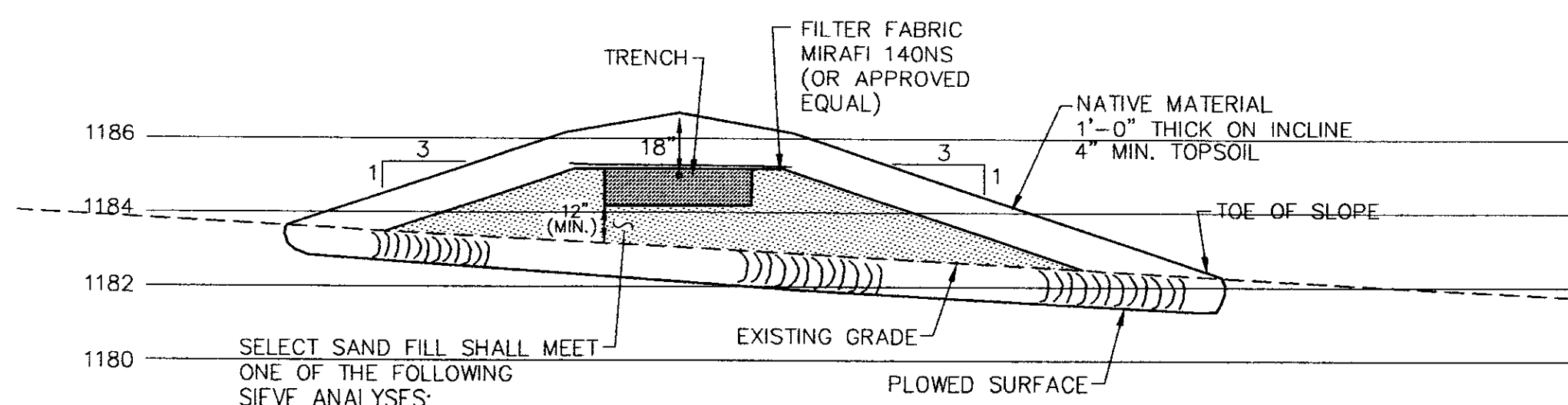


TYPICAL TRENCH DETAIL
N.T.S.

NOTES:

