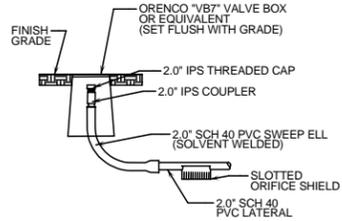
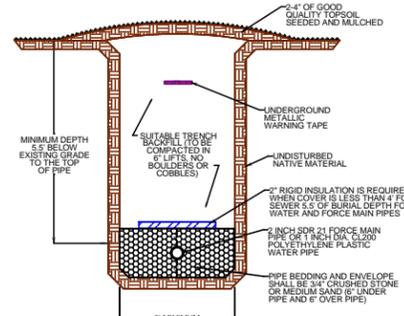


MOUND WASTEWATER DISPOSAL SYSTEM PLAN VIEW DETAIL
SCALE: NOT TO SCALE



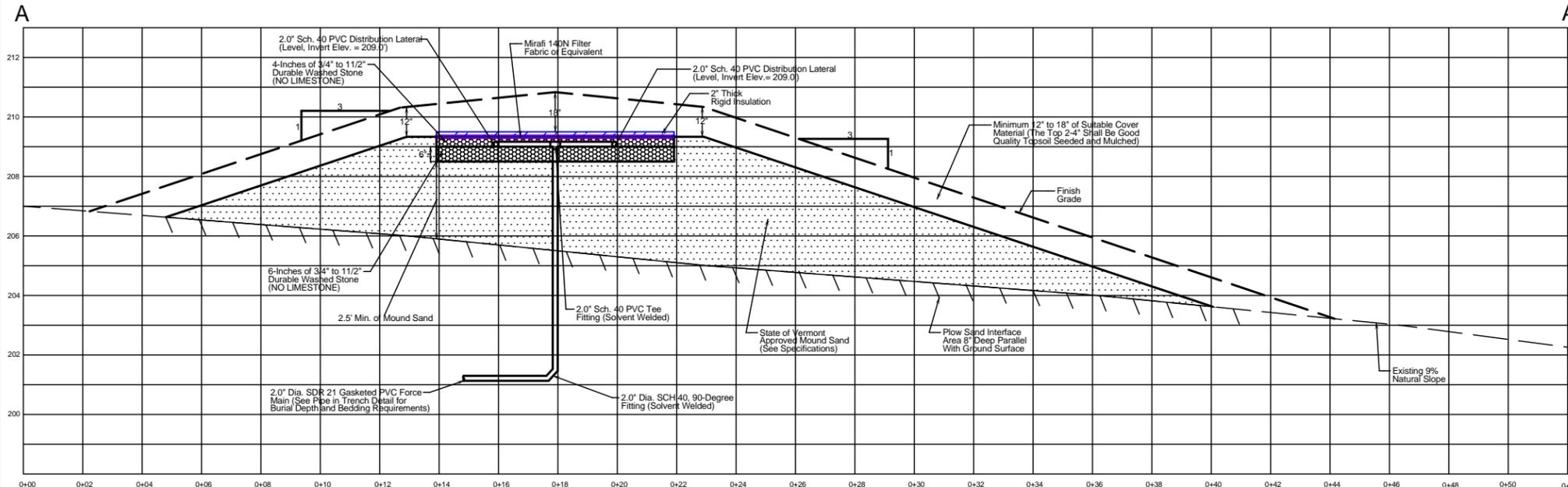
FLUSHING RISER DETAIL
NOT TO SCALE



GRASSED AREA PIPE IN TRENCH DETAIL
NOT TO SCALE

MOUND SYSTEM CONSTRUCTION INSTRUCTIONS

- Submit a representative sample of mound sand from the intended source for testing to ASTM 422 (Right Consulting Engineers and Vermont Testing can perform this test). Submit 8 copies of the test results to the designer.
- Stake out the mound system on the site so that the trenches or bed run perpendicular to the direction of the slope. Reference stakes are recommended in case corner stakes are disturbed.
- Stake out the corners of the bed and determine the bottom elevation of the bed.
- Determine where the force main from the pump station connects to the distribution system in the mound.
- Trench and lay the force main from the pump station to the distribution system. Lay the pipe 5.5' below the ground surface for frost protection. Where there is less than 5.5' of cover, insulate with 2" of rigid polystyrene insulation 4" wide (centered over the pipe and overlap the joints). Alternatively, where there is less than 5.5' of soil cover, the force main can be sloped uniformly back to the pump station so that it drains after each closing. Cut and cap the force main at least one foot below ground surface. Backfill and compact the soil around the pipe to prevent back seepage of effluent along the pipe. This step must be done before plowing to avoid compacting and disturbance of the surface.
- Install the curtain drain (if shown on the plans).
- Check the moisture content of the soil at 7-8 inches deep. If it is too wet, smearing and compaction will result, thus reducing the infiltration capacity of the soil. Soil moisture can be determined by rolling a sample between the fingers. If it rolls into a ribbon, the soil is too wet to prepare. If it crumbles, soil preparation can proceed.
- Cut trees flush with the ground surface, remove excess vegetation by mowing. Prepare the site by using a moldboard plow to create 8-10 inch deep furrows perpendicular to the slope. Furrows must be thrown up hill. Chisel plowing may be used if a moldboard plow is not available. Rototilling must be done on heavy soils but can be used on non-structural soil such as sands. Alternatively, plowing can be done by using an excavator bucket to pull the soil into furrows parallel with the ground contours (the resulting surface must look as though it had been plowed with a moldboard plow, as outlined above). Avoid rutting the area with vehicular traffic. INSPECTION REQUIRED.
- Extend the effluent pipe to several feet above the ground surface.
- Place the approved fill material around the edge of the plowed area. Keep wheels of the truck off the plowed areas. Minimize the traffic on the downslope side of the mound. Work from the end and upslope side.
