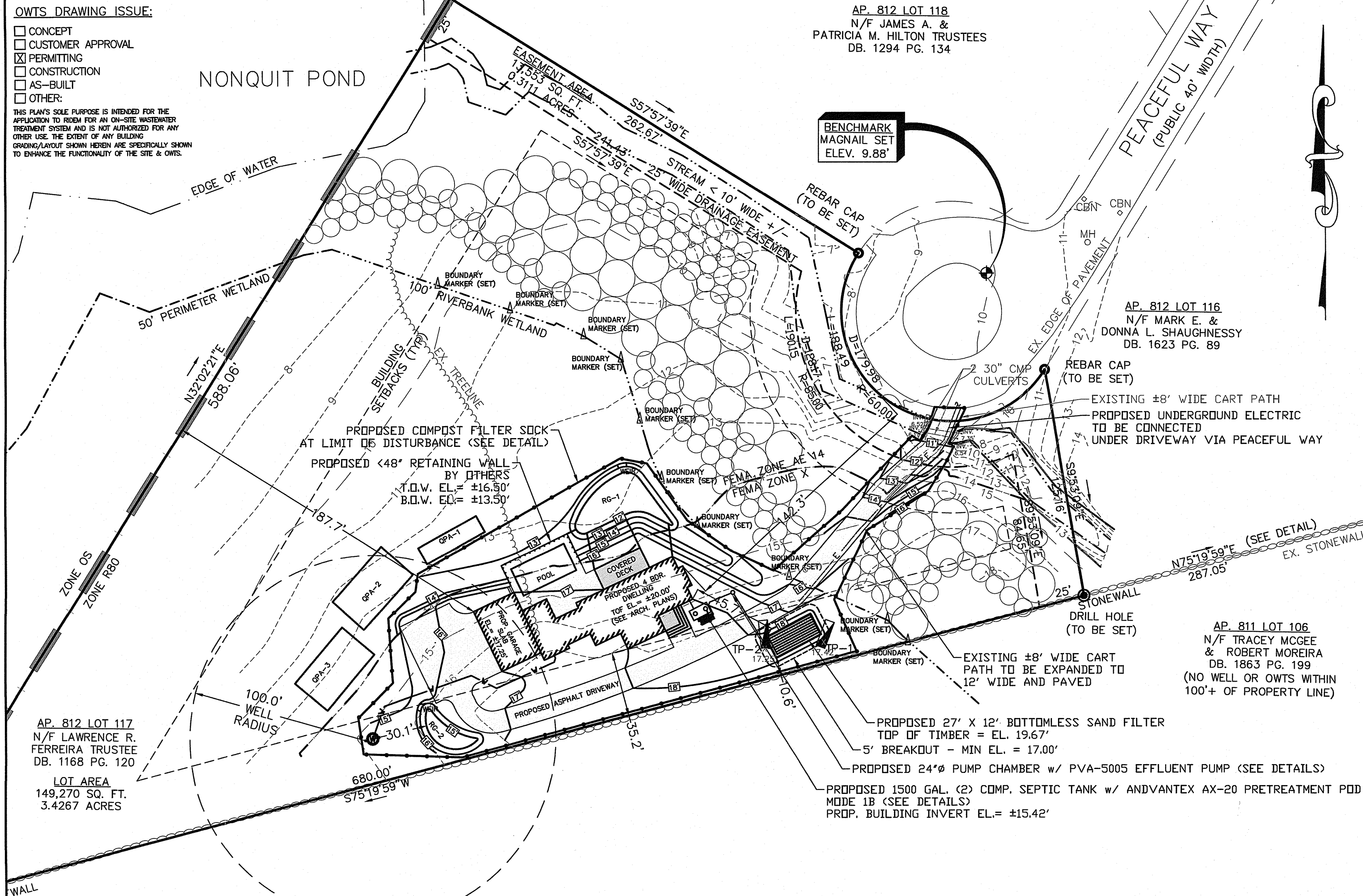
QPA NOTE:
 TO PREVENT COMPACTION OF THE SOIL IN THE QPA, CONSTRUCTION VEHICLES MUST NOT BE ALLOWED TO DRIVE OVER THE AREA. IF IT BECOMES COMPACTED, THE SOIL MUST BE SUITABLY AMENDED, TILLED, AND RE-VEGETATED ONCE CONSTRUCTION IS COMPLETE TO RESTORE INFILTRATION CAPACITY.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 OWTS & FRESHWATER WETLANDS
 JOINT PERMIT APPROVAL
 DWTS# 2233-0037, P.W. 22-0300
 APPROVED: [Signature] DATE: 8/15/23
 No Change Allowed Without RIDEM Approval
 Approved Plans/Permit Must Be Kept at Construction Site



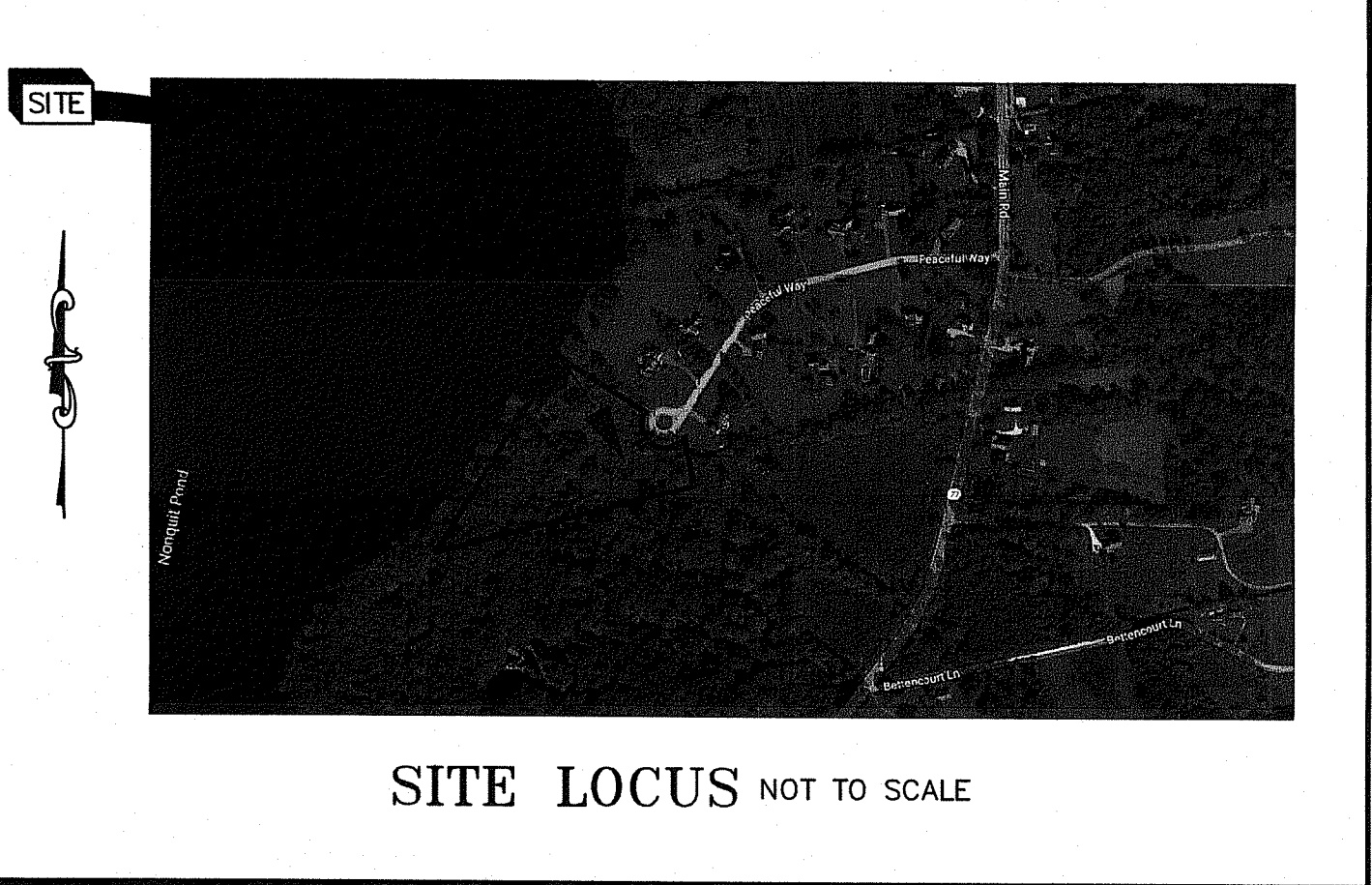
OVERALL SITE PLAN

 Thomas J. Principe, III No. 9107 REGISTERED PROFESSIONAL ENGINEER	 PRINCEPI COMPANY, INC. ENGINEERING DIVISION 27 SAKONNET RIDGE DRIVE TIVERTON, RI 02878 401.816.5385 WWW.PRINCEPICOMPANY.COM									
	ON-SITE WASTEWATER TREATMENT SYSTEM REDESIGN for AP 812 LOT 117 0 PEACEFUL WAY in TIVERTON, RHODE ISLAND									
REVISIONS <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>DRWN</th> <th>CHKD</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>7/11/2023</td> <td>JRM</td> <td>TJP</td> </tr> </tbody> </table>	No.	DATE	DRWN	CHKD	1	7/11/2023	JRM	TJP	SCALE: 1" = 40' SHEET NO: 1 of 4 DRAWN BY: KAB DESIGN BY: KAB CHECKED BY: TJP DATE: 05/11/2023 PROJECT NO.: ERSC-2021-25	
No.	DATE	DRWN	CHKD							
1	7/11/2023	JRM	TJP							



LEGEND

PROPERTY LINE	---
ABUTTER LINE	---
EX. EDGE OF PAVEMENT	---
EXISTING CONTOUR	---
EX. STONE BOUND	---
EX. DRAIN LINE	---
EX. TREELINE	---
EX. FENCE	---
EX. STONE WALL	---
EX. TEST PIT	---
EX. 50' WETLAND BUFFER	---
100' RIVERBANK WETLAND	---
PROPOSED CONTOUR	---
EROSION CONTROLS @ LOD	---



BOTTOMLESS SAND FILTER DESIGN CALCULATIONS

FLOW: PROPOSED 4 BEDROOM X 115 GALLON PER BEDROOM = 460 GALLONS/DAY

SOILS: 24" GWT FROM O.G., SOIL CATEGORY 9 SUBSOIL
LOADING RATE FOR TIME DOSED SYSTEM (CAT. 1) = 1.5 GAL./SF/DAY

BOTTOMLESS SAND FILTER SIZING: 460 GAL./DAY / 1.5 GAL./SF/DAY = 306.7 SF

SAND FILTER SIZING (ACCEPTABLE RATIO RANGE 1.5:1 TO 10:1) USE FILTER 27' X 12' = 324 SF (RATIO 2.25:1)
USE 18" BETWEEN LATERALS AND 9" BETWEEN LATERALS AND WALLS
USE 18" BETWEEN ORIFICES

LATERALS [(12-1.5)/1.5]+1 = 8 LATERALS
ORIFICES [(27-1.5)/1.5]+1 = 18 ORIFICES/LATERAL
18 ORIFICES/LATERAL X 8 LATERALS = 144 ORIFICES TOTAL
(MIN. ORIFICE SPACING: 14"-24") (MIN. LATERAL SPACING: 15"-24")

SOILS:
RI DEM APP#: 2233-0037
EXCAVATED DATE: 2/2/2022
EVALUATED BY: THOMAS J. PRINCIPE III
WITNESSED BY: ANDREW DERISO - RIDEM

TP-1: GWT 18" CAT. 9 (SIL) SUBSOIL
TP-2: GWT 18" CAT. 9 (SIL) SUBSOIL

SPECIFICATIONS

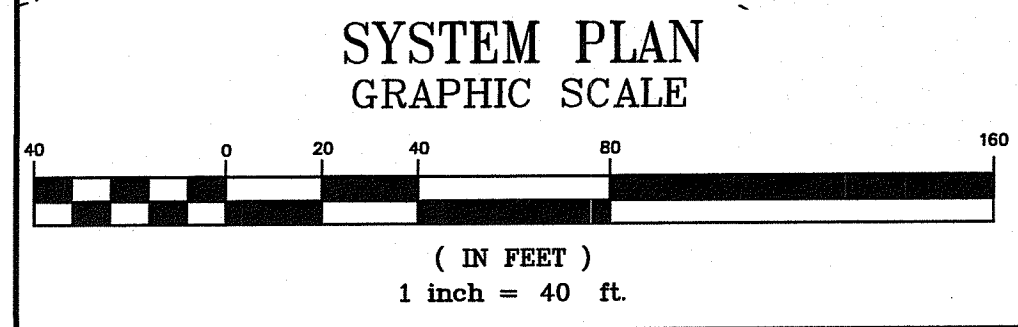
- THE SYSTEM FOR SUBSURFACE DISPOSAL OF SANITARY SEWAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS, DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, "RULES ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION, DESIGN, CONSTRUCTION, AND MAINTENANCE OF ON-SITE WASTEWATER TREATMENT SYSTEMS" RULE 1 THROUGH RULE 55.
- THE PIPE FROM THE BUILDING TO THE SEPTIC TANK SHALL BE SDR-35 PVC PIPE OR EQUIVALENT. SDR-40 PVC OR EQUIVALENT TO BE USED FOR ALL PORTIONS SUBJECT TO VEHICULAR TRAFFIC.
- SOLID WALL PIPE AND FITTINGS SHALL BE SCHEDULE 35 PVC (POLYVINYL CHLORIDE) MANUFACTURED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF ASTM D 3034. JOINTS SHALL BE SOLVENT WELDED TYPE.
- THE SEPTIC TANK MUST HAVE TWO COMPARTMENTS WITH THE FIRST COMPARTMENT HAVING A LIQUID VOLUME THAT IS TWO THIRDS THE REQUIRED VOLUME OF THE ENTIRE TANK. THE SEPTIC TANK SHALL BE WATER TIGHT, AND CONSTRUCTED OF PRECAST REINFORCED CONCRETE, FIBERGLASS, POLYETHYLENE OR OTHER MATERIALS APPROVED BY THE RIDEM. OUTLET TEES MUST BE EQUIPPED WITH AN EFFLUENT SCREEN. THE INLET AND OUTLET TEES MUST HAVE A MINIMUM OF 20 INCH ACCESS OPENINGS. THE OUTLET TEE RISER MUST BE AT FINISH GRADE, AND THE INLET TEE RISER WITHIN 12 INCHES OF FINISH GRADE.
- THE DISTRIBUTION BOX SHALL BE A WATERTIGHT PRECAST CONCRETE STRUCTURE OR OTHER DURABLE MATERIAL MEETING THE REQUIREMENTS OF THE SPECIFICATIONS WITH A Baffle AND SUITABLE PIPE PENETRATION KNOCKOUTS.
- WASHED STONE AND OTHER SOIL MATERIALS SHALL BE IN CONFORMANCE WITH THE STATE RULES AND REGULATIONS, RULE 32.0.
- WHenever the system is to be constructed wholly or partially in fill, the procedure as defined in rule 33.5 of the state rules and regulations shall apply.
- THE DESIGN INTENT IS TO MEET THE STATE STANDARDS. THE SYSTEM OPERATION IS DEPENDENT ON PROPER USAGE, AND ITS OPERATION IS NOT GUARANTEED BY THIS PLAN.

