

GENERAL NOTES FOR UST FACILITIES:

- Contractor is responsible for the location of underground utilities.
- Dig-safe is required per NH RSA 374:51.
- Facility owner is responsible for meeting all local regulations.
- All spot elevations represent final grade based on an assumed elevation unless shown otherwise.
- All new concrete pads will be crowned and/or installed with sufficient elevation above the surrounding grade so that surface water does not drain across these pads.
- Liquid-tight entry fittings shall be used on all sumps and spill containers.
- Storm water runoff from underground storage tank facilities shall not be discharged to the subsurface.
- The closure and removal of any existing tanks or piping shall be performed in accordance with Env-Or 408.06 to Env-Or 408.10.
- The contractor is made aware of the notification and inspection requirements pursuant to Env-Or 407.07.
- ICC certifications of "U1" for UST installations and "U2" for UST removal are required.
- All electrical and conduit installations/materials/offsets shall meet NFPA 70-14 Article 514 requirements.
- This facility shall be provided with fire extinguishers installed, inspected, and maintained as required by NFPA 10, Standard for Portable Fire Extinguishers and located within 100 feet of the dispensers.
- Warning signs shall be conspicuously posted in the dispensing area and shall incorporate the wording from NFPA 30A 9.2.5.4 or equivalent.
- Galvanized pipe shall not be used for systems storing diesel fuel, kerosene or jet fuel per PEI/RP100-11 10.2. A vent riser is an exception to this rule.

WATER NOTES:

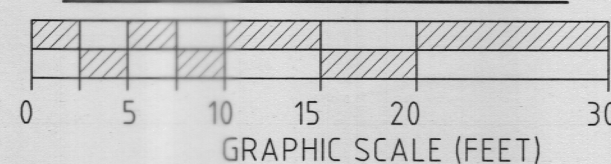
- This facility is supplied by Public Water Well 0738030.
- A review of the NH DES database and field observations show Public water well 0738030 is located 175' from the existing facility (measured to nozzle radius of prior system). This well is owned by the facility owner and this distance will not be reduced.
- A review of the NH DES database shows one non-public water well (075.0079) within the 250 foot setback distance. This water well could not be found in or around the area shown on the database during the site visit.
- A review of the NH DES database and field observations show no surface water within the 75 foot setback distance.

PROJECT NOTES:

- The scope of this project is to install 2 new tanks along with new piping and equipment. The existing canopy and posts will remain. The existing canopy drain daylight is as shown and will be reused if deemed acceptable.
- The proposed tanks are Xerxes tanks manufactured in Canada (referred to as ZCL), are green in color and have an internal diameter of 97". This is an important distinction since Xerxes also manufactures tanks in the United States that are Red in color and have an internal diameter of 90".
- This is an attended, self service facility.
- Per NFPA 30A 6.7, an emergency disconnect switch (ESO) is shown located such that it will be more than 20' and less than 100' (walking path distance) from the dispensing devices they serve.
- Primary Containment system testing is required before fuel can be dispensed to public, with passing results submitted to DES, and shall only be done after authorization to operate is issued by DES.
- The dispensing pad length has been determined based on a nozzle radius of 8'. A dispensing hose length shall be used such that this radius is not increased.
- Line Leak Detectors (LLDs) are to be tested after authorization to operate is issued, with passing tests forwarded to NHDES before fuel is dispensed to the public.
- All proposed work is within Parcel 401 as shown on the NHDES Data Mapper site.
- Provide a swale between the tank pad and the dispensing pads to facilitate drainage as shown by the flow arrows.
- An existing UST system at this facility was closed in 2015 and all equipment was removed. The minimum distance to the existing public well, as measured from the dispensing nozzle radius, was 175 feet. The proposed dispensers will be located at the same location as the prior dispensers thereby maintaining the existing setback to this well.

Public Water Well #0738030

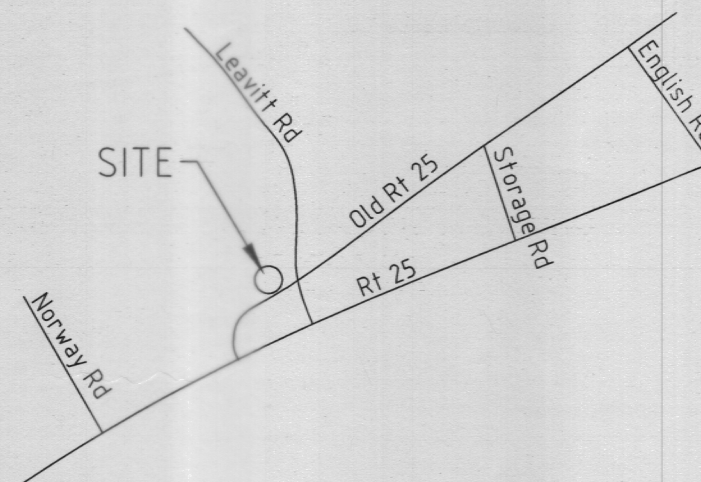
True North
(approx)
SCALE 1 Inch = 10 feet



LEGEND

- ⊕ FILL
- ⊖ VENT
- ⊙ INTERSTITIAL SENSOR
- ⚠ GAUGE PROBE
- ⊕ SUBMERSIBLE PUMP
- ⊖ VAPOR RECOVERY
- ⊙ TANK SUMP
- Ⓜ TANK MONITOR CONSOLE
- SLOPE OF PIPING

LOCATION MAP



The site is 3.5 miles north of the Rte 25/Rte 16 junction

UST SITE PLAN

SCOPE: To install two new tanks, piping and equipment at an existing Facility

FACILITY

Aloha Effington
41 Route 25
Effingham NH 03882
Facility ID#0113566

OWNER

Ramco LLC
PO Box 2262
N Conway, NH 03860-2262

ENGINEER

Christopher P. Williams
1914 South Hill Rd.
Moretown, VT 05660
NH PE# 9997

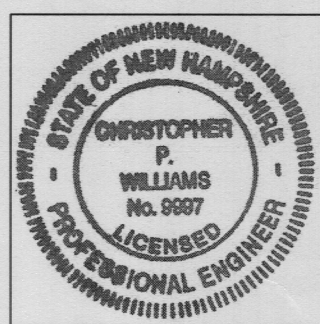
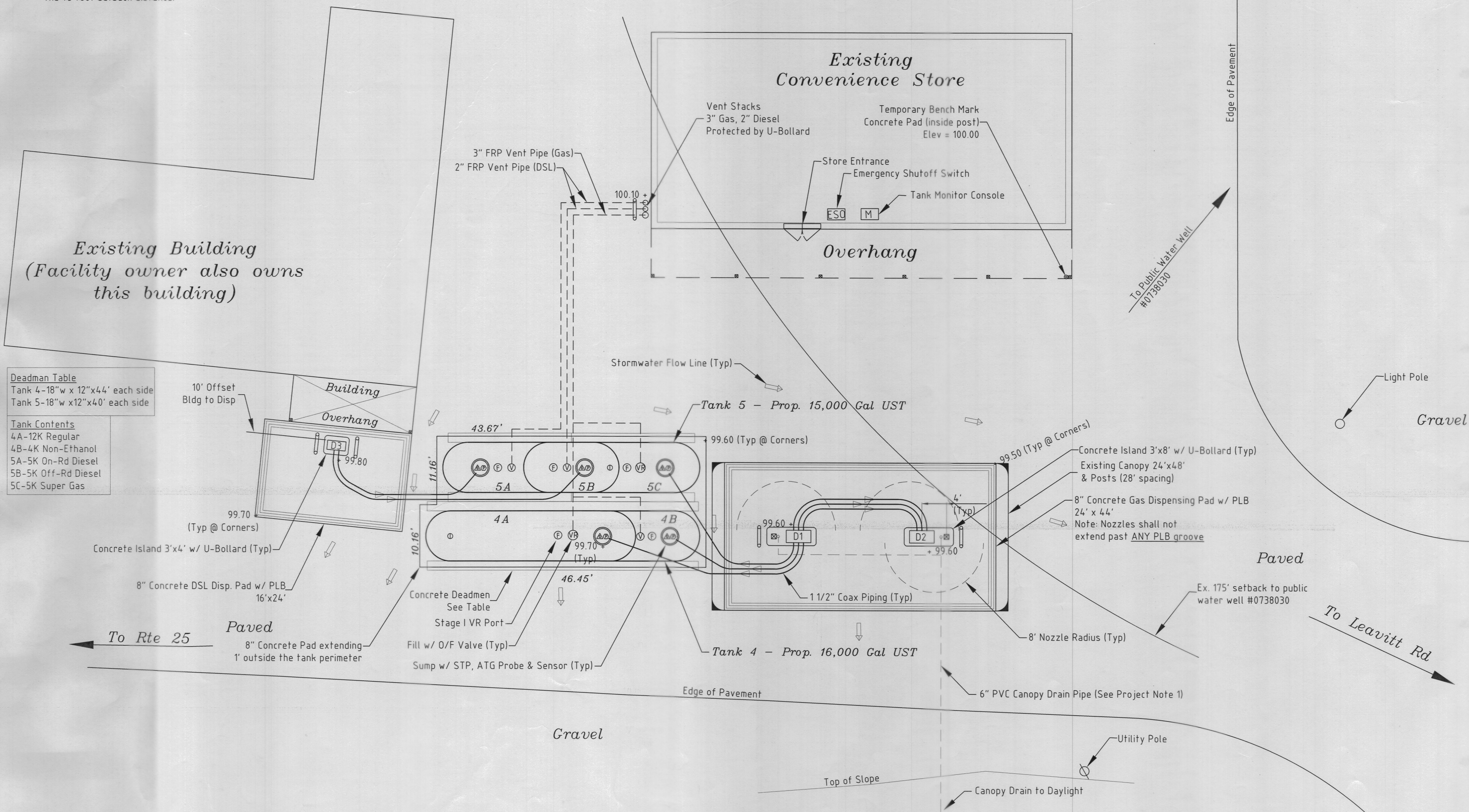
CONTRACTOR

Marwin Construction
227 Gray Road
Falmouth, ME 04105

DATE

11/5/20; Resub 12/13/20

SHEET 1 OF 3



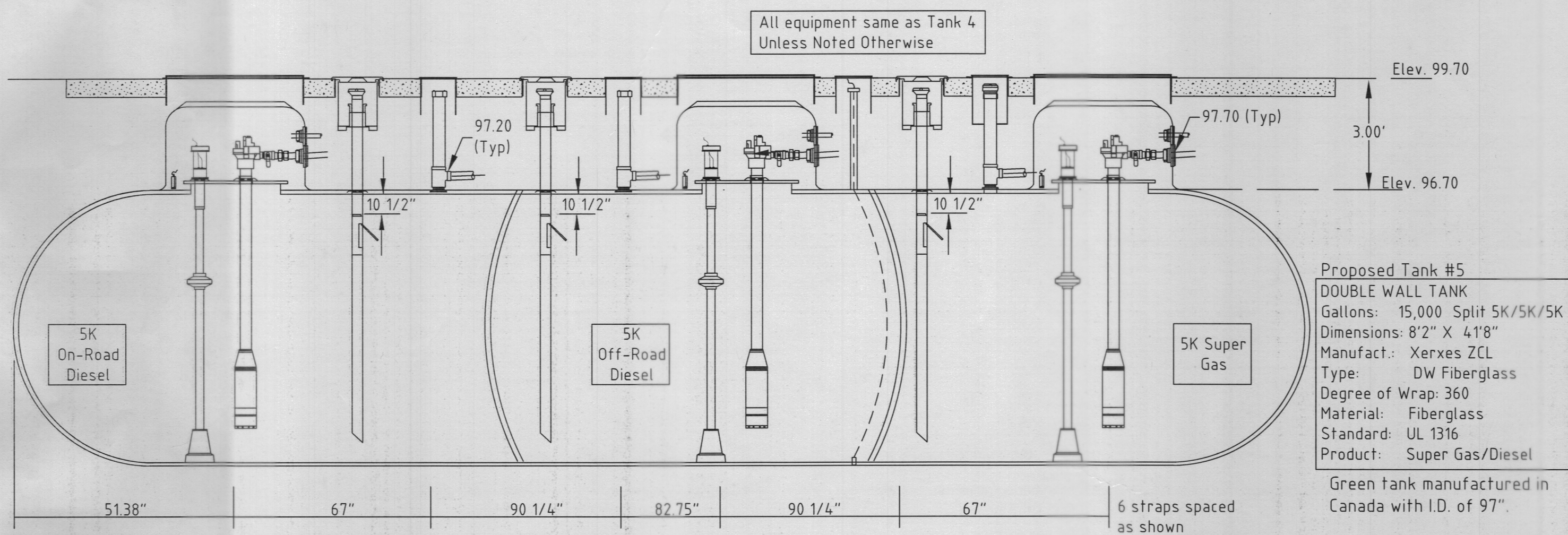
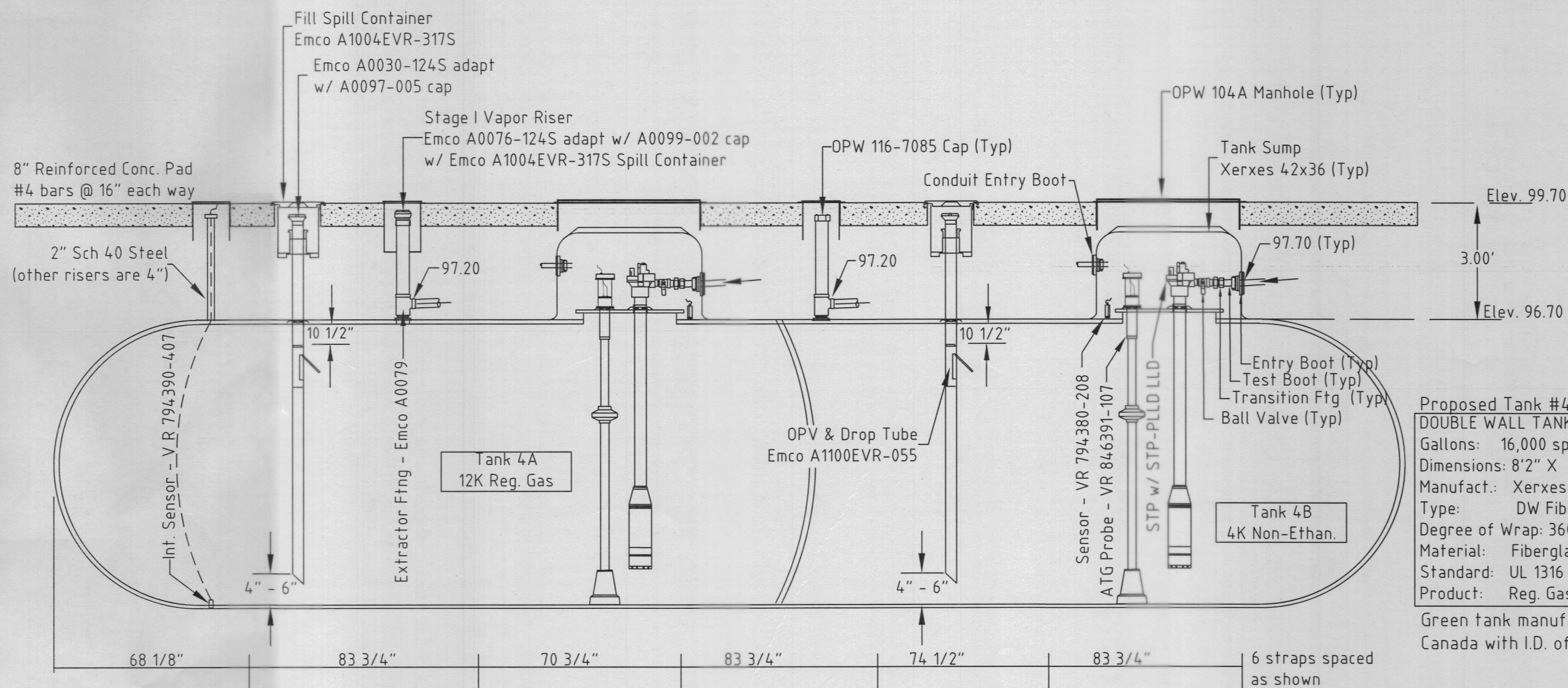
12/13/2020

MONITOR AND OVERFILL NOTES:

1. The sump sensors and interstitial sensors will be monitored by the proposed Veeder Root TLS-350 Tank monitor.
2. Overfill protection will be provided by an Overfill Prevention Valve (OPV) on the fill pipe.
3. The overfill dimension shown is to the 95% mark on the valve, where flow into the tank will be restricted.