- Move the fill material into place using a small track type tractor or excavator with a blade. Always keep a minimum of 6 inches of sand beneath tracks to prevent compaction of the natural soil.
- Place the fill material to the required depth which is the top of the trenches or bed. Shape the sides to the desired slope. INSPECTION REQUIRED AT THIS POINT.
- With the blade of bucket form the trenches or bed. Hand level the bottom of the bed. Make sure bottom is at the same elevation and level.
- Place the coarse aggregate in the trenches or bed. It should be 3/4 to 1 1/2 inch, washed, durable aggregate (i.e. not limestone or marble). Level aggregate to the design depth.
- Place the distribution system in the aggregate. Connect the manifold to the force main from the pump station. Slope the manifold slightly to the distribution laterals. Lay the laterals level, removing rips and dips. Place orifices upwards until the flow test is complete. INSPECTION IS REQUIRED AT THIS POINT TO OBSERVE DISCHARGE RATE AND FLOW TEST.
- Rotate orifices downward, install orifice shields and glue all components. Place 2 inches of aggregate over the distribution pipe.
- Place synthetic non-woven filter fabric (Mirafi 140N or equivalent) over the entire stone bed. Overlap joints by 12" minimum. Place an 8' x 8' mat of rigid polystyrene insulation, 2 inches thick, centered over the force main riser. Place insulation in two layers (1" each) and stagger the joint pattern.
- Place soil on top of the bed or trench to a depth of 14 inches in the center and 8 inches at the outer edge of the bed or trenches. This may be subsoil or topsoil.
- Place 2 to 4 inches of good quality topsoil over the entire mound surface. This will raise the elevation at the center of the mound to a minimum of 1.5 feet and the outside edges of the bed or trenches to 1 foot. INSPECTION REQUIRED AT THIS POINT.
- Landscape the mound by planting grass, using the best vegetation adaptable to the area. A mixture of 90% birdfoot, trefoil and 10% timothy may be desirable if the mound is not manicured. If manicured is desired, a combination of 60% bluegrass, 30% creeping red fescue, and 10% annual ryegrass may be the desired vegetative cover. Shrubs can be planted around the base and up the side slopes. They should be somewhat moisture tolerant since the toe of the mound may be somewhat moist during various times of the year. Keep all trees and shrubs away from the top of the mound, as root systems can destroy the distribution network.
- Mound maintenance involves washing the effluent filter on an annual basis and pumping the septic tank and pump station every 2 to 3 years. A good water conservation plan with the house assures that the mound will not be overloaded. Avoid excess traffic on the mound area. Winter traffic should be avoided to minimize frost penetration. Inspect the pump station and septic tank each year to determine the level of sludge accumulation.



