



Trusted Land Surveyors & Mapping Experts
8 North Road, Foster, Rhode Island 02825
(401) 647-9240 · team@fostersurvey.com · www.fostersurvey.com

Certification of survey:
This survey has been conducted and the plan has been prepared pursuant to 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 November 25, 2015, as follows:
(a) Type of Boundary Survey: Limited Content boundary Survey
(b) Other Type of Survey: Feature Location Survey
(c) Statement of Purpose: The purpose for the conduct of the survey and for the preparation of the plan is as follows: To prepare an Onsite Wastewater System Treatment System (OWTS) for a single-family residence to accompany the application for approval by the Rhode Island Department of Environmental Management Office of Water Resources for wetlands approval.

By: *Eric D. Colburn* PLS Signature
Eric D. Colburn, PLS No. 1920 Printed PLS Name & License No.
I.S.-A238 COA No.
ERIC D. COLBURN
No. 1920
PROFESSIONAL LAND SURVEYOR
03/02/23

Proposed Onsite Wastewater Treatment System (OWTS)
and Wetlands Application Plan
AP LW LOT 106
496 Lake Washington Drive
Glocester, Rhode Island
Prepared For: Henry Beltram

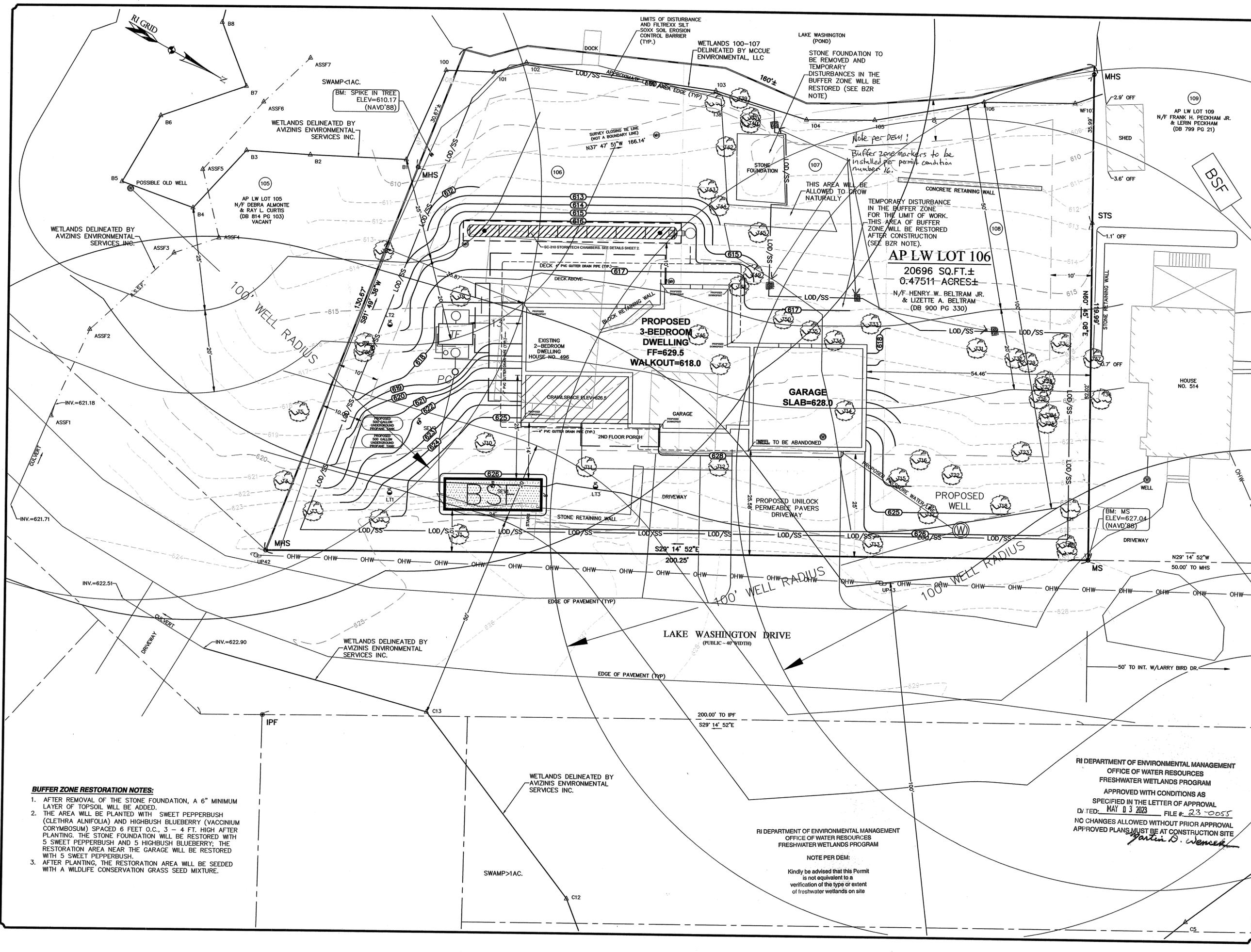
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Issue: 00 Date & Issue Description: 03/02/23 ORIGINAL ISSUE By: EDC EDC

Project Name: Beltram Residence
Sheet Name: Site Plan
Project No: 1758
Drawn By: EDC Checked By: EDC

Scale: GRAPHIC SCALE
1 inch = 10 ft.

