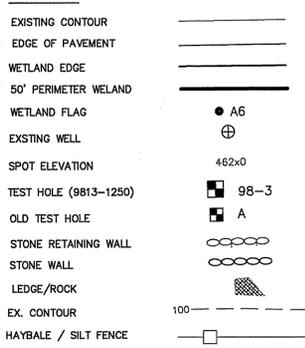


**LEGEND:**



**GENERAL NOTES:**

1. THIS SITE IS NOT LOCATED WITHIN A CRITICAL RESOURCE AREA.
2. THE OWTS INSTALLER SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES DEPICTED ON THIS PLAN.
3. THE INSTALLER SHALL NOTIFY THIS DESIGNER 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
4. THE DESIGNER SHALL BE CONTACTED IF ANY DISCREPANCIES ARE FOUND IN THE FIELD.
5. THE INSTALLER SHALL CONTACT THE DESIGNER AT LEAST 24 HOURS IN ADVANCE FOR BOTTOM AND COVER INSPECTIONS.
6. THE CONTRACTOR IS RESPONSIBLE FOR DEWATERING DURING EXCAVATION OF ALL COMPONENTS OF THE OWTS.

**REFERENCE PLANS:**

- "WESTCOTT BEACH LOCATED IN THE TOWN OF GLOUCESTER, R.I. SCALE: 1"=60' JUNE 1952" HF #283
1. THIS PARCEL LIES WITHIN ZONE X FOUND ON FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 44007 C0140 G ZONE X = AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAN.
  2. HORIZONTAL & VERTICAL DATA ON THIS PLAN WAS OBTAINED BY FIELD SURVEY.

**OWTS NOTES:**

1. ALL DESIGN, CONSTRUCTION, AND MAINTENANCE REQUIREMENTS, WHETHER NOTED HEREON OR NOT, SHALL BE IN CONFORMANCE WITH RULES AND REGULATIONS ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION, DESIGN, CONSTRUCTION AND MAINTENANCE OF ONSITE WASTEWATER TREATMENT SYSTEMS, JANUARY 1, 2008 AND ALL AMENDMENTS, BY THE RHODE ISLAND DEPT. OF ENVIRONMENTAL MANAGEMENT.
2. ALL TREES, STUMPS, AND BRUSH SHALL BE REMOVED WITHIN 10 FEET OF THE SYSTEM.
3. THERE ARE NO KNOWN PRIVATE WELLS OR DRAINS EXIST OR PROPOSED LOCATED WITHIN 200 FEET OF THE OWTS EXCEPT AS SHOWN AND NO KNOWN PUBLIC WELLS (EXIST. & PROP.) LOCATED WITHIN 500 FEET OF THE PROPOSED ISDS.
4. THERE ARE NO KNOWN SUBSURFACE DRAINS, EXISTING OR PROPOSED, WITHIN 50 FEET OF THE PROPOSED OWTS.
5. NO VEHICULAR TRAFFIC IS ALLOWED OVER THE LEACHFIELD.

**INVERT SCHEDULE**

DESIGN GWT @ BSF	EL. 87.0
DESIGN GWT @ SEPTIC TANK	EL. 86.0
OUT OF DWELLING	EL. 87.12±
PROP. SEPTIC TANK IN	EL. 87.00
RSV SEAT	EL. 86.08
AX20 FILTER PUMP INLET	EL. 90.55
TOP OF ADVANTEX FILTER	EL. 91.05
PUMP CHAMBER INLET	EL. 87.35
PUMP CHAMBER OUT	EL. 87.50
BOTTOM OF SAND	EL. 90.00
BOTTOM OF PEA GRAVEL	EL. 90.00
FLUSHING VALVE	EL. 90.35
BSF MANIFOLD	EL. 90.25
TOP OF PEA GRAVEL	EL. 90.00

**PUMP CHAMBER**

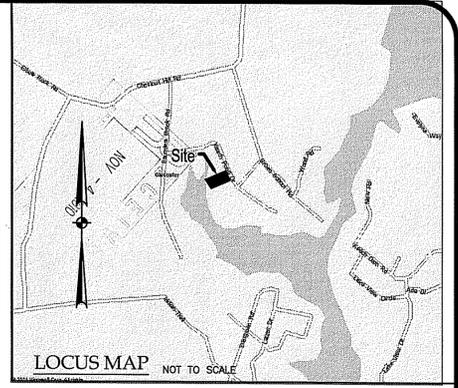
BOTTOM OF CHAMBER	EL. 84.00
REDUNDANT OFF	EL. 86.50
PUMP ON	EL. 86.50
HIGH WATER ALARM	EL. 86.25

