



GENERAL NOTES:

1. SITE INVESTIGATION CONSISTING OF ONE (1) DEEP TEST PIT AND TWO PERCOLATION (PERC) TESTS, WAS PERFORMED ON OCTOBER 23, 2019 BY WILLIAM J. GROVE, P.E. SEE "SOILS INFORMATION" FOR SUMMARIZED SITE INVESTIGATION RESULTS. BASED ON THE RESULTS OF THE SITE INVESTIGATION, AN ENHANCED TREATMENT SYSTEM WITH A CONVENTIONAL ABSORPTION BED IS PROPOSED.
2. GIVEN THE WATERFRONT LOCATION OF THE PROPERTY AND LIMITED SPACE ON THE SITE FOR FUTURE EXPANSION OF THE SYSTEM, ENHANCED TREATMENT WITH NITROGEN REDUCTION IS PROPOSED TO EXTEND THE LIFE OF THE LEACHING SYSTEM AND PROTECT THE WATERSHED.
3. LOCATIONS OF THE SYSTEM COMPONENTS ARE SHOWN IN THE PLAN VIEW AND COMPONENT DETAILS ARE SHOWN SEPARATELY.
4. THE SEPTIC SYSTEM IS DESIGNED TO TREAT AND DISPERSE 600 GALLONS PER DAY BASED ON THE PROPOSED 3 BEDROOM RESIDENCE (DESIGNED FOR 4 BEDROOMS DUE TO HOUSE SQ FOOTAGE), ITS PROPOSED USE AND THE DOH REGULATION.
5. THE PROPOSED WASTEWATER TREATMENT SYSTEM IS DESIGNED FOR NORMAL RESIDENTIAL USAGE WITH A MAXIMUM DAILY FLOW OF 600 GALLONS PER DAY. HIGH FLOW FIXTURES (SHOWER HEADS, FAUCETS, TOILETS, ETC.) ARE NOT TO BE INSTALLED OR USED IN THE HOUSE. USE OF HIGH FLOW FIXTURES AND/OR MULTIPLE SHOWER HEADS IN THE HOME COULD CAUSE HYDRAULIC OVERLOADING OF THE SYSTEM AND LEAD TO PREMATURE FAILURE OF THE SEPTIC SYSTEM.
6. WATER SUPPLY WILL BE SERVICED BY TOWN OF CANANDAIGUA WATER, WITH WATER SERVICE AS SHOWN.
7. THE BACKFILL IS TO BE GRADED TO ROUTE SURFACE WATER AWAY FROM THE ABSORPTION FIELD.
8. WATER TREATMENT SYSTEM WASTES (SUCH AS FROM A WATER SOFTENER) ARE TO BE EXCLUDED FROM THE SYSTEM.
9. IF THE HOUSE USES A WATER SOFTENER, THE WATER SOFTENER DISCHARGE SHALL NOT BE ROUTED TO THE WASTEWATER SYSTEM. THE WATER SOFTENER DISCHARGE SHOULD BE DIRECTED TO ITS OWN SUBSURFACE DISPOSAL SYSTEM LOCATED AWAY FROM THE PROPOSED LEACH AREA.
10. NO "CLEAN" WATER IS TO ENTER THE SYSTEM VIA ROOF DRAINS, SUMP PUMPS, FOOTING DRAINS, ETC. THE SYSTEM IS A DISPOSAL UNIT FOR COMMON BATHROOM, LAUNDRY AND KITCHEN WASTES ONLY. GARBAGE GRINDERS ARE NOT TO BE USED ON THIS SYSTEM.
11. THE CONTRACTOR IS TO CONTACT DIG SAFELY NEW YORK AT 800-962-7962 TO VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO DOING ANY EXCAVATION WORK.
12. NO PART OF THE SYSTEM IS TO BE LOCATED UNDER DRIVEWAYS, BUILDINGS, SWIMMING POOLS OR OTHER AREAS SUBJECT TO HEAVY LOADING UNLESS DESIGNED FOR SUCH.
13. HEAVY CONSTRUCTION EQUIPMENT MUST NOT BE ALLOWED WITHIN THE AREA OF THE SYSTEM PRIOR TO CONSTRUCTION
13. ALL VEGETATION SHALL BE CUT AS CLOSE TO GRADE AS POSSIBLE AND REMOVED.
14. UNDERLYING SOIL SHALL BE PLOWED WITH AT LEAST A DOUBLE BOTTOMED BLADE/FURROW PLOW AND THE FURROW TURNED UPSLOPE.
15. AFTER THE SITE HAS BEEN CLEARED AND PLOWED, ALL TRAFFIC SHALL BE EXCLUDED.
16. SOIL WITH A PERCOLATION RATE OF 11-15 MINUTES PER INCH IS REQUIRED
17. PERCOLATION TESTS SHALL BE CONDUCTED IN THE IN SITU FILL MATERIAL AT THE BORROW PIT AND IN THE STABILIZED FILL MATERIAL AT THE CONSTRUCTION SITE.
18. SOILS WHOSE PERMEABILITY CHARACTERISTICS WILL NOT CHANGE SIGNIFICANTLY UPON STABILIZATION (I.E., SAND AND SANDY LOAM) MAY BE MECHANICALLY COMPACTED OR ALLOWED TO SETTLE NATURALLY.
19. MECHANICAL COMPACTION SHALL BE ACHIEVED VIA LIGHT TRACK TYPE MACHINES (BULLDOZER OR FRONT END LOADER WITH DOWNWARD BLADE/BUCKET PRESSURE) OR A STEEL WHEELED ROLLER. MECHANICAL COMPACTION SHALL BE ACCOMPLISHED IN SHALLOW LIFTS (APPROXIMATELY 6") TO THE APPROXIMATE DENSITY OF THE UNDISTURBED BORROW PIT SOIL.
20. THE TOPSOIL SURFACE OF THE FILL SHALL BE GRADED TO ENHANCE RUNOFF OF PRECIPITATION.
21. ON SLOPED SITES, A DIVERSION DITCH OR CURTAIN DRAIN SHALL BE CONSTRUCTED UPHILL FROM THE FILL TO PREVENT SURFACE RUNOFF FROM ENTERING THE FILL.
22. RAISED SYSTEM SHALL INCORPORATE AN AUTOMATIC DOSING DEVICE OR PRESSURE DISTRIBUTION. GRAVITY DISTRIBUTION MAY BE INSTALLED UNDER THE JURISDICTION OF A LOCAL HEALTH DEPARTMENT WITH A SYSTEM DESIGN AND CONSTRUCTION INSPECTION CERTIFICATION PROGRAM.
23. DISTRIBUTION PIPE DIAMETERS FOR DOSING SHALL BE IN THE RANGE OF 3 INCHES

MINIMUM TO 6 INCHES MAXIMUM. DISTRIBUTION PIPE DIAMETERS FOR PRESSURE DISTRIBUTION SHALL BE IN THE RANGE OF 1 INCH MINIMUM TO 3 INCHES MAXIMUM. USE 4 INCH DIAMETER PERFORATED PIPE OR "INFILTRATOR EQ-24" TYPE CHAMBER FOR GRAVITY DISTRIBUTION IN CONVENTIONAL SYSTEM. USE 4 INCH DIAMETER PERFORATED PIPE OR "INFILTRATOR EQ-24" TYPE CHAMBERS WITH HANGING PERFORATED PIPE IN A RAISED FILL SYSTEM UTILIZING AN AEROBIC TREATMENT UNIT.

