Cold Spring Environmental Consultants Inc.

- 21E Site Investigations
- Subsurface Investigations
- Pollution Remediation
- Phase 1 ESA: LSP Completed
- Forensic Septic Investigations
- Percolation Tests
- Septic Designs
- Regulatory Compliance
- Recycling and Solid Waste
- Second Opinions

September 11, 2020

Shutesbury Conservation Commission
Town Hall
Shutesbury, MA. 01072

RE: : Septic Repair Plan Request for Determination (RDA),
29 January Hills Road, (Cappelli, Map X, Lot 9), Shutesbury MA

Greetings,

Request for Determination is requested as shown on the attached plan for a septic repair located in the buffer zone of a Bordering Vegetated Wetland and Intermittent stream. Given the constraints of the lot the attached plan best meets all regulations applicable..

It is maintained by the writer, that the benefits provided by the minimum design qualifications of 310 CMR 15.000 & 310 CMR 10.000. MGL c 131, s40 and any additional provisions of the local regulations, the consideration of the noted loading and setting collectively establish a level of environmental protection that is equal to or exceeds the provision of the regulations. A Negative Determination (3) is sought for work in the Buffer Zone that will not alter an area subject to Protection under the Act.

It is my opinion that given all the possible scenarios for a new disposal system, this best meets the intent of the Sanitary Code (310 CMR 15.00) and Wetland Protection Act 310 CMR 10.000. The Proposed system will increase groundwater and environmental health protection over the prior system approved and installed in the past.

Please see the proposed plans attached, permit forms and appropriate fees. . Should you have any questions, please contact me at your earliest convenience.

Sincerely,

Cold Spring Environmental Consultants, Inc.

Alan E. Weiss, M.S.
Principal Hydrogeologist
Registered Sanitarian License #933
Licensed Site Professional #6442
Massachusetts Soil Evaluator # 2568

Attachments and Affected abutters.

CC: Board of Health
Mark Stinson, WERO-MADEP

350 Old Enfield Road ▪ Belchertown, MA. 01007 ▪ Phone: 413.323.5957 Fax 413.323.4916
email: aweiss@coldspringenvironmental.com www.coldspringenvironmental.com

