



State of Rhode Island and Providence Plantations  
 Coastal Resources Management Council  
 Oliver H. Stedman Government Center  
 4808 Tower Hill Road, Suite 3  
 Wakefield, RI 02879-1900

(401) 783-3370  
 Fax (401) 783-2069

## APPLICATION FOR STATE ASSENT

To perform work regulated by the provisions of Chapter 279 of the Public Laws of 1971 Amended.

Project Location <u>Brant Rd South South Kingstown</u> <small>No. Street City/Town</small>	File No. (CRMC USE ONLY) <b>2023-12-058</b>
Owner's Name <u>Bette Gruskay Trustee Et als c/o Jean-Luc Bellefleur</u>	Plat: 90-4 Lot(s): 130
Mailing Address <u>404 Roosevelt Ave, Unit 502 Central Falls, RI 02863</u> <small>Address City/Town, State Zip Code</small>	Owner's Contact: Number: (508)320-0453 Email Address: <u>jeanlucbellefleur@yahoo.com</u>
Contractor RI Reg. # _____ Address _____	Email address: Tel. No. _____
Designer <u>CJ Doyle</u> Address <u>PO Box 1161 Hope Valley, RI 02832</u>	Tel. No. (401)491-9530
Name of Waterway _____	Estimated Project Cost (EPC) \$750,000.00 Application Fee: \$4,000.00
<b>Provide Below a Description of Work As Proposed (required).</b> Construction of a 2-bedroom single family dwelling requiring buffer zone and setback variances.	

Have you or any previous owner filed an application for and/or received an assent for any activity on this property?  
 (If so please provide the file and/or assent numbers): 2017-12-055

Is this site within a designated historic district?  YES  NO  
 Is this application being submitted in response to a coastal violation?  YES  NO

If YES, you must indicate NOV or C&D Number: \_\_\_\_\_

Name/ mailing addresses of adjacent property owners whose property adjoins the project site. Accurate mailing addresses will insure proper notification. \_\_\_\_\_ Applicant must initial to certify accuracy of adjacent property owners and accuracy of mailing addresses.

Raymond J Metro Jr Et als - 7 Allen Ct - Norwalk, CT 06851-2306  
Gary S & April L Reach - 27553 River Reach Dr - Bonita Springs, FL 34134

STORMTOOLS (<http://www.beachsamp.org/resources/stormtools/>) is a planning tool to help applicants evaluate the impacts of sea level rise and storm surge on their projects. The Council encourages applicants to use STORMTOOLS to help them understand the risk that may be present at their site and make appropriate adjustments to the project design.

NOTE: The applicant acknowledges by evidence of their signature that they have reviewed the Rhode Island Coastal Resources Management Program, and have, where possible, adhered to the policies and standards of the program. Where variances or special exceptions are requested by the applicant, the applicant will be prepared to meet and present testimony on the criteria and burdens of proof for each of these relief provisions. The applicant also acknowledges by evidence of their signature that to the best of their knowledge the information contained in the application is true and valid. If the information provided to the CRMC for this review is inaccurate or did not reveal all necessary information or data, then the permit granted under this application may be found to be null and void. Applicant requires that as a condition to the granting of this assent, members of the CRMC or its staff shall have access to the applicant's property to make on-site inspections to insure compliance with the assent. This application is made under oath and subject to the penalties of perjury.

08/04

RECEIVED  
 12/22/2023  
 COASTAL RESOURCES MANAGEMENT COUNCIL

JEFFREY BRUSKAY TTE Bette Gruskay Trust et al  
 Owner Name (PRINT)

Bette Gruskay Trust et al  
 Owner's Signature (SIGN)

PLEASE REVIEW REVERSE SIDE OF APPLICATION FORM



# Town of South Kingstown, Rhode Island

## DEPARTMENT OF ASSESSMENT

180 High Street  
Wakefield, RI 02879  
Tel. 401-789-9331 Ext.1220

August 24, 2023

To Whom It May Concern:

This letter will confirm ownership of a building/buildings located in the Town of South Kingstown under the name(s) of **GRUSKAY BETTE TRUSTEE ET ALS** as of August 8, 2023. This building is located at **Brant Road South** and is listed on my records as Map **90-4 Lot 130**.

The Tax Assessor's Office cannot verify residency.

Sincerely,

Linda Caruso  
Clerk II



TO: Coastal Resources Management Council  
4808 Tower Hill Road Suite 3  
Wakefield, RI 02879  
Phone: (401) 783-3370 / Fax: (401) 783-2069



FROM: Building Official DATE: 12/20/2023

SUBJ: Application of: Bette Gruskay Trustess Et als c/o Jean-Luc Bellefleur

Location: South Kingstown  
South Kingstown

Address: Brant Road South  
Plat(s): 90-4 Lot(s): 130

To Construct: Two (2) bedroom single-family dwelling and associated OWTS.

I hereby certify that I have reviewed \_\_\_\_\_ foundation plan(s).  
\_\_\_\_\_ plan(s) for entire structure  
 site plans

Titled: SITE PLAN FOR ONSITE WASTEWATER TREATMENT SYSTEM,  
PREPARED BY JEFFREY BALCH, PLS & CAROLYN DOYLE, PE

Date of Plan (last revision): 8-18-2023

N/A and find that the issuance of a local building pennit is not required as in accordance with Section \_\_\_\_\_ of the Rhode Island State Building Code.

✓ and find that the issuance of a local building permit is required. I hereby certify that this permit shall be issued once the applicant demonstrates that the proposed construction/activity fully conforms to the applicable requirements of the RISBC, and all other local, state and federal regulations are met.


N/A and find that a Septic System Suitability Determination (SSD) must be obtained from the RI Dept. of Environmental Management.

N/A and find that a Septic System Suitability Determination (SSD) need not be obtained from the Ri Dept. of Environmental Management.

✓ and find NO structural or non-structural fill is proposed in a FEMA-designated V-Zone or Coastal A-zone.

N/A and find that the proposed fill is considered non-structural fill and meets FEMA NFIP guidelines.

✓ and find that said plans conform with all elements of the zoning ordinance, and that if said plans require zoning board approval, that the applicant has secured such approval and that the requisite appeal period has passed with no appeal filed or appeal is final. The Zoning Board approval shall expire on: 11-29-2025

  
Building Official's Signature Date: 12-20-2023

and find that said plans conform with all elements of the zoning ordinance, and that if said plans require zoning board approval, that the applicant has secured such approval and that the requisite appeal period has passed with no appeal filed or appeal is final.

  
Zoning Officer's Signature Date: 12-20-2023



# RICRMC COASTAL HAZARD ANALYSIS WORKSHEET

APPLICANT NAME:

PROJECT SITE ADDRESS: Brant Rd South - South Kingstown

**STEP 1. PROJECT DESIGN LIFE**

- A. For properties in a FEMA-designated **A**, or **X** Zone, provide the first floor elevation (FFE) of the proposed structure referenced to NAVD88, OR For properties in a FEMA-designated **V** or **Coastal A** Zone, please provide the elevation of the lowest horizontal structural member (LHSM) referenced to NAVD88.
 

FFE 20 ft  
 OR  
 LHSM elevation ft
- B. How long do you want your project to last? Identify the expected design life for the project (CRMC recommends a minimum of 30 years)
 

Design Life: 30 yrs
- C. Add the number of years you identified in 1B to the current year. (For example, if you are completing this form in the year 2020, and you want your project to last 30 years, your design life year will be 2050.)
 

Design Life Year: 2053
- D. CHECK beneath the sea level rise (SLR) projection that matches or comes closest to project design life year.

Year	2030	2040	2050	2060	2070	2080	2090	2100
SLR	0.71	1.11	1.60	2.29	3.17	4.19	5.35	6.47
	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Source: Sea Level Rise (SLR) Projections (Feb. 2022). NOAA High Curve, Newport, RI Tide Gauge. All values are expressed in feet relative to NAVD88. [https://sealevel.nasa.gov/task-force-scenario-tool/?pamsl\\_id=361](https://sealevel.nasa.gov/task-force-scenario-tool/?pamsl_id=361)

*NOTE: The present National Tidal Datum Epoch (NTDE) is 1983 through 2001. The NOAA 2017 data use a baseline starting at 2000, and the NOAA 2022 data use a baseline starting at 2020. Between 1991 and 2020 there was an annual average of 4.03 mm/year of sea level rise at the Newport (8452660) tide station based on the trends data from the Permanent Service for Mean Sea Level (<https://www.psmsl.org/products/trends/>). Because the PSMSL trends are based on a minimum 30 years of data we will assume a similar trend applies to the shorter 20 year period of 2000 to 2020. Thus, there was approximately 8.06 cm (3.39 inches) of sea level rise during the period 2000 to 2020. Accordingly, the MHHW elevation of 3.85 feet at the Newport station (Epoch 1983-2001) would be adjusted an additional 3.39 inches to 4.13 feet MHHW. For reference, NAVD88 at Newport is 2.04 feet.*

**STEP 2. SITE ASSESSMENT**

- A. Open RICRMC Coastal Hazard Mapping Tool. Following the tutorial along the left side of the screen, enter the project site address and turn on the sea level layer closest to the number you circled in 1D.
- B. ENTER the STORMTOOLS SLR map layer closest to the SLR value you checked in Step 1D above. If the value falls between the available STORMTOOLS SLR map layers, round up to the closest of these sea level rise (SLR) numbers: 1ft, 2ft, 3ft, 5ft, 7ft, 10ft, or 12ft
 

2 ft
- C. Does the STORMTOOLS SLR map layer you circled above expose your project site to future tidal inundation? CHECK YES or NO
 

YES  
 NO
- D. List any roads or access routes that are potentially inundated from SLR. To do this, ZOOM OUT from your project location, change BASEMAP on the viewer to "street view" - see Step 2A.

Brant Rd South

*\*\*Please be advised that CRMC staff may also review the implications of sea level rise in combination with nuisance storm flooding and discuss these potential project concerns with the applicant. Nuisance flooding impacts may be viewed in STORMTOOLS [here](#).*

**STEP 3. STORMTOOLS DESIGN ELEVATION (SDE)**

- A. Follow the tutorial included along the left panels of the viewer to enter the address of your project site. Select the tab across the top that corresponds to the sea level rise projection you identified in STEP 1.
- B. Click on the map at project site to identify STORMTOOLS Design Elevation (SDE)

from the pop up box. Enter the SDE value: 18.5 ft



# RICRMC COASTAL HAZARD APPLICATION WORKSHEET

## STEP 4. SHORELINE CHANGE

A. Using the *CRMC Shoreline Change maps*, indicate the transect number closest to your site, and erosion rate listed for that transect. Transect Number: n/a  
Erosion Rate: \_\_\_\_\_ ft/year

B. CHECK below the Projected Erosion Rate that corresponds to the design life you identified above.

Year	2050	2060	2070	2080	2090	2100
Projected Future Erosion Multiplier	1.34	1.45	1.57	1.70	1.84	2.00
	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Source: Projected Shoreline Change Rate multipliers. (Oakley et al., 2016)*

### C. COMPLETE EROSION SETBACK CALCULATION:

Historic shoreline change rate, STEP 4A	Design Life, STEP 1C	Projected Future Erosion Multiplier, STEP 4B	Erosion Setback (ft) 4A x 1C x 4B
0	X 30	X 1.34	= 0

*NOTE: Setbacks are required per the CRMC Red Book, Section 1.1.9. A minimum setback of 50-feet is required, but a greater setback may be necessary and/or desirable based on this analysis.*

## STEP 5. OTHER SITE CONSIDERATIONS: CERI & SLAMM

A. Use the **Coastal Environmental Risk Index (CERI) map** (See Tab 5A on the viewer) to enter your address and CHECK the level of projected damage to your location, as indicated on the map that corresponds to the design life identified in STEP 1.

**CERI Level:**      Moderate      High      Severe      Extreme      Inundated by 2100      Not applicable

B. **Sea Level Affecting Marshes Model (SLAMM)** (See Tab 5B on the Viewer) - This step is for Large Projects and Subdivisions only, six (6) or more units, as defined by the *CRMC Red Book Section 1.1.6.1(1)(f)*. This step may be skipped for other projects. Use the Sea Level Affecting Marshes Model (SLAMM) Maps to assess potential impacts to large projects and subdivisions from salt marsh migration resulting from projected sea level rise. CRMC SLAMM maps can be accessed [here](#). The CRMC recommends using the 3-foot SLR projection within SLAMM to assess future potential project impacts on migrating marshes. Does the SLAMM map that corresponds to the design life you identified in STEP 1 expose your project site to future salt marsh migration? CHECK YES or NO

YES       NO

C. Consider and discuss with your design consultant other forces or factors that might impact the development, such as coastal habitats, shoreline features, public access, wastewater, storm water, depth to water table/groundwater dynamics, saltwater intrusion, or other issues not listed above. In addition, pressure from rising sea levels will result in rising subsurface groundwater levels ultimately effecting wells and septic systems.

## STEP 6: DESIGN EVALUATION

A. Using Chapter 7 of the RI Shoreline Change SAMP as a guide, investigate mitigation options for the exposure identified above and include that in the final application.

This fully completed Coastal Hazard Application Guidance worksheet must accompany the application. If you are a design or engineering professional, please print and sign here that you have discussed the findings of this worksheet with the Owner.

DESIGN/ENGINEER SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

OWNER'S SIGNATURE: *[Signature]*

DATE: 12/14/23





Natural Resource Services, Inc.