NOTE:
CONTRACTOR TO VERIFY BENCHMARK & EXISTING CONDITIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN FIELD AND DESIGN DATA SHOWN HEREON TO BE REPORTED TO THE ENGINEER

PLAN REFERENCE:

- ARCHITECT PLANS TAKEN FROM:
GREGORY J. SNIDER ARCHITECTS
534 ANGELL STREET
PROVIDENCE, RI 02903
401.421.3130
- CLASS I BOUNDARY SURVEY PREPARED BY:
PRINCIPE COMPANY, INC. - SURVEYING DIVISION
27 SAKONNET RIDGE DRIVE
TIVERTON, RI 02878
401.816.5385
- RIDEM PERMIT NO. 2233-0037
APPROVED 11/20/2022
PLANS PREPARED BY:
PRINCIPE COMPANY, INC.
27 SAKONNET RIDGE DR.
TIVERTON, RI 02878

PLAN ENTITLED "EXISTING CONDITIONS for KIM BOTHELHO AP 812 LOT 117 PEACEFUL WAY in TIVERTON, RHODE ISLAND". PREPARED BY PRINCIPE COMPANY INC. SURVEYING DIVISION.
DATED: 3/30/22 - JOB NO. ERSC-2021-25



ARCHITECT NOTE:

IT IS THE RESPONSIBILITY OF THE ARCHITECT TO FINALIZE SITE LAYOUT & COORDINATE ELEMENTS WITH ENGINEER PRIOR TO CONSTRUCTION. FINAL GRADING & LAYOUT SHALL BE COORDINATED AND VERIFIED THROUGH ARCHITECT DRAWINGS.

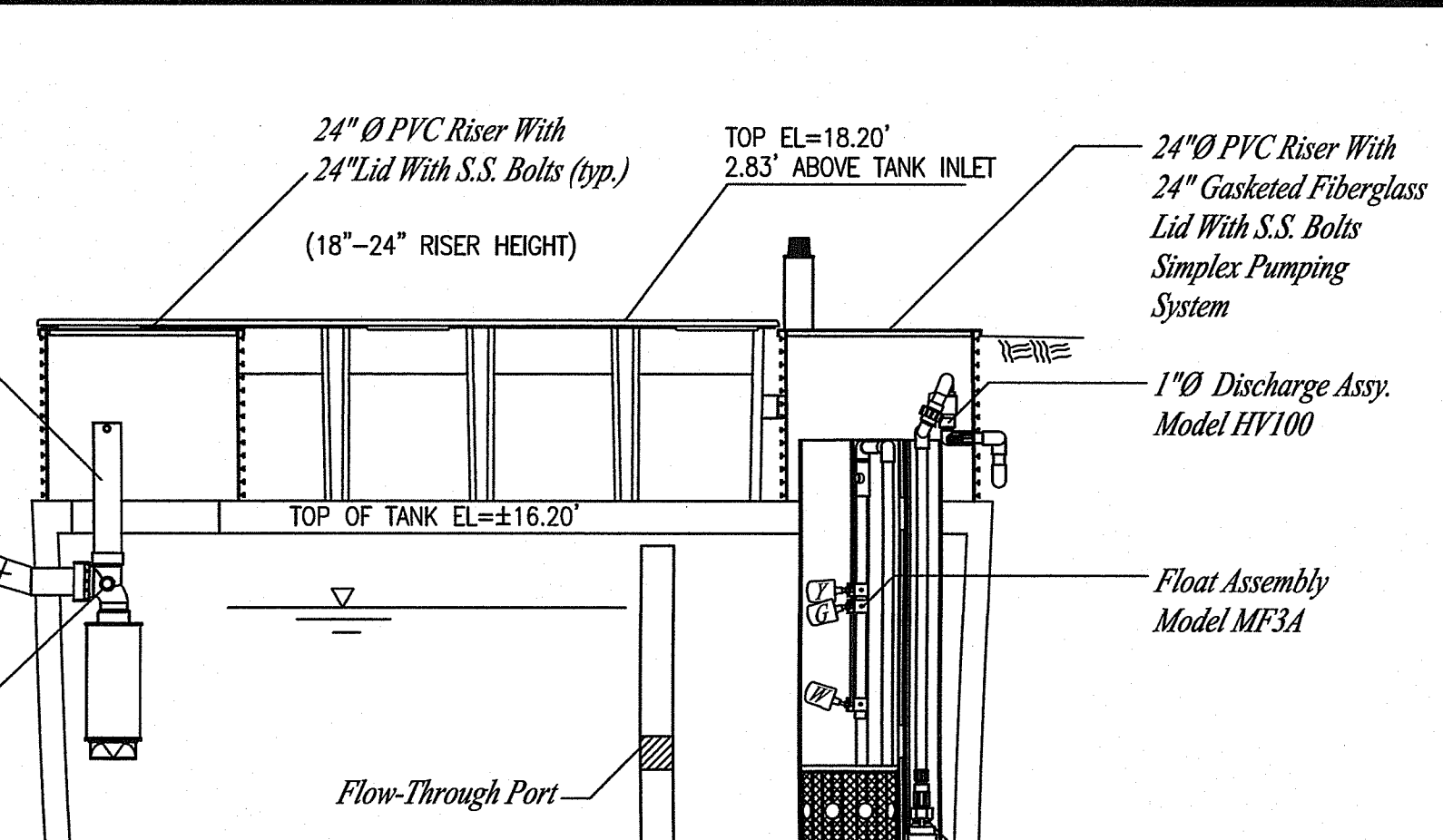
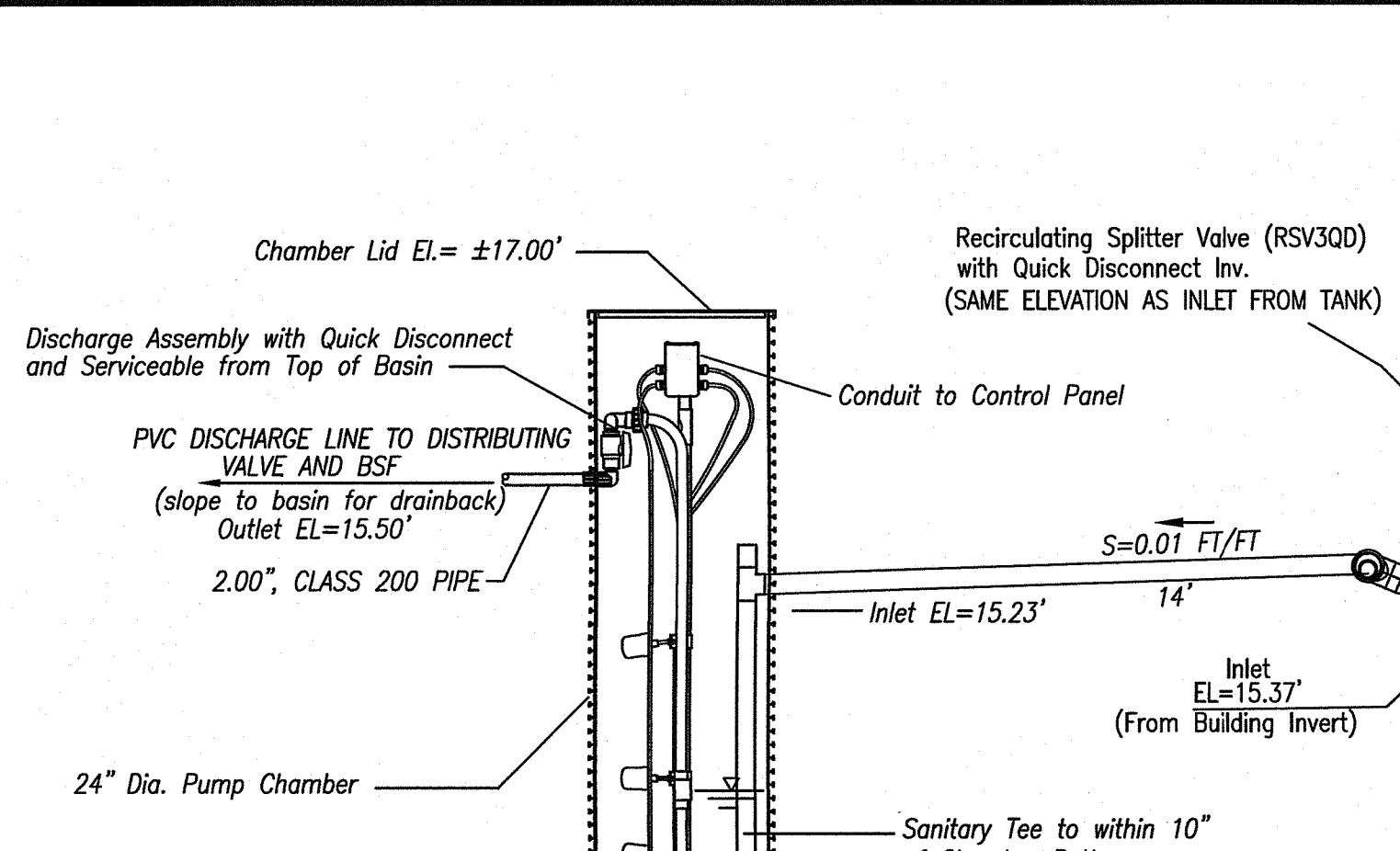
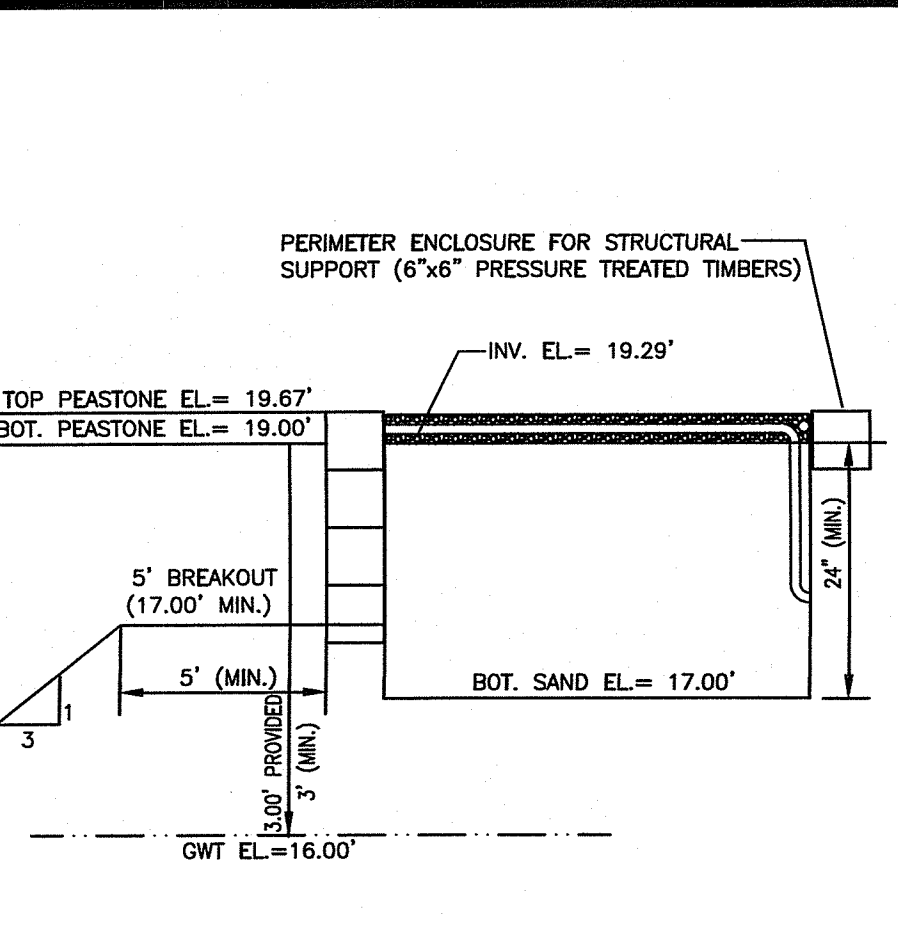
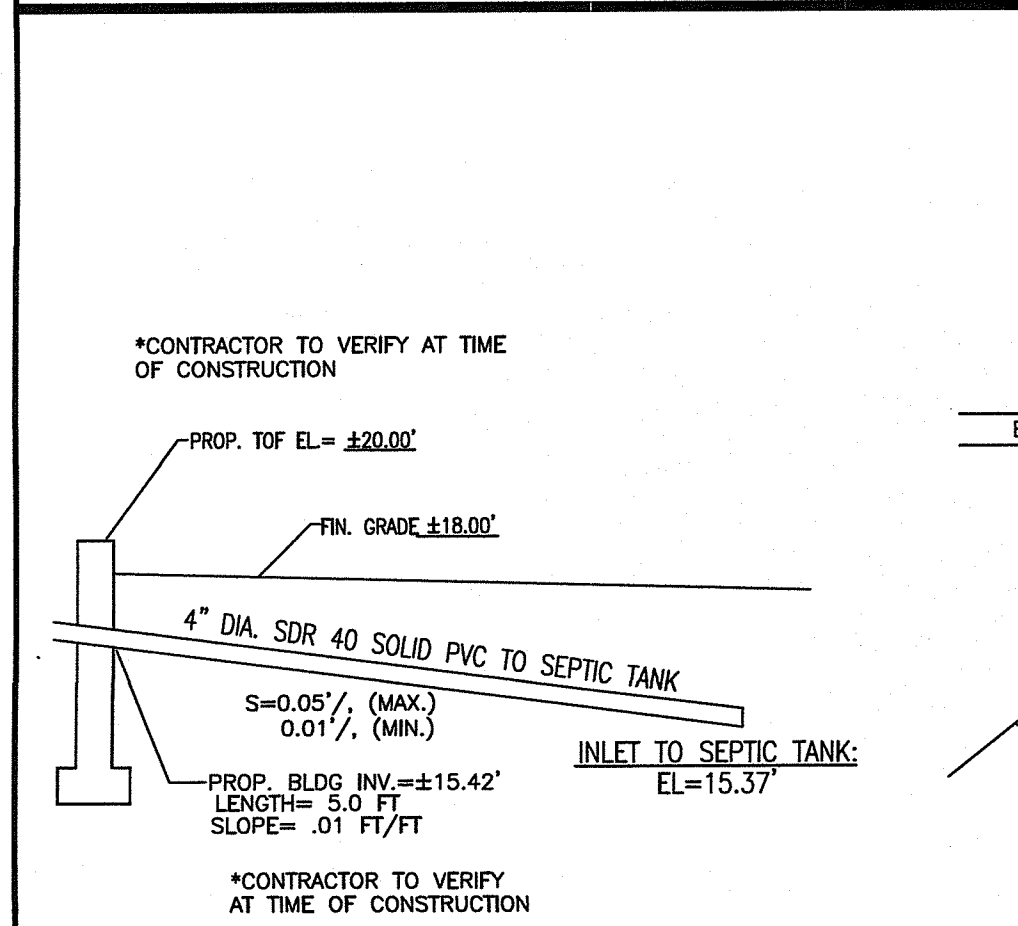
LOT COVERAGE:

PROPOSED DWELLING -	2,414 SF
PROPOSED COVERED PORCH -	335 SF
PROPOSED GARAGE -	866 SF
TOTAL PROPOSED LOT COVERAGE -	3,615 SF
TOTAL PROPOSED LOT COVERAGE (%) -	3,615 / 149,270 = 2.6% < 10% O.K.

ZONING: R-80

REQUIRED MINIMUM LOT AREA =	80,000 S.F.
MINIMUM FRONT YARD =	50'
MINIMUM SIDE YARD =	35'
MINIMUM REAR YARD =	80'
MAXIMUM BUILDING COVERAGE =	10%

PROPOSED: LOT AREA = 149,270 SF
FRONT YARD = 142.3'
SIDE YARD = 35.2'
REAR YARD = 187.7'
BUILDING COVERAGE = 2.6%



*INSTALL TEE IN CONFORMANCE WITH REGULATIONS.
**CONTRACTOR TO VERIFY BENCHMARK PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN FIELD AND DESIGN DATA SHOWN HEREON TO BE REPORTED TO THE ENGINEER

*BSF DOSING CRITERIA:
PVA-5005 PUMP TO DOSE LEACHING FIELD ONCE PER HOUR AT A MAXIMUM RATE OF 0.25 GALLON / ORIFICE
0.25 GAL./ORIFICE X 144 ORIFICES = 36 GPH PER DESIGN GUIDANCE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
OWTS & FRESHWATER WETLANDS
JOINT PERMIT APPROVAL

OWTSP# 2233-0037 PWW# 22-0200
APPROVED: [Signature] DATE: 8/15/23
No Change Allowed Without RIDEM Approval
Approved Plans/Permit Must Be kept at Construction Site

DESIGN NOTES

- UNLESS SPECIFICALLY NOTED, THE PROPOSED OWTS IS NOT WITHIN A WATERSHED OF A PUBLIC WATER SUPPLY OR OTHER CRITICAL RESOURCE AREA.
- UNLESS OTHERWISE NOTED, THERE ARE NO DRINKING WATER LINES, EXISTING OR PROPOSED WITHIN 50 FEET OF THE PROPOSED OWTS.
- UNLESS OTHERWISE NOTED, THERE ARE NO NON-POTABLE WATER WELLS, EXISTING OR PROPOSED WITHIN 100 FEET OF THE PROPOSED OWTS.
- UNLESS OTHERWISE NOTED, THERE ARE NO EXISTING OR PROPOSED PUBLIC DRINKING WATER SUPPLY WELLS WITHIN 500 FEET OF THE PROPOSED OWTS.
- UNLESS OTHERWISE NOTED, THERE ARE NO WETLANDS OR DRAINS (STORM) WITHIN 200 FEET OF THE PROPOSED OWTS.
- THE SEPTIC TANK WILL BE PROVIDED WITH AN OUTLET TEE, INLET TEE AND RISERS TO GRADE.
- DISTRIBUTION BOX TO HAVE A MINIMUM BOTTOM AREA OF 3 SQ. FT.
- WITHIN FIVE (5) FEET OF THE SYSTEM, FINISH GROUND WILL BE GREATER THAN THE INVERT ELEVATION.
- LEACH FIELD CONSTRUCTION SHALL CONFORM TO RULE 33 OF THE SPECIFICATIONS.

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

PRINCIPE COMPANY, INC. ENGINEERING DIVISION
27 SAKONNET RIDGE DRIVE
TIVERTON, RI 02878
401.816.5385
WWW.PRINCIPECOMPANY.COM

REVISIONS			
No.	DATE	DRWN	CHKD
1	7/11/2023	JRM	TJP

ON-SITE WASTEWATER TREATMENT SYSTEM REDESIGN
for
**AP 812 LOT 117
0 PEACEFUL WAY**
in
TIVERTON, RHODE ISLAND

SCALE: 1" = 40' SHEET NO: 2 of 4
DRAWN BY: KAB DESIGN BY: JRM CHECKED BY: TJP
DATE: 05/11/2023 PROJECT NO.: ERSC-2021-25

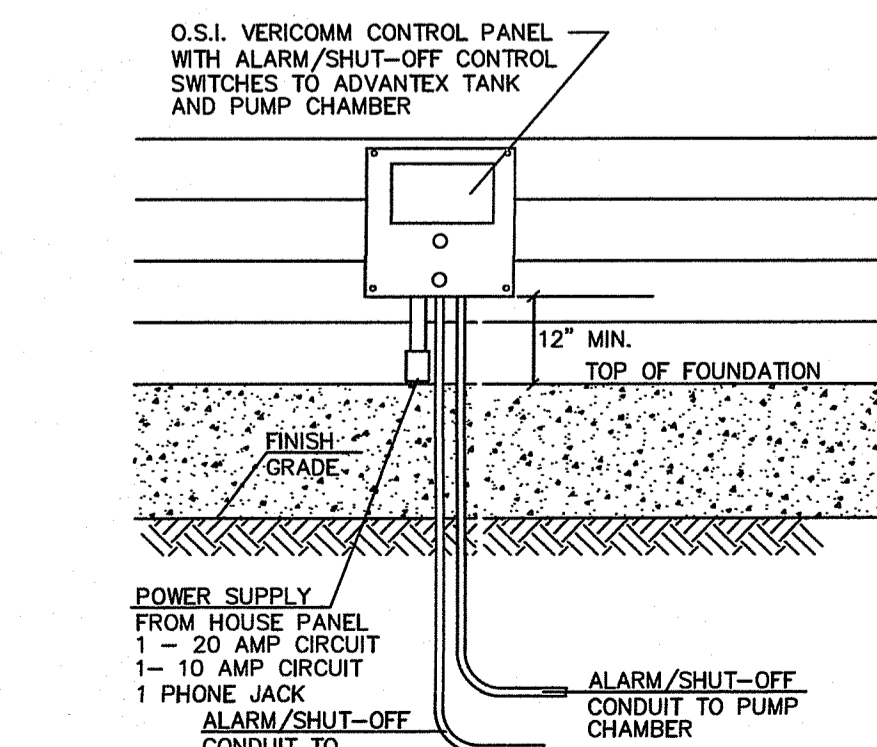
ADVANTEK TREATMENT SYSTEM- AX MODE 1B GENERAL NOTES:

- VENDOR INFORMATION: TECHNICAL INFORMATION OR VENDOR MAY BE OBTAINED FROM THE FOLLOWING ORENCO SYSTEMS, INC. 2880 N. WILSON AVENUE, PORTLAND, OR 97228-3843 FAX: 1-541-320-8884 OR WASTEWATER TECHNOLOGIES, INC. 70 VERMONT AVE., WARWICK, RI 02886 TEL: 1-401-737-7810 FAX: 1-401-737-4821.
- THE TREATMENT SYSTEM PROVIDED (ADVANTEK TREATMENT SYSTEM - AX SERIES) MEETS THE REQUIREMENTS OF A CATEGORY 1 SYSTEM ADVANTAGE TREATMENT SYSTEM THAT IS TIMED DOSED AND HAS BEEN CLASSIFIED BY RIDEM AS MEETING EFFLUENT STANDARDS LESS THAN OR EQUAL TO 20 mg/L FOR THE BOD5 AND TSS; AND FOG OF LESS THAN OR EQUAL TO 5 mg/l.
- ALL SEPTIC TANKS AND PUMP CHAMBERS FOR THE ADVANTEK TREATMENT SYSTEM SHALL BE WATER TIGHT CONSTRUCTION. ALL INLET AND OUTLET PIPES TO CONCRETE CHAMBERS SHALL HAVE FLEXIBLE RUBBER GROMMETS. ALL INLET AND OUTLET PIPES TO PLASTIC OR FIBERGLASS PUMP CHAMBERS SHALL BE USED AT INLET AND OUTLET PIPES TO PLASTIC OR FIBERGLASS PUMP CHAMBERS/BASINS.
- THE PUMP CHAMBER SPECIFIED AFTER THE TREATMENT SYSTEM DISCHARGING TO THE BSF SHALL PROVIDE A MINIMUM STORAGE VOLUME EQUAL TO THE DESIGN VOLUME DOSED INTO THE BSF DURING ONE PUMP RUN TIME AS INDICATED ON THIS SHEET. PUMP CHAMBERS FOR SEASONALLY-USED SYSTEMS SHALL BE INCREASED IN CAPACITY BY A MINIMUM OF THIRTY (30) PERCENT. REFER TO PUMP CHAMBER.
- A LICENSED ELECTRICIAN SHALL INSTALL ALL ELECTRICAL COMPONENTS WIRING, CIRCUITS, CONTROL & ALARM PANELS, AND ELECTRONIC CONTROL PANELS PER STATE/NATIONAL ELECTRIC CODE REQUIREMENTS.
- THE ADVANTEK TREATMENT SYSTEM SHALL INCLUDE A PROGRAMMABLE TIMER TO PROVIDE SMALL DOSES OF TREATMENT. THE TIMER SHALL BE SET THROUGHOUT THE DAY. THE TYPICAL SYSTEM FRONT DOSE WILL OCCUR AT 10:00 AM. THE TIMER SHALL BE SET TO THE TIME THE SYSTEM STARTS UP. THE TIMER AND PUMP CHAMBER FLOAT SWITCHES AT THE TIME OF SYSTEM START UP. THE INSTALLER WILL BE RESPONSIBLE FOR SETTING THE PROGRAMMABLE TIMER TO THE TIME OF SYSTEM START UP. THE SYSTEM TO ENSURE THAT THE PROGRAMMABLE TIMER IS RESET, AS NEEDED, AND ADJUSTED FOR ACTUAL FLOW CONDITIONS FOR THE SYSTEM.
- THE INSTALLER SHALL PROVIDE A HIGH LEVEL WATER ALARM, PUMP, AND FLOAT SWITCH(S) SET TO OVERFLOW FROM THE SEPTIC TANK. THE HIGH LEVEL WATER ALARM SHALL ALSO BE PROVIDED TO SEPTIC TANK AND PUMP BASIN DETAILS WATER REFLUENT OFF SHALL ALSO BE PROVIDED - REFER TO SEPTIC TANK.
- AN IMPULSE COUNTER SHALL BE PROVIDED ON THE TIMER OVERRIDE OR HIGH WATER ALARM FLOAT (WHICHEVER IS APPLICABLE BASED ON ESTIMATED FLOW CONDITIONS) FOR THE ADVANTEK TREATMENT SYSTEM AND PUMP CHAMBER/ BASIN PUMPS.
- PUMP CONTROL PANELS SHALL BE PROVIDED WITH AN ELAPSED TIME RUN METER AND A DOSING EVENT COUNTER. RUN METER AND COUNTER FOR EACH PUMP IN THE CONTROL PANELS SHALL BE MOUNTED ON AN EXTERIOR WALL OF THE STRUCTURE FOR EASE OF SERVICE OF THE SYSTEM. IT IS RECOMMENDED THAT THE PANELS BE PLACED IN A MANNER WITHIN VIEW OF THE SYSTEM LOCATION OF POSSIBLE TO HELP FACILITATE OPERATION AND MAINTENANCE.
- INSTALLATION OF THE ADVANTEK TREATMENT SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH THE ADVANTEK TREATMENT SYSTEM INSTALLATION GUIDE.
- IF THE ADVANTEK-AX FILTER IS PLACED OVER THE TOP OF THE TANK, A MINIMUM 5" THICK LAYER OF COMPACTED SAND OR GRAVEL SHALL BE PLACED OVER THE TANK TO ACHIEVE A MINIMUM SLOPE OF 1% TO THE FILTER RETURN LINE. REFER TO INSTALLATION GUIDELINES FOR SPECIAL LENGTH REQUIREMENTS.
- RISER TANK ADAPTERS AND ACCESS RISERS SHALL BE CONSTRUCTED TO BE WATER TIGHT. CARE SHALL BE TAKEN TO ORIENT RISERS TO CORRECT POSITIONS BEFORE REQUIRED ADHESIVE CURES. RISER ADAPTER JOINTS SHALL ALSO BE SEALED BETWEEN THE ADAPTER AND RISER JOINTS WITH CONTINUOUS FILLED ADHESIVE SEALER. INSTALLER SHALL VERIFY TANK AND RISER CONNECTIONS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND SAFETY GUIDELINES.
- INSTALLATION OF THE RECIRCULATING VALVE SHALL BE INSTALLED WITHIN THE RISER OVER THE SEPTIC TANK'S INLET AND MUST BE INSTALLED SO AS NOT TO INTERFERE WITH THE INLET TEE.
- THE ENTIRE VENTILATION FAN ASSEMBLY (VFA) MUST BE INSTALLED ABOVE THE SEASONAL HIGH GROUND WATER TABLE AND MUST BE INSTALLED TOWARD THE VFA SO THAT EXCESSIVE CONDENSING WATER WILL DRAIN THROUGH THE DUCKBILL IN THE VFA AND NOT ACCUMULATE IN THE LINE. AIR INTAKE SHALL BE INSTALLED AT A LOCATION WHICH REDUCES POSSIBLE DAMAGE FROM OUTDOOR ACTIVITIES. AIR INTAKE PIPING SHALL BE LESS THAN 40' IN LENGTH. CONSULT ORENCO FOR LONGER DISTANCES.
- THE HIGH-HEAD PUMP AND RESPECTIVE FLOAT LEVELS FOR THE ADVANTEK FILTER POD WITH THE TWO COMPARTMENT SEPTIC TANK SHALL BE INSTALLED PER THE INSTALLATION GUIDELINES DOCUMENT AND MANUFACTURER'S SPECIFICATIONS.
- CONTROL PANEL, ELECTRICAL JUNCTION BOXES, AND WIRING RUNS SHALL BE INSTALLED BY A LICENSED ELECTRICIAN.
- PUMPS AND FLOAT LEVELS SHALL BE MANUALLY AND AUTOMATICALLY TESTED. DESIGNER SHALL BE PRESENT DURING TESTING OF SYSTEM COMPONENTS. MANUAL AND AUTOMATIC TESTING SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
- WHENEVER AN ALARM CONDITION OCCURS, THE RED LIGHT ON THE FRONT OF THE ALARM PANEL WILL FLASH ON, ALONG WITH THE BELL RINGER. THE AUDIO PORTION OF ALL ALARMS CAN BE SILENCED BY PUSHING THE ILLUMINATED LIGHT.