24. MINIMUM 4' OF UNDISTURBED SOIL REQUIRED BETWEEN TRENCHES.
25. EXCAVATE 4' WIDE TRENCHES AS SHOWN ON THE PLAN VIEW. HAND RAKE BOTTOM AND SIDES OF TRENCH AND REMOVE ANY LOOSE MATERIAL. FILL TRENCH WITH 6" OF SPECIFIED SYSTEM SAND. SYSTEM SAND MUST MEET THE REQUIREMENTS OF ASTM C-33 AND THE PRESBY ENVIRONMENTAL DESIGN MANUAL. CONCRETE SAND MAY BE ACCEPTABLE FOR USE AS SYSTEM SAND PROVIDING THAT NO MORE THAN 2% CAN PASS A #200 SIEVE.
26. INSTALL THE ADVANCED ENVRO-SEPTIC PIPES ON THE SYSTEM SAND. PIPES TO BE INSTALLED AT 2' ON CENTER AND CENTERED IN THE TRENCH. FILL AROUND, BETWEEN AND 6" ON TOP OF PIPES WITH SYSTEM SAND AS SHOWN ON THE CROSS SECTION.
27. PLACE MINIMUM 6" OF TOPSOIL ON TRENCHES, SEED AND MULCH TO ESTABLISH MOWABLE LAWN.
28. THE ENVIRO-SEPTIC PIPES SHOULD NEVER BE DOSED WITH A FLOW GREATER THAN 40 GPM.
29. THE CONTRACTOR SHALL PROVIDE AN ACCURATE AS-BUILT MAP TO THE OWNER REFERENCING ALL SYSTEM COMPONENTS TO PERMANENT SITE FEATURES FOR LATER RECOVERY.
30. A SERVICE CONTRACT IS TO BE MAINTAINED PERPETUALLY FOR THE LIFE OF THE ENHANCED TREATMENT UNIT WITH AN AUTHORIZED REPRESENTATIVE OF THE MANUFACTURER, WHICH PROVIDES FOR, AT A MINIMUM, SEMI-ANNUAL INSPECTIONS FOR AS LONG AS THE UNIT IS IN USE. A COPY OF SUCH CONTRACT SHALL BE PROVIDED TO THE LOCAL CODE ENFORCEMENT OFFICER.
31. IN THE EVENT OF SALE OR TRANSFER OF PROPERTY OWNERSHIP, THE NEW OWNER IS TO BE NOTIFIED OF THE CONDITIONS OF THIS SYSTEM INCLUDING THE REQUIREMENT FOR A SERVICE CONTRACT, AND THE NEW OWNER SHALL PROVIDE A COPY OF THE NEW SERVICE CONTRACT TO THE PARTIES LISTED ABOVE.
32. AFTER AN ENVIRONMENTAL ASSESSMENT, THE ENGINEER HAS DETERMINED THAT THE DEVELOPMENT OF THE SITE WITH THE PROPOSED SYSTEM IS CONSISTENT WITH THE OVERALL DEVELOPMENT OF THE AREA AND WILL CAUSE NO ADVERSE ENVIRONMENTAL IMPACTS.
33. THE PROPOSED ONSITE WASTEWATER TREATMENT SYSTEM MUST BE DESIGNED AND THE INSTALLATION SUPERVISED AND CERTIFIED BY A DESIGN PROFESSIONAL.
34. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR TO CONTACT THE LOCAL CODE ENFORCEMENT OFFICER ABOUT ANY REQUIRED PERMITS OR FEES BEFORE STARTING WORK ON THE SYSTEM INSTALLATION

DESIGN CALCULATIONS:

DESIGN FLOW	PROPOSED 3 BEDROOM HOUSE (DESIGNED AS 4 BEDROOM) 4 @ 150 GPD/BR = 600 GPD
ENHANCED TREATMENT UNIT:	750 GPD NSF 245, CLASS 1 APPROVED NORWECO TNT-750 OR EQUAL
DESIGN PERC. RATE:	11-15 MINUTES/INCH
REQUIRED BASAL AREA:	2000 SQUARE FEET (0.3 GPD/SF) 1450 SF PROPOSED (0.41 GPD/SF)
REQUIRED LENGTH OF GSF TRENCH:	108 LF FEET REQUIRED (TABLE 6D) 128 FEET PROPOSED

FOUR (4) 32 FOOT LONG GSF TRENCHES ARE PROPOSED. TOTAL DISTRIBUTION LATERAL LENGTH IS 128 FEET.

LATERALS TO BE SPACED AT 8' ON CENTER

CALCULATION REFERENCE BASED ON N.Y.S.D.O.H., "INDIVIDUAL RESIDENTIAL WASTEWATER TREATMENT SYSTEMS - DESIGN HANDBOOK", 2012, AND APPENDIX 75-A

PERCOLATION TEST RESULTS:

TESTS PERFORMED ON OCTOBER 23, 2019

TEST NUMBER	DEPTH	PERC RATES (MIN/INCH)	STABILIZED PERC RATE
PT -2	12"	7, 8, 8, 8	8 MIN/INCH
PT -1	12"	10, 12, 13, 13	13 MIN/INCH

SOILS INFORMATION:

DH -1	
0" - 12"	DARK BROWN SHALEY TOPSOIL, MANY ROOTS
12" - 23"	DARK BROWN SILTY LOAM
23" - 48"	LIGHT BROWN AND GRAY SILTY LOAM
ROOTS TO 22"	NO MOTTLING OBSERVED

KEY:

- PT-1 PERC TEST LOCATION
- TP-1 TEST PIT LOCATION
- CLEAN-OUT



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PROPOSED SEPTIC  
SYSTEM DESIGN