## **Project Narrative for a CRMC Assent Application**

---

*Brant Road South  
A.P. 90-4, Lot 130  
South Kingstown, Rhode Island*



### **Prepared for:**

Jean-Luc Bellefleur  
404 Roosevelt Avenue, Unit 502  
Central Falls, RI 02863

### **Project Narrative Prepared by:**

Scott P. Rabideau, PWS  
*Principal*

December 11, 2023

P. O. Box 311    Harri svi l l e, RI    02830    401-568-7390



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USGS Topographic Map  
USDA Soil Map



## **Introduction**

Natural Resource Services, Inc. (NRS) was retained by Jean-Luc Bellefleur in the preparation and submission of a Variance Request to the RI Coastal Resources Management Council (CRMC). The property owner is Bette Gruskey Trustee et als. (hereafter the applicant).

The subject property features a coastal wetland coastal feature associated with the Type II waters of Green Hill Pond. Coastal features are subject to the buffer zone and setback standards as outlined in Sections 1.1.9 and 1.1.11 of the CRMP respectively. This property also falls within the Rhode Island Salt Pond Region Special Area Management Plan (SAMP): Lands Developed Beyond Carrying Capacity.

The applicant is seeking permission to construct a single family home within the upland of the subject lot.

The subject lot is approximately 28,800 square feet in size and thus the coastal feature on site is afforded a 75-foot buffer zone and 25-foot construction setback from the buffer zone edge in accordance with Section 1.1.11. The applicant is requesting a variance to both the buffer zone and setback standards to move forward with this project. This request is to reduce the buffer to 25 feet, a 66% variance, and the minimum required in Chapter 9, Section 3.4.3(C)(e) of the Salt Pond SAMP. The applicant also requests to reduce the setback to 12.5 feet, a 50% variance, from the buffer zone.

The design plans referenced throughout this report have been prepared by CJ Doyle, PE referencing the survey data by Jeffrey K. Balch, PLS. These plans are considered to be standalone documents that have been included in the application package as required.

Section 1.1.7 requires applicants seeking a variance to the setback and buffer standards to respond, in the form of a written narrative, to the six (6) criteria listed within Section 1.1.7(A) of the CRMP. This narrative is being submitted to provide the applicant's written response to these standards.

## **Existing Conditions**

The approximately 0.66 acre property is situated along the eastern side of Brant Road, a thin gravel street. This parcel lies within the town's R-80 zoning district. It is undeveloped and maintains approximately 330 feet of road frontage. The property is surrounded to the north, east and west by single family residential homes. The majority of upland on site is comprised of shrub and vine vegetation. There is a large tree by the roadway along with a small clump within the northeastern side. Vegetation primarily consists of black cherry, Morrows honeysuckle, wineberry, goldenrod, Asiatic bittersweet, Japanese honeysuckle, barberry and highbush blueberry. The transitional area between wetland and upland has minimal understory. However, further interior in the wetland vegetation thickens with highbush blueberry and sweet coastal pepperbush with an overstory of red maple. The wetland transitions into a phragmites marsh along the edge of the coastal pond.





The coastal feature on the property is the edge of this contiguous freshwater wetland associated with the Type II waters of Green Hill Pond. This wetland was delineated by NRS in November of 2016 and was verified in a CRMC Preliminary Determination #2017-12-055. This area is regulated by the CRMP as a Type 2 Water, areas with high scenic value reserved for low intensity recreational and residential use.

### **Project Scope**

The primary purpose of this project is to residentially develop the lot with a two bedroom single family home to be used as a primary residence. The proposed home shall be 20 by 30 or 35 feet in size with a small open balcony extending into the setback. The property falls within a VE flood zone with a base flood elevation of 17 feet. To compensate for this, the home shall be placed on a pile foundation with a first floor elevation of 20 feet. The property does not have access to town sewer and thus requires an onsite wastewater treatment system (OWTS). The system proposed is a GST Fujiclean Cen5 septic treatment tank to a Geomatrix GST leach field, an enhanced nitrogen removal system designed for use in nutrient sensitive areas such as the subject lot. The property does have access to town water and shall connect to the existing infrastructure.

Stormwater shall be managed onsite. The proposed driveway shall be constructed to meet a pervious standard. Surface water shall be directed from the roof into a rain garden. Erosion controls shall be utilized throughout the construction process. Silt fencing shall be placed around the limit of disturbance (LOD).

Based on the size of the lot and type of adjacent water, the coastal feature is afforded a 75-foot buffer zone and a 25-foot setback. The applicant has applied for and received a variance to the town setback standards. The side yard setback has been reduced from the standard of 40 feet to 9.9 feet. To move forward with the project, the applicant is seeking a variance to Sections 1.1.9 and 1.11 of the CRMP. In total, the applicant is seeking a 66% reduction to the buffer standard, and a 50% reduction to the setback standard. The established 25-foot buffer zone shall be permanently demarcated by stone bounds. This reduction shall support the above described development while remaining consistent with the goals and policies of the CRMC. The request is also consistent with the CRMC PD comments noting that a 25-foot buffer and 12.5-foot setback could receive staff support.

### **Section 1.1.7 - Variances**

Section 1.1.7 of the CRMP states than an applicant seeking a variance to an established standard must respond in writing to the six (6) criteria listed. The following is the applicant's written response to the variance standards.

- 1) The proposed alteration conforms with the applicable goals and policies of the Coastal Resources Management Program.*

Section 1.2.1 of the CRMP outlines the Council's policies for land use adjacent to Type 2 Waters. This designation is reserved for areas with high scenic value that support low intensity recreational and residential uses. The proposed use is for a single-family



residential home, similar to those is the surrounding development along Brant Road as well as the roads directly west and east, Wild Goose Road and Mallard Road, that are in similar proximity to the Type 2 Waters.

2) *The proposed alteration will not result in significant adverse environmental impacts or use conflicts, including but not limited to, taking into account cumulative impacts.*

The proposed project shall require the alteration of existing naturalized vegetation within the upland adjacent to the contiguous freshwater wetland. However, the proposed home has been placed as far away from the on-site wetland as practicable, close to the roadway and the adjacent home to the property's north. Also, as previously noted, the upland within the site is primarily comprised of invasive shrub and vine vegetation including Morrow's honeysuckle, wineberry, goldenrod, Asiatic bittersweet, Japanese honeysuckle and Japanese barberry.

As previously stated, appropriate erosion controls shall be established along the authorized limit of disturbance. This erosion control barrier shall be installed prior to the commencement of development activities and shall remain in place until the conclusion of the project and all disturbed areas have stabilized. These measures shall be performed to be consistent with the RI Soil Erosion and Sediment Control Handbook (2014).

Concerning use conflicts, this parcel lies within the town's R-80 zoning district, a designation that is reserved for "primarily rural areas which are not served by public facilities, and in which intensive development should not occur. They are characterized by low-density residential development, large estates, agriculture and certain low intensity non-residential activities incidental to a rural environment". Additionally, the proposed project was approved by town zoning with variances. As noted in the zoning board review many of the homes in the surrounding area are set "askew" due to the development challenges presented by Green Hill Pond. Additionally, most of the neighborhood "predates the current Zoning Ordinance and R80 designation making many of the lots substandard in size therefore requiring dimensional relief". The applicant's project shall not adversely impact the character of this neighborhood in this district.

3) *Due to conditions at the site in question, applicable standard(s) cannot be met.*

The residentially zoned parcel has enough upland to support a home and necessary infrastructure. However, the 75 foot buffer zone and 25 foot setback applied to the limit of contiguous freshwater wetland would leave the applicant with no developable area. Even with the significant variance to the town side yard setback standards, the required CRMC buffer and setback standards could not be met. With the requested variances, the applicant does meet the minimum required 25 foot buffer zone as well as a 12.5 foot setback.

4) *The modification requested by the applicant is the minimum variance to the applicable standard(s) necessary to allow a reasonable alteration or use of the site.*



The applicant has included measures to minimize the variance request to the greatest extent possible. The applicant has received a variance to the side yard setback from the town, allowing the applicant to push the proposed home further from the coastal feature. The home has also been sized down to reflect a minimization of size, similar to smaller homes within the area. The proposed home has been placed and angled so as to minimize the required variance to buffer and setback standards as well.

5) *The requested variance to the applicable standards is not due to any prior action of the applicant or the applicant's predecessors in title.*

The variance request is not the result of any prior action of the applicant or the applicant's predecessor in title. The property is a legally platted residential lot that was not created by subdivision.

6) *Due to the conditions of the site in question, the standard(s) will cause the applicant an undue hardship. In order to receive relief from an undue hardship an applicant must demonstrate inter alia the nature of the hardship and that the hardship is shown to be unique or particular to the site. Mere economic diminution, economic advantage, or inconvenience does not constitute a showing of undue hardship that will support the granting of a variance.*

Upholding the buffer and setback standard on the lot would cause the applicant undue hardship as it would prohibit the applicant from any development as the buffer zone encompasses the entire lot. If relief from the standards is not granted the applicant could not achieve residential development within the legally platted lot of record which would constitute as an undue hardship.

### **Section 1.1.10 - Sea Level Rise**

Section 1.1.10 of the CRMP outlines the Council's policies pertaining to climate change and sea level rise. The CRMC requires that applicants proposing development within the jurisdiction of the CRMC consider various sea level rise scenarios as part of the application process. NRS has reviewed the subject property using the STORMTOOLS data layer with GIS software. STORMTOOLS provides models detailing sea level rise scenarios with one (1), two (2), three (3), five (5) and seven (7) foot projections. Based on our review of this data, portions of the property may be impacted by 5 feet of sea level rise and greater. Five feet of sea level rise will also begin to impact access to the property along Brant Road. However, a coastal hazard analysis was performed on the required worksheet. The project design life of 30 years shall not be impacted by the 2 feet of projected sea level rise. Although portions of Brant Road may be impacted the property can still be accessed with the projected rise in sea level.

### **Conclusion**

The applicant is seeking permission in the form of a variance request to construct a two bedroom single family home on the property. The proposal includes the construction of an OWTS, pervious driveway and rain garden. The applicant is requesting a variance to the buffer



and setback standards of the CRMP in order to construct this residence within the lot. More specifically, this project requires a 66% percent reduction to the buffer to the minimum buffer of 25 feet as well as the reduction of the setback from 25 to a 12.5 feet from the buffer. Appropriate erosion controls shall be implemented and established along the LOD in accordance with the specifications of the site plans. The buffer shall also be permanently demarcated with buffer zone posts.

This narrative has been prepared to provide the applicant's written response to the six (6) criteria listed in Section 1.1.7 of the CRMP for variance requests. Based on the project's ability to satisfy such criteria, it is our opinion that the project may be permitted through a variance to the setback standards.



## References

Coastal Resources Management Council, (Refiled January 2012) *Coastal Resources Management Program, as Amended*.

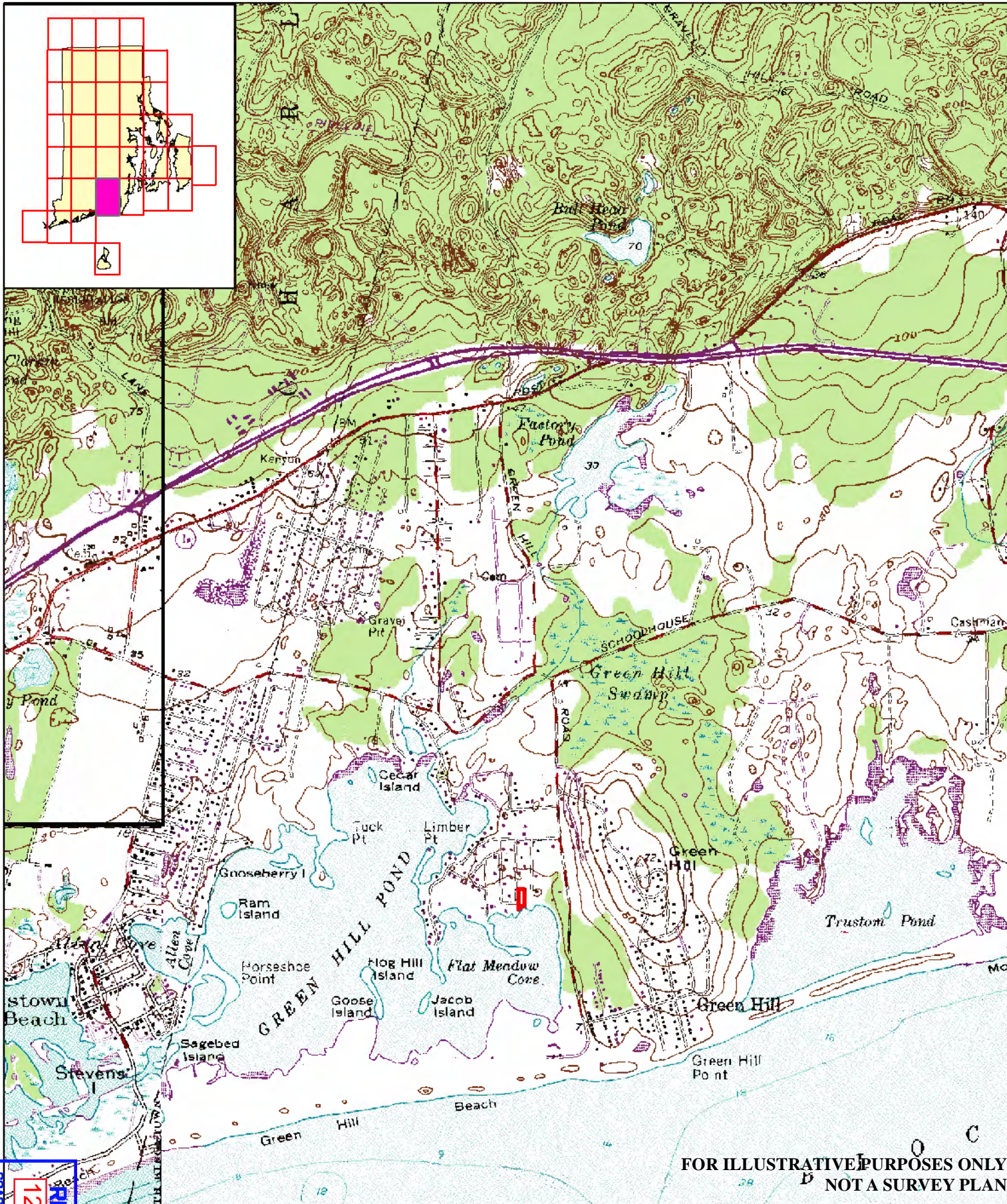
RIGIS. (1939- 2022). *Topo map & aerial photoviewer*. RI Department of Environmental Management.