ADVANTEK TREATMENT SYSTEM OPERATION MAINTENANCE (O&M) REQUIREMENTS:

- WARNING - BEFORE DOING ANY WORK ON EITHER THE WIRING TO THE LEVEL CONTROL FLOATS AND PUMPS IN THE VAULT TANKS, OR ON THE CONTROL PANEL, PULL THE FUSE AND/OR SWITCH ALL THE CIRCUIT BREAKERS SERVING THE CONTROL PANEL TO THE OFF POSITION. DO NOT ENTER A CONFINED SPACE WITHOUT USING PROPER EQUIPMENT AND FOLLOWING STANDARD CONFINED SPACE SAFETY PRECAUTIONS.
- THE INSTALLER AND SYSTEM SERVICE PROVIDER SHALL BE FAMILIAR WITH THE ADVANTEK TREATMENT SYSTEM O&M MANUAL REQUIREMENTS AND PROCEDURES FOR THE SYSTEM TO BE INSTALLED.
- THE OWNER(S) SHALL BE PROVIDED WITH A 3-YEAR LIMITED WARRANTY FOR THE ADVANTEK TREATMENT SYSTEM FROM ORENCO SYSTEMS, INC. OR A LICENSED VENDOR OR AN ORENCO AUTHORIZED SERVICE PROVIDER, AS SPELLED OUT IN THE SALES CONTRACT.
- THE INSTALLER SHALL PROVIDE THE OWNER(S) WITH PUMP WARRANTY INFORMATION - TYPICALLY 5 YEARS FOR THE O&M PUMPS.
- REGULAR INSPECTION AND MAINTENANCE OF THE ADVANTEK TREATMENT SYSTEM COMPONENTS SHALL BE PERFORMED THREE (3) MONTHS AFTER SYSTEM START-UP AND THEN EVERY 12 MONTHS THEREAFTER, OR MORE FREQUENTLY IF NECESSARY. PUMP OPERATIONS CONTROL PANELS WITH ALARMS AND LIMITED SAFETY PRECAUTIONS SHALL BE TAKEN DURING TESTING AND SERVICING THE SYSTEM.
- MEASUREMENT OF SOLIDS ACCUMULATION SHOULD BE PERFORMED SO THAT THE PROCESSING TANK (SEPTIC TANK) PUMPING RECOMMENDATIONS CAN BE GIVEN TO THE OWNER(S). A RECOMMENDATION FOR PUMPING SHALL BE MADE WHEN THE BOTTOM OF THE SCUM LAYER IS WITHIN 3" OF THE FLOW-THROUGH PORTS OF THE PUMP VAULT (2nd TANK COMPARTMENT) OR THEN THERE IS AN ACCUMULATION OF SLUDGE WITHIN 6" BELOW THE FLOW-THROUGH PORTS.
- TEXTILE FILTER MEDIA (A2) WITHIN THE RECIRCULATING FILTER POD SHALL BE CLEANED/REPLACED AS NECESSARY IN ACCORDANCE WITH THE ADVANTEK O&M MANUAL AND MANUFACTURER'S RECOMMENDATIONS.
- ALL EFFLUENT FILTER(S) SHALL BE HOSED OFF ON A YEARLY BASIS, AN WHENEVER SEPTIC TANKS AND PUMP BASINS ARE PUMPED. SYSTEMS OPERATING ABOVE THEIR DESIGN FLOWS MAY REQUIRE MORE FREQUENT EFFLUENT CLEANING. THE HOSE OFF FROM THE SCUM LAYER OF ALL PUMP VAULTS SHALL BE PROVIDED WITH CLEANING HOSE FROM THE HOUSE HOLD SEPTIC TANK. ALL SLIME MATERIAL HOSED OFF OF FILTERS, PUMPS AND VAULTS SHOULD BE PLACED INTO THE INLET END OF THE SEPTIC TANK, ACCESSIBLE THROUGH THE INLET ACCESS RISER/MANHOLE.
- ALL TANKS AND BASINS SHALL BE VISUALLY INSPECTED FOR WATER-TIGHTNESS AND STRUCTURAL SOUNDNESS WHEN MAINTENANCE IS PERFORMED.

Electrical Control Panel
NOT TO SCALE



DISCHARGE PUMP FLOAT SETTING CALCULATIONS

TOTAL DAILY FLOW = 460 GALLON/DAY
DOSING RATE OF BSF/ZONE: 144 ORIFICES X .25 GAL/DOSE = 36.00 GALLONS
TOTAL CYCLES PER DAY: 460 GALLONS / 36.00 GALLON/CYCLE = 12.78 CYCLES
DOSE SETTINGS: 36.00 GALLON DOSE / 23.50 GALLON/LQ. FT. = 1.53 FT.
PUMP CHAMBER ELEVATIONS (78" CHAMBER):

RM = ±17.00' (TOP OF CHAMBER)
INLET = 15.23'
HWA = 15.06' (2" BELOW INLET)
PUMP ON = 14.03'
PUMP OFF = 12.50' (2" MINIMUM LIQUID LEVEL)
BOTTOM CHAMBER = ±10.50'

NOTE: DISCHARGE ASSEMBLY DRAWN TO SHOW KEY COMPONENTS - ALL PIPING AND FITTINGS SHALL BE INSTALLED TO ENSURE DRAIN-BACK INTO THE PUMP BASIN TO AVOID FREEZING OF SHALLOW BURY DISCHARGE PIPING (WHERE APPLICABLE).