TANK SYSTEM NOTES:

1. All product and vent piping shall slope at a minimum of 1/8" per foot towards the tank or a sump with a sump sensor.
2. These systems are designed for gravity delivery of product into tank.
3. Overfill protection setting is measured from the inside of the top tank wall.
4. Sealant used on sump entry boots shall be applied on the exterior of the sump enclosures only as directed by the manufacturer.
5. The sump sensor must be secured within the sump so it remains in the vertical position as well as positioned at the lowest portion of the sump.
6. For APT piping, the scuff guard must be removed outside or even with the sump wall.



Proposed Equipment Chart

	Size	Manufacturer	Model	Duct	Entry Boot	Transition Ftg.	Test Boot
Product	1 1/2"	APT	XP-150-SC		FBB-150-SC	MS-XP-150-150	STB-150
Vent Pipe	2" & 3"	Ameron	Dualoy 3000/L				
Conduit	1"				FEB-075-D		

HYDROSTATIC SUMP TESTING (per Env-Or 406.15)

A hydrostatic tightness test shall be conducted:

1. After all seams and fittings have been completed and all piping and conduits have been installed;
2. At a level that is within one inch of the top of the containment sump, or 10 inches above the top of the highest containment sump penetration fitting, whichever is lower;
3. By recording the liquid level measurements at the beginning and end of the test;
4. For a minimum of 3 hours for containment sumps; and
5. With no addition of liquid to the containment sump after the start of the test.

SPILL CONTAINER DW VACUUM TESTING-EMCO WHEATON

1. Replace the gauge in the primary manhole with a 494343 test adapter.
2. Attach vacuum source and apply vacuum to 30" wc.
3. Let stabilize for 30 seconds. If vacuum reading decreases initially, reapply to restore back to 30" wc.
4. Let stand undisturbed for 1 minute and take reading. To pass the test, the gauge must read at least 26" wc.

UNDERGROUND STEEL COATING REQUIREMENTS:

1. All underground steel risers, fittings and pipes, to include the underground portion of the vent stack, shall be coated to prevent corrosion.
2. The coating shall be either fiberglass or a two-part epoxy paint and shall be applied according to the manufacturer's instructions.
3. Acceptable epoxy paints currently approved for use are the Royston A51/TC Mastic and Sikagard 62. Other epoxy paints will not be allowed without written approval from the Engineer prior to the application of paint.

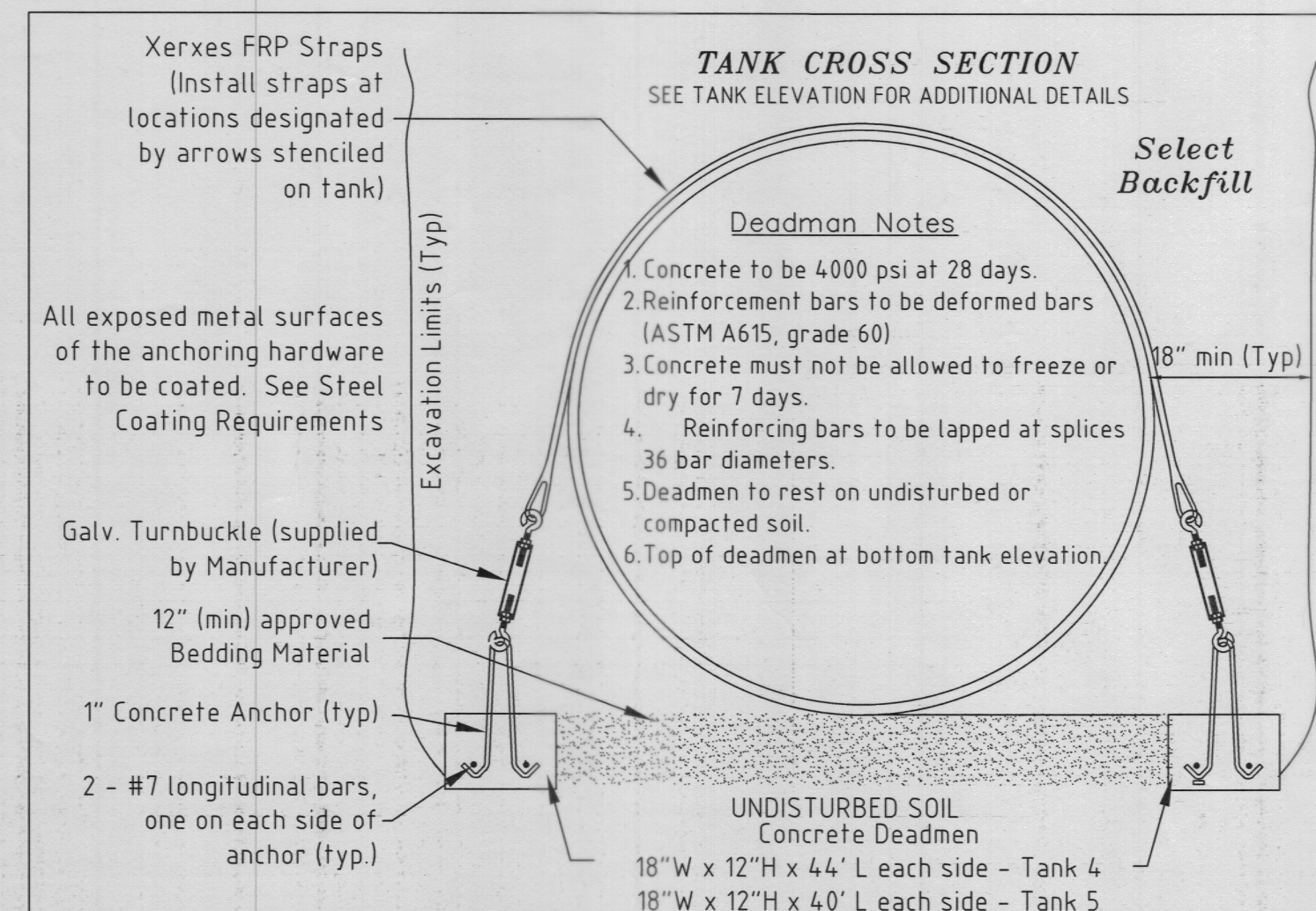
GENERAL TANK INSTALLATION NOTES

1. All tanks shall be provided with secondary containment which shall enclose 360 degrees of the inner tank.
2. No alteration of any kind shall be made to the tank without written approval of the manufacturer.
3. New underground storage tanks shall bear a stencil, label or plate with the following information:
 - 3.1. The standard of design by which the tank was manufactured.
 - 3.2. The year of manufacture.
 - 3.3. The dimensions and capacity of the tank.
 - 3.4. The name of the manufacturer.
4. A certificate which shows all of the information required above and also shows the date of installation and the regulated substances and percentages by volume of any additives which may be stored permanently and compatibly within, shall be displayed in such a way as to be visible to a division inspector and permanently affixed on the facility premises.
5. Documents describing the manufacturer's warranties, equipment items, contractors, equipment maintenance, repairs or testing, and all other information pertinent to the tank installation and system components shall be kept at the facility for the life of the system(s). These records shall be transferred to the new owner at the time of transfer of facility ownership.
6. If dewatering is required, contractor must obtain a Temporary Groundwater Discharge Permit from: Mitchell D. Locker, Groundwater Permits Coordinator, NHDES Water Division, 29 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095, (603) 271-2858
7. If wet or unstable soil is encountered, filter fabric must be installed to prevent backfill migration.
8. In the absence of local building codes, a minimum of 5 feet from the tank to buildings or property lines is recommended.

XERXES FIBERGLASS TANK INSTALLATION NOTES:

The following notes provide a summary of the installation instructions that are provided with the tank, and laminated to the tank shell. For a dry interstitial tank shipped with a factory vacuum, the tank may be installed and backfilled provided that the vacuum was applied at least 7 days prior and the vacuum gauge reads 12 inches of mercury or more. If these requirements are not met, the testing shown below is required.

1. It is REQUIRED that the tank be tested by the installer prior to installation. Plug and tighten all fittings, close the valve on the Xerxes Hose/Valve Assembly (shipped with tank) and pressurize the inner tank to 5 P.S.I. for a minimum of 1 hour.
2. NEVER PRESSURIZE THE SECONDARY TANK WITHOUT CONNECTING IT TO THE PRIMARY TANK. Open the valve on the Xerxes Hose/Valve Assembly and pressurize to 5 P.S.I. (for at least 1 hour). Soap the entire tank and check for evidence of leaks.
3. Bedding and Backfill material must be clean, Pea-Gravel with a 1/8" - 3/4" particle size OR washed and free-flowing Crushed Stone with an 1/8" - 1/2" angular particle size.
4. A minimum of 12" of Bedding Material to be placed under the tank.
5. A minimum of 18" of Backfill Material to be placed along the sides of the tanks and between adjacent tanks.
6. Backfill uniformly with the same material used for bedding. First, backfill a 12" lift of material evenly around the tank. Work material completely beneath the tank body by hand in order to provide full support. After the first 18-24 inches of material is in place, work the backfill into the voids under the bottom quadrants of the tank. Remaining backfill can now be done without further handwork.



BUOYANCY CALCULATIONS - TANK 4

1. Seasonal High Water Table is assumed at grade for buoyancy calculations.
2. This site is NOT in the 100 year flood plain.
3. 3' cover used in calculations.

BUOYANT FORCE

TNKS: 12,000 galX8.33 lb/gal = 133,280 lb
SMPS: 2X282 galX8.33 lb/gal = 4,698 lb
TOTAL UPLIFT = 137,978 lb

HOLD-DOWN FORCE

TANKS (weight) = 8,100 lb
Conc. Deadmen (@87 lb/cu.ft.)
(12" x 18" x 44" x 2)=132.0 CF = 11,484 lb
R.C. Traffic Pad (@87 lb/cu.ft.)
(0.67'X10.17'x4.640')=316.2 CF = 27,509 lb

SOIL (@ 60 lb/cu.ft.)

2473.8 cu.ft. = 148,428 lb
TOTAL HOLD-DOWN = 195,521 lb

FACTOR OF SAFETY= 195,521/137,978

FACTOR OF SAFETY = 1.42

BUOYANCY CALCULATIONS - TANK 5

1. Seasonal High Water Table is assumed at grade for buoyancy calculations.
2. This site is NOT in the 100 year flood plain.
3. 3' cover used in calculations.

BUOYANT FORCE

TNKS: 15,000 galX8.33 lb/gal = 124,950 lb
SMPS: 3X282 galX8.33 lb/gal = 7,047 lb
TOTAL UPLIFT = 131,997 lb

HOLD-DOWN FORCE

TANKS (weight) = 8,200 lb
Conc. Deadmen (@87 lb/cu.ft.)
(12" x 18" x 40" x 2)=120.0 CF = 10,440 lb
R.C. Traffic Pad (@87 lb/cu.ft.)
(0.67'X10.17'x4.367')=297.6 CF = 25,891 lb

SOIL (@ 60 lb/cu.ft.)