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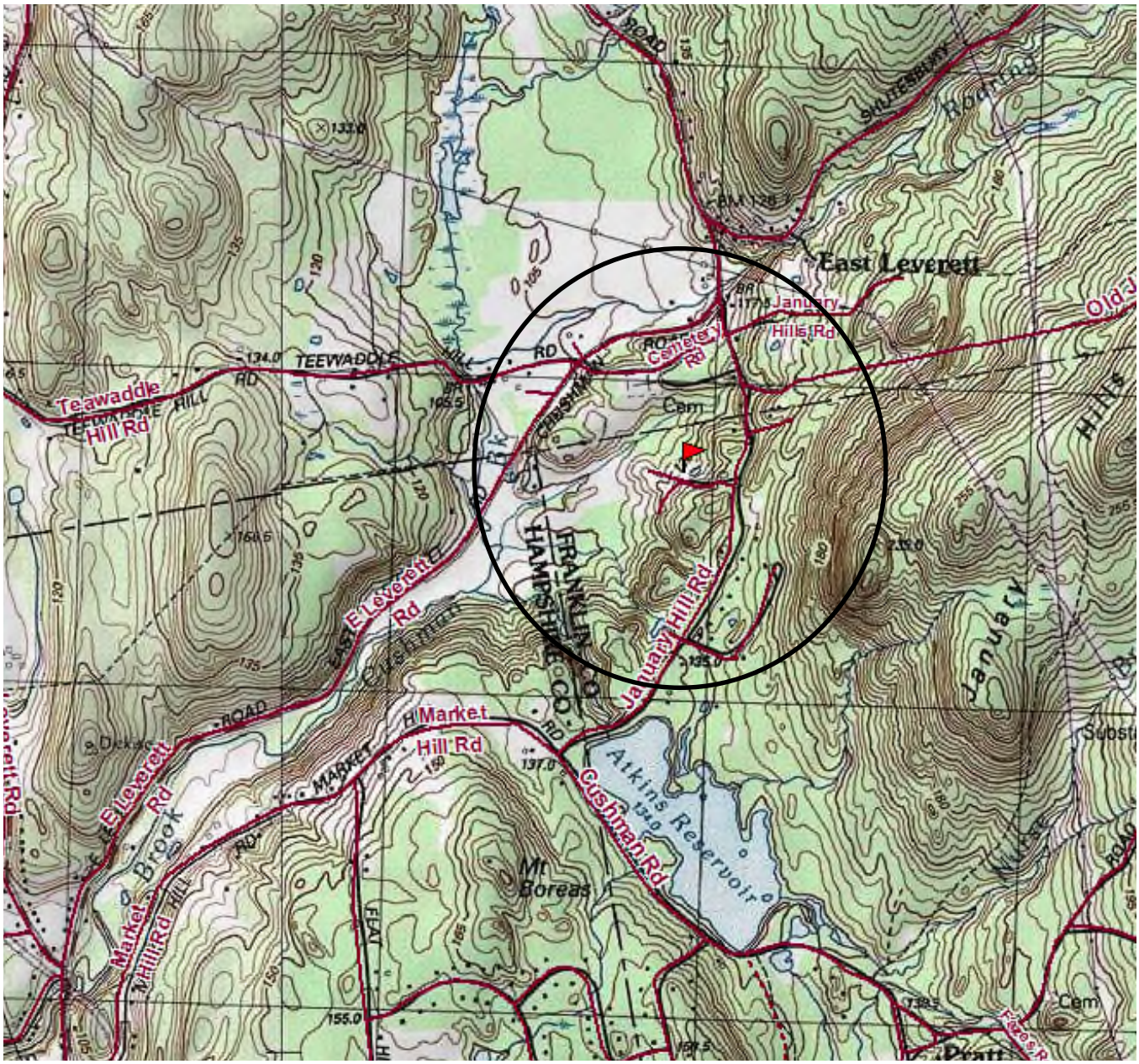
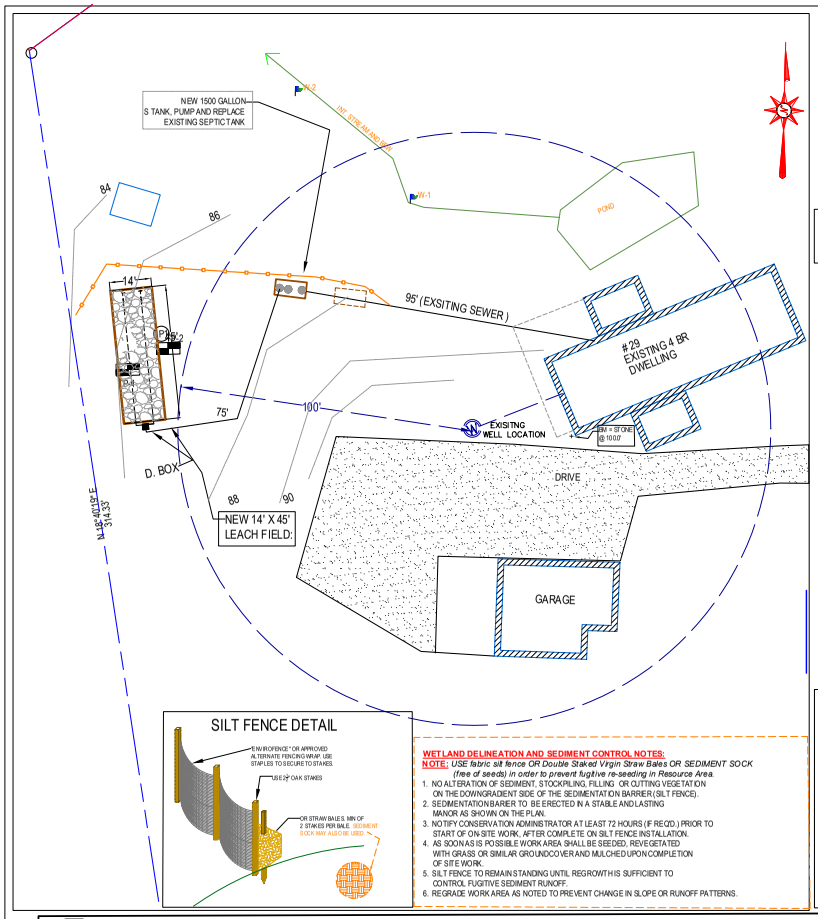


0 .5 1 MILE
0 1000 FEET 0 500 1000 METERS

FIGURE 1—SITE LOCUS
29 January Hills Road
Shutesbury, MA

FROM USGS

SEPTEMBER, 2020

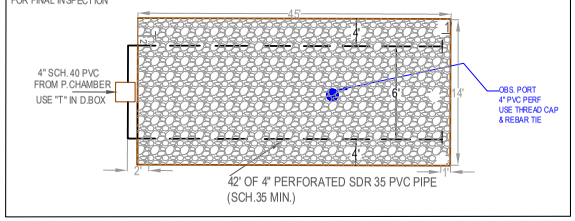


PLOT PLAN
MAP X, LOT 9
SCALE: 1"=30'
5.521 AC +/-

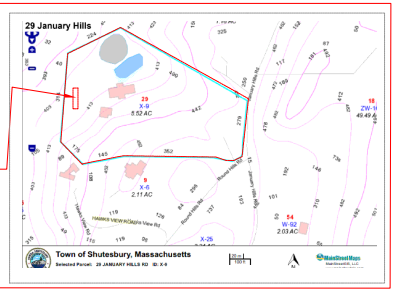
NOT AN ACTUAL SURVEY!!
LINES DRAWN FOR SEPTIC LOCATION PUROPSES ONLY!