RI State Conservation Committee, RI Department of Environmental Management, RI Coastal Resources Management Council & RI Department of Transportation. (2016) *RI Soil Erosion and Sedimentation Control Handbook*.



# Appendix






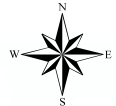
FOR ILLUSTRATIVE PURPOSES ONLY  
NOT A SURVEY PLAN

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**USGS Topographic Map**  
**Brant Rd South**  
**P. 90-4, Lot 130**  
 South Kingstown, RI  
 Kingston Quad Map

— Approximate Site Location  
 USGS Topographic Series  
 Contour Interval 10 Feet  
 National Geodetic Vertical Datum of 1929  
 0 1,000 2,000 4,000 Feet

  
**Natural Resource Services, Inc.**  
 PO Box 311  
 180 Tinkham Lane  
 Harrisville, RI 02830  
 p: (401) 568-7390  
 (c) RIGIS



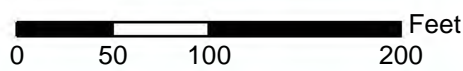


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MANAGEMENT COUNCIL

A Soil Survey Map  
Brant Rd South  
A.P. 90-4, Lot 130  
South Kingstown, RI

— Approximate Site Location



  
**RIGIS** Spring 2023 aerial  
 RI DEM Mapping  
*Natural Resource Services, Inc.*  
 PO Box 311  
 180 Tinkham Lane  
 Harrisville, RI 02830  
 p: (401) 568-7390  
 (c) RIGIS



RESIDENTIAL LOT DRAINAGE

Location: Brant Road South, South Kingstown (Plat 90-4, Lot 130)

Owner: Jean-Luc Bellefleur

Date: 9/9/2022, Rev. 12/13/2023

Area of house roof 640.00 s.f.

Water quality volume: 53.33 cu. ft.

Soils: silt loam

\*Based on soils data for OWTS design, seasonal high water table = 28" @ SE-2(attached)  
USDA Soil Web Survey shows Tisbury sil loam, hydro group c, 18"-30" GWT

GWT = 5.90 - 2.33' = 3.57

Rain Garden

640.00 s.f. in silt loam req'd = 198 s.f.\*

\*Based on Town of South Kingstown requirement to mitigate 10-year storm.  
Exceeds requirement for water quality volume in accordance with RI stormwater  
Guidance for Individual Single-Family Residential Development

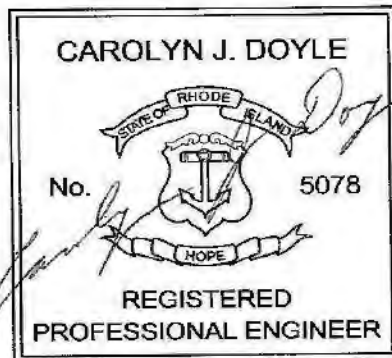
Required Size:

Rain garden bottom dimensions = irregular = 198 s.f.  
8" - depth

- Sidewalls shall have a 2:1 slope 3:1 used
- Required length to width > 2:1
- Required grade at site in area of rain garden < 12%
- Required distance to foundation > 10'
- Required distance to septic system > 15'
- Required distance to private drinking water well > 25'

Used for: house roof

Conclusion: Proposed infiltration field mitigates the peak discharge rate of flow and volume discharge for a 10-year storm event to 0.00 cfs and 0.00 cf.  
Reference attached Hydrocad calculations.



RESIDENTIAL LOT DRAINAGE

Location: Brant Road South, South Kingstown (Plat 90-4, Lot 130)

Owner: Jean-Luc Bellefleur

Date: 9/9/2022

Area of drive 660.00 s.f.

Water quality volume: 55.00 cu. ft.

Soils: silt loam\* (0.27 in/hr infiltration rate)

\* Based on soils data for OWTS design, seasonal high water table = 28" @ SE-2 (ref site plan)

USDA Web Survey shows Tisbury silt loam, hydro group C, 18"-30" GWT

GWT = 6.0 - 2.33 = 3.67 at driveway

Stone Reservoir

660.00 s.f. in silt loam req'd size = 660.00 s.f.\*

\*Based on town of South Kingstown requirement to mitigate 10-year storm. Exceeds requirement for water quality volume in accordance with RI Stormwater Guidance for Individual Single Family Residential Development

660 s.f. crushed stone of full depth

See attached Hydrocad data

Required Size for 660 s.f. drive:

Stone reservoir bottom dimensions = 20.0' x 33.0' = 660.00 s.f.

Depth stone = 7"

Required grade for pervious drive < 5%

Required distance to foundation > 10'

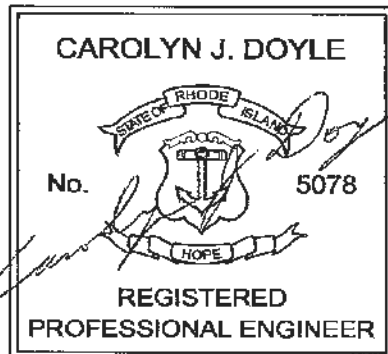
Required distance to septic system > 15'

Required distance to private drinking water well > 25'

Required distance to GWT > 2'

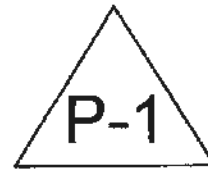
Used for: driveway

Conclusion: Based on attached Hydrocad calculations, proposed stone reservoir mitigates the peak discharge rate of flow and volume discharge for a 10-year storm event such that there is no increase in peak discharge rate of flow and volume discharge from the project site for the proposed condition when compared to the existing condition.





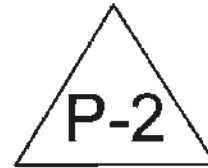
roof - 640 s.f.



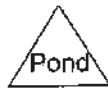
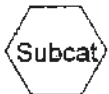
rain garden



drive - 660 s.f.



perv drive



Routing Diagram for Bellefleur proposed Rev1  
Prepared by CJ DOYLE, P.E., Printed 12/13/2023  
HydroCAD® 10.00-25 s/n 07550 © 2019 HydroCAD Software Solutions LLC

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**Bellefleur proposed Rev1**

Prepared by CJ DOYLE, P.E.

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Type III 24-hr 10 yr New Rainfall=4.90"

Printed 12/13/2023

Page 2

**Summary for Subcatchment PSC1: roof - 640 s.f.**

Runoff = 0.07 cfs @ 12.07 hrs, Volume= 249 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10 yr New Rainfall=4.90"

Area (sf)	CN	Description
640	98	Unconnected roofs, HSG C
640		100.00% Impervious Area
640		100.00% Unconnected

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

**Summary for Subcatchment PSC2: drive - 660 s.f.**

Runoff = 0.08 cfs @ 12.07 hrs, Volume= 256 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10 yr New Rainfall=4.90"

Area (sf)	CN	Description
660	98	Paved parking, HSG C
660		100.00% Impervious Area

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

**Summary for Pond P-1: rain garden**

Inflow Area = 640 sf, 100.00% Impervious, Inflow Depth = 4.66" for 10 yr New event  
 Inflow = 0.07 cfs @ 12.07 hrs, Volume= 249 cf  
 Outflow = 0.00 cfs @ 15.90 hrs, Volume= 249 cf, Atten= 97%, Lag= 229.6 min  
 Discarded = 0.00 cfs @ 15.90 hrs, Volume= 249 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3  
Peak Elev= 5.22' @ 15.90 hrs Surf.Area= 325 sf Storage= 154 cf

Plug-Flow detention time= 749.0 min calculated for 249 cf (100% of inflow)  
Center-of-Mass det. time= 749.0 min ( 1,496.4 - 747.4 )

Volume	Invert	Avail. Storage	Storage Description
#1	4.63'	308 cf	Custom Stage Data (Prismatic) Listed below (Recalc)



**Bellefleur proposed Rev1**

Prepared by CJ DOYLE, P.E.

HydroCAD® 10.00-25 s/n 07550 © 2019 HydroCAD Software Solutions LLC

Type III 24-hr 10 yr New Rainfall=4.90"

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Page 3

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
4.63	198	0	0
5.30	343	181	181
5.63	424	127	308

Device	Routing	Invert	Outlet Devices
#1	Discarded	4.63'	<b>0.270 in/hr Exfiltration over Horizontal area</b> Phase-In= 0.01'
#2	Primary	5.30'	<b>10.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

**Discarded OutFlow** Max=0.00 cfs @ 15.90 hrs HW=5.22' (Free Discharge)  
 ↑1=Exfiltration (Exfiltration Controls 0.00 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=4.63' (Free Discharge)  
 ↑2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Summary for Pond P-2: perv drive**

Inflow Area = 660 sf, 100.00% Impervious, Inflow Depth = 4.66" for 10 yr New event  
 Inflow = 0.08 cfs @ 12.07 hrs, Volume= 256 cf  
 Outflow = 0.00 cfs @ 10.77 hrs, Volume= 256 cf, Atten= 95%, Lag= 0.0 min  
 Discarded = 0.00 cfs @ 10.77 hrs, Volume= 256 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3  
 Peak Elev= 5.92' @ 13.82 hrs Surf.Area= 660 sf Storage= 109 cf

Plug-Flow detention time= 212.6 min calculated for 256 cf (100% of inflow)  
 Center-of-Mass det. time= 212.6 min ( 960.0 - 747.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	5.42'	126 cf	<b>20.00'W x 33.00'L x 0.58'H Prismatic</b> 383 cf Overall x 33.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.42'	<b>0.270 in/hr Exfiltration over Surface area</b> Phase-In= 0.01'
#2	Primary	5.98'	<b>12.0' long x 1.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

**Discarded OutFlow** Max=0.00 cfs @ 10.77 hrs HW=5.43' (Free Discharge)  
 ↑1=Exfiltration (Exfiltration Controls 0.00 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=5.42' (Free Discharge)  
 ↑2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)



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Soil Map—State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties



Map Scale: 1:7,870 if printed on A landscape (11" x 8.5") sheet.  
0 100 200 400 600 Meters  
0 350 700 1400 2100 Feet  
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

## State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

### Tb—Tisbury silt loam

#### Map Unit Setting

*National map unit symbol:* 9lxf  
*Elevation:* 0 to 520 feet  
*Mean annual precipitation:* 44 to 50 inches  
*Mean annual air temperature:* 48 to 50 degrees F  
*Frost-free period:* 120 to 195 days  
*Farmland classification:* All areas are prime farmland

#### Map Unit Composition

*Tisbury and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Tisbury

##### Setting

*Landform:* Terraces, outwash plains  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear, concave  
*Parent material:* Coarse-silty eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

##### Typical profile

*Ap - 0 to 8 inches:* silt loam  
*Bw1 - 8 to 18 inches:* silt loam  
*Bw2 - 18 to 26 inches:* silt loam  
*2C - 26 to 60 inches:* stratified very gravelly sand to loamy sand

##### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Moderately well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)  
*Depth to water table:* About 18 to 30 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water supply, 0 to 60 inches:* Moderate (about 6.6 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 2w  
*Hydrologic Soil Group:* C



*Ecological site:* F149BY007NY - Moist Outwash

*Hydric soil rating:* No

### Minor Components

#### Enfield

*Percent of map unit:* 4 percent

*Landform:* Terraces, outwash plains

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### Bridgehampton

*Percent of map unit:* 3 percent

*Landform:* Outwash plains

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### Raypol

*Percent of map unit:* 3 percent

*Landform:* Outwash plains

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

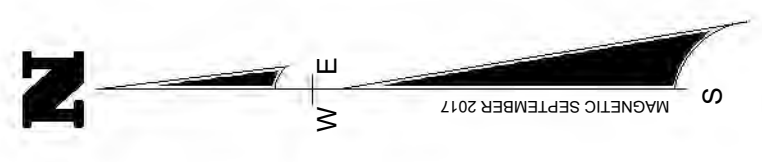
## Data Source Information

Soil Survey Area: State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

Survey Area Data: Version 23, Sep 8, 2023







**FEMA DESIGNATIONS:**  
The subject property depicted hereon appears within zone VE having a base flood elevation 15' of FEMA Flood Insurance Rate Map 4409C0301J, dated October 16, 2013 and per FEMA LOMR 20-01-1104P effective 3/19/2021.

**WETLANDS:**  
Natural Resources Services, Inc. delineated the contiguous freshwater wetland with flag series A1 - A14 on November 1, 2016. see Report of Findings for more detail. Wetland edge verified in CRMC Preliminary Determination #2017-12-055 dated March 20, 2018.

