NOTES

1. *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.*

2. *Site Plan is based upon plans prepaired by Trudell Consulting Engineers, inc. entitled Town of Charlotte Wastewater Facilities Thompson's Point Charlotte, VT Dated July 29, 1993 and Site Visit by Civil Engineering Associated, Inc. on May 7, 2014.*

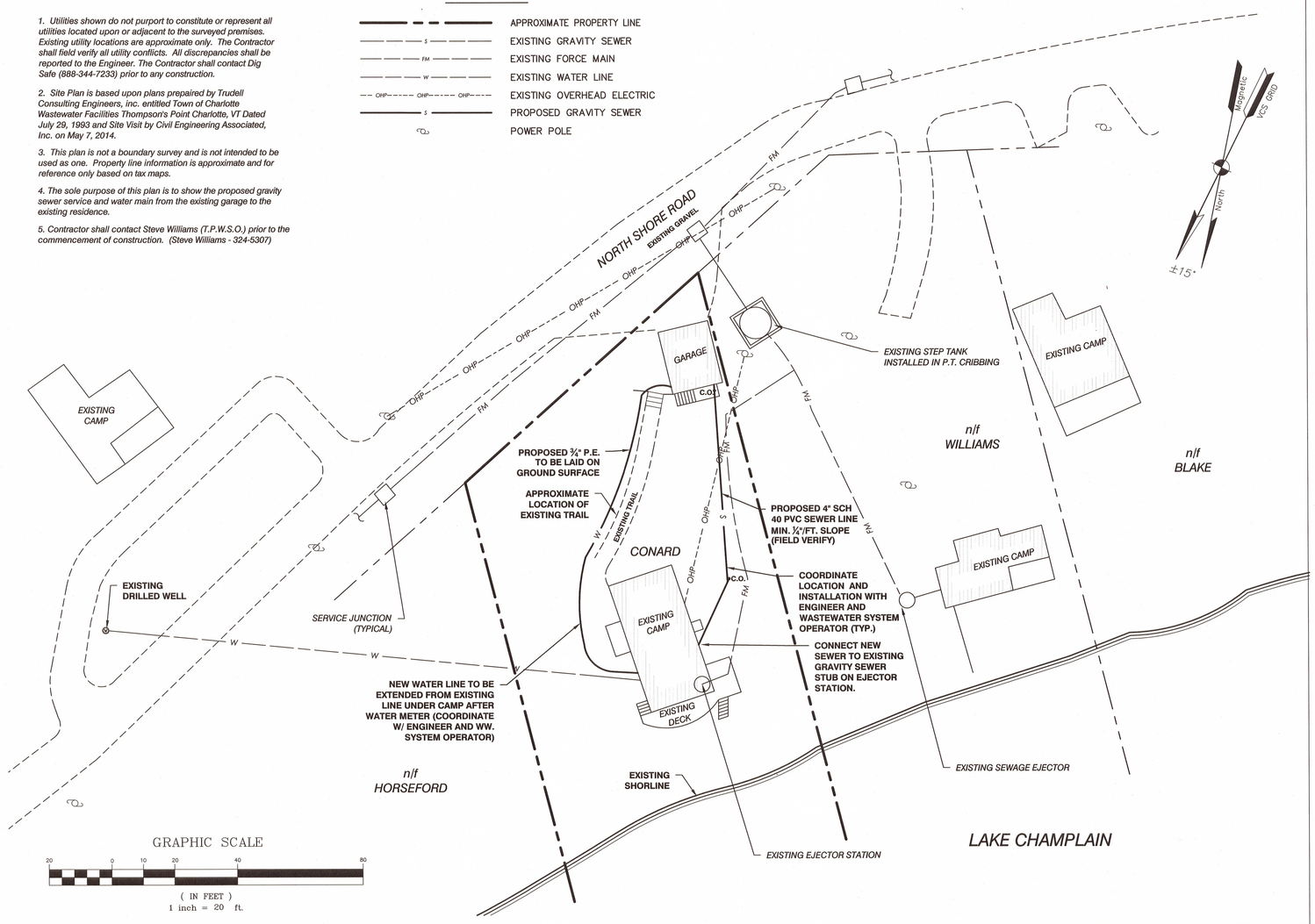
3. *This plan is not a boundary survey and is not intended to be used as one. Property line information is approximate and for reference only based on tax maps.*

4. *The sole purpose of this plan is to show the proposed gravity sewer service and water main from the existing garage to the existing residence.*

5. *Contractor shall contact Steve Williams (T.P.W.S.O.) prior to the commencement of construction. (Steve Williams - 324-5307)*

LEGEND

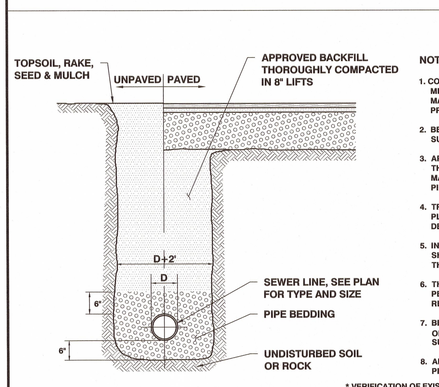
- APPROXIMATE PROPERTY LINE
- EXISTING GRAVITY SEWER
- EXISTING FORCE MAIN
- EXISTING WATER LINE
- EXISTING OVERHEAD ELECTRIC
- PROPOSED GRAVITY SEWER
- POWER POLE



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.