**ADVANTEX AX20 SYSTEM FLOAT LEVELS**

HIGH WATER ALARM	EL. 87.00
TOP OF RSV CAGE	EL. 86.50
NORMAL LOW LIQUID LEVEL	EL. 86.38
LOW WATER ALARM/REDUNDANT OFF	EL. 86.05

**DESIGN CRITERIA**

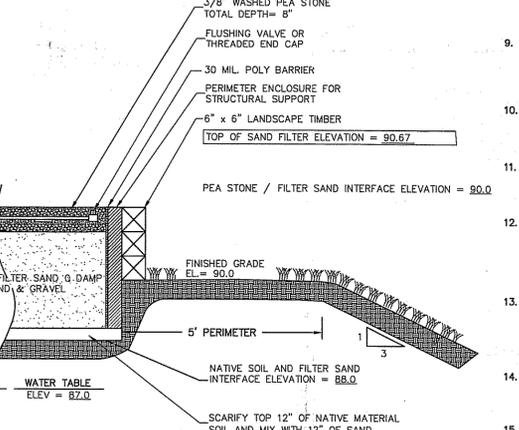
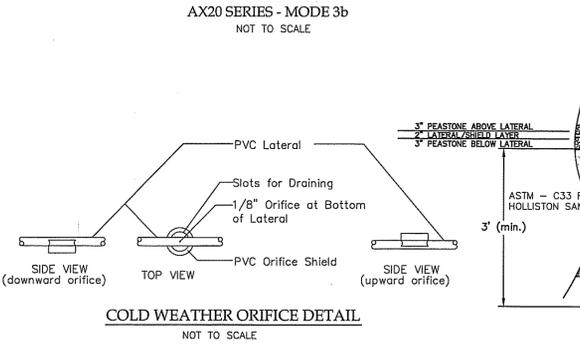
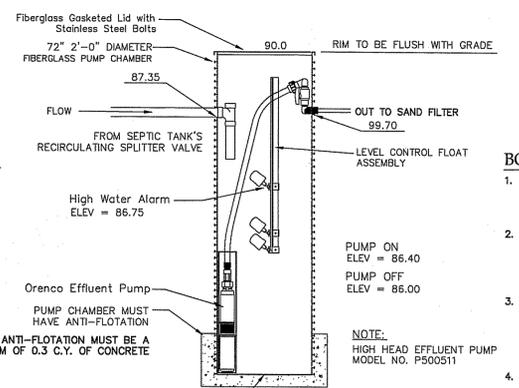
