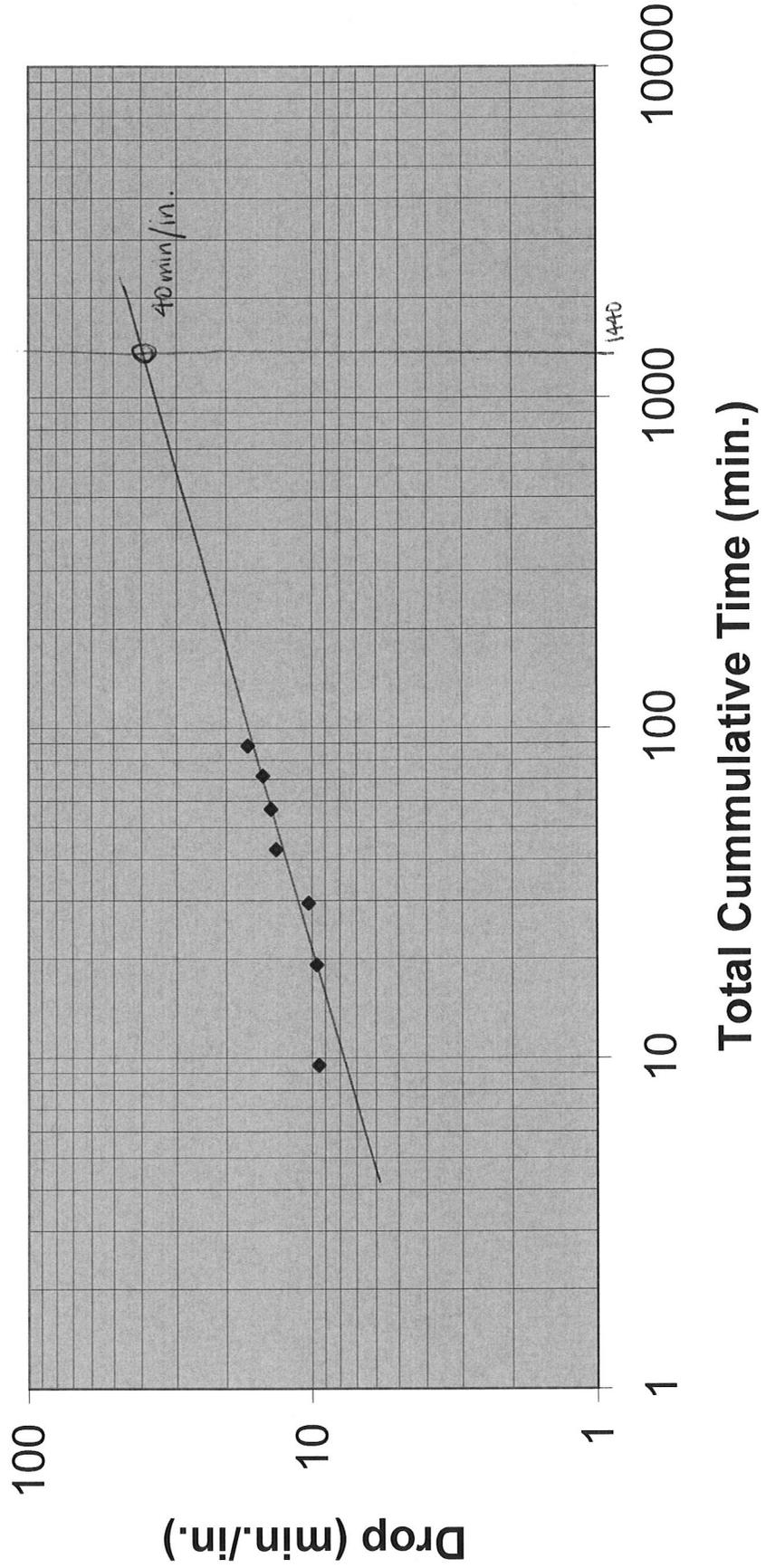
