

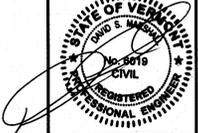
SITE ENGINEER:



CIVIL ENGINEERING ASSOCIATES, INC.  
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403  
802-864-2223 FAX: 802-864-2271 web: www.coea-vt.com

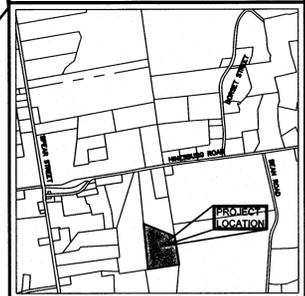
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JDL  
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DSM



OWNER:  
**BILL AND LOUISE GREGOREK**  
2780 HINESBURG ROAD  
CHARLOTTE, VERMONT

PROJECT:  
**GREGOREK WASTEWATER SYSTEM**  
2780 HINESBURG ROAD  
CHARLOTTE, VERMONT



LOCATION MAP  
1" = 2000'

DATE	CHECKED	REVISION

**PROPOSED SITE PLAN**

DATE  
JUNE, 2011  
SCALE  
1" = 20'  
PROJ. NO.  
11169  
DRAWING NUMBER  
**C1.0**

- LEGEND**
- 336--- EXISTING CONTOUR
  - APPROXIMATE PROPERTY LINE
  - APPROXIMATE SETBACK LINE
  - SS--- GRAVITY SEWER LINE
  - FM--- FORCE MAIN
  - W--- WATER LINE
  - OE--- OVERHEAD ELECTRIC
  - UE--- UNDERGROUND ELECTRIC
  - DECIDUOUS TREE
  - CONIFEROUS TREE
  - EDGE OF BRUSH/WOODS
  - WELL
  - PROJECT BENCHMARK

- GENERAL NOTES**
- Utilities shown do not purport to constitute or represent all utilities located upon or adjacent to the surveyed premises. Existing utility locations are approximate only. The Contractor shall field verify all utility conflicts. All discrepancies shall be reported to the Engineer. The Contractor shall contact Dig Safe (888-344-7233) prior to any construction.
  - All existing utilities not incorporated into the final design shall be removed or abandoned as indicated on the plans or directed by the Engineer.
  - The Contractor shall repair/restore all disturbed areas (on or off the site) as a direct or indirect result of the construction.
  - All grassed areas shall be maintained until full vegetation is established.
  - Maintain all trees outside of construction limits.
  - The Contractor shall be responsible for all work necessary for complete and operable facilities and utilities.
  - In addition to the requirements set in these plans and specifications, the Contractor shall complete the work in accordance with all permit conditions and any local Public Works Standards.
  - The tolerance for finish grades for all pavement, walkways and lawn areas shall be 0.1 feet.
  - The Contractor shall install the electrical, cable and telephone services in accordance with the utility companies requirements.
  - Existing pavement and tree stumps to be removed shall be disposed of at an approved off-site location. All pavement cuts shall be made with a pavement saw.
  - If there are any conflicts or inconsistencies with the plans or specifications, the Contractor shall contact the Engineer for verification before work continues on the item in question.
  - Property line information is approximate and based on existing tax map information. This plan is not a boundary survey and is not intended to be used as one.

