Chatham Health District

FORM #2 State of Connecticut Department of Public Health 1/1/11

Application/Permit No.:_____

RECEIVED
5-31-23
AT MTG
JDD

SITE INVESTIGATION FOR A SEWAGE DISPOSAL SYSTEM

Property Owner: Margaret A. Keser 39 William Street Portland, CT 06480
Location: Map 19 Block 46 Lot 14 West High Street East Hampton

DEEP TEST PIT DATA/SOIL DESCRIPTIONS

DATE: November 3, 2022

(Record all Test Pits)

TEST PIT: #1	TEST PIT: #2	TEST PIT: #3	TEST PIT: #4
0"-13" Black organic layer/Topsoil 13"-27"Grey loamy sand 27"-90" Grey sandy loam, Hardpan	0"-10" Topsoil 10"-21" Brown loamy sand 21"-72" Grey fine sandy loam, Hardpan	0"-23" Black organic layer/Topsoil 23"-48" Grey fine sandy loam, Hardpan	0"-6" Topsoil 6"- 28" Brown fine sandy loam 28"-82" Grey sandy loam, Hardpan
Mottles: 22"	Mottles: 26"	Mottles: 23"	Mottles: 32"
GW: 38"	GW: None	GW: 40"	GW: None
Ledge: None	Ledge: None	Ledge: None	Ledge: None
Roots: 36"	Roots: 40"	Roots: 23"	Roots: 29"
Restrictive:	Restrictive:	Restrictive:	Restrictive:

COMMENTS:_____
Groundwater Table: (Near max, below max, etc.): Below max.
Soil Moisture (High, medium, low, etc.): Low

DEEP TEST PIT DATA/SOIL DESCRIPTIONS

DATE: November 3, 2022

(Record all Test Pits)

TEST PIT: #5	TEST PIT:	TEST PIT:	TEST PIT:
0"-6" Topsoil 6"-22" Brown fine sandy loam 22"-72" Grey fine sandy loam, Hardpan			
Mottles: 22"	Mottles:	Mottles:	Mottles:
GW: None	GW:	GW:	GW:
Ledge: None	Ledge:	Ledge:	Ledge:
Roots: 22"	Roots:	Roots:	Roots:
Restrictive:	Restrictive:	Restrictive:	Restrictive:

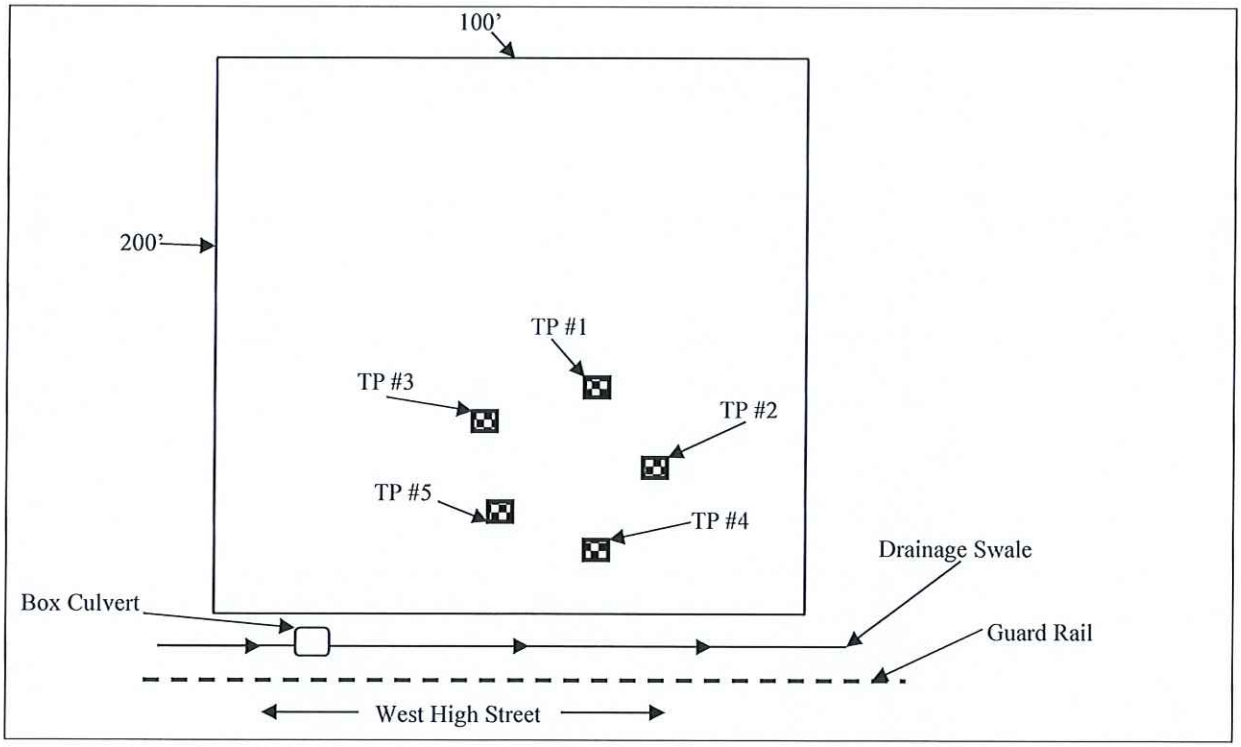
COMMENTS:_____
Groundwater Table: (Near max, below max, etc.): Below max.
Soil Moisture (High, medium, low, etc.): low.

PERCOLATION TEST DATA
(Record all Perc Tests)

DATE:

PERC:		PERC:		PERC:		PERC:	
DEPTH:		DEPTH:		DEPTH:		DEPTH:	
PRESOAK:		PRESOAK:		PRESOAK:		PRESOAK:	
Time	Reading	Time	Reading	Time	Reading	Time	Reading
Perc Rate:		Perc Rate:		Perc Rate:		Perc Rate:	

Comments: **To be conducted by P.E. in Primary and Reserve Leaching Areas.**



LOCATION DRAWING INCLUDING ALL TEST PITS AND PERCOLATION HOLES

SITE INVESTIGATION FOR A SEWAGE DISPOSAL SYSTEM

SPECIAL CONDITIONS		CONCLUSIONS	
Design Flow > 2000 GPD	No	Suitable for Sewage Disposal	Yes
Public Water Supply Watershed	No	Unsuitable for Sewage Disposal	N/A
Probable High Groundwater	Yes	Additional Investigation Req'd	No
Slope> 25 percent	No	Wet Season Monitoring Req'd	No
Perc Rate < 1 mm/inch	To be Determined	Retest During Wet Season	No
Perc Rate> 30 mm/inch	To be Determined	Well Exception Required	No
Ledge <5 feet below grade	No	Licensed Engineer Plan Reg'd	Yes
Limited Suitable Area	No	Other: Licensed Septic Installer Plan Req'd	No
Open Watercourse or Wetlands	Yes		
Flood Plain / Seasonal Flooding	No		
G.W. 36 inches below grade	No		

DESIGN RECOMMENDATIONS/COMMENTS:

- **Soil Testing conducted on a lot of record for a Duplex Building with 4 bedroom total;**
- **Perc Tests to be conducted by P.E. in Primary and Reserve Leaching Areas.**
- **P.E. should consider the design of a Curtain Drain for the Peach Water Table running on the Hardpan Layer, as noted in the Test Pits**

FORM COMPLETED BY: James G. Karrenberg, R.S.