**UTILITIES:**  
THE LOCATION OF EXISTING UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE ONLY AND HAVE BEEN SHOWN USING THE BEST AVAILABLE DATA.

THE CONTRACTOR SHALL CONTACT "DIG-SAFE" AND/OR OTHER APPROPRIATE UTILITY COMPANIES TO ASCERTAIN THE EXACT LOCATION OF THE RESPECTIVE UTILITY PRIOR TO CONSTRUCTION.

UTILITIES INCLUDE BUT ARE NOT LIMITED TO GAS, ELECTRIC, WATER, TELEPHONE CABLE TV, ETC.

**WATER SUPPLY:**  
ALL WATER SUPPLY LINES SHALL NOT COME WITHIN 25' OF THE PROPOSED LEACH FIELD AND 10' OF THE PROPOSED SEPTIC TANK.

UNLESS SHOWN THERE ARE NO KNOWN EXISTING OR PROPOSED WELLS WITHIN 200 FEET OF THE PROPOSED LEACH FIELD.

THERE ARE NO KNOWN EXISTING OR PROPOSED PUBLIC WELLS WITHIN 500' OF THE PROPOSED LEACH FIELD.

UNLESS SHOWN THERE ARE NO EXISTING OR PROPOSED ONSITE WASTEWATER TREATMENT SYSTEMS WITHIN 100' OF THE PROPOSED WELL.

**GEOMATRIX GST DESIGN**

**GIVEN:**

SOIL CATEGORY: 7

LOADING RATE: 2.1 GAL/SF/DAY

STRUCTURE: 2 BEDROOMS

DESIGN FLOW: 115 GAL/DAY/BEDROOM

**TOTAL DAILY FLOW:**

230 GAL/DAY / 2.10 GAL/SF/DAY = 110 SF REQ'D

**LENGTH GST 6206 PROVIDED:**

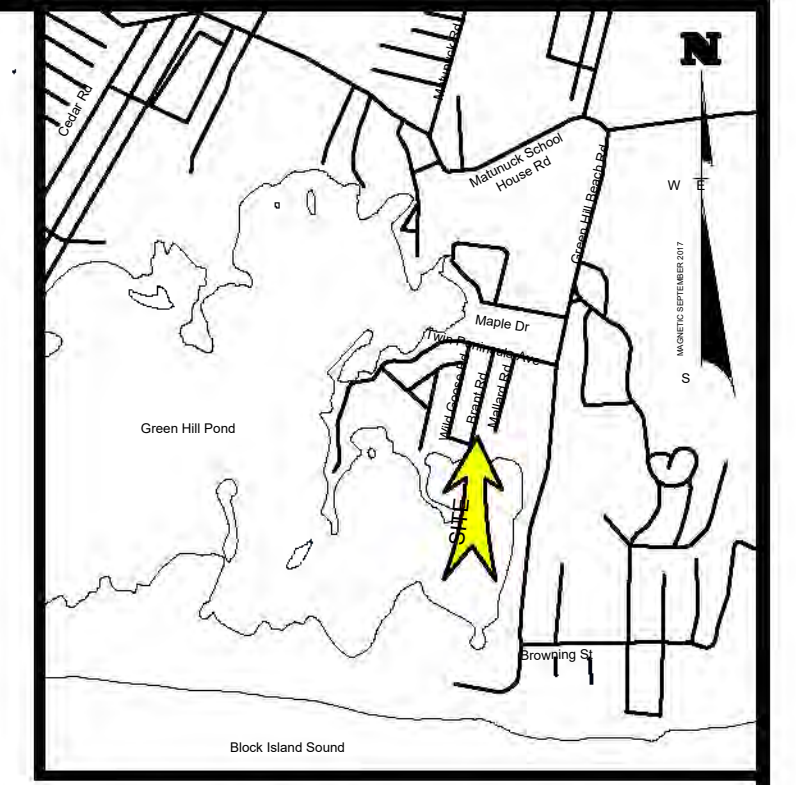
16.0' LONG x 10.3 SF/LF (6" HIGH, 5.17' WIDE) = 164 SF PROVIDED\*

\*DESIGNED ON LESSER LOADING RATE OF 1.40

**SOIL NOTES:**

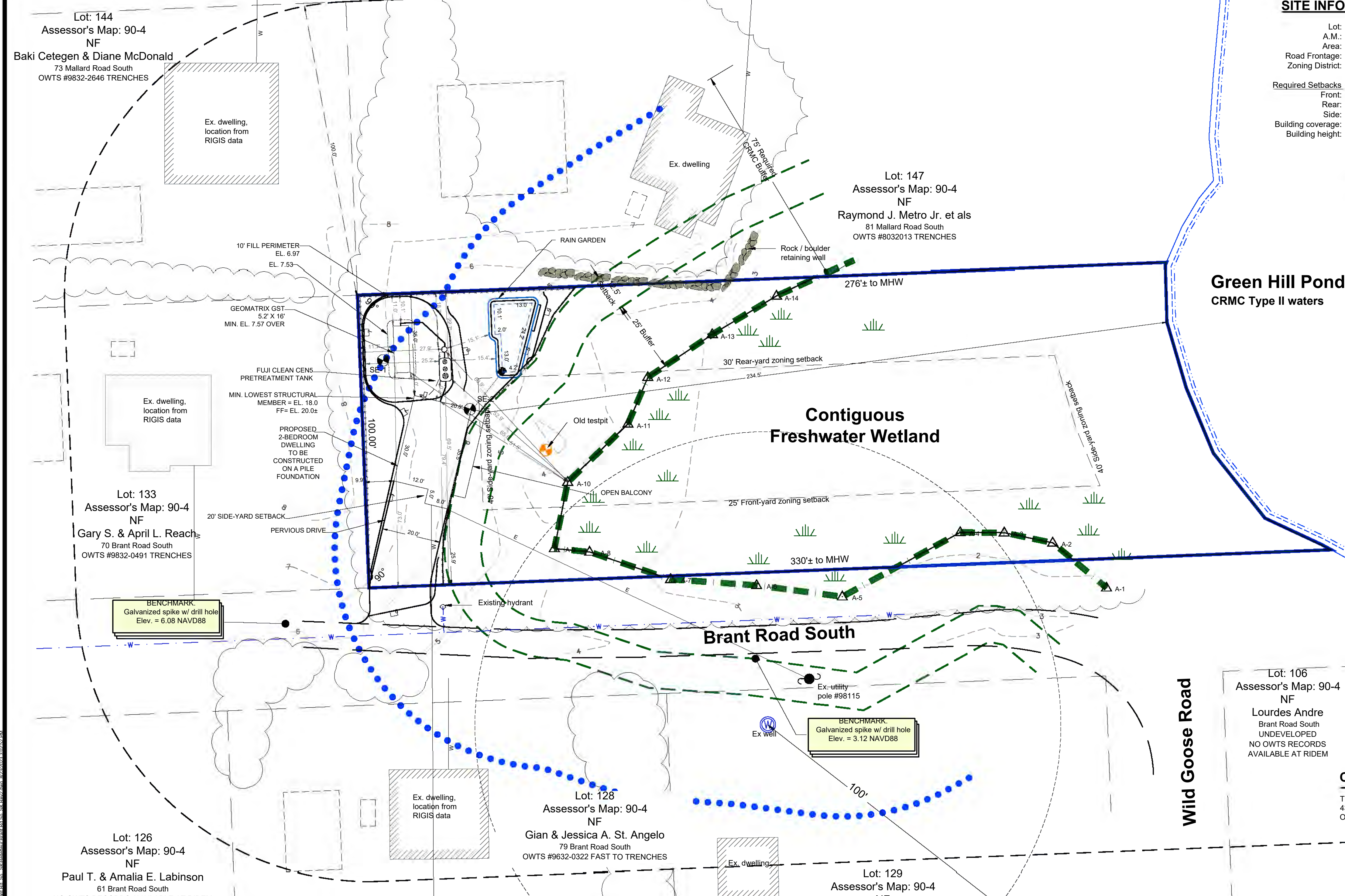
OCTOBER 3, 2017  
TEST HOLE #1 (Elev. 7.30)  
2'-0" OI  
0-8" Ap, 10YR2/2, sil, 1sbkf, fr  
8-34" Bw1, 2.5Y4/4, sil, 1sbkf, fr  
34-51" Bw2, 2.5Y6/1, sil, 0-m, fr  
51-98" 2C, 2.5Y5/4, cobgrs, 0-sg, 1  
DEPTH TO GROUNDWATER TABLE = 36"  
GROUNDWATER ELEV. = 4.30

Test Hole #2 (Elev. 5.90)  
2'-0" OI  
0-8" Ap, 10YR2/2, sil, 1sbkf, fr  
8-24" Bw1, 10YR4/6, sil, 1sbkf, fr  
24-45" Bw2, 2.5Y5/4, sil, 0-m, fr  
45-84" 2C, 2.5Y5/4, cobgrs, 0-sg, 1  
DEPTH TO GROUNDWATER TABLE = 28"  
GROUNDWATER ELEV. = 3.57



**LOCATION PLAN**  
SCALE: 1" = 2000'

**Mallard Road South**



**SITE INFORMATION**

Lot: 130  
A.M.: 90-4  
Area: 28,800± SF  
Road Frontage: 330±  
Zoning District: R-80

**Required Setbacks**

Front:	25 feet
Rear:	30 feet
Side:	40 feet
Building coverage:	20%
Building height:	35 feet

**Proposed Setbacks**

Front:	25.9 feet
Rear:	35.0 feet
Side:	9.9 feet*
Building coverage:	0.027%±
Building height:	<35 feet

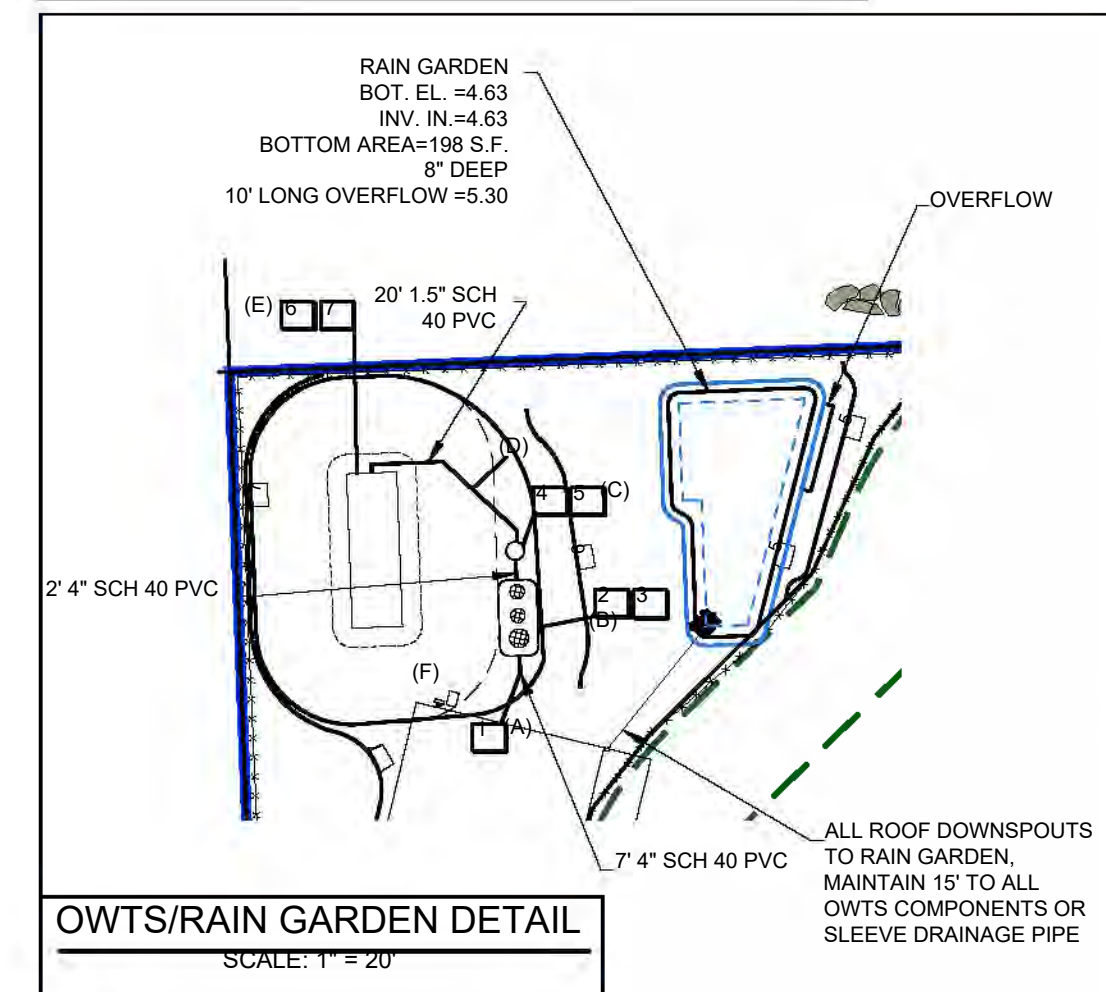
\* Requires zoning variance

**PROPOSED OWTS COMPONENTS**

- (A) 4" DIA. SCHEDULE 40 PVC BUILDING SEWER, LENGTH = 7'.
- (B) PROPOSED FUJICLEAN CENS SEPTIC/TREATMENT TANK. SEPTIC TANK COVERS TO FINISHED GRADE. SEE SEPARATE DETAILS ON SHEET 2.
- (C) PROPOSED 24" DIA. PVC PUMP CHAMBER. ENSURE DRAINBACK OF PRESSURE LINE TO GST. SEE SEPARATE DETAILS ON SHEET 2.
- (D) PROPOSED 1.25" DIA. SCHEDULE 40 PVC PRESSURE LINE TO GST, LENGTH = 20'.
- (E) PROPOSED GEOMATRIX GST LEACH FIELD, 5.17' X 16' = 82.7 S.F. SEE SEPARATE DETAILS ON SHEET 2.
- (F) PROPOSED CONTROL PANEL TO BE MOUNTED MINIMUM 36" ABOVE GRADE ON POST OR APPROVED EQUIVALENT. BLOWER TO BE SET ADJACENT TO CONTROL PANEL.

