NOTICE OF PUBLIC MEETING
SUDBURY CONSERVATION COMMISSION
Monday, January 8, 2024 at 7:00 PM
Virtual Meeting

The Sudbury Conservation Commission will hold a public meeting to review the Request for Determination of Applicability filing under the Wetlands Protection Act and the Sudbury Wetlands Administration Bylaw to replace a septic system within the 200-foot Riverfront Area at 25 Plympton Road, in Sudbury, MA. David Barrone, Applicant. The meeting will be held on Monday, January 8, 2024 at 7:00 pm, via Zoom.

Copies of the application may be reviewed on the Conservation Department web page at:

https://sudbury.ma.us/conservationcommission/meeting/conservation-commission-meeting-monday-january-8-2024/

Please contact the Conservation Office with any questions at 978-440-5470.

SUDBURY CONSERVATION COMMISSION
12/27/2023

CONNORSTONE ENGINEERING, INC.
10 SOUTHWEST CUTOFF, SUITE #1
NORTHBOROUGH, MASSACHUSETTS 01532
T: (508) 393-9121

121 BOSTON POST ROAD
SUDBURY, MASSACHUSETTS 01776
T: (978) 443-9566

Conservation Commission
Department of Public Works Building
275 Old Lancaster Road
Sudbury, MA 01776

December 20, 2023

Subject: Request for Determination of Applicability – 25 Plympton Road
Proposed Septic System Repair

Dear Members of the Commission:

On behalf of the applicant (David Barrone), please find the enclosed WPA Form 1 Request for Determination of Applicability for the proposed septic system repair at 25 Plympton Road, including:

1. Copies of the RDA application package and signed WPA Form 1
2. Wetland Report by Oxbow Associates;
3. Copies of the plans "Proposed Sewage Disposal System" for 25 Plympton Road, Sudbury, MA, prepared by Connorstone Engineering, Inc. dated 12/06/2023.

Existing Conditions: The site is located at 25 Plympton Road, and consists of a 6.4-acre parcel currently developed with a 5-bedroom single-family dwelling. The lot had typical residential lawn areas around the home and an access driveway off Plympton Road. The perimeter of the lot to the front sides and rear is natural woodlands.

The home is serviced by two on-site septic systems. The primary system is located to the east (plan right) of the house within the lawn area. This system was inspected and determined to be in failure requiring replacement. There is a secondary, smaller system located off the rear west (plan left) corner of the house, that accepts flow from a single bathroom. This system was found to be in good functional condition and would not require replacement.

Wetland Resource Areas: Regulated wetland resource areas were delineated to the rear of the property consisting of a Perennial Stream and associated Bordering Vegetated Wetlands (BVW). The stream is an unnamed tributary tot eh Sudbury River that runs west to east through a culvert under Water Row. The associated 200-foot riverfront area (RFA) extends into the site and contains the existing house and septic system(s). The property is not located within any flood hazard areas or velocity zones associated with the Sudbury River. The delineation was performed by Oxbow Associates in November of 2023, and a copy of the Delineation Report is attached for reference.

Proposed work: The proposed project includes the replacement of the primary septic system, which was determined to be in failure and must be replaced per the Board of Health and Title 5 regulations. This existing system includes a septic tank located just off the house 90 feet from the edge of Bank, and a leach field located in the side lawn area approximately 160 feet from the Bank. The proposed design would locate the septic tank and leach field in the side lawn area, but as far as practical from the edge of resource areas. The proposed setbacks to the Bank would include 176 feet to the septic tank and 195 feet to the leach field. Soil testing was performed in the is area and found suitable soils with evidence of groundwater at 45 to 70 inches below grade. The depth of groundwater would require a raised system on the downgradient side.

100-foot Buffer Zone: Work within the 100-foot Buffer Zone would include abandonment of the existing tank and a connection to the existing sewer pipe. All or the work would be within the existing lawn area, and would disturb an area of approximately 300 square feet.