2238.5 cu.ft. = 134,310 lb
TOTAL HOLD-DOWN = 178,841 lb

FACTOR OF SAFETY= 178,841/131,997

FACTOR OF SAFETY = 1.35

UNDERGROUND TANK SYSTEM DIAGRAM

FACILITY

Aloha Effington
41 Route 25
Effingham NH 03882
Facility ID#0113566

OWNER

Ramco LLC
PO Box 2262
N Conway, NH 03860-2262

ENGINEER

Christopher P. Williams
1914 South Hill Rd.
Moretown, VT 05660
NH PE# 9997

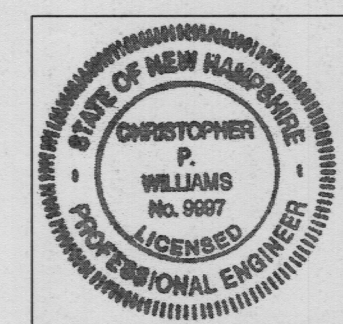
CONTRACTOR

Marwin Construction
227 Gray Road
Falmouth, ME 04105

DATE

11/5/20; Resub 12/13/20

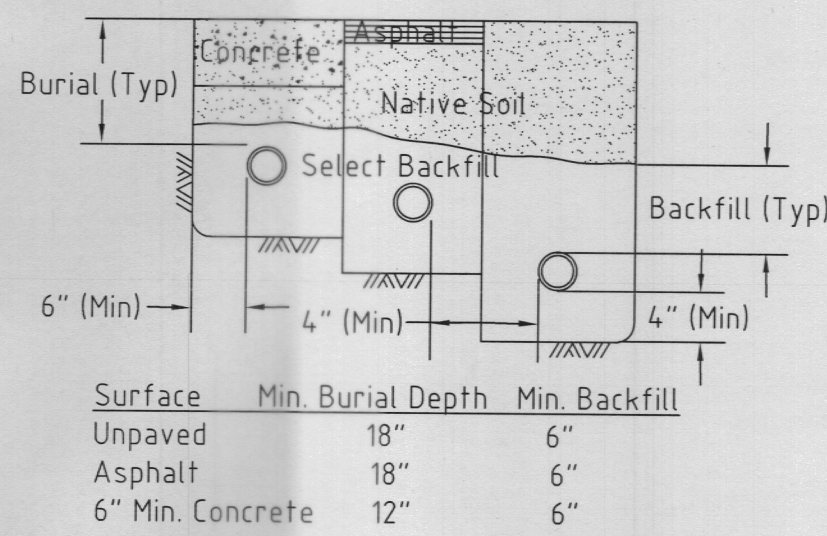
SHEET 2 OF 3



12/13/2020

APT XP PIPING NOTES:

1. Select backfill shall be clean compacted sand, 1/8 to 3/4 inch pea gravel, or washed, free-flowing crushed stone with an angular stone size smaller than 3/4".
2. The trench bottom shall be free of hard or sharp objects.
3. Piping to be one continuous run between sumps.
4. Crossovers shall have a minimum separation of 4".



PIPE TESTING INSTRUCTIONS - INTERSTITIAL SPACE OF COAXIAL PIPING:

1. Install fittings and connector tubes inside all piping sumps to interconnect and isolate the interstitial piping space.
2. Install an APT Test Tube with a pressure gauge on the secondary test boot within the tank sump.
3. Gradually pressurize the interstitial piping space to 5 psi (min) and 8 psi (max) and hold pressure for a minimum of 1 hour, checking the gauge for any loss in pressure. Apply a soap-water solution to all connections and inspect for bubbles.
4. Maintain the required pressure for a minimum period of 2 hours after the backfill process has been completed.
5. After testing, the test boot shall be pulled back to open the piping secondary to the sump to allow leak monitoring of piping.

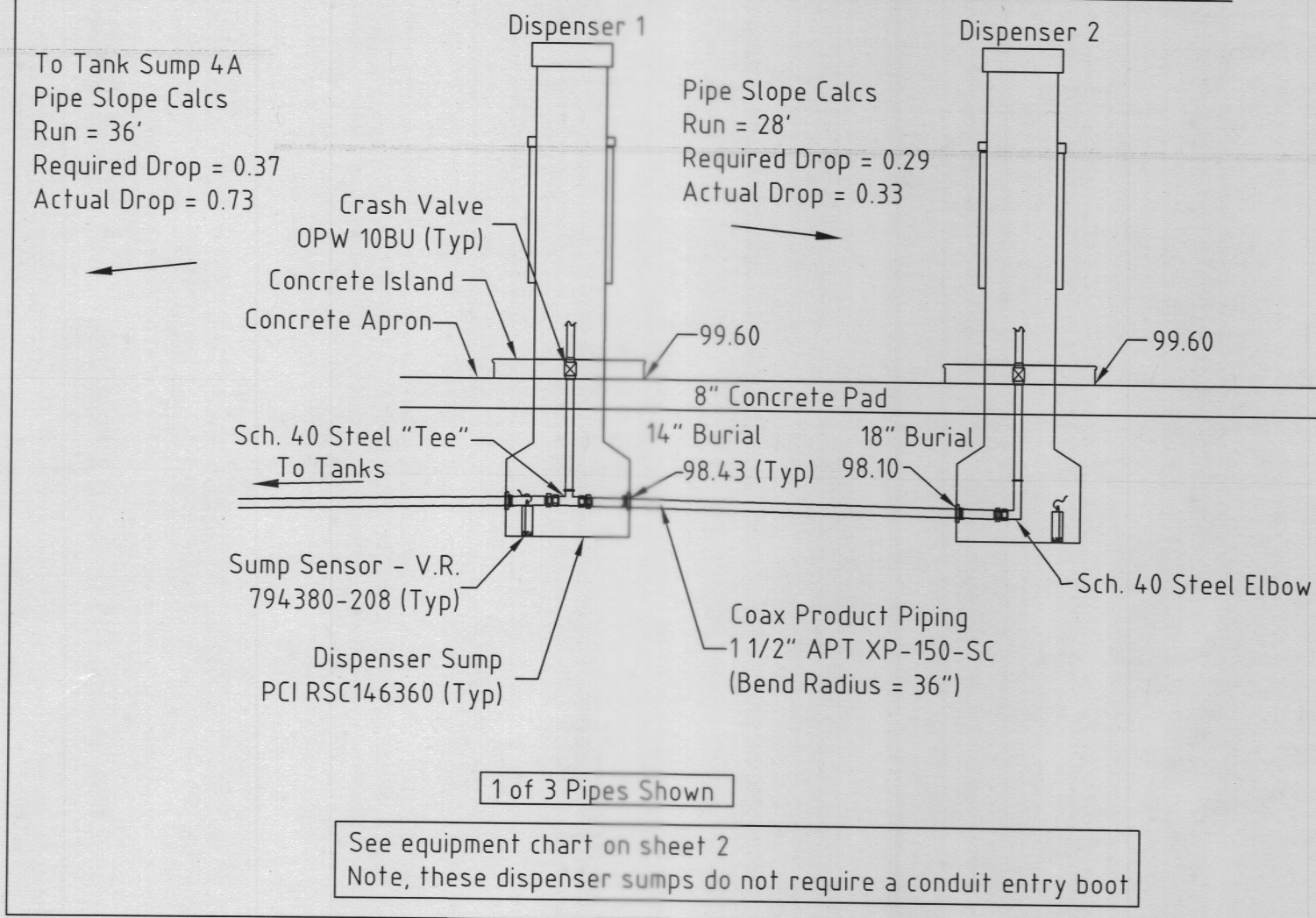
PIPE TESTING INSTRUCTIONS - PRIMARY PIPING:

1. Slowly release pressure from interstitial piping space, then reseal the interstitial space with the test gauge still attached.
2. Seal all shear valves and riser pipes with pressure rated plugs or caps.
3. Make sure that the tank is isolated from the primary piping by a valve or plug.
4. Gradually pressurize the primary piping to 50 psi (min) and 60 psi (max). Allow the pipe to stabilize under pressure approximately 15 minutes. During pressurization, check the reading of the test gauge connected to the interconnected interstitial lines. Any increase in the interstitial pressure or decrease in the primary pressure indicates a leak in the primary piping. Apply a soap-water solution to all piping connections and inspect for bubbles. Maintain this pressure for a minimum of 1 hour.
5. If a leak is detected in any couplers, tees or elbows, they must be cut off and replaced. If a leak is detected in the piping, it cannot be repaired. It must be replaced by a new length of piping.

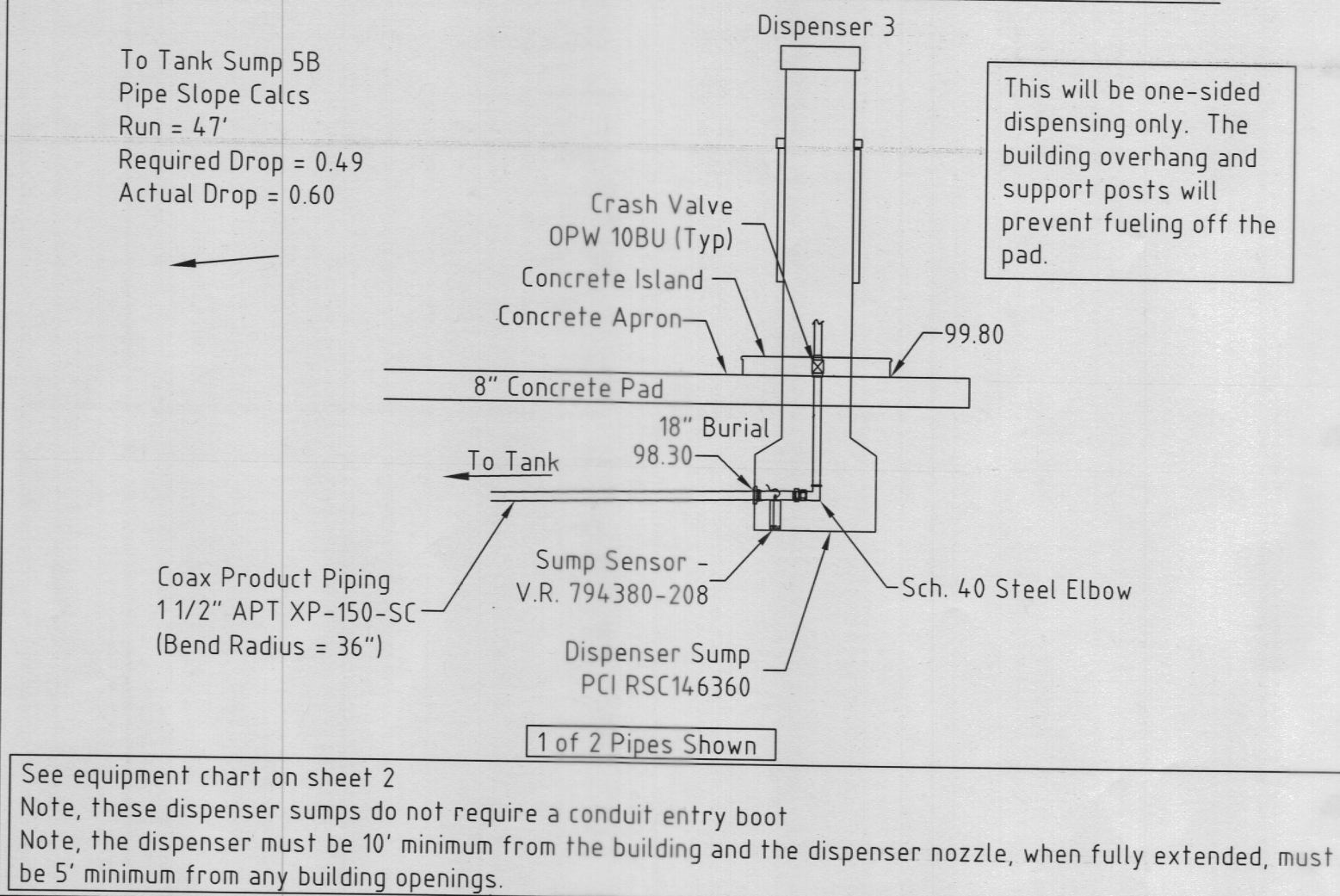
MINIMUM BEND RADIUS:

1. The minimum bend radius for all APT piping and Duct (regardless of size) is 36".

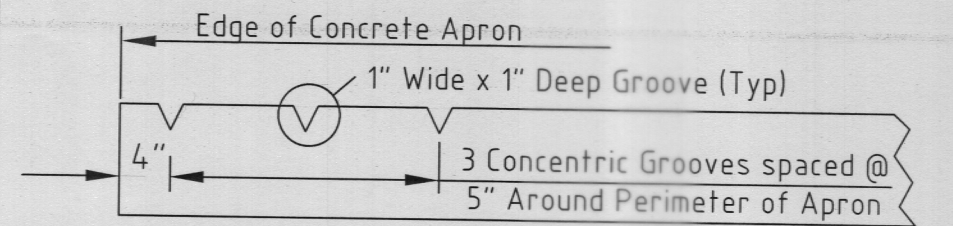
PIPE TERMINATION DETAIL @ GAS DISPENSERS



PIPE TERMINATION DETAIL @ DIESEL DISPENSER



Positive Limiting Barrier (PLB) Detail (SIDE VIEW OF CONCRETE DISPENSING PAD - NOT TO SCALE)



VOLUME CALCULATIONS:

7.48 gal/CF x (1/2 X 1.0" X 1.0") / 144 = 0.026 gallons
These grooves provide 0.026 gallons per lineal foot.
Groove Length Required for 5 Gallons = 5 gal / 0.026 gal/LF = 192 LF
Groove Length Provided at Gas Disp. Pad = 389 LF
Groove Length Provided at DSL Disp. Pad = 221 LF

HYDROSTATIC SUMP TESTING (per Env-Or 406.15)

- A hydrostatic tightness test shall be conducted:
1. After all seams and fittings have been completed and all piping and conduits have been installed;
 2. At a level that is within one inch of the top of the containment sump, or 10 inches above the top of the highest containment sump penetration fitting, whichever is lower;
 3. By recording the liquid level measurements at the beginning and end of the test;
 4. For a minimum of 3 hours for containment sumps; and
 5. With no addition of liquid to the containment sump after the start of the test.

UNDERGROUND STEEL COATING REQUIREMENTS:

1. All underground steel risers, fittings and pipes, to include the underground portion of the vent stack, shall be coated to prevent corrosion.
2. The coating shall be either fiberglass or a two-part epoxy paint and shall be applied according to the manufacturer's instructions.
3. Acceptable epoxy paints currently approved for use are the Royston A51/TC Mastic and Sikagard 62. Other epoxy paints will not be allowed without written approval from the Engineer prior to the application of paint.

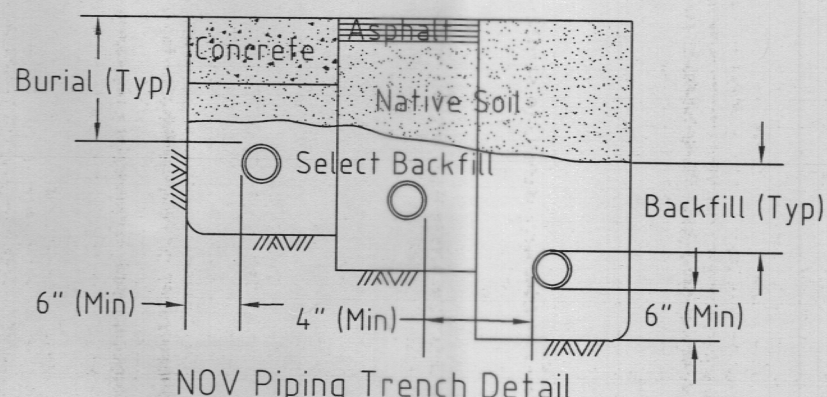
NOV PIPING NOTES: Rev 6/6/19

For Ameron Dualoy 3000/L and Red Thread IIA fiberglass pipe.

