

Minimum Installation Distances
From Landfill

Water main	50 Feet
Water service line	25 Feet
Wastewater (Sewer)	10 Feet (25 Feet Downslope)
Streams/Lakes	50 Feet (75 Feet Downslope)
Foundations	15 Feet
Property Line	25 Feet

Basin & Design
 4. Bedroom House = 400 GPD
 Flow = 400 GPD
 Application Rate = 1.0 Gal/ Sq ft per day
 Required Area = 400 sq ft / 1.0 gal/sq ft
 Required Area = 400 sq ft
 Area Provided = 492 sq ft
 Use 1' x 6" x 8" 52' SDR
 Basin Area = 400.74 sq ft @ 2.6' depth = 82' long x 8.1' deep

Primary Area
 Performance Based Linear Loading Rate
 From Appendix 7 - A Linear Loading Rate Factors
 Based on Soil Factors & Natural Ground Slope
 Provided by the State of Vermont Wastewater Management Division

Clay Layer @ 5.0% = 1.5
 LP = media @ 17' x 8.5" @ 2 - 10' = 6.12 = .33
 (400 GPD) / (.33) (Gal/ Lin. Ft.)
 Required Linear Feet = 778
 Use 1' x 6" x 82' French =
 Provided Linear Feet = 82'

PERCOLATION TEST
 Assumed Per. Rate 60 mm per inch

MOUND CONSTRUCTION

****PRIOR TO CONSTRUCTION ALL MATERIALS SHALL BE APPROVED BY THE DESIGNER.

THE FOLLOWING IS THE PROCEDURE FOR MOUND CONSTRUCTION ANY VARIATIONS SHOULD BE DISCUSSED WITH THE DESIGNER BEFORE ANY MOUND CONSTRUCTION STARTS. MOUND FAILURE MAY RESULT FROM IMPROPER CONSTRUCTION PROCEDURES. PROPER EQUIPMENT IS ESSENTIAL. SMALL TRACK TYPE DOZERS OR EXCAVATORS WORK BEST. WHEEL TYPE TRACTORS MAY CONTACT THE SUBSOIL.

CONSTRUCTION ON WET SOIL CAUSES SOIL SHEARING AND COMPACTION AND POSSIBLE FUTURE FAILURES. CONSTRUCTION SHOULD BE STOPPED IF WEATHER FROM JUNE - NOVEMBER CONDITIONS PERMITTING AND DURING NO CONSTRUCTION DURING FREEZING TEMPERATURES.

1. PREPARE ENTIRE AREA TO BE COVERED BY MOUND FILL. CUT TREES TO GROUND LEVEL. DO NOT REMOVE STUMPS. MOW VEGETATION AND LEAVE. SITE MUST BE DRY BEFORE FLOWING.

2. LAY TRENCH AND LAY DELIVERY PIPE. IF IT IS TO BE BURIED BELOW GRADE UNDER THE MOUND, LEAVE PIPE END CAPPED AND EXCAVATED AFTER FLOWING.

4. PLOW ENTIRE AREA TO BE COVERED BY MOUND FILL. PLOW ALONG THE CONTOR OF THE SLOPE WITH A MOLD BOARD PLOW TO A DEPTH OF 6". THOROUGHLY SOIL UP SLOPE. PLACEMENT OF THE FILL ON PLOWED AREA IMMEDIATELY AFTER PLOWING IS REQUIRED. DO NOT LET PLOWED AREA TO BROWN ON. KEEP ALL TRAFFIC OFF PLOWED AREA DOWNSLOPE SIDE OF PLOWED AREA.

6. PLACE APPROVED SAND FILL AROUND THE UPHILL AND SIDE EDGES OF THE PLOWED AREA. KEEP WHEELS OF TRUCKS OFF PLOWED AREA. NO TRAFFIC DOWNSLOPE SIDE OF PLOWED AREAS. WORK FROM ENDS AND UPSLOPE SIDE ONLY.