Sheet ID: Environmental Management
MAR - 7 2023
Office of Water Resources

V-1
1
of 3 Sheets.
DWG NO. 1758-02.01.00



- BUFFER ZONE RESTORATION NOTES:**
- AFTER REMOVAL OF THE STONE FOUNDATION, A 6" MINIMUM LAYER OF TOPSOIL WILL BE ADDED.
 - THE AREA WILL BE PLANTED WITH SWEET PEPPERBUSH (CLETHRA ALNIFOLIA) AND Highbush BLUEBERRY (VACCINIUM CORYMBOSUM) SPACED 6 FEET O.C., 3 - 4 FT. HIGH AFTER PLANTING. THE STONE FOUNDATION WILL BE RESTORED WITH 5 SWEET PEPPERBUSH AND 5 Highbush BLUEBERRY; THE RESTORATION AREA NEAR THE GARAGE WILL BE RESTORED WITH 5 SWEET PEPPERBUSH.
 - AFTER PLANTING, THE RESTORATION AREA WILL BE SEEDED WITH A WILDLIFE CONSERVATION GRASS SEED MIXTURE.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
D/TED: MAY 13 2023 FILE #: 23-0055
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Justin D. Wences

NOTE PER DEM:
Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site

STORMWATER MANAGEMENT DESIGN CALCULATIONS

AREAS REQUIRED FOR WATER QUALITY VOLUME (WV):
HOUSE ROOF AREA = 3,477 SF

DRY WELL DESIGN CALCULATIONS (ROOF AREAS)*

PROPOSED ROOF AREAS TO BE PIPED TO NEW DRY WELLS:
HOUSE = 3,477 SF
WATER QUALITY VOLUME (WQV) = 3,477 SF @ 1" = 289.75 CF
PROVIDED WATER QUALITY VOLUME (WQV) = 300.93 CF

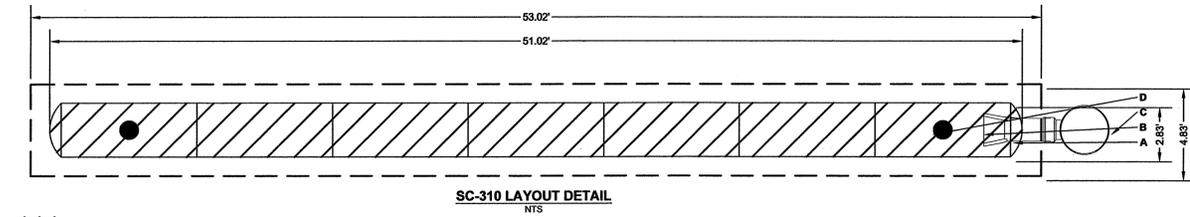
*THE WATER QUALITY DESIGN IS BASED ON RECOMMENDATIONS AND PROCEDURES AS DEFINED AND AS REQUIRED IN MINIMUM STANDARD 11, IN THE LATEST RHODE ISLAND STORMWATER DESIGN AND INSTALLATION MANUAL (RISDIM).

THE RECOMMENDATIONS AND GUIDELINES OF THE RISDIM AND THE LATEST RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK SHOULD BE INCORPORATED INTO THE CONSTRUCTION PRACTICES ON SITE.

GUTTER DRAINS SHOWN FOR SCHEMATIC PURPOSES ONLY. CONSTRUCT AND INSTALL PER R.I. BUILDING CODE OR GREATER.

PROPOSED LAYOUT	PROPOSED ELEVATIONS
7 STORMTECH SC-310 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED): 622.00
2 STORMTECH SC-310 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC): 616.00
2 STONE ABOVE (6")	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC): 615.50
6 STONE BELOW (6")	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT): 615.50
40 STONE (6")	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT): 615.50
301 INSTALLED SYSTEM VOLUME (CF)	TOP OF STONE: 614.00
(PERMETER STONE INCLUDED)	TOP OF SC-310 CHAMBER: 614.00
COVER STONE INCLUDED	12" ISOLATOR ROW PLUS INVERT: 612.75
288 SYSTEM AREA (SF)	BOTTOM OF SC-310 CHAMBER: 612.75
1157 SYSTEM PERIMETER (ft)	BOTTOM OF STONE: 612.17

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT	MAX FLOW
PREFABRICATED EZ END CAP	A	12" BOTTOM PREFABRICATED EZ END CAP PART# SC310E02Z / TYP OF ALL 12" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	0.90'	
FLAMP	B	INSTALL FLAMP ON 12" ACCESS PIPE / PART# SC31012RAM		
NYLOPLAST (INLET W/ ISO PLUS ROW)	C	30" DIAMETER (24.00" SUMP MIN)		
INSPECTION PORT	D	4" SEE DETAIL (TYP 2 PLACES)		



ISOLATOR ROW PLUS (SEE DETAIL)
PLACE MINIMUM 12.50' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS
BED LIMITS

- NOTES**
- MANHOLE SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANHOLE SIZING GUIDANCE.
 - DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COPY THE CHAMBER SYSTEM TO FIT THE SITE. THE MANUFACTURER'S REPRESENTATIVE SHALL BE CONSULTED FOR ANY CHANGES TO THE CHAMBER SYSTEM.
 - THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
 - THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSTALLED SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
 - NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