1. Select backfill shall be clean compacted sand or 1/8 to 3/8 inch pea gravel or 1/8 to 1/2 inch washed, crushed stone.
2. The trench bottom must be free of hard or sharp objects.
3. A 4' (min) dogleg is required (measured between fittings) at each connection to a fixed point (tank sump, dispenser sump, vent stack).
4. Crossovers shall have a minimum separation of 4".

PIPE TESTING INSTRUCTIONS:

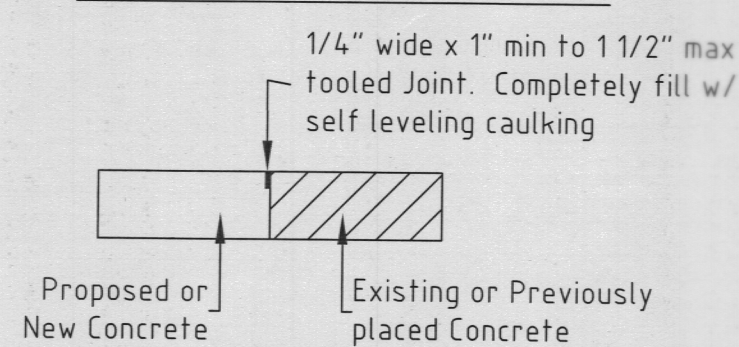
1. Pressurize the piping to 25 psi and hold for 1 minute (min), soap all joints to test for leaks. If there are no leaks, raise the pressure to 50 psi and hold the pressure and soap all joints to check for leaks.
2. Maintain for 1 hour at a minimum of 50 psi.
3. After passing the 50 psi pressure test, reduce the pressure to 25 psi (max) and maintain until all paving has been completed.



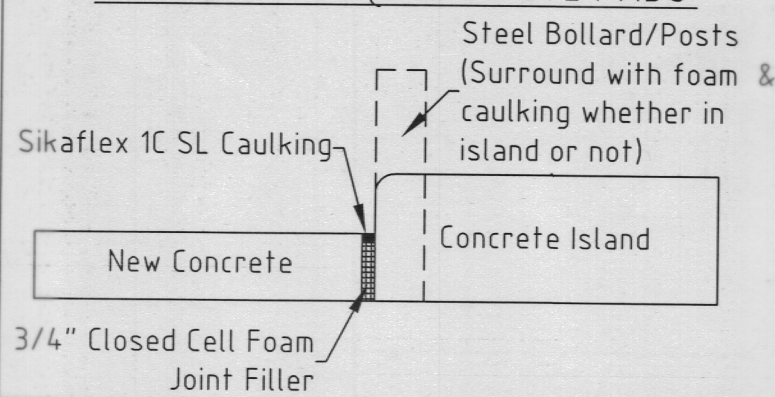
Pipe Size	Surface	Min. Burial Depth	Min. Backfill
2"	Unpaved	18"	12"
2"	4" Min. Asphalt	12"	8"
2"	4" Min. Concrete	9"	5"
2"	6" Min. Concrete	9"	3"
3"	Unpaved	20"	14"
3"	4" Min. Asphalt	13"	9"
3"	4" Min. Concrete	11"	7"
3"	6" Min. Concrete	10"	4"

CONCRETE JOINT DETAILS

CONCRETE COLD JOINT DETAILS



PENETRATIONS @ CONCRETE PADS:



Control joints consisting of saw cutting to 1/4 the slab depth and sealing with Sikaflex 1C SL caulking shall be provided at 24 times the pad thickness maximum intervals.

Expansion joints using the closed cell foam and caulking detail shown above, shall be provided at 90 foot maximum intervals.

STEEL BOLLARD REQUIREMENTS:

1. 4" (min) diameter steel pipe.
2. Set 3' (min) into ground
3. 15" (min) diameter concrete footing
4. Spaced at 4' (max) spacing.
5. Painted with reflective paint or covered with reflective tape
6. Located a minimum of 2' from vent stacks

DISPENSING PAD REQUIREMENTS:

Dispensing pads shall be constructed:

1. Of reinforced Portland cement concrete that meets the requirements of NHDOT Standard Specifications for Road and Bridge Construction dated 2016;
2. With liquid tight joints at all expansion, contraction, crack control, and cold joints in all components of the dispensing area, including but not limited to dispensing islands, bollards, canopy supports, canopy drainage pipes, and utility sleeves, that have been sealed and maintained with a sealant that is compatible with the regulated substance and has been installed as provided in its manufacturer's instructions;
3. With control joints that are:
 - 3.1. Spaced at a maximum of 24 times the pad thickness, but not located directly in front of a dispenser;
 - 3.2. Cut or formed into the pad surface to a depth of 25% of the pad thickness; and
 - 3.3. Sealed per note 2 above
4. Without any manways, spill containment, other such tank pad appurtenances, drains, or other avenues that could allow spills to seep into the ground, unless these plans show these appurtenances as part of an island that is raised above the tank pad;
5. Such that all nozzles, held 3' above the pad, do not extend beyond ANY PLB GROOVE, INCLUDING THE MOST INNER GROOVE.

VENT PIPE SLOPE CALCS

ELEVATION @ TOP OF TANK 96.70
ELEV @ TOP OF VENT PIPE @ TANK 97.20

ELEVATION @ Vent Stack 100.10
BURIAL DEPTH OF PIPE 1.67
ELEV @ Top of Vent @ Stack 98.43
PIPE SLOPE DIFFERENTIAL 1.23

LENGTH OF PIPING RUN 74
REQUIRED PIPE SLOPE DIFF (1/8"/FT) 0.77

THE VENT PIPING SLOPE EXCEEDS 1/8"/FT. TOWARD THE TANK.

Sump 4B

96.70
97.20

100.10

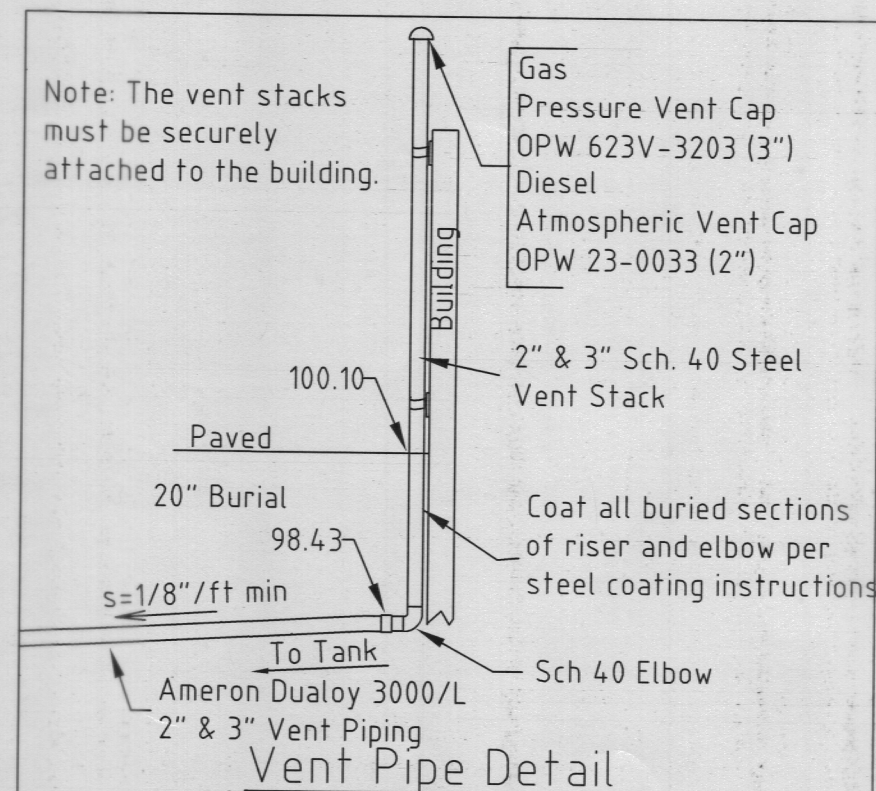
1.67

98.43

1.23

74

0.77



1. The outlet shall be 12' min. above finish grade but if under eaves it shall extend 3' above the roof level.
2. Outlets shall be at least 5' from building openings, at least 15' from power vent air intake devices and at least 10' from electrical sources.

DISPENSER & PIPING DETAILS

FACILITY

Aloha Effington
41 Route 25
Effingham NH 03882
Facility ID#0113566

OWNER

Ramco LLC
PO Box 2262
N Conway, NH 03860-2262

ENGINEER

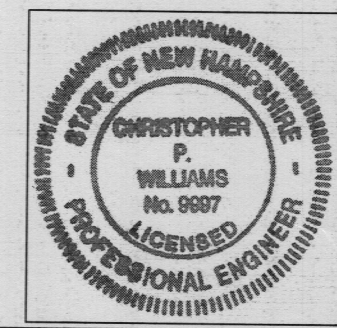
Christopher P. Williams
1914 South Hill Rd.
Moretown, VT 05660
NH PE# 9997

CONTRACTOR

Marwin Construction
227 Gray Road
Falmouth, ME 04105

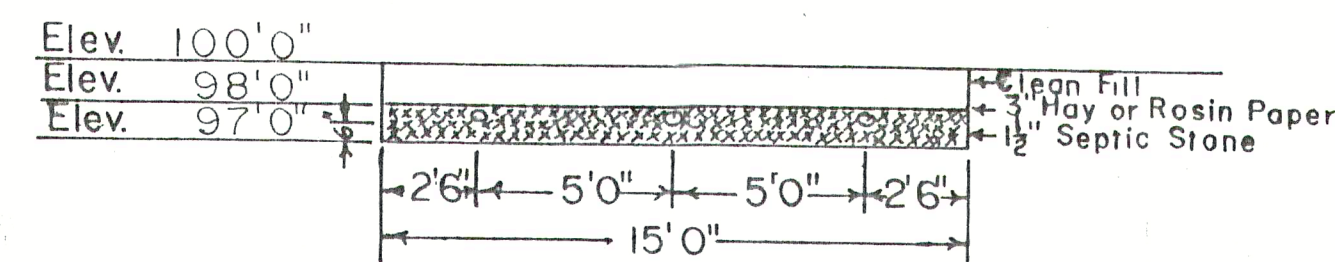
DATE

11/5/20; Resub 12/13/20

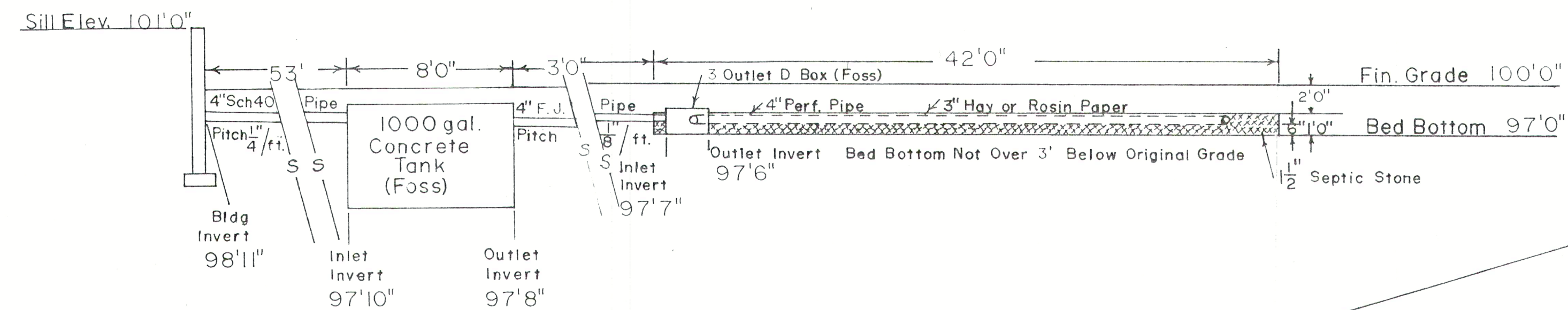


12/13/2020

LEACH FIELD CROSS SECTION SCALE 1"=5'



SYSTEM PROFILE SCALE 1"=5'

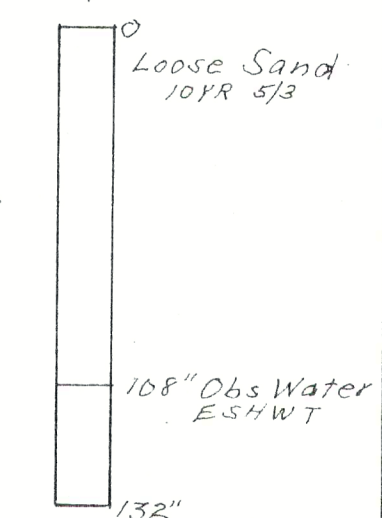


NO WET AREAS UNLESS SHOWN
NO FOUNDATION DRAINS UNLESS SHOWN
SYSTEM TO BE REBUILT IN PLACE
UNLESS OTHERWISE INDICATED

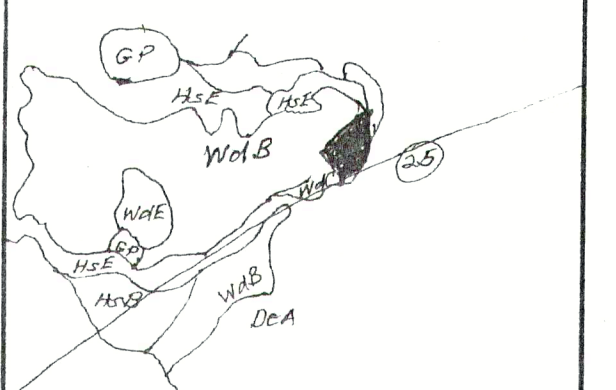
DESIGN DATA

Design Flow 500 gpd
Perc. Rate — 2 min/inch
Est. SH.W.T. 108"
Tank Size 1000 gal.
Field Area 630 s.q.ft.