BOTTOMLESS SAND FILTER GENERAL NOTES

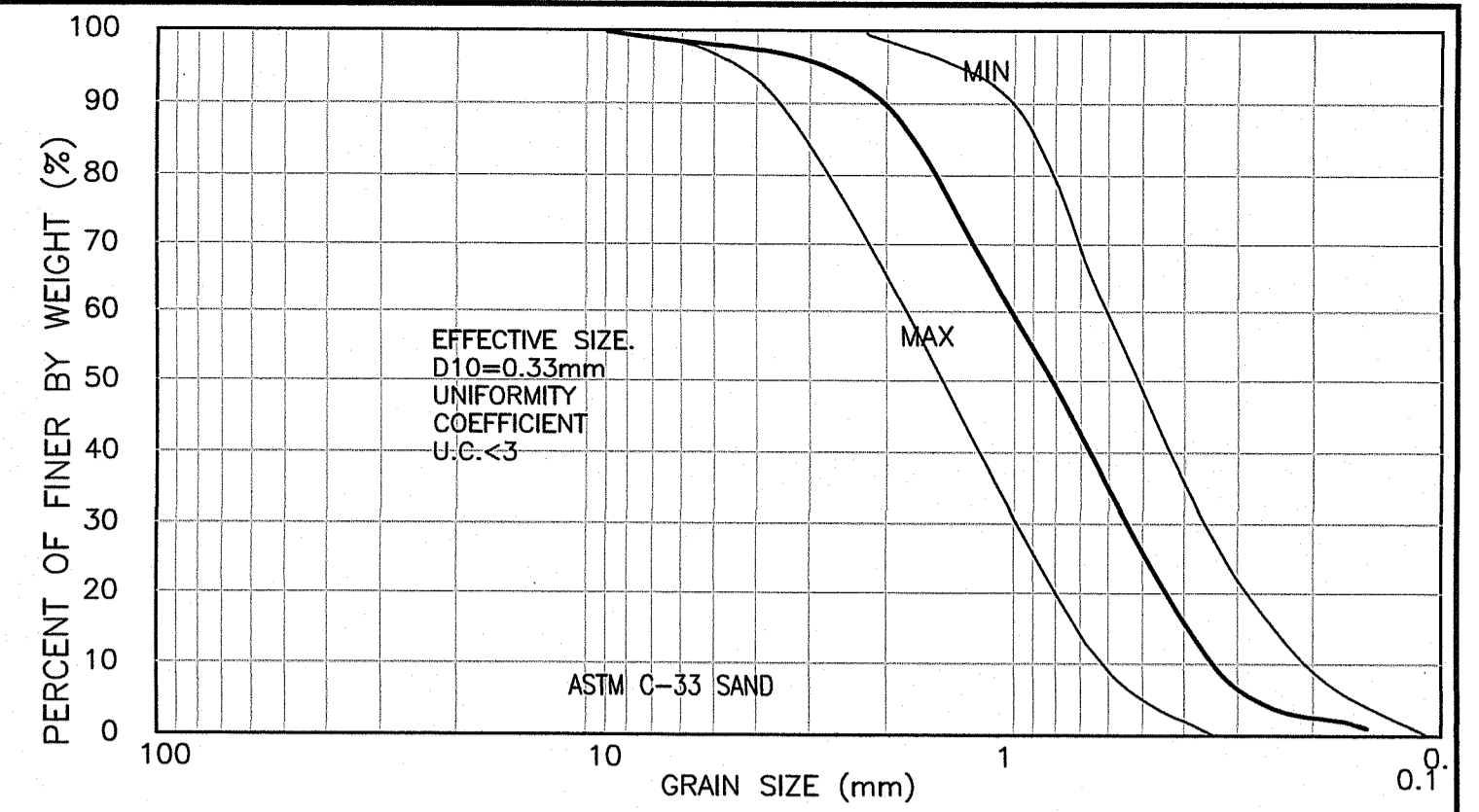
- THE BOTTOMLESS SAND FILTER (BSF) SHALL BE INSTALLED BY A QUALIFIED LICENSED INSTALLER. THE INSTALLER SHALL BE FAMILIAR WITH THE REQUIREMENTS AND INFORMATION OF THE "GUIDELINES FOR THE DESIGNER AND USE OF BOTTOMLESS SAND FILTER" REFERRED TO AS THE SAND FILTER GUIDANCE DOCUMENT ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (RIDEM) ISSUED NOVEMBER 2001.
- THE DESIGNER SHALL BE GIVEN ADEQUATE NOTIFICATION FROM THE INSTALLER TO PROVIDE PROPER INSPECTION OF THE BSF TO DETERMINE THE LOCATION OF THE PEASTONE MEMBRANE, ASTM C-33 SAND MEDIA MATERIALS, SYSTEM PIPING, AND COARSE PEASTONE GRAVEL MEDIA.
- PRIOR TO DELIVERY OF SAND AND PEASTONE GRAVEL MEDIA MATERIALS, THE INSTALLER SHALL PROVIDE THE DESIGNER WITH INFORMATION ON THE PEASTONE GRAVEL MEDIA. THE SAND FILTER MEDIA MATERIALS SHALL MEET THE REQUIREMENTS OF THE GRADATION SPECIFICATIONS SHOWN ON THIS SHEET WHICH ARE TO BE USED FOR THE PEASTONE GRAVEL MEDIA. THE PEASTONE GRAVEL MEDIA SHALL BE PLACED IN AN ENCLOSURE AND BELOW THE PEASTONE MUST MEET THE REQUIREMENTS OF ASTM C-33 SAND WITH AN EFFECTIVE SIZE (D10) OF 0.3MM AND UNIFORMITY COEFFICIENT (U) OF 3.0 TO 4.0. THE MAXIMUM MAXIMUM SIZE (D60) OF 2.0MM SHALL BE USED FOR THE PEASTONE GRAVEL MEDIA. THE DESIGNER AND/OR PROPERTY OWNER SHALL HAVE THE RIGHT TO REQUIRE ANALYSIS TESTS OF SAND FILTER MEDIA MATERIALS WHICH MEET THE REQUIREMENTS OF ASTM C-33 SPECIFICATIONS. THE METHOD SPECIFIED IN SOIL SURVEY LABORATORY METHODS AND PROCEDURES FOR COLLECTING SOIL SAMPLES, SOIL SURVEY INVESTIGATION REPORT # U.S. DEPARTMENT OF AGRICULTURE, 1964.
- THE BOTTOMLESS SAND FILTER (BSF) MUST BE USED IN CONJUNCTION WITH THE REQUIRED ADVANCED PRE-TREATMENT SYSTEM INDICATED ON THE APPROVED DESIGN.
- THE PREPARED BOTTOM OF BED EXCAVATION OF THE BSF SHALL BE INSPECTED BY THE DESIGNER PRIOR TO CONSTRUCTION OF THE STRUCTURAL ENCLOSURE AND PLACEMENT OF SAND FILTER MEDIA.
- THE LANDSCAPE AREA IMMEDIATELY ADJACENT TO THE BSF SYSTEM SHALL BE PROTECTED FROM HEAVY VEHICLE TRAFFIC AND EXCESSIVE WEIGHT LOADS BEFORE DURING AND POST-CONSTRUCTION. THE SITE CONSTRUCTION WITH DIRECTION OF THE DESIGNER. THE DESIGNER SHALL PROVIDE A PAPER MAP TO KEEP VEHICLE TRAFFIC OFF THE LEACHFIELD AREA WHERE REQUIRED ON THE SITE PLAN. THE INSTALLER SHALL PROVIDE BARRIERS, FENCING OR WALLS TO PROTECT THE BSF AFTER SYSTEM CONSTRUCTION IS COMPLETED.
- THE FINISHED GRADE OF ANY BOTTOMLESS SAND FILTER SHALL BE A MINIMUM OF 6" INCHES ABOVE THE BSF ELUTION OF THE SURROUNDING FINISHED GRADE. THE PEASTONE GRAVEL MEDIA SHALL BE PLACED ON THE PLACE WITH IRON PINS, STEEL REBARS OR GALVANIZED SPIKES TO THE SUPPORT WALLS TO PREVENT MOVEMENT OF THE PEASTONE GRAVEL MEDIA. THE PEASTONE GRAVEL MEDIA SHALL BE SUBSTITUTED FOR THE SUPPORT STRUCTURE SEGMENTAL BLOCK UNITS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND CONSTRUCTION METHODS.
- THE LAND SURFACE ELEVATION AT THE EXISTING GRADE/SAND FILTER MEDIA INTERFACE (ELEV. 98.20') DETAIL SHALL BE MAINTAINED. LAND SURFACE REGRADING ADJOINING THIS 5'-FOOT PERIMETER MUST MAINTAIN A MINIMUM 5:1 SLOPE DOWN.
- THE DESIGNER WILL AID IN THE STAKEOUT OF THE PROTECTED BSF AREA PRIOR TO ANY SITE PREPARATION ACTIVITIES.
- A MINIMUM BUFFER OF TEN (10) FEET MUST BE MAINTAINED BETWEEN BSF'S AND NEIGHBORING TREES AND SHRUBS. LOCATIONS WHERE A 10'-FOOT BUFFER IS NOT MAINTAINED FROM EXISTING TREES AND SHRUBS, THE DESIGNER SHALL PROVIDE A ROOT BARRIER FABRIC SHALL BE PLACED BETWEEN THE TREES AND THE FILTER.
- PUMPS SPECIFIED AFTER THE ADVANCED TREATMENT SYSTEM SHALL BE SIZED TO PROVIDE A MINIMUM OF TWO (2) FEET OF HEAD (1.0' RESERVE) ABOVE THE DISTAL END OF EACH DISTRIBUTION LATERAL IN THE SUBSTITUTION OF AN EQUAL PUMP AFTER RECEIVING DESIGNER APPROVAL FIRST. THE DESIGNER WILL BE PRESENT TO VERIFY DISTAL END HEAD AFTER THE INSTALLER AFTER CONSTRUCTION OF THE BSF.
- EFFLUENT TRANSPORT LINES FROM THE PUMP TO THE BSF SHALL BE CLASS 200 MINIMUM PIPE OF 1/2" SPECIFIED ON THE ATTACHED SITE PLAN. THE TRANSPORT LINE SHALL SLOPE BACK TOWARD THE PUMP CHAMBER/BASIN OR ONTO THE BSF TO CLEAR THE LINE AFTER EACH DOSE. CHECK VALVES SHALL BE INSTALLED AT THE PUMP CHAMBER/BASIN TO PREVENT FLOW WITHIN THE TRANSPORT LINES. IF TRANSPORT LINES CANNOT BE DRAINED, THE INSTALLER WILL BE REQUIRED TO INSTALL THE TRANSPORT LINES WITH INSULATION ABOVE THE TRANSPORT LINES. THE INSULATION SHALL BE 2" WIDE EXPANDED RIGID POLYURETHANE.
- WALLS OF THE BSF ENCLOSURE SHALL BE LINED WITH A 30 MIL PVC LINER WITH ALL JOINTS, PATCHES, REPAIRS AND SEAMS HAVING THE SAME FINISHED PHYSICAL PROPERTIES OF THE LINER MATERIAL. THE LINER SHALL BE INSTALLED WITH AN APPROPRIATE RESIDENT SEALER. DESIGNER WILL INSPECT PVC LINER AND PENETRATIONS PRIOR TO BACKFILLING WITH SAND/PEASTONE FILTER MATERIALS. BELOW GRADE LINER WALLS SHALL BE CONSTRUCTED OF MARINE GRADE OR PRESSURED TREATED C17W00 (OR EQUIVANT) AND ABOVE-GRADE SHALL BE PERMANENT TOP FRAME STRUCTURE SHALL BE PROVIDED ON ANY PORTION OF THE BSF ABOVE FINISH GRADE.
- THE DISTRIBUTION MANIFOLD PIPING AND DISTRIBUTION PIPING SHALL CONFORM TO THE SIZES, MATERIALS AND PRESSURE CLASSIFICATION SPECIFICATIONS AS INDICATED IN THE DETAILS OF THIS SHEET. INDIVIDUAL LATERALS SHALL BE NO LONGER THAN 50 FEET IN LENGTH. A SERIES OF 1/2" INCH DIAMETER LATERALS SHALL BE DRILLED TO THE DISTRIBUTION LATERALS AT SPACES INDICATED IN THE DETAILS OF THIS SHEET. THE LATERALS SHALL BE INSTALLED WITH ALL ORIFICE HOLES POINTING DOWN (6 o'clock position) COVERED BY ORIFICE SHIELDS (USUALLY REFERRED TO AS COLD WEATHER ORIFICE SHIELDS). LATERALS SHALL BE INSTALLED AT CENTER SPACINGS NOTED ON THE DETAILS OF THIS SHEET. EACH DISTRIBUTION LATERAL WITHIN THE BSF SHALL BE SUPPLIED WITH BALL VALVE AND THREADED END CAP AT ITS DISTAL END. AN INSPECTION WELL SHALL BE INSTALLED AT THE APPROXIMATE CENTER OF THE BSF AND SHALL EXTEND DOWN TO THE SAND AND NATIVE SOIL INTERFACE. THE INSPECTION WELL SHALL BE MADE OF 4-INCH DIAMETER PERFORATED OR SITED 35 (MINIMUM) SAND MEDIA. NOTE: PERIMETER STRIPPING AND EXCAVATION OF SOIL BENEATH THE NATIVE SOIL/FILTER SAND INTERFACE IS PROHIBITED.
- SOD, VEGETATION, OR DEAD OR DECAYING ORGANIC LITTER SHALL BE REMOVED FROM THE BSF AREA. THREE (3) INCHES OF THE NATIVE SOIL MATERIAL SHALL BE SCARIFIED AND MIXED WITH 3 INCHES OF SAND MEDIA. NOTE: PERIMETER STRIPPING AND EXCAVATION OF SOIL BENEATH THE NATIVE SOIL/FILTER SAND INTERFACE IS PROHIBITED.
- ALL EQUIPMENT USED BY THE INSTALLER TO PLACE SAND AND PEASTONE MATERIALS INTO THE BSF SHALL BE FREE OF MUD OR SILT FINES PRIOR TO LOADING. THE SAND FILTER MEDIA SHALL BE PLACED IN LAYER (6) INCH LIFTS IN THE FILTER ENCLOSURE AND WETTED SLIGHTLY DURING INSTALLATION TO PROMOTE EVEN SETTLING. OVER WETTING THE SAND SHALL BE AVOIDED TO ENSURE THAT PARTICLE SIZES FALL TO AVOID TANKS FLOATING. PUMPING OF CONCRETE TANKS OUTSIDE OF THE BSF TO STAKE OUT THE SAND MEDIA IS NOT ALLOWED. THE EDGES OF THE FILTER TO SAND MEDIA SHALL BE PROTECTED DURING THESE OPERATIONS TO AVOID TEARING OR STRETCHING OF THE LINER.
- IMMEDIATELY AFTER INSTALLATION OF THE BSF, THE HEAD OR "SOIL HEIGHT" OF THE DISTRIBUTION MANIFOLD SHALL BE DRILLED TO THE DESIGNER'S RECORD LOG, AND LEFT ON SITE. THE MINIMUM DISTAL END PRESSURES SHALL BE 2'-FEET OF HEAD.
- DURING OPERATIONAL AND MAINTENANCE VISITS, READINGS FROM FLASHP RUM RUN TIME METERS, EVENT COUNTERS, WATER METERS AND DISTAL END PRESSURES SHALL BE RECORDED ON THE DATA LOGS. (USUALLY STORED IN THE ELECTRICAL CONTROL PANELS) AT EACH SITE VISIT. A SAMPLE OF THE BSF MEDIA SHOULD BE COLLECTED BY THE ADVANCED TREATMENT UNIT. THE SAMPLE SHOULD BE CLEAR OF FINES AND/OR ORGANIC MATTER AND BE RELATIVELY FREE OF SEPTIC DROPS. SAMPLES DEVIATING FROM THESE CONDITIONS WILL INDICATE THAT THE SYSTEM NEEDS MAINTENANCE OR SYSTEM SETTINGS NEED TO BE MODIFIED.
- IMPORTANT NOTE: IF FIBERGLASS OR POLYETHYLENE TANKS ARE USED, IT IS IMPORTANT TO MONITOR GROUNDWATER LEVELS BEFORE PUMPING SEPTAGE OR TO SCHEDULE PUMPING OF TANKS LATE SUMMER OR EARLY FALL TO AVOID TANKS FLOATING. PUMPING OF CONCRETE TANKS OUTSIDE OF THE BSF TO STAKE OUT THE SAND MEDIA IS NOT ALLOWED. THE EDGES OF THE FILTER TO SAND MEDIA SHALL BE PROTECTED DURING THESE OPERATIONS TO AVOID TEARING OR STRETCHING OF THE LINER.

SYSTEM INSTALLER AND PROPERTY OWNER NOTE

THE ON-SITE WASTEWATER TREATMENT SYSTEM (OWTS) AND PROPOSED IMPROVEMENTS ON THIS PLAN SHALL BE STAKEOUT BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF RHODE ISLAND. THE SYSTEM INSPECTION THROUGHOUT THE ENTIRE CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE PREPARER OF THIS PLAN AND/OR HIS AUTHORIZED REPRESENTATIVE. THE INSTALLATION SHALL BE AS PER TO LOCATION, DESIGN, CONSTRUCTION AND MAINTENANCE OF ON-SITE WASTEWATER TREATMENT SYSTEMS AND BOUNDARIES. PRIOR TO THE START OF ANY CONSTRUCTION, THE OWNER SHALL PROVIDE A MINIMUM 48 HOURS NOTICE AS TO THE DATE OF THE START OF CONSTRUCTION. THE INSTALLER SHALL NOTIFY THE SYSTEM DESIGNER.

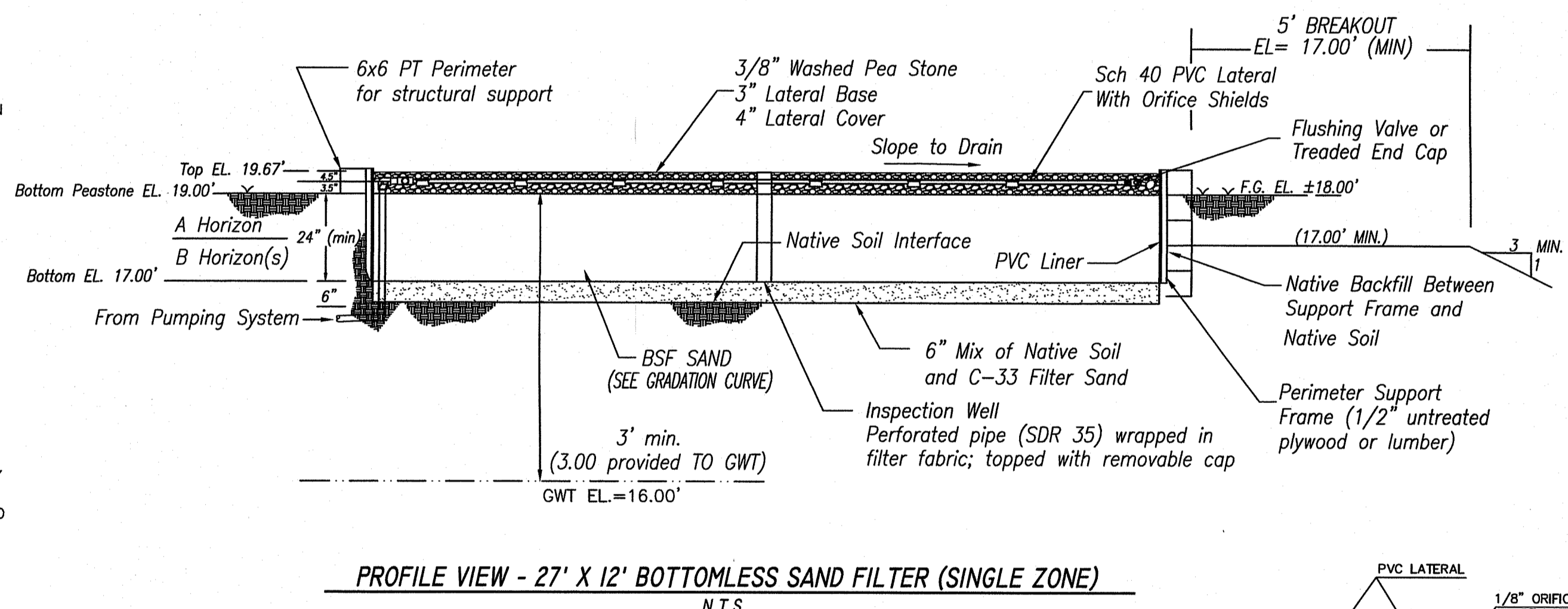
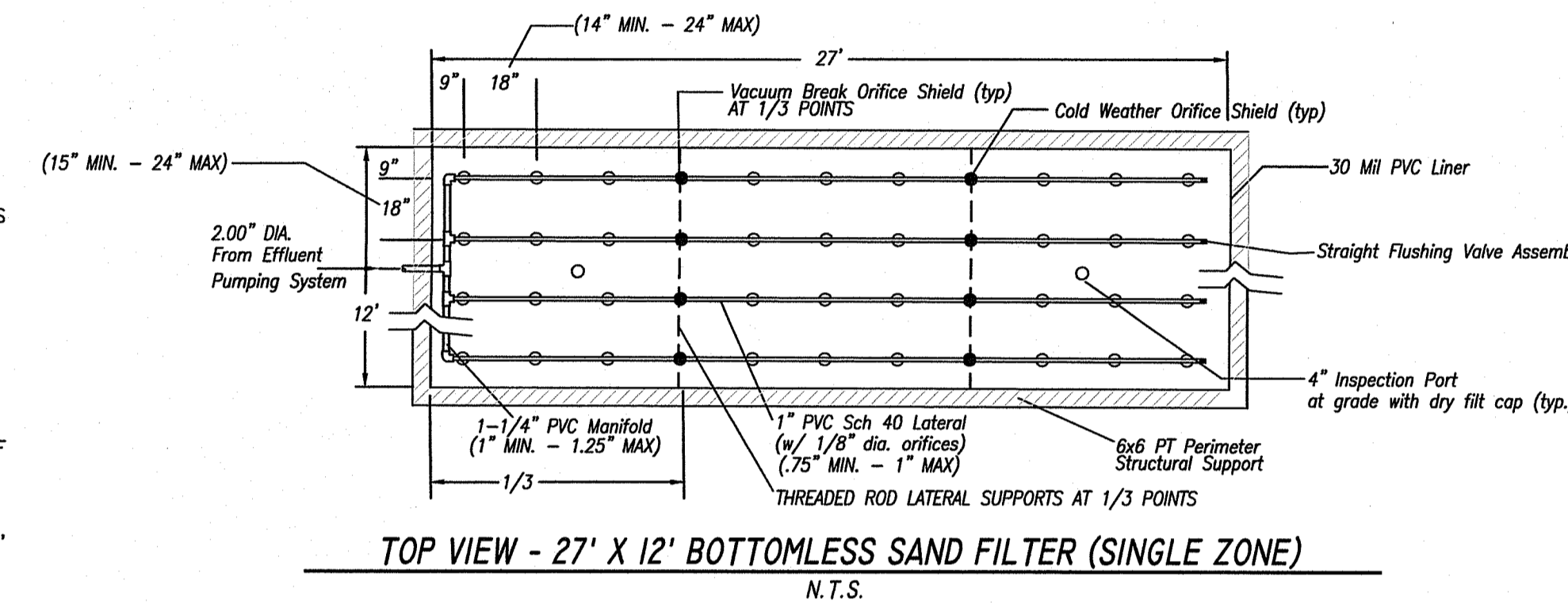
BOTTOMLESS SAND FILTER (BSF) OPERATION OPERATION & MAINTENANCE (O&H) REQUIREMENTS:

- WARNING-BEFORE DOING ANY WORK ON EITHER THE WIRING TO THE LEVEL CONTROL FLOATS AND PUMPS IN THE VAULT TANKS, OR ON THE CONTROL PANEL, PULL THE FUSE AND/OR SWITCH ALL THE CIRCUIT BREAKERS SERVING THE CONTROL PANEL TO THE OFF POSITION. DO NOT ENTER A CONFINED SPACE WITHOUT USING PROPER EQUIPMENT AND FOLLOWING STANDARD CONFINED SPACE SAFETY PRECAUTIONS.
- REMOVE ACCUMULATED SOLIDS IN LATERALS. FIRST OPEN THE LATERAL END BALL VALVE OR THREADED END CAP. ENGAGE THE PUMP AND FLUSH OUT ANY SOLIDS. A BOTTLE BRUSH (SIZED APPROPRIATELY FOR THE LATERAL) ATTACHED TO A PLUMBERS SNAKE IS THEN PUSHED DOWN EACH LATERAL TO UNPLUG THE LATERAL LINE. DUSTED BRUSH THROUGH THE LATERAL END ONTO THE PEASTONE. PARTICULARLY DIRTY OR MAINTENANCE-NEGLECTED LATERALS SHOULD BE FLUSHED DIRECTLY INTO A BUCKET BY USING A HOSE END SWELLING WATER SUPPLY. THE SERVICE PROVIDER SHALL INSTALL A PROPER BACKFLOW PREVENTION DEVICE TO PREVENT CROSS CONTAMINATION. A BSF IN CONTINUOUS USE WILL REQUIRE LATERAL FLUSHING/BOTTLE BRUSH TREATMENT ONCE A YEAR ON AVERAGE. BSF'S OPERATING ABOVE THEIR DAILY DESIGN FLOWS MAY REQUIRE MORE FREQUENT LATERAL FLUSHING. SEASONALLY-USED BSF'S MAY NOT NEED YEARLY LATERAL FLUSHING, BUT THEIR LATERAL HEAD (PRESSURE) SHOULD BE CHECKED ONE PER YEAR, AND MAINTENANCE PERFORMED AS NEEDED.
- THE PEASTONE SURFACE SHALL BE KEPT FREE OF DEBRIS, WEEDS, AND GRASSES. THE SURFACE SHALL BE LIGHTLY RAKED TO REMOVE ANY LEAVES, WEEDS AND GRASSES SHALL BE REMOVED BY HAND WHEN THEY FIRST APPEAR.
- ONCE A YEAR ALL ELECTRICAL COMPONENTS SHOULD BE CHECKED FOR FUNCTION. ALL FLOAT SWITCHES SHOULD BE ACTIVATED AND TIMERS SHOULD BE CHECKED AGAINST THEIR DESIRED SETTINGS. ALL FLOAT SWITCHES SHOULD BE HOSED DOWN TO PREVENT SOIL ACCUMULATION. ALL WIRING SHALL BE NEATLY BUNDLED AND PLACED OUT OF THE OPERATING PATH OF THE FLOAT SWITCHES.



BOTTOMLESS SAND FILTER MEDIA SPECIFICATIONS

27' x 12' (324 S.F.) Bottomless Sand Filter - Single Zone - 144 Orifices- 8 Laterals

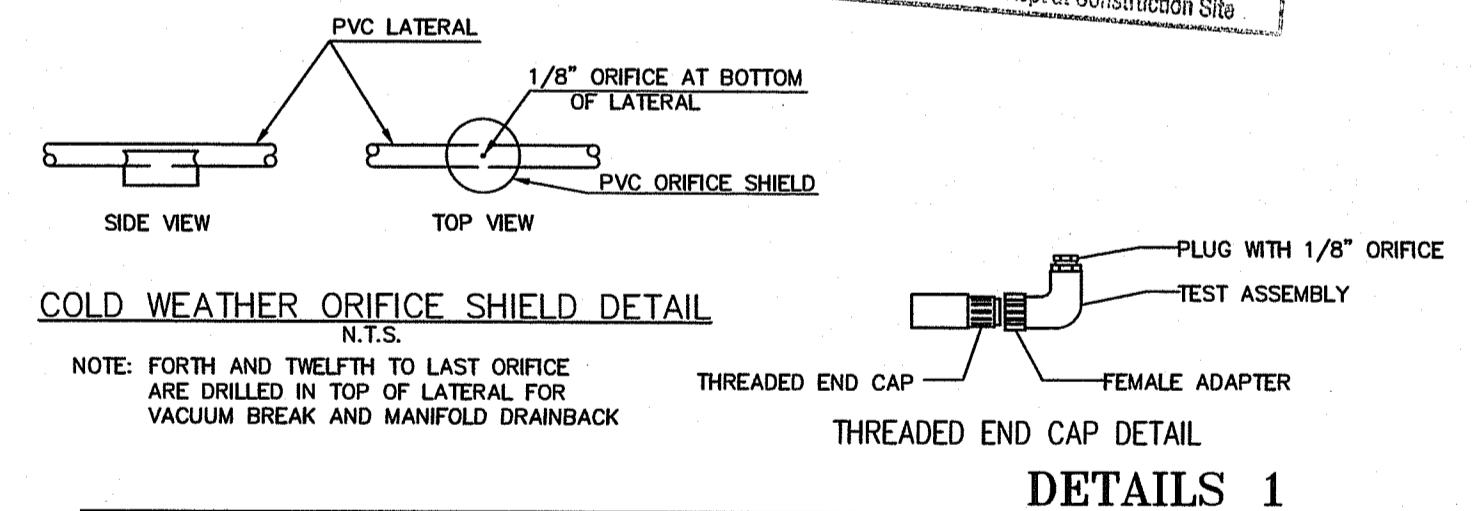


DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
OWTS & FRESHWATER WETLANDS
JOINT PERMIT APPROVAL

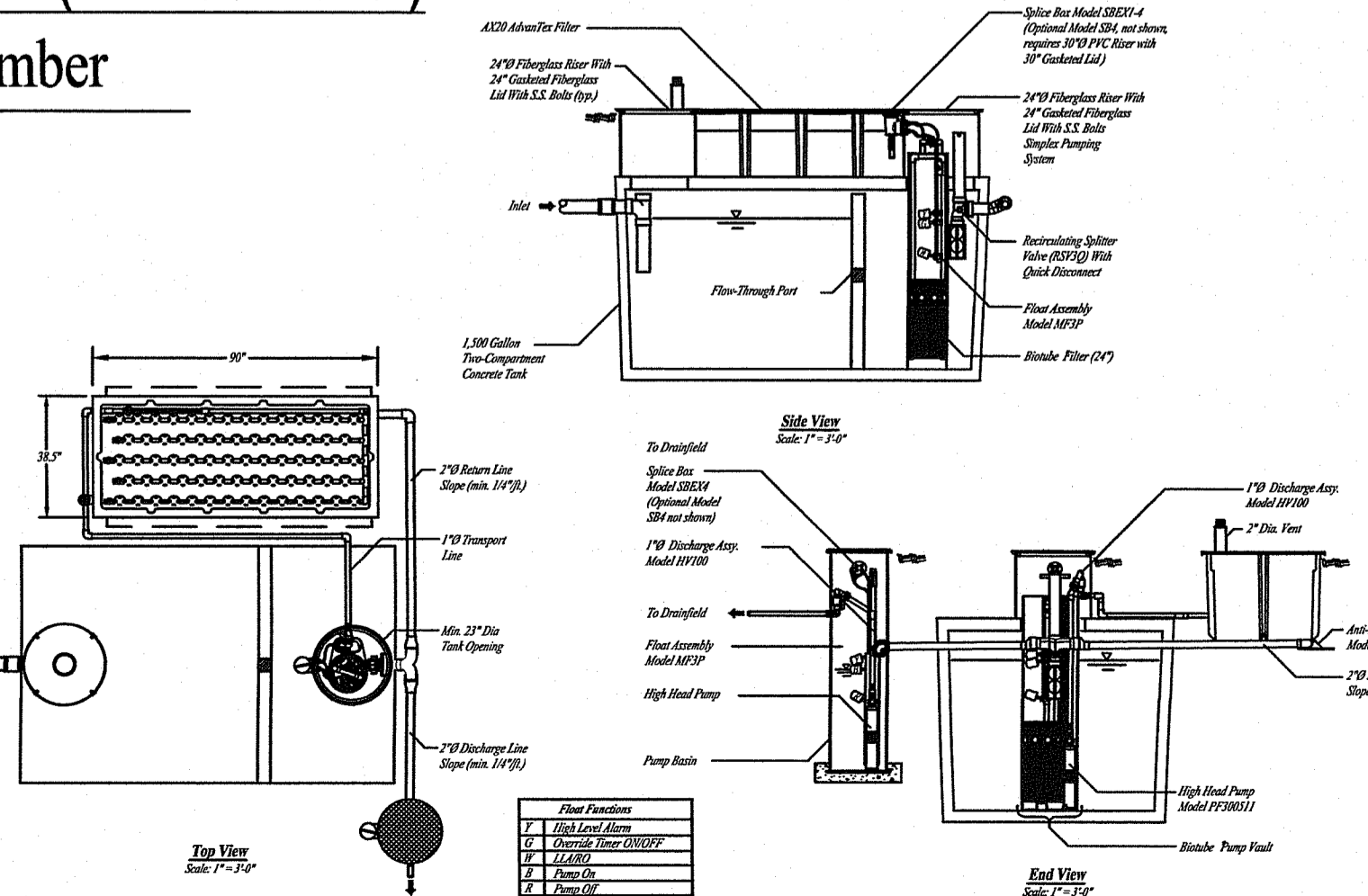
OWTS# 2232-0037 PERMIT# 22-0200

APPROVED: [Signature] DATE: 8/15/23

No Changes Allowed Without RIDEM Approval
Approved Plans/Permit Must Be kept at Construction Site



AdvanTex AX20 Mode 1B w/ Concrete Tank (Shallow Burial) with High Head Pump Chamber
No Scale



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

PRINCEPE COMPANY, INC.
ENGINEERING DIVISION

27 SAKONET RIDGE DRIVE
TIVERTON, RI 02878
401.816.5385
WWW.PRINCEPECOMPANY.COM

ON-SITE WASTEWATER TREATMENT SYSTEM REDESIGN
for
AP 812 LOT 117 0 PEACEFUL WAY
in
TIVERTON, RHODE ISLAND

REVISIONS				
No.	DATE	DRWN	CHKD	
1	7/11/2023	JRM	TJP	

SCALE: 1" = 40'

SHEET NO: 3 of 4

DRAWN BY: KAB

DESIGN BY: JRM

CHECKED BY: TJP

DATE: 05/11/2023

PROJECT NO.: ERSC-2021-25

EROSION CONTROL & SOIL STABILIZATION PROGRAM

1. DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
2. ALL DISTURBED SLOPES, EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15, SHALL BE SEEDED OR PROTECTED BY THAT DATE, FOR ANY WORK COMPLETED DURING EACH CONSTRUCTION YEAR.
3. THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH R.I. STD SPECIFICATION M 18.
4. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS, BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
5. THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING PERMANENT SEEDING MIXTURES:

A. MOWED AREA (ALL FLATS OR SLOPES LESS THAN 3:1)

MIXTURE:	% BY WEIGHT:
RED FESCUE	75
KENTUCKY BLUEGRASS	15
COLONIAL BENTGRASS	5
PERENNIAL RYEGRASS	5
TOTAL:	100 lbs/Ac

B. UNMOWED AREA OR INFREQUENTLY MOWED (ALL SLOPES GREATER THAN 3:1)

MIXTURE:	% BY WEIGHT:
RED FESCUE	75
COLONIAL BENTGRASS	5
PERENNIAL RYEGRASS	5
BIRDSFOOT TREFLOIL	15
TOTAL:	100 lbs/Ac

6. TEMPORARY TREATMENTS SHALL CONSIST OF A STRAW, OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS) THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
7. STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 3,000 - 4,000 lbs/Ac.
8. ALL STRAWBALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN HELP MINIMIZE THE EROSION. A TEMPORARY SEEDING GUIDE MUST BE INCLUDED AS A REFERENCE. THE FOLLOWING SPECIES ARE RECOMMENDED:

MIXTURE:	lbs./1,000 S.F.
ANNUAL RYEGRASS	1.0 - 1.5
PERENNIAL RYEGRASS	1.0 - 1.5
SUDAN GRASS	0.7 - 1.0
MILLET	0.7 - 1.0
WINTER RYE	3.0
OATS	0.5 - 5.0
WEEPING COVER GRASS	0.5 - 5.0

9. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE.
10. ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE R.I.D.P.W. STD SPECIFICATIONS SECTION 202.
11. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 15 DAYS OF FINAL GRADING.
12. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS, THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND STOCKPILES SHALL ALSO BE SEEDED AND/OR STABILIZED.
13. ON BOTH STEEP AND LONG SLOPES CONSIDERATION SHALL BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.
14. REFERENCE THE SEDIMENTATION CONTROL PROGRAM AND ORDER OF PROCEDURE FOR PROPER COORDINATION
15. THE DRAINAGE SYSTEM SHALL RECEIVE ONE FINAL CLEANING PRIOR TO ACCEPTANCE TO THE OVERALL PROJECT BY THE OWNER. SEDIMENTS SHALL BE DISPOSED OF IN A PROPER MANNER.