SC-310 STORMTECH CHAMBER SPECIFICATIONS

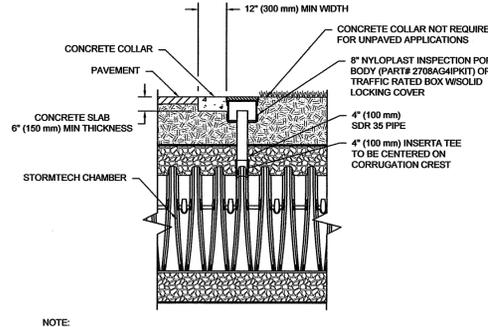
- CHAMBERS SHALL BE STORMTECH SC-310.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED 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 LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT². THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. 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 1.55 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 F2922 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.

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLOPLAST INLET DRAIN
 - REMOVE AND CLEAN FLEXSTORM 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.
- B. ALL ISOLATOR PLUS ROWS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
 - MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - 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.

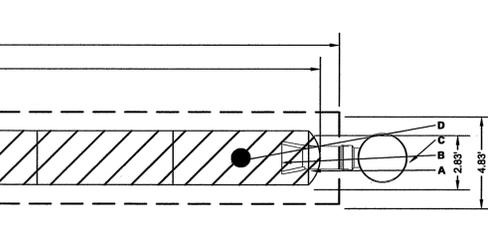
NOTES

- 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.



NOTE: INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)



IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

- STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELLED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4" (20-50 mm).
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER Tired LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
- USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.
- CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

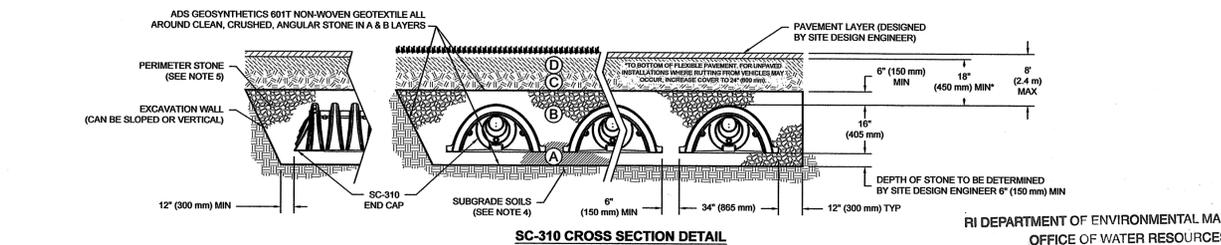
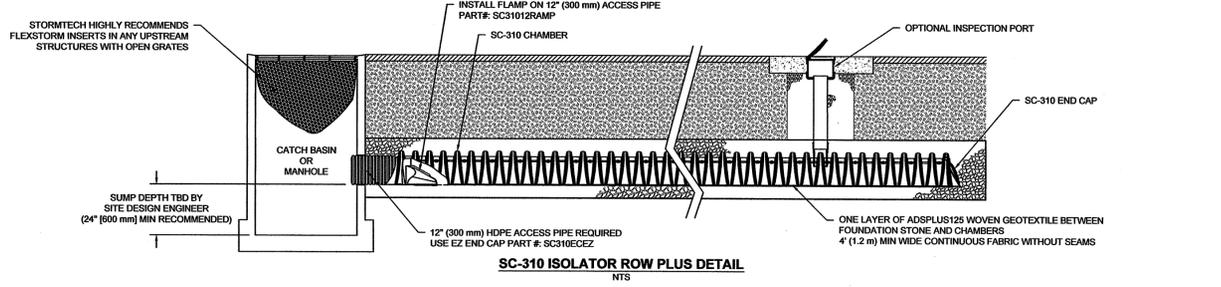
ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

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.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT DENSITY AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <3% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	BEGIN COMPACTATIONS 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 95% 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.	CLEAN, CRUSHED, ANGULAR STONE AASHTO M43 3, 357, 4, 467, 5, 58, 57, 8, 97, 68, 7, 78, 8, 89, 9, 10	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE AASHTO M43 3, 357, 4, 467, 5, 58, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

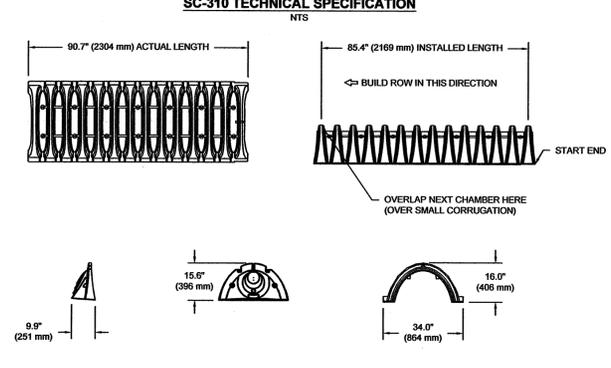
- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED 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.
 - ONCE LAYER 'C' IS PLACED, ANY SOIL/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.

NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 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 EXPECTED SOIL MOISTURE CONDITIONS.
- PERMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT². THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. 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.