RAISED FILL WITH  
ENHANCED  
TREATMENT

CUVELIER RESIDENCE  
4691 N. MENTETH DR  
TM# 140.11-1-14.0

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AUGUST 27, 2020

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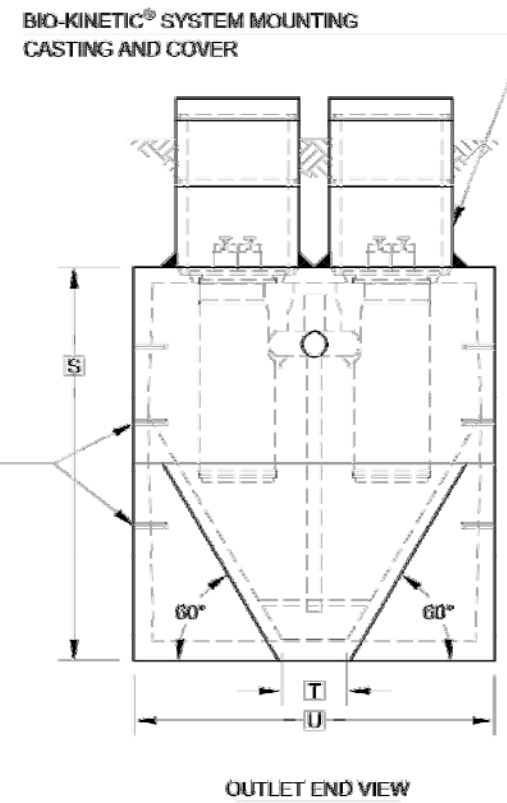
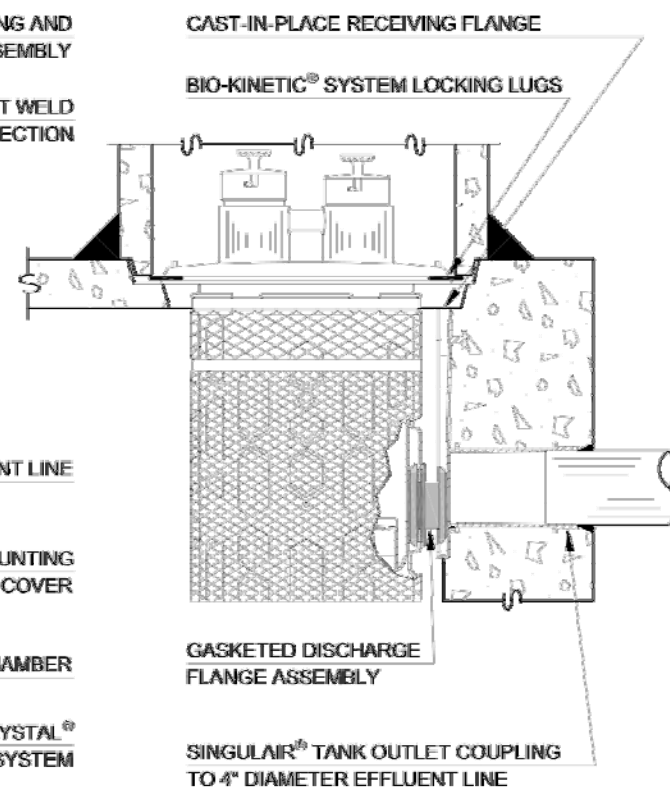
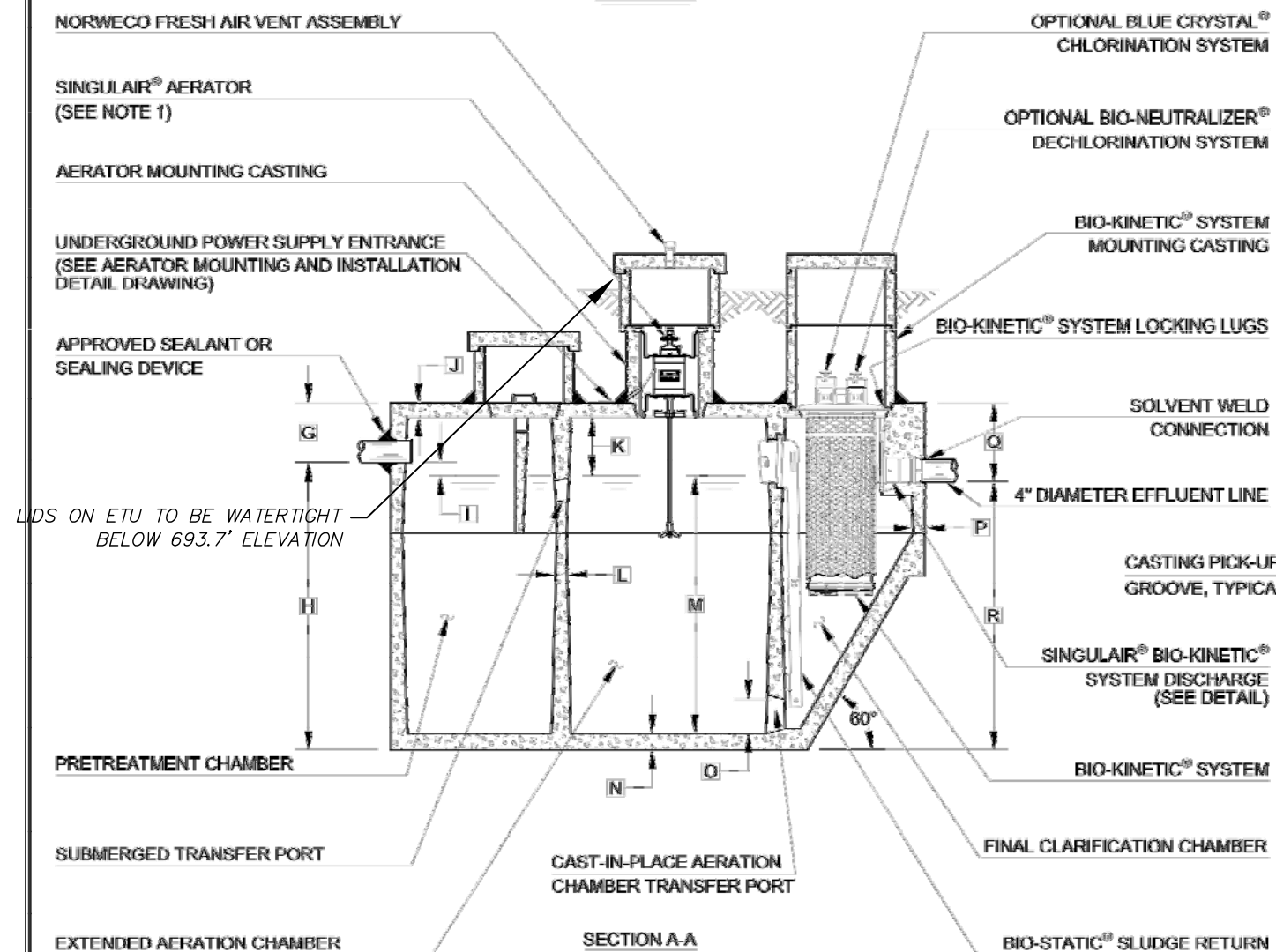
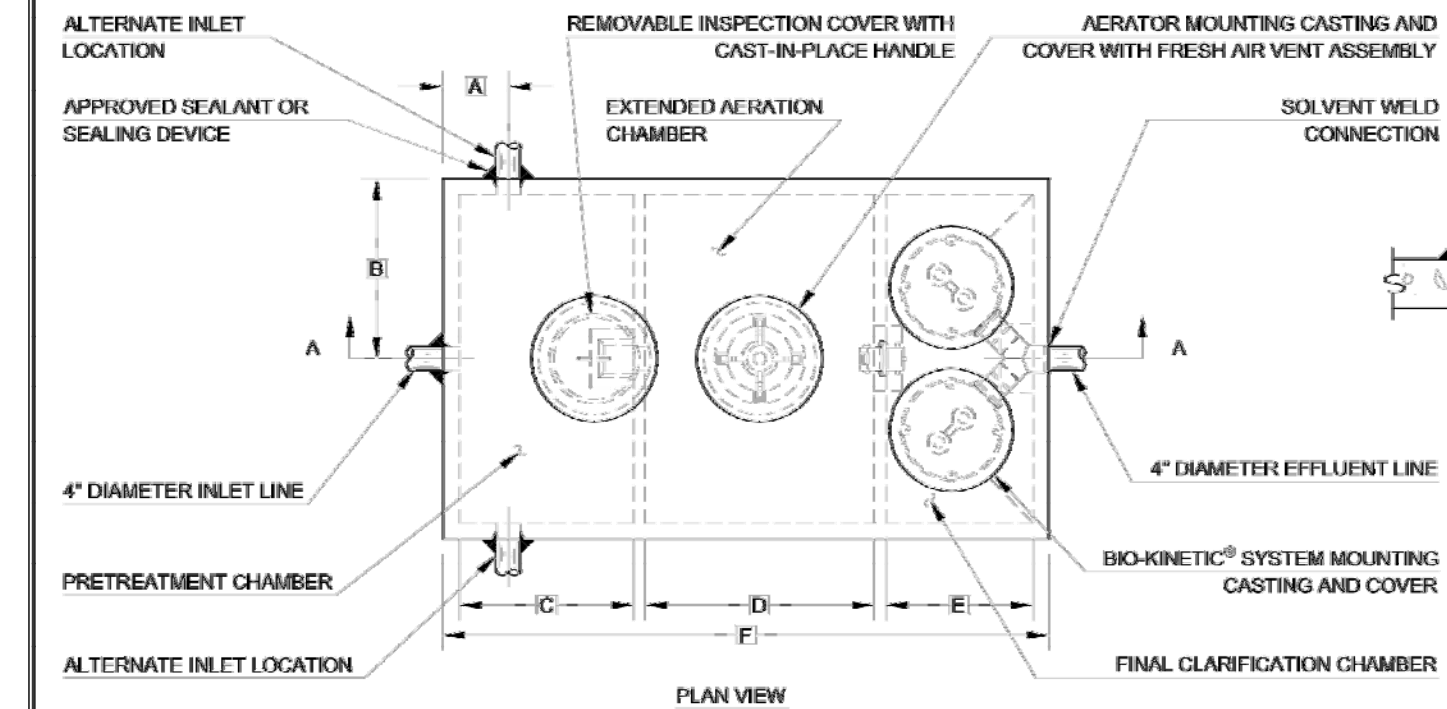


WILLIAM J. GROVE, PE  
NYS LICENSE #084111

Warning and Disclaimer of Liability:  
This Onsite Wastewater Treatment System design has been performed in compliance with all Town and State design requirements. A prudent design, however, does not necessarily imply that the system will be free from malfunction. The required soil percolation and soil depth tests may not reveal all the soil characteristics affecting operation. Further, unusual precipitation, disposal of some household and other chemicals and failure to pump out septic tanks as often as required are beyond the control and the responsibility of the designer. Therefore, in no event will this design create liability for the designer or design company.