BMP REQUIRED MAINTENANCE:

MONTHLY:

INSPECT AND REMOVE ANY TRASH
REMOVE ANY INVASIVE SPECIES PLANTS

ANNUALLY:

MULCH— SPRING, AS NEEDED
REPLACE ANY DEAD VEGETATION—SPRING
REMOVE DEAD VEGETATION—FALL OR SPRING
PRUNE—SPRING

AS NEEDED:

REPLACE SOIL MEDIA AND PLANTS WHEN PONDING DOES NOT SUBSIDE WITHIN 72 HRS
(CAREFUL MAINTENANCE SHOULD PROLONG THIS REQUIREMENT)

*ALL PLANT MATERIAL SHALL BE WATERED AND MAINTAINED BY THE OWNER TO ASSURE THAT SUITABLE GROWTH HAS BEEN ESTABLISHED.

ORDER OF PROCEDURE:

1. PRIOR TO ANY CLEARING AND GRUBBING OR ANY ROUGH GRADING, TEMPORARY STRAWBALES AND SANDBAGS SHALL BE PLACED OUTSIDE THE LIMITS OF CONSTRUCTION AS PER THE PLANS (I.E. ALONG ROADWAYS, STREAM BANKS, CRITICAL AREAS, ETC.).
2. ALL EROSION AND SEDIMENTATION CONTROL STRUCTURES SHALL BE PERIODICALLY MAINTAINED AS PER THE RESPECTIVE PROGRAMS FOR TEMPORARY CONTROL.
3. IF WORK PROGRESS IS TO BE INTERRUPTED AT ANY TIME, REFERENCE EROSION AND SEDIMENTATION PROGRAMS FOR TEMPORARY CONTROL.
4. TEMPORARY STRAWBALES AND SANDBAGS ALONG AND AT THE ENDS OF ROADWAYS MAY ALSO BE REMOVED AFTER FINAL SOIL STABILIZATION HAS BEEN ACHIEVED AND APPROVED.
5. STRAWBALES LOCATED AT DRAINAGE OUTLETS MUST REMAIN UNTIL SUCH TIME THAT A DESIRABLE STAND OF GRASS OR COVER HAS BEEN ESTABLISHED AND THE PROJECT RECEIVES A FAVORABLE APPROVAL FOR FINAL ACCEPTANCE FROM THE ENGINEER.

SEDIMENTATION CONTROL PROGRAM:

1. RIP RAP SPLASH PADS SHALL BE INSTALLED AT THE OUTLETS FOR ALL CULVERTS DISCHARGING INTO A WATERWAY.
2. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL ENTERING THE WETLANDS.
3. ALL DISTURBED AREAS SUBJECT TO EROSION TENDENCIES WHETHER THEY BE NEWLY FILLED OR EXCAVATED SHALL BE SEEDED AND PROTECTED WITH A FIBER MULCH.
4. DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
5. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.
6. CARE SHOULD BE TAKEN SO AS NOT TO PLACE "REMOVED SEDIMENTS" WITHIN THE PATH OF EXISTING, NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED WATERCOURSES OR THOSE AREAS SUBJECTED TO STORM WATER FLOW.
7. ADDITIONAL STRAWBALES OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT.
8. ALL SEDIMENTS SHALL BE REMOVED FROM THE DRAINAGE AND DETENTION FACILITIES AS SCHEDULED FOR EACH FACILITY (SEE DETENTION BASIN MAINTENANCE, THIS SHEET).
9. REFERENCE THE "R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE U.S. DEPT. OF AGRICULTURE, SOIL CONSERVATION SERVICE, 1989, AS A GUIDE.

VEGETATIVE COVER AND PLANTING

1. THE NORMAL ACCEPTABLE SEASONABLE SEEDING DATES ARE APRIL 1ST THROUGH OCTOBER 15TH.
2. TOP SOIL FOR PERMANENT OR LONG TERM TEMPORARY SEEDING SHOULD HAVE A SANDY LOAM TEXTURE, RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS. TOP SOIL SHALL CONFORM WITH RHODE ISLAND SPECIFICATIONS M18.01.
3. THE DESIGN SEED MIX UTILIZED IN ALL DISTURBED AREAS TO BE SEEDED SHALL BE COMPRISED OF THE FOLLOWING:

TYPE	% BY WEIGHT	SEEDING DATE
CREeping RED FESCUE	70	
ASTORIA BENTGRASS	5	APRIL 1 - JUNE 15
BIRDFOOT TREFLOIL	15	AUG. 15 - OCT. 15
PERENNIAL RYE GRASS	10	

APPLICATION RATE - 100 LBS PER ACRE

SEED MIX SHALL BE INOCULATED WITHIN 24 - HOURS BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULATION FOR EACH SEED VARIETY. ALTERNATE SEED TYPES DUE TO SITE SPECIFIC CONDITIONS AND SOILS ARE ACCEPTABLE WITH THE ENGINEER'S APPROVAL.

4. IN TOPSOIL SEEDING AREAS, THE CONTRACTOR WILL LIME AND FERTILIZE AS REQUIRED TO COMPLIMENT OR UPGRADE SOIL CONDITIONS.

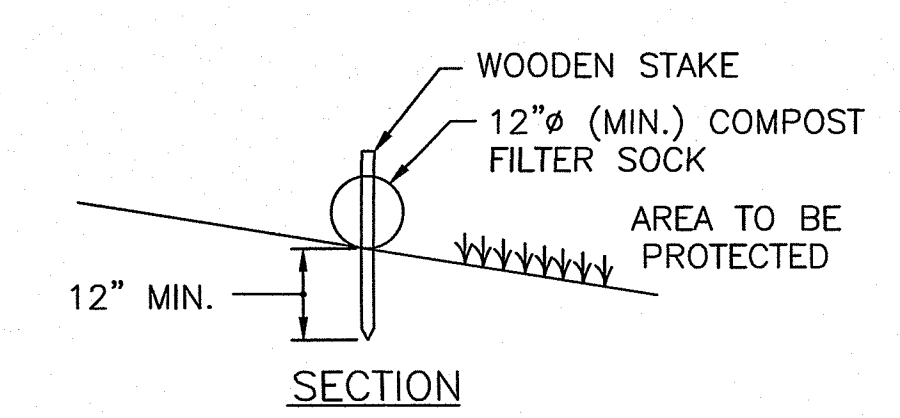
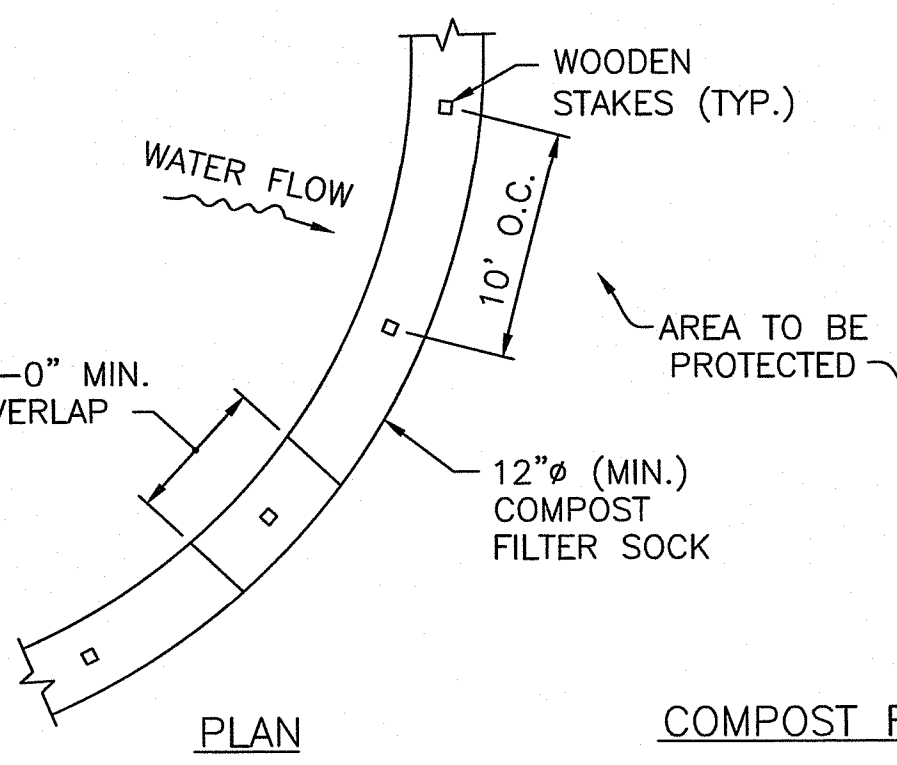
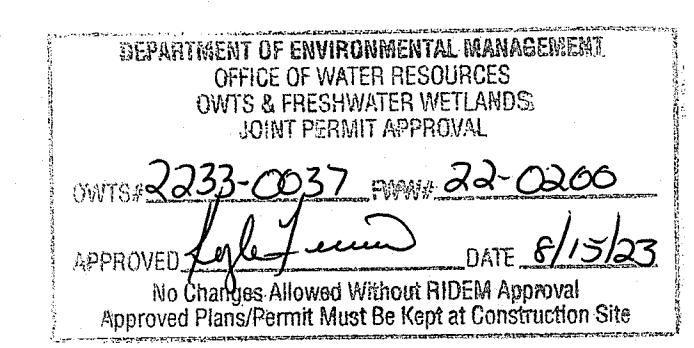
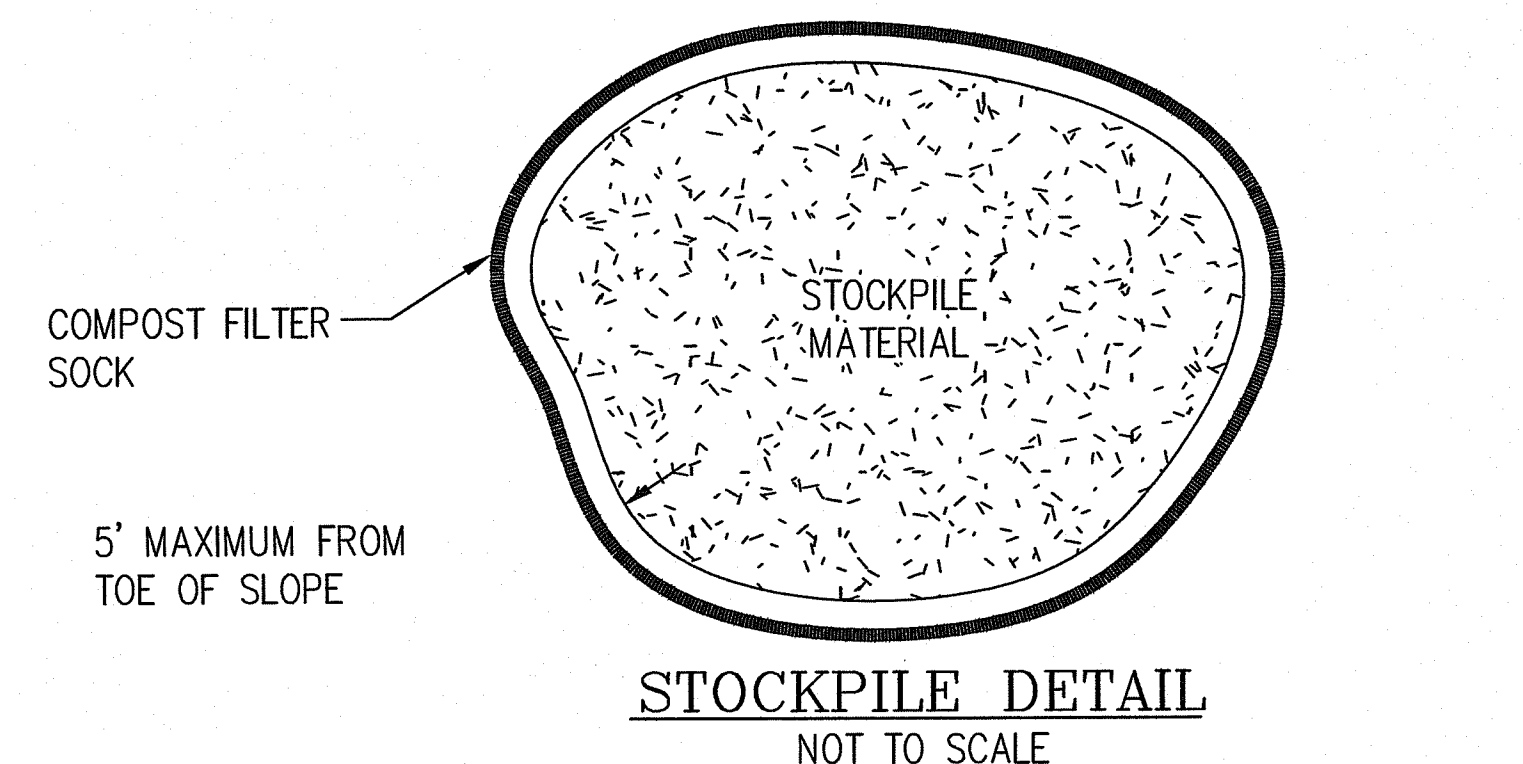
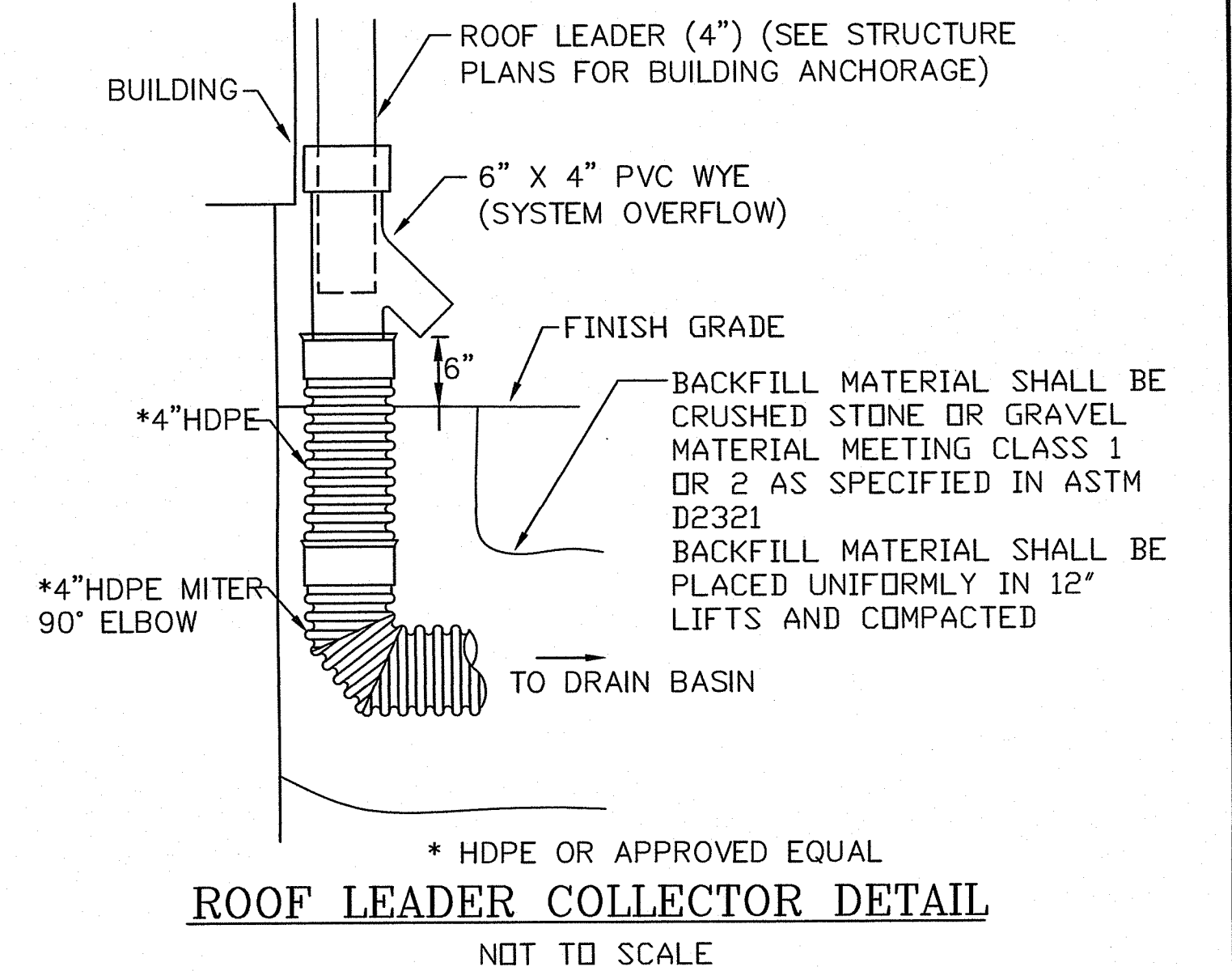
5. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY PERMANENT VEGETATIVE COVER AREAS THAT DO NOT DEVELOP OR WHICH ERODE WITHIN A ONE (1) YEAR PERIOD.