Accuracy assured by (If P.E. completed form):_____

OTHERS PRESENT FOR SITE INVESTIGATION (Engineer, developer, installer, etc.):
Jim Marino, Builder and Mark Reynolds, P.E.

RECEIVED
5-31-23
AT MTG
JAD

Ian T. Cole, LLC

Professional Registered Soil Scientist / Professional Wetland Scientist
PO BOX 619
Middletown, CT 06457
Itcole@gmail.com
860-514-5642

May 31, 2023

Mr. Mark Reynolds, P.E.
Dutton Associates, LLC
67 Eastern Boulevard
Glastonbury, CT 06033

RE: WETLAND REPORT *prepared for Proposed Residential Development at 65 West High Street (aka. Rte. 66), MBL: 19/46/10, East Hampton, Connecticut.*

Dear Mr. Reynolds:

At the request of the applicant, Mr. James Marino, I delineated the jurisdictional inland wetland and watercourse boundaries at the above referenced parcel 0.46-acre residential lot of record situated on West High Street. I also reviewed the proposed site development plans and I offer the following comments relative to assessing impacts to the inland wetlands and watercourses due to the proposed regulated activities.

WETLAND DELIENATION METHODOLOGY

The on-site wetlands were delineated in March 2022 by a registered professional soil scientist. The wetland delineation was completed in accordance with the standards of the Natural Resources Conservation Services (NRCS) National Cooperative Soil Survey and the definitions of inland wetlands and watercourses as found in the Connecticut General Statutes, Chapter 440, Sections 22a-36 through 22a-45 as amended. Wetlands, as defined by the Statute, are those soil types designated as poorly drained, very poorly drained, floodplain or alluvial in accordance with the NRCS National Cooperative Soil Survey. Such areas may also include disturbed areas that have been filled, graded, or excavated and which possess an aquic (saturated) soil moisture regime.

Watercourses means rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs, and all other bodies of water, natural or artificial, vernal, or intermittent, public, or private, which are contained within, flow through or border upon the Town of East Hampton or any portion thereof not regulated pursuant to sections 22a-28 through 22a-35, inclusive, of the Connecticut General Statutes. Intermittent watercourses are defined

permanent channel and bank and the occurrence of two or more of the following characteristics: (a) evidence of scour or deposits of recent alluvium or detritus, (b) the presence of standing or flowing water for duration longer than a particular storm incident, and (c) the presence of hydrophytic vegetation.

WETLAND DELINEATION FIELD SURVEY RESULTS

The subject vacant lot is wooded with a mixed hardwood overstory. Two jurisdictional regulated areas were identified on the subject lot. Within the highway line is a well-defined intermittent watercourse flowing south along the road frontage of Rte. 66. (Photos 1 & 2). A very stony forested hillside seepage wetland cuts across the southwest corner of the property. The hillside wetland is identifiable by the extremely stony ground conditions and the extensive cover of moss & ferns that carpet the forest floor (Photo 3) The wetland limits are clearly marked by break in the topographic slope and a noticeable change in the vegetation community as wetland plants, like spicebush, winterberry, skunk cabbage, and sensitive fern quickly give way to the more well-drained upland conditions that favor oaks, hickories, sugar maple, ironwood, and witch hazel. The remainder of the property is wooded, dominated by a mixed hardwood overstory of the upland species mentioned above (Photo 4).

I have reviewed the subject site development plans and I verified that the wetland boundary illustrated accurately reflects the wetland boundary as flagged in the field.

Representative photos are provided in Appendix A.

WETLAND FUNCTIONS AND VALUES

A wetland functional assessment was completed to assist in identifying impacts to the wetlands and the functions and services they provide. An evaluation of the wetlands functions and values was completed using the United States Army Corps of Engineers (USACE) Highway Methodology Workbook for Wetland Functions and Values: A Descriptive Approach, October 1993" ("Highway Methodology") and best professional judgement. This wetland methodology describes the wetland functions and values holistically for the project area.

The USACE Highway Methodology evaluates 13 functions and values assigned to wetlands which include:

1. Groundwater recharge/discharge (GWR/D)
2. Flood flow alteration (FFA)
3. Fish and shellfish habitat (F&SH)
4. Sediment/toxicant/pathogen retention (S&TR)
5. Nutrient removal/retention/transformation (NR&T)
6. Production export (PE)
7. Sediment/shoreline stabilization (S&S)
8. Wildlife habitat (WLH)
9. Recreation (REC)
10. Education/scientific value (ED/S)

11. Uniqueness/heritage (U/H)
12. Visual quality/aesthetics (VO/A)
13. Threatened or endangered species habitat (T&E)

Table 1.0 Summary of Project Wetland Function and Value Evaluations

Wetland	Cowardin Classification	HGM Classification	GWR/D	FFA	F&SH	S&TR	NR&T	PE	S&S	WLH	REC	ED/S	U/H	VQ/A	T&E
1 - 12	PFO	Palustrine	P	S	N	S	S	S	N	P	N	N	N	N	N
1A to 9A	PFO	Riverine	P	N	N	N	N	P	N	S	N	N	N	N	N

P- Principle
S- Secondary
N- Not Significant Function

The principal functions of the regulated wetlands is groundwater discharge. Secondary functions include minor local flood flow alteration (storage and desynchronization), and water quality renovation properties (nutrient and sediment uptake and retention). Other wetland functions and services are limited due to historic impacts from adjacent land uses, private ownership of the property, overall site setting, relatively small size in comparison to overall watershed, landscape position, intermittent hydro-period and/or lack of persistent deep-water habitat. The watercourse along the road frontage primarily functions to convey high seasonal flows and stormwater runoff.

These listed functions can be maintained and promoted by maintaining overall on-site drainage patterns, demonstrating a compliant septic system, maintaining erosion and sedimentation controls through construction, stabilizing the bare ground with final vegetative cover and adherence to permit conditions.

SOIL SURVEY

The soils identified on-site is a refinement of the Natural Resources Conservation Service (NRCS) Websoil Soil Survey.

Wetland Soils

The primary wetlands soil series along the flagged wetland boundary are classified as extremely stony poorly drained Ridgebury fine sandy loams. Ridgebury soils are found within drainageways and depressions on glacial till landscapes. Ridgebury soils have a seasonal high-water table at a depth of about 6 inches.