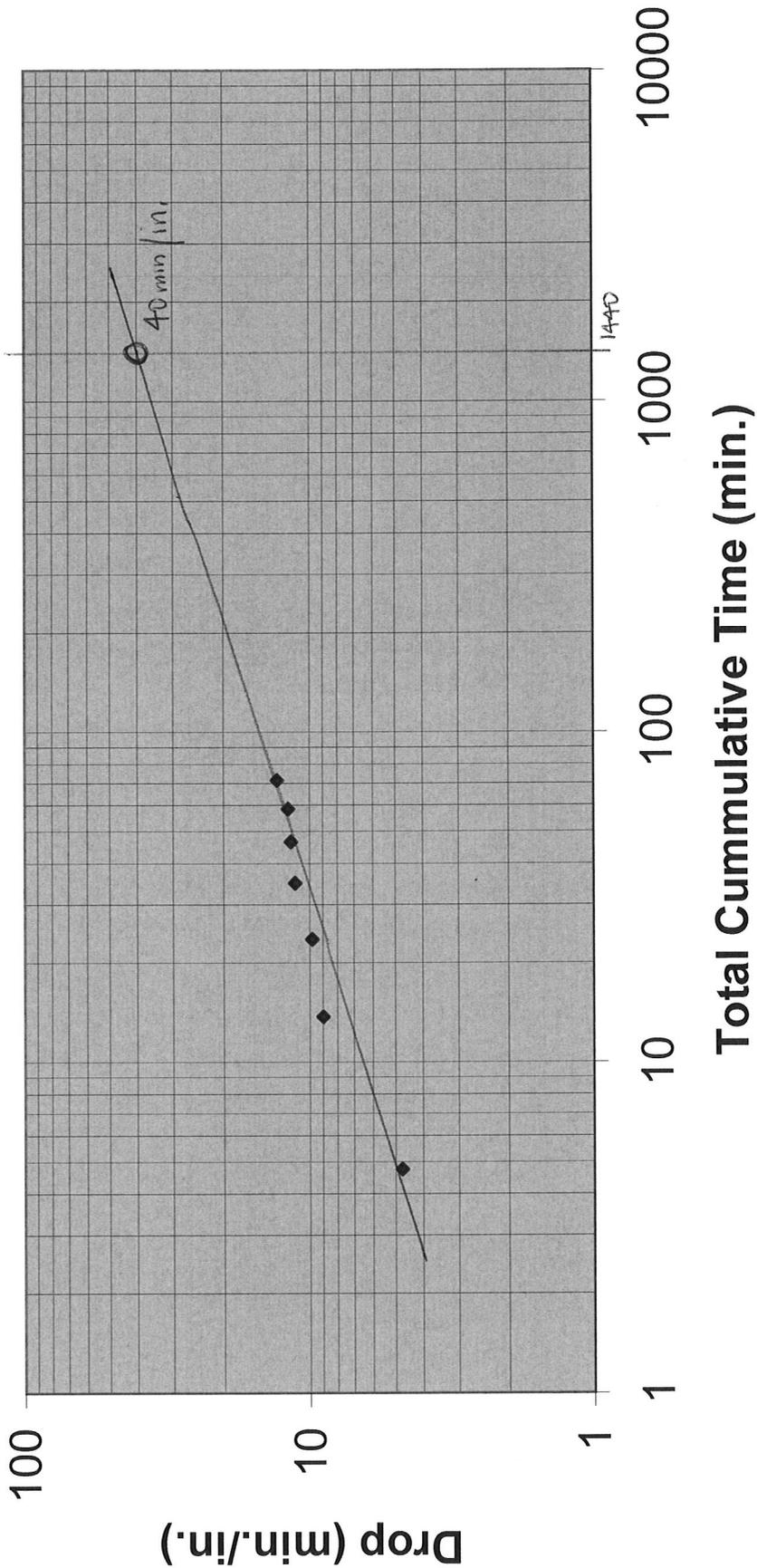