NOTES:

- (1) MULCH SHALL CONSIST OF NON-DYED, AGED AND SHREDDED HARDWOOD MULCH.
- (2) AMENDED SOIL SHALL CONSIST OF A 50/50 MIX OF EXCAVATED NATIVE SOIL AND MATURE ORGANIC COMPOST.
- (3) RAIN GARDEN AREA TO BE PROTECTED FROM CONSTRUCTION TO PREVENT COMPACTION AND SURROUNDED BY COMPOST FILTER SOCK UNTIL UPSLOPE AREAS ARE STABILIZED.
- (4) DESIGN AND INSTALLATION GUIDELINES SHALL CONFORM TO THE STATE OF RHODE ISLAND STORMWATER MANAGEMENT GUIDANCE FOR INDIVIDUAL SINGLE-FAMILY RESIDENTIAL LOT DEVELOPMENT.

EROSION CONTROL, SOIL STABILIZATION AND SEDIMENT CONTROL PLAN

1. PRIOR TO THE COMMENCEMENT OF ANY CLEARING, GRUBBING, DEMOLITION OR EARTHWORK ACTIVITY, TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE PLANS ARE TO BE INSTALLED BY THE CONTRACTOR.
2. CONSTRUCTION ACCESS STABILIZATION ENTRANCE PADS ARE TO BE INSTALLED PRIOR TO THE COMMENCEMENT OF SITE GRUBBING OR EARTHWORK ACTIVITY.
3. EXISTING CATCH BASINS ARE TO BE PROTECTED WITH STRAW BALES AND/OR SILT SACS PRIOR TO THE START OF SITE GRUBBING, EARTHWORK OR UNDERGROUND UTILITY AND DRAINAGE INFRASTRUCTURE INSTALLATION TO SERVE THE DEVELOPMENT SITE.
4. THE PROJECT CONSTRUCTION SEQUENCE, TO THE EXTENT PRACTICAL, SHOULD REQUIRE THE INSTALLATION OF DOWN GRADE AND OFF SITE STORM DRAINAGE SYSTEM IMPROVEMENTS BEFORE THE START OF SITE GRUBBING AND EARTHWORK ACTIVITY.
5. TEMPORARY SITE SLOPE TREATMENTS FOR SOIL STABILIZATION SHALL CONSIST OF STRAW, FIBER MULCH, RIP RAP OR PROTECTIVE COVERS SUCH AS MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, AND EXCELSIOR OR EQUAL PRODUCTS). THESE AND OTHER ACCEPTABLE MEASURES SHALL BE INCORPORATED INTO THE SITE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
6. CONSTRUCTION SITES ARE DYNAMIC, THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND OR MOVEMENT AND MAINTENANCE OF EROSION CONTROLS, SOIL STABILIZATION AND SEDIMENT CONTROL MEASURES AS NEEDED TO MAXIMIZE THE INTENT OF THE PLAN FOR ALL SITE CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERIODIC INSPECTION, MAINTENANCE, REPAIR, AND REPLACEMENT OF EROSION CONTROLS, SOIL STABILIZATION AND SEDIMENT CONTROL DEVICES UNTIL AN ACCEPTABLE PERMANENT VEGETATIVE GROWTH IS ESTABLISHED. THE CONTRACTOR SHALL MAINTAIN A DETAILED LOG OF ALL EROSION CONTROL INSPECTIONS, COMPLAINTS RELATED TO EROSION OR SEDIMENT, AND CORRECTIVE REMEDIAL MEASURES TAKEN THROUGHOUT THE COURSE OF THE PROJECT CONSTRUCTION.
8. SOIL EROSION AND SEDIMENT CONTROL IS NOT LIMITED TO DAMAGES CAUSED BY WATER BUT ALSO INCLUDES EROSION AND SEDIMENT RESULTING FROM WINDS. MEASURES, SUCH AS TEMPORARY GROUND COVERS, WATER AND CALCIUM APPLICATIONS ARE TO BE UNDERTAKEN AS NEEDED TO MINIMIZE WIND RELATED SOIL AND DUST CONTROL.
9. STOCK PILES OF EARTH MATERIALS SHALL NOT BE LOCATED NEAR WATERWAYS OR WETLANDS. STOCK PILES SHALL HAVE SIDE SLOPES NO GREATER THAN THIRTY PERCENT (30%). STOCK PILES SHALL BE SURROUNDED ON THE DOWN GRADIENT OF THE EXISTING GROUND SURFACE BY HAY BALES OR SILT FENCE. THE STOCK PILES SHALL ALSO BE SEEDED OR STABILIZED IN SOME MANNER TO PREVENT SOIL EROSION.
10. THE SMALLEST POSSIBLE SITE AREAS SHALL BE DISTURBED OR EXPOSED AT ONE TIME AND DENUDED SLOPES OR WORK AREAS SHALL NOT BE LEFT EXPOSED FOR EXCESSIVE PERIODS OF TIME, SUCH AS INACTIVE PERIODS OR SITE WORK SHUT DOWNS.
11. TO THE EXTENT POSSIBLE, ALL DISTURBED AREAS MUST BE SEEDED OR STABILIZED WITHIN THE CONSTRUCTION SEASON. STABILIZATION OF ONE FORM OR ANOTHER SHALL BE ACHIEVED WITHIN FIFTEEN (15) DAYS OF FINAL GRADING.
12. EXPOSED STEEP OR LONG SLOPES SHOULD BE TREATED WITH "CRIMPING" OR "TRACKING" TO REDUCE EROSION AND SEDIMENT AND TO TACK DOWN SEEDING OR MULCH APPLICATIONS.
13. IF CONCRETE IS TO BE USED ON SITE, THE CONTRACTOR MUST ESTABLISH AND MAINTAIN SPECIFIC WASHOUT AREAS FOR THE CONCRETE TRUCKS WITH APPROPRIATE PROTECTION CONTROLS.
14. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING COLLECTION AND STORAGE LOCATIONS ON-SITE FOR ALL CONSTRUCTION DEBRIS AND TRASH SO THAT THIS MATERIAL DOES NOT BECOME A NEIGHBORHOOD NUISANCE.
15. EXISTING TREES AND VEGETATION WILL BE RETAINED WHENEVER FEASIBLE.
16. SITE SOIL EROSION AND SOIL STABILIZATION AND SEDIMENT CONTROLS MUST CONFORM TO ALL REQUIREMENTS OF THE APPLICABLE LOCAL COMMUNITY ORDINANCES AND STATE REGULATIONS.

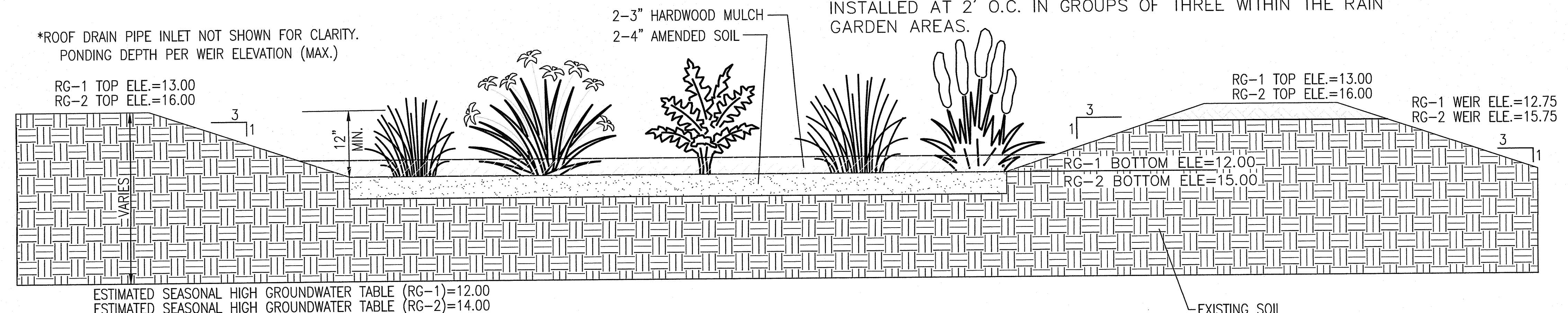


- NOTES:**
1. ALL MATERIAL TO MEET REQUIREMENTS OF SECTION 206 OF RI STANDARD SPECIFICATIONS.
 2. COMPOST MATERIAL MUST BE ACCEPTED BY THE ENGINEER PRIOR TO PLACEMENT.

PLANT SPECIES TO BE USED

BOTANICAL NAME	COMMON NAME
ASTER DIVARICATUS	WHITE WOOD ASTER
IRIS VERSICOLOR	BLUE FLAG IRIS
LOBELIA CARDINALIS	CARDINAL FLOWER
OSMUNDA CINNAMOMEA	CINNAMON FERN

*PLANT SPECIES IN ONE GALLON CONTAINERS TO BE INSTALLED AT 2' O.C. IN GROUPS OF THREE WITHIN THE RAIN GARDEN AREAS.



SINGLE-FAMILY RAIN GARDEN DETAIL

NOT TO SCALE

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

PRINCIPE COMPANY
PRINCIPE COMPANY, INC.
ENGINEERING DIVISION
27 SAKONNET RIDGE DRIVE
TIVERTON, RI 02878
401.816.5385
WWW.PRINCIPECOMPANY.COM

REVISIONS

No.	DATE	DRWN	CHKD
1	7/11/2023	JRM	TJP

ON-SITE WASTEWATER TREATMENT SYSTEM REDESIGN
for
AP 812 LOT 117
O PEACEFUL WAY
in
TIVERTON, RHODE ISLAND

SCALE: 1" = 40'	SHEET NO: 4 of 4
DRAWN BY: KAB	DESIGN BY: KAB
DATE: 05/11/2023	CHECKED BY: TJP
	PROJECT NO.: ERS-2021-25

C:\Users\Joshua\Principe Engineering\Dropbox\ERS-2021-25-0 Peaceful Way_Tiverton\DWTS\Joint Permitt.dwg, DWG To PDF.pc3