It is a violation of the NYS Education Law for any person, unless he is acting under the direction of a licensed professional engineer or land surveyor, to alter an item in any way. If an item bearing the seal of an engineer or land surveyor is altered, the altering engineer or land surveyor shall affix to the item his seal and the notation "altered by" followed by his signature and the date of such alteration, and a specific description of the alteration.





NOTE: TOTAL SYSTEM CAPACITY: 1,600 GALLONS  
RATED CAPACITY: 750 GALLONS PER DAY

#### GENERAL NOTES:

- 1 SINGULAIR® AERATOR, AS TESTED AND ACCEPTED BY NSF, OPERATING 60 MINUTES ON / 60 MINUTES OFF.
- 2 FALL THROUGH SINGULAIR® PLANT FROM INLET INVERT TO OUTLET INVERT IS FOUR INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
- 3 ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND AERATOR MOUNTING CASTING AND BIO-KINETIC® SYSTEM MOUNTING CASTING TO GRADE. INSPECTION COVER ON PRETREATMENT CHAMBER MUST BE DEVELOPED TO WITHIN TWELVE INCHES OF GRADE.
- 4 TANK REINFORCED PER ACI STD. 318.
- 5 REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
- 6 CONTACT THE LOCAL, LICENSED SINGULAIR® DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

PROJECT ENGINEER'S APPROVAL:  
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

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

NAME: \_\_\_\_\_

CONTRACTOR'S CERTIFICATION:  
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

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

NAME: \_\_\_\_\_

#### CRITICAL DIMENSIONS

A 1'-0"	N 0'-3"
B 2'-9"	O 0'-6"
C 2'-8"	P 0'-2 1/2"
D 3'-7"	Q 1'-4"
E 2'-3"	R 5'-8"
F 9'-3"	S 7'-0"
G 1'-0"	T 1'-0"
H 6'-0"	U 5'-6"
I 0'-3"	V
J 0'-3"	W
K 1'-0"	X
L 0'-2"	Y
M 5'-6"	Z

U.S. AND FOREIGN PATENTS PENDING	<b>norweco</b>	DATE: 6-25-07	BY: BGS
	SINGULAIR® BIO-KINETIC® WASTEWATER TREATMENT SYSTEM MODEL TWT-750 6FD	DATE: 2-16-06	BY: NTS
	PROJECT: PC-5-7065		

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#### PROPOSED SEPTIC SYSTEM DESIGN

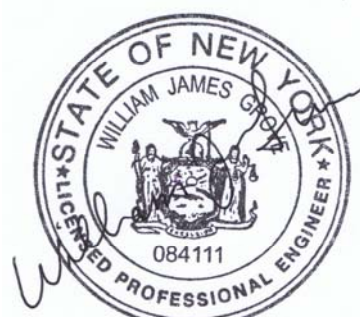
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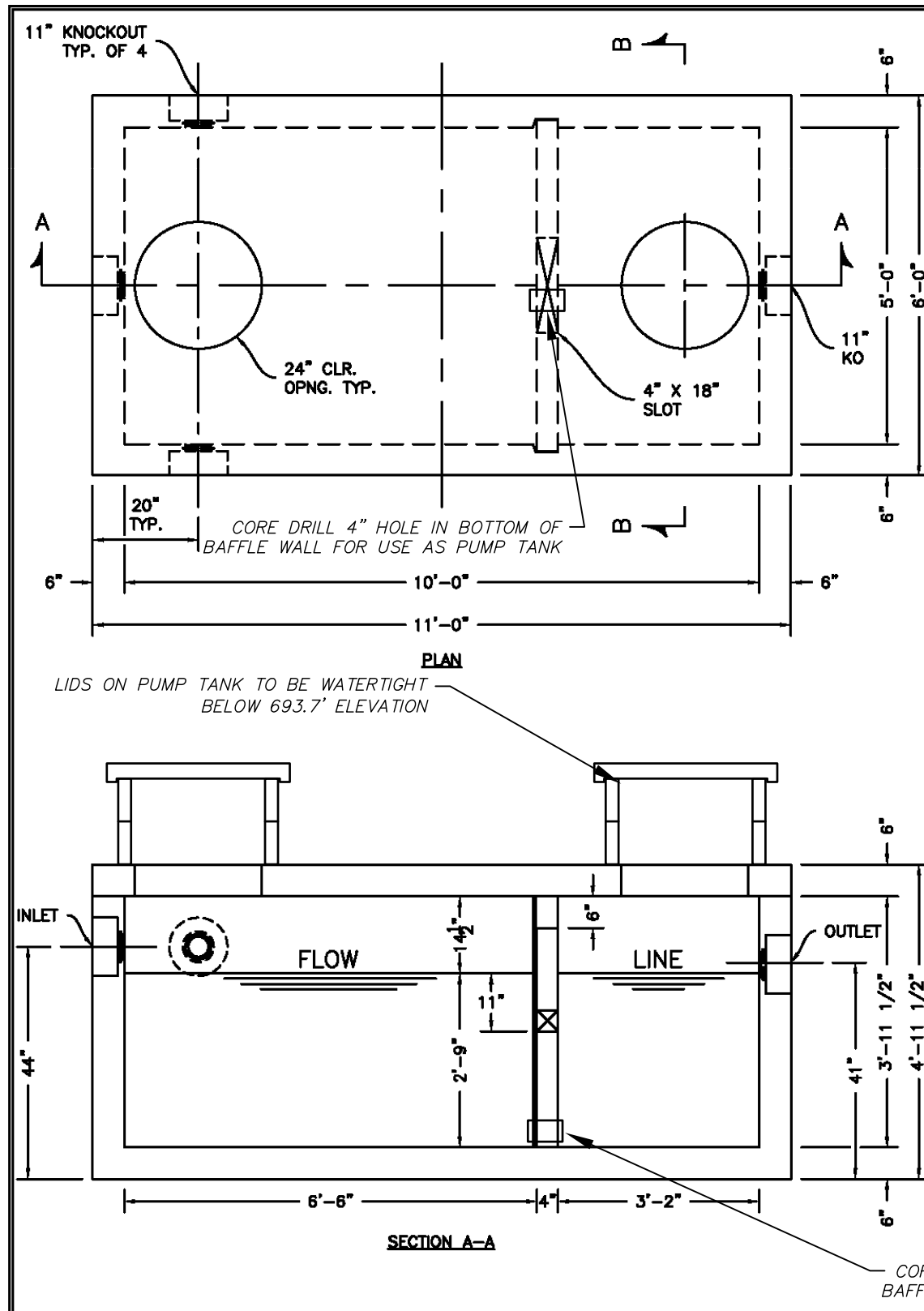
AUGUST 27, 2020

SHEET 3 OF 8



WILLIAM J. GROVE, PE  
NYS LICENSE #084111

O:\Drawings\New Stuff after 2-26-10\Product Workbooks\024-SquareRectangular-05x10-60x120\TRAFFIC\ST-1000-T-N.dwg



SP-7A  
SPECIFICATIONS:  
CONCRETE: 6,500 P.S.I. @ 28 DAYS.  
ENTRAINED AIR: 5% - 8%.  
STEEL: A.S.T.M. A496-A615  
GRADE 60-80 KSI.  
DESIGN LOADING: ACI 318-99 TRAFFIC. USE ACI LOAD FACTORS.  
A.A.S.H.T.O. METHOD OF DESIGN. EQUIVALENT  
SOIL PRESSURE OF 40 (PCF).  
H2O.  
LIVE LOAD: 0 TO 6'.  
EARTH FILL: 3' BELOW GRADE.  
WATER TABLE:

WEIGHT:  
TOP SLAB: 4,423 LBS.  
BOTTOM SECTION & BAFFLE WALL: 14,924 LBS.  
TOTAL: 19,347 LBS.