KILEY - 06132.03
Perc Test #1
EAST LOT

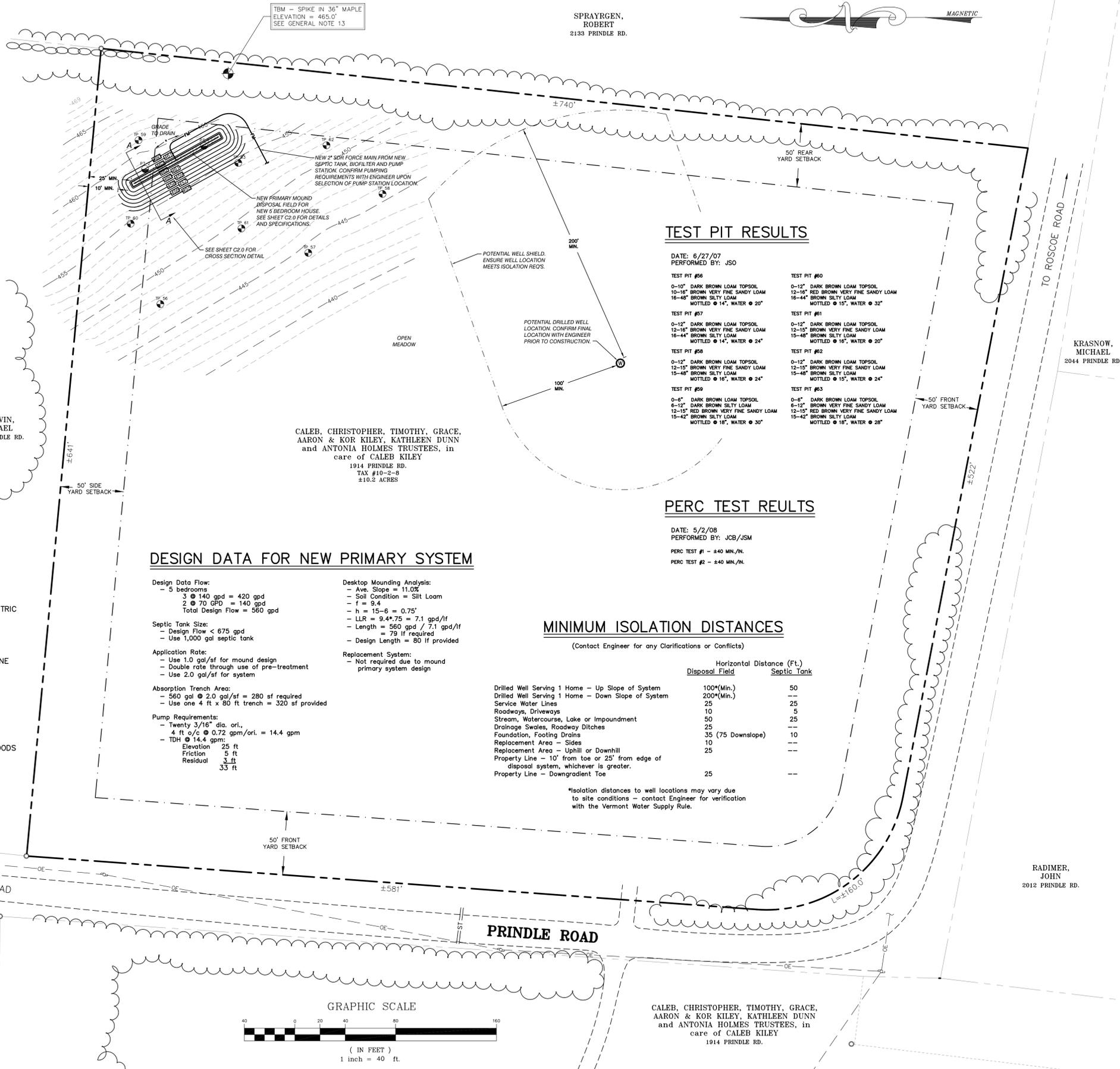


KILEY - 06132.03
Perc Test #2
EAST LOT



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 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.
- The Contractor shall maintain as-built plans (with ties) for all underground utilities. Those plans shall be submitted to the Owner at the completion of the project.
- 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.
- The Contractor shall submit shop drawings for all items and materials incorporated into the site work. Work shall not begin on any item until shop drawing approval is granted.
- In addition to the requirements set in these plans and specifications, the Contractor shall complete the work in accordance with all permit conditions.
- Any dewatering necessary for the completion of the sitework shall be considered as part of the contract and shall be the Contractor's responsibility.
- 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 the Town of Charlottes tax maps.
- This plan is not a boundary survey and is not intended to be used as one.
- The project benchmark, of 465.0', is a spike set in a 36" maple tree. Vertical datum based on a scaled elevation from a UGSG Quad Topo map. Horizontal datum based on a magnetic reading taken at the time of the survey.