LEACH FIELD DETAIL (NTS)

-USE TEE ON IS. INLET
-RUN SOLID PIPES LEVEL 2' OUT
-PLACE WATER IN D.BOX FOR FINAL INSPECTION



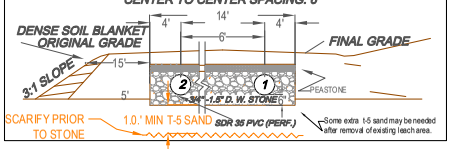
SUBJECT SITE LOCATION



FROM: AXIS GIS

EFFLUENT DISPOSAL AREA

CROSS SECTION - NOT TO SCALE
(RAISED DISPOSAL AREA) (2 % SLOPE TOP)
NUMBER OF 4" SDR PVC SEPTIC LINES:2
CENTER TO CENTER SPACING: 6'



GRAVITY SLOPE SEPTIC SYSTEM OPERATION AND MAINTENANCE NOTES FOR HOMEOWNER.

1.) HAVE TANK PUMPED EVERY 2 YEARS.
2.) MAINTAIN AREA OVER SEPTIC SYSTEM AS GRASSY OR SIMILAR GROUND COVER.
3.) DO NOT PLANT ANY TREES OR DEEP ROOTING SHRUBS WITHIN 10 FEET OF SYSTEM.
4.) USE ONLY LIQUID DETERGENTS & LOW FLOW WASHERS.
5.) CLEAN TANK OUTLET FILTER ANNUALLY (IF EQUIPED)
6.) NO WATER SOFTENER OR BACKWASH PIPING ALLOWED.
7.) NO PERMANANT STRUCTURES TO BE PLACED ON THE SYSTEM OR RESERVE
8.) ALL SANITARY HOUSEHOLD PIPING MUST GO INTO SEWER PIPE IN BASEMENT.

LEGEND

- PERC HOLE LOCATION, NUMBER
- TP-1 TEST HOLE LOCATION, NUMBER
- ESTIMATED WATER LINE
- E ELECTRIC WIRES
- PROPERTY LINES
- 6 EXISTING CONTOUR
- 80 PROPOSED CONTOUR
- WELL LOCATION

DESIGN NOTES AND CALCULATIONS:

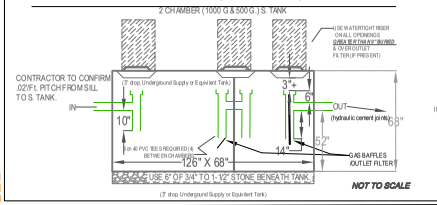
1. 4 BEDROOM HOME= 440 GPD MININMUM REQUIRED, (MININIMUM DESIGN FLOW, 466 GPD)
2. ***Use LEACH FIELD 14' WIDE X 45' LONG WITH 6" OF $\frac{3}{4}$" TO $1\frac{1}{2}$" DOUBLE WASHED STONE BELOW INVERT*** :
   - BOTTOM AREA: (14' W X 45' L) = 630 SF.
   - TOTAL AREA: 630 SF X 0.74 GAL/SF = 466 GPD PROVIDED.
3. **GARBAGE DISPOSAL NOT PERMITTED Also, A/C AND FURNACE CONDENSATE TUBES NOT ALLOWED.**
4. NO OTHER PRIVATE WELLS WITHIN 100 FEET OF SAS.
5. NO WETLANDS WITHIN 50 FEET OF SAS. FILE RDA FOR WORK PLANNED WITH CON. COMM.
6. USE NEW 1,500 GALLON SEPTIC TANK, AS NOTED & MAINTAIN 0.02 PITCH FROM SILL TO SEPTIC TANK, INSTALL & INSPECT SCHEDULE 40 TEES. (10" INLET, 14" OUTLET),
   NOTE:
   ALL COMPONENTS OF NEW SYSTEM MUST BE MARKED WITH MAGNETIC TAPE. BE SURE TO MAINTAIN 3" CLEARANCE FROM TOP OF TEES TO BOTTOM OF TANK COVERS & BOXES.
7. USE LARGE STYLE (6 OUTLET) DISTRIBUTION BOX.
   ALL DISTRIBUTION BOX OUTLET PIPES LEVEL FOR FIRST 2'. BOXES MUST HAVE 2"+THICK CONCRETE WALLS.
   NOTE:
   - DISTRIBUTION BOXES WITH MORE THAN 9" OF COVER SOIL MUST HAVE RISERS TO 6" OF SURFACE.
   ALL PLASTIC RISERS MUST BE SECURED WITH *STAINLESS STEEL* SCREWS.
8. USE (.75"-1 1/2") STONE UNDER TANK & DISTRIBUTION BOX FOR 6" FOR STABLE BASE.
   USE ONLY DOUBLE WASHED APPROVED STONE (.75"-1.5") FOR PLACEMENT IN LEACH AREA.
9. USE SCHEDULE 40 PVC PIPING FROM DWELLING TO DISTRIBUTION BOX INLET.
10. PRE & POST CONTOURS NOTED AS NECESSARY, RESERVE AREA IS NOT REQUIRED.
11. SUBGRADE INSPECTION IS REQUIRED PRIOR TO PLACEMENT OF TITLE 5 SAND OR LEACHING STONE.
12. USE FIELD DUE TO TOPOGRAPHY AND SPACE OF LOT WITH RESPECT TO LOCATION OF DWELLING AND ELEVATION OF RESIDENCE & ESHGW (310 CMR 15.240)
13. USE 2% MINIMUM SLOPE OVER SAS:
    - CLEAR TOP AND SUB TO 38" MINIMUM. AS NEEDED (INSPECTION REQUIRED).
    - CLEAR PAST BASE OF B (MIN.38") & SCARIFY UNDER STONE PRIOR TO TITLE V SAND/STONE PLACEMENT.
    - EXCAVATE EXISTING LOAM, SUBSOIL AND ANY EXISTING DEBRIS OR DIRTY FILL, IF PRESENT.
14. SOIL EVALUATION BY A. WEISS, RS. (C. Kaniecki, BOH AGENT). 08.12.2020
    - DEPTH OF PERC.42"
    - PERC RATE = <2 Min/ In
    - CLASS 1, F-M Sand SOIL RATING
15. NO TREES WITHIN 10 FEET OF NEW LEACH AREA.
16. ENGINEER TO INSPECT SUBGRADE, TOWN AND ENGINEER INSPECT AT FINAL.
17. TBM1 = 100.00 @ SILL OF HOUSE, CONFIRM PROPER PIPE SLOPES, OTHERS NOTED.
18. GRADE MULCH AND SEED OVER SAS AS NOTED.
19. INSTALLATION IN LOW GROUNDWATER SEASON RECOMMENDED.
20. USE OBSERVATION PORT NEAR CENTER OF STONE BED, USE 4" PERFORATED SCH 40 PVC PORTALS TO BOTTOM OF STONE, WITH RISER TO WITHIN 3" OF SURFACE & THREADED CAP MARKED WITH SUBGRADE RE-BAR.

SILT FENCE DETAIL

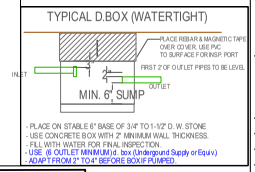
WETLAND DELINEATION AND SEDIMENT CONTROL NOTES:
NOTE: *USE fabric silt fence OR Double Staked Virgin Straw Bales OR SEDIMENT SOCK (free of seeds) in order to prevent fugitive re-seeding in Resource Area.*

1. NO ALTERATION OF SEDIMENT, STOCKPILING, FILLING OR CUTTING VEGETATION ON THE DOWNGRADIENT SIDE OF THE SEDIMENTATION BARRIER (SILT FENCE).
2. SEDIMENTATION BARRER TO BE ERECTED IN A STABLE AND LASTING MANOR AS SHOWN ON THE PLAN.
3. NOTIFY CONSERVATION ADMINISTRATOR AT LEAST 72 HOURS (IF REQ'D.) PRIOR TO START OF ON-SITE WORK, AFTER COMPLETE ON SILT FENCE INSTALLATION.
4. AS SOON AS IS POSSIBLE WORK AREA SHALL BE SEEDED, REVEGETATED WITH GRASS OR SIMILAR GROUNDCOVER AND MULCHED UPON COMPLETION OF SITE WORK.
5. SILT FENCE TO REMAIN STANDING UNTIL REGROWTH IS SUFFICIENT TO CONTROL FUGITIVE SEDIMENT RUNOFF.
6. REGRADE WORK AREA AS NOTED TO PREVENT CHANGE IN SLOPE OR RUNOFF PATTERNS.

NEW TYPICAL 1500 G. SEPTIC TANK (WATERTIGHT) OR EQUIVALENT.