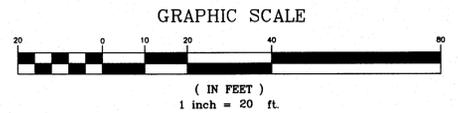
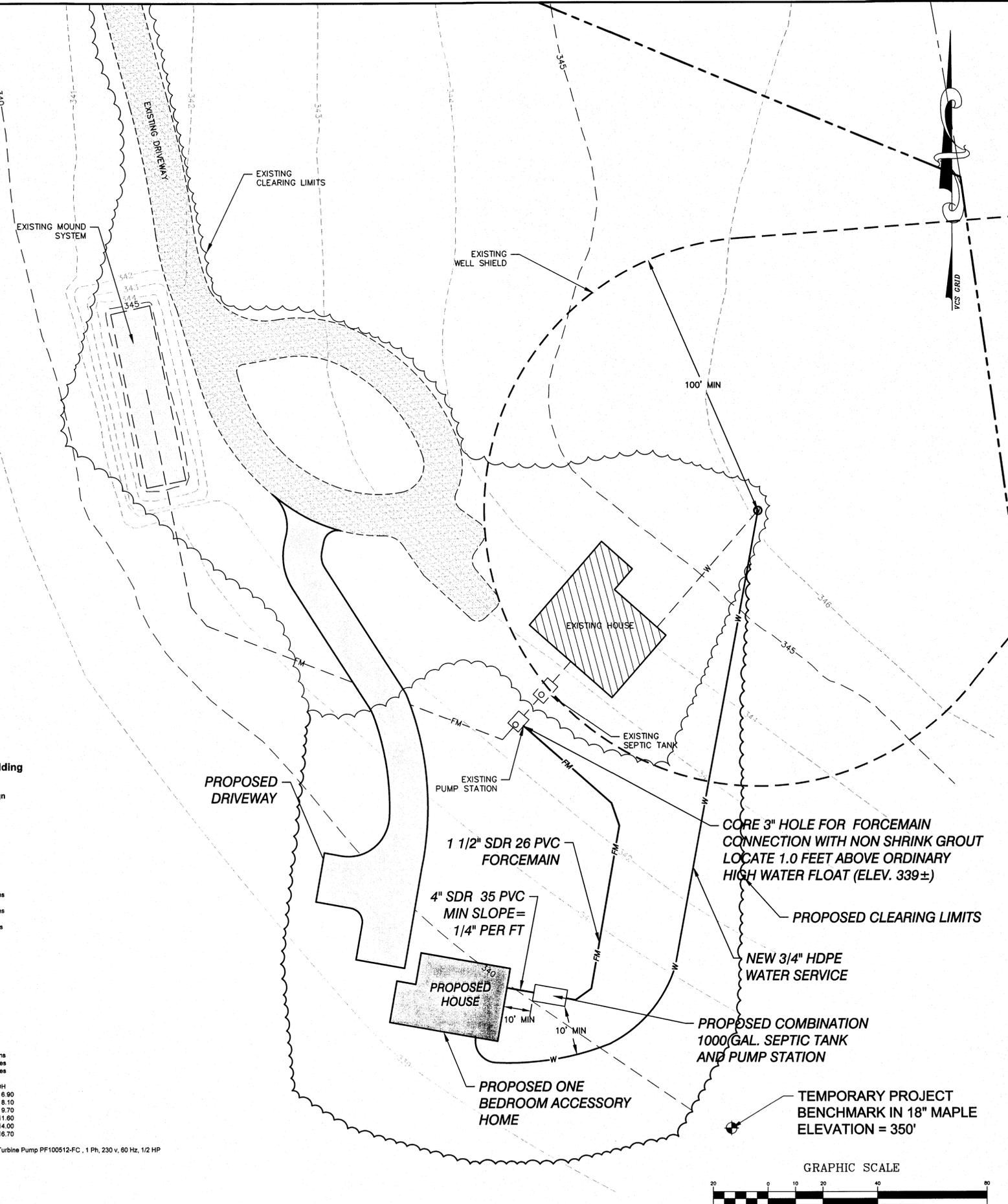
**BASIS OF DESIGN**

EXISTING WASTEWATER DISPOSAL SYSTEM  
3 BR X 140 GPD = 420 GPD

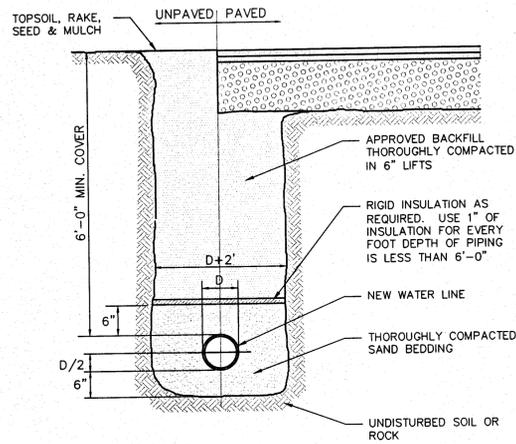
PROPOSED HOUSING  
2 BR X 140 GPD = 280 GPD  
1 BR X 140 GPD = 140 GPD  
420 GPD

**Gregorek Accessory Building  
Charlotte, Vermont  
Pump Station Basis of Design**

Design Flow	140 GPD
Infiltration	0 GPD
20% Municipal Credit	0
Total Design Flow	140 GPD
Average Daily Flow	0.15 GPM
Peaking Factor	5.00
Peak Flow	0.73 GPM
Required Storage	140 gallons
Storage Provided	300 gallons
Force Main Dia.	1.50 Inches
Min. Cleansing Velocity	2.00 FPS
Min. Pumping Rate	11.01 GPM
Chosen Pumping rate	20.00 GPM
Length of FM to Mound	110.00 feet
Friction Losses to Mound	3.86 feet
High Point of FM at Exist. PS	339.00 feet
Low Elevation in new PS	336.20 feet
Elevation Change	2.80 feet
Minor headlosses	3.00 feet
Residual TDH	0.00 feet
	9.86 feet
Pump Cycle Storage	70 Gallons
Run Cycle	5.22 Minutes
Wet Well Detention Time	480.00 Minutes
System Curve	GPM TDH
	10.0 6.90
	15.0 8.10
	20.0 9.70
	25.0 11.60
	30.0 14.00
	35 16.70
Pump Selection	Oreco Vertical Turbine Pump PF100512-FC, 1 Ph, 230 v, 60 Hz, 1/2 HP



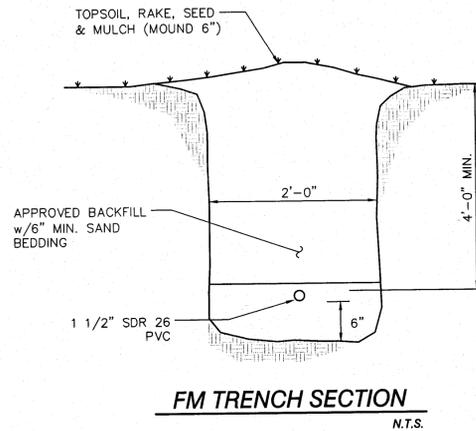
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**TYPICAL WATER TRENCH DETAIL**  
N.T.S.