Test Pit
9/29/90



Carroll County Soil Map
No. 42
Windsor Soil WdB



Perc. Test
Date — 9/29/90
Depth — 30"
Rate — <2 min/inch

GENERAL SPECIFICATIONS:

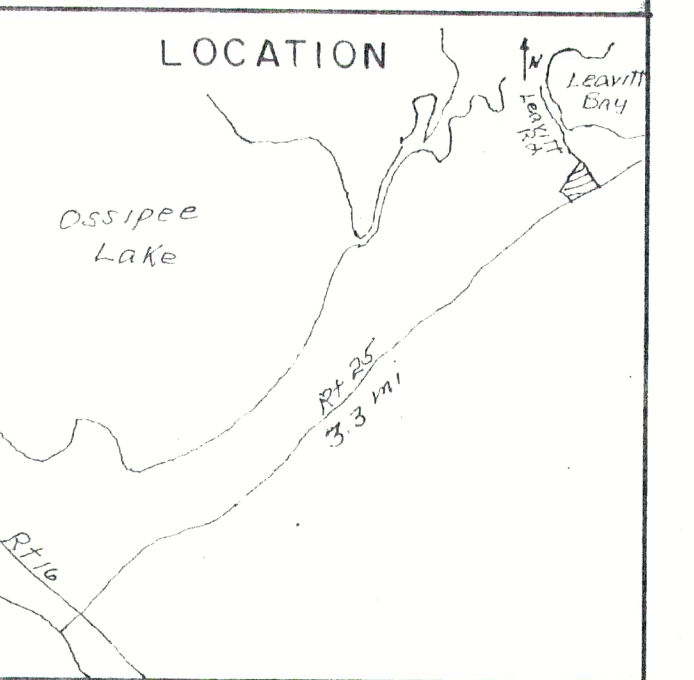
- THIS SUBSURFACE DISPOSAL SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE NEW HAMPSHIRE WATER SUPPLY AND POLLUTION CONTROL COMMISSION. CONSTRUCTION MUST CONFORM TO THIS PLAN AND THOSE RULES AND REGULATIONS.
- THE SEPTIC TANK AND DISTRIBUTION BOX ARE TO BE PRE-CAST CONCRETE, RECTANGULAR IN SHAPE WITH MANUFACTURERS STANDARD BAFFLES AND TEES. THESE UNITS MUST BE SET ON FIRMLY COMPACTED GROUND WITH INLET AND OUTLET INVERTS AT LEVELS INDICATED ON THE PLAN. PIPE CONNECTIONS AT THE UNITS SHALL BE SEALED WITH PORTLAND MORTAR CEMENT.
- SEWER PIPE FROM THE BUILDING TO THE SEPTIC TANK SHALL BE CAST IRON OR SCHEDULE 40 SOLVENT WELDED PLASTIC PIPE. EFFLUENT PIPE FROM THE SEPTIC TANK SHALL BE FRICTION JOINT PLASTIC PIPE UNLESS OTHERWISE NOTED. LEACHING PIPE SHALL BE FRICTION JOINT RIGID PERFORATED PLASTIC PIPE WITH FRICTION JOINT COLLARS ELLS AND TEES.
- WHEN EXCAVATING THE LEACHING AREA CARE MUST BE TAKEN TO AVOID EXCESSIVE COMPACTION OR SMEARING OF RECEIVING SOIL.
- STONE USED IN THE LEACH BED SHALL BE 1-1/2 INCH UNIFORMLY SIZED WASHED CRUSHED STONE DESIGNATED AS "SEPTIC STONE".
- THE LEACHING AREA SHALL BE COVERED WITH 3 INCHES OF HAY OR NON WATERPROOF BUILDING PAPER BEFORE BACK FILLING.
- BED BOTTOM AND LEACH LINES MUST BE LEVEL.

NOTE: UNLESS OTHERWISE STATED, SEPTIC DESIGNS INC. ACCEPTS NO RESPONSIBILITY FOR PROPERTY LINES AS SHOWN ON THIS DRAWING.

SUBDIVISION STATUS

Name — NA
Lot No. — 2
Approval No. — Lot of Record 1966

LOCATION



Designed By

SEPTIC DESIGNS INC.
BOX 150 FREEDOM, N.H. 03836
Tel. 603-539-4213

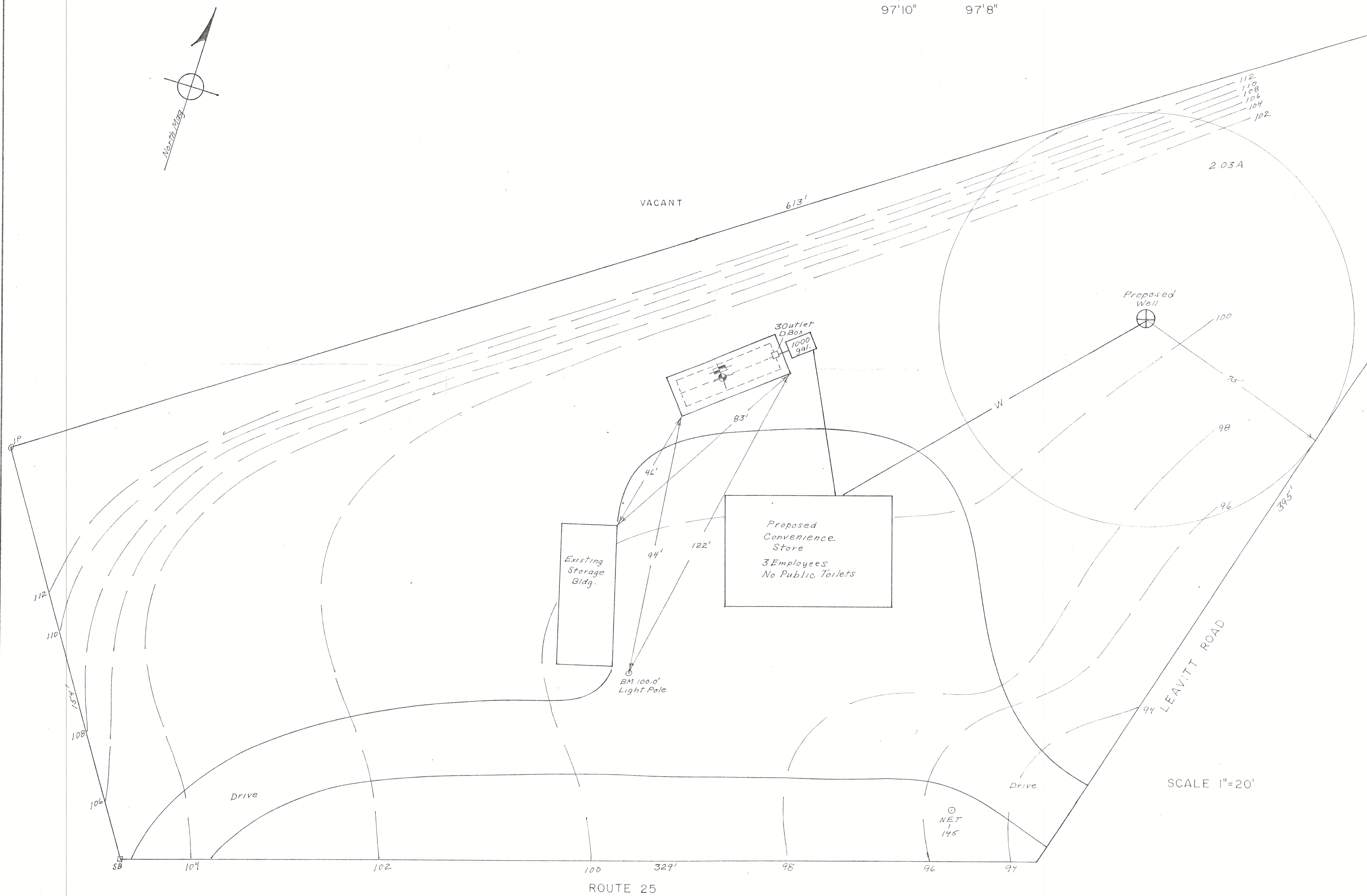
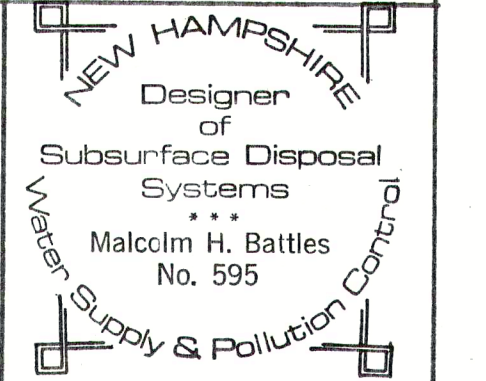
Malcolm H. Battles
PRES. DATE 10/2/90

SEPTIC SYSTEM PLAN

DYN-O-MITE, Ltd.

ROUTE 25

EFFINGHAM, N.H.



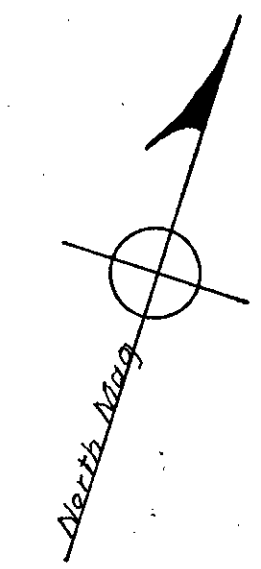
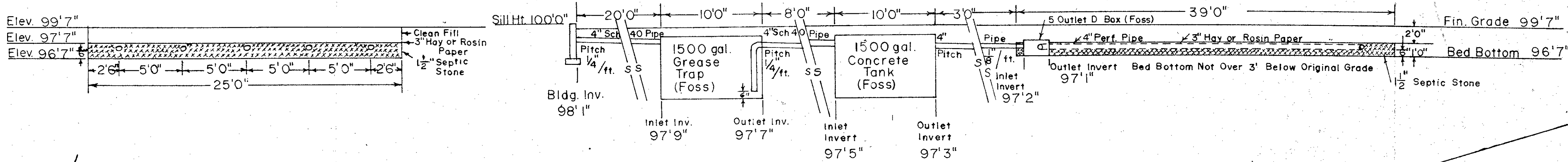
LEACH FIELD CROSS SECTION
SCALE 1"= 5'

SYSTEM PROFILE
SCALE 1"= 5'

ADVISE YOUR CONTRACTOR
OF REQUIRED CHANGES IN
PLANS AS INDICATED ON THIS
CONDITIONAL APPROVAL.

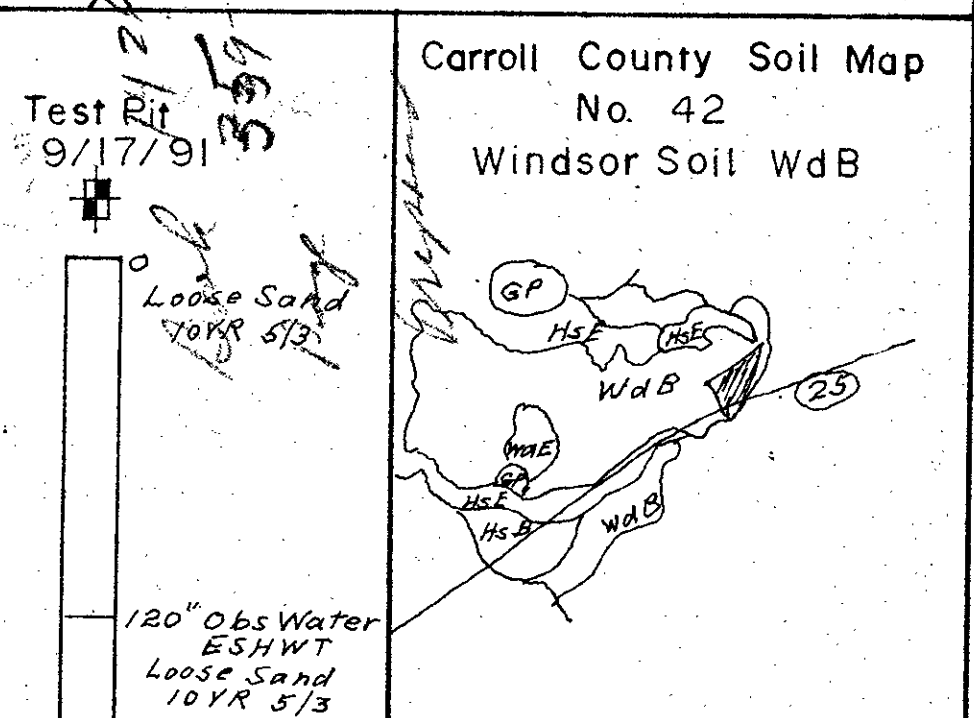
STATE

REVIEWED AND APPROVED
IN ACCORDANCE WITH THE
REQUIREMENTS OF THE
N.H. DEPT. OF ENVIRONMENTAL SERVICES
WATER SUPPLY & POLLUTION
CONTROL DIVISION
Signed DA Carter
Date 9-27-91
189284



NO WET AREAS UNLESS SHOWN
NO FOUNDATION DRAINS UNLESS SHOWN
SYSTEM TO BE REBUILT IN PLACE
UNLESS OTHERWISE INDICATED

DESIGN DATA:
Design Flow - 1005
Store 3x15 = 45 N
Rest. 24x40 = 960 C
Perc. Rate - 2 min/inch
Est. SHWT 120"
Tank Size 1500 gal.
Field Area 9.75 sq.ft.
Grease Trap 1500 gal.
Perc. Test
Date - 9/17/91
Depth - 30"
Rate - < 2 min/inch



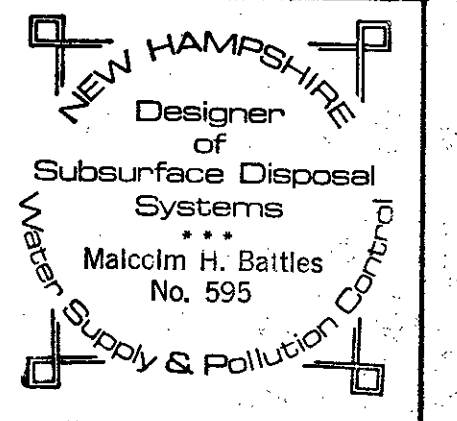
- GENERAL SPECIFICATIONS:**
- THIS SUBSURFACE DISPOSAL SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE NEW HAMPSHIRE WATER SUPPLY AND POLLUTION CONTROL COMMISSION. CONSTRUCTION MUST CONFORM TO THIS PLAN AND THOSE RULES AND REGULATIONS.
 - THE SEPTIC TANK AND DISTRIBUTION BOX ARE TO BE PRE-CAST CONCRETE, RECTANGULAR IN SHAPE WITH MANUFACTURERS STANDARD Baffles AND TEES. THESE UNITS MUST BE SET ON FIRMLY COMPACTED GROUND WITH INLET AND OUTLET INVERTS AT LEVELS INDICATED ON THE PLAN. PIPE CONNECTIONS AT THE UNITS SHALL BE SEALED WITH PORTLAND MORTAR CEMENT.
 - SEWER PIPE FROM THE BUILDING TO THE SEPTIC TANK SHALL BE CAST IRON OR SCHEDULE 40 SOLVENT WELDED PLASTIC PIPE. EFFLUENT PIPE FROM THE SEPTIC TANK SHALL BE FRICTION JOINT PLASTIC PIPE UNLESS OTHERWISE NOTED. LEACHING PIPE SHALL BE FRICTION JOINT RIGID PERFORATED PLASTIC PIPE WITH FRICTION JOINT COLLARS ELLS AND TEES.
 - WHEN EXCAVATING THE LEACHING AREA CARE MUST BE TAKEN TO AVOID EXCESSIVE COMPACTION OR SMEARING OF RECEIVING SOIL.
 - STONE USED IN THE LEACH BED SHALL BE 1-1/2 INCH UNIFORMLY SIZED WASHED CRUSHED STONE DESIGNATED AS "SEPTIC STONE".
 - THE LEACHING AREA SHALL BE COVERED WITH 3 INCHES OF HAY OR NON-WATERPROOF BUILDING PAPER BEFORE BACK FILLING.
 - BED BOTTOM AND LEACH LINES MUST BE LEVEL.
- NOTE: UNLESS OTHERWISE STATED, SEPTIC DESIGNS INC. ACCEPTS NO RESPONSIBILITY FOR PROPERTY LINES AS SHOWN ON THIS DRAWING.