200-foot Riverfront Area – Work within the 200-foot riverfront area includes the pipe connection, septic tank, and a corner of the leach field. All or the work would be within the existing lawn area, and would disturb an area of approximately 2,200 square feet, most of which would be in the outer 175 to 200 feet of the RFA. The proposed project would fall under 310 CMR 10.58(6)(c) as a repair to a septic system installed prior to 1996, and the work would be exempted from the requirements for the Riverfront Area under Wetlands Protection Act.

Alternative Analysis – A 22 sq. ft. corner of the leach field is within the Riverfront Area, and alternatives were reviewed to shift the system north or widen the system to reduce length. Both options would require additional tree removal or impacts to the existing mature trees located along the edge of lawn. While these trees are outside the regulated areas they have wildlife value, and the intent was to keep as much of the work as possible within the existing lawn areas.

Temporary Erosion Controls – During construction the downgradient limit of wok would be delineated and protected through the use of silt fence. Once construction is completed, all disturbed areas would be returned to the existing condition with placement of loam and seeded with a lawn mix.

We look forward to discussing the project at an upcoming public hearing. Should you have any questions or require any additional information prior to the hearing please contact this office at (508) 393-9727.

Sincerely,
Connorstone Engineering, Inc.

Vito Colonna, P.E.

cc. MassDEP Northeast Regional Office

Massachusetts Department of Environmental Protection
Bureau of Water Resources - Wetlands

WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Sudbury
Municipality

A. General Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

1. Applicant:

David (First Name)	*Barrone, Trustee of the Selwyn Sanctuary Realty Trust* (Last Name)	
25 Plympton Road (Address)		
Sudbury (City/Town)	*MA* (State)	*01776* (Zip Code)
Phone Number	Email Address	

2. Property Owner (if different from Applicant):

Same as Applicant (First Name)	Last Name	
Address		
City/Town	State	Zip Code
Phone Number	Email Address (if known)	

3. Representative (if any)

Vito (First Name)	*Colonna* (Last Name)	
Connorstone Engineering, Inc. (Company Name)		
10 Southwest Cutoff (Address)		
Northborough (City/Town)	*MA* (State)	*01532* (Zip Code)
508-393-9727 (Phone Number)	*vc@csei.net* (Email Address (if known))	

B. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

25 Plympton Road (Street Address)	*Sudbury* (City/Town)
42.38230 (Latitude (Decimal Degrees Format with 5 digits after decimal e.g. XX.XXXXX))	*-71.39070* (Longitude (Decimal Degrees Format with 5 digits after decimal e.g. -XX.XXXXX))
H 11 (Assessors' Map Number)	*4* (Assessors' Lot/Parcel Number)

How to find Latitude and Longitude

and how to convert to decimal degrees

b. Area Description (use additional paper, if necessary):

6.4 acre lot developed with an existing 5 bedroom home. A regulated Perennial Stream and Bordering Vegetated Wetlands are located to the rear of the site. See attached narrative.

c. Plan and/or Map Reference(s): (use additional paper if necessary)

"Proposed Sewage Disposal System" for 25 Plympton Road (Title)	*12/6/0223* (Date)
Title	Date

B. Project Description (cont.)

2. a. Activity/Work Description (use additional paper and/or provide plan(s) of Activity, if necessary):

The proposed project includes the replacement of the primary septic system, which was determined to be in failure and must be replaced per the Board of Health and Title 5 regulations. **The proposed design would locate the septic tank and leach field in the side lawn area, but as far as practical from the edge of resource areas. The proposed setbacks to the Bank would include 176 feet to the septic tank and 195 feet to the leach field.**

See the attached narrative for additional details.