A typical soil profile along the wetland boundary consists of approximately 6"-0" of intermediately decomposed organic material (Oi), followed by 0"-6" of a thick dark topsoil horizon (A), underlain by 6-20" of a wet weakly developed grayish subsoil horizon (Bg) with common redoximorphic features (Common medium distinct strong brown mottles, masses) ranging from fine sandy loam to very fine sandy loam. This subsoil is underlain by a saturated sandy loam to fine sandy loam gray substratum (2Cg).

Upland Soils

The upland soils are mapped and classified as belonging to the Sutton soil series. This soil classification unit consists of stony, moderately- drained soils formed in sandy tills. These upland soils are associated with a high-seasonal water-table.

PROPOSED REGULATED ACTIVITES / PROJECT OVERVIEW

The applicant is seeking approval from the Town of East Hampton to construct a new modest residence centered on the western half of the property. The home would be serviced by on-site septic and a drilled well. The site constraints dictate the location and position of the proposed home. The subject lot of record has a drainage ditch that flows south along the entire road frontage and there is a forested hillside seepage wetland that cuts diagonally across the southwest corner of the property. The entire lot is within the 100' upland review area.

Because of the site constraints to meet zoning requirement on this lot of record, construction of the residence will require filling the disturbance of 2,080 SF of wetlands. Of the 2080 SF of disturbance, 1,357 SF is temporary fill to facilitate construction access and 723 is permanent fill to support a portion of the house and select fill at the end of the leaching field. Additionally, the culvert pipe at the site entrance will be extended to accommodate the new driveway.

IMPACT ASSESSMENT

The home structure and septic treatment system have been situated to provide the least impactful residential design that could be achieving to the extent possible while providing a reasonable use of the property and balance to minimizing impact the wetland resources. Essentially this is the smallest septic system that can be designed, which is the main driver for the development layout.

Short-term impacts during construction can be reduced through measures to control sedimentation and erosion and adherence to BMPs. These controls as well as compliance with permit approvals will ensure that no long-term adverse effects will impact the natural capacity of the wetlands or detract from the functions and services they currently provide.

INDIRECT IMPACTS

Indirect or secondary impacts to a wetland or watercourse can occur as a result of activities outside of the wetlands or watercourses. These impacts can be either short-term (*construction phase*) or long-term (*i.e., change in drainage patterns / whole-sale clear cutting)* and are typically associated with erosion and sedimentation during construction, removal or disturbance of vegetation in adjacent upland areas, alteration of ground / drainage patterns that could affect the flow regime of a watercourse, and the discharge of degraded or insufficiently treated surface or groundwater, which may adversely impact the water quality of the regulate resource.

The potential for any of these indirect impacts to occur at the site as a result of the development depends on the quality of the regulated resources, the sensitivity to said

resources, the resource's physical and ecological characteristics, and the degree to which those resources provide recognized functions and values and the nature of the activities proposed in areas surrounding or which contribute flow (either surface water or groundwater to the regulated resource). These potential impacts are described in detail below.

EROSION AND SEDMIENTATION

To minimize potential impacts, the design incorporates industry standard best management practices (BMPs) and guidelines for residential developments. A detailed construction sequence has been provided as part of the application. All construction activities will be completed in compliance with the standards and guidelines provided by the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

The risk for potential adverse impacts from erosion and sedimentation is considered low to moderate because 1.) A detailed erosion and sediment control plan has been prepared, 2) the site's in-situ undistrubed soils are for the most part low to moderately erosive. 3) the site is vegetated, and topography is easily managed, and 4) there is no need for large scale tree removal keeping the building area envelope to a manageable size. Therefore, it is my professional opinion that with coordination and watchful monitoring and maintenance of erosion and sediment controls until construction is completed and restoration activities have stabilized the ground conditions there will be no anticipated adverse impacts to the regulated resources resulting from sedimentation discharging from the development of the parcel as proposed.

VEGETATION REMOVAL AND HABITAT LOSS

Habitat loss associated with land clearing is a consequence of land development which has the potential of impacting wetlands and watercourses. The proposed development will keep clearing limits to a minimum by clearing what is physically needed for facilitating the construction site improvements and associated appurtenances. The conversion of the vegetation cover within the development envelope will not change or diminish the ecological integrity of the surrounding forest and wetland adjacent community.

POTENTIAL IMPACTS TO WETLAND HYDROLOGY AND STREAM DYANAMICS

The proposed site improvements will not impact overall drainage patterns. The site improvements will not increase the potential for downstream flooding. The proposed development will not create any new point discharges. The site will be graded so stormwater runoff will sheet flow across the landscape to promote infiltration into the surrounding soils. This infiltration into the ground will recharge the nearby wetland resource baseflow.

The proposed development will not holistically alter surface or subsurface flow conditions or directions in a substantially impactful way. Site clearing and grading activities will not de-water nor flood the nearby wetland or alter surface water drainage patterns in a significant manner that exacerbates erosion or causes downstream issues.

CLOSING REMARKS

While direct wetland impacts are unavoidable to develop the subject lot the inclusion of BMP measures will protect the overall wetland resources. The proposed development plan is a feasible and prudent proposal for residential development of this property giving due consideration to the limitations of the lot, balancing the protection of the inland wetlands and watercourses, and fostering of the landowner rights.

Alterations within the URA will have some conversion of habitat. The activities in the uplands required to facilitate the development will not result in any loss of wetland function. Post development the wetlands and watercourse will still have the same ability to perform the existing functions they currently provide. As a result, environmental effects will be minor and highly localized. The applicant will mitigate such impacts by implementing standard construction BMPs and conforming to permit conditions. Because there will be no loss in wetland functions coupled with the site constraints and no mitigation should be required.

The proposed development is consistent with the adjacent single-family home developments. The proposed layout makes reasonable use of the buildable upland space on the parcel while maintaining the integrity of the forested wetland and existing upland features. It is my opinion that the proposed activities will not result in any loss of wetland function, value, unique or significant wetland habitat. Post development the wetland will still have the same ability to perform its existing functions. As a result, long term environmental effects should be minor and highly localized.

If you have any questions or comments, please do not hesitate to contact me at itcole@gmail.com or (860) 514-5642

Sincerely,

Ian T. Cole
Professional Registered Soil Scientist
Professional Wetland Scientist #2006

APPENDIX A

WETLAND SURVEY

SITE PHOTOS

65 WEST HIGH STREET

EAST HAMPTON, CT

MARCH 2022

Photo 1: Drainage that runs along the road frontage.