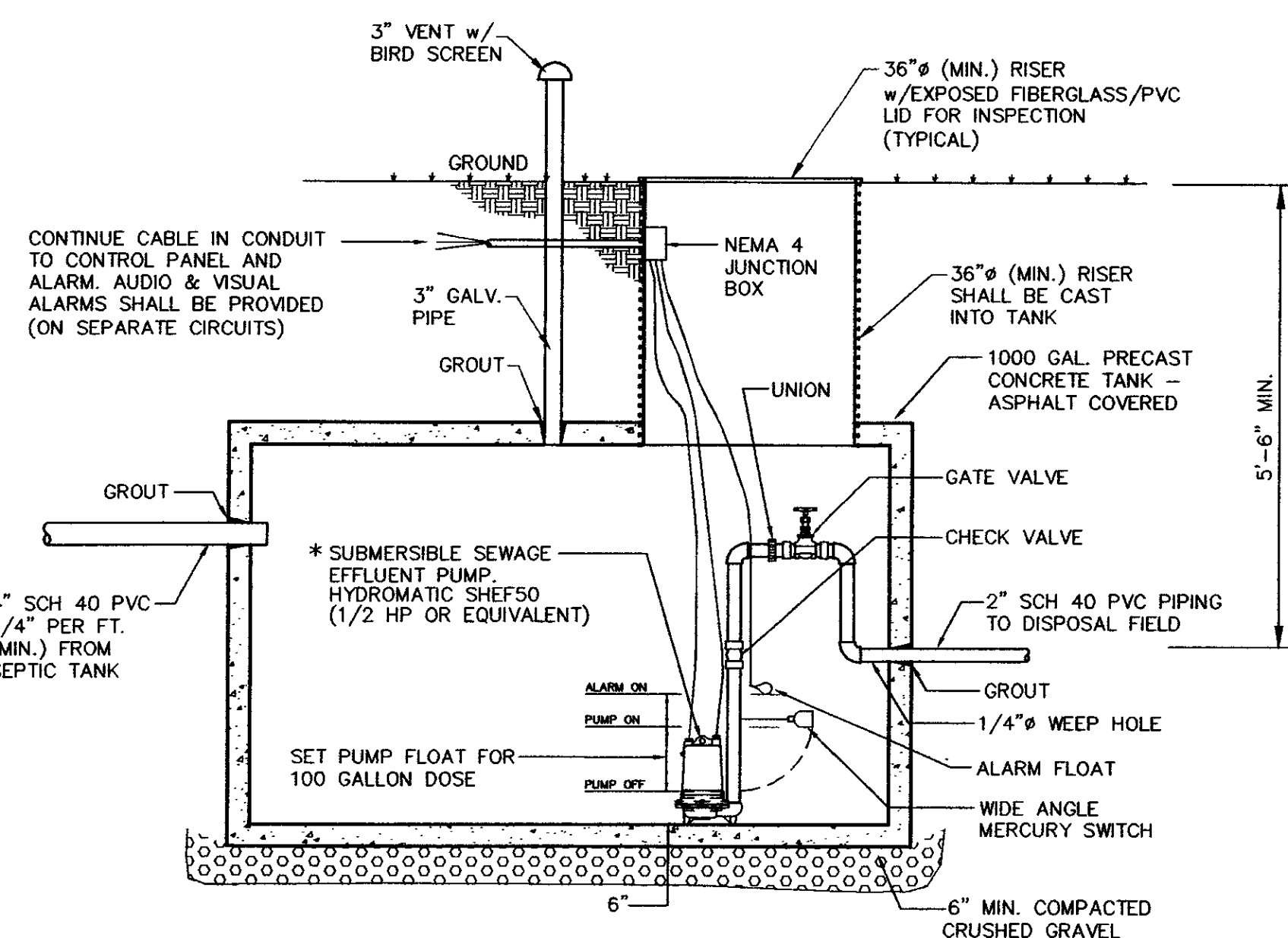
1. Compaction of backfill and bedding shall be a minimum of 90% (95% under roadway surfaces) of maximum dry density determined in the standard proctor test (ASTM D698).
2. Bedding material shall consist of crushed stone, gravel or sand with a maximum size of 3/4". Submit a sample to the Engineer for approval.
3. In trenches with unstable materials, trench bottom shall first be stabilized by placement of filter fabric then crushed stone (3/4" maximum).
4. Where 4 ft. of cover cannot be maintained the sewer pipe shall be protected against freezing by installation of a minimum of 3 inch thick styrofoam insulating sheets.
5. Approved backfill shall not contain any stones more than 12" in largest dimension (6" in roadways, 2" maximum diameter within 2' of the outside of the pipe), or contain any frozen, wet, or organic material.
6. Use 3 inch styrofoam sheets at all road crossings or areas that are to be plowed during the winter.
7. The sides of trenches 4' or more in depth entered by personnel shall be sheeted or sloped to the angle of repose as defined by O.S.H.A. standards.



SELECT SAND FILL SHALL MEET ONE OF THE FOLLOWING SIEVE ANALYSES:

SIEVE #	% PASSING	SIEVE #	% PASSING	SIEVE #	% PASSING
10	85-100	8	80-100	10	85-100
40	25-75	16	50-85	40	30-50
60	0-30	30	25-60	200	0-10
100	0-10	50	10-30		
200	0-5	100	2-10		

SECTION A-A
N.T.S.



1000 GALLON PUMP STATION DETAIL
N.T.S.

PROPOSED DESIGN DATA

Prescriptive Approach:

- Septic Tank Effluent
 - At least 24" of naturally occurring soil above ledge/seasonal high water table
 - Maintain at least 3' between bottom of trench and seasonal high groundwater table

Design Daily Flow:

- Two employees @ 15 gallons per day = 30 g.p.d.
- 20 Conference room @ 5 gallons per day = 100 g.p.d.
- 10% Deduction for low flow fixtures = -13 g.p.d.
- Adjusted design flow = 117 g.p.d. (Use 120 g.p.d.)