**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 not be placed on frozen subgrade.
3. 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.
4. Trenches shall be completely dewatered prior to placing of pipe bedding material and kept dewatered during installation of pipe and backfill.
5. In trenches with unstable materials, trench bottom shall first be stabilized by placement of filter fabric then crushed stone (3/4" maximum).
6. 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.



**FM TRENCH SECTION**  
N.T.S.

**PRESSURE PIPE LEAKAGE TESTING**

- A. 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.
- B. Hydrostatic Test: The following procedure shall be used:
1. 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.
  2. The water pressure shall be raised to 150 percent of the designed operating pressure or 60 psi minimum at the highest point.
  3. 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.
- C. Leakage Test: The following procedure shall be used:
1. 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.
  2. No pipe installation shall be accepted if the leakage is greater than that determined by the following formula:

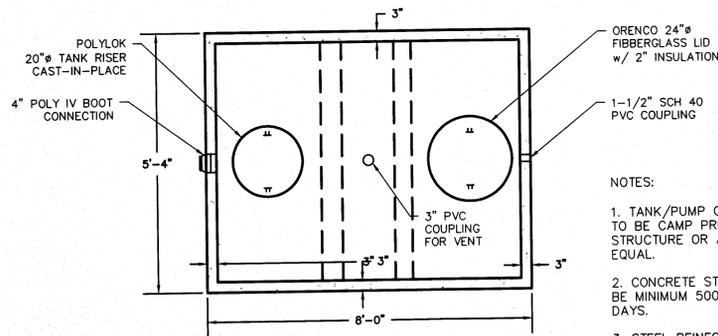
$$L = \frac{ND(P)0.5}{7,400}$$

Whichever is less

$$L = \frac{SD(P)0.5}{148,000}$$

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

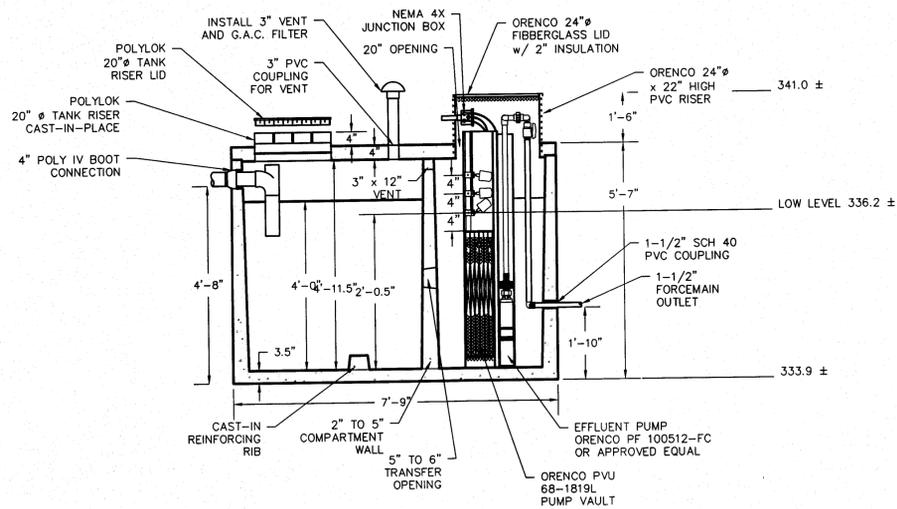
All testing shall be conducted in accordance with AWWA C600-87 or latest revision.



**PLAN**

**NOTES:**

1. TANK/PUMP COMPARTMENT TO BE CAMP PRECAST STRUCTURE OR APPROVED EQUAL.
2. CONCRETE STRENGTH TO BE MINIMUM 5000 psi @ 28 DAYS.
3. STEEL REINFORCEMENT TO BE GRADE 60.



**SECTION**

**1000 GALLON COMBINED SEPTIC TANK/PUMP STATION**  
N.T.S.

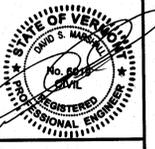
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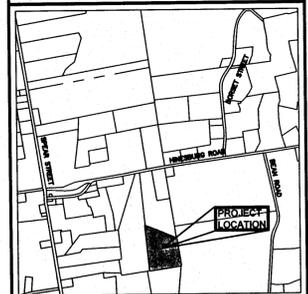
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