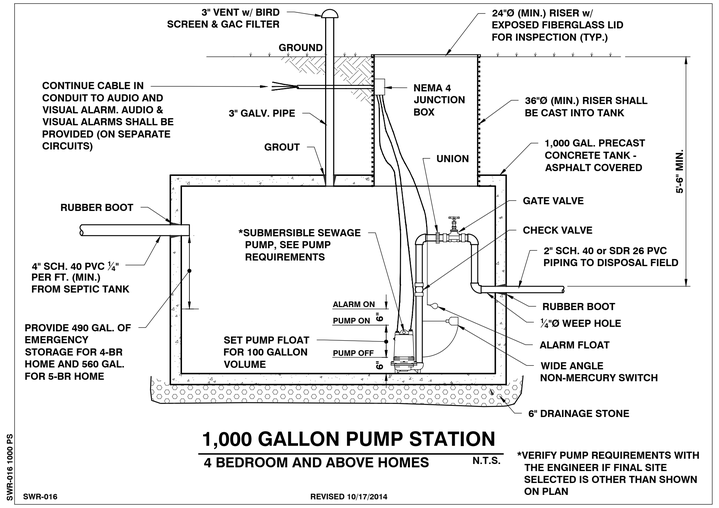


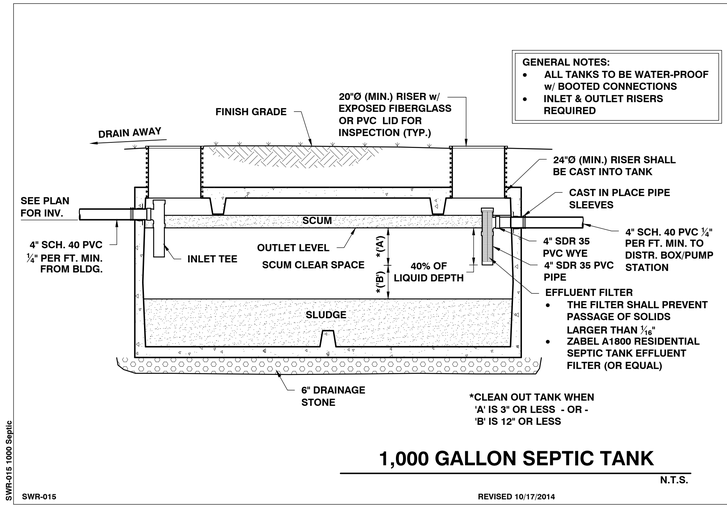
1,000 GALLON PUMP STATION

4 BEDROOM AND ABOVE HOMES N.T.S.

*VERIFY PUMP REQUIREMENTS WITH THE ENGINEER IF FINAL SITE SELECTED IS OTHER THAN SHOWN ON PLAN

SWR-016 REVISED 10/17/2014

SWR-016 1000 PS



1,000 GALLON SEPTIC TANK

N.T.S.

SWR-015 REVISED 10/17/2014

SWR-015 1000 Septic

Septic Tank Notes

1. Septic tank shall be a precast concrete tank, unless otherwise approved.
2. Maintenance
   - At least once a year, the depth of sludge and scum in the septic tank should be measured. The tank should be pumped if
   - The sludge is closer than twelve inches to the outlet baffle or;
   - The scum layer is closer than three inches to the outlet baffle.
   - Under no circumstances should anyone enter a septic tank.
3. Recommendations
   - The use of garbage grinders is discouraged as sludge accumulation in the septic tank can be increased by up to 40%. If used, the septic tank will require more frequent pumping.
   - The septic system is designed to handle human waste and toilet paper, plus water from plumbing fixtures such as toilets, baths and sinks. Moderate use of household cleaners, detergents and bleach should not damage your system; however, indiscriminate use may cause problems. Non-degradable paper products and any other non-biodegradable substances should not be put in your wastewater system.
   - Minimize the amount of water used in the household. Excessive water could flush solids from the septic tank to the disposal field which leads to clogging or plugging of the piping. When dishwashers and washers are used, make sure loads are full and stagger their use to reduce peak flows, i.e. stagger loads of laundry over several days instead of one day.
4. Walkways, patios and decks or other permanent structures should not be constructed over the septic tank.
5. There should be no need to use commercial "starter", "bacterial feeds", or "cleaners", etc. Bacteria in a septic tank system occurs naturally.

DISPOSAL FIELDS & FORCE MAINS

PART 1 – GENERAL

1.01 Summary

A. Section includes:
   1. Wastewater Disposal Field
   2. Force Main Materials

1.02 References

A. All work shall be done in accordance with the State of Vermont Environmental Protection Rules effective September 29, 2007.

PART 2 – PRODUCTS

2.01 General

A. Disposal Fields: Schedule 40 PVC pipe meeting the requirements of the latest revision of ASTM Specification D–1785. Fittings used in the disposal fields shall be compatible with distribution lines material.