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

310 CMR 10.58(6)(c) exemption from Riverfront requirements for a pre-1996 septic repair.

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- ☐ Single family house on a lot recorded on or before 8/1/96
- ☐ Single family house on a lot recorded after 8/1/96
- ☐ Expansion of an existing structure on a lot recorded after 8/1/96
- ☐ Project, other than a single-family house or public project, where the applicant owned the lot before 8/7/96
- ☐ New agriculture or aquaculture project
- ☐ Public project where funds were appropriated prior to 8/7/96
- ☐ Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- ☐ Residential subdivision; institutional, industrial, or commercial project
- ☐ Municipal project
- ☐ District, county, state, or federal government project
- ☐ Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)

C. Determinations

1. I request the Sudbury Conservation Commission make the following determination(s). Check any that apply:

- ☐ a. whether the **area** depicted on plan(s) and/or map(s) referenced above is an area subject to jurisdiction of the Wetlands Protection Act.
- ☐ b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced above are accurately delineated.
- ■ c. whether the **Activities** depicted on plan(s) referenced above is subject to the Wetlands Protection Act and its regulations.
- ■ d. whether the area and/or Activities depicted on plan(s) referenced above is subject to the jurisdiction of any **municipal wetlands' ordinance or bylaw** of:

  Sudbury
  Name of Municipality

- ☐ e. whether the following **scope of alternatives** is adequate for Activities in the Riverfront Area as depicted on referenced plan(s).

D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Signatures:

I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

Signature of Applicant — Date: 12-21-23

Signature of Representative (if any) — Date: 12/21/23

Wetland Delineation Report

Provided by: Oxbow Associates, Inc. – Wetlands and Rare & Endangered Permitting

November 2, 2023

Ms. Deborah Mayo
Connorstone Engineering, Inc.
121 Boston Post Road
Sudbury, MA 01776

Re: Wetland Resource Area Evaluation
25 Plympton Road, Sudbury

Dear Ms. Mayo,

In response to your request, Oxbow Associates, Inc. (OA: specifically, R. Strohsahl) reviewed the above referenced site with specific regard to wetland resource areas on October 19, 2023. This evaluation was conducted in accordance with standard methodology for delineating vegetated wetlands under the Massachusetts Wetlands Protection Act (the "Act"; MGL Ch. 131, §40), its Regulations (310 CMR 10.00), and the Town of Sudbury Wetlands Administration Bylaw (Article XXII) and its Regulations.

Site Observations

The property is located west of Water Row, north of the Old Sudbury Road, and south of Plympton Road. The site encompasses approximately 6.4± acres and contains a single-family house with a paved driveway, detached garage, concrete patios, stone bridge, shed, and a landscaped yard. Bisecting the site is an unnamed stream that flows from west to east, eventually connecting with the Sudbury River (offsite). Most of the subject property north of the stream is maintained lawn with shrubs and forested hedges along the periphery. Topography on the property slopes from the house towards the stream, or toward the northern or eastern property boundaries.

Along the western property boundary there is a historic rock-lined spring, which flows south through a narrow wetland, and connects with the unnamed stream. The stream ranges from approximately 3-20 feet wide, with defined banks. The stream bottom varies throughout its length but is generally composed of a mud and organic substrate along the western portion of the property, where the stream is wider, and sand, gravel, and boulders along the eastern portion, where the stream narrows. The stream had less than six (6) inches of water at the deepest location during the evaluation. The latest USGS quadrangle map depicts the stream as being perennial.

Based on our observations, OA believes that the wetland resource areas located on and adjacent to the site include Inland Bank (310 CMR 10.54), Bordering Vegetated Wetland (BVW; 10.55), and Riverfront Area (10.58) as regulated under the Act and Bylaw.

OA delineated relevant resource areas affecting the property with blue and pink plastic flags in two series. Blue flags are labeled A1 through A24 and delineate the Mean Annual High Water (MAHW) line, associated with the stream, while pink flags B1 through B20 delineate the greatest horizontal extent of the BVW extending from the northern edge of the stream. The BVW was delineated based on topography, predominance of wetland vegetation, and indicators of hydrology which include hydric soils (redoximorphic features), silt-stained leaves, and limit of standing water.

