

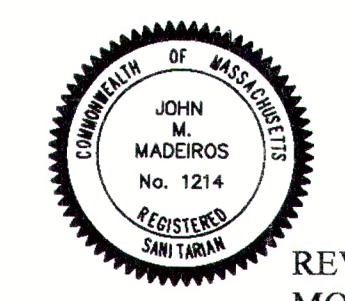
SUBSURFACE SEWAGE DISPOSAL SYSTEM

LEGEND			
	STONE WALL		SPOT ELEVATION
	TREE LINE		DEEP HOLE
	WELL		PROPOSED CONTOUR
	UTILITY POLE		EXISTING CONTOUR
	SILT FENCE		HAYBALE
	BENCHMARK		

PREPARED FOR: CARUSO CONSTRUCTION CORP.
1246 SOUTH STREET
BARRE, MA. 01005

PROPERTY ADDRESS: LOT#3 NORTH SPENCER ROAD
SPENCER, MA. 01562

CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION.



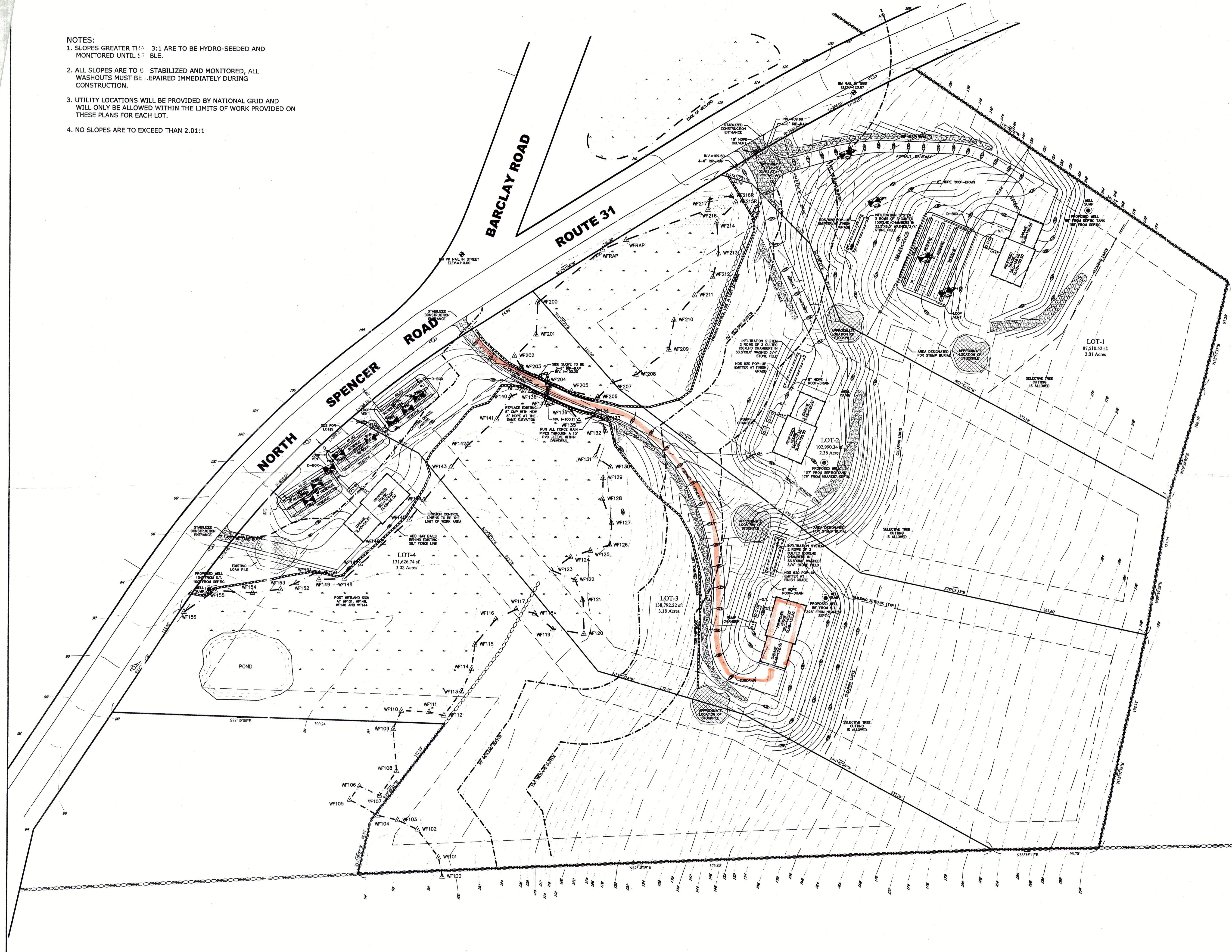
REVISED: 3/05/2018
MOVE HOUSE LOCATION



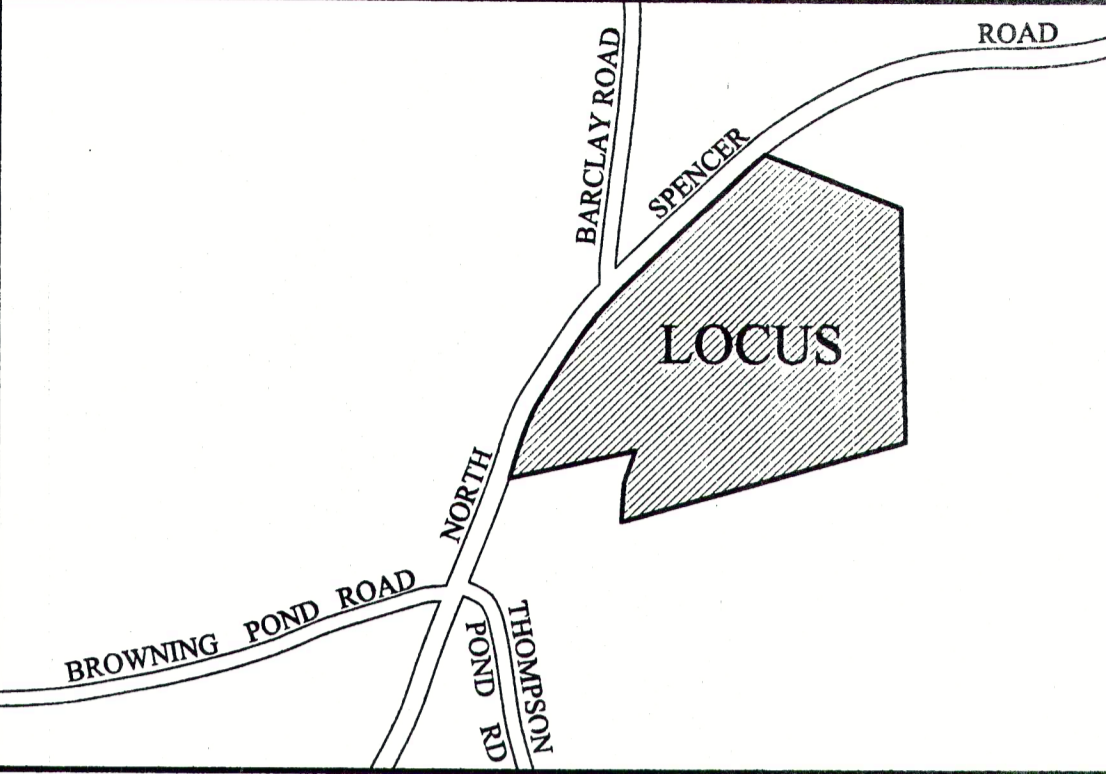
Environmental Consultants ■ Civil Engineering Consultants
Land Surveying Consultants
P.O. Box 376 Rutland, MA 01543
(508) 829-7222 Ph (508) 829-7522 Fax

DATE: 9/17/2015 SCALE: 1"=20' JOB#: 1156-15

- NOTES:
1. SLOPES GREATER THAN 3:1 ARE TO BE HYDRO-SEEDED AND MONITORED UNTIL STABLE.