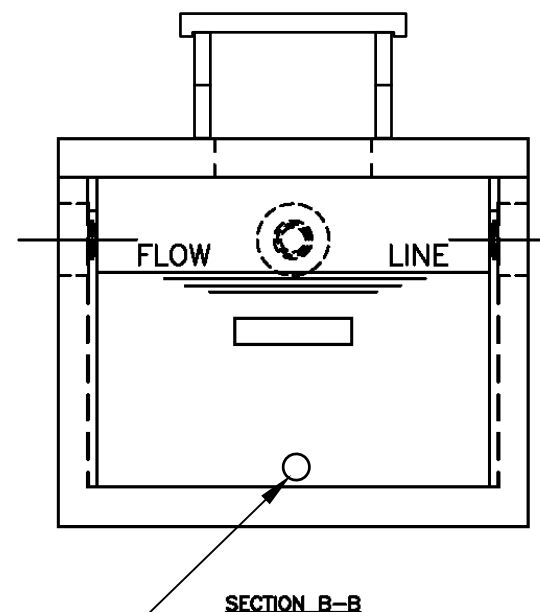
BAFFLE: 4" BY KISTNER. LARGER BY CONTRACTOR.

WATERTIGHT ASSEMBLY IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR. ASK FOR KISTNER "WATERTIGHT JOINT INSTALLATION" DETAIL.

#### PIPE OPENINGS STOCK:

- ☐ PIPE SEALS REQUIRED
- ☐ 4" PVC - OPENING WITH SEAL - STOCK
- ☐ 6" PVC - OPENING STOCK - SEAL TO BE INSTALLED
- ☐ 8" PVC - OPENING STOCK - SEAL TO BE INSTALLED
- ☐ GROUTED OPENINGS ONLY - REQUIRED
- ☐ 4" PVC - OPENING WITH SEAL - STOCK
- ☐ 6" PVC - STOCK KNOCKOUT TO BE BROKEN OUT BY CONTRACTOR
- ☐ 8" PVC - STOCK KNOCKOUT TO BE BROKEN OUT BY CONTRACTOR

FOR RISER, FRAME, AND COVER: SEE "TRAFFIC TANK EXTENSIONS"



<b>PRODUCT DESIGNATION</b>	<b>DWG. NO.</b>
<b>1000 GALLON SEPTIC TANK</b>	<b>ST-1000-T-N</b>
<b>TRAFFIC - NEW</b>	<b>2/17/14</b>
	<b>©</b>



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*PROPOSED SEPTIC  
SYSTEM DESIGN*

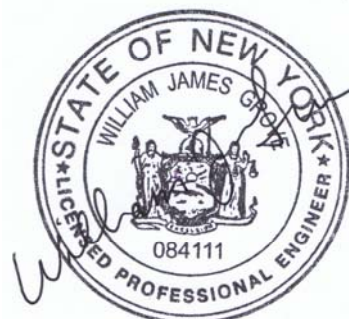
*RAISED FILL WITH  
ENHANCED  
TREATMENT*

*CUVELIER RESIDENCE  
4691 N. MENTETH DR  
TM #140.11-1-14.0*

*TOWN OF CANANDAIGUA  
ONTARIO COUNTY  
NEW YORK*

*AUGUST 27, 2020*

*SHEET 4 OF 8*



*WILLIAM J. GROVE, PE  
NYS LICENSE #084111*

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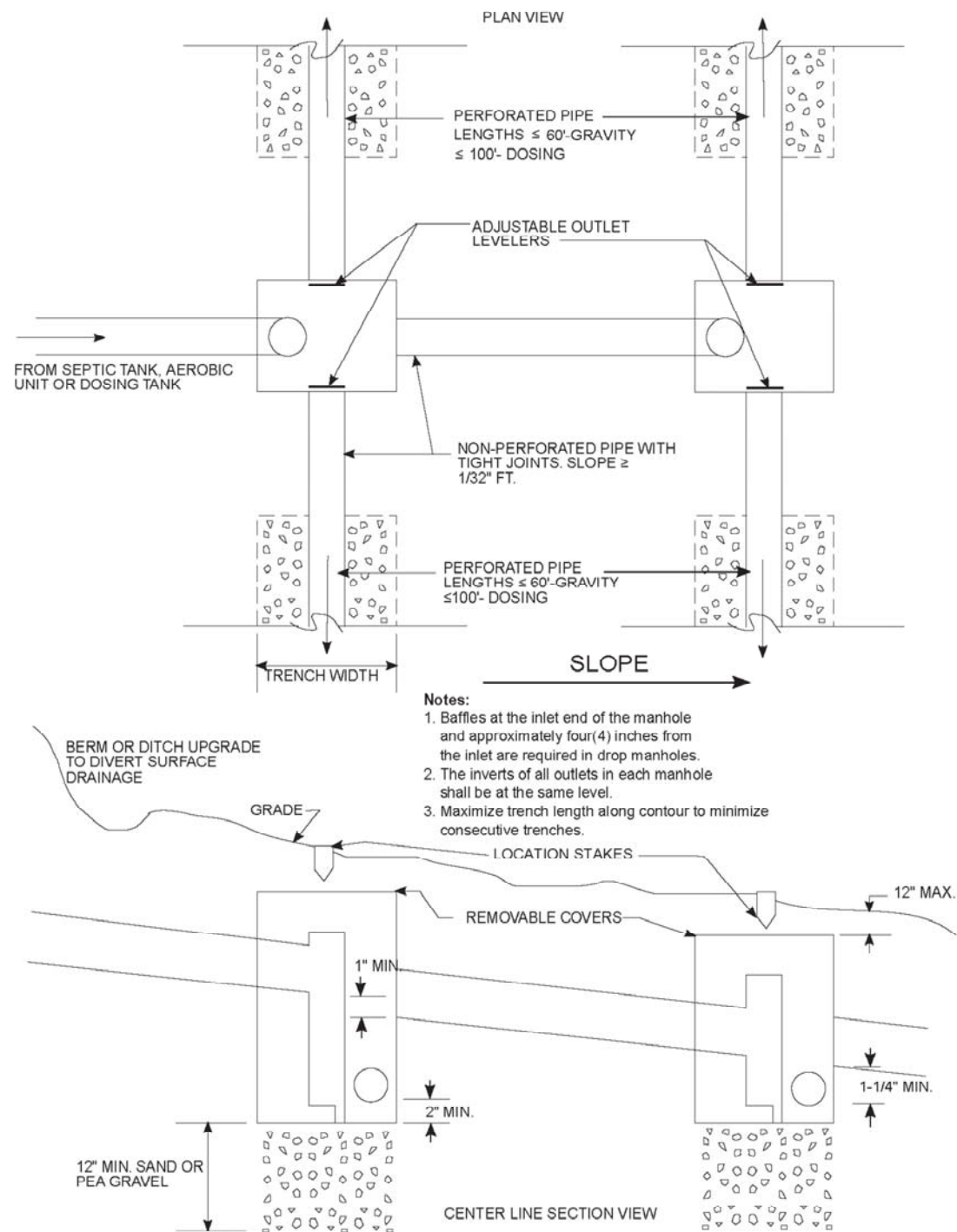