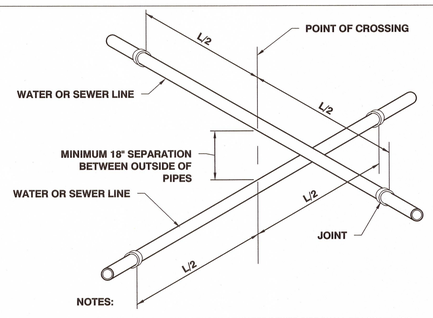
NOTES:

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, 1 1/2"" MAXIMUM DIAMETER WITHIN 24" 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.
7. BEDDING MATERIAL FOR WASTEWATER LINES SHALL CONSIST OF CRUSHED STONE OR GRAVEL WITH A MAXIMUM SIZE OF ¾". SUBMIT A SAMPLE TO THE ENGINEER FOR APPROVAL.
8. ALL JOINTS TO BE INSPECTED BY OWNER/ENGINEER/TOWN PRIOR TO BACKFILL.

* VERIFICATION OF EXISTING DEPTH TO LEDGE SHALL BE MEASURED PRIOR TO THE PLACEMENT OF NEW PIPING. SAND OR STONE BEDDING SHALL BE PLACED UNDER NEW SEWER PIPE PER DETAIL. EXCAVATED MATERIAL SHALL BE PLACE OVER TOP OF NEW LINES. COORDINATE INSTALLATION OF NEW LINES WITH ENGINEER AND THOMPSONS POINT WASTEWATER SYSTEM OPERATOR (STEVE WILLIAMS)

TYPICAL SEWER TRENCH DETAIL

N.T.S.

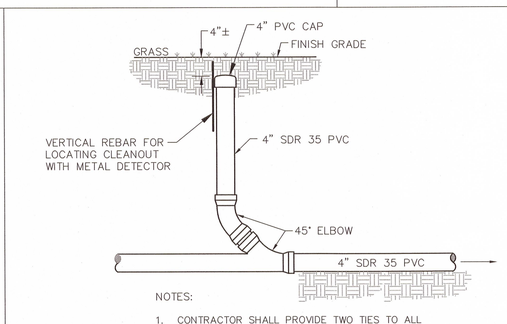


NOTES:

1. AT CROSSINGS, ONE FULL LENGTH OF WATER/SEWER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER/SEWER AS POSSIBLE.
2. IF THE SEWER MAIN IS OVER THE WATER MAIN, THE FIRST SEWER PIPE JOINTS ON EACH SIDE OF THE WATER MAIN MUST BE CONCRETE ENCASED. SPECIAL STRUCTURAL SUPPORT FOR THE WATER AND SEWER PIPES MAY BE REQUIRED.
3. WHERE IT IS IMPOSSIBLE TO MAINTAIN THE 18" SEPARATION, THE SEWER MATERIALS SHALL BE WATER MAIN PIPE OR EQUIVALENT AND SHALL BE PRESSURE TESTED TO WATER MAIN STANDARDS.
4. WATER MAINS AND SEWER LINES OR MANHOLES SHALL HAVE AT LEAST 10' HORIZONTAL SEPARATION. THIS DISTANCE SHALL BE MEASURED EDGE TO EDGE.

WATER/SEWER CROSSING

N.T.S.



NOTES:

1. CONTRACTOR SHALL PROVIDE TWO TIES TO ALL BURIED C.O.'s ON THE AS-BUILT PLANS SUBMITTED TO THE OWNER.
2. CLEANOUT TO BE INSTALLED AT INTERVALS OF NOT MORE THAN 100 FEET, AND UPSTREAM OF BEND(S) IN BUILDING SEWER(S) WHEN CHANGE IN PIPE DIRECTION EXCEEDS 45° (USE LONG SWEEP FITTINGS WHEN EXCEEDING 45°)

TYPICAL CLEANOUT DETAIL

N.T.S.

3.04 GRAVITY SEWER PIPE TESTING

A. The Contractor shall provide all necessary equipment and instrumentation required for proper completion of the flushing and testing. Quality of water, test procedures, and method of disposal of water shall be approved by the Engineer. Prior to testing, flush with water to remove construction debris.