TBM - SPIKE IN 36" MAPLE
ELEVATION = 465.0'
SEE GENERAL NOTE 13

SPRAYRGEN,
ROBERT
2133 PRINDLE RD.



SITE ENGINEER:



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

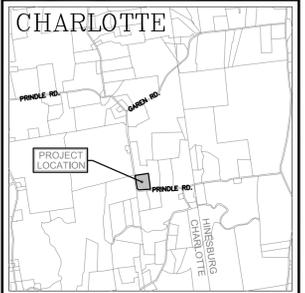
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DRAWN: JSO
CHECKED: SAV
APPROVED: JSO



OWNERS:
CALEB, CHRISTOPHER, TIMOTHY, GRACE, AARON & KOR KILEY, KATHLEEN DUNN and ANTONIA HOLMES TRUSTEES, in care of CALEB KILEY
1914 PRINDLE ROAD (EAST LOT)
CHARLOTTE VERMONT

PROJECT:
PROPOSED WASTEWATER IMPROVEMENTS
1914 PRINDLE ROAD (EAST LOT)
CHARLOTTE VERMONT



LOCATION MAP 1" = 2000'

DATE	CHECKED	REVISION

OVERALL SITE PLAN

DATE: APRIL, 2009
SCALE: 1" = 40'
PROJ. NO.: 06132.03
DRAWING NUMBER: C1.0

LEGEND

- | | | | |
|-------------|---------------------------|------------|----------------------|
| --- 336 --- | EXISTING CONTOUR | --- OE --- | OVERHEAD ELECTRIC |
| --- 336 --- | PROPOSED CONTOUR | --- UE --- | UNDERGROUND ELECTRIC |
| - - - - - | APPROX. PROPERTY LINE | --- T --- | TELEPHONE LINE |
| - - - - - | APPROX. SETBACK LINE | --- G --- | GAS LINE |
| ○ | IRON PIN FOUND | --- ST --- | STORM DRAINAGE LINE |
| □ | CONC. MON. FOUND | ⊙ | DRILLED WELL |
| ⊙ | PROJECT BENCHMARK | ⊙ | POWER POLE |
| ⊙ | TEST PIT | ⊙ | DECIDUOUS TREE |
| ⊙ | PERCOLATION TEST | ⊙ | CONIFEROUS TREE |
| --- | SS --- GRAVITY SEWER LINE | --- | EDGE OF BRUSH/WOODS |
| --- | FM --- FORCE MAIN | --- | FENCE |
| --- | W --- WATER LINE | --- | DRAINAGE SWALE |

DESIGN DATA FOR NEW PRIMARY SYSTEM

Design Data Flow:
- 5 bedrooms
3 @ 140 gpd = 420 gpd
2 @ 70 GPD = 140 gpd
Total Design Flow = 560 gpd

Septic Tank Size:
- Design Flow < 675 gpd
- Use 1,000 gal septic tank

Application Rate:
- Use 1.0 gal/sf for mound design
- Double rate through use of pre-treatment
- Use 2.0 gal/sf for system

Absorption Trench Area:
- 560 gal @ 2.0 gal/sf = 280 sf required
- Use one 4 ft x 80 ft trench = 320 sf provided

Pump Requirements:
- Twenty 3/16" dia. ori.,
4 ft o/c @ 0.72 gpm/ori. = 14.4 gpm
- TDH @ 14.4 gpm:
Elevation 25 ft
Friction 5 ft
Residual 3.3 ft

Desktop Mounding Analysis:
- Ave. Slope = 11.0%
- Soil Condition = Silt Loam
- f = 9.4
- h = 15-6 = 0.75'
- LLR = 9.4 * 75 = 7.1 gpd/ft
- Length = 560 gpd / 7.1 gpd/ft
- Design Length = 80 ft provided