Vegetation within the BVW includes: Red maple (*Acer rubrum*), eastern white pine (*Pinus strobus*), slippery elm (*Ulmus rubra*), spicebush (*Lindera benzoin*), glossy false buckthorn (*Frangula alnus*), highbush blueberry (*Vaccinium corymbosum*), buttonbush (*Cephalanthus occidentalis*), silky dogwood (*Swida amomum*), multiflora rose (*Rosa multiflora*), purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), *Iris* (spp.), smartweed (*Persicaria* spp.), beggars tick (*Bidens* spp.), sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmundastrum cinnamomeum*), New York fern (*Parathelypteris noveboracensis*), royal fern (*Osmunda regalis*), jewelweed (*Impatiens capensis*), Jack-in-the-pulpit (*Arisaema triphyllum*), *Sphagnum* (spp.) mosses, and skunk cabbage (*Symplocarpus foetidus*).

Vegetation associated with the uplands on the property includes: Eastern white pine, spruce (*Picea* spp.), eastern hemlock (*Tsuga canadensis*), oaks (*Quercus* spp.), black walnut (*Juglans nigra*), American beech (*Fagus grandifolia*), white ash (*Fraxinus americana*), hickory (*Carya* spp.), red maple, apple (*Malus* spp.), black cherry (*Prunus serotina*), gray birch (*Betula populifolia*), yellow birch (*B. alleghaniensis*), eastern red cedar (*Juniperus virginiana*), basswood (*Tilia americana*), tulip poplar (*Liriodendron tulipifera*), glossy false buckthorn, honeysuckle (*Lonicera* spp.), burning bush (*Euonymus alatus*), lowbush blueberry (*V. angustifolium*), sassafras (*Sassafras albidum*), Japanese barberry (*Berberis thunbergii*), black raspberry (*Rubus occidentalis*), poison ivy (*Toxicodendron radicans*), Asiatic bittersweet (*Celastrus orbiculatus*), creeping Charlie (*Glechoma hederacea*), eastern hay-scented fern (*Dennstaedtia punctilobula*), goldenrods (*Solidago* spp.), white wood-aster (*Eurybia divaricata*), and wintergreen (*Pyrola americana*).

According to the Massachusetts Natural Heritage and Endangered Species Program Atlas (15th Edition; MassGIS 2021), there is no Priority or Estimated Habitat for rare species, nor certified or potential vernal pools immediately on or directly adjacent to the property.

Regulatory Implications and Recommendations

The wetland delineation provided is OA's interpretation of the resource area boundaries and they must be reviewed and approved by the Sudbury Conservation Commission (SCC) before they become legally affirmed boundaries. OA recommends evaluation of the offsets and extent of the resource areas via preparation of a survey plan, to include the resource area flag locations and projected regulated areas (buffer zone, Riverfront

Area) to determine what improvements can comply with the applicable State and local performance standards.

In general, the SCC discourages any work or activity within 100 feet of a wetland resource area. Any activities proposed within 100 feet of the BVW boundary, or 200 feet of the MAHW of a perennial stream are subject to review by the SCC and the Massachusetts Department of Environmental Protection (DEP). Any activity proposed ***within*** BVW is subject to review by the SCC, and DEP, and may require filing an additional 401 Water Quality Certificate with the DEP.

The Bylaw designates a 100-foot "adjacent upland resource area" (buffer zone) resource area surrounding all freshwater wetlands. This buffer zone is used to protect the functions and values of wetland resource areas and may be subdivided into four separate zones to determine the amount of allowable work in each. The area closest to the wetlands is normally determined to be part of the "No Disturbance Area," and allows virtually no activities or work to be completed. A minimum of 25 feet of natural vegetation is typically desirable between the edge of wetland resources and proposed activities and/or disturbance. The amount of allowable work in the remaining zones may increase the further it is from a resource or ecologically sensitive area.