6. MOVE THE SAND FILL INTO PLACE USING A SMALL TRACK TYPE DOZER. ALWAYS KEEP AT LEAST 5" OF SAND BENEATH TRUCKS TO PREVENT COMPACTION OF THE PLOWED AREA. PLACE SAND FILL TO THE DEPTH OF THE WHEELS. THE SAME ELEVATION AS THE ELEVATION OF THE STONE IN THE BED OR TRENCHES. SHAPE SIDES TO THE DESIRED SLOPE.

7. WITH DOZER BLADE OR BACKHOE, FORM THE TRENCHES IN THE SAND FILL TO A DEPTH OF 12". HAND LEVEL THE BOTTOM OF THE TRENCHES TO MAKE SURE THEY ARE ALL LEVEL AND AT EQUAL ELEVATION ALONG THE ENTIRE LENGTH. RAKE TRENCHES BOTTOM AND SIDEWALLS PRIOR TO PLACEMENT OF STONE.

8. PLACE CLEAN WASHED GRADE OR CRUSHED STONE (1/4" - 1 1/2") IN TRENCHES TO A DEPTH OF 12". FORM 3" DEEP CHANNELS IN THE STONE IN WHICH TO LAY THE PIPING NETWORK. DO NOT USE LIMESTONE.

9. LAY PIPE LEVEL IN CHANNELS AND CONNECT MANHOLE PIPES TO FORCE MAIN. DO NOT SOLVENT CEMENT. PLACE PERFORATIONS UPWARD FOR PRESSURE TESTING. PUMPING CHAMBER MUST BE FILLED WITH CLEAN WATER AND ALL WATER CONNECTIONS MUST BE MADE. TEST TO THE LEAK WATER PUMPING TEST TO SHOW THAT DIFFERENCES IN FLOW THROUGH PERFORATIONS IN THE LATERALS ARE LESS THAN 1%.

10. TURN PIPE OVER AND PLACE ORIFICE SHIELD OVER THE HOLES. TURN PIPE SO HOLES ARE FACING DOWNWARDS. WIPE DRY ALL PIPING CONNECTIONS AND SOLVENT CEMENT TYPING SECRETLY IN PLACE. PLACE ORIFICE SHIELDS OVER ALL OF THE HOLES.

11. PLACE 1" STONE OVER LATERAL PIPES. PLACE 1 LAYER OF FILTER FABRIC OVER ALL OF THE STONE.

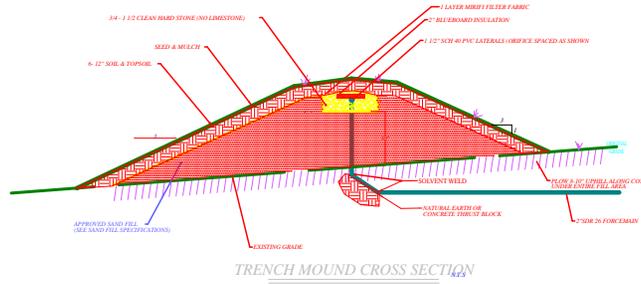
12. PLACE 9" OF SUBSOIL OR TOPSOIL. SOIL LESS PERMEABLE THAN SAND FILL. OVER ALL SAND INCREASE DENSITY TO 15% OVER TOP CENTER OF MOUND. PLACE 3" OF GOOD QUALITY TOPSOIL OVER ENTIRE MOUND SURFACE. THIS SOIL MAY BE TAKEN FROM ELSEWHERE ON SITE.

13. SEED AND MULCH ENTIRE MOUND SURFACE IMMEDIATELY TO PREVENT EROSION.

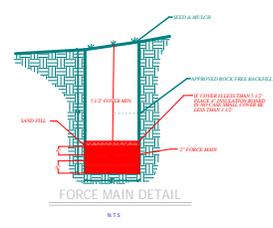
INSPECTION

THIS SYSTEM MUST BE INSPECTED BY HIGH KNOB DESIGN ASSOCIATES LLC TO VERIFY COMPLIANCE WITH THE DESIGN. HIGH KNOB DESIGN ASSOCIATES LLC ASSUMES NO RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT ARISE FROM FAILURE TO FOLLOW THE PLANS AND SPECIFICATIONS AND FAILURE TO HAVE BEEN NOTIFIED BY THE CONTRACTOR FOR THE REQUIRED INSPECTIONS DURING CONSTRUCTION.