MOUND WASTEWATER DISPOSAL SYSTEM SECTION
VERTICAL SCALE: NOT TO SCALE
HORIZONTAL SCALE: NOT TO SCALE

STATE OF VERMONT MOUND SAND SPECIFICATIONS

(c) Fill Material: The fill material from the natural soil plowed surface to the top of the trench or bed shall be clean washed silica sand meeting one of the following sieve requirements:

Sieve Number	Opening (mm)	Percent Passing, by Weight
3/8	9.500	85 - 100
40	0.420	25 - 75
60	0.240	0 - 30
100	0.149	0 - 10
200	0.074	0 - 5

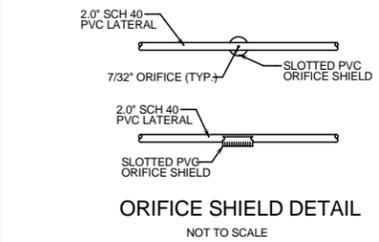
(2).

Sieve Number	Opening (mm)	Percent Passing, by Weight
4	4.750	95 - 100
8	2.380	80 - 100
16	1.190	50 - 85
30	0.590	25 - 60
50	0.297	10 - 30
100	0.149	2 - 10

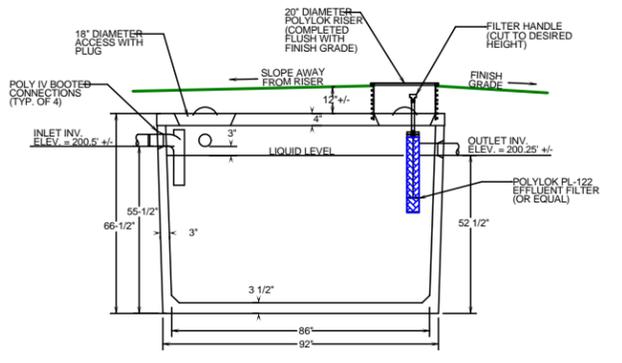
(3).

Sieve Number	Opening (mm)	Percent Passing, by Weight
3/8	2.000	85 - 100
40	0.420	30 - 50
200	0.074	0 - 5

The material must meet the specifications 1, 2, or 3 above. Interpolation of analyses is not permitted. Fill material 2 is ASTM Specification C-33 and is intended for manufactured material.

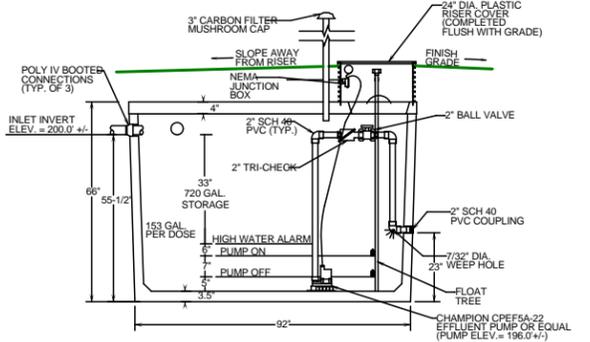


ORIFICE SHIELD DETAIL
NOT TO SCALE



- NOTES:
- SEPTIC TANK SHALL BE SET LEVEL ON A MINIMUM OF SIX INCHES OF COMPACTED GRANULAR BASE.
 - AN INLET TEE Baffle IS REQUIRED.
 - IF WATER-PROOF BOOTED CONNECTIONS ARE NOT USED, ALL PIPE PENETRATIONS SHALL BE SEALED WITH A "WATER PLUG" NON-SHRINK HYDRAULIC CEMENT.
 - EFFLUENT FILTER ACCESS SHALL BE COMPLETED FLUSH WITH FINISH GRADE.