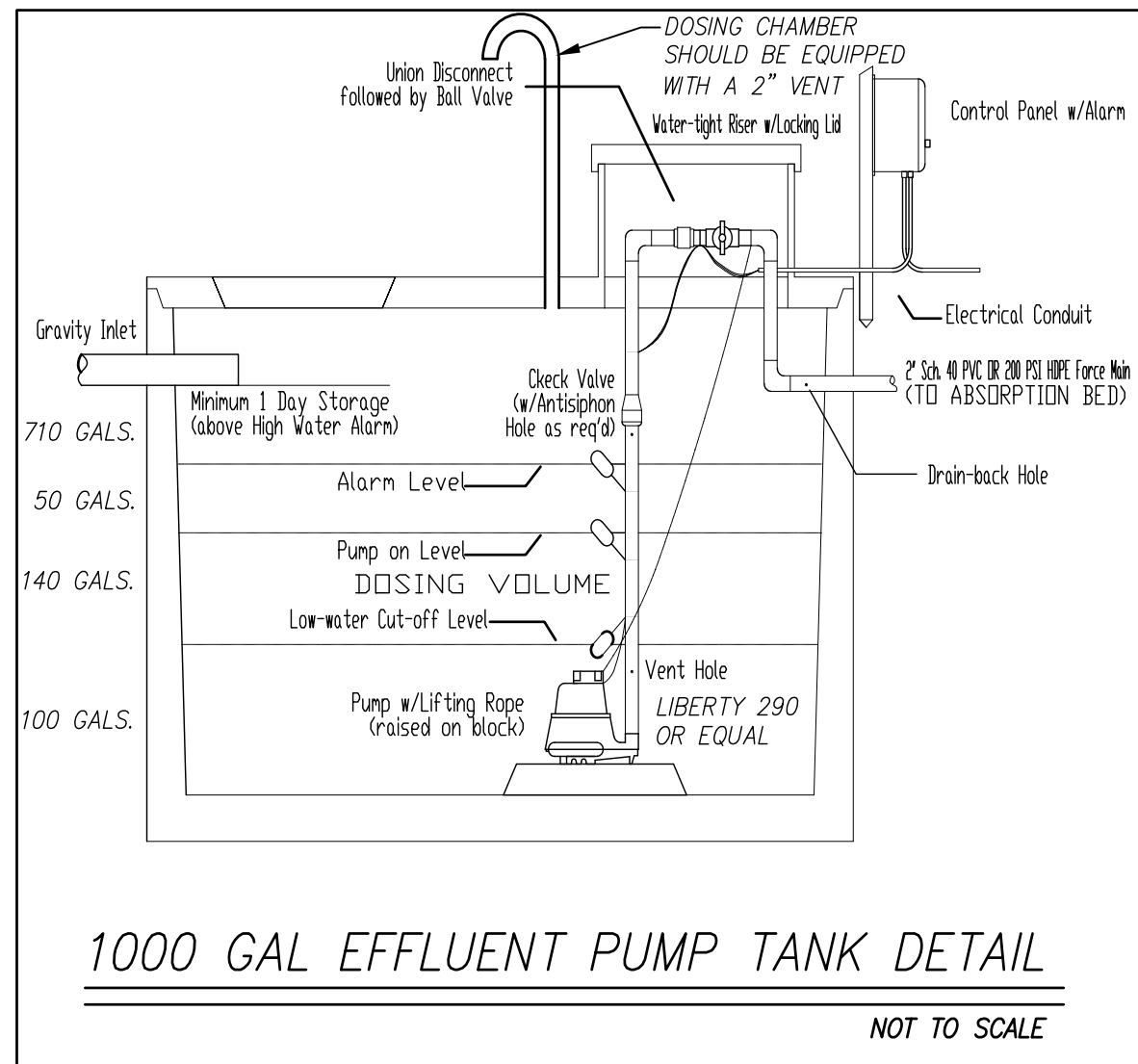
FIGURE 12 : DROP BOX DETAIL

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## DROP BOX DETAILS

NOT TO SCALE

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## 1000 GAL EFFLUENT PUMP TANK DETAIL

NOT TO SCALE



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## PROPOSED SEPTIC SYSTEM DESIGN

## RAISED FILL WITH ENHANCED TREATMENT

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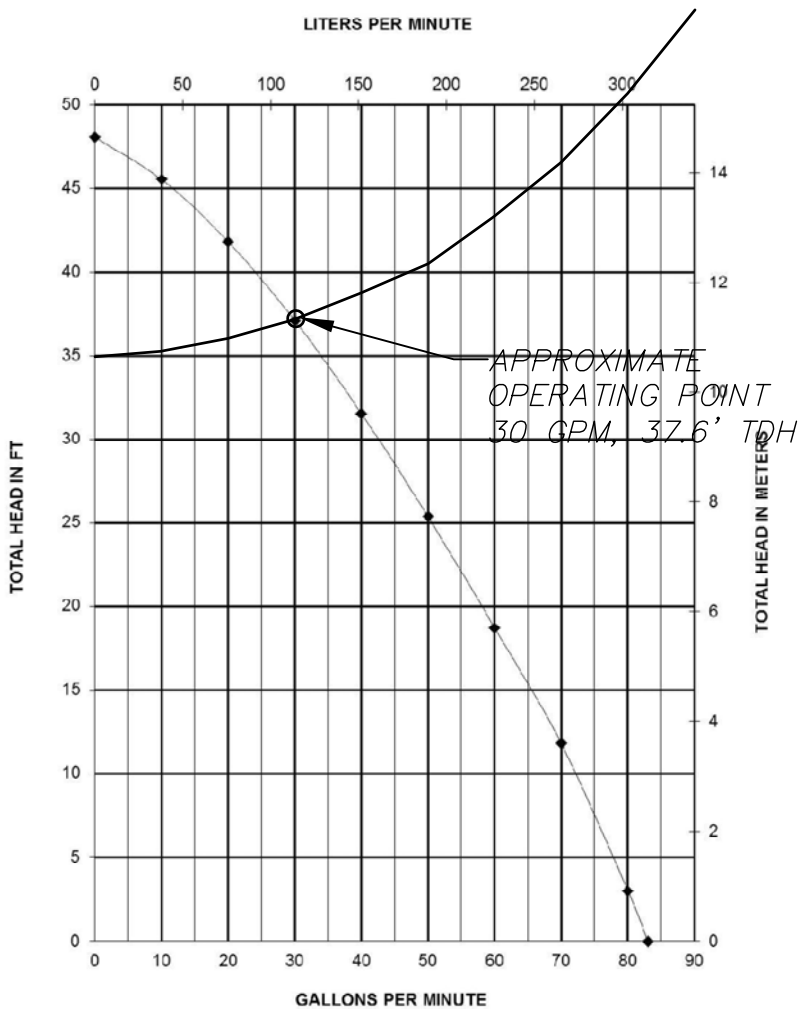
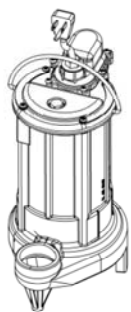
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Pump Specifications

290 Series 3/4 hp  
Submersible Effluent Pump



290\_P1 R09/7/2011

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EFFLUENT PUMP DESIGN CALCULATIONS	
PUMP ELEVATION	686.3'
OUTLET ELEVATION	721.7'
STATIC HEAD	35.4'
FORCE MAIN LENGTH	118'
FORCE MAIN DIAMETER	2"
FORCE MAIN VOLUME/LF	0.163 GAL
TOTAL FORCE MAIN VOLUME	19.2 GAL
ANTICIPATED FLOW RATE	30 GPM
FRICTION HEAD AT FLOW RATE	2.2'
TOTAL DYNAMIC HEAD	37.6'
TOTAL LENGTH OF DISTRIBUTION PIPE	128'
DISTRIBUTION PIPE DIAMETER	12"
DISTRIBUTION PIPE VOLUME/LF	5.8 GAL
TOTAL DISTRIBUTION PIPE VOLUME	742.4 GAL
PROPOSED DOSE VOLUME	140 GAL (±5 DOSES PER DAY + DRAINBACK)