**VARIANCES REQUESTED FOR OWTS:**

- RULE 6.23 D. MINIMUM SETBACK DISTANCE FROM SALT POND/CONTIGUOUS WETLAND = 150' REQUIRED, 51.5' PROVIDED TO BUILDING SEWER, 65.6' TO GST, 52.9' TO SEPTIC TANK AND 60.9' TO PUMP CHAMBER



**CERTIFICATION:**

This survey has been conducted on August 31, 2017 and the information 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:

Type of Boundary Survey: Limited Content Boundary Survey

Other Type of Survey: Data Accumulation Survey (By Onsite Instrument Survey)

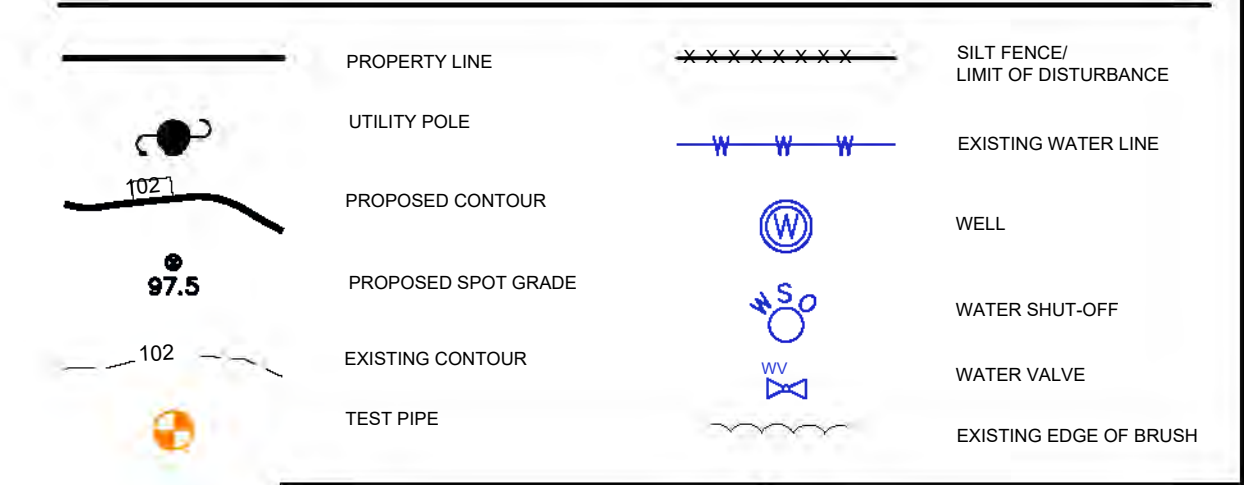
Topographic Standard: T-2

Vertical Control Standard: V-1

The purpose for the conduct of the survey and the preparation of the plan is as follows:  
This plan is intended to show the location of existing and proposed improvements for regulatory and multiple applications.

BY: JEFFREY K. BALCH DATE: 11/22/2023

**LEGEND**



**FRISELLA - BALCH & ASSOCIATES**  
LAND SURVEYORS  
33 NORTH RD. SUITE C-201  
PEACE DALE, RI  
PHONE (401) 783-5949  
www.frissella.com

**CJ DOYLE, P.E.**  
CIVIL ENGINEERING  
MAILING ADDRESS:  
P.O. BOX 1161, HOPE VALLEY RI 02832  
OFFICE:  
1122 MAIN STREET, WYOMING, RI  
PHONE (401) 491-9530  
ckengine@cox.net

NO.	DATE	DESCRIPTION	BY
4	08/18/2023	REVISED SIDE SETBACK REQUIRED	CJD
3	12/14/2022	REVISED PER DEM COMMENTS	CJD
2	12/06/2022	REVISED PER DEM COMMENTS	CJD
1	10/31/2022	REVISED PER DEM COMMENTS/GEOMATRIX GST	CJD

**SITE PLAN FOR ONSITE WASTEWATER TREATMENT SYSTEM**

LOCATED ON: LOT130 PLAT 90-4

OWNED BY: JEAN-LUC BELLEFLEUR (BUYER)

ADDRESS: BRANT ROAD SOUTH

IN THE TOWN OF SOUTH KINGSTOWN, RI

DATE: SEPTEMBER 16, 2022

SCALE: 1" = 20'

DESIGNED BY: CAROLYN J. DOYLE

DRAWN BY: JK/CJD CHECKED BY: CJD OR JKB

DRAWING NO: SHEET 1 OF 2

JEFFREY K. BALCH  
No. 1839  
PROFESSIONAL LAND SURVEYOR

CAROLYN J. DOYLE  
No. 5078  
REGISTERED PROFESSIONAL ENGINEER

FOR SURVEYS ONLY

FOR ENGINEERING

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COASTAL RESOURCES MANAGEMENT COUNCIL

CONTRACTOR SHALL PROVIDE THE FOLLOWING TO CJ DOYLE, P.E.:

PRODUCT SPECIFICATION SHEETS FOR PRODUCTS USED IF DIFFERENT THAN SPECIFIED ON THE PLANS. CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM CJ DOYLE, P.E. FOR ANY ITEM THAT IS DIFFERENT THAN SHOWN ON APPROVED DESIGN PLANS. THIS WOULD INCLUDE DIFFERENT MANUFACTURERS THAN SPECIFIED BY CJ DOYLE, P.E.

COPY OF DELIVERY SLIPS FOR ALL MATERIALS DELIVERED TO SITE.

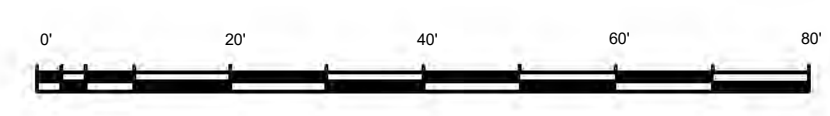
COPY OF CURRENT SIEVE ANALYSIS FOR BOTTOMLESS SAND FILTER MEDIA MEETING ALL REQUIREMENTS AS SPECIFIED IN RULE 6.37 ADVANCED PRESSURE DRAINFIELDS (APDS) C.2.b OF THE MOST RECENTLY PUBLISHED R.I.D.E.M. REGULATIONS. THIS ANALYSIS HAS TO BE PRESENTED TO CJ DOYLE, P.E. BEFORE BEING PLACED IN THE BSF.

**SCHEDULE OF INSPECTIONS:**

- 3-BUSINESS DAYS NOTICE SHALL BE GIVEN TO CJ DOYLE, P.E. PRIOR TO THE START OF CONSTRUCTION.
- ALL INSPECTIONS SHALL REQUIRE AT LEAST 1 BUSINESS DAYS NOTICE TO CJ DOYLE, P.E.

THE FOLLOWING INSPECTIONS ARE REQUIRED BY CJ DOYLE, P.E.:

- BOTTOM OF EXCAVATION FOR LEACH FIELD.
- PRIOR TO COVERING ANY COMPONENT OR PIPING.
- PRIOR TO COVERING THE WATERLINE FROM THE WELL OR THE MUNICIPAL WATER SERVICE. THE LINE MUST BE COMPLETELY INSTALLED AND EXPOSED FROM SOURCE TO FINAL DESTINATION.
- FINAL GRADING AND 5' FILL PERIMETERS.



Lot: 126  
Assessor's Map: 90-4  
NF  
Paul T. & Amalia E. Labinson  
61 Brant Road South  
NO OWTS RECORDS AVAILABLE AT RIDEM  
PROBABLE CESSPOOL  
NO DEVELOPMENT <100' FROM PROJECT SITE

Lot: 133  
Assessor's Map: 90-4  
NF  
Gary S. & April L. Reach  
70 Brant Road South  
OWTS #9832-0491 TRENCHES

Lot: 144  
Assessor's Map: 90-4  
NF  
Baki Cetegen & Diane McDonald  
73 Mallard Road South  
OWTS #9832-2646 TRENCHES

Lot: 128  
Assessor's Map: 90-4  
NF  
Gian & Jessica A. St. Angelo  
79 Brant Road South  
OWTS #9832-0322 FAST TO TRENCHES

Lot: 129  
Assessor's Map: 90-4  
NF  
Blevins-Morales Rev Family Trust  
87 Brant Road South  
NO OWTS RECORDS AVAILABLE AT RIDEM  
PROBABLE CESSPOOL

Lot: 106  
Assessor's Map: 90-4  
NF  
Lourdes Andre  
Brant Road South  
UNDEVELOPED  
NO OWTS RECORDS  
AVAILABLE AT RIDEM

Lot: 147  
Assessor's Map: 90-4  
NF  
Raymond J. Metro Jr. et als  
81 Mallard Road South  
OWTS #8032013 TRENCHES

**CONTROL PANEL:**

THE CONTROL PANEL SHALL BE MANUFACTURED BY ORENCO SYSTEMS, INC. MODEL VERICOMM AXB. THE PROGRAMMABLE TIMER FOR THE RECIRCULATING TANK PUMP SHALL BE SET TO THE DEFAULT SETTINGS AS SUPPLIED BY THE MANUFACTURER. THE EXTERNAL PUMP CHAMBER SHALL BE DEMAND DOSED AND HAVE THE FLOATS SET AS SHOWN IN THE PUMP CHAMBER DETAIL. THE HIGH AND/OR LOW LEVEL ALARMS SHALL BE IN THE CONTROL PANEL.

**CONFINED SPACE SIGNS:**

PERMANENT DURABLE CORROSION RESISTANT SIGNS INDICATING "CONFINED SPACE - ENTRY BY PERMIT ONLY" SHALL BE PLACED AT EACH TANK AND PUMP CHAMBER SIDEWALL OF RISER. SIGNS SHALL MEET O.S.H.A. REQUIREMENTS FOR SIZE, MARKINGS AND LOCATION.

**MAINTENANCE:**

ALL COMPONENTS OF THE SYSTEM SHALL BE INSPECTED AFTER THE FIRST 4-6 MONTHS OF OPERATION, AND AFTER ONE YEAR OF OPERATION. THE SYSTEM SHALL BE INSPECTED TWICE ANNUALLY THEREAFTER UNLESS ORIGINAL INSPECTIONS DETERMINE MORE FREQUENT INSPECTIONS ARE REQUIRED. THE OWNER SHOULD BE AWARE THAT THIS ONSITE WASTEWATER TREATMENT SYSTEM SHALL HAVE A PERMANENT ROUTINE MAINTENANCE AGREEMENT THAT SHALL BE RECORDED IN THE LAND EVIDENCE RECORDS OF THE TOWN.

**ELECTRICAL:**

ALL WIRING REQUIRED FOR PUMPS, ALARMS, ETC. SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND MANUFACTURER'S INSTRUCTIONS. CONDUITS ENTERING THE PUMP CHAMBERS SHALL BE PROPERLY INSTALLED WITH CONDUIT SEALS TO PREVENT SEWAGE GASES FROM LEAVING THE BASIN. CONDUITS ENTERING THE FAN CHAMBER SHALL BE PROPERLY INSTALLED WITH CONDUIT SEALS TO PREVENT WATER FROM ACCESSING THE CHAMBER.

**EROSION AND SEDIMENTATION CONTROL NOTES:**

TEMPORARY AND/OR PERMANENT EROSION CONTROL DEVICES SUCH AS BALED HAY, SILT FENCING, ETC. SHALL BE INSTALLED PRIOR TO ANY CLEARING OR EXCAVATION. HAY BALES OR SILT FENCING SHALL BE PLACED IMMEDIATELY DOWN SLOPE AND ADJOINING AREAS OF SOIL DISTURBANCE AND STOCKPILES. INSTALLATION OF ALL EROSION CONTROL DEVICES SHALL BE CONDUCTED IN ACCORDANCE TO DETAIL SPECIFICATIONS.

CLEARING OF EXISTING VEGETATION SHALL BE DONE IN A CONTROLLED MANNER SO AS TO AVOID EXTENSIVE AREAS OF DEFOLIATED TERRAIN SUBJECT TO EROSION. AREAS SO DISTURBED SHALL BE BROUGHT TO FINAL GRADES AND STABILIZED AS SOON AS POSSIBLE.