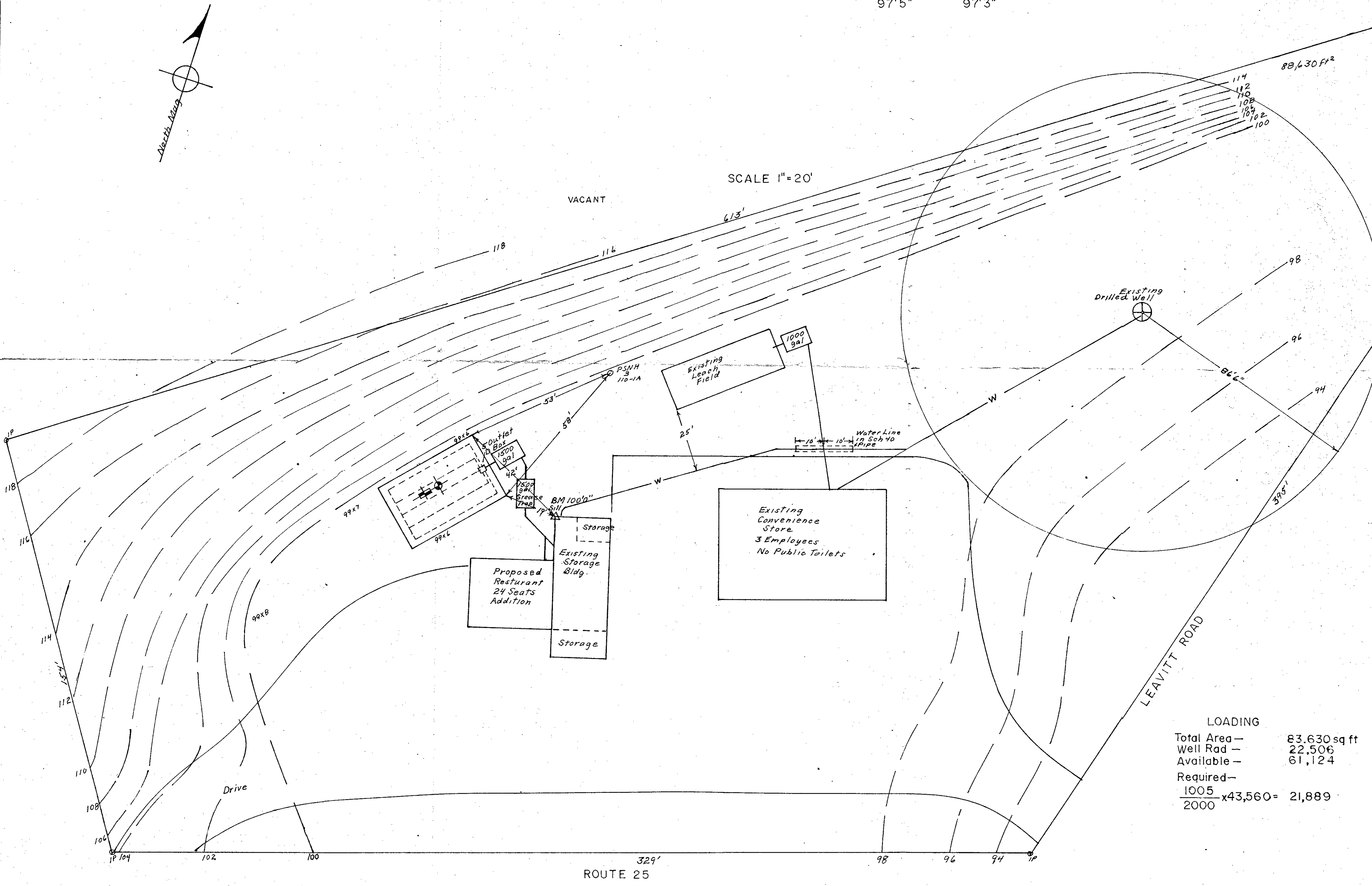
SUBDIVISION STATUS
Deed - Bk1426 p.361
Name - White & Sawyer
Lot No. - 2
Approval No. - Lot of Record 1966

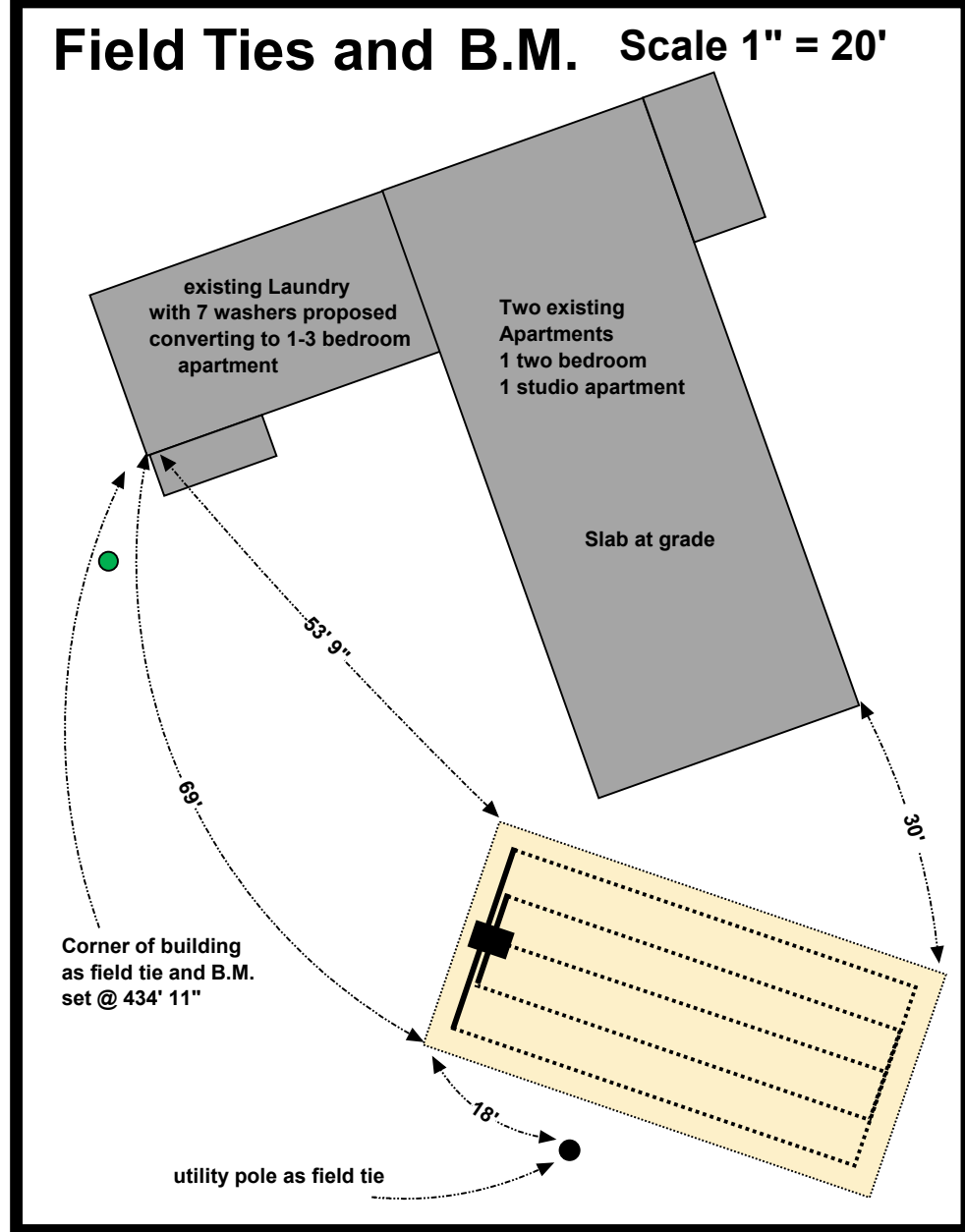
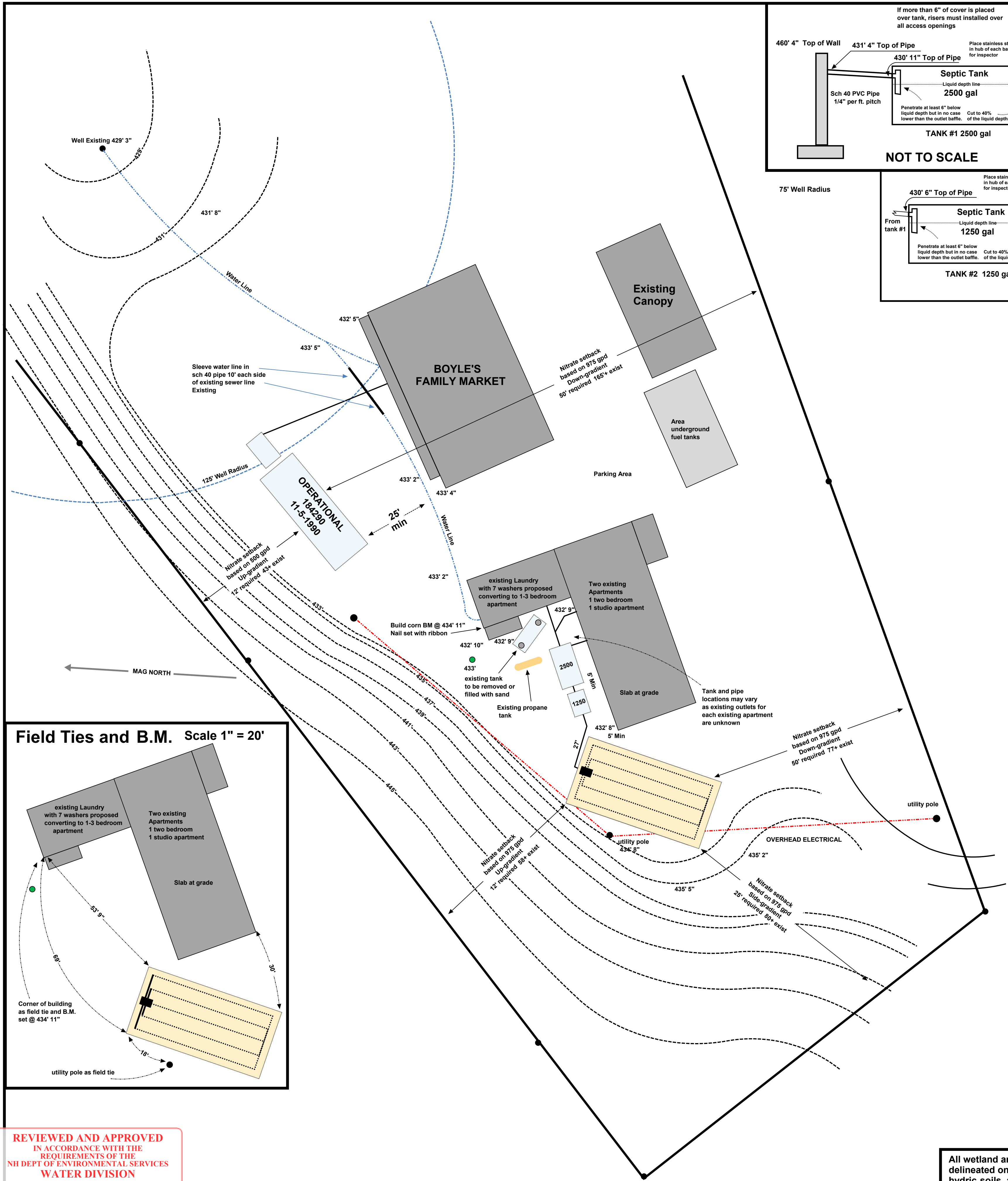
Designed By
SEPTIC DESIGNS INC.
BOX 150 FREEDOM, N.H. 03836
Tel. 603-539-4213
PRES. Malcolm H. Battles 9/19/91
DATE

SEPTIC SYSTEM PLAN
of
DYN-O-MITE, Ltd
ROUTE 25
EFFINGHAM, N.H.