1,000-GALLON CONCRETE TOP-SEAM SEPTIC TANK
NOT TO SCALE



- NOTES:
- PUMP STATION SHALL BE SET LEVEL ON A MINIMUM OF 6-INCHES OF COMPACTED GRANULAR BASE.
 - PUMP STATION SECTIONS SHALL HAVE BUTYL RUBBER JOINT SEALER.
 - IF WATER-PROOF BOOTED PIPE CONNECTIONS ARE NOT USED, PIPE PENETRATIONS SHALL BE SEALED WITH "WATER PLUG" NON-SHRINK HYDRAULIC CEMENT.
 - ON/OFF FLOAT SWITCH TO BE SET WITH A 7.0 INCH SWING SETTING TO PROVIDE A 153 GALLON DOSE VOLUME.
 - HIGH WATER LEVEL ALARM AND PUMP STATION SHALL BE WIRED BY A LICENSED ELECTRICIAN.
 - THE HIGH WATER ALARM SHALL BE MOUNTED AT A VISIBLE LOCATION.

1,000-GALLON TOP-SEAM CONCRETE PUMP STATION
NOT TO SCALE

WASTEWATER DISPOSAL SYSTEM CONSTRUCTION AND MAINTENANCE NOTES

- THE WASTEWATER DISPOSAL SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF NATURAL RESOURCES, ENVIRONMENTAL PROTECTION RULES, CHAPTER 1, WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES.
- WASTEWATER DISPOSAL SYSTEM LOCATION SHALL BE STAKED OUT BY THE DESIGNER PRIOR TO START OF CONSTRUCTION.
- ATTACHED MOUND SYSTEM CONSTRUCTION INSTRUCTIONS SHALL BE FOLLOWED DURING THE INSTALLATION OF THE PRIMARY MOUND-TYPE WASTEWATER SYSTEM.
- THE DESIGNER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE FOR INSPECTIONS OF THE SEPTIC TANK, PUMP STATION, PLOWED LAYER, AND PLACEMENT OF THE MOUND SAND.
- THE DESIGNER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE FOR A FLOW TEST OF THE MOUND SYSTEM PRESSURE DISTRIBUTION NETWORK.
- WASTEWATER SYSTEM FINISH GRADES WILL VARY WITH NATURAL TOPOGRAPHY. PRIORITY IS TO MAINTAIN 3 ON 1 MOUND TOE SLOPES.
- SEPTIC TANK EFFLUENT FILTER SHOULD BE REMOVED AND RINSED BACK INTO THE SEPTIC TANK ANNUALLY.
- THE SEPTIC TANKS AND PUMP STATION SHOULD BE INSPECTED ANNUALLY AND PUMPED OUT EVERY 3 YEARS.
- FOLLOWING THE MOUND WASTEWATER SYSTEM INSTALLATION, FINISH GRADE SHALL BE SEEDDED AND MULCHED WITH A CONSERVATION GRASS SEED MIX.

PERMITTING
TITLE:
LOT NO. 3
WASTEWATER
SYSTEM
NOTES AND
DETAILS
SIGNATURE:
JASON S. BARNARD
LICENSED DESIGNER #430-B

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GEORGE R. AND CLAIRE C. AUBE
TWO-LOT SUBDIVISION
DORSET STREET AND
CARPENTER ROAD
CHARLOTTE, VERMONT

DATE: MARCH 4, 2015
REVISIONS:
SCALE: AS NOTED
DRAWN BY: MJ
CHECKED BY: JB

DRAWING NO. 3
SHEET 3 OF 3