SC-310 TECHNICAL SPECIFICATION



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	CHAMBER STORAGE	MINIMUM INSTALLED STORAGE*	WEIGHT
34.0" X 16.0" X 65.4"	14.7 CUBIC FEET (0.42 m ³)	31.0 CUBIC FEET (0.88 m ³)	35.0 lbs. (16.8 kg)

*ASSUMES 6" (152 mm) ABOVE, BELOW, AND BETWEEN CHAMBERS

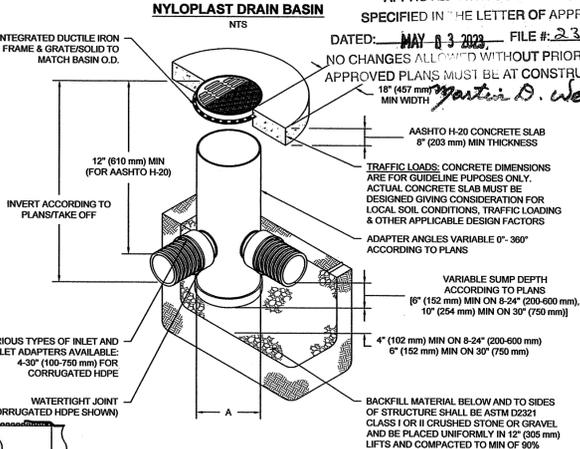
PART #	STUB	A	B	C
SC310E001 / SC310E061PC	6" (150 mm)	9.6" (244 mm)	6.8" (173 mm)	0.5" (13 mm)
SC310E008 / SC310E068PC	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	0.6" (15 mm)
SC310E101 / SC310E101PC	10" (250 mm)	12.7" (323 mm)	1.4" (36 mm)	0.7" (18 mm)
SC310E108 / SC310E108PC	12" (300 mm)	13.5" (343 mm)	0.9" (23 mm)	0.7" (18 mm)

ALL STUBS, EXCEPT FOR THE SC310E001 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.

* FOR THE SC310E001 THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

NYLOPLAST DRAIN BASIN



NOTES

- 3/32" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
- 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
- DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
- DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212
- FOR CORRUGATED HOPE (ADS & HANCOCK DUAL WALL) & SDR 35 PVC
- FOR COMPLETE DESIGN AND PRODUCT INFORMATION: WWW.NYLOPLAST-US.COM
- TO ORDER CALL: 800-821-6719



Trusted Land Surveyors & Mapping Experts

8 North Road, Foster, Rhode Island 02825
(401) 647-9240 team@fostersurvey.com www.fostersurvey.com

Certification of survey:

This survey has been conducted and the plan has been prepared pursuant to 435-RICR-00-01.9 of the Rules and Regulations adopted by the Rhode Island State Board of Registration for Professional Land Surveyors on November 25, 2015, as follows:

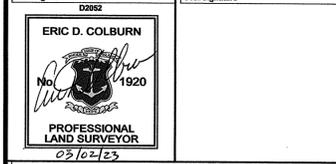
- | | |
|---------------------------------|----------------------------|
| (a) Type of Boundary Survey: | Measurement Specification: |
| Limited Content boundary Survey | I |
| - Feature Location Survey | V-1 |
| (b) Other Type of Survey: | |
| Data Accumulation Survey | III |
| Vertical Control Standard | V-1 |
| Topographic Survey Accuracy | T-2 |

(c) Statement of Purpose

The purpose for the conduct of the survey and for the preparation of the plan is as follows: To prepare an Onsite Wastewater Treatment System (OWTS) for a single-family residence to accompany the application for approval by the Rhode Island Department of Environmental Management Office of Water Resources for wetlands approval.

By: *Eric D. Colburn* PLS Signature
Eric D. Colburn, PLS No. 1920 Printed PLS Name & License No.

LS-A238 COA No.
Scale/Signature D262 Seal/Signature



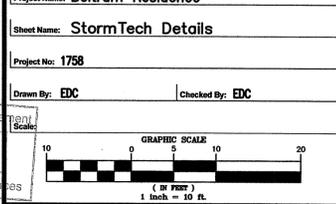
Proposed Onsite Wastewater Treatment System (OWTS)

and Wetlands Application Plan
AP LW LOT 106
496 Lake Washington Drive
Glocester, Rhode Island
Prepared For: Henry Beltram

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Issue:	Date & Issue Description:	By:	Check:
00	03/02/23 ORIGINAL ISSUE	EDC	EDC

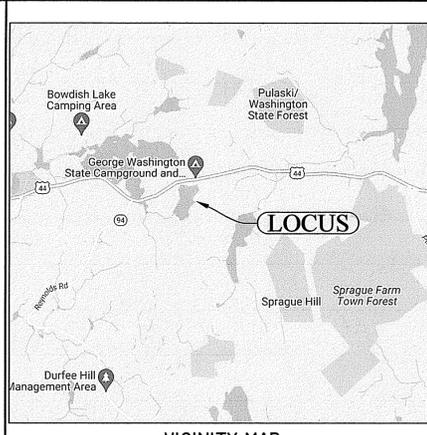
Project Name:	Beltram Residence
Sheet Name:	StormTech Details
Project No.:	1758
Drawn By:	EDC
Checked By:	EDC