Application Rate: (Mound)

- Q = Application rate = Use 1.0 gallons/square foot

Absorption Trench Area:

- 120 gal @ 1.0 gallons/square foot = 120 square feet required
- Use one 4' x 30' trench = 120 square feet provided

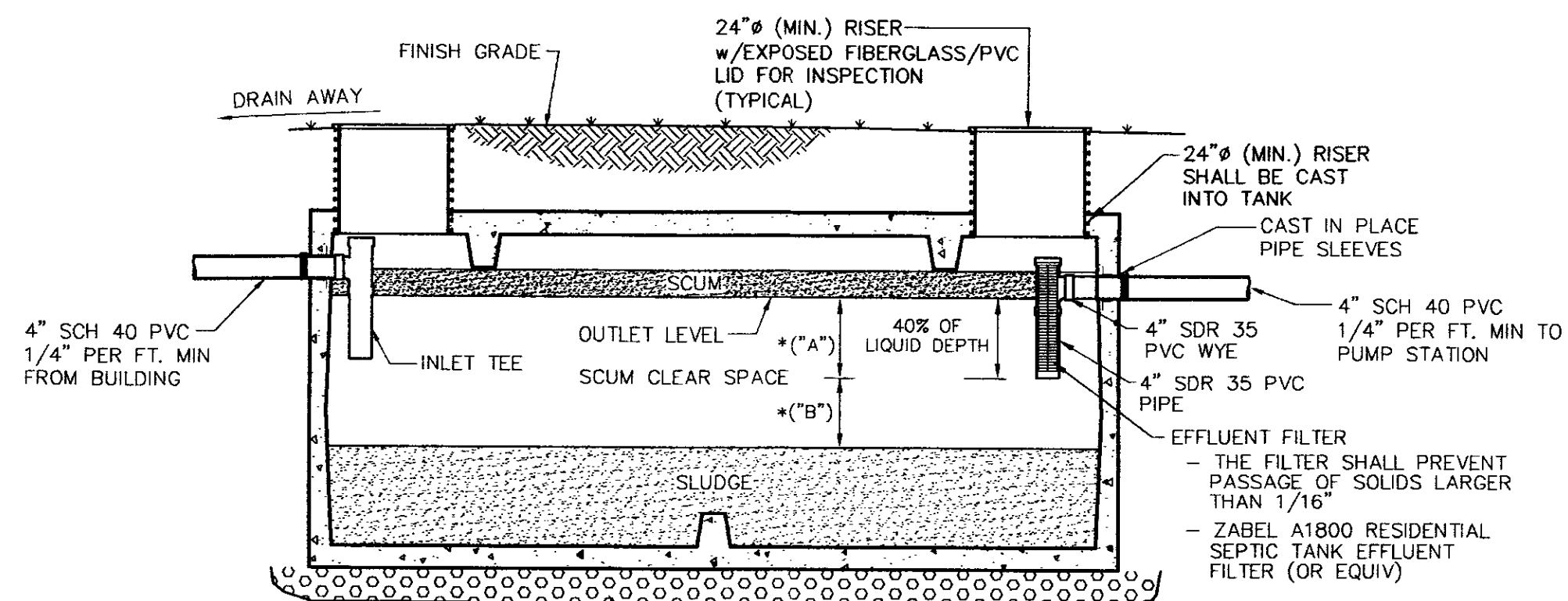
Basal Area:

- 120 gal @ 0.74 gallons/square foot = 162 square feet required
- Effective area of 30' x 15' = 450 square feet provided

Pump Requirements:

- Eight (8) 5/16" diameter orifice holes 3'-9" o/c
- 1.99 gpm/orifice x 8 = 16 gpm
- TDH @ 16 gpm