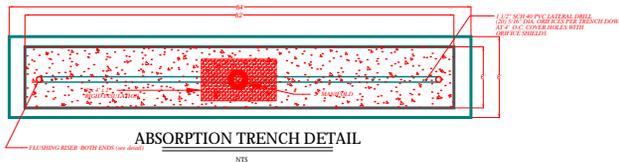
2. THE CONTRACTOR SHALL NOTIFY HIGH KNOB DESIGN ASSOCIATES LLC A MINIMUM OF 48 HOURS IN ADVANCE FOR THE FOLLOWING INSPECTIONS:
 A) THE PLOWED EXISTING GROUND PRIOR TO PLACEMENT OF SAND FILL
 B) THE FORCE MAIN PRELIM TEST
 C) THE SEPTIC TANK AND PUMP STATION PRIOR TO BACKFILLING
 D) THE PRESSURE DISTRIBUTION SYSTEM TEST
 E) FINAL GRADING AND SEEDING



TRENCH MOUND CROSS SECTION



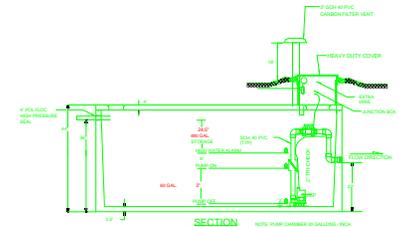
FORCE MAIN DETAIL



ABSORPTION TRENCH DETAIL

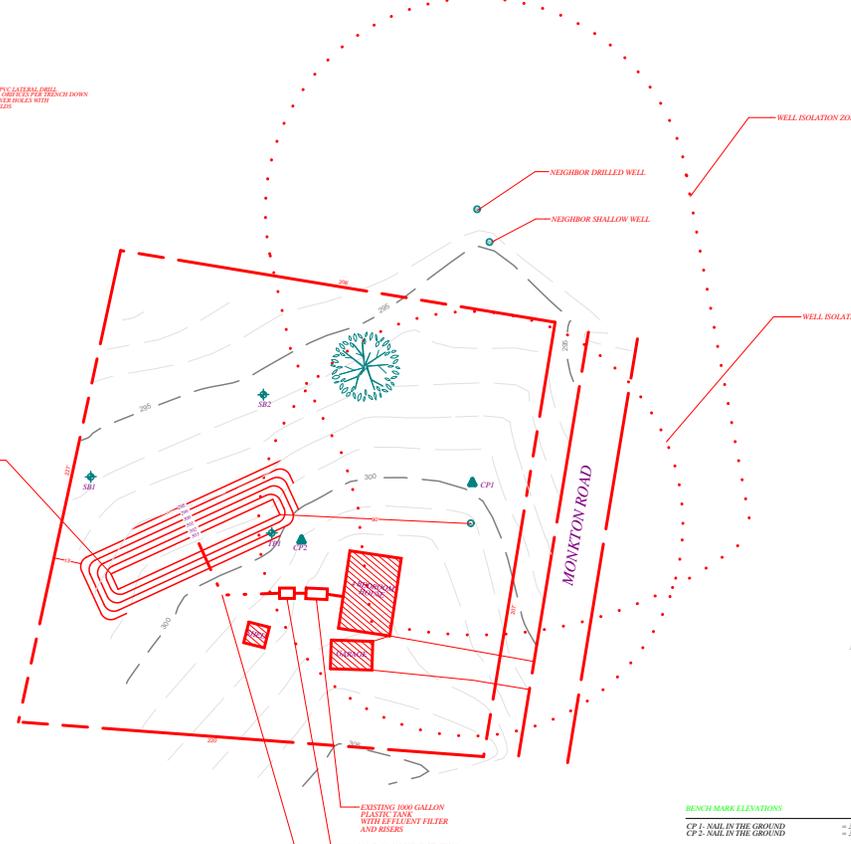
SAND FILL SPECIFICATIONS

SI	SEIVE NO.	OPENING (MM)	PERCENT PASSING BY WEIGHT
(1)	2000		85-100
	10	0.420	25-75
	40	0.420	0-30
	100	0.149	0-10
	200	0.074	0-5
(2)	SEIVE NO.	OPENING (MM)	PERCENT PASSING BY WEIGHT
	4	4.750	95-100
	8	2.500	80-100
	16	1.190	50-85
	30	0.600	25-60
	50	0.297	10-30
	100	0.149	2-10
(3)	SEIVE NO.	OPENING (MM)	PERCENT PASSING BY WEIGHT
	10	2.000	85-100
	40	0.420	30-50
	200	0.074	0-10

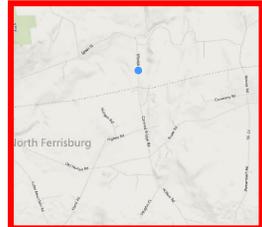
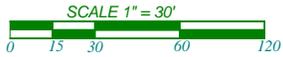


PRE CAST 800 GALLON PUMP CHAMBER

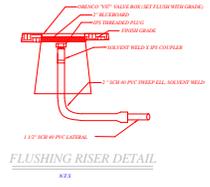
PUMP CHAMBER NOTES:
 1. THE PUMP CHAMBER SHALL BE CONCRETE.
 2. THE PUMP CHAMBER SHALL BE 8' DIA. X 4' HIGH.
 3. THE PUMP CHAMBER SHALL BE 1' BELOW GROUND.