V-2
2
of 3 Sheets.
DWG NO. 1758-02.03.00

NOTES:

1. ALL OTHER DESIGN, CONSTRUCTION AND MAINTENANCE REQUIREMENTS WHETHER NOTED HEREON, OR NOT, SHALL BE IN CONFORMANCE WITH 250-RICR-150-10-6, TITLE 250 - DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, CHAPTER 150 - WATER RESOURCES, SUBCHAPTER 10 - WASTEWATER & STORMWATER, PART 6 - RULES & REGULATIONS ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION, DESIGN, CONSTRUCTION AND MAINTENANCE OF ONSITE WASTEWATER TREATMENT SYSTEMS AND RELATED LAWS, RULES AND ORDINANCES.
2. SEE OWT SPECIFICATIONS ATTACHED, IF ANY, AND PERTINENT INFORMATION NOTED ON THE APPROVED OWT APPLICATION.
3. CLEAR ALL TREES AND STUMPS WITHIN 10' OF SYSTEM AND ALL REQUIREMENTS OF RULES 250-RICR-150-10-6.3.3-1, 250-RICR-150-10-6.3.6-2, 250-RICR-150-10-6.3.6-3, 250-RICR-150-10-6.3.7-1, 250-RICR-150-10-6.3.7-2, 250-RICR-150-10-6.3.7-3, 250-RICR-150-10-6.3.7-4, 250-RICR-150-10-6.3.7-5, 250-RICR-150-10-6.3.7-6, 250-RICR-150-10-6.3.7-7, 250-RICR-150-10-6.3.7-8, 250-RICR-150-10-6.3.7-9, 250-RICR-150-10-6.3.7-10, 250-RICR-150-10-6.3.7-11, 250-RICR-150-10-6.3.7-12, 250-RICR-150-10-6.3.7-13, 250-RICR-150-10-6.3.7-14, 250-RICR-150-10-6.3.7-15, 250-RICR-150-10-6.3.7-16, 250-RICR-150-10-6.3.7-17, 250-RICR-150-10-6.3.7-18, 250-RICR-150-10-6.3.7-19, 250-RICR-150-10-6.3.7-20, 250-RICR-150-10-6.3.7-21, 250-RICR-150-10-6.3.7-22, 250-RICR-150-10-6.3.7-23, 250-RICR-150-10-6.3.7-24, 250-RICR-150-10-6.3.7-25, 250-RICR-150-10-6.3.7-26, 250-RICR-150-10-6.3.7-27, 250-RICR-150-10-6.3.7-28, 250-RICR-150-10-6.3.7-29, 250-RICR-150-10-6.3.7-30, 250-RICR-150-10-6.3.7-31, 250-RICR-150-10-6.3.7-32, 250-RICR-150-10-6.3.7-33, 250-RICR-150-10-6.3.7-34, 250-RICR-150-10-6.3.7-35, 250-RICR-150-10-6.3.7-36, 250-RICR-150-10-6.3.7-37, 250-RICR-150-10-6.3.7-38, 250-RICR-150-10-6.3.7-39, 250-RICR-150-10-6.3.7-40, 250-RICR-150-10-6.3.7-41, 250-RICR-150-10-6.3.7-42, 250-RICR-150-10-6.3.7-43, 250-RICR-150-10-6.3.7-44, 250-RICR-150-10-6.3.7-45, 250-RICR-150-10-6.3.7-46, 250-RICR-150-10-6.3.7-47, 250-RICR-150-10-6.3.7-48, 250-RICR-150-10-6.3.7-49, 250-RICR-150-10-6.3.7-50, 250-RICR-150-10-6.3.7-51, 250-RICR-150-10-6.3.7-52, 250-RICR-150-10-6.3.7-53, 250-RICR-150-10-6.3.7-54, 250-RICR-150-10-6.3.7-55, 250-RICR-150-10-6.3.7-56, 250-RICR-150-10-6.3.7-57, 250-RICR-150-10-6.3.7-58, 250-RICR-150-10-6.3.7-59, 250-RICR-150-10-6.3.7-60, 250-RICR-150-10-6.3.7-61, 250-RICR-150-10-6.3.7-62, 250-RICR-150-10-6.3.7-63, 250-RICR-150-10-6.3.7-64, 250-RICR-150-10-6.3.7-65, 250-RICR-150-10-6.3.7-66, 250-RICR-150-10-6.3.7-67, 250-RICR-150-10-6.3.7-68, 250-RICR-150-10-6.3.7-69, 250-RICR-150-10-6.3.7-70, 250-RICR-150-10-6.3.7-71, 250-RICR-150-10-6.3.7-72, 250-RICR-150-10-6.3.7-73, 250-RICR-150-10-6.3.7-74, 250-RICR-150-10-6.3.7-75, 250-RICR-150-10-6.3.7-76, 250-RICR-150-10-6.3.7-77, 250-RICR-150-10-6.3.7-78, 250-RICR-150-10-6.3.7-79, 250-RICR-150-10-6.3.7-80, 250-RICR-150-10-6.3.7-81, 250-RICR-150-10-6.3.7-82, 250-RICR-150-10-6.3.7-83, 250-RICR-150-10-6.3.7-84, 250-RICR-150-10-6.3.7-85, 250-RICR-150-10-6.3.7-86, 250-RICR-150-10-6.3.7-87, 250-RICR-150-10-6.3.7-88, 250-RICR-150-10-6.3.7-89, 250-RICR-150-10-6.3.7-90, 250-RICR-150-10-6.3.7-91, 250-RICR-150-10-6.3.7-92, 250-RICR-150-10-6.3.7-93, 250-RICR-150-10-6.3.7-94, 250-RICR-150-10-6.3.7-95, 250-RICR-150-10-6.3.7-96, 250-RICR-150-10-6.3.7-97, 250-RICR-150-10-6.3.7-98, 250-RICR-150-10-6.3.7-99, 250-RICR-150-10-6.3.7-100.