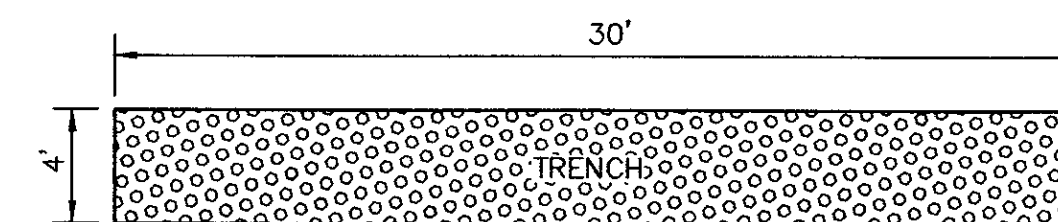
Elevation	9
Friction	5
Residual	3
	17



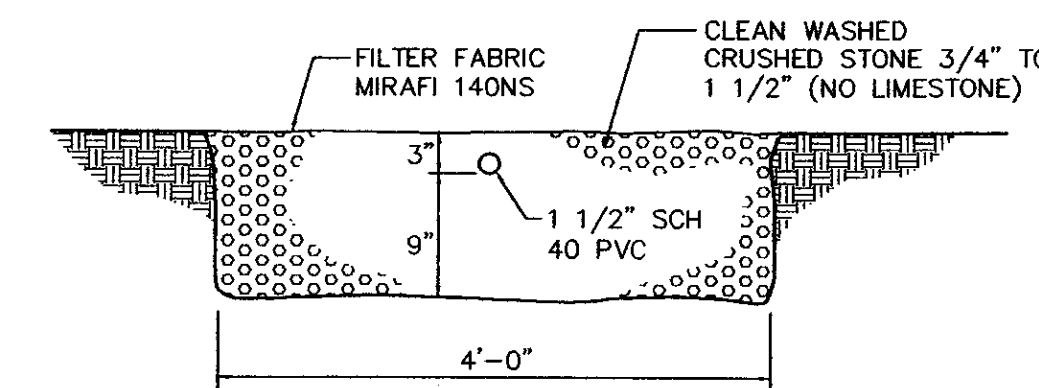
1000 GALLON SEPTIC TANK
N.T.S.

Septic Tank Notes

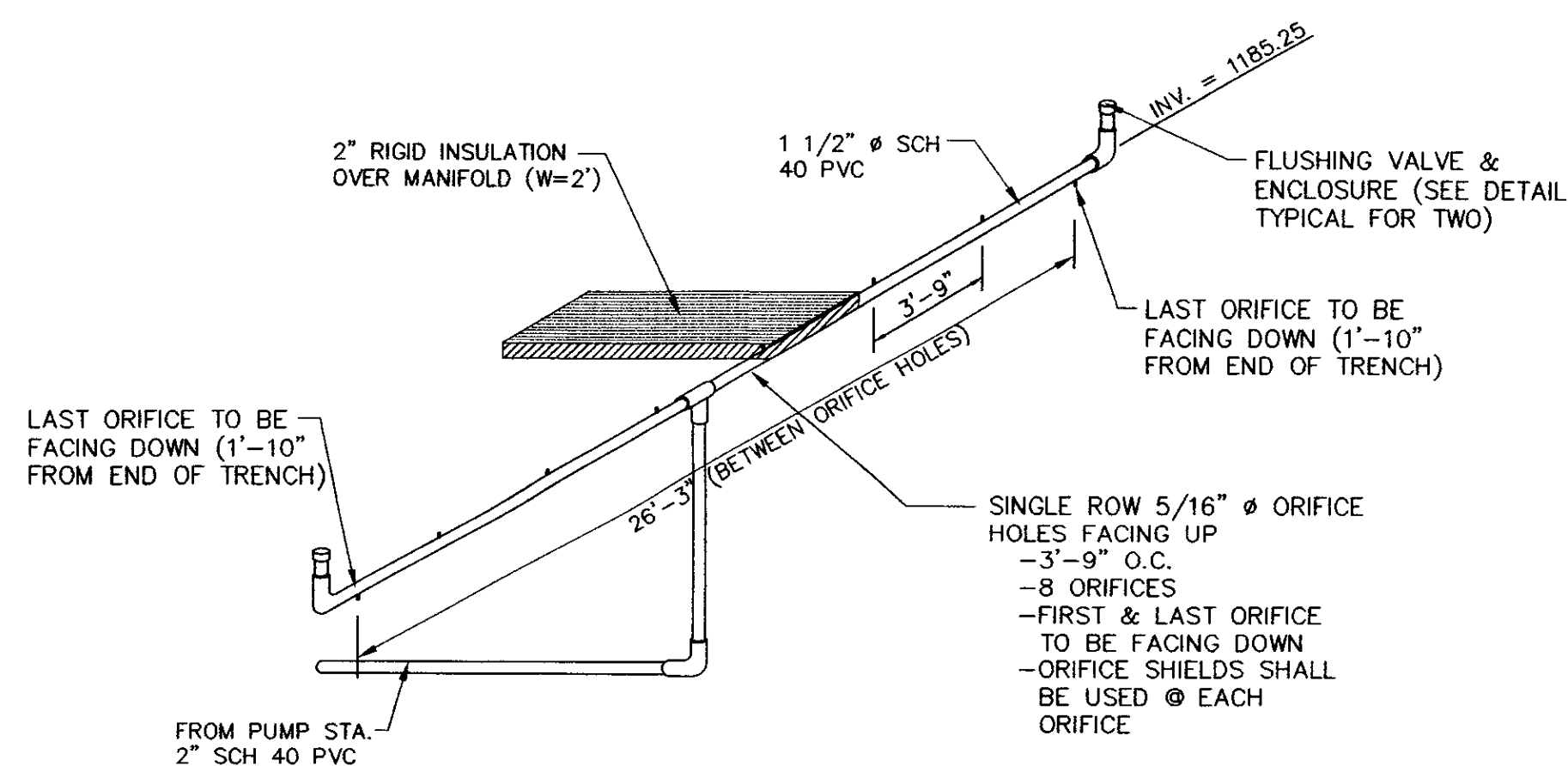
1. Septic tank shall be a precast concrete tank, unless otherwise approved.
2. Maintenance
 - At least once a year, the depth of sludge and scum in the septic tank should be measured. The tank should be pumped if:
 - The sludge is closer than twelve inches to the outlet baffle or;
 - The scum layer is 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.