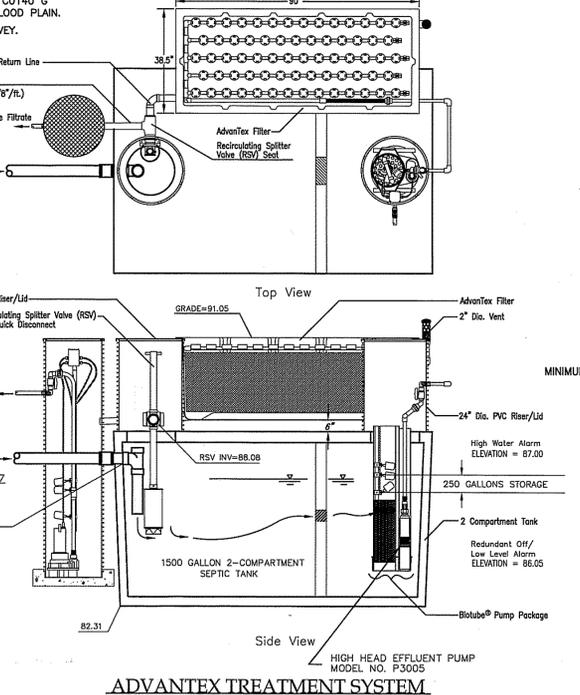
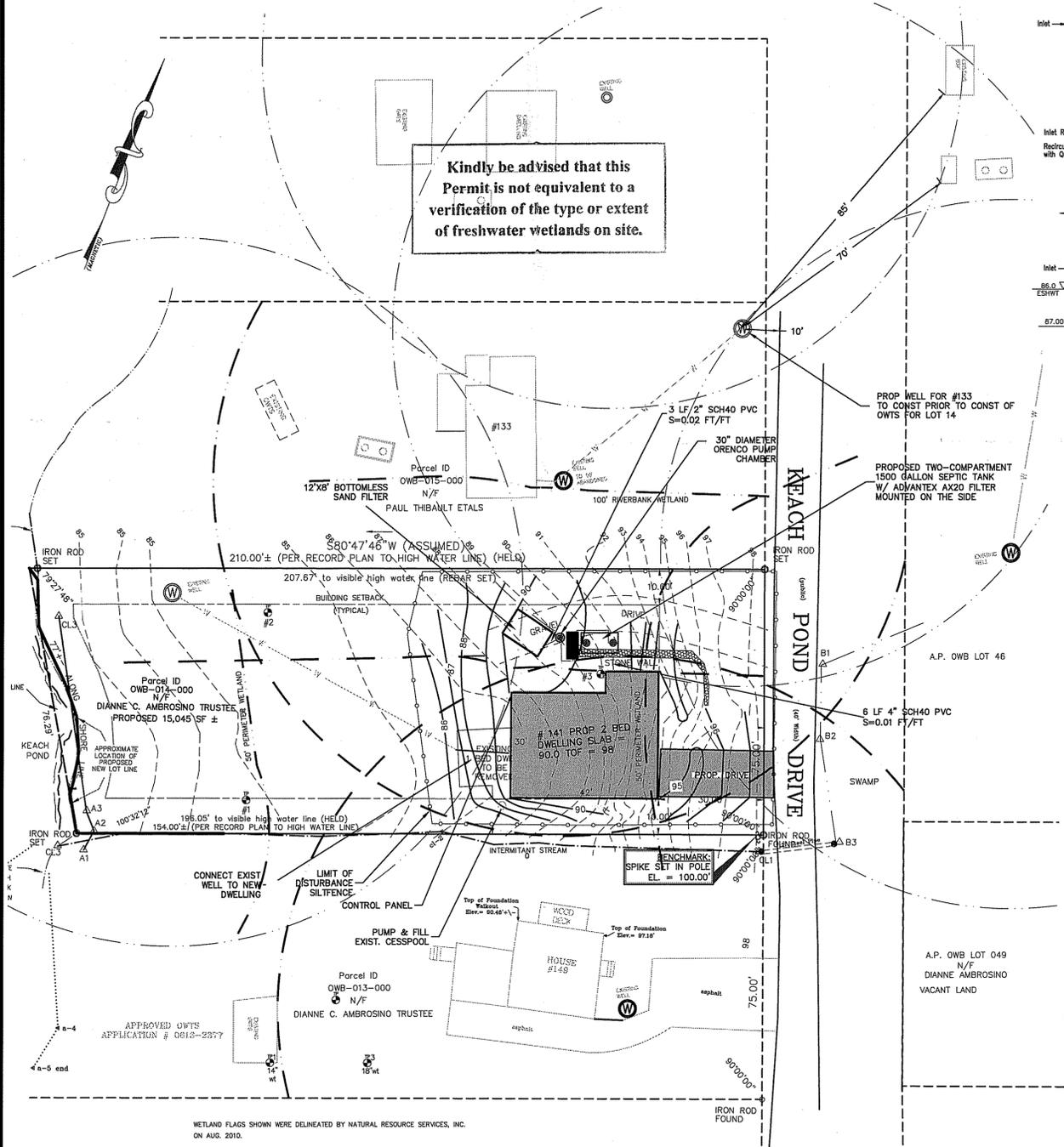
- PEAK FLOW = 2 BEDROOMS @ 115 GALLONS PER DAY / BEDROOM = 230 GPD
- CATEGORY 1 SYSTEM SOIL CAT 4 USE 2.7 GAL/SF/DAY LOADING RATE
- SIZE A BOTTOMLESS SAND FILTER:
  - 230 GPD / 2.7 GAL/SF/DAY = 85 S.F.
  - USE A 8' X 12' BOTTOMLESS SAND FILTER