Replacement System:
- Not required due to mound primary system design

TEST PIT RESULTS

DATE: 6/27/07
PERFORMED BY: JSO

TEST PIT #56 0-10" DARK BROWN LOAM TOPSOIL 12-16" BROWN VERY FINE SANDY LOAM 16-44" BROWN SILTY LOAM MOTTLED @ 14", WATER @ 20"	TEST PIT #57 0-12" DARK BROWN LOAM TOPSOIL 12-15" BROWN VERY FINE SANDY LOAM 15-48" BROWN SILTY LOAM MOTTLED @ 14", WATER @ 24"	TEST PIT #58 0-12" DARK BROWN LOAM TOPSOIL 12-15" BROWN VERY FINE SANDY LOAM 15-48" BROWN SILTY LOAM MOTTLED @ 15", WATER @ 24"	TEST PIT #59 0-4" DARK BROWN LOAM TOPSOIL 6-12" DARK BROWN SILTY LOAM 12-15" RED BROWN VERY FINE SANDY LOAM 15-42" BROWN SILTY LOAM MOTTLED @ 18", WATER @ 30"	TEST PIT #60 0-12" DARK BROWN LOAM TOPSOIL 12-16" BROWN VERY FINE SANDY LOAM 16-44" BROWN SILTY LOAM MOTTLED @ 15", WATER @ 32"	TEST PIT #61 0-12" DARK BROWN LOAM TOPSOIL 12-15" BROWN VERY FINE SANDY LOAM 15-48" BROWN SILTY LOAM MOTTLED @ 14", WATER @ 20"	TEST PIT #62 0-12" DARK BROWN LOAM TOPSOIL 12-15" BROWN VERY FINE SANDY LOAM 15-48" BROWN SILTY LOAM MOTTLED @ 15", WATER @ 24"	TEST PIT #63 0-6" DARK BROWN LOAM TOPSOIL 6-12" BROWN VERY FINE SANDY LOAM 12-15" RED BROWN VERY FINE SANDY LOAM 15-42" BROWN SILTY LOAM MOTTLED @ 18", WATER @ 28"
---	---	---	---	---	---	---	--

PERC TEST RESULTS

DATE: 5/2/08
PERFORMED BY: JCB/JSM
PERC TEST #1 - ±40 MIN./IN.
PERC TEST #2 - ±40 MIN./IN.

MINIMUM ISOLATION DISTANCES

(Contact Engineer for any Clarifications or Conflicts)

	Horizontal Distance (Ft.)	
	Disposal Field	Septic Tank
Drilled Well Serving 1 Home - Up Slope of System	100*(Min.)	50
Drilled Well Serving 1 Home - Down Slope of System	200*(Min.)	---
Service Water Lines	25	25
Roadways, Driveways	10	5
Stream, Watercourse, Lake or Impoundment	50	25
Drainage Swales, Roadway Ditches	25	---
Foundation, Footing Drains	35 (75 Downslope)	10
Replacement Area - Sides	10	---
Replacement Area - Uphill or Downhill	25	---
Property Line - 10' from toe or 25' from edge of disposal system, whichever is greater.	25	---
Property Line - Downgradient Toe	25	---

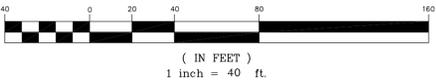
*Isolation distances to well locations may vary due to site conditions - contact Engineer for verification with the Vermont Water Supply Rule.

ZONING REQUIREMENTS

ZONING DISTRICT: RURAL DIMENSIONAL STANDARDS:

	REQ.	EX.	PROP.
MINIMUM LOT AREA (AC.)	5	10.2	10.2
MINIMUM DENSITY (AC./DWELLING)	5	10.2	10.2
MINIMUM FRONTAGE (FT.)	300	±1263	±1263
MINIMUM FRONT SETBACK (FT.)	50	XXX	TBD
MINIMUM SIDE SETBACK (FT.)	50	XXX	TBD
MINIMUM REAR SETBACK (FT.)	50	XXX	TBD
MAXIMUM BUILDING HEIGHT (FT.)	35	<35	<35
MAXIMUM BUILDING COVERAGE (%)	20	<20	<20
MAXIMUM LOT COVERAGE (%)	30	<30	<30

GRAPHIC SCALE



CALEB, CHRISTOPHER, TIMOTHY, GRACE, AARON & KOR KILEY, KATHLEEN DUNN and ANTONIA HOLMES TRUSTEES, in care of CALEB KILEY
1914 PRINDLE RD.

RADIMER, JOHN
2012 PRINDLE RD.