B. All tests shall be made in the presence of the Engineer. Preliminary tests made by the Contractor without being observed by the Engineer will not be accepted. The Engineer will be notified at least eight hours before any work is to be inspected or tested.

C. The maximum sewer length to be tested at one time shall be that length between any two manholes.

D. Air Testing: Low pressure air testing shall be conducted in accordance with the following procedures:
1. Each end of the test section shall be plugged, capped and braced. Necessary safety precautions shall be taken to prevent blowouts and possible injury.
2. An air hose shall be connected to a tapped plug used for an air inlet. The hose will be connected to the air control equipment, which shall include valves and pressure gauges. These shall allow air to enter the sewer test line, monitor air pressure in the sewer, shut off air, and provide pressure reduction and relief. The monitoring pressure gauge shall have a range of 0–10 psi with divisions of 0.10 psi and accuracy of 0.05 psi±.
3. The air compressor and air supply shall be connected to the test line and the test section filled slowly, until a constant pressure of 4.0 psig is maintained.
4. A pressure above 3.0 psig shall be maintained for at least five minutes to allow the temperature to stabilize. A check for leaks shall be made and if any are found, the pressure shall be released and the fitting replaced or repaired.
5. After the stabilization period, the pressure shall be adjusted to 3.5 psig and the air supply disconnected.
6. Measure and record the time interval for the test line pressure to drop from 3.5 psig to 2.5 psig.
7. If the groundwater table is above the pipe, increase above test pressures 0.5 psig for each foot the groundwater is above the invert of the pipe.
8. The requirements of this specification shall be considered satisfied if the time required in seconds for the pressure to decrease from 3.5 to 2.5 psi greater than the average back pressure of any groundwater that may submerge the pipe is not less than that computed according to the following table:

Minimum Test Time for Various Pipe Sizes

Diameter (Inches)	Time (Sec./100 Ft.)
4	18
6	45
8	75
10	90
12	110

Minimum Test Period = 1 minute

E. Water testing
A. Plug or cap all service laterals, stubs and fittings. Place adequate bracing to withstand thrust forces.

B. A tapped plumber's plug should be inserted in the downstream manhole inlet sewer. The water supply connection is made at this point, but never directly from a public water supply system or hydrant unless a backflow preventer is used.

C. A stand pipe is tightly connected at the upstream end of the sewer. The height of the stand pipe shall be at least two feet higher than any point in the sewer or two feet higher than the highest known ground water table, whichever is higher. A manhole may be used as a stand pipe.

D. Water is added at the downstream connection in order to avoid trapping air bubbles or pockets. The line shall be filled to the elevation designated in the stand pipe.

E. Allow the line to stand with water for at least a two hour stabilization period or such shorter period as may be required to achieve stabilized readings of water loss over three consecutive 15 minute periods. This allows air to escape and absorption to take place.

F. Fill the sewer line to the reference mark and continue the test for at least one hour. Maintain the minimum head throughout the test, adding any volume of water required and including that volume in the leakage.

MINIMUM ISOLATION DISTANCES

(Contact Engineer for any Clarifications or Conflicts)

	Horizontal Distance (Ft.) Disposal Field	Septic Tank
Drilled Well – Up Slope of System	100*(Min.)	50
Drilled Well – Down Slope of System	200*(Min.)	50
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.		
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.

DESIGN FLOWS

Existing
Existing two bedroom camp 2 bedrooms @ 140 GPD/bdrm = 280 GPD
Proposed
2 bedroom Camp to be converted to 1 bedroom camp
w/ 1 bedroom installed in existing garage per building permit
1 bedroom camp = 1 bedroom @ 140 GPD/bdrm = 140 GPD
1 bedroom structure = 1 bedroom @ 140 GPD/bdrm = 140 GPD
280 GPD

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

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DRAWN MAB
CHECKED CJG
APPROVED CJG

STATE OF VERMONT CHRISTOPHER J. GIBSON 005226 REGISTERED PROFESSIONAL ENGINEER

OWNER:

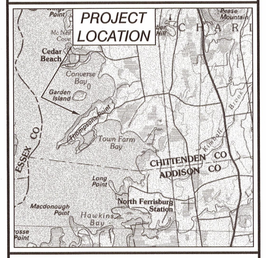
CAROL CONARD

465 AUTUMN HILL LANE
SHELBURNE, VT 05482

PROJECT:

WASTEWATER PLAN

260 NORTH SHORE ROAD
CHARLOTTE, VT



LOCATION MAP

DATE	CHECKED	REVISION

PROPOSED CONDITIONS SITE PLAN

DATE 05/08/2014
SCALE 1" = 20'
PROJ. NO. 14139

DRAWING NUMBER C1.0

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