R.I. STD. 9.1 WITH SILT FENCE  
NOT TO SCALE



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

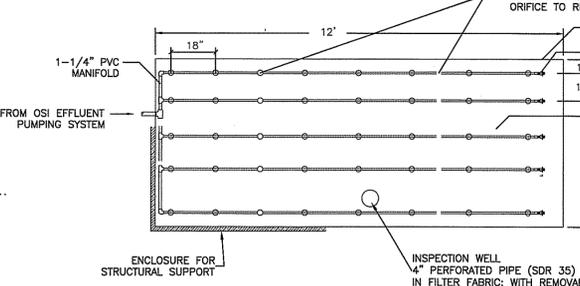


**B.S.F. Demand Dosing**

40 ORIFICE \* 0.24 GAL PER ORIFICE = 9.60 GALLONS  
 30 LF 2" TRANSPORT LINE VOLUME = 0.02 GALLONS  
 TOTAL DOSED = 9.62 GALLONS PER DOSE

PUMP BASIN DRAWDOWN: 9.62 GAL PER DOSE / 2 GAL PER INCH = 4.81" = 0.40

DESIGN CHECK: 230 GPD / 9.62 GAL PER DOSE = 24 DOSES PER DAY (O.K. - BETWEEN 24 AND 48 DOSE PER DAY)



**BOTTOMLESS SAND FILTER (BSF) CONSTRUCTION NOTES**

1. THE PROPOSED BOTTOMLESS SAND FILTER (BSF) SHALL BE STAKED OUT AND PROTECTED PRIOR TO ANY SITE PREPARATION ACTIVITIES. OVER DIGGING THE SAND FILTER SHOULD BE AVOIDED; MINIMAL BACKFILLING ON BOTTOM AND SIDES PROVIDES A MORE STABLE ENCLOSURE.
2. SOIL, VEGETATION AND DEAD OR DECAYING ORGANIC LITTER SHALL BE REMOVED FROM THE AREA PLANNED FOR THE BSF INSTALLATION. TWELVE (12) INCHES OF THE NATIVE SOIL SHALL BE SCORIFIED AND MIXED WITH 12 INCHES OF SAND MEDIA. PERIMETER STRIPPING AND EXCAVATION OF SOIL 12" BENEATH THE NATIVE SOIL/FILTER SAND INTERFACE IS PROHIBITED.
3. A PERIMETER SUPPORT FRAME OF PLYWOOD AND 2x4 CONSTRUCTION IS USED TO HOLD THE LINER IN PLACE DURING INSTALLATION. TREATED WOOD IS NOT NECESSARY. DURING CONSTRUCTION OF THE SAND FILTER, IT IS IMPORTANT THAT SAND BE PLACED BETWEEN THE EXCAVATED SOIL AND THE SUPPORT FRAME. ALL NAILS OR STAPLES USED MUST HAVE THEIR SHARP ENDS POINTED AWAY FROM THE LINER.
4. A PERMANENT TOP FRAME STRUCTURE (SUCH AS DECAY RESISTANT LANDSCAPE TIMBERS) MUST BE PROVIDED ON ANY PORTION OF A BSF THAT IS INSTALLED ABOVE GRADE. BELOW GRADE USE OF TIMBERS IS PROHIBITED TO PREVENT SOIL SLUMPING AFTER TIMBERS HAVE ROTTED.
5. MAINTAIN CONSTANT ELEVATION FOR 5 FEET MINIMUM PERIMETER AROUND BSF.
6. THE 30 MIL PVC LINER IS UNFOLDED FROM THE CENTER OF THE EXCAVATION AND DRAPED OVER THE TOP EDGES OF THE PERIMETER SUPPORT FRAME. CARE MUST BE TAKEN TO ENSURE THAT THE LINER IS IN FULL CONTACT WITH SIDES AND THAT NO BRIDGING OCCURS.
7. FILTER SAND IS PLACED AND COMPACTED WHILE IT IS DAMP. IF THE SAND IS NOT DAMP, IT WILL NOT COMPACT WELL AND SETTLEMENT MAY CAUSE DISLOCATION AND BREAKAGE OF THE DISTRIBUTION LATERALS. THE SAND SURFACE MUST BE FLAT. SEE THE APPROPRIATE SAND GRADATION GRAPH FOR SPECIFICATIONS.
8. THREE INCHES OF 3/8" INCH PEA STONE IS PLACED ON TOP OF THE COMPACTED SAND, DISTURBING THE SAND AS LITTLE AS POSSIBLE. SEE PEA STONE SPECS. AFTER THE LATERALS ARE INSTALLED AND PRESSURE TEST IS PERFORMED, PLACE PEA STONE OVER THE DISTRIBUTION LATERALS TO PROVIDE 3 INCHES DEPTH OF PEA STONE OVER ALL UPPER ORIFICE SHIELDS. NO FILTER FABRIC OF ANY KIND SHOULD BE PLACED BETWEEN THE SAND AND OVERLYING PEA STONE.
9. THE LINER'S PVC BOOT PERMITS A WATER TIGHT PENETRATION OF THE LINER FOR THE TRANSPORT PIPE DELIVERING EFFLUENT TO THE SAND FILTER'S DISTRIBUTION SYSTEM. IN THE EVENT THE GROUND WATER REACHES THAT ELEVATION, THE BOOT WILL PREVENT INFILTRATION. THE MANUFACTURER'S GUIDE MUST BE FOLLOWED EXACTLY WHEN INSTALLING THE PVC BOOTS.