 4. THE PUMP CHAMBER SHALL BE 1' FROM THE PROPERTY LINE.
 5. THE PUMP CHAMBER SHALL BE 1' FROM THE FORCE MAIN.
 6. THE PUMP CHAMBER SHALL BE 1' FROM THE SEPTIC TANK.
 7. THE PUMP CHAMBER SHALL BE 1' FROM THE PERFORATION TRENCHES.
 8. THE PUMP CHAMBER SHALL BE 1' FROM THE SAND FILL.
 9. THE PUMP CHAMBER SHALL BE 1' FROM THE TOPSOIL.
 10. THE PUMP CHAMBER SHALL BE 1' FROM THE SEED AND MULCH.



VARIANCES: REQUESTED FOR LENGTH OF SYSTEM BASED ON PERFORMANCE CALCULATIONS DISTANCE TO EXISTING WELL LESS THAN 100FEET.



Locus Map



FLUSHING RISER DETAIL

LEGEND

- TREE
- SEPTIC TANK
- DRILLED WELL
- SOIL BORING
- CONTROL POINT
- PERCOLATION TEST
- CURB STOP
- UTILITY POLE
- IRON PIPE FORCED
- EXISTING CONTINUES
- APPROX BOUNDARY
- PROPOSED CONTINUES

THIS DESIGN IS PROPOSED TO SATISFY CRITERIA AND MEET THE INTENT OF THE VERMONT ENVIRONMENTAL PROTECTION RULES CHAPTER 1 WASTEWATER SYSTEM AND POTABLE WATER SYSTEMS, EFFECTIVE SEPTEMBER 26, 2007 TO THE EXTENT POSSIBLE. THIS IS A BEST PRACTICE REPLACEMENT AREA.



SITE PLAN

SWEENEY RESIDENCE
358 MONKTON ROAD
CHARLOTTE, VERMONT

HIGH KNOB
DESIGN ASSOCIATES LLC

WATER & WASTEWATER DESIGNS
 TOPOGRAPHIC SITE PLANS & MAPPING
 STATE & LOCAL PERMITTING

981 BIG HOLLOW ROAD
 STARRSBORO, VERMONT 05487
 483-5071

DATE	JMK
DATE	9/20/14
AS NOTED	
PROJECT	SU140143
1 OF 1	