COHEN, GERALDINE
1054 PRINDLE RD.

TO GAREN ROAD

PRINDLE ROAD

TO ROSCOE ROAD

KRASNOW, MICHAEL
2014 PRINDLE RD.

DUNAVIN, MICHAEL
1707 PRINDLE RD.

CALEB, CHRISTOPHER, TIMOTHY, GRACE, AARON & KOR KILEY, KATHLEEN DUNN and ANTONIA HOLMES TRUSTEES, in care of CALEB KILEY
1914 PRINDLE RD.
TAX #10-2-8
±10.2 ACRES

POTENTIAL WELL SHIELD, ENSURE WELL LOCATION MEETS ISOLATION REQS.

POTENTIAL DRILLED WELL LOCATION WITH ENGINEER PRIOR TO CONSTRUCTION.

NEW PRIMARY MOUND DISPOSAL FIELD FOR NEW 3 BEDROOM HOUSE. SEE SHEET C2.0 FOR DETAILS AND SPECIFICATIONS.

NEW 2" SDI FORCE MAIN FROM NEW SEPTIC TANK, BIOFILTER AND PUMP STATION. CONFIRM PUMPING REQUIREMENTS WITH ENGINEER UPON SELECTION OF PUMP STATION LOCATION.

SEE SHEET C2.0 FOR CROSS SECTION DETAIL.

25' MIN. 10' MIN.

±740'

±641'

50' SIDE YARD SETBACK

200' MIN.

100' MIN.

50' REAR YARD SETBACK

50' FRONT YARD SETBACK

±522'

50' FRONT YARD SETBACK

±581'

±160.0'

DISPOSAL FIELDS & FORCE MAINS

DISPOSAL FIELDS & FORCE MAINS

PART 1 - GENERAL

1.01 Summary

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

1.02 References

- A. All work shall be done in accordance with the State of Vermont Environmental Protection Rules effective July 1, 2007 and Town of Charlotte Sewer Ordinance.

PART 2 - PRODUCTS

- 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 General

- 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" of stone and distribution piping is placed, pressure testing of the pipeline distribution network, and a final inspection of the entire system. The Contractor will be responsible for contacting the Engineer to set up the inspection schedule.

- B. When the trenches have 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. Construction shall not be initiated when the soils moisture content is high.

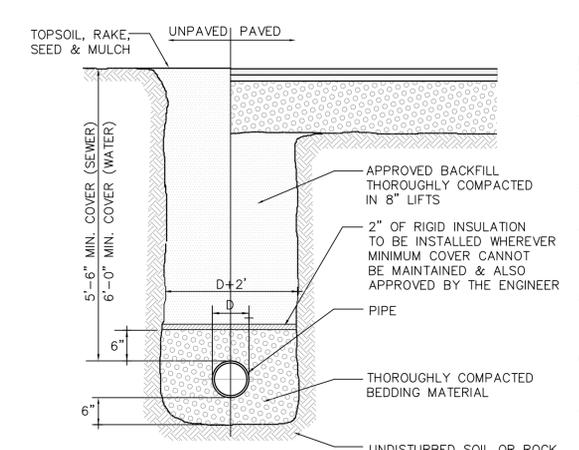
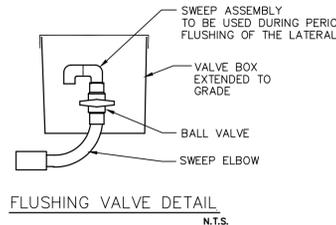
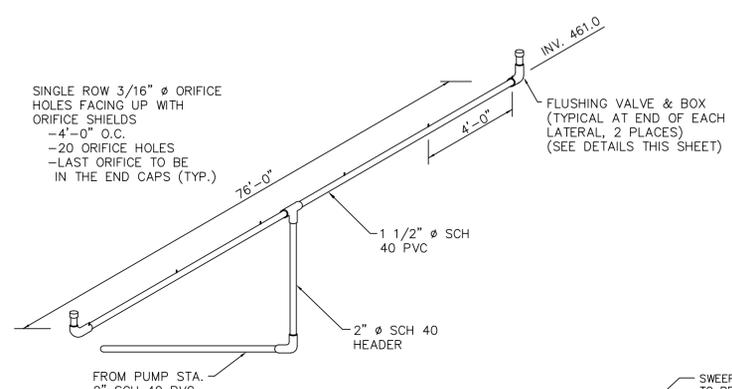
- C. At least 12" of crushed stone shall be placed in the bottom of the trench.