10. THE 1/8" DIAMETER ORIFICES SHOULD BE DRILLED WITH A DRILL PRESS OR DRILL GUIDE USING A NEW 1/8" INCH DRILL BIT AND SHOULD NOT HAVE ANY VISIBLE BURRS. ALL PVC JOINTS SHOULD BE GLUED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
11. ORIFICE SHIELDS ARE PLACED ON THE LATERALS TO PREVENT THE PEA GRAVEL FROM BLOCKING THE FLOW OUT OF THE ORIFICES AND TO OBTAIN BETTER EFFLUENT DISTRIBUTION OVER THE SAND. COLD WEATHER ORIFICE SHIELDS SHOULD BE USED IN COLD WEATHER CLIMATES TO PREVENT THE FREEZING OF THE LATERALS.
12. AS PART OF THE COLD WEATHER REQUIREMENT, TWO (2) OF THE ORIFICES IN EACH DISTRIBUTION LATERAL MUST BE DRILLED POINTING UPWARD AND THE REST ARE DRILLED POINTING DOWNWARD. UP-POINTING ORIFICES SHALL BE LOCATED AT POINTS APPROXIMATELY 1/3 AND 2/3 ALONG THE LENGTH OF EACH DISTRIBUTION LATERAL. INSTALL COLD WEATHER ORIFICE SHIELDS AT ALL ORIFICES (UPWARD AND DOWNWARD POINTING).
13. THE ELECTRICAL SPlice BOX MUST BE UL OR CSA LISTED AND CORROSION-PROOF WITH THE PROPER NUMBER OF CORD GRIPS INSTALLED. HEAT SHRINK AND OR WATER TIGHT WIRE NUTS MUST BE USED ON THE INDIVIDUAL WIRE SPLICES. WITHIN THE BOX TO ENSURE THE INTEGRITY OF THE SPLICES IF THE BOX BECOMES FLOODED, SUFFICIENT LENGTH OF WIRES MUST BE PROVIDED IN THE BOX TO ALLOW FOR FUTURE REPAIRS.
14. THE CONDUIT SEAL MUST BE UL OR CSA LISTED AND MUST BE INSTALLED USING PROPER CONDUIT SEALANT AS RECOMMENDED BY THE MANUFACTURER. SILICONE IS NOT ALLOWED. THE SEAL PREVENTS WATER FROM DRAINING INTO THE SPlice BOX AND GASES FROM ESCAPING THE TANK.
15. THE ELECTRICAL CONDUIT MUST BE UL OR CSA LISTED. THERE ARE ELECTRICAL CODE RULES RESTRICTING THE NUMBER OF BENDS BETWEEN PANELS AND JUNCTION BOXES. REFER TO NEC 1993 SECTION 347-14.
16. INSTALL LID INSULATION ON ALL LIDS TO PREVENT FREEZING.
17. THE CLASS 200 TRANSPORT PIPE SHALL BE ALLOWED TO DRAIN BACK COMPLETELY, TO PUMP CHAMBER. MAXIMIZE PITCH OF TRANSPORT PIPE TO ACHIEVE DRAINBACK AND PROVIDE FURTHER FREEZE PROTECTION AS CONDITIONS WARRANT.
18. IN AREAS WHERE THE BSF MAY BE ACCESSIBLE TO CHILDREN, THE PEA STONE SURFACE MAY BE COVERED WITH A BROAD NEAVE FILTER FABRIC AND AN ADDITIONAL LAYER OF PEA STONE OR LARGER WASHED STONE, NO GREATER THAN 2" IN THICKNESS, TO DISCOURAGE PHYSICAL DISTURBANCE TO OR CONTACT WITH THE TREATMENT ZONE.
19. PROVIDE A PERMANENT CONFINEMENT STRUCTURE BETWEEN BSF AND ANY TREES OR SHRUBS.

**PLAN & DETAILS**  
**OWTS ALTERATION PLAN**

AP OWB LOT 14  
 141 KEACH POND DRIVE  
 CHEPACHET, RI 02814  
 PREPARED FOR:  
 DIANNE AMBROSINO

**NICHOLAS J. PIAMPIANO**  
 No. 6512  
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)  
 D3059

DATE: AUGUST 22, 2010  
 SCALE: AS NOTED  
 DESIGN/CHECK BY: NJP

**ADVANCED CIVIL DESIGN, INC.**  
 CIVIL ENGINEERS  
 7 COUNTRYSIDE LANE  
 SCITUATE, RI 02857

P1: (401) 644-8656  
 P2: (401) 473-4404

SHEET NO. **1** OF 1