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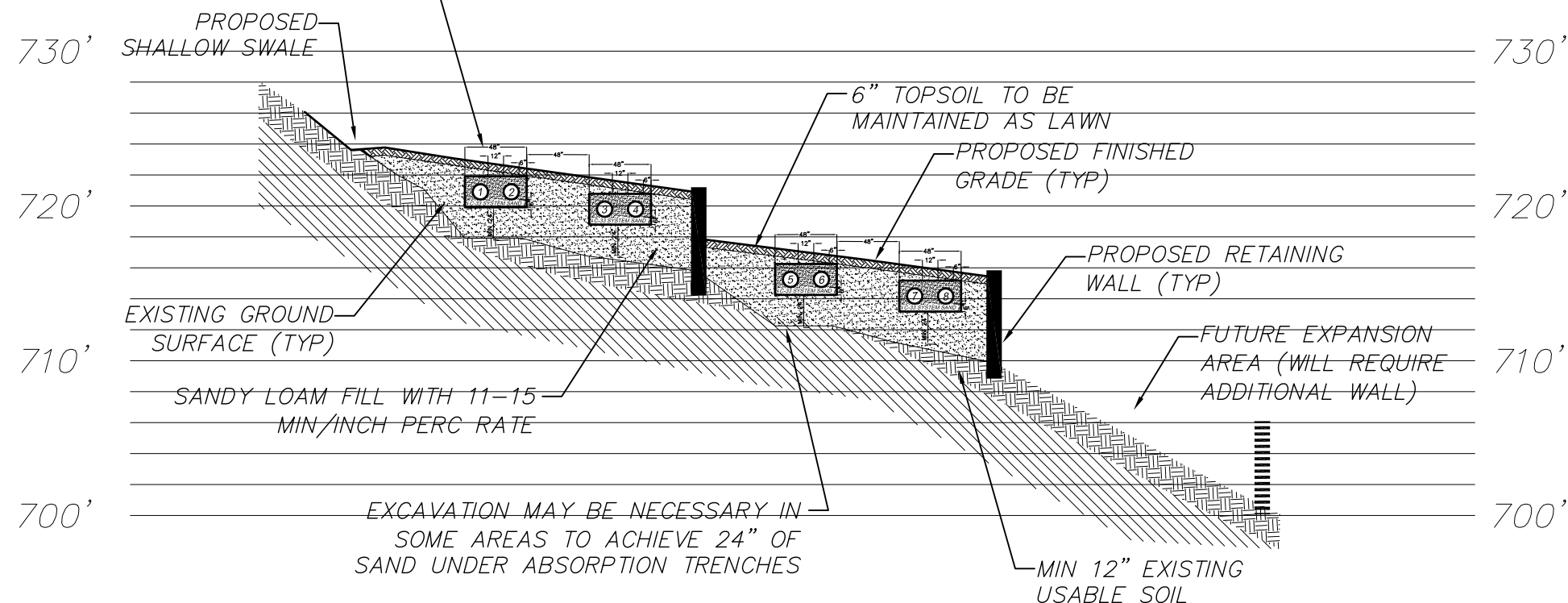
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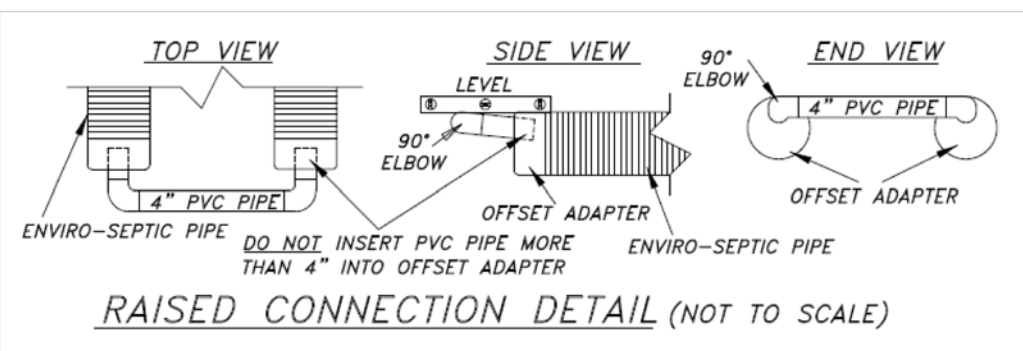
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FOUR (4) @ 4' x 32' PRESBY AES ABSORPTION TRENCHES—  
DESIGNED AS A GRAVELLESS GEOTEXTILE SAND FILTER  
("GSF") IN ACCORDANCE WITH FIGURE 21 AND TABLE 6D IN  
2012 NYS DOH DESIGN MANUAL  
TRENCHES COVERED WITH MINIMUM 6" TOPSOIL,  
SEEDED AND MAINTAINED AS LAWN

NUMBER OF ENVIRO-SEPTIC TRENCHES: 4  
NUMBER OF ENVIRO-SEPTIC LINES PER TRENCH: 2  
LENGTH OF EACH AES LINE IN TRENCH: 30'  
CENTER TO CENTER SPACING: 2.0'  
TOTAL TRENCH LENGTH: 128 LF



CROSS SECTION A-A  
GSF TRENCHES WITH RETAINING WALL ON SLOPE  
SCALE 1:10



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It is a violation of the NYS Education Law for any person, unless he is acting under the direction of a licensed professional engineer or land surveyor, to alter an item in any way. If an item bearing the seal of an engineer or land surveyor is altered, the altering engineer or land surveyor shall affix to the item his seal and the notation "altered by" followed by his signature and the date of such alteration, and a specific description of the alteration.



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PROPOSED SEPTIC  
SYSTEM DESIGN