- D. The distribution line shall then be carefully placed on the bedding with no slope, holes facing upward, with orifice shields, and covered with at least 2" of crushed stone. Prior to covering, the distribution network should be tested with water for even distribution.

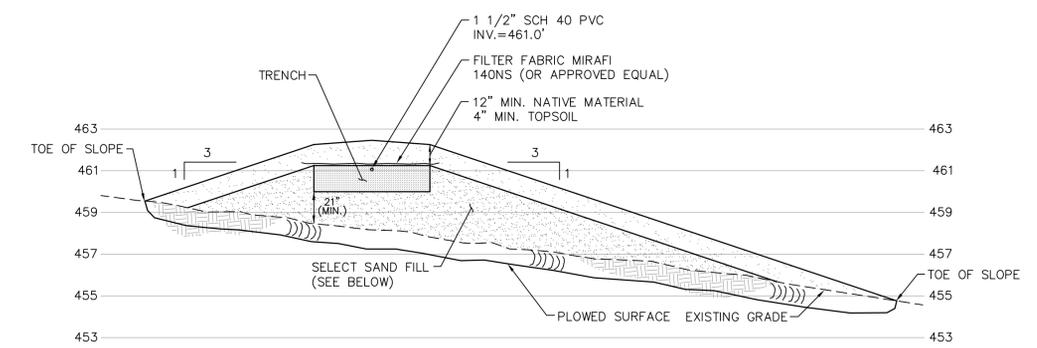
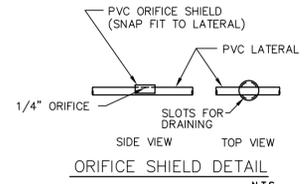
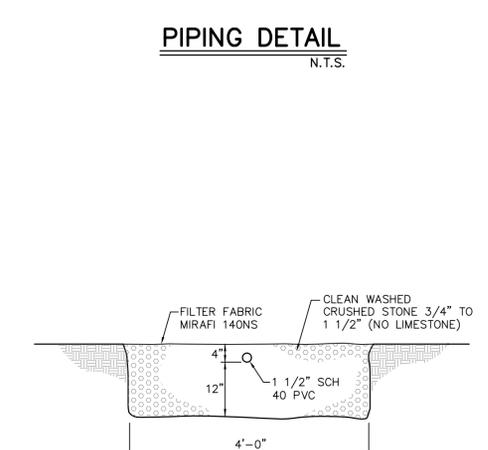
- E. All work shall be done in accordance with the State of Vermont Environmental Protection Rules.

3.02 Testing Report

- A. Prior to use of the system, the qualified consultant shall submit a written report to the Town of Charlotte and the State of Vermont 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.



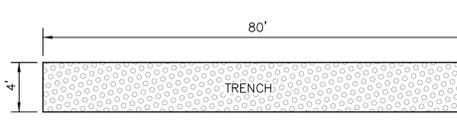
- NOTES:
1. Typical trench for water, sewer, and drainage pipe.
 2. Compaction of backfill and bedding shall be a minimum of 90% (95% under roadway surfaces) of maximum dry density determined in the standard proctor test (ASTM D698).
 3. Bedding material shall not be placed on frozen subgrade.
 4. Approved backfill shall not contain any stones more than 6" in largest dimension, 2" maximum diameter within 2" of the outside of the pipe, or any frozen, or organic material.
 5. Trenches shall be completely dewatered prior to placing of pipe bedding material and kept dewatered during installation of pipe and backfill.
 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.
 7. Bedding material for wastewater lines shall consist of crushed stone or gravel with maximum size of 3/4". For water lines bedding material shall be sand. Submit a sample to the Engineer for approval.