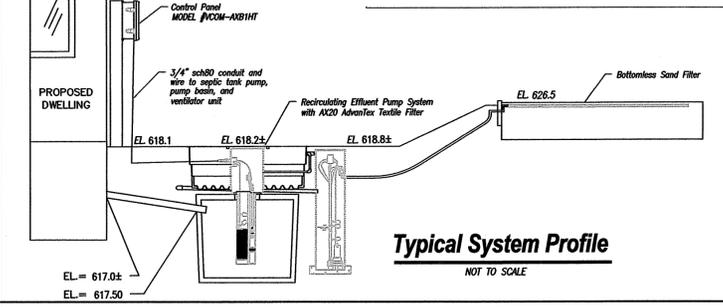
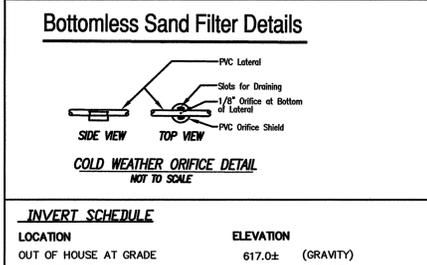
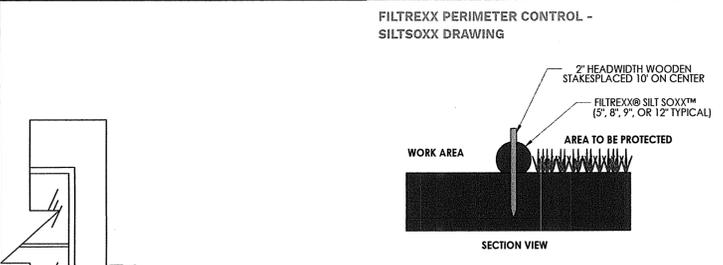
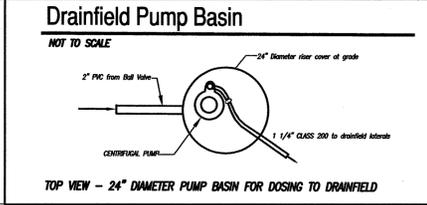


SOIL DATA

TEST HOLE SE#22-01. APPLICATION #0913-1027

PROBE:	FILL:	TOTAL DEPTH:	LIMITING DEPTH:
24" - FILL	LT1	30"	36"
0'-12" AB,c,s,10y 3/8,-,fsl,gr,1,vfr,4	LT2	42"	42"
12'-18" BW,c,s,10y 4/4,-,fsl,sk,1,vfr,4	LT3	72"	80"
18'-42" BC,c,w,2.5y 5/4,10y 5/8,c,m,d,sk,1,fr,3			
42'-66" C,-,2.5y 5/3,-,s,mo,fr,6			

15" WATER TABLE FROM ORIGINAL GRADE AND 39" BELOW EXISTING GRADE.
TEST HOLE EXCAVATED ON 08/22/22.

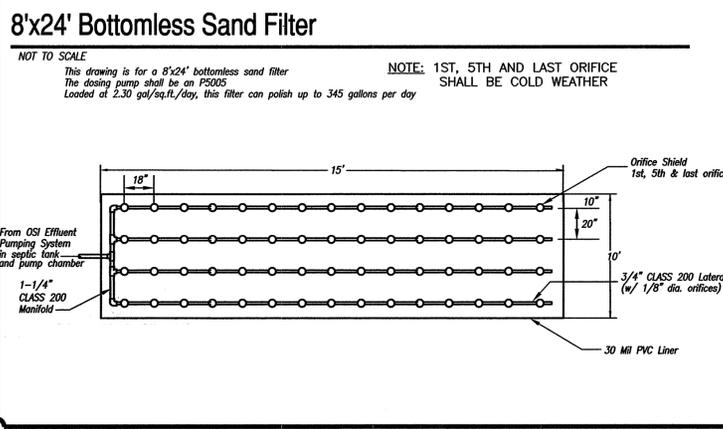
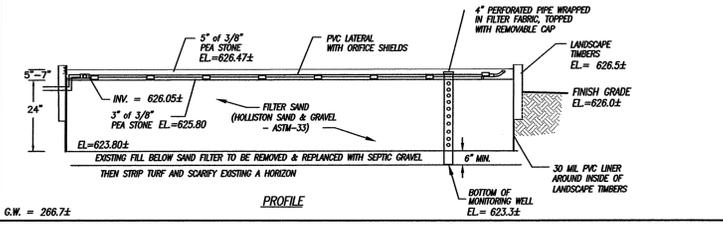