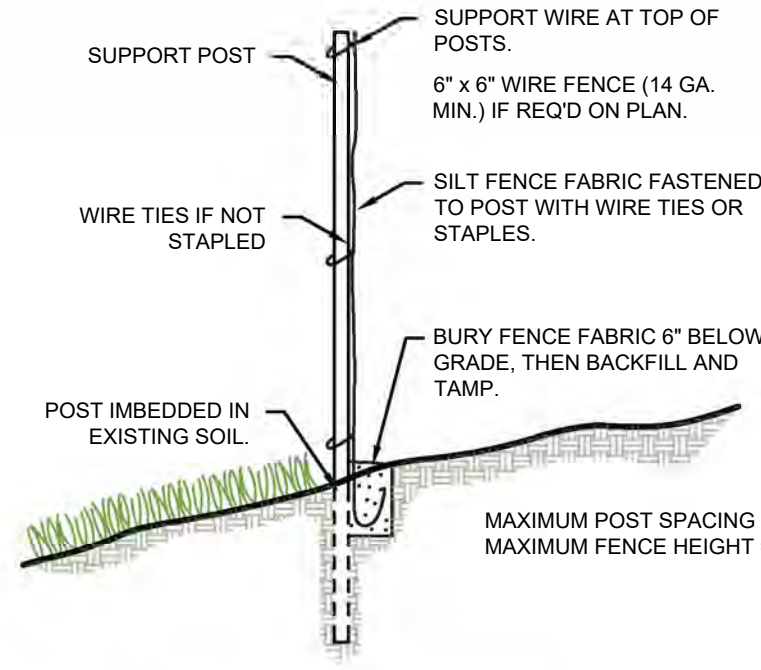
DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.

ALL EROSION CONTROL DEVICES SHALL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS DURING CONSTRUCTION, ESPECIALLY AFTER EACH RAINFALL. DUE TO CHANGING CHARACTERISTICS OF THE SITE CAUSED BY AND DURING CONSTRUCTION ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS SITE CONDITIONS WARRANT.

IF CONSTRUCTION IS SUSPENDED, ALL DISTURBED AREAS SHALL BE SEEDED AND ALL NECESSARY EROSION CONTROL DEVICES SHALL BE IN PLACE AND IN GOOD WORKING ORDER. IF SEEDING IS NOT POSSIBLE THEN EROSION CONTROL MATS SHALL BE PLACED OVER ALL DISTURBED SOIL. EROSION CONTROL BLANKETS (MATS) SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. EROSION CONTROL BLANKETS (MATS) SHALL BE MANUFACTURED BY NORTH AMERICAN GREEN OR APPROVED EQUIVALENT AND INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

ALL EROSION CONTROL METHODS, MATERIALS AND MAINTENANCE SHALL BE DONE IN ACCORDANCE WITH THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK". ALL AREAS WHICH ARE DISTURBED DURING CONSTRUCTION ARE TO BE BROUGHT TO FINISHED GRADE WITH AT LEAST 6" MINIMUM DEPTH OF GOOD QUALITY LOAM AND ALL SOIL AMENDMENTS DEEMED NECESSARY. THE AREA SHALL BE SEEDED WITH A QUICK GERMINATING GRASS SEED SUCH AS UR1 #2 OR APPROVED EQUIVALENT.

THE CONTRACTOR SHALL PROVIDE FOR ALL SEEDED AREAS TO BE WATERED AND IN GOOD CONDITION UNTIL A GOOD HEALTHY AND UNIFORM GROWTH IS ESTABLISHED OVER THE ENTIRE AREA.



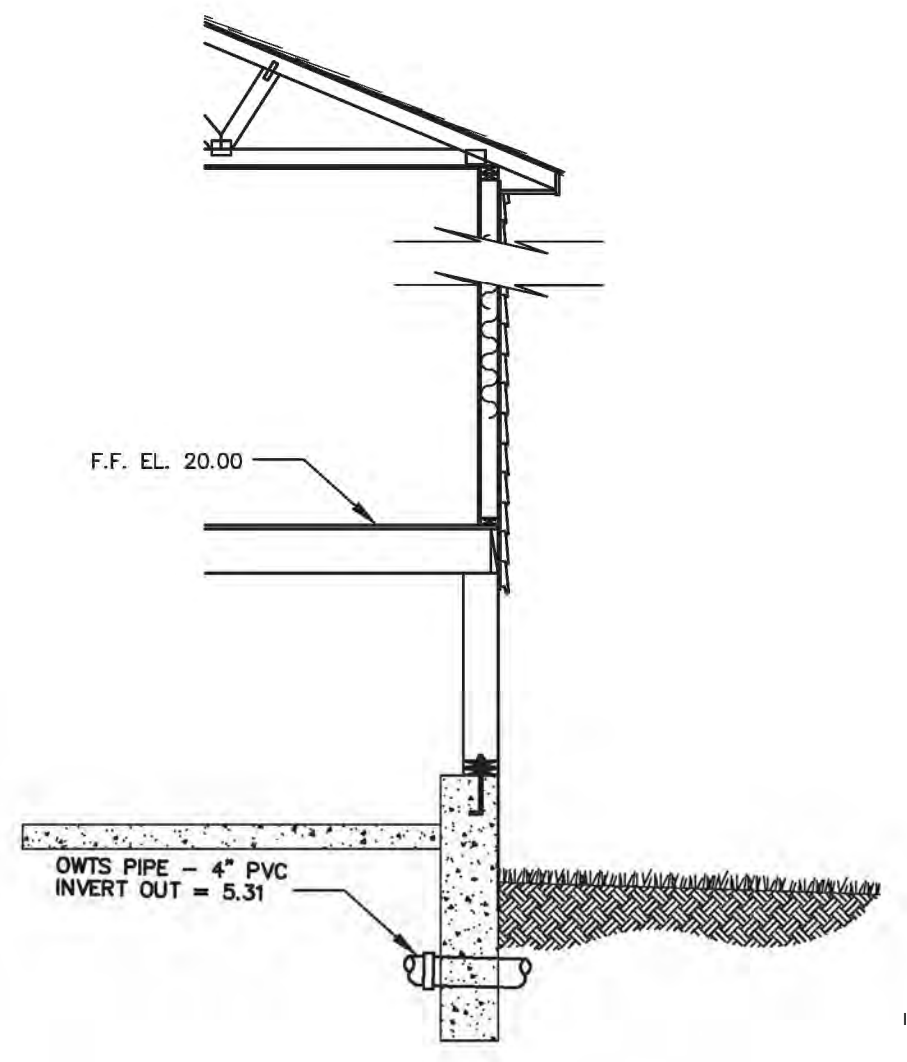
**SILT FENCE DETAIL**  
NOT TO SCALE

**FUJICLEAN NOTES**

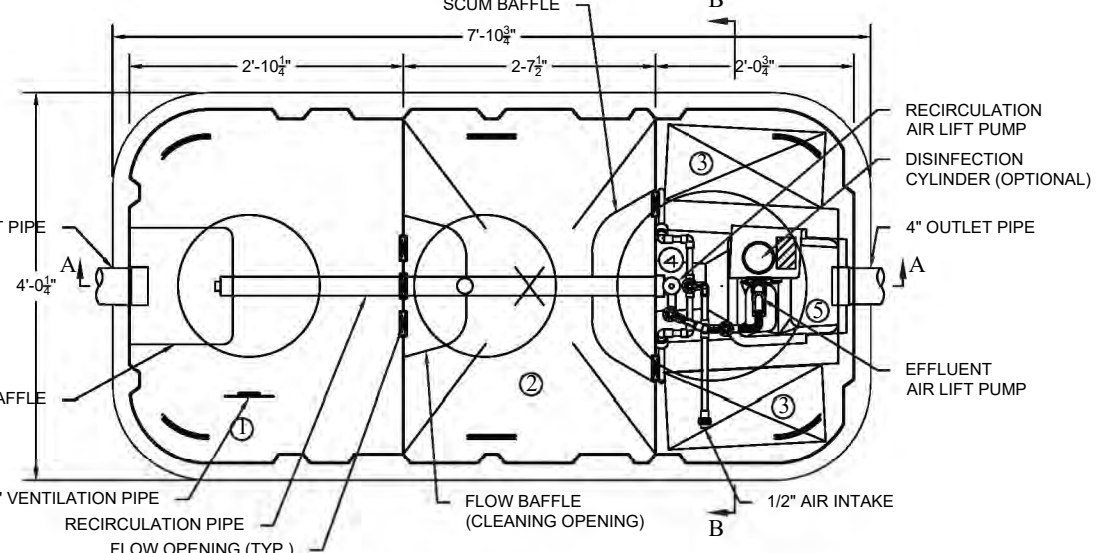
- THE DESIGN ENGINEER SHALL OBSERVE THE OWTS PRIOR TO BACKFILL.
- THE OWTS SHALL BE TESTED FOR WATER TIGHTNESS USING A METHOD APPROVED BY THE MFR PRIOR TO ARRIVAL AT THE SITE.
- A FUJI CLEAN REPRESENTATIVE SHALL BE PRESENT DURING START-UP.
- THE OWNER SHALL EXECUTE AND MAINTAIN AN OPERATION AND MAINTENANCE AGREEMENT WITH AN AUTHORIZED MAINTENANCE PROVIDER.
- NO KITCHEN SINK GARBAGE DISPOSER SHALL DISCHARGE TO THE OWTS.
- NO WATER SOFTENER SHALL DISCHARGE TO THE OWTS.
- INSTALLATION AND USE OF THE I/A OWTS MUST CONFORM TO THE DEPARTMENTS APPROVED I/A OWTS GUIDANCE DOCUMENT PREPARED IN ACCORDANCE WITH THE STANDARDS FOR "APPROVAL AND MANAGEMENT OF INNOVATIVE AND ALTERNATIVE ON SITE WASTEWATER TREATMENT SYSTEMS."
- WHEN AN I/A OWTS REQUIRES A VENT, THE UNIT SHALL BE VENTED TO THE ROOF OF THE RESIDENCE BEING SERVED. VENT PIPES SHALL EXTEND A MINIMUM OF 6" ABOVE THE ROOF LINE AND THE TOP OF THE VENT SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 12" TO THE SLOPED PORTION OF THE ROOF. IN CASES WHERE IT IS NOT PRACTICAL TO VENT THE SYSTEM TO THE RESIDENCE ROOF, A VENT PIPE MAY BE PIPED TO THE EXTERIOR SIDE OF THE RESIDENCE AND TERMINATES A MINIMUM OF 18" ABOVE GRADE. THESE VENT PIPES SHALL BE LOCATED A MINIMUM OF 3' FROM ANY WINDOW OR DOORWAY AND MUST TERMINATE WITH A CARBON FILTER DEVICE. ALL VENT PIPES MUST HAVE MINIMUM DIAMETER OF 2".
- ALL ADAPTORS, RISERS, SAFETY SCREENS, AND LIDS SHALL BE MANUFACTURED BY POLYLOCK.
- DIRECT BURIAL OF ELECTRICAL AND CONTROL WIRES IS PROHIBITED. ALL WIRES SHALL BE ENCASED IN 3/4" MIN SCH 40 PVC CONDUIT.
- THE OWTS INSTALLER SHALL PROVIDE EITHER A 20-AMP CIRCUIT BREAKER INSIDE THE DWELLING MAIN ELECTRICAL PANEL OR INSTALL A SUB-PANEL IN AN EASILY ACCESSIBLE LOCATION.

CHAMBER	Volume (gal)
1 Sedimentation Chamber	277
2 Anaerobic Filtration Chamber	278
3 Aerobic Contact Filtration Chamber	127
4 Clarification Chamber	63
5 Disinfection Chamber	4
<b>Total Volume</b>	<b>749</b>

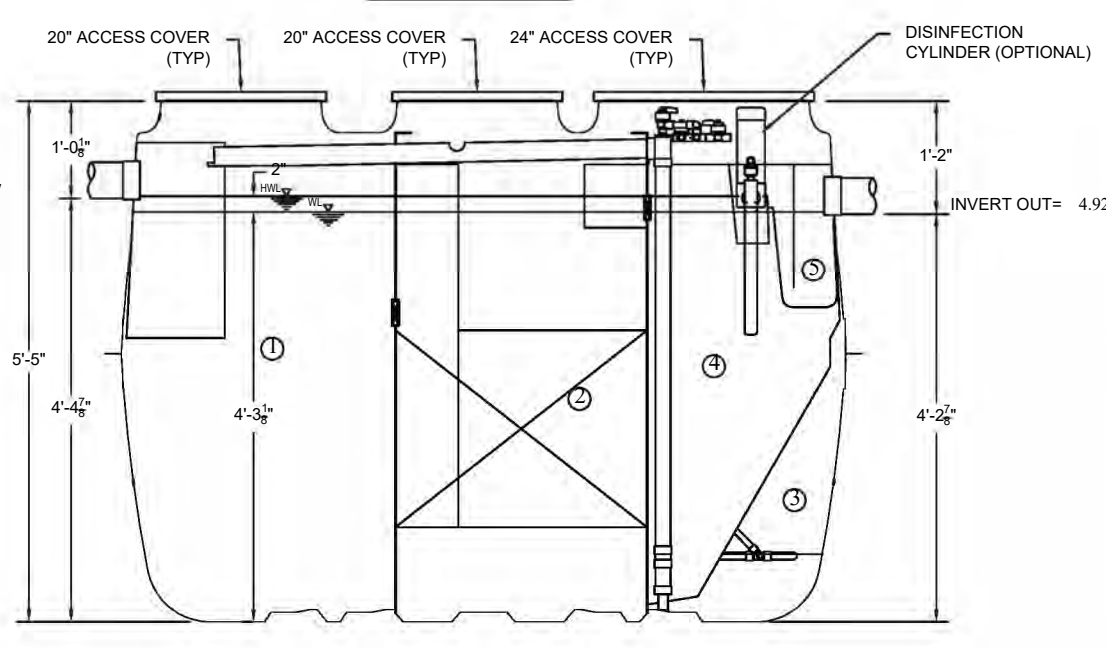
SPECIFICATIONS	
Anaerobic Media	PP / PE
Board Type Anaerobic Media	PVC / PP / PE
Aerobic Media	PP / PE
Blowery	2.3 cfm
Tank	FRP
Piping	PVC / PP / PE
Access Covers	Plastic / Cast Iron
Disinfectant (Optional)	Chlorine Tablets