The latest USGS quadrangle map shows the stream on the subject property as being perennial, but the USGS StreamStats application calculates the watershed to be approximately 0.12 square miles, which is below the 0.5 sq. mi. threshold referenced in the 310 CMR 10.58(2)(a)1.c.i. The presumption of the perennial status of the stream can be overturned with recorded observations of the stream bed dry over four (4) days during a non-drought period (as determined by the state's Drought Management Task Force) within a one-year period. Photographic proof of the intermittent status of the stream will eliminate the regulations specific to Riverfront Area (10.58) under the Act.

However, even if proven to be intermittent, the stream would likely be classified as a Type I intermittent stream under the Bylaw (flowing water disappears for greater than five (5) but not more than thirty (30) days annually). Type I intermittent streams only have a 100-foot buffer zone originating from the Bank but the buffer zone can be regulated with similar protections as applied to a perennial stream.

Under the Sudbury Board of Health Rules and Regulations for Subsurface Disposal of Sewage, the stream is considered a "surface watercourse." Any proposed leaching facilities are required to be a minimum 100 feet from all surface watercourses. The BVW is not considered to be a surface watercourse because it does not have water present on the surface for a period of three months or greater, but also requires a 50-foot separation from leaching facilities. Should it be necessary for the leaching field to be placed closer than 100 feet from the stream or 50 feet from the BVW, a variance from the Board of Health will be required.

Inland Bank is determined at the mean annual flood level, or the first observable break in slope, whichever is lower. Bank was not flagged during this evaluation, because it is

interior to the BVW flags and no work is anticipated to cross the Bank, but is generally coincident with the MAHW of the stream. Impacts up to 10% of the total length or 50 feet (whichever is less) of Bank would not be deemed detrimental to the wildlife habitat functions of the Bank. Should any crossing be proposed over the stream, it must be designed to be span 1.2x the bankfull width and meet the appropriate Openness Ratio specified in the Massachusetts Stream Crossings Handbook.

Summary

The GIS/GPS map we have provided can be used as a planning tool, however a Professional Land Surveyor or Engineer will need to complete a survey and plan of the existing and proposed conditions. The anticipated Notice of Intent application must include a site plan illustrating the existing conditions, property boundaries, existing structures, limits of driveway/pavement/vegetation, outbuildings, resource area boundaries and buffers, topography, proposed erosion control barrier, any pertinent construction notes and details, as well as the proposed septic design.

Erosion and sediment controls should be incorporated into the project design to encircle the limit of work within the yard to prevent erosion, control sediment movement, and stabilize exposed and disturbed soils during construction of the septic system. Temporary erosion and sedimentation controls during construction include minimizing areas of exposed soil, directing and controlling runoff, and rapidly stabilizing exposed areas. Any soils left exposed for extended periods should be seeded for temporary vegetative cover. Following construction, exposed areas should be permanently vegetated with appropriate ground cover. Erosion and sedimentation control measures should remain functional until the exposed soil is seeded and stabilized.