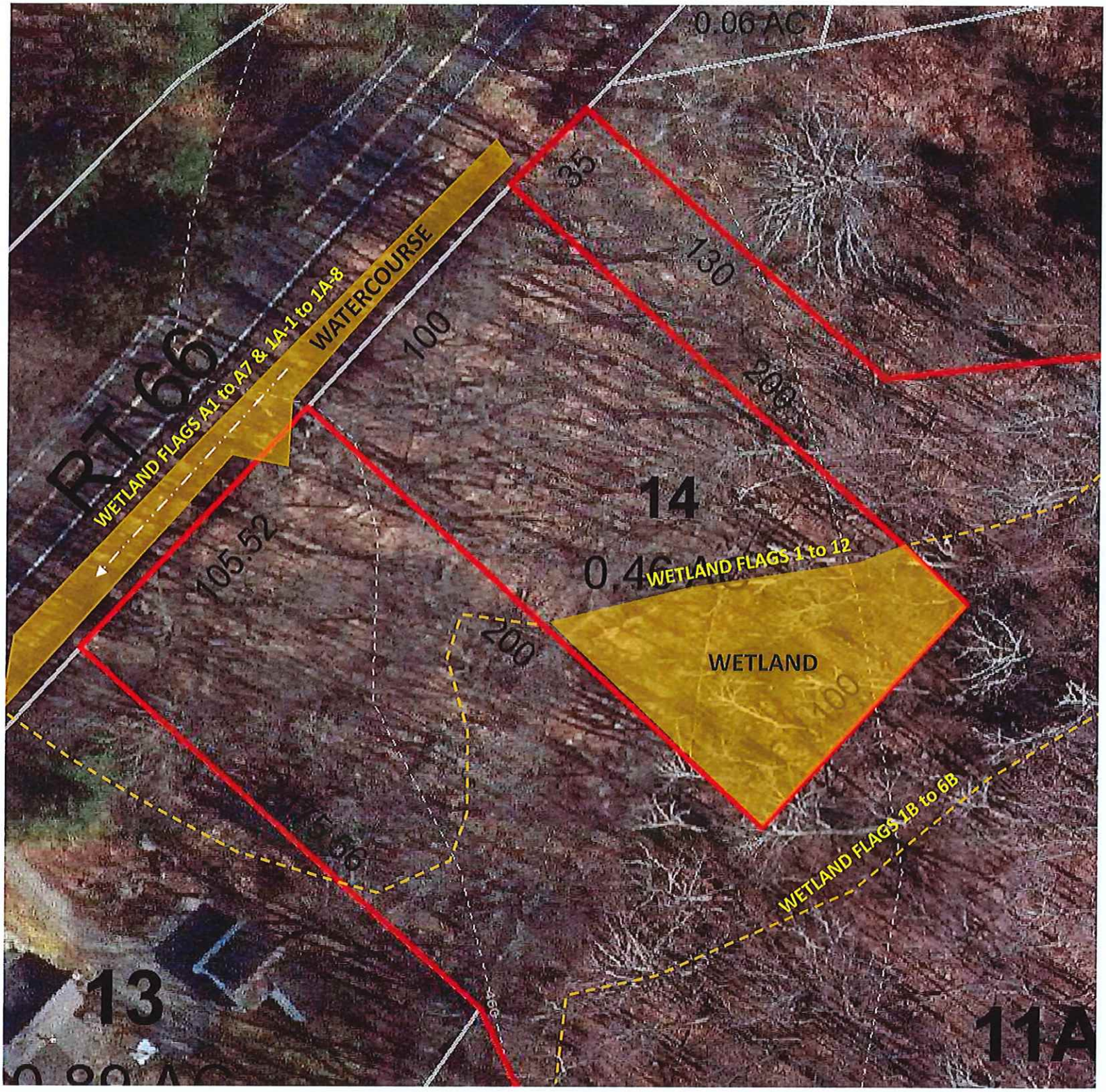
Photo 2: Example of the watercourse channel conditions along the road

Photo 3: Example of the stony hillside seepage wetland conditions in the rear of the subject property.

Photo 4: Example of the wooded upland conditions on the property

WETLAND SKETCH : MBL: 19-46-14

WEST HIGH STREET (ROUTE 66) – EAST HAMPTON



Disclaimer: This map is for planning purposes only. Verification of its accuracy, currency and completeness is the responsibility of the reader's own independent research. All inland wetland and watercourse boundaries are subject to refinement once traditionally field located by a Licensed Land Surveyor and formally adopted by the Town. Ian Cole LLC shall not be held liable for any loss, damages or claims made in relation to anyone referring to this map.

Soil Map—State of Connecticut
(WEST HIGH ST)

Map Scale: 1:1,900 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 22, Sep 12, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

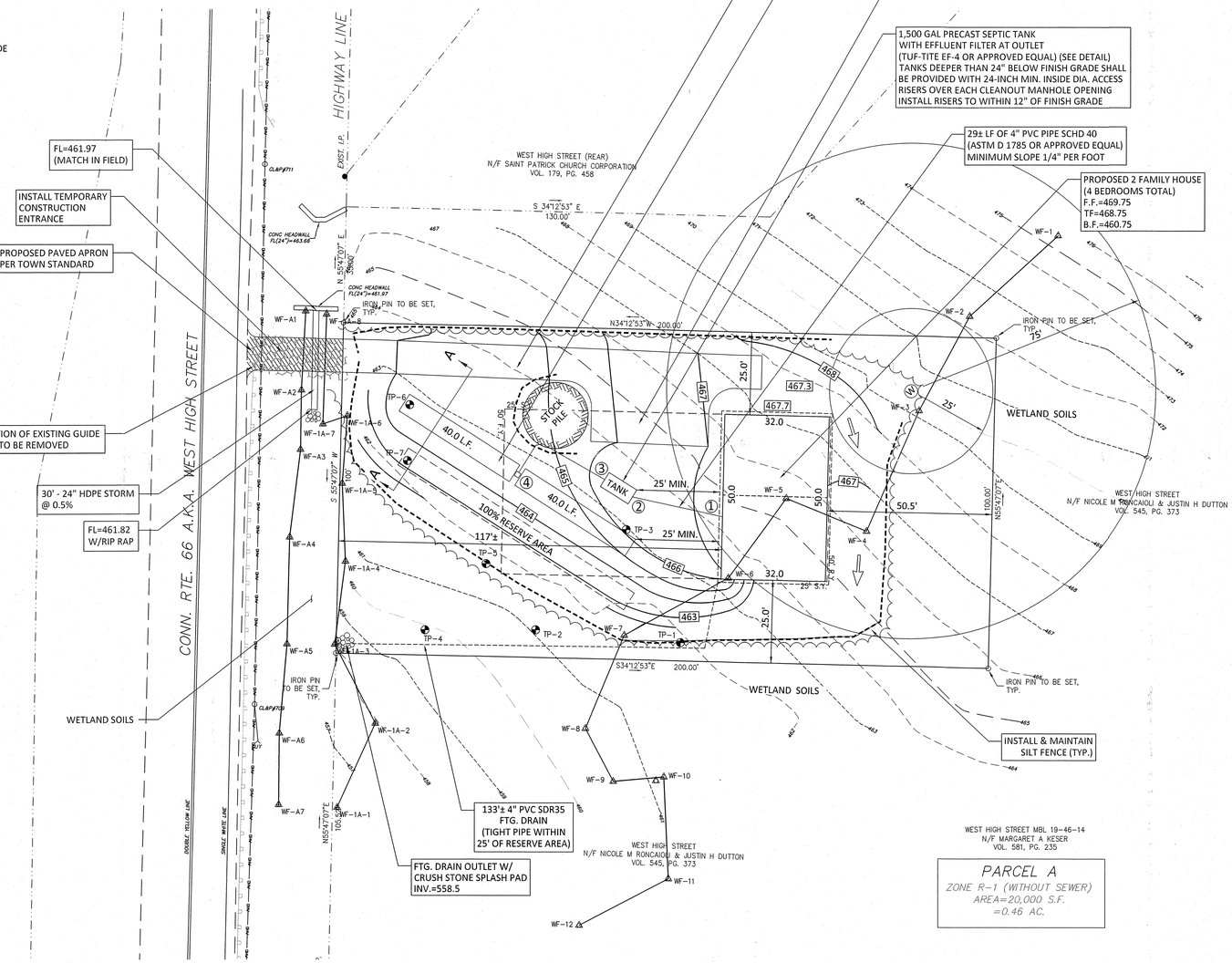
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
51B	Sutton fine sandy loam, 0 to 8 percent slopes, very stony	3.9	31.1%
60B	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	5.4	42.8%
60D	Canton and Charlton soils, 15 to 25 percent slopes	1.7	13.7%
308	Udorthents, smoothed	1.6	12.3%
Totals for Area of Interest		**12.6**	**100.0%**