INVERT SCHEDULE

LOCATION	ELEVATION	(GRAVITY)
OUT OF HOUSE AT GRADE	617.0±	(GRAVITY)
INTO SEPTIC TANK	616.50	(GRAVITY)
PUMP DISCHARGE TO ADVANTEX FILTER	619.00	(PRESSURE)
INTO ADVANTEX FILTER LATERAL	620.00	(PRESSURE)
INVERT OF ADVANTEX OUTLET	619.00	(GRAVITY)
INVERT THROUGH SPLITTER VALVE	618.65	(GRAVITY)
INVERT INTO PUMP BASIN	614.45	(GRAVITY)
OUT OF PUMP BASIN	614.60	(PRESSURE)
INVERT OF DRAINFIELD LATERALS	626.05	(PRESSURE)

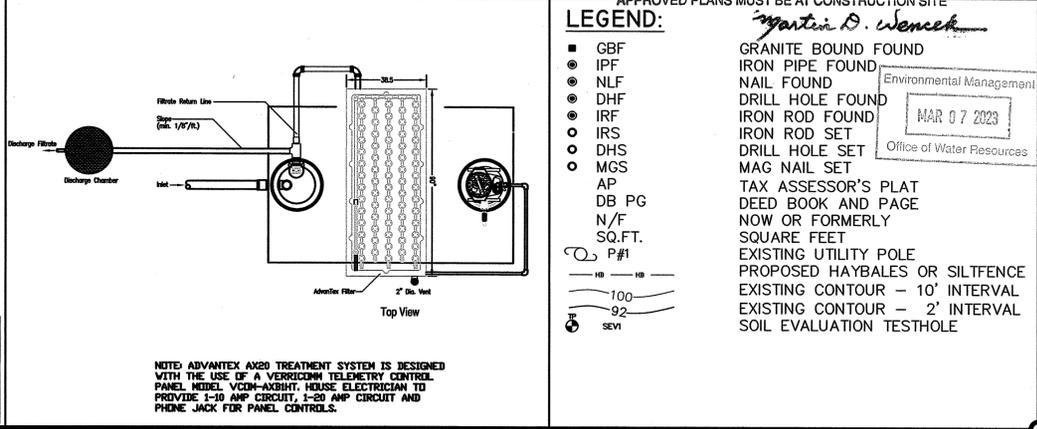
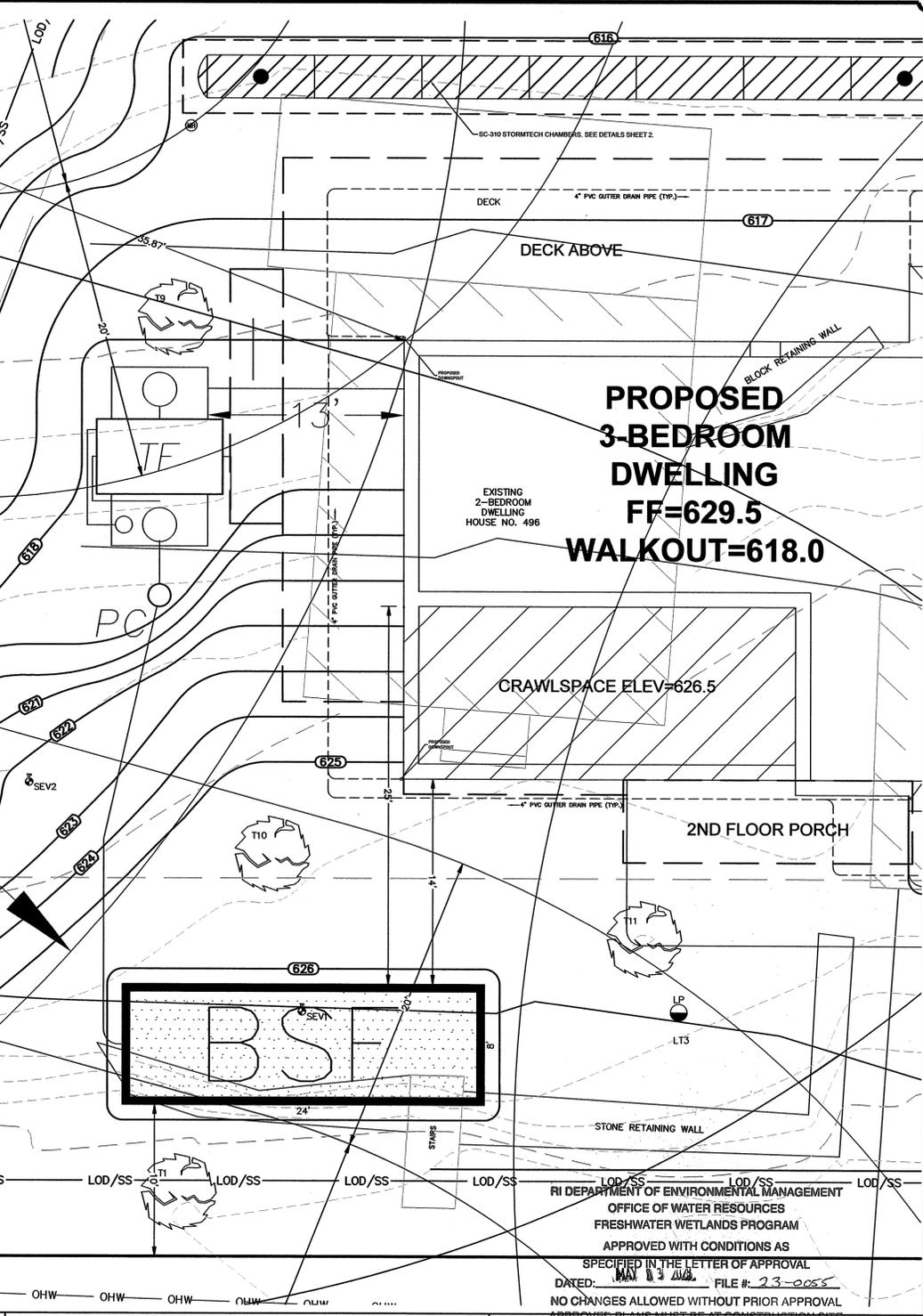
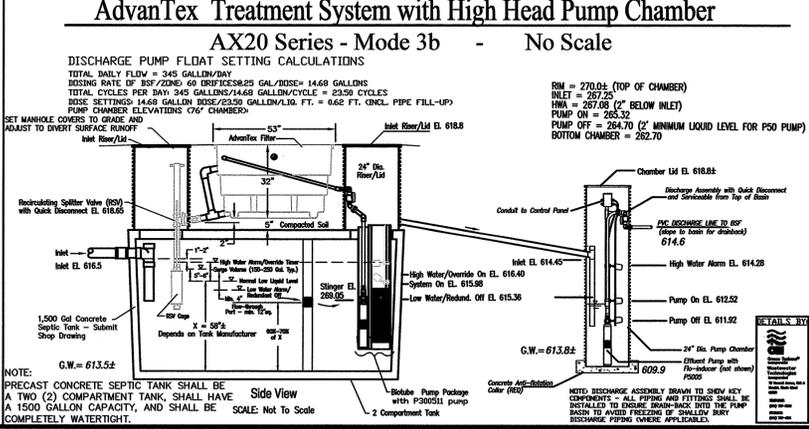
LIST OF COMPONENTS