RAISED FILL WITH  
ENHANCED  
TREATMENT

CUVELIER RESIDENCE  
4691 N. MENTETH DR  
TM #140.11-1-14.0

TOWN OF CANANDAIGUA  
ONTARIO COUNTY  
NEW YORK

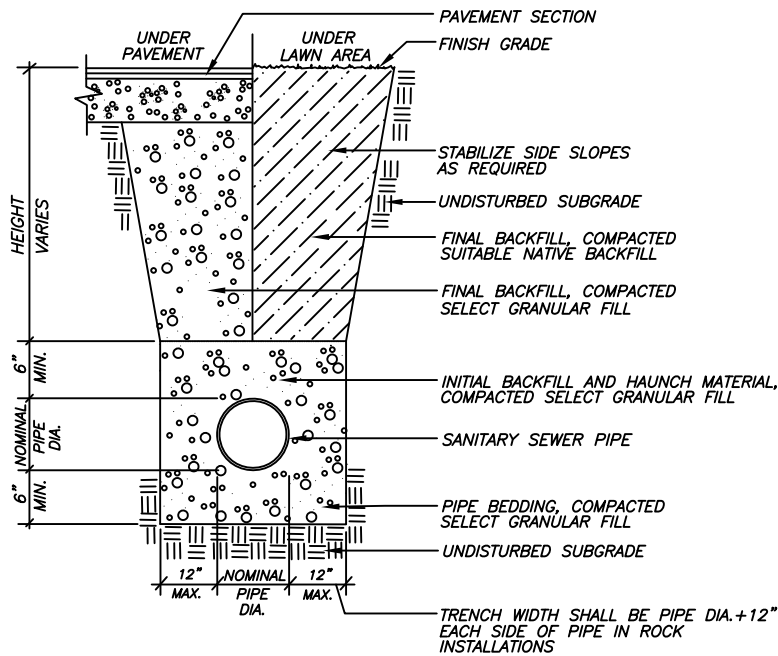
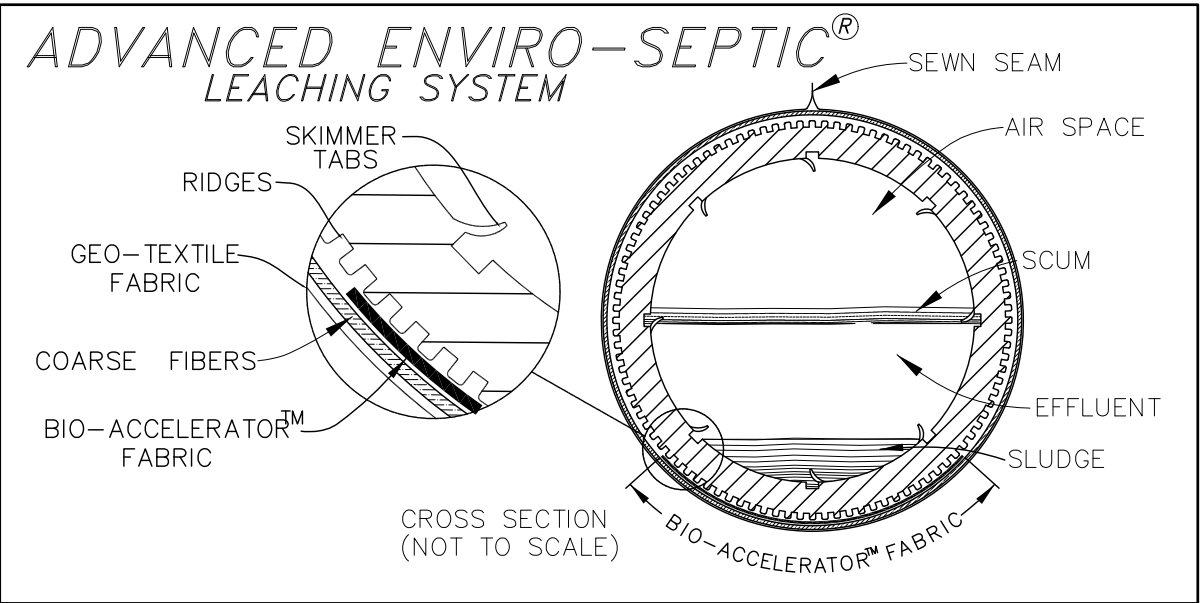
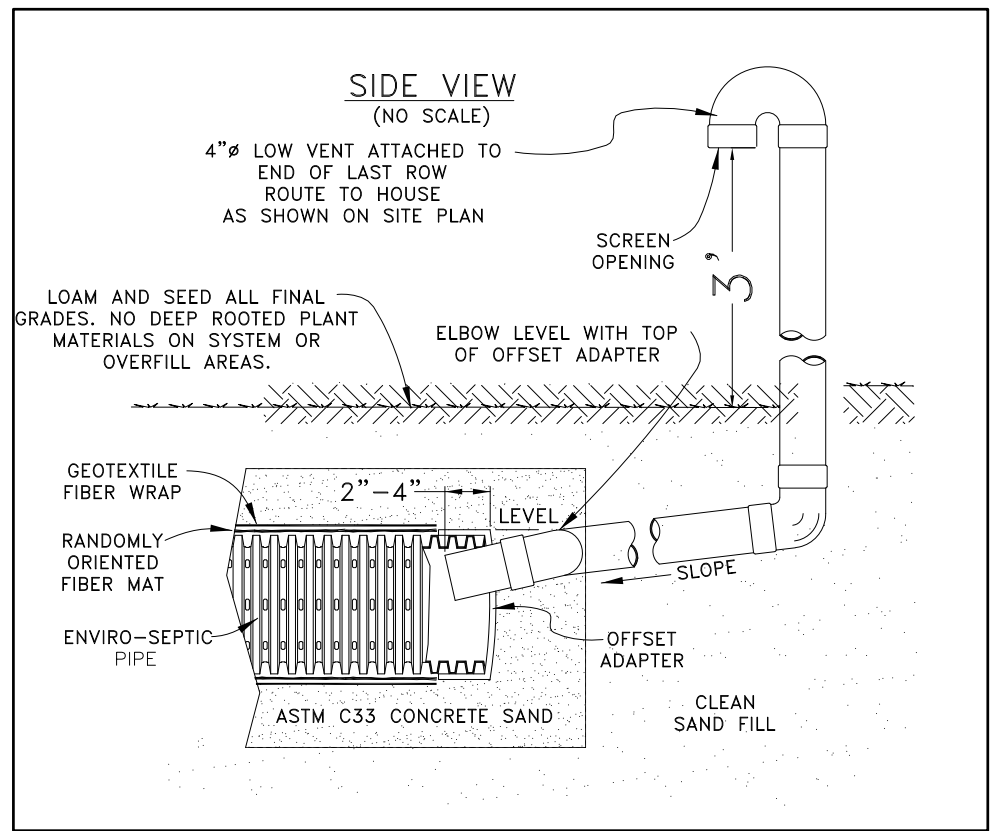
AUGUST 27, 2020

SHEET 7 OF 8



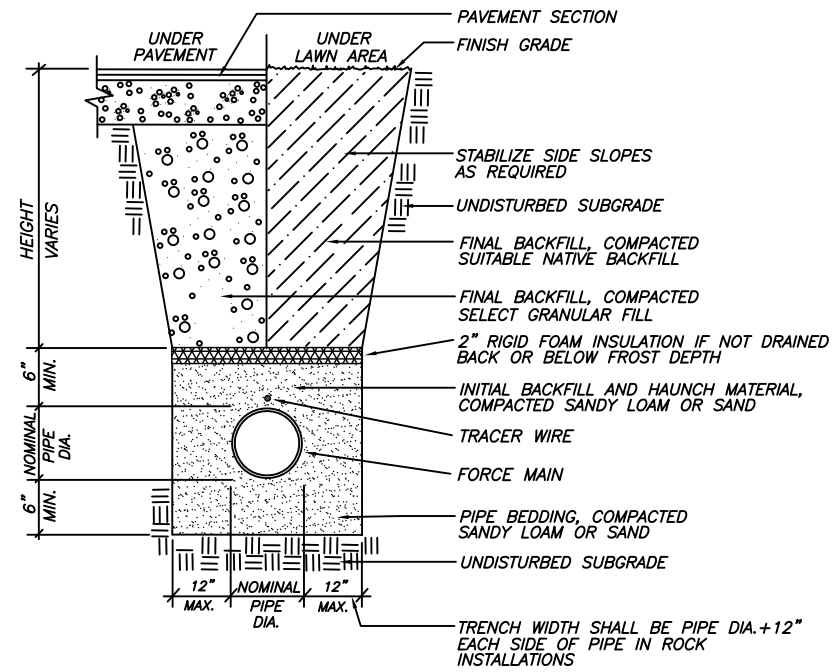
WILLIAM J. GROVE, PE  
NYS LICENSE #084111





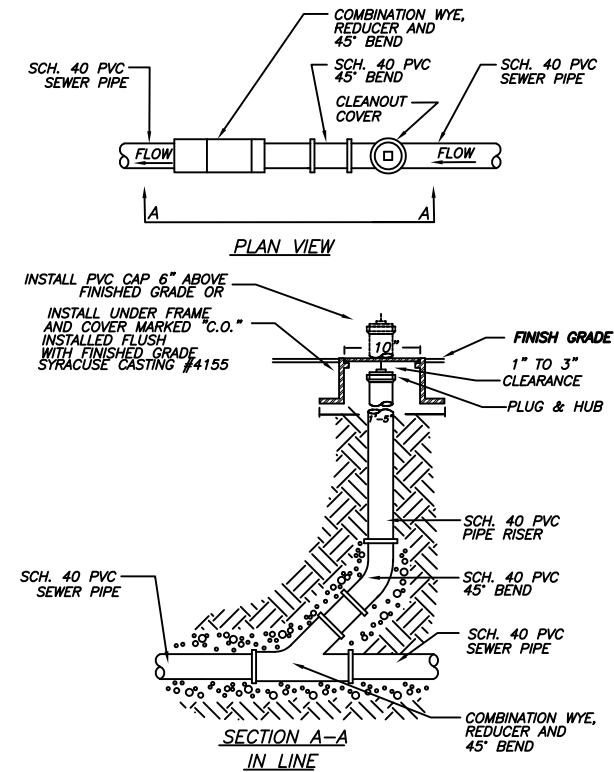
SANITARY SEWER PIPE TRENCH

NOT TO SCALE



FORCE MAIN TRENCH

NOT TO SCALE



SANITARY SEWER CLEANOUT

NOT TO SCALE



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## PROPOSED SEPTIC SYSTEM DESIGN

## RAISED FILL WITH ENHANCED TREATMENT

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