LEGEND

THESE STANDARD SYMBOLS WILL BE FOUND IN THE DRAWING.

- PROPERTY LINE
- BUILDING SETBACK LINE
- 600 EXISTING CONTOUR
- 600 PROPOSED CONTOUR
- TREELINE / BRUSHLINE
- LIMIT OF CLEARING
- SILT FENCE
- PROPOSED UNDERGROUND UTILITIES
- TEST PIT LOCATION
- PERCOLATION TEST LOCATION
- UTILITY POLE
- IRON PIN TO BE SET
- 603.5 PROPOSED SPOT GRADE
- 603×8 EXISTING SPOT GRADE
- GRADE TO DRAIN



SUMMARY OF REGULATED ACTIVITIES	QUANTITY
TOTAL PARCEL AREA	0.46 ACRES
TOTAL DISTURBED AREA	0.33 ACRES
AREA OF PARCEL IN URA	0.46 ACRES
DISTURBED AREA IN URA	0.28 ACRES
AREA OF PARCEL IN WETLANDS	0.12 ACRES
ACTIVITY IN WETLANDS	0.05 ACRES

R-1 RURAL RESIDENTIAL; Area & Bulk Requirements (WITHOUT SEWER)

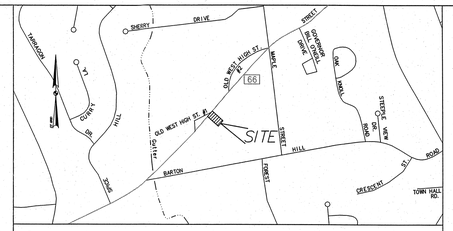
ITEM	REQUIRED	PROVIDED
MIN. LOT AREA	60,000 SF	20,000 SF*
LOT FRONTAGE	100 FT	100 FT
FRONT YARD	50 FT	117 FT
SIDE YARD	25 FT	25' FT
REAR YARD	50 FT	50.5 FT
BUILDABLE AREA	N/A	N/A
MAX. LOT COVERAGE	10%	17.8%
MAX. BUILDING HEIGHT	30 FT	< 30 FT

* PRE-EXISTING NON CONFORMING

I have delineated state of Connecticut wetlands and watercourses present on the subject site and have reviewed this plan and it is my opinion that the limits of the wetlands and watercourses depicted hereon are representative of those delineated in the field.

Ian T. Cole
Registered Soil Scientist / Professional Wetland Scientist #2006

Certification is not valid without live signature



LOCATION MAP
SCALE 1"=1000'

SCALE IN FEET 80' 40' 0' 40' 80'

EROSION & SEDIMENT CONTROL NOTES:

1. ALL EROSION & SEDIMENT CONTROL MEASURES TO BE CONSTRUCTED AS DETAILED AND SPECIFIED IN THE CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL JANUARY 2002 AS AMENDED.
2. ALL EROSION & SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION, PROPERLY MAINTAINED DURING CONSTRUCTION AND REMAIN IN PLACE UNTIL ALL DISTURBED AREAS HAVE BEEN PROPERLY STABILIZED. AFTER INSTALLATION OF THE INITIALLY PRESCRIBED MEASURES, ADDITIONAL MEASURES MAY BE REQUIRED TO ADDRESS FIELD CONDITIONS AS ORDERED BY THE TOWN OF EAST HAMPTON OR ITS DESIGNATED AGENT(S).
3. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED. THE EXPOSURE SHOULD BE THE SHORTEST PERIOD OF TIME. WHEN NECESSARY TEMPORARY VEGETATION AND OR MULCHING SHOULD BE USED TO PROTECT EXPOSED AREAS. FINAL VEGETATION SHOULD BE INSTALLED AS SOON AS POSSIBLE. WHEREVER FEASIBLE NATURAL VEGETATION SHOULD BE RETAINED AND PROTECTED.
4. THE STOCKPILING OF BUILDING MATERIALS SHALL BE WITHIN THE AREA OF DISTURBANCE.
5. SEEDBED PREPARATION: FINE GRADE AND RAKE SOIL TO REMOVE ANY STONES LARGER THAN 2 INCHES. INSTALL ANY NEEDED EROSION CONTROL DEVICES SUCH AS SURFACE WATER DIVERSIONS. APPLY LIMESTONE AT A RATE OF TWO TONS PER ACRE OR 90 POUNDS PER 1000 SQUARE FEET. FERTILIZE WITH 10-10-10 AT A RATE OF 11 POUNDS PER 100 SQUARE FEET. WORK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF FOUR INCHES.
6. SEED APPLICATION: APPLY SHADE TOLERANT GRASS MIXTURE BY HAND, CYCLONE SEEDER OR HYDROSEEDER. SEEDING SHALL BE DONE BETWEEN APRIL 1 AND JUNE 1 OR BETWEEN AUGUST 15 AND SEPTEMBER 1. IF SEEDING CANNOT BE DONE DURING THESE TIMES, REPEAT MULCHING PROCEDURE UNTIL SEED CAN BE DONE.
7. ESTABLISH PERMANENT VEGETATION USING A SEED MIXTURE OF:
   KENTUCKY BLUEGRASS 20 LBS/ACRE
   CREEPING RED FESCUE 20 LBS/ACRE
   PERENNIAL RYE GRASS 5 LBS/ACRE
   TOTAL 45 LBS/ACRE
   THE RECOMMENDED DATES FOR SEEDING ARE APRIL 1 THROUGH JUNE 1 AND AUGUST 15 THROUGH SEPTEMBER 1.
8. MULCHING: IMMEDIATELY FOLLOWING SEEDING, MULCH THE SEEDED SURFACE WITH STRAW OR HAY AT A RATE OF 1.5 TO 2 TONS PER ACRE. MULCH SHALL BE SPREAD BY HAND OR WITH A MULCH BLOWER. PUNCH MULCH INTO SOIL SURFACE APPROXIMATELY TWO TO THREE INCHES.