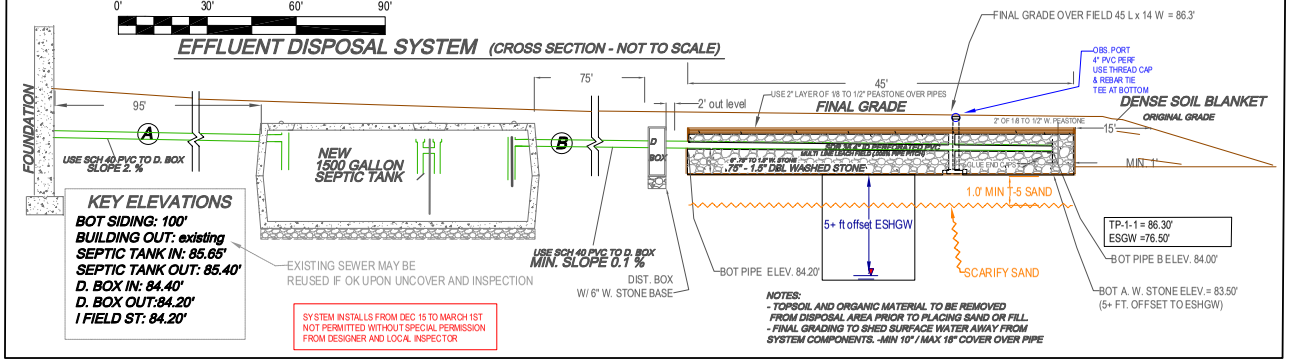


TYPICAL D.BOX (WATERTIGHT)



SCALE IN FEET
0' 30' 60' 90'

EFFLUENT DISPOSAL SYSTEM (CROSS SECTION - NOT TO SCALE)



KEY ELEVATIONS
BOT SIDING: 100'
BUILDING OUT: existing
SEPTIC TANK IN: 85.65'
SEPTIC TANK OUT: 85.40'
D. BOX IN: 84.40'
D. BOX OUT:84.20'
I FIELD ST: 84.20'

SYSTEM INSTALLS FROM DEC 15 TO MARCH 1ST NOT PERMITTED WITHOUT SPECIAL PERMISSION FROM DESIGNER AND LOCAL INSPECTOR

NOTES:
- TOPSOIL AND ORGANIC MATERIAL TO BE REMOVED FROM DISPOSAL AREA PRIOR TO PLACING SAND OR FILL.
- FINAL GRADING TO SHED SURFACE WATER AWAY FROM SYSTEM COMPONENTS. -MIN 10" / MAX 16" COVER OVER PIPE

TEST PIT LOG:

SOIL EVALUATOR: A. WEISS, C. KANIECKI
DATE OF EVALUATION: 08.11.2020

TP 1: 86.30'					TP 2:/ PERC 86.5.'				
DEPTH:	HORIZ.	TEXTURE:	COLOUR (MUNSELL):	MATERIAL:	DEPTH:	HORIZ.	TEXTURE:	COLOUR (MUNSELL):	MATERIAL:
0-12	A	FSL	10 YR 3.2	FRIABLE, roots	0-12	A	FSL	10 YR 3.2	FRIABLE, roots
12-24"	B	LS	10 YR 5.6	F. SANDY	12-26"	B	LS	10 YR 5.6	F. SANDY
24-110"	C	F-M S	2.5 Y 5.3	F-C SAND, 5% STONES	26-84"	C	F-M S	2.5 Y 5.3	F-C SAND, 5% STONES
OXIDES:			NOT		OXIDES:			NOT	
EHWT:			NOT		EHWT:			NOT	
STANDING H2O:			NOT		STANDING H2O:			NOT	
WEEPING:			NOT		WEEPING:			NOT	
BEDROCK:			110"		BEDROCK:			110"	

GRAVITY SLOPE SEPTIC SYSTEM OPERATION AND MAINTENANCE NOTES FOR HOMEOWNER.
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3.) DO NOT PLANT ANY TREES OR DEEP ROOTING SHRUBS WITHIN 10 FEET OF SYSTEM. 4.) USE ONLY LIQUID DETERGENTS & LOW FLOW WASHERS.

NOTE TO HOMEOWNER AND CONTRACTOR:
CONNECTIONS FROM HEATING SYSTEM, AIRCONDITIONERS, SUMP PUMPS, WATER WELL FILTRATION UNITS AND HEAT PUMPS ARE NOT ALLOWED, SANITARY WATER CONNECTIONS ONLY PERMITTED.