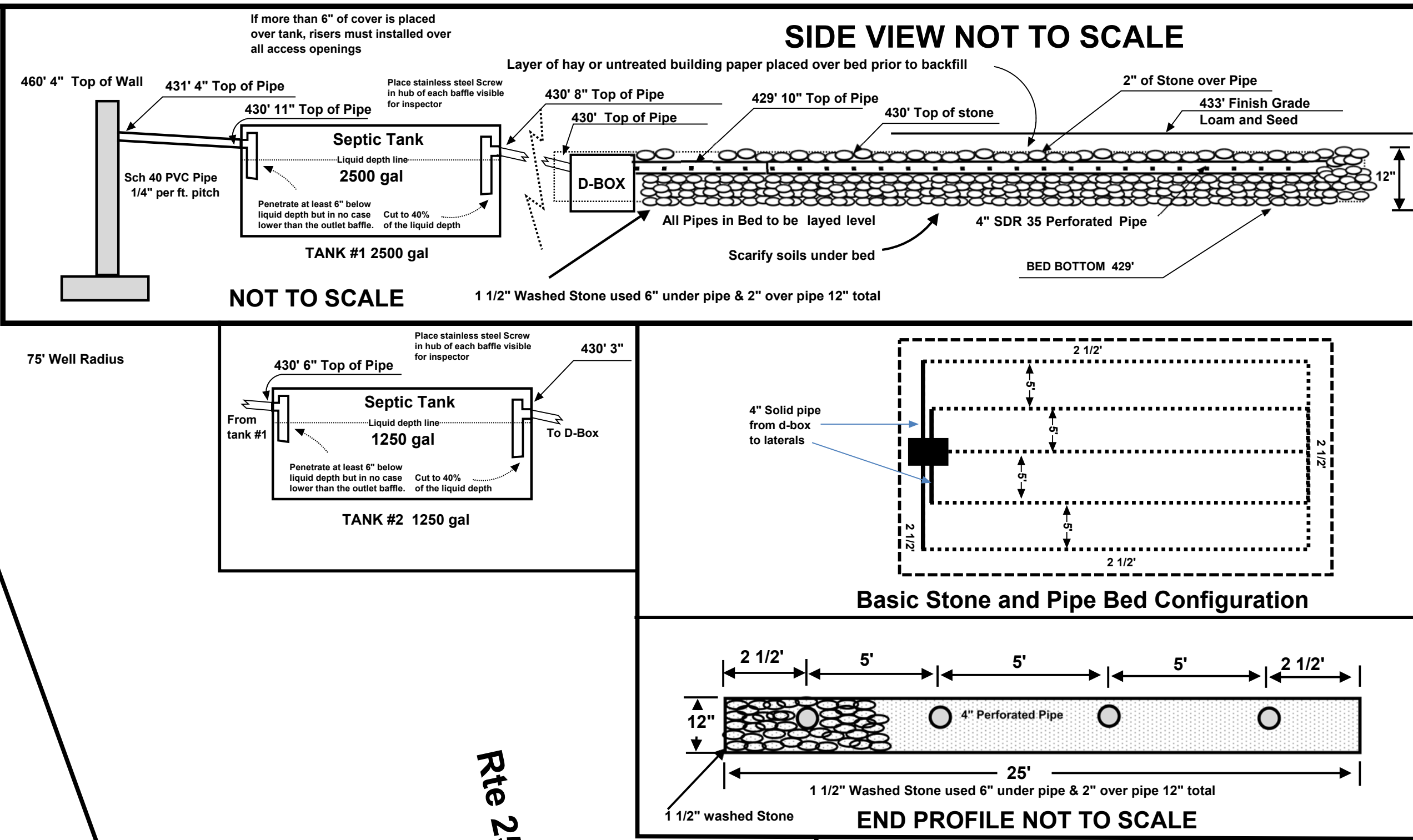
LOADING
Total Area - 83,630 sq ft
Well Rad - 22,506
Available - 61,124
Required -
1005 x 43,560 = 21,889
2000





REVIEWED AND APPROVED
IN ACCORDANCE WITH THE
REQUIREMENTS OF THE
NH DEPT OF ENVIRONMENTAL SERVICES
WATER DIVISION

David S. Pandora
Date: 3/23/2021
#eCA2021032312

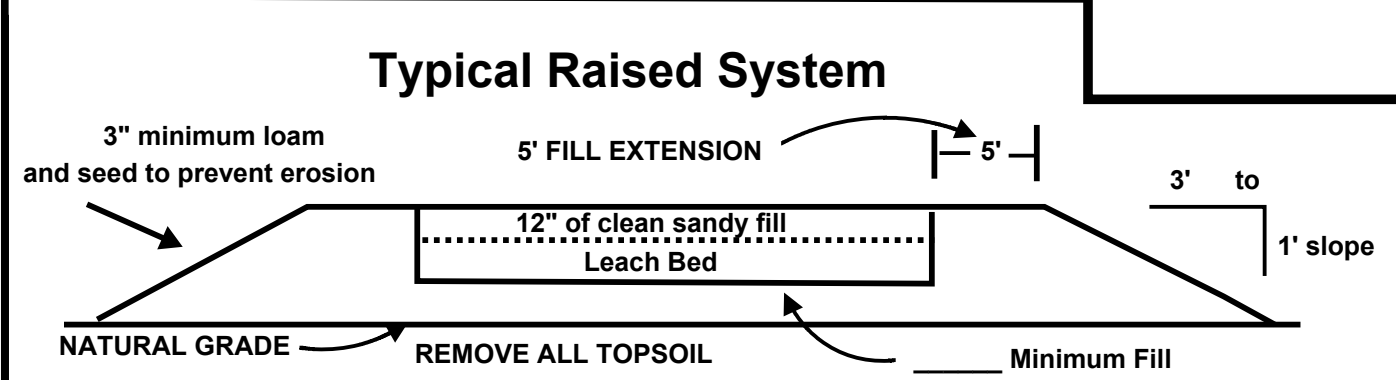


NOTES:

- This design is based on data taken from the ENV-WQ 1000
- No perimeter drains are to be installed within 25' of the leach area.
- This Design does not calculate the use of a garbage grinder should one be used the tank capacity must be increased by 50%
- This System must be replaced in the same location as shown on this plan unless otherwise shown.
- 1 1/2" Washed stone used in bed area must be clean of sand and contaminants
- There are no burial sites public or private within 100' of the proposed EDA.

REFERRING TO LEACH BED SPEC'S

- Center to Center spacing of laterals 5 ft.
- From outer edge of bed laterals and ends must be in 2 1/2 ft. (shown in end profile)
- Minimum Separation Distance from seasonal water 48"
- Final Grade 433'
- Original Grade 433'
- Bed size from table 1016-1 commercial use 2 minperc 1219 sq. ft. required, 1250 used this design or 25' X 50'



TEST PIT AND PERCOLATION TEST DATA	
DATE 2/20/2021	DATE 2/20/2021
0" to 5" Dark rooty top soil fine	RATE 2 MIN / 1 INCH
5" to 22" medium/brown sand	DEPTH 48"
7.5 YR 4/4 Med/coarse texture	SOIL TYPE Champlain
22" to 36" Tan Sand	NRCS Soil 35B & 35D
7.5 YR 6/3 fine/med texture	Soil Survey of Carroll County
36" to 62" Tan/brown sand	Associated with WindsorWdB
7.5 YR 6/4 Med texture	ESHW 102"
62" to 76" Tan/brown sandy gravel	MOTTLES @ none noted
7.5 YR 5/4 fine/med texture	LEDGE none to 102"
76" to 102" Tan sandy gravel	Roots to 28"
7.5 YR 6/3 fine medium texture	No water viewed to 102"+
No stones at all	

Lot Size 2.3 acres 100,188.0 sq. ft.

Map 405 Parcel 5

LOT LOADING SPEC'S

500 GPD div by 2000 = .25 X 1.0 = .25 acres or 10,890.0 sq. ft. existing Operational

975 GPD div by 2000 = .4875 X 1.0 = .4875 acres or 21,235.5 sq. ft.

One, two (2) bedroom apartment @ 300 gpd and 1, one (1) bedroom apartment @ 225 gpd

one three (3) bedroom apartment @ 450 gpd = 975 gpd for all apartments.

Deduct well radius 39,445.0 sq. ft. on lot area and any wetland areas and slopes.

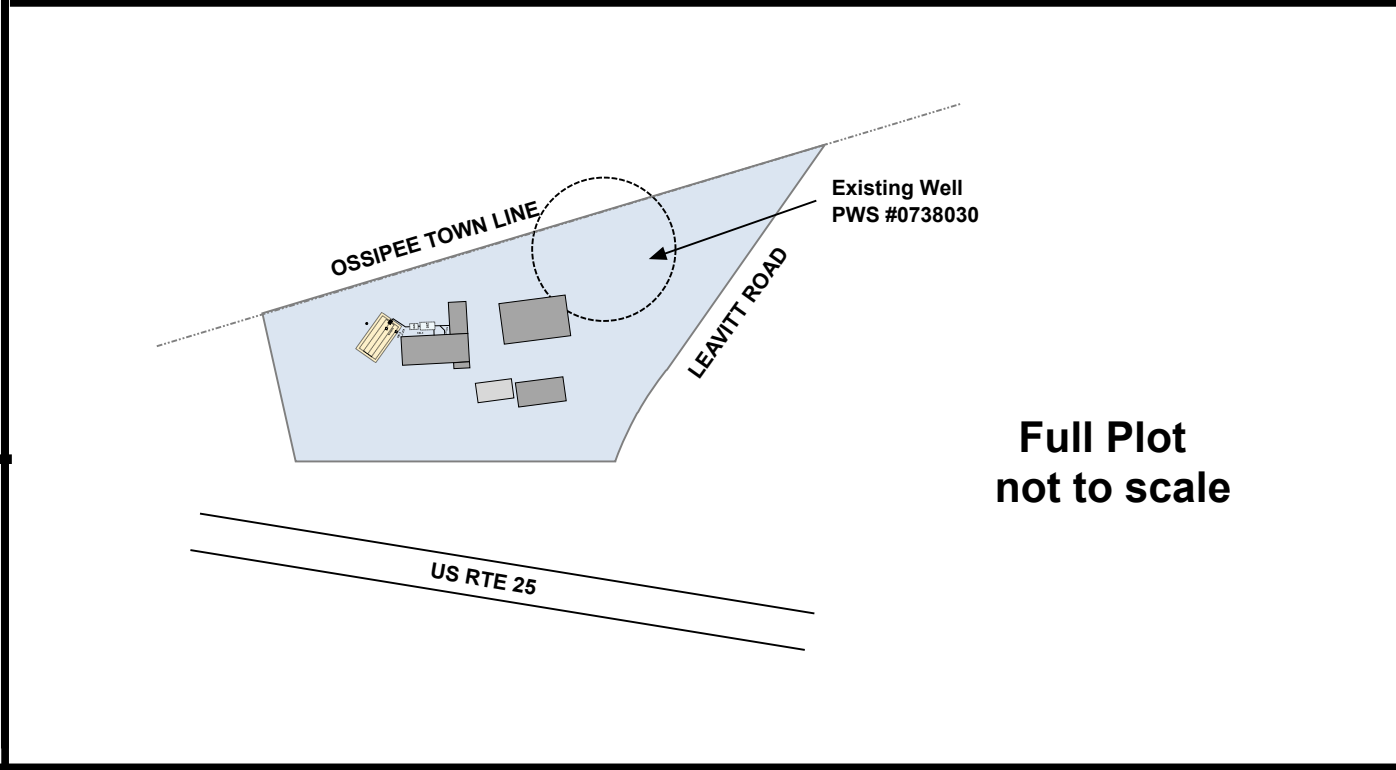
Existing Laundry must be discontinued before new system goes into operational use and verified.

Total lot area	100,188.0 sq. ft.
Well Radius Deduct on lot portion	39,445.0 sq. ft.
E Slope restricted is 9% of lot multi 1.3	600.0 sq. ft.
Existing Loading (operational)	10,890.0 sq. ft.
New or replacement lot loading Deduct	21,235.5 sq. ft.
Remaining lot density	28,017.5 sq. ft.

total well radius 49,062.5 sq. ft.

off lot 9,617.5 on lot 39,445.0

Group one soils 9,016.92 sq. ft. of E slope



LEACH FIELD SPECIFICATIONS

SEPTIC TANK SIZE #1 2500 gal #2 1250 gal SUPERIOR GRADE OR EQUAL.

D-BOX to have 5 outlets minimum.

Leach Field Dimensions 25' X 50'

Number of lines 5 @ 41 feet each

Schedule 40 4" pipe used from foundation to tank, seal all joints.

4" SDR 35 sewer & drain pipe used from tank to D-Box, seal all joints.

4" SDR 35 Perforated pipe in leach area collar joints

All connections between a septic tank and the pipes leading to and exiting from the septic tank shall be sealed with flexible joint connectors that will accommodate normal movement of the septic tank without leaking or breaking.

Pipes in bed to be laid level and joined at ends

Foundation drains as shown on plan.

Use Residential/commercial 6 Bd Rm 975 GPD.

Design intent is to construct bed bottom no more than 48" below existing ground level on high side of bed @ 429' This is 54" above ESHWT