SEPTIC SYSTEM INVERTS

① INVERT @ HOUSE - 464.65 MIN.
② INVERT IN @ SEPTIC TANK - 464.00
③ INVERT OUT @ SEPTIC TANK - 463.75
④ D-BOX / FLOWLINE @ UNITS - 463.1
BOTTOM OF UNITS - 462.6
EXISTING GRADE - 463.0
FINISHED GRADE - 464.1

REFERENCE IS MADE TO MAPS TITLED:
"PROPERTY BOUNDARY SURVEY PLAN OF LOT LINE ADJUSTMENT 62BARTON HILL ROAD PREPARED FOR JUSTIN H. DUTTON & NICOLE M. RONCAIOLO EAST HAMPTON, CONNECTICUT DUTTON ASSOCIATES, LLC LAND SURVEYORS AND CIVIL ENGINEERS DATE:09/27/2015 SCALE 1"=40' SHEET 1 OF 1 A-13-070-LLA-II FILE:13070-LLA-II.DWG"

"CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP TOWN OF EAST HAMPTON EAST HAMPTON – PORTLAND ROAD FROM BARTON HILL ST. EASTERLY TO NORTH MAIN STREET ROUTE NO. 14" SCALE 1"=40', DATED AUGUST 31, 1932, NUMBER 41-03, SHEET 1 OF 3

"LAND SURVEY FOR EDWARD WOOD JR. TOWN OF EAST HAMPTON, CONNECTICUT", SCALE 1"=20', DATED AUG. 15, 1987, BY RICHARD J. ZIEBRON, EAST HADDAM, CT.

"SUBDIVISION AND SITE PLAN PROPERTY OF EDWARD WOOD JR BARTON HILL ROAD EAST HAMPTON, CONNECTICUT", SCALE 1"=20', DATED 05-10-88, PROJECT 8827, BY R. P. DIMMOCK ASSOCIATES, MARLBOROUGH, CT.

"BOUNDARY SURVEY PREPARED FOR JAMES J. COSTELLO & PATRICIA DIANE MULHOLLAND, BARTON HILL ROAD EAST HAMPTON, CONNECTICUT", SCALE 1"20', DATED JANUARY 8, 1981, REVISED JANUARY 9, 1981, REVISED AUGUST 30, 1983, BY DUTCH & ASSOCIATES, COLCHESTER, CT.

"PROPERTY BOUNDARY SURVEY PLAN OF LOT LINE ADJUSTMENT 62 BARTON HILL ROAD PREPARED FOR JUSTIN H. DUTTON & NICOLE M. RONCAIOLLI EAST HAMPTON, CONNECTICUT", SCALE 1"=-40', DATED 01/11/2014, REVISED 04-25-14 – APPROVAL, MAP NUMBER A-13-070-B, BY DUTTON ASSOCIATES, LLC GLASTONBURY, CT.

"PROPERTY SURVEY WEST HIGH STREET MBL 19-46-14 PREPARED FOR JIM MARINO EAST HAMPTON, CONNECTICUT" SCALE: 1"=20' DATED: 12/01/2022 MAP NO. A-22-295 BY DUTTON ASSOCIATES, LLC GLASTONBURY, CT.

THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THROUGH 20-300b-20 AND THE "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON AUGUST 29, 2019.

THE TYPE OF SURVEY PERFORMED IS A PROPERTY SURVEY.

THE BOUNDARY DETERMINATION CATEGORY IS FIRST SURVEY.

THIS SURVEY CONFORMS TO HORIZONTAL ACCURACY CLASS A-2.

THIS MAP WAS PREPARED FOR THE PURPOSE OF BOUNDARY RE-TRACEMENT.

"TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON"

THIS MAP IS NOT VALID UNLESS IT BEARS THE LIVE SIGNATURE AND SEAL OF THE UNDERSIGNED SURVEYOR.

DUTTON ASSOCIATES, LLC
LAND SURVEYORS AND CIVIL ENGINEERS
67 EASTERN BOULEVARD
GLASTONBURY, CONNECTICUT 06033
TEL: 860-633-8401 FAX: 860-633-8851
EMAIL: DUTTONLLC@SNET.COM

STATE OF CONNECTICUT MARK A. REYNOLDS 19789 LICENSED PROFESSIONAL ENGINEER
MARK A. REYNOLDS, P.E. #19789

STATE OF CONNECTICUT JAMES W. DUTTON 70074 LICENSED LAND SURVEYOR
JAMES W. DUTTON, L.S. #70074

SITE DEVELOPMENT PLAN
WEST HIGH STREET MBL 19-46-14
PREPARED FOR
JIM MARINO
EAST HAMPTON, CONNECTICUT

RECEIVED
5-31-23
PZ MTG
JDD

REVISIONS:
REV. 3-22-23 WETLANDS
REV. 5-20-23 TEST PITS
DATE: 2/15/2023
SCALE: 1" = 20'
SHEET 1 of 2
A-22-295
FILE: 22-295_SITEPLAN.DWG

SOILS DATA:

T.P. 1 (11/03/22)
0-13" BLACK ORGANIC LAYER/TOPSOIL
13-27" GREY LOAMY SAND
27-90" GREY SANDY LOAM, HARDPAN
NO LEDGE
GROUNDWATER @ 38"
MOTTLING @ 22"
NO ROOTS @ 36"

T.P. 2 (11/03/22)
0-10" TOPSOIL
10-21" BROWN LOAMY SAND
21-72" GREY FINE SANDY LOAM, HARDPAN
NO LEDGE
NO GROUNDWATER
MOTTLING @ 26"
ROOTS @ 40"

T.P. 3 (11/03/22)
0-23" BLACK ORGANIC LAYER/TOPSOIL
23-48" GREY FINE SANDY LOAM, HARDPAN
NO LEDGE
GROUNDWATER @ 40"
MOTTLING @ 23"
ROOTS @ 23"

T.P. 4 (11/03/22)
0-6" TOPSOIL
6-25" LIGHT BROWN SUBSOIL
25-80" GREYISH F-M SAND, FIRM COMPACT @ 48"
NO LEDGE
NO WATER
MOTTLING @ 32"
ROOTS @ 29"

T.P. 5 (11/03/22)
0-6" TOPSOIL
6-22" BROWN FINE SANDY LOAM
22-72" GREY FINE SANDY LOAM, HARDPAN
NO LEDGE
NO GROUNDWATER
MOTTLING @ 32"
ROOTS @ 22"