B. Force Mains: PVC pipe shall conform in all respects to the latest revisions of ASTM Specifications D–2241. All pipe fittings shall be SDR 26 (or SCH 40) clearly marked as follows:
   – Manufacturer's Name and Trademark
   – Nominal Pipe Size (as shown on plans)
   – Material Designation

   Joints shall be push–on type using elastomeric gaskets factory installed conforming to ASTM Specification D–3212.

C. Crushed stone shall be clean, durable and no smaller than 3/4" or larger than 1 1/2 inches in diameter.

PART 3 – EXECUTION

3.01 Disposal Field Installation Procedure

A. The wastewater system shall be inspected during critical stages of construction by a qualified consultant. This shall include at a minimum the staking of the disposal field, the trenches after the initial 12 inches of stone and distribution piping is placed, and a final inspection of the entire system. The Contractor will be responsible for contacting the Engineer to set up the inspection schedule.

B. Construction of the system shall not take place when the soil moisture is high in the system area. If the soil at 6 inches below grade can be rolled into the shape of a wire, the soil moisture content is too high for construction to begin.

C. When the trench has been excavated, the sides and bottom shall be raked to scarify any smeared soil surfaces. Construction equipment not needed to construct the system should be kept off the area to be utilized for the absorption trench system to prevent undesirable compaction of the soils.

D. At least 12 inches of washed stone shall be placed in the bottom of the trench.

E. The pressure distribution pipe should be laid level on top of the stone and flushing valves installed at the ends of the pipe. Upon completion of the distribution piping, the qualified consultant shall test the system with clean water. The test shall show that a minimum pressure of three feet of head is present at the ends of the pipe and that the difference in discharge rate between the two orifices with the greatest difference in discharge rates is not greater than 15 percent. After connecting the distribution pipe to the force main, the distribution pipe shall be covered with at least two inches of clean stone aggregate. The stone aggregate shall be covered completely with filter fabric.

F. The distribution pipe shall be covered with at least 3 inches of clean stone aggregate. The stone aggregate shall be covered completely with filter fabric.

G. The filter fabric shall be covered with a minimum of 12 inches of soil but not more than 18 inches, with the upper 4 to 6 inches of soil being loam and the remainder of the fill being of a fine sandy loam to medium sand texture. A vegetated cover free of large brush and trees shall be maintained over the system.

H. The area surrounding the disposal field shall be graded to provide diversion of surface run–off waters if required.

3.02 Testing Report

A. Testing of pressure distribution shall be done in the Engineer's presence. Pressure shall be measured to insure a minimum of 1 psi.

B. The distribution line shall then be carefully placed on the bedding with no slope, orifice shields snapped into place, and covered with at least 2" of crushed stone.

C. All work shall be done in accordance with the State of Vermont Environmental Protection Rules.

D. Force Main

1. General: All force mains shall pass the hydrostatic pressure test and leakage test described herein. Prior to testing, all anchors and braces shall be installed. All concrete thrust blocks and restraints shall be in place and cured at least seven days. All buried pipe shall be backfilled. Suitable test plugs shall be installed and air release valves shall be installed at the high points.
2. Hydrostatic Test: The following procedure shall be used:
   a. All air release valves shall be opened and the pipe shall be filled with water at a rate not to exceed the venting capacity of the air release valves.
   b. The water pressure shall be raised to 150 percent of the designed operating pressure or 60 psi minimum at the highest point.
   c. Failure to hold the designated pressure within 5 psi of the specified test pressure for the two hour period constitutes a failure of the section tested.
3. Leakage Test: The following procedure shall be used:
   a. Leakage shall be defined as the quantity of water that must be supplied into the pipe being tested to maintain pressure within 5 psi of the specified test pressure.
   b. No pipe installation shall be accepted if the leakage is greater than that determined by the following formula:

$$L = \frac{ND(P)^{0.5}}{7{,}400} \qquad L = \frac{SD(P)^{0.5}}{133{,}100}$$

Whichever is less

S = Length of Pipe Testing
L = Allowable Leakage in Gal/Hr
D = Nominal Diameter of Pipe (")
P = Average Test Pressure (psi)
N = Number of Joints in the Pipeline Tested

All testing shall be conducted in accordance with AWWA C600–87 or latest revision.

E. Prior to use of the system, the qualified consultant shall submit a written report to the Owner stating that the system has been installed according to the approved plans and permit. The report shall specifically address the inspection of the site preparations and include numerical results of the orifice discharge rate comparison.

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SITE ENGINEER:

CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

DRAWN MAB
CHECKED DSM
APPROVED DSM

STATE OF VERMONT DAVID S. MARSHALL No. 6014 CIVIL REGISTERED PROFESSIONAL ENGINEER

CLIENT:

LaBERGE

4650 GREENBUSH ROAD
CHARLOTTE
VERMONT 05445

PROJECT:

PROPOSED ACCESSORY STRUCTURE

4650 GREENBUSH ROAD
CHARLOTTE
VERMONT 05445

LOCATION MAP

1" = 2000'

DATE	CHECKED	REVISION

DETAILS

DATE --
SCALE AS SHOWN
PROJ. NO. 16162

DRAWING NUMBER C2.1