Lot Owner MEENA LLC

PO BOX 394

Center Conway, NH 03813

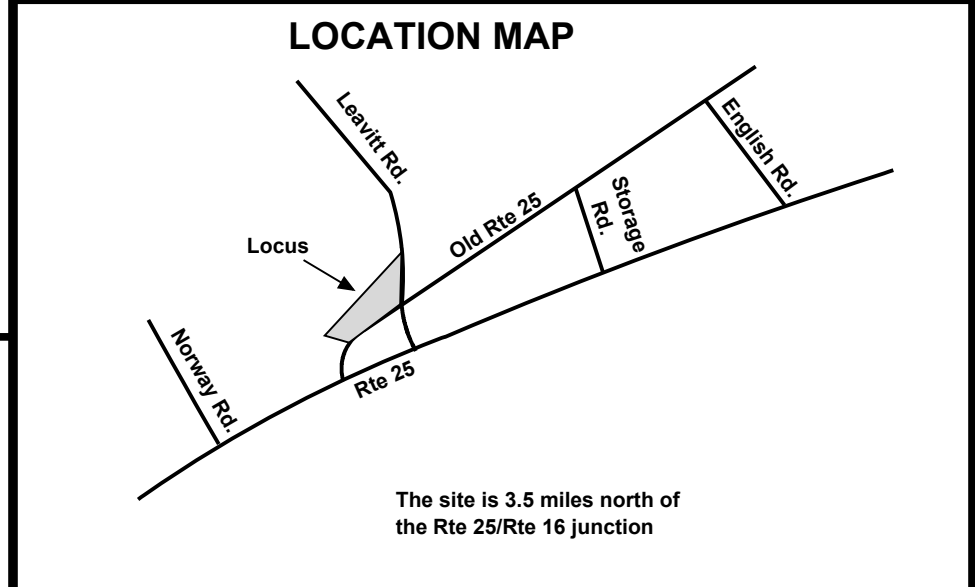
Location 41 NH Rte 25

Effingham, NH 03882

Subdivision approval # Lot Of Record Pre-1967

Subdivision Name

Map 401 Parcel 5



DESIGNER STAMP

DRAWING DATE 2-15-2021

Revised 3-23-2021

David S. Pandora

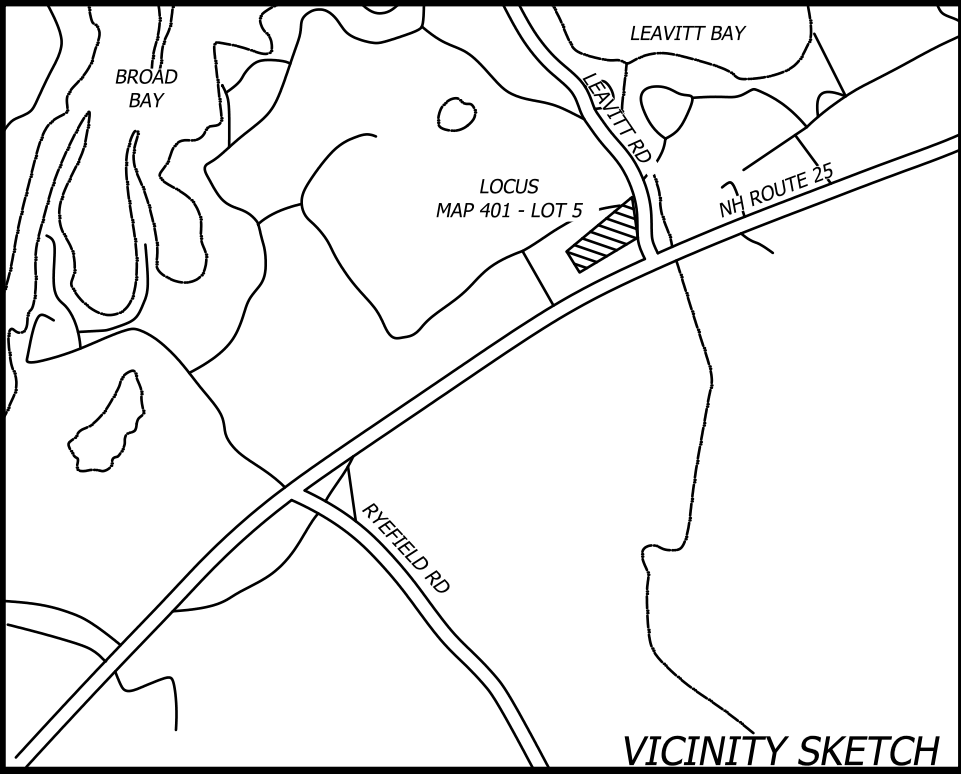
DAVID S. PANDORA

45 FEIN LANE

CENTER CONWAY, NH 03813

1-603-356-3737

Plan # 0215202101

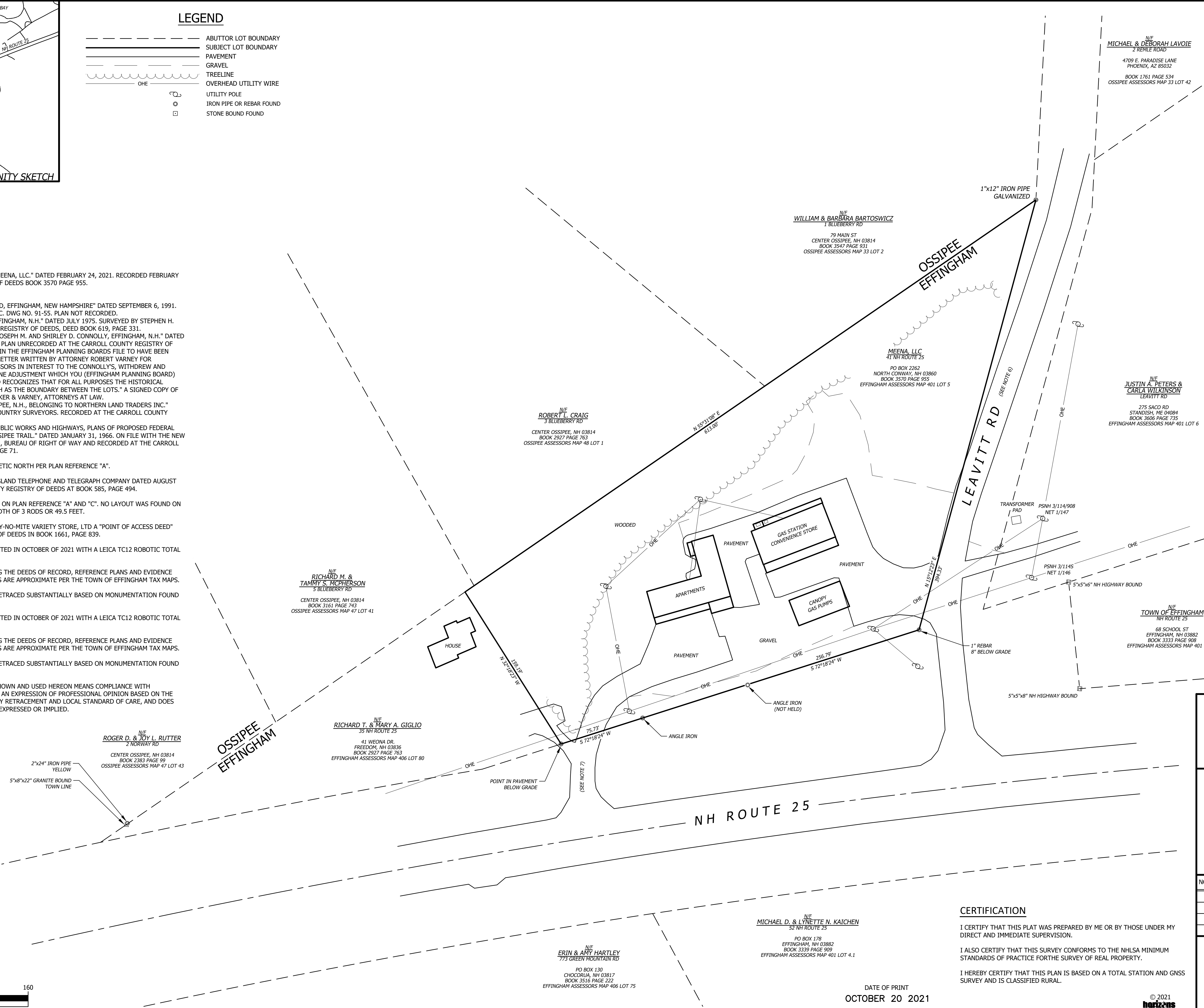
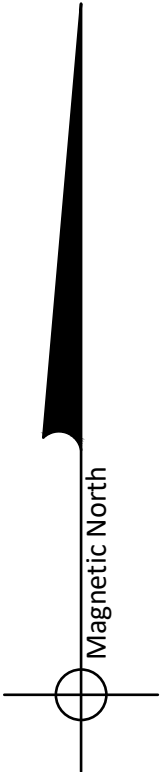
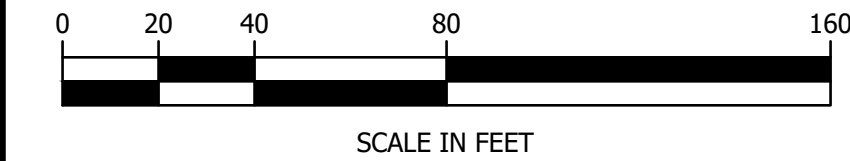


LEGEND

- ABUTTOR LOT BOUNDARY
- SUBJECT LOT BOUNDARY
- PAVEMENT
- GRAVEL
- TREELINE
- OVERHEAD UTILITY WIRE
- OHE
- UTILITY POLE
- IRON PIPE OR REBAR FOUND
- STONE BOUND FOUND

GENERAL NOTES

- OWNER OF RECORD
MEENA, LLC
41 US ROUTE 25
EFFINGHAM, NH 03882
BOOK 3570 PAGE 955
- DEED REFERENCES:
 - "WARRANTY DEED FROM BFM REALTY, LLC TO MEENA, LLC." DATED FEBRUARY 24, 2021. RECORDED FEBRUARY 25, 2021 AT THE CARROLL COUNTY REGISTRY OF DEEDS BOOK 3570 PAGE 955.
- PLAN REFERENCES:
 - "PROPERTY OF DY-NO-MITE VARIETY STORE, LTD, EFFINGHAM, NEW HAMPSHIRE" DATED SEPTEMBER 6, 1991. SURVEYED BY THADDEUS THORNE-SURVEYS, INC. DWG NO. 91-55. PLAN NOT RECORDED.
 - "PROPERTY OF MRS. KATHERINE B. GRIFFIN, EFFINGHAM, N.H." DATED JULY 1975. SURVEYED BY STEPHEN H. BOOMER. RECORDED AT THE CARROLL COUNTY REGISTRY OF DEEDS, DEED BOOK 619, PAGE 331.
 - "BOUNDARY LINE ADJUSTMENT, PROPERTY OF JOSEPH M. AND SHIRLEY D. CONNOLLY, EFFINGHAM, N.H." DATED JULY 1983. SURVEYED BY STEPHEN H. BOOMER. PLAN UNRECORDED AT THE CARROLL COUNTY REGISTRY OF DEEDS BUT FOUND AN ORIGINAL SIGNED COPY IN THE EFFINGHAM PLANNING BOARDS FILE TO HAVE BEEN APPROVED ON SEPTEMBER 6, 1983. IN 1995, A LETTER WRITTEN BY ATTORNEY ROBERT VARNEY FOR DY-NO-MITE, INC AND THE GIGLIOS AS "SUCCESSORS IN INTEREST TO THE CONNOLLY'S, WITHDREW AND ABANDON THE APPLICATION FOR BOUNDARY LINE ADJUSTMENT WHICH YOU (EFFINGHAM PLANNING BOARD) APPROVED ON SEPTEMBER 6, 1983...THE BOARD RECOGNIZES THAT FOR ALL PURPOSES THE HISTORICAL BOUNDARY SHALL BE RECOGNIZED HENCEFORTH AS THE BOUNDARY BETWEEN THE LOTS." A SIGNED COPY OF THE LETTER IS ON FILE AT THE OFFICE OF WALKER & VARNEY, ATTORNEYS AT LAW.
 - "BLUEBERRY ESTATES", PLAN OF LAND IN OSSIPEE, N.H., BELONGING TO NORTHERN LAND TRADERS INC." DATED APRIL 28, 1980. SURVEYED BY NORTH COUNTRY SURVEYORS. RECORDED AT THE CARROLL COUNTY REGISTRY OF DEEDS, PLAN BOOK 52, PAGE 61.
 - STATE OF NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS, PLANS OF PROPOSED FEDERAL AID PROJECT NO.S-205(1), N.H. NO. S-7193, OSSIPEE TRAIL." DATED JANUARY 31, 1966. ON FILE WITH THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, BUREAU OF RIGHT OF WAY AND RECORDED AT THE CARROLL COUNTY REGISTRY OF DEEDS, PLAN BOOK 7, PAGE 71.
- THE BEARINGS SHOWN HEREON REFER TO MAGNETIC NORTH PER PLAN REFERENCE "A".
- RIGHT OF WAY EASEMENT IN FAVOR OF NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY DATED AUGUST 15, 1969 AND RECORDED IN THE CARROLL COUNTY REGISTRY OF DEEDS AT BOOK 585, PAGE 494.
- THE RIGHT OF WAY FOR LEAVITT ROAD IS BASED ON PLAN REFERENCE "A" AND "C". NO LAYOUT WAS FOUND ON RECORD. THE RIGHT OF WAY IS AN ASSUMED WIDTH OF 3 RODS OR 49.5 FEET.
- IN 1996, THE STATE OF NEW HAMPSHIRE DEED DY-NO-MITE VARIETY STORE, LTD A "POINT OF ACCESS DEED" RECORDED AT THE CARROLL COUNTY REGISTRY OF DEEDS IN BOOK 1661, PAGE 839.
- THIS PLAN IS BASED ON A FIELD SURVEY COMPLETED IN OCTOBER OF 2021 WITH A LEICA TC12 ROBOTIC TOTAL STATION.
- THE PROPERTY BOUNDARY WAS RETRACED USING THE DEEDS OF RECORD, REFERENCE PLANS AND EVIDENCE FOUND IN THE FIELD. ABUTTING PROPERTY LINES ARE APPROXIMATE PER THE TOWN OF EFFINGHAM TAX MAPS.
- THE BOUNDARIES AS DEPICTED HEREON WERE RETRACED SUBSTANTIALLY BASED ON MONUMENTATION FOUND IN THE FIELD AND ON REFERENCE PLANS.
- THIS PLAN IS BASED ON A FIELD SURVEY COMPLETED IN OCTOBER OF 2021 WITH A LEICA TC12 ROBOTIC TOTAL STATION.
- THE PROPERTY BOUNDARY WAS RETRACED USING THE DEEDS OF RECORD, REFERENCE PLANS AND EVIDENCE FOUND IN THE FIELD. ABUTTING PROPERTY LINES ARE APPROXIMATE PER THE TOWN OF EFFINGHAM TAX MAPS.
- THE BOUNDARIES AS DEPICTED HEREON WERE RETRACED SUBSTANTIALLY BASED ON MONUMENTATION FOUND IN THE FIELD AND ON REFERENCE PLANS.
- THE WORD "CERTIFY" OR "CERTIFICATION" AS SHOWN AND USED HEREON MEANS COMPLIANCE WITH APPLICABLE LAND SURVEY LAWS AND RULES AND AN EXPRESSION OF PROFESSIONAL OPINION BASED ON THE FACTS OF THE SURVEY, PRINCIPLES OF BOUNDARY RETRACEMENT AND LOCAL STANDARD OF CARE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EXPRESSED OR IMPLIED.



CERTIFICATION

I CERTIFY THAT THIS PLAT WAS PREPARED BY ME OR BY THOSE UNDER MY DIRECT AND IMMEDIATE SUPERVISION.

I ALSO CERTIFY THAT THIS SURVEY CONFORMS TO THE NHLSA MINIMUM STANDARDS OF PRACTICE FORTHE SURVEY OF REAL PROPERTY.

I HEREBY CERTIFY THAT THIS PLAN IS BASED ON A TOTAL STATION AND GNSS SURVEY AND IS CLASSIFIED RURAL.

DATE OF PRINT
OCTOBER 20 2021
HORIZONS ENGINEERING

DATE _____

© 2021
horizons
Engineering
All rights reserved

horizons
Engineering

NEWPORT VT • SHARON VT • LITTLETON NH • CONWAY NH
NEW LONDON NH • NEWMARKET NH • SACO ME

BOUNDARY SURVEY OF LANDS OF MEENA, LLC

PO BOX 2262
NORTH CONWAY, NH 03860

41 NH ROUTE 25
EFFINGHAM, NH 03882
TAX MAP 401 - LOT 5
CCRD BOOK 3570 - PAGE 955

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE: OCT. 2021	PROJECT #: S-21268
SURV'D BY: TWH/ DH	DRAWN BY: TWH/ WWS
CHECK'D BY: LG	ARCHIVE #: H-____

DWG NO. 21-27