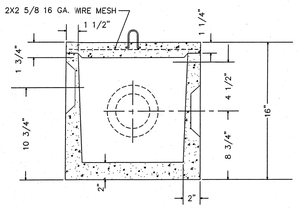
T.P. 6 (5/18/23)
0-10" TOPSOIL
10-23" OLIVE FINE SANDY LOAM
23-78" GREY FINE SANDY LOAM, HARDPAN
NO LEDGE
GROUNDWATER @ 28"
MOTTLING @ 23"
ROOTS @ 23"

T.P. 7 (5/18/23)
0-15" TOPSOIL
15-28" OLIVE FINE SANDY LOAM
28-78" GREY FINE SANDY LOAM, HARDPAN
NO LEDGE
GROUNDWATER @ 40"
MOTTLING @ 30"
ROOTS @ 30"

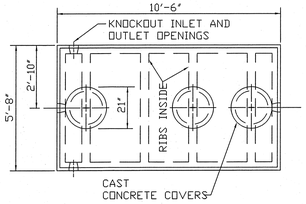
PERCOLATION RATE 10-20 MIN/INCH

MLSS CALC
SLOPE = 7.3%
REST. LAYER = 23" TP 3
HF = 30
FF = 2.0 4 BEDROOMS MULTI FAMILY
PF = 1.25 PERC 10-20
MLSS = 75

ELA NEED 900 SF

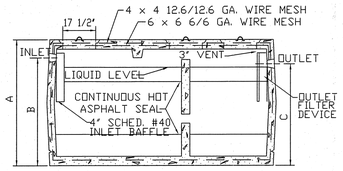


STANDARD D-BOX
NOT TO SCALE



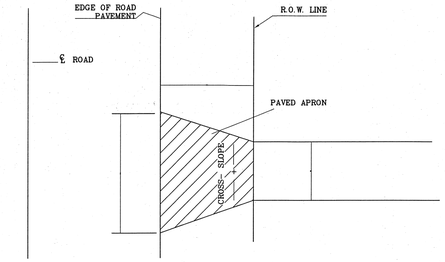
PLAN

CAPACITIES	A	B	C
1250 GAL	61'	51'	48'
1500 GAL	69'	59'	56'

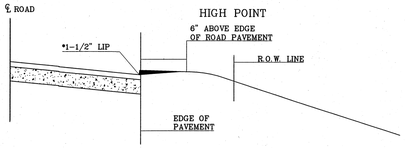


CROSS SECTION

1250/1500 GALLON
2 COMPARTMENT
SEPTIC TANK
NOT TO SCALE



PLAN VIEW



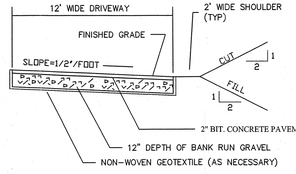
CREST CURVE IN DRIVE

TYPICAL DRIVEWAY ENTRANCE DETAIL

NOT TO SCALE

NOTES:

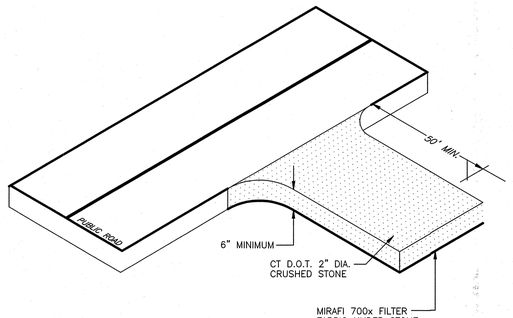
1.) Saw cut irregular pavement edge to match drive apron.
*2.) Provided 1-1/2 inch lip only edge on aprons that abut roads that are curbed.
3.) Driveways must be greater than or equal to 12'.
4.) Driveway aprons must be no greater than 30'.
5.) The first 30' of all driveways may not exceed a grade of 3%.
6.) Any driveway that exceeds a grade of 10% must be paved.



* NOTE: 2" BIT. CONCRETE PAVEMENT REQUIRED WHERE SLOPE EXCEEEDS 10%

DRIVEWAY INSTALLATION DETAIL

NOT TO SCALE



CONSTRUCTION ENTRANCE

NOT TO SCALE

DESIGN NOTES:

1. ALL CONSTRUCTION TO CONFORM TO STANDARDS OF THE CONNECTICUT PUBLIC HEALTH CODE AND TO THE SATISFACTION OF THE TOWN SANITARIAN.
2. PERCOLATION RATE FOR DESIGN: 10.0 - 20 min./inch (ASSUMED)
   DEPTH TO RESTRICTIVE LAYER: 23"
3. REQUIRED LEACHING AREA FOR 4 BEDROOM DUPLEX BUILDING = 900 SF ELA
4. DESIGN: USE 80 LF OF MANTIS DOUBLE WIDE 58
   ELA PROVIDED = 11.6 SF/LF x 80 LF = 928 SF ELA
5. THIS SYSTEM HAS NOT BEEN DESIGNED FOR THE USE OF LARGE CAPACITY (+100 GALLONS), DISCHARGE TYPE BATHTUBS. RESIDENTIAL GARBAGE DISPOSALS ARE NOT ANTICIPATED FOR THIS DESIGN. IN THE EVENT THAT SUCH AN INSTALLATION IS CONTEMPLATED FOR THE PROPOSED HOUSE, A LARGER SEPTIC TANK AND INCREASED LEACHING FIELD CAPACITY WILL BE REQUIRED.
6. THE DESIGN SHOWN HEREON CONFORMS TO ALL APPLICABLE STATE AND LOCAL HEALTH CODE REQUIREMENTS AND TO GOOD ENGINEERING PRACTICE. I CAN NOT GUARANTEE AGAINST FAILURE DUE TO IMPROPER INSTALLATION, IMPROPER MAINTENANCE OR TO NATURAL PHENOMENA BEYOND THE SCOPE OF NORMAL FIELD INVESTIGATION.