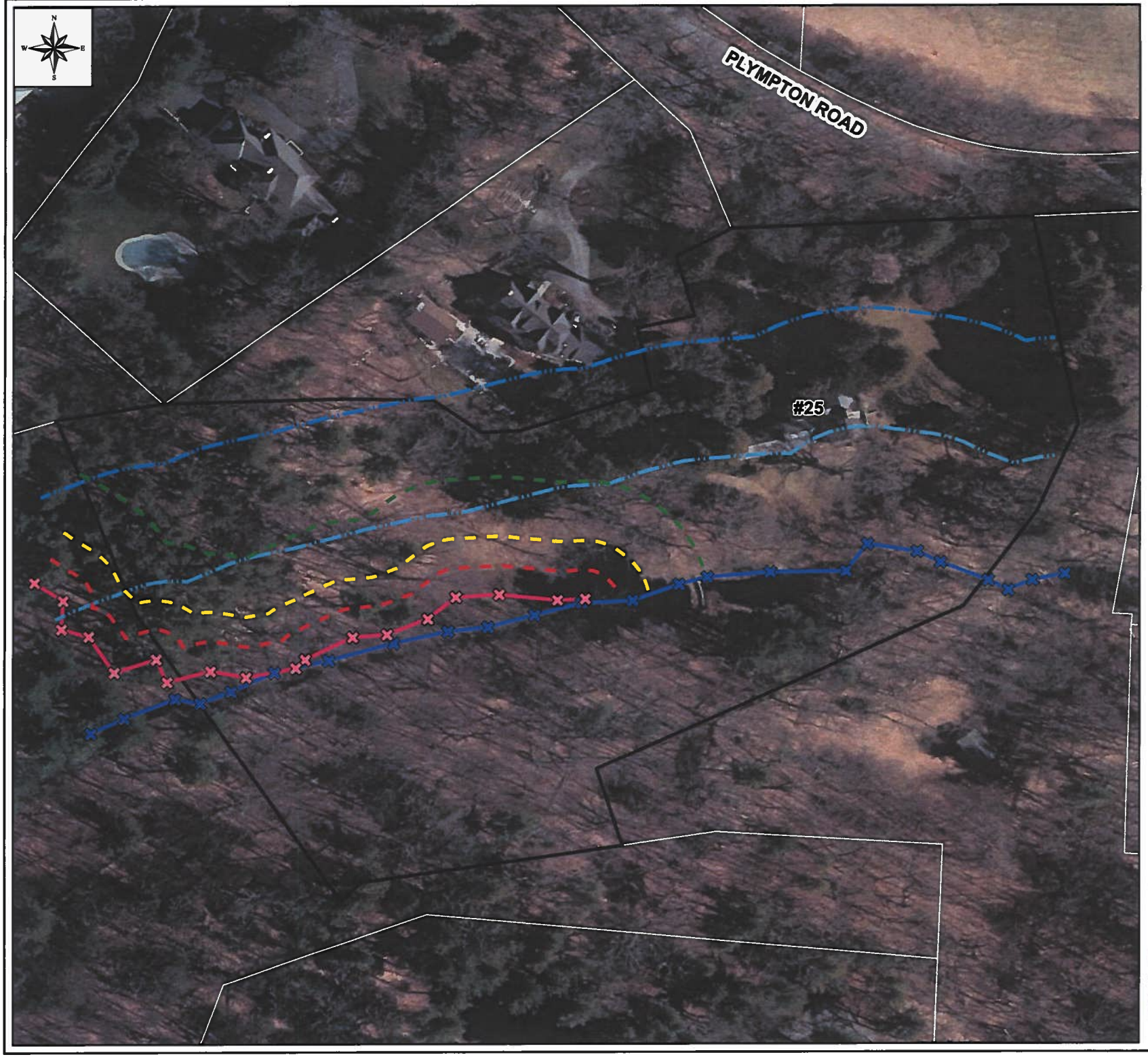
If you have any questions, please do not hesitate to contact us.