1. 1500 GALLON (MIN.) 2-COMPARTMENT CONCRETE SEPTIC VALVE (REPS).
2. TANK WITH PUMP VAULT AND RECIRCULATION SPLITTING
3. AX20 ADVANTEX TEXTILE FILTER.
4. BOTTOMLESS SAND FILTER. 24" LONG x 8" WIDE x 2 1/2" DEEP PRESSURIZED.
8. ORENCO SYSTEMS, INC. CONTROL PANEL MODEL #VCOM-AXBHIT



PIPE SIZE SCHEDULE

BUILDING TO SEPTIC TANK	4" SCH 35 OR GREATER
SEPTIC TANK TO TEXTILE FILTER	1" SCH 40
TEXTILE FILTER MANFOLD	1" SCH 40
TEXTILE FILTER LATERALS	3/4" SCH 40
TEXTILE FILTER TO PUMP BASIN	2" SCH 35 OR GREATER
PUMP BASIN TO DRAINFIELD	2" CLASS 200
DRAINFIELD MANFOLD	1 1/4" CLASS 200
DRAINFIELD LATERALS	3/4" CLASS 200



FOSTER SURVEY COMPANY

Trusted Land Surveyors & Mapping Experts

8 North Road, Foster, Rhode Island 02825
(401) 647-9240 • team@fostersurvey.com • www.fostersurvey.com

Certification of survey:
This survey has been conducted and the plan has been prepared pursuant to 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 November 25, 2015, as follows:

(a) Type of Boundary Survey:	Measurement Specification:
Limited Content boundary Survey	I
- Feature Location Survey	V-1
(b) Other Type of Survey:	III
Data Accumulation Survey	V-1
Vertical Control Standard	T-2
Topographic Survey Accuracy	

(c) Statement of Purpose
The purpose for the conduct of the survey and for the preparation of the plan is as follows: To prepare an Onsite Wastewater System Treatment System (OWTS) for a single-family residence to accompany the application for approval by the Rhode Island Department of Environmental Management Office of Water Resources for wetlands approval.

By: *Eric D. Colburn* PLS Signature
Eric D. Colburn, PLS No. 1920 Printed PLS Name & License No.
LS-A238 COA No.
Eric D. Colburn
PROFESSIONAL LAND SURVEYOR
03/02/23

Proposed Onsite Wastewater Treatment System (OWTS) and Wetlands Application Plan

AP LW LOT 106

496 Lake Washington Drive
Glocester, Rhode Island

Prepared For: Henry Beltram

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Issue: Date & Issue Description: By: Check
00 03/02/23 ORIGINAL ISSUE EDC EDC

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAR 03 2023 FILE # 23-0055

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Project Name: Beltram Residence
Sheet Name: OWTS Details
Project No: 1758
Drawn By: EDC Checked By: EDC
Scale: GRAPHIC SCALE 1 inch = 5 ft.
Sheet ID: V-3 3 of 3 Sheets.
DWG NO. 1758-02.00