SEPTIC SYSTEM CONSTRUCTION NOTES:

1. CONSTRUCTION SEQUENCE
   A. STRIP & STOCKPILE TOPSOIL FROM LEACHING AREA.
   B. CONSTRUCT LEACHING UNITS TO DESIGN LINE & GRADE.
   D. LOAM, FINE GRADE TO FINISHED GRADE AND SEED. PROTECT DISTURBED AREAS WITH EROSION CONTROLS UNTIL FIRST MOWING.
2. THE PIPE BETWEEN THE HOUSE AND SEPTIC TANK SHALL BE 4 IN. EXTRA HEAVY CAST IRON, DUCTILE IRON OR EXTRA STRENGTH PVC ASTM D1785 SCHD 40 OR APPROVED EQUAL.
3. ALL DISTRIBUTION PIPE IS TO BE ASTM D3034 SDR 35 (4"PVC) OR APPROVED EQUAL UNLESS NOTED.
4. SEPTIC TANK SHALL BE SET LEVEL ON A MINIMUM OF 6" OF PROCESSED GRAVEL OR BROKEN STONE ON COMPACTED SUBGRADE.
5. THERE ARE NO APPARENT WELLS OR SEPTIC FIELDS WITHIN 75' OF THE PROPOSED WELL AND SEPTIC SYSTEM AS SHOWN ON THIS PLAN.
6. APPROVED STONE AGGREGATE FOR LEACHING TRENCHES SHALL BROKEN STONE, CRUSHED STONE, OR SCREENED GRAVEL MEETING CT DOT FROM 814A SPECIFICATION FOR M.01.01 FOR NO. 4 STONE:

SIEVE SIZE	PERCENT PASSING (BY WEIGHT)
2-INCH	100
1-1/2-INCH	90-100
1-INCH	20-55
3/4-INCH	0-10
3/8-INCH	0-5
#40	0-3
#200	0-1.5

7. THE DEPTH OF THE LEACHING UNITS SHALL NOT EXCEED 5" INTO ORIGINAL GRADE.
8. THE LOCATION AND ELEVATION OF THE PROPOSED SEPTIC SYSTEM SHALL BE STAKED IN THE FIELD BY A LICENSED LAND SURVEYOR. BENCHMARK TO BE SET IN THE VICINITY OF THE LEACH FIELD AT THE TIME OF STAKEOUT.

LEACHING SYSTEM CONSTRUCTION NOTES:

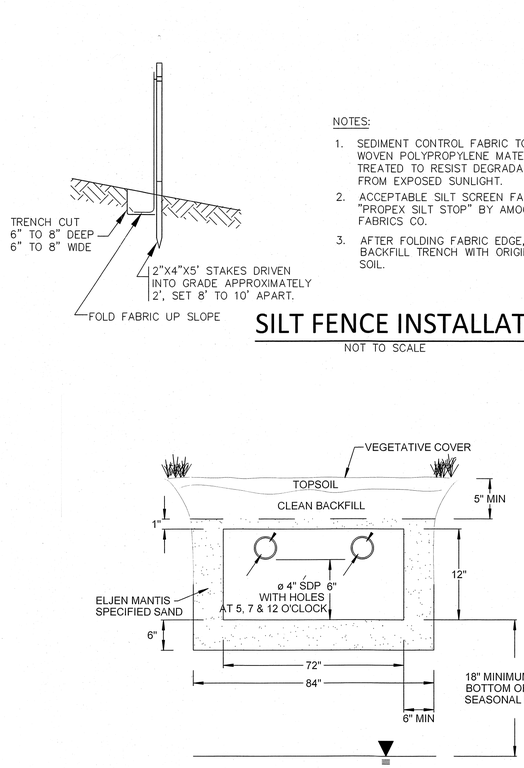
1. TOPSOIL TO BE STRIPPED OFF PRIOR TO FILLING. FILL MATERIAL BETWEEN AND BEYOND TRENCHES TO BE PERVIOUS, GOOD QUALITY AND CLEAN MEDIUM SAND (SELECT FILL) PLACED AND COMPACTED IN 6" LIFTS. SELECT FILL SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
   A. THE FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN 3 INCHES.
   B. THE FILL SHALL NOT CONTAIN MORE THAN 45 PERCENT GRAVEL (GRAVEL IS BETWEEN NO. 4 & 3" SIEVES) NO MORE THAN 45 PERCENT OF THE MATERIAL CAN BE RETAINED ON THE NO. 4 SIEVE.
   C. THE FILL LESS THE GRAVEL SHALL MEET THE FOLLOWING GRADATION CRITERIA:

SIEVE SIZE:	#4	#10	#40	#100	#200
% PASSING: WET SEIVE	100	70-100	**10-50	0-20	0-5
% PASSING: DRY SEIVE	100	70-100	10-75	0-5	0-2.5

   ** PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THAN 75% IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10% AND THE #200 SIEVE DOES NOT EXCEED 5%.
2. DOCUMENTATION OF TEST RESULTS ARE TO BE PROVIDED TO THE HEALTH DISTRICT.
3. FILL MATERIAL TO BE PLACED PRIOR TO TRENCH EXCAVATION. NO TRAFFIC OTHER THAN TRACK-DRIVEN EQUIPMENT IS TO CROSS, DUMP, UNLOAD OR OTHERWISE COMPACT THE FILL AREA AFTER TOPSOIL REMOVAL. FILL MATERIAL TO BE DUMPED AT THE EDGE OF THE STRIPPED AREA AND SPREAD AND COMPACTED WITH TRACK-DRIVEN VEHICLES. STOCKPILING IS TO TAKE PLACE UPGRADIENT OF THE LEACHING AREA. THE AREA DOWN GRADIENT OF THE LEACHING AREA IS NOT TO BE DISTURBED.

SECTION A-A

Horizontal Scale: 1"=10'
Vertical Scale: 1" = 5'



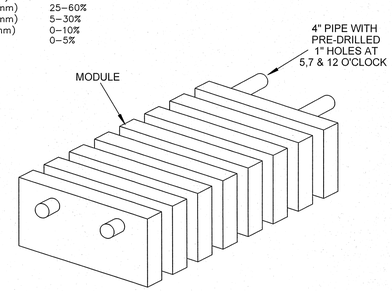
SILT FENCE INSTALLATION

NOT TO SCALE

NOTE: VENTING REQUIRED WHEN MORE THAN 18" OF COVER AS MEASURED FROM THE TOP OF THE UNIT TO FINISHED GRADE

MANTIS SPECIFIED SAND

SIEVE SIZE	PERCENT PASSING
3/8" (9.5mm)	100%
NO. 4 (4.75mm)	95-100%
NO. 8 (2.36mm)	80-100%
NO. 16 (1.18mm)	50-85%
NO. 30 (0.600mm)	25-60%
NO. 50 (0.300mm)	5-30%
NO. 100 (0.15mm)	0-10%
NO. 200	0-5%



MANTIS DOUBLE WIDE 58 LEACHING UNIT DETAIL

(NOT TO SCALE)

DUTTON ASSOCIATES, LLC
LAND SURVEYORS AND CIVIL ENGINEERS
67 EASTERN BOULEVARD
GLASTONBURY, CONNECTICUT 06033
TEL: 860-633-8401 FAX: 860-633-8851
EMAIL: DUTTONLLC@AOL.COM

STATE OF CONNECTICUT — MARK A. REYNOLDS — LICENSED REGIONAL ENGINEER

MARK A. REYNOLDS, P.E. #19789

JAMES W. DUTTON, L.S. #70074

SITE DEVELOPMENT PLAN
WEST HIGH STREET MBL 19-46-14
PREPARED FOR
JIM MARINO
EAST HAMPTON, CONNECTICUT

REVISIONS:
REV. 3-22-23 WETLANDS

DATE: 2/15/2023
SCALE: AS NOTED
SHEET 2 of 2
A-22-295
FILE: 22-295_SITEPLAN.DWG