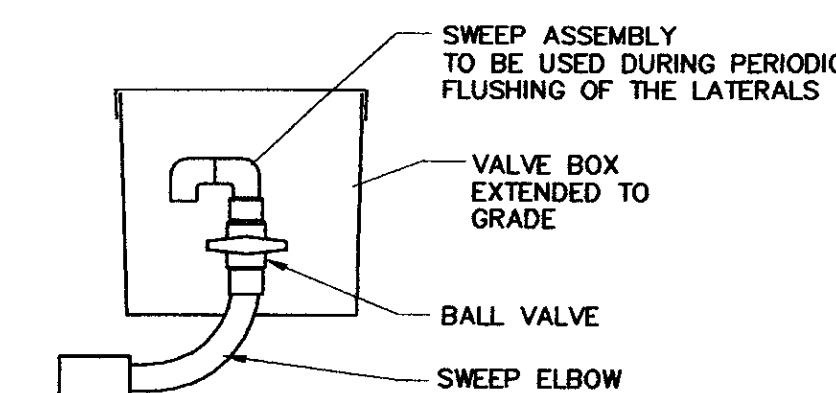
TYPICAL TRENCH PLAN
N.T.S.



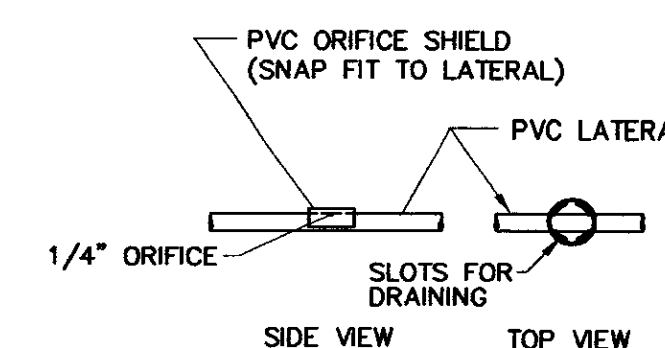
TYPICAL TRENCH SECTION
N.T.S.



TRENCH PIPING DETAIL
N.T.S.



FLUSHING VALVE DETAIL
N.T.S.



ORIFICE SHIELD DETAIL
N.T.S.

Dept. of Environmental Conservation
Approved: *[Signature]*
Permit #: *4141-7-1569*
Date: *4/29/05*

SITE ENGINEER:

CIVIL ENGINEERING ASSOCIATES, INC.
P.O. BOX 485 SHELBURNE, VT 05482
802-985-2323 FAX: 802-985-2271 web: www.cca-vt.com

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VERMONT AGENCY OF TRANSPORTATION
MONTPELIER, VERMONT

PROJECT:
CALEDONIA COUNTY STATE AIRPORT
PUDDING HILL ROAD
LYNDON, VERMONT

DATE	CHECKED	REVISION
4/6/05	BCE	MINOR TEXT REVISION

WASTEWATER DETAILS

DATE: JAN., 2005
SCALE: AS SHOWN
PROJ. NO.: 03146.03

DRAWING NUMBER: **C2.0**

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