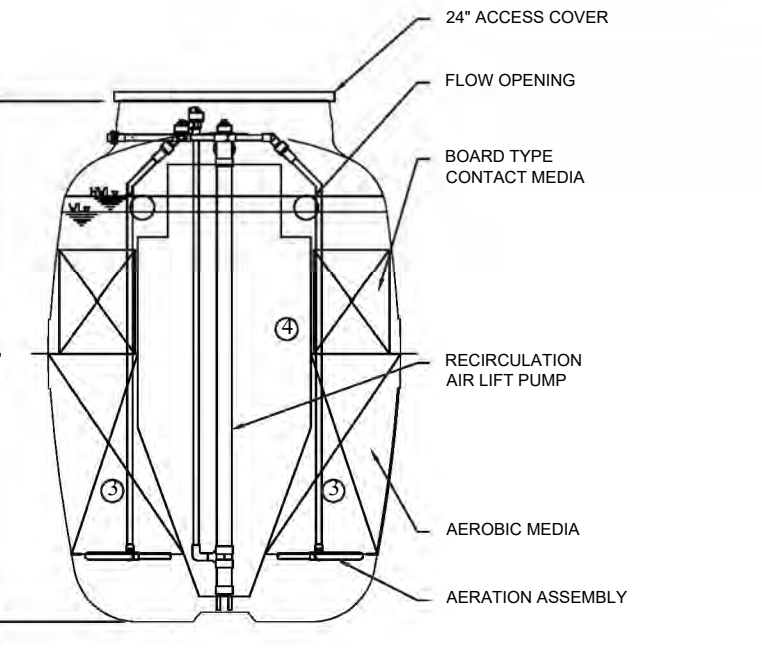
**DETAIL OWTS BUILDING SEWER**  
NO SCALE



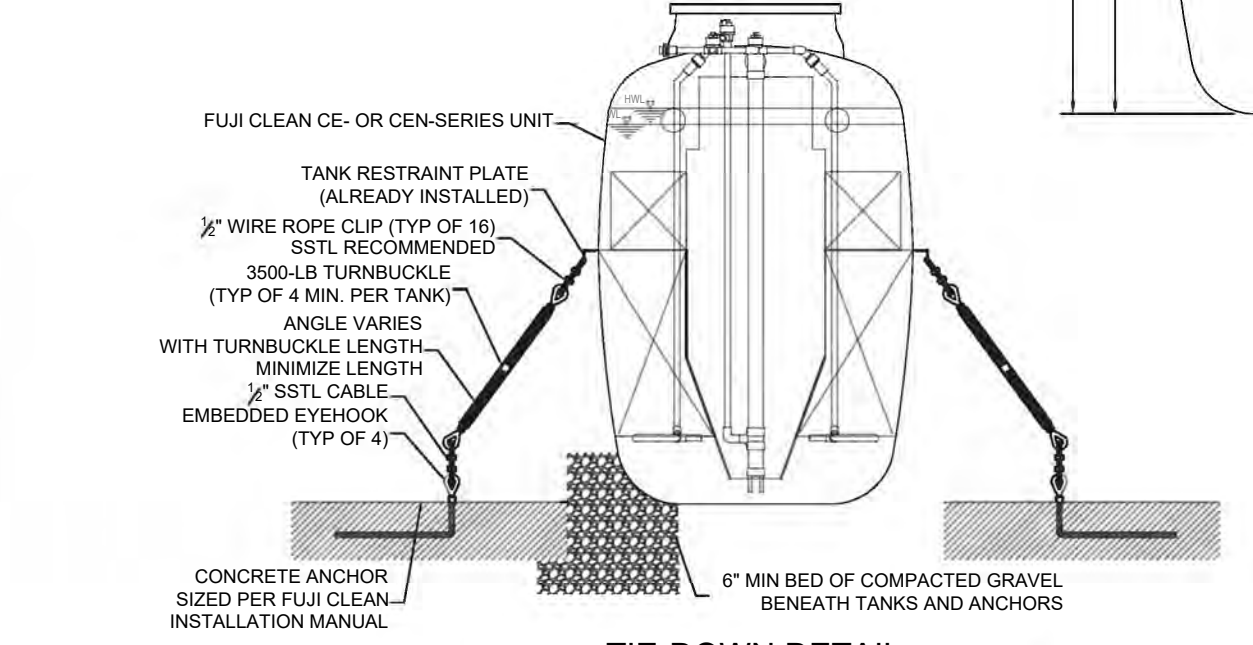
**PLAN VIEW**



**SECTION A-A VIEW**

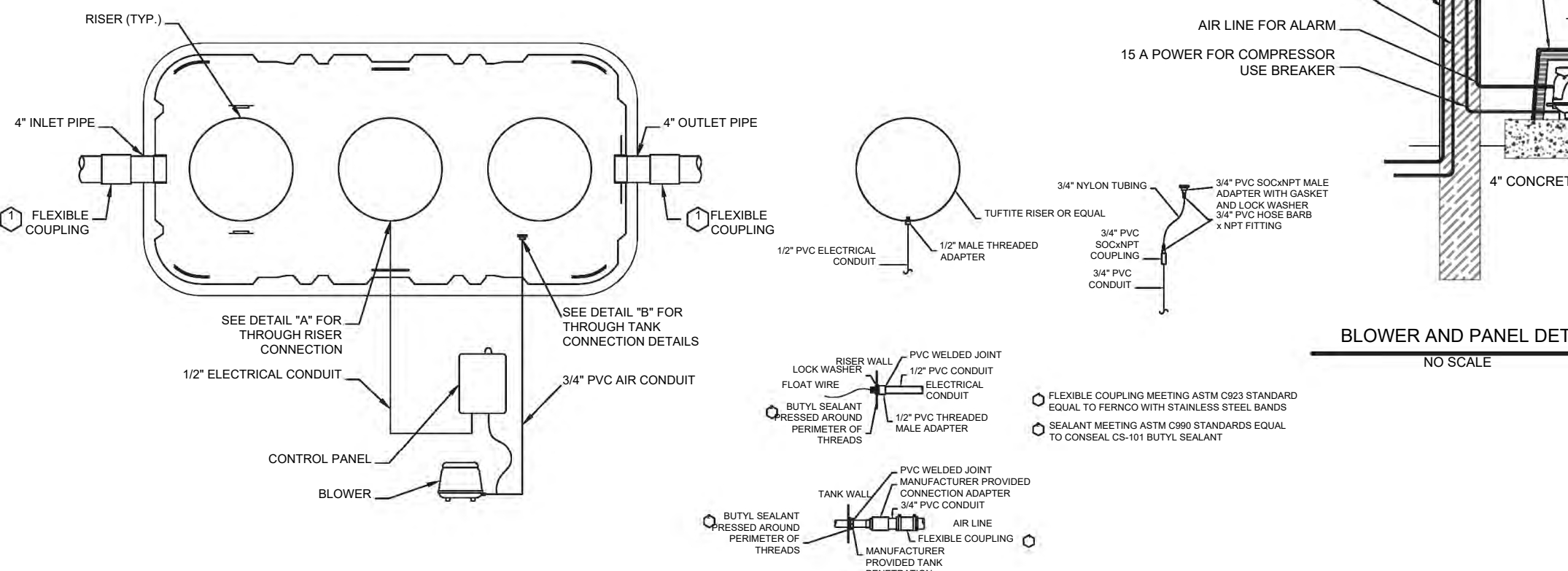


**SECTION B-B VIEW**

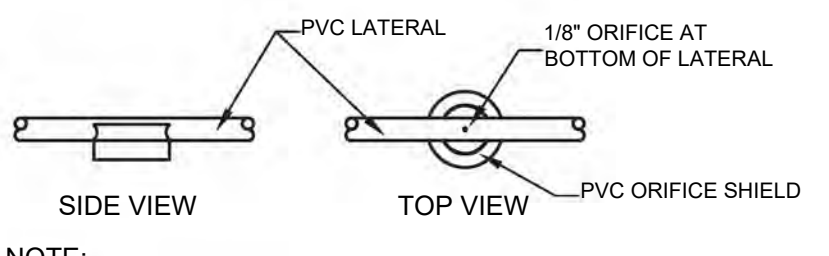


**TIE-DOWN DETAIL**  
NO SCALE

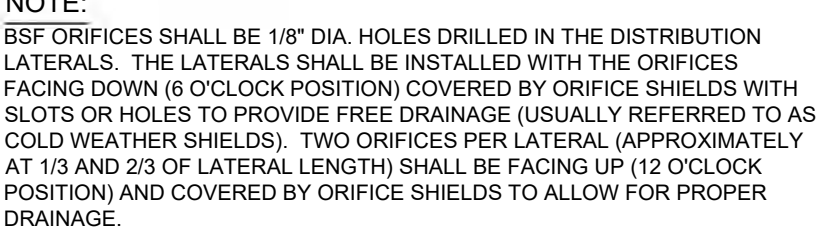
**BUOYANCY NOTE**  
MIN 2.55 CU YDS CONCRETE REQUIRED PER BUOYANCY CALCULATIONS BY OWTS DESIGNER