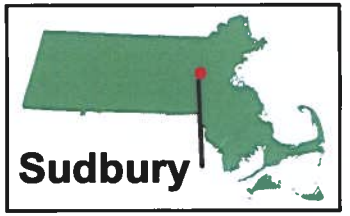
Sincerely,

Ronald H. Strohsahl

Ronald Strohsahl, PWS
Senior Wetland Scientist

Encls. *Wetland Evaluation* Figure





Wetland Evaluation
2021 Orthophoto
25 Plympton Rd.
Sudbury, MA

October 23, 2023

1:1,320

1 inch = 110 feet

0 75 150

Feet

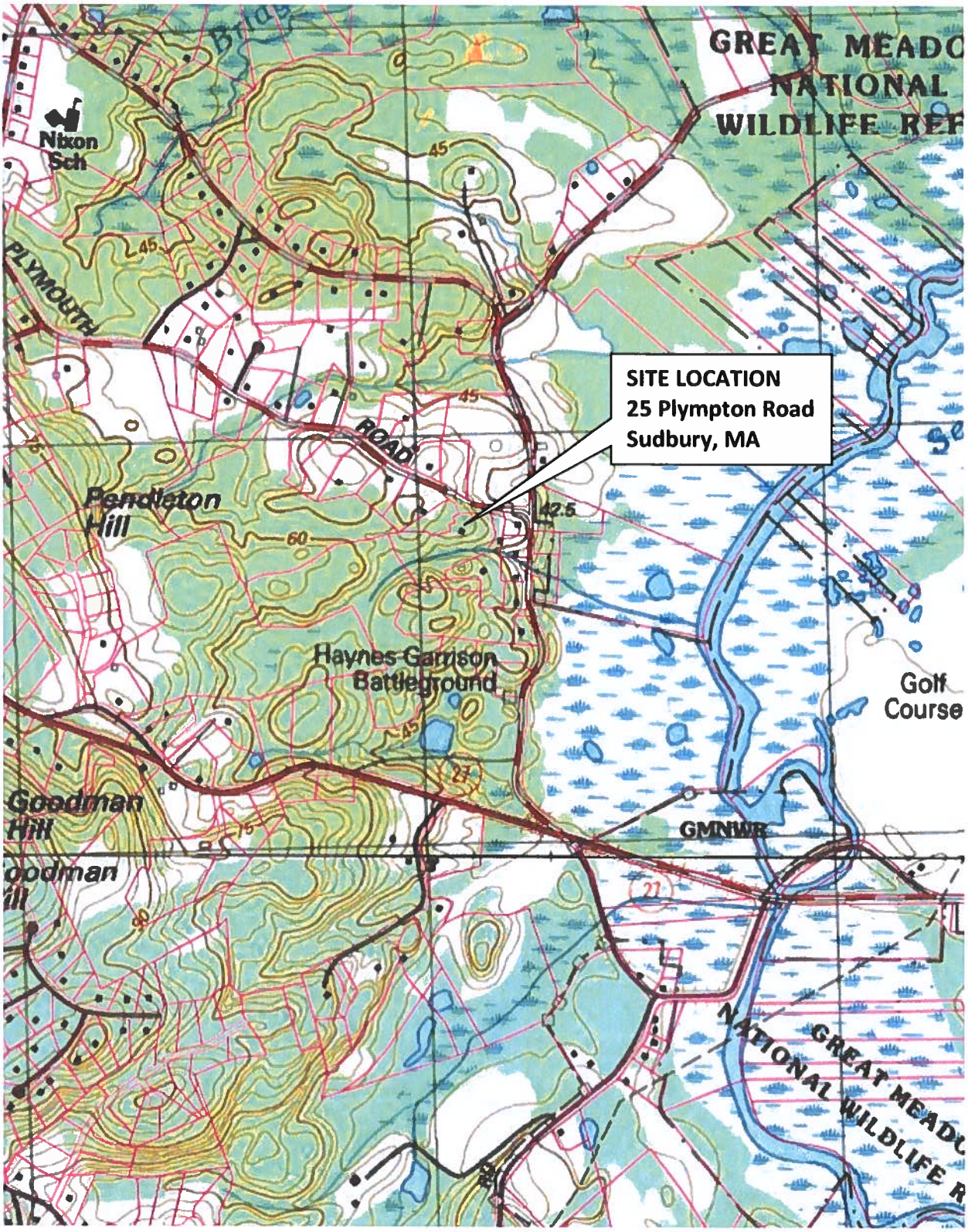
Legend