COMMONWEALTH OF MASSACHUSETTS
ALAN E. WEISS
#8183
REGISTERED SANITARIAN

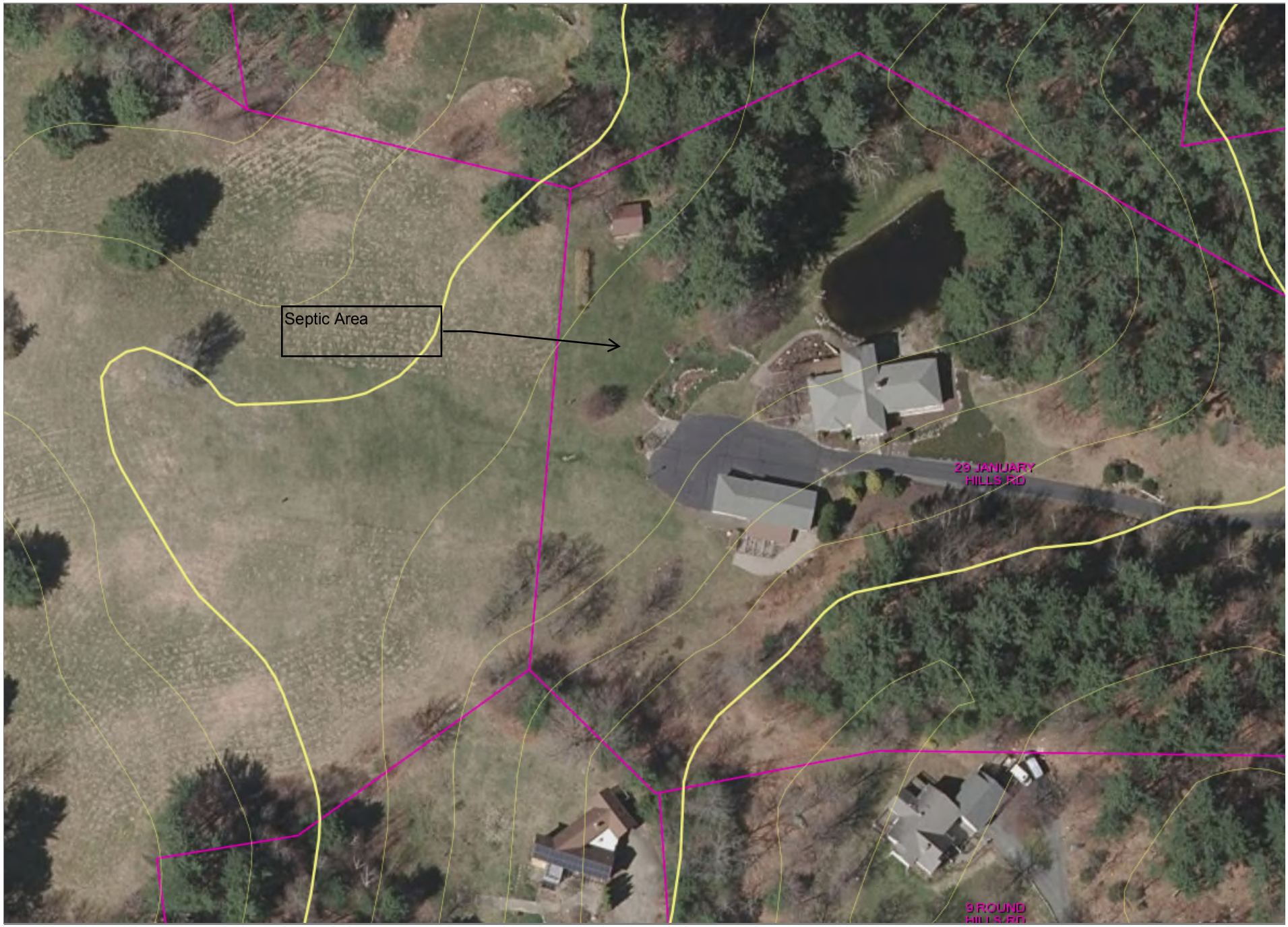
ATTENTION INSTALLER!!
CALL DIG SAFE BEFORE YOU DIG!! MASSACHUSETTS STATE LAW CHAPTER 82 SECTIONS 40 - 40E REQUIRE THAT PREMARKING OF GAS, ELECTRIC, WATER, TELEPHONE AND CABLE T.V. UTILITY LINES BE MADE A *MINIMUM* OF 72 HOURS PRIOR TO GROUND BREAK FOR ANY EXCAVATION.