 2. ALL SLOPES ARE TO BE STABILIZED AND MONITORED, ALL WASHOUTS MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION.
 3. UTILITY LOCATIONS WILL BE PROVIDED BY NATIONAL GRID AND WILL ONLY BE ALLOWED WITHIN THE LIMITS OF WORK PROVIDED ON THESE PLANS FOR EACH LOT.
 4. NO SLOPES ARE TO EXCEED THAN 2.01:1



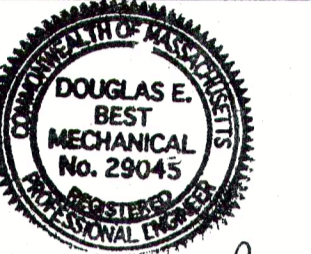
LOCUS MAP



LOCUS MAP - NOT TO SCALE

ZONING REQUIREMENTS

ZONING DISTRICT: RR	
AREA	60,000 S.F.
FRONTAGE	200 FEET
FRONT YARD	55 FEET
SIDE YARD	25 FEET
REAR YARD	25 FEET



Douglas E. Best
10-26-16

REVISIONS

REV	DATE	COMMENT	BY
1	10/11/16	REVISE DRIVEWAYS PER DPW	RMG
2	10/26/16	REVISIONS PER CONSERVATION COMMISSION ORDER OF CONDITIONS	RMG
3			
4			
5			

TYPICAL LEGEND



PROPERTY LINE	
SETBACK	
ABUTTERS LINE	
EXISTING 10' CONT.	100
EXISTING 2' CONT.	98
EXIST. SPOT GRADE	25x20
EXIST. TREE LINE	
EXIST. PAVEMENT	
WETLAND LINE	
WETLAND BUFFER	
EXISTING SMH	Ⓢ
EXISTING BUILDINGS	
FENCE LINE	