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

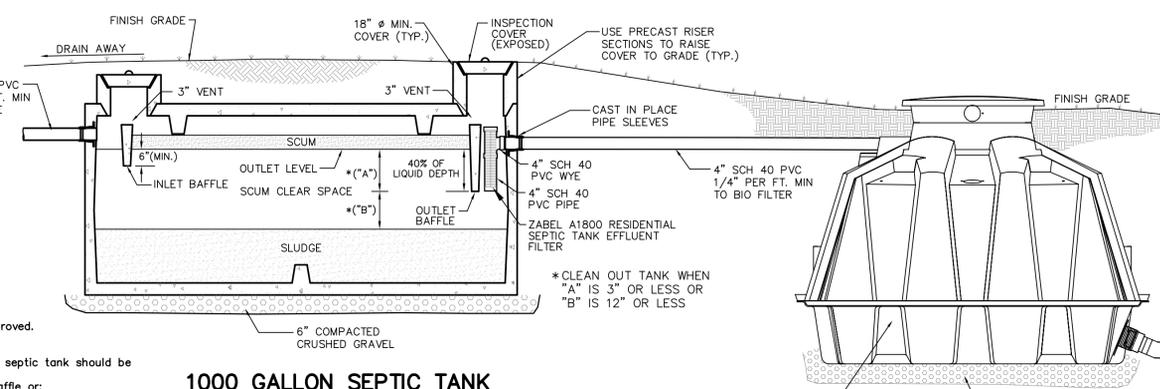
SIEVE #	% PASSING	SIEVE #	% PASSING	SIEVE #	% PASSING
10	85-100	8	80-100	10	85-100
40	25-75	16	50-85	40	30-50
60	0-30	30	25-60	40	30-50
100	0-10	50	10-30	200	0-10
200	0-5	100	2-10		

SECTION A-A



TYPICAL TRENCH PLAN

N.T.S.



1000 GALLON SEPTIC TANK

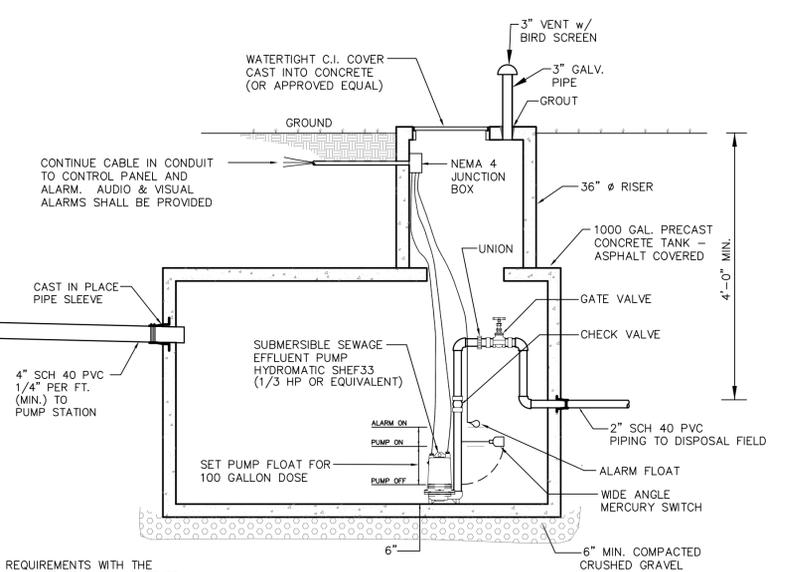
N.T.S.

- 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 4X. 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.



ECOFLO BIOFILTER

N.T.S.



1000 GALLON PUMP STATION DETAIL

N.T.S.

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

SITE ENGINEER:



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

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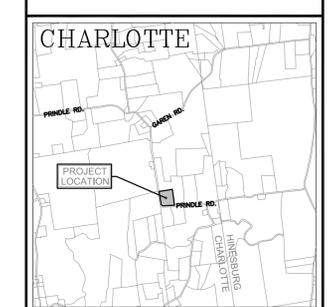
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1914 PRINDLE ROAD (EAST LOT) CHARLOTTE VERMONT

PROJECT:

PROPOSED WASTEWATER IMPROVEMENTS

1914 PRINDLE ROAD (EAST LOT) CHARLOTTE VERMONT



LOCATION MAP

1" = 2000'

DATE	CHECKED	REVISION

OVERALL SITE PLAN

DATE: APRIL, 2009	DRAWING NUMBER: C2.0
SCALE: AS SHOWN	
PROJ. NO.: 06132.03	