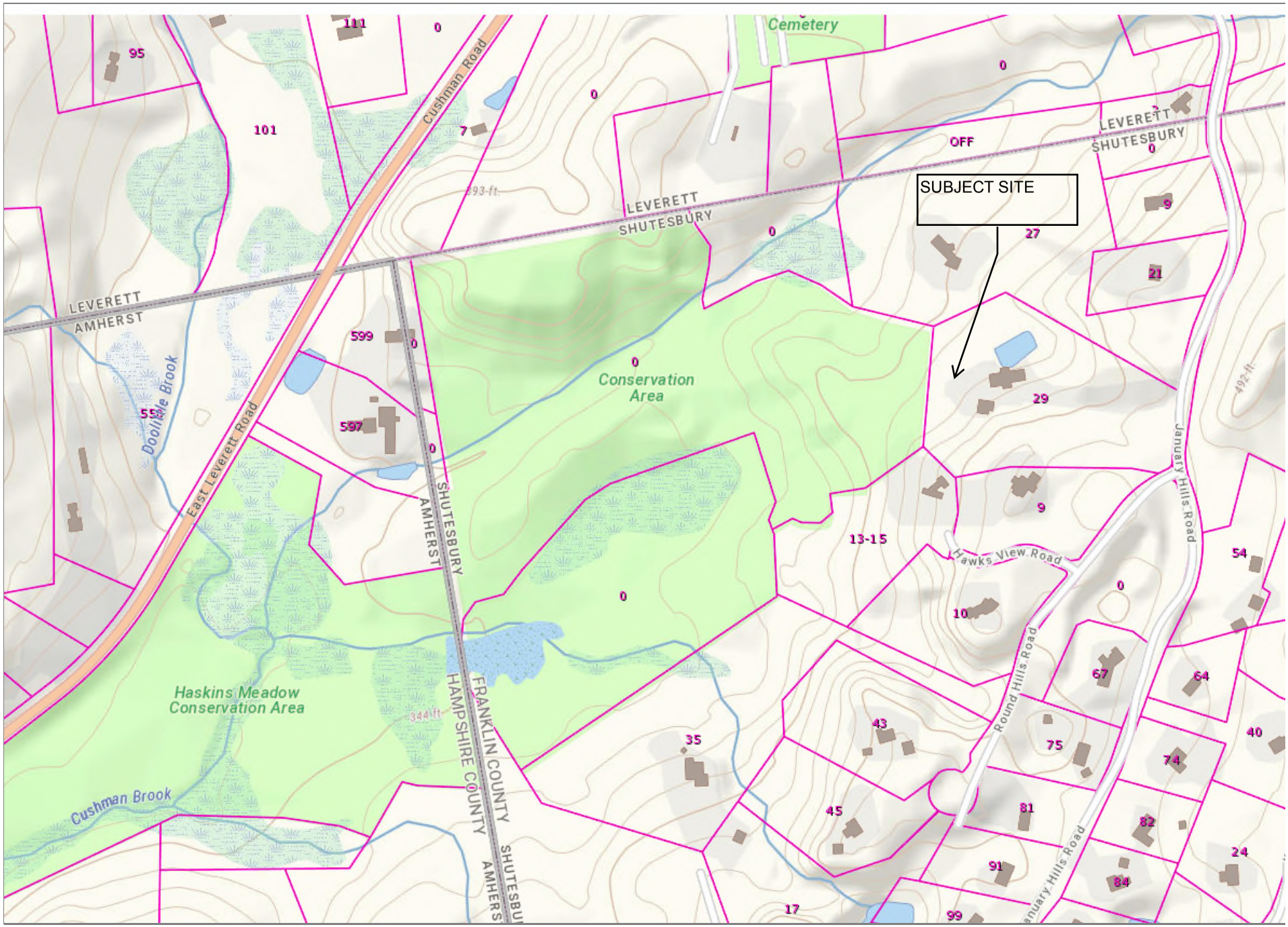
NOTE: *INSTALLER **MUST** CONTACT ENGINEER/BD OF HEALTH 48 HOURS PRIOR TO SUBGRADE INSPECTION. INSTALLER MUST HAVE ALL BREAK OUT FILL ON SITE AND IN PLACE PRIOR TO SIGN OFF BY ENGINEER AT TIME OF FINAL INSPECTION OR APPROVAL WILL NOT BE GIVEN TO BACKFILL.*

SEPTIC SYSTEM DESIGN PLAN FOR CONSTANCE CAPPELLI
29 JANUARY HILLS ROAD
SHUTESBURY, MA

Cold Spring Environmental Consultants Inc.
350 Old Enfield Road
Belchertown, MA. 01007
PHONE: (413) 323-5957
FAX: (413) 323-4916
e-Mail: AEWEISS@charter.net