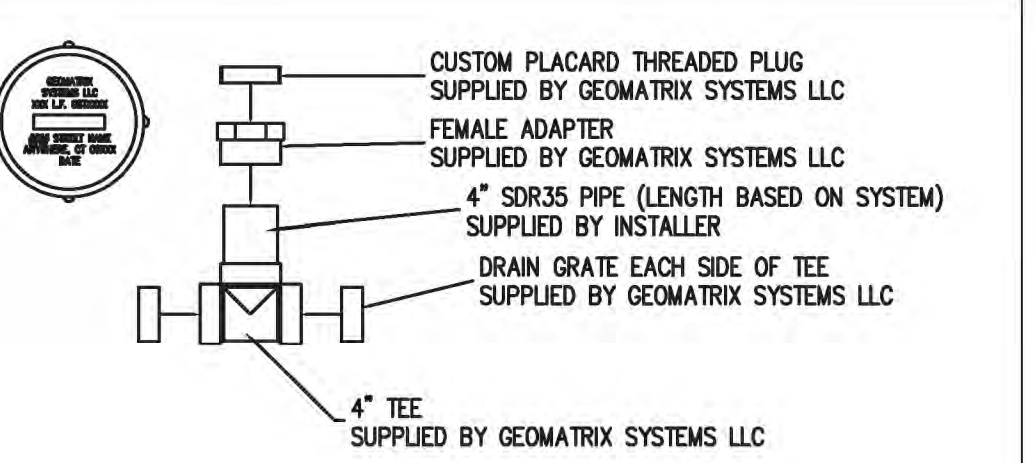
**INSTALLATION DETAILS**  
NO SCALE



**EXTERNAL PUMP BASIN DETAIL**  
NO SCALE



**COLD WEATHER ORIFICE DETAIL**  
NOT TO SCALE



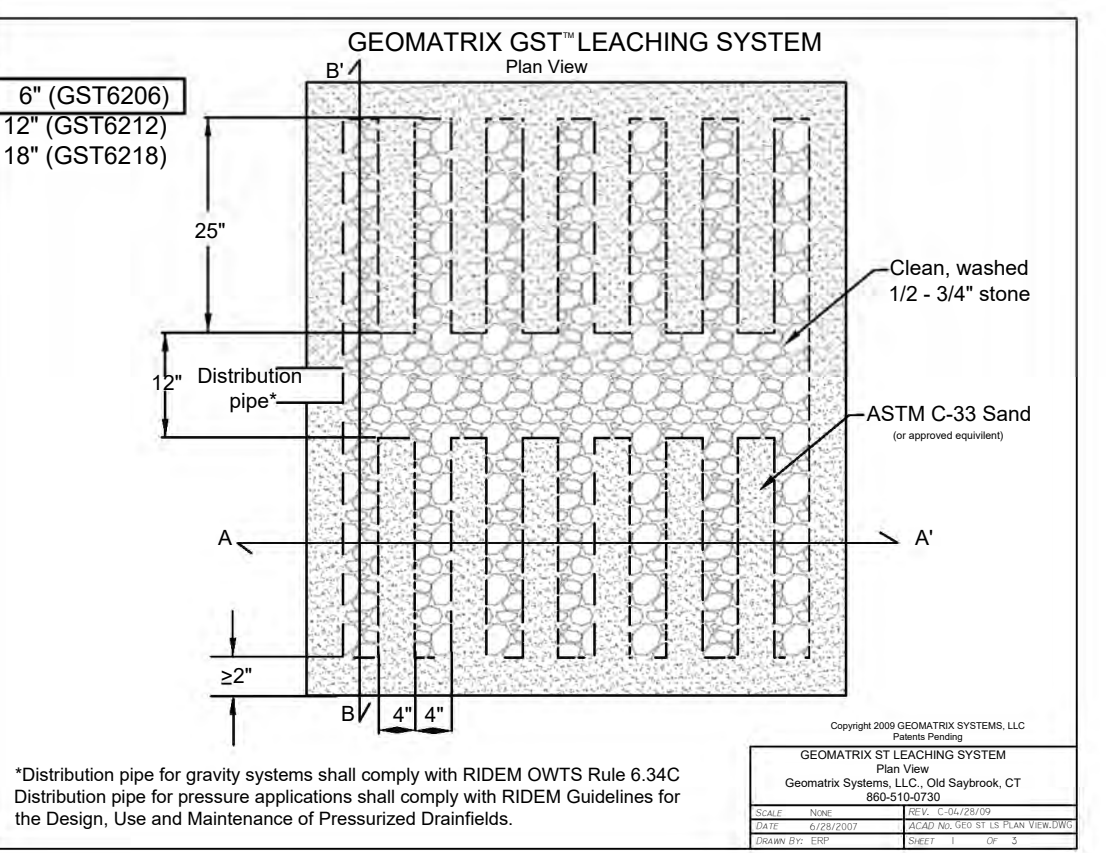
**BLOWER AND PANEL DETAIL**  
NO SCALE

**GRAVEL SPECIFICATIONS:**

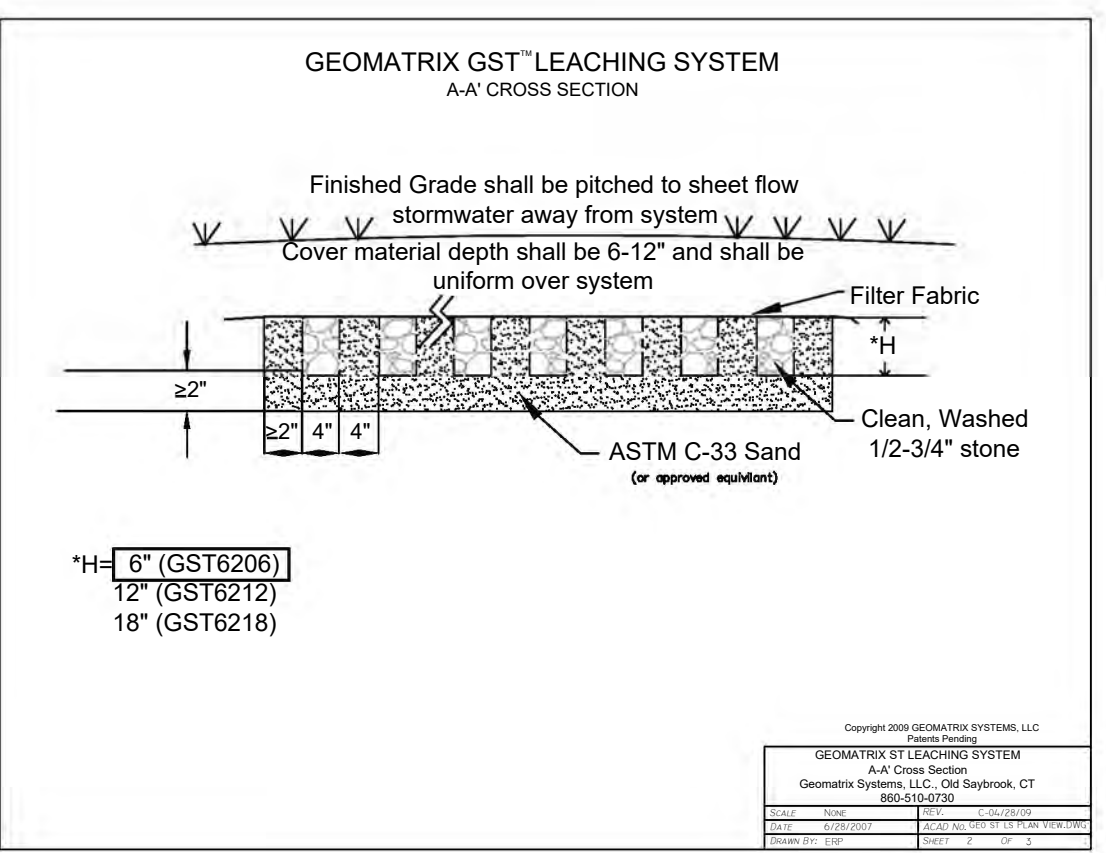
THE GRAVEL BASE MATERIAL SHALL CONSIST OF CLEAN SAND AND GRAVEL FREE FROM ORGANIC MATTER AND FOREIGN SUBSTANCES. THE GRAVEL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN 3 INCHES AND UP TO 10% MAY BE SIZED BETWEEN 3/4" AND 3". THE GRAVEL SHALL MEET THE FOLLOWING CRITERIA:

SEIVE SIZE	PERCENT PASSING
3/4"	100%
#4	55% - 100%
#10	40% - 100%
#40	10% - 50%
#100	0% - 20%
#200	0% - 5%

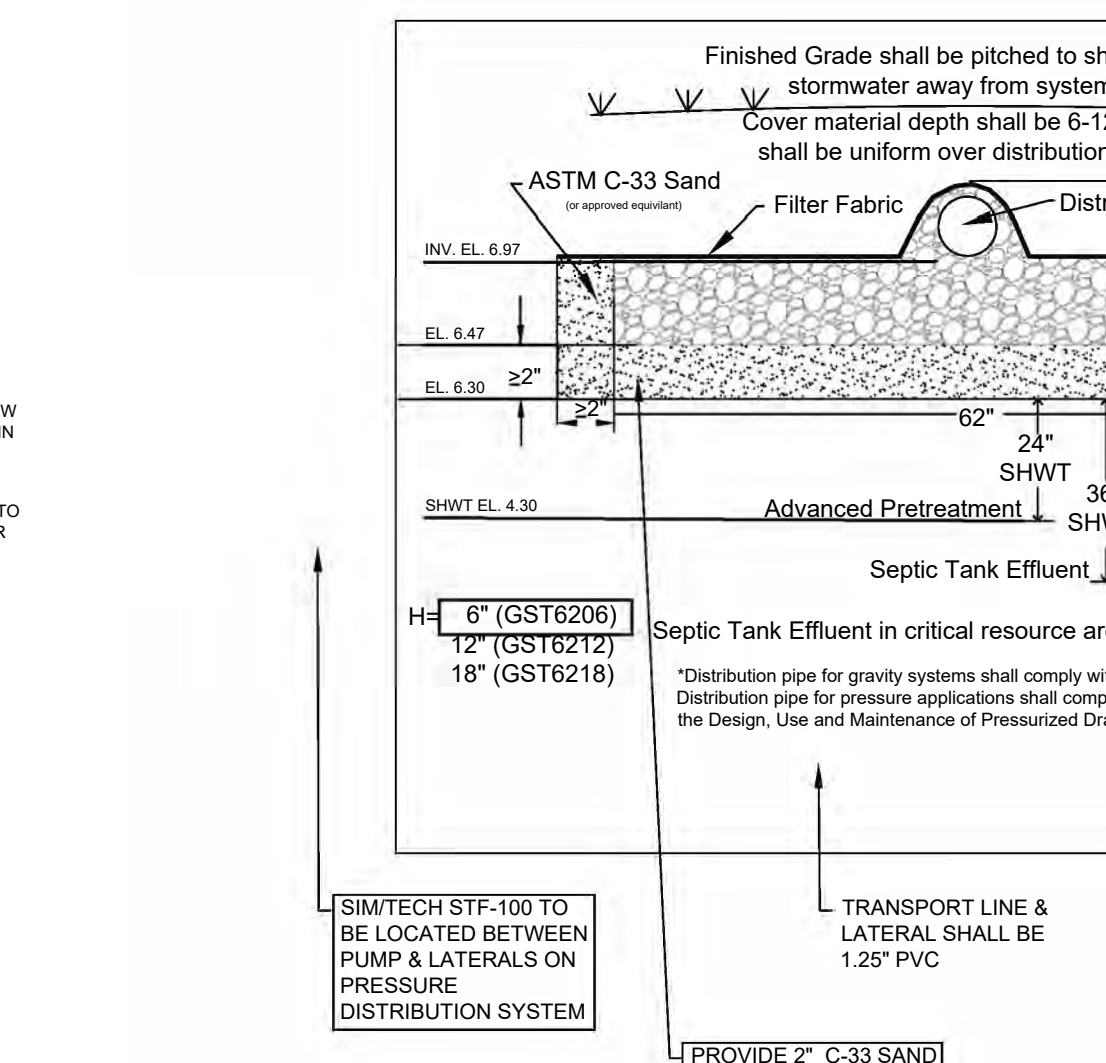
GRAVEL SHALL BE PLACED IN SHALLOW LIFTS (6") AND PROPERLY COMPACTED. THE SURFACE OF THE GRAVEL SHALL BE LEVEL AND SCARIFIED.



**GEOMATRIX GST LEACHING SYSTEM**  
A-A CROSS SECTION



**GEOMATRIX GST LEACHING SYSTEM**  
A-A CROSS SECTION



**SECTION VIEW**

**GEOMATRIX GST6206 DRAIN FIELD:**

THE LEACH FIELD SHALL BE COMPRISED OF ONE CELL WITH 1 ZONE WITH ONE LATERAL OF 16.0' LENGTH. GEOMATRIX GST6206 WITH AN INDIVIDUAL FEED DESIGN. THE MANIFOLD SHALL BE 1.25" PVC (CLASS 200).

THE LATERAL FOR THE GEOMAT DRAIN FIELD SHALL BE SCHEDULE 40, 1.25" DIAMETER PVC.

A SERIES OF 1/8" DIAMETER HOLES (ORIFICES) SHALL BE MADE IN THE BOTTOM OF THE DISTRIBUTION LATERALS AND SPACED EVERY 18 INCHES. A NEW DRILL BIT SHALL BE USED TO ASSURE A SMOOTH AN ORIFICE AS POSSIBLE. UPWARD FACING ORIFICES SHALL BE LOCATED AT 1/3 AND 2/3 DISTANCE FROM THE MANIFOLD.

SCHEDULE 40 PVC SWEEP ELBOWS (TURNUPS) OR ONE 45' ELBOW SHALL BE ATTACHED TO THE DISTAL END OF EACH DRAIN FIELD LATERAL TO FACILITATE MAINTENANCE AND INSPECTION (SEE DRAINFIELD TERMINAL RISER DETAIL). THE FINAL PIPE END FOR EACH LATERAL WITH EITHER A BALL VALVE OR MALE PLUG. EITHER THE VALVE OR PLUG SHALL HAVE FEMALE THREADS.

4" DIAMETER INSPECTION PORT SHALL BE INSTALLED IN THE LEACH FIELD, EXTEND TO THE BOTTOM OF THE FIELD AND BE BROUGHT TO THE FINAL GROUND SURFACE (SEE DETAIL).

INSTALLATION OF THE GEOMATRIX GST DRAINFIELD SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS/ GEOMATRIX SYSTEMS, LLC, 114 MILL ROCK ROAD EAST, OLD SAYBROOK, CT 06475 860-510-0730 AND IN THE PRESENCE OF AN AUTHORIZED GEOMATRIX REPRESENTATIVE OR A GEOMATRIX SYSTEMS LLC CERTIFIED INSTALLER.

THE AREA OF THE GEOMATRIX GST FIELD SHALL BE STAKED PRIOR TO CONSTRUCTION AND PROTECTED FROM VEHICLE TRAFFIC TO PREVENT COMPACTING OF THE SOILS IN THE LEACHING AREA. SOIL BETWEEN THE TRENCHES SHALL BE PRESERVED AND TRENCHES DUG ON A TRENCH BY TRENCH BASIS. INSTALLER SHALL BE TRAINED IN THE INSTALLATION OF GEOMATRIX GST SYSTEMS.

**GEOMATRIX GST EXCAVATION:**

THE PRESENCE OF FILL ON THE SITE IN THE LEACH FIELD AREA IS NOT DOCUMENTED BY THE SOIL EVALUATION. IF FILL IS ENCOUNTERED IT SHALL BE EXCAVATED TO THE BOTTOM OF THE FILL. IF FILL EXTENDS BELOW BOTTOM OF GEOMAT GST, FILL IS TO BE REMOVED TO 5' AROUND THE LEACH FIELD AND BACKFILLED WITH ASTM C-33 SAND TO THE DESIGN ELEVATION OF THE BOTTOM OF THE LEACH FIELD.

**CJ DOYLE, P.E.**  
CIVIL ENGINEERING  
MAILING ADDRESS:  
P.O. BOX 1161, HOPE VALLEY, RI 02832  
OFFICE LOCATION:  
1122 MAIN STREET, WYOMING, RI  
PHONE: (401) 491-9530  
cjoengine@cox.net

NO.	DATE	DESCRIPTION	BY
2	12/09/2022	REVISED PER DEM COMMENTS	CJD
1	10/31/2022	REVISED PER DEM COMMENTS/GEOMATRIX GST	CJD

DRAWING TITLED:  
**DETAILS FOR NEW ONSITE WASTEWATER TREATMENT SYSTEM**

LOCATED ON:  
**LOT 130 PLAT 90-4**

OWNED BY:  
**JEAN-LUC BELLEFLEUR (BUYER)**

ADDRESS:  
**BRANT ROAD SOUTH**  
IN THE TOWN OF **WESTERLY, RI**

DATE: **SEPTEMBER 16, 2022**  
DESIGNED BY: **CAROLYN J. DOYLE, P.E.**  
SCALE: **AS SHOWN**  
DRAWN BY: **CJD** CHECKED BY: **CJD**  
DRAWING NO.:  
**SHEET 2 OF 2**

**CAROLYN J. DOYLE**  
No. **5078**  
REGISTERED PROFESSIONAL ENGINEER  
**12/22/2023**  
COASTAL RESOURCES MANAGEMENT COUNCIL