SITE PLAN

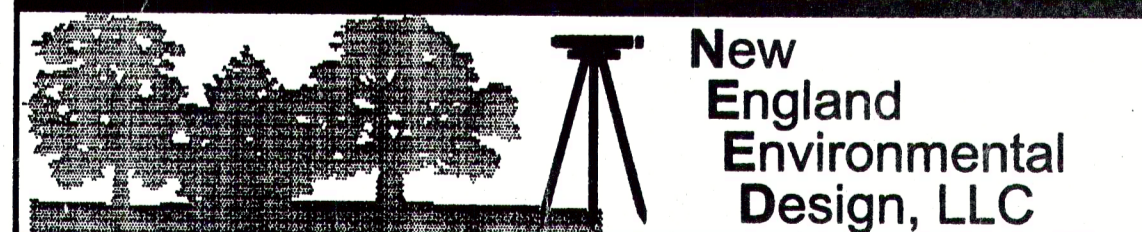
LOCATED ON
NORTH SPENCER ROAD
SPENCER, MA.

1"=40'

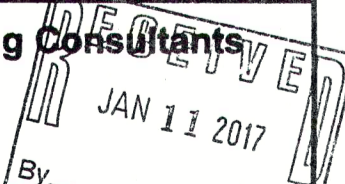
PREPARED FOR

CARUSO CONSTRUCTION CORP.
1246 SOUTH STREET
BARRE, MA.

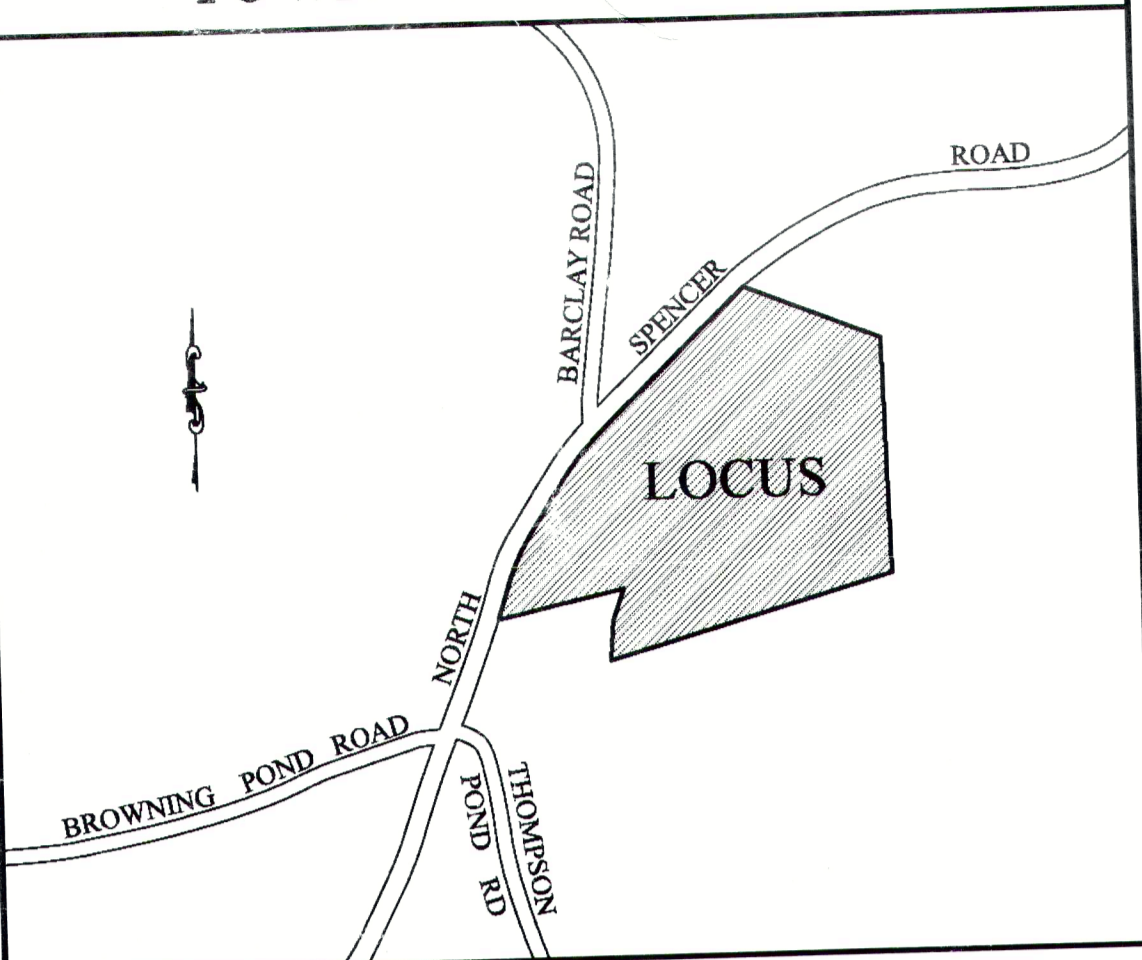
OVERALL SITE PLAN



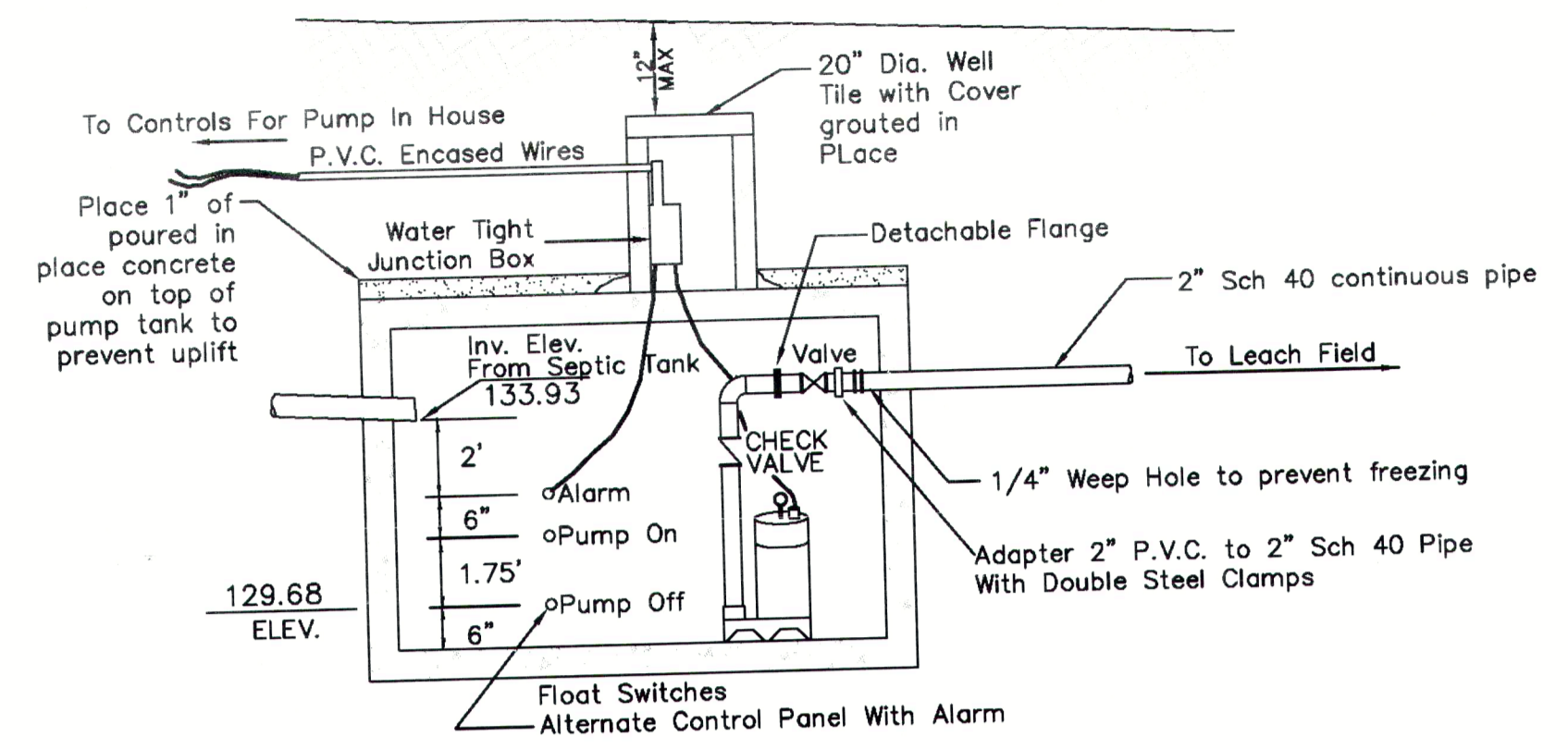
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TOWN OF SPENCER



LOCUS MAP - (NOT TO SCALE)



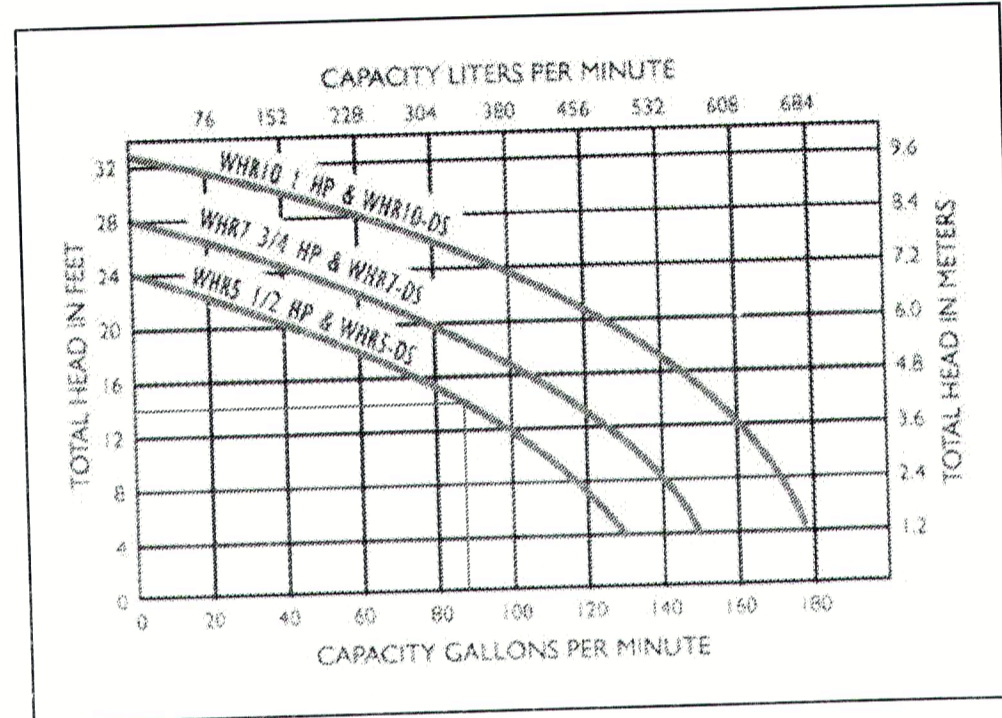
1000 GALLON PUMP CHAMBER (PREFABRICATED CONCRETE)

Number of Doses Per Day=1 Time (Per Title V)
 Pump Chamber Reserve Capacity
 Effluent Reserve Capacity
 Volume Between Alarm Switch and Invert = L x W x D x 7.48 Gal/cubic foot

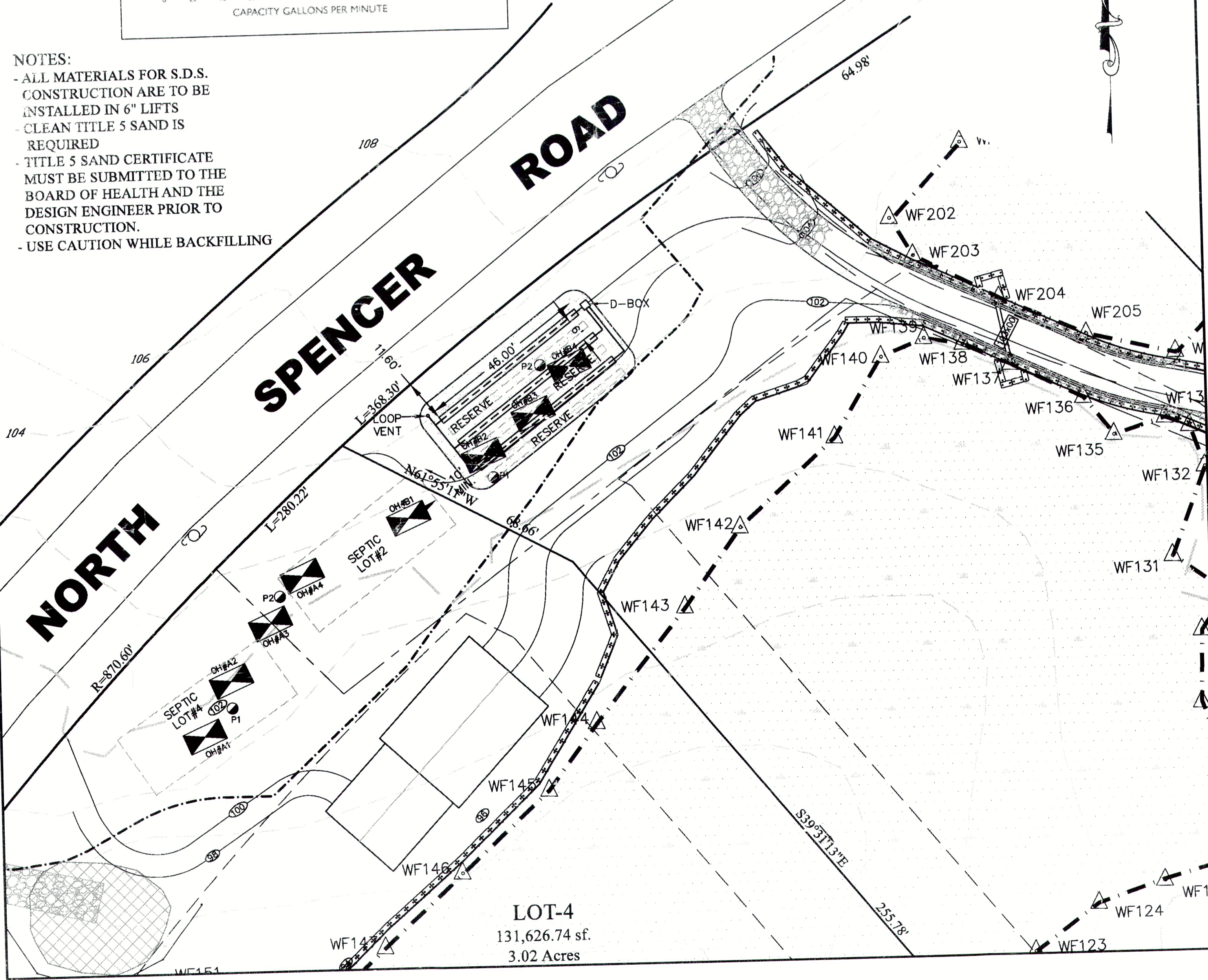
Reserve Capacity = $\frac{6' \times 4' \times 1.75' \times 7.48 \text{ GAL/CU. FT.}}{330} = 418.88 \text{ GAL}$
 Time = $\frac{\text{Reserve Capacity}}{\text{Flow}} = \frac{418.88}{330} = 1.26 \text{ Days}$

Pump Design Calculations
 Required Pipe Length = 525.15'
 Change in Elev. (Head) = 6'
 Total Friction Loss = 8.24'
 Total Head = 14.24'

USE MEYERS WHR5 OR EQUIVALENT
 PERFORMANCE: 14.24' OF HEAD @ 89 GPM
 .5 H.P., 115 VOLT, SINGLE PHASE MOTOR
 CAPABLE OF PASSING A 2" SOLID

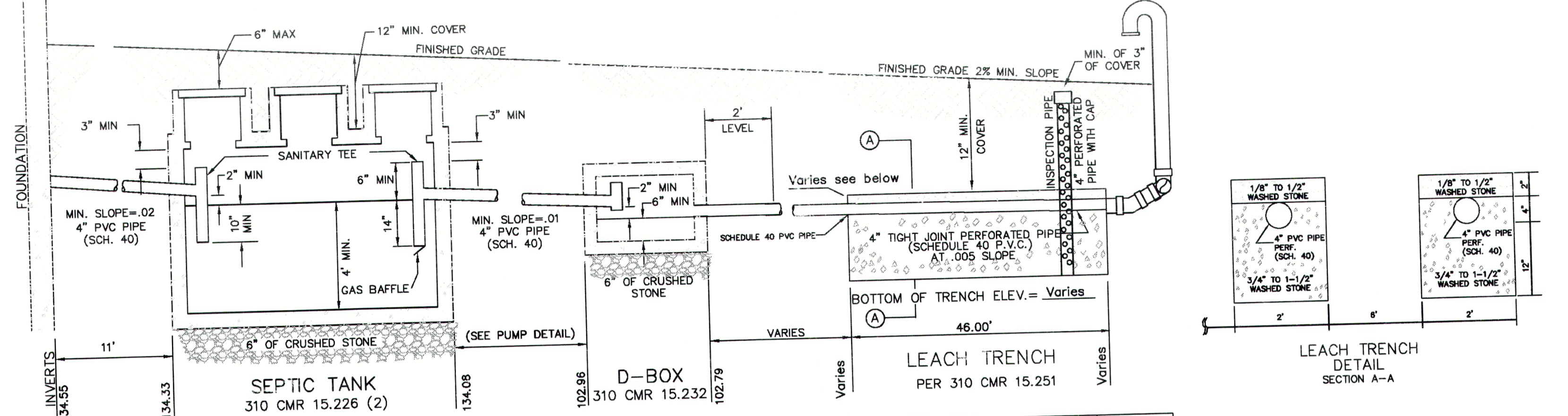


- NOTES:
 - ALL MATERIALS FOR S.D.S. CONSTRUCTION ARE TO BE INSTALLED IN 6" LIFTS
 - CLEAN TITLE 5 SAND IS REQUIRED
 - TITLE 5 SAND CERTIFICATE MUST BE SUBMITTED TO THE BOARD OF HEALTH AND THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.
 - USE CAUTION WHILE BACKFILLING

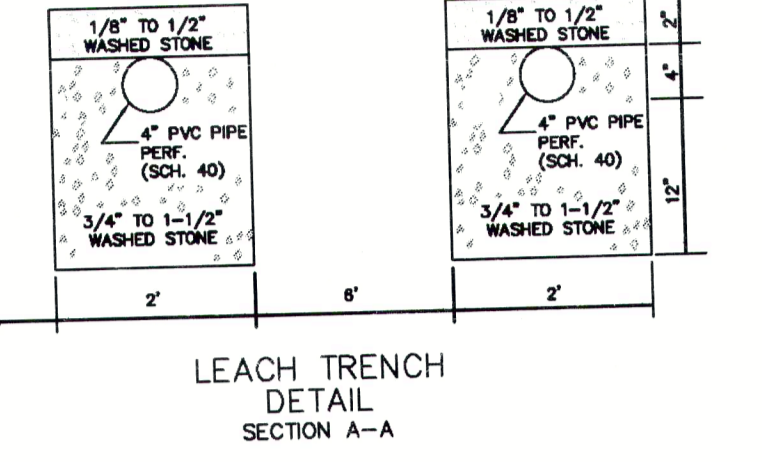


LOT-4
 131,626.74 sq. ft.
 3.02 Acres

SYSTEM PROFILE



TRENCH	TOP	BEG.	END	BOTTOM
#1	103.19	102.69	102.50	101.50
#2	102.19	101.69	101.50	100.50
#3	101.19	100.69	100.50	99.50

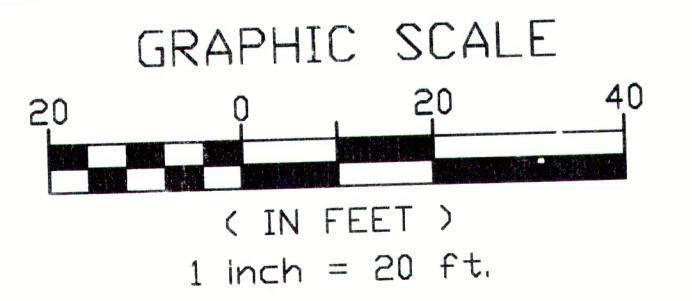


GENERAL NOTES

- ALL MODIFICATIONS TO THIS PLAN MUST BE PRE-APPROVED IN WRITING BY THE DESIGN ENGINEER AND THE LOCAL BOARD OF HEALTH.
- ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM WITH THE REQUIREMENTS OF THE LOCAL BOARD OF HEALTH AND THE STATE ENVIRONMENTAL CODE TITLE 5.
- THE CONSTRUCTION OF PERMANENT STRUCTURES UPON THE DISPOSAL SYSTEM OR RESERVE AREA IS NOT ALLOWED.
- TO OBTAIN A CERTIFICATE OF COMPLIANCE, THREE INSPECTIONS WILL BE REQUIRED BY THE DESIGN ENGINEER: 1) BOTTOM INSPECTION FOLLOWING THE EXCAVATION OF TOPSOIL & SUBSOIL, 2) FOLLOWING THE INSTALLATION OF THE SYSTEM COMPONENTS PRIOR TO BACKFILL, 3) FINAL GRADING.
- MACHINERY THAT MAY CRUSH OR DISTURB THE PIPE SHALL NOT BE ALLOWED ON THE DISPOSAL AREA.
- THIS SYSTEM WAS NOT DESIGNED TO FACILITATE A GARBAGE DISPOSAL.
- TOPSOIL, SUBSOIL, PEAT, FILL, AND OTHER IMPERVIOUS MATERIALS SHALL BE REMOVED FROM ALL AREAS WITHIN THE LEACHING FACILITY AND FOR A DISTANCE OF 5 FEET IN ALL DIRECTIONS THEREFROM.
- WHERE A SEWAGE DISPOSAL SYSTEM IS TO BE CONSTRUCTED IN FILL, THE FILL SHALL BE PLACED AND COMPACTED IN NO GREATER THAN 12 INCH LIFTS OR ALLOWED TO SETTLE FOR A MINIMUM OF ONE YEAR. THE FILL MATERIAL MUST CONFORM WITH THE REQUIREMENTS OF THE LOCAL BOARD OF HEALTH AND STATE ENVIRONMENTAL CODE TITLE 5, SECTION 15.255.
- TITLE 5 SAND CERTIFICATE MUST BE SUBMITTED TO THE BOARD OF HEALTH AND THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.
- THE BASE FOR THE SEPTIC TANK, PUMP CHAMBER, AND DIST. BOX MUST BE COMPACTED BY A VIBRATORY TAMPER.
- INTERIOR PLUMBING SHALL BE CONNECTED TO THE PROPOSED SEPTIC SYSTEM WITH THE EXCEPTION OF WATER SOFTENERS AND/OR WATER CONDITIONING SYSTEMS.
- WELLS WITHIN 100' OF THE PROPOSED SEPTIC SYSTEM ARE SHOWN.
- APPLICABLE STATE AND LOCAL PERMITS SHALL BE ACQUIRED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.
- HYDRAULIC CEMENT IS REQUIRED TO SEAL ALL CONNECTIONS AT THE SEPTIC TANK, PUMP CHAMBER, AND D-BOX.
- CONSERVATION APPROVAL MAY BE REQUIRED.
- ALL SEPTIC COMPONENTS SHALL BE MARKED WITH MAGNETIC TAPE OR COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.

THIS SEPTIC DESIGN IS NOT GUARANTEE THAT THE SYSTEM WILL FUNCTION AS INTENDED OR THAT IT WILL FUNCTION FOR A DISCLOSED PERIOD OF TIME. NO WARRANTIES ARE IMPLIED BY THIS DESIGN.

TEST HOLE INFORMATION SHOWN REPRESENTS SOILS AT THAT LOCATION ONLY, AND IS NOT TO BE CONSIDERED AN IMPLIED OR EXPRESSED WARRANTY OF THE SOILS BEYOND THE LIMITS OF THE TEST HOLES.



SOIL SITE EVALUATOR: RICHARD GOBI
 PERC TEST BY: RICHARD GOBI

SOIL EVALUATION

OH#A4 OBSERVATION HOLE RESULTS ELEVATION=101.09						OH#B1 OBSERVATION HOLE RESULTS ELEVATION=101.46					
DEPTH FROM SURFACE (INCHES)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURES, STONES, BOULDERS, CONSISTENCY, & % GRAVEL)	DEPTH FROM SURFACE (INCHES)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURES, STONES, BOULDERS, CONSISTENCY, & % GRAVEL)
0-6"	A	FSL	10YR 3/3	MOTT 960*	FRIABLE	0-36"	FILL				
6-18"	B	FSL	10YR 4/4		FRIABLE	36-108"	C	FSL	2.5Y 5/4	MOTT 960*	FRIABLE
18-96"	C	FSL	10YR 5/4	2.5Y 4/3 2.5Y 4/2	FRIABLE						

PARENT MATERIAL: GLACIAL TILL
 DEPTH TO BEDROCK: >96"
 STANDING WATER IN HOLE: NONE
 WEEPING FROM PIT FACE: NONE
 ESTIMATED SEASONAL HIGH GROUNDWATER ELEVATION: 60" BELOW SURFACE

DESIGN DATA

TYPE OF BUILDING: SFH NO. OF BEDROOMS: 3
 NO GARBAGE GRINDER (DISPOSAL) ALLOWED
 DESIGN PERCOLATION RATE: 7MPI LTAR: .60
 DAILY FLOW: 3x110=330
 SEPTIC TANK VOLUME=1500 GALLONS
 REQUIRED LEACHING AREA
 DESIGN FLOW / LTAR: 330/0.60=550 S.F.
 LEACH AREA PER FFOT OF TRENCH = (2(d)+w) [S.F./FT.]
 (2(1')+3') = 5 S.F./FT.
 TRENCH LENGTH REQUIRED = LEACHING AREA REQ./L.A./FT.
 550 / 5 = 110.00'
 # OF TRENCHES = 3 TRENCH LENGTH = 37'
 TOTAL LEACHING AREA = (#TR. x L x S.F./FT.)
 3 TR. x 37' x 5 = 555 S.F.
 TOTAL DESIGN FLOW = LEACHING AREA x LTAR
 555 x 0.60 = 333 GAL.
 DESIGN FLOW >= DAILY FLOW
 333 >= 330

PERCOLATION TESTS

TEST #	DEPTH	DATE	RATE
2A	48"	9/18/14	7 MPI

SUBSURFACE SEWAGE DISPOSAL SYSTEM

LEGEND

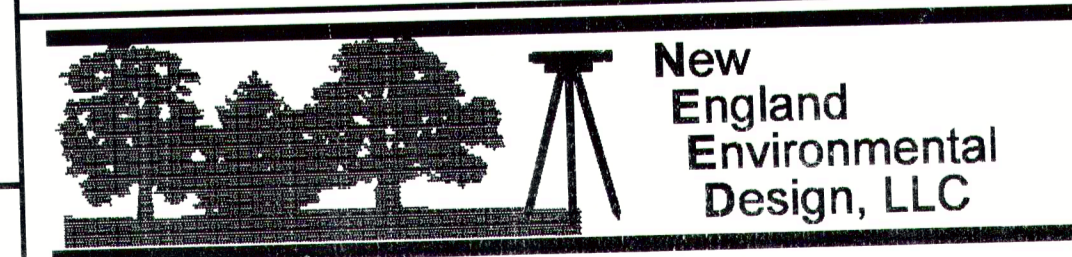
- STONE WALL
- TREE LINE
- WELL
- UTILITY POLE
- PERC TEST
- DEEP HOLE
- PROPOSED CONTOUR
- EXISTING CONTOUR
- SPOT ELEVATION
- SILT FENCE
- HAYBALE
- BENCHMARK

CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION.



REVISED: 3/05/2018
 MOVE HOUSE LOCATION

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