DATE: 09.11.2020	DRAWN BY: ALAN WEISS	REVISED:
SCALE: 1"=30'		DRAWING NUMBER: 120-5908-0205


Septic Area
29 JANUARY
HILLS RD
9 ROUND


SUBJECT SITE
Cemetery
LEVERETT
SHUTESBURY
LEVERETT
AMHERST
Cushman Road
Conservation Area
Haskins Meadow Conservation Area
Cushman Brook
Doolittle Brook
East Leverett Road
SHUTESBURY
AMHERST
FRANKLIN COUNTY
HAMPSHIRE COUNTY
Hawks View Road
Round Hills Road
January Hills Road
OFF
393 ft
344 ft
492 ft
95
111
101
7
0
599
597
55
29
27
21
9
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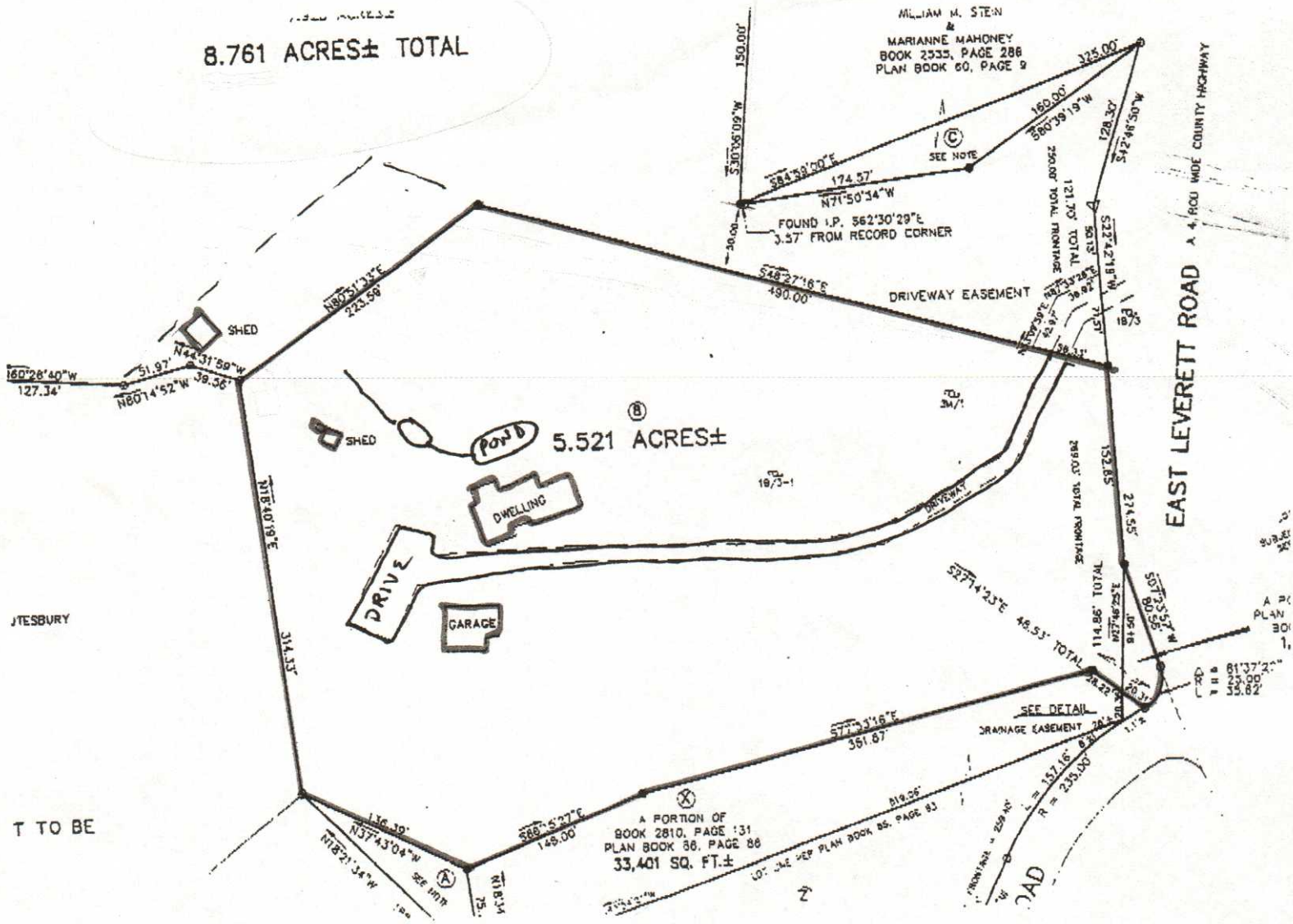
Post-It™ Fax Note 7671	Date	# of pages ▶ 1
To Keith Kareta	From Ellen Stutsman	
Co./Dept.	Co.	
Phone #	Phone #	
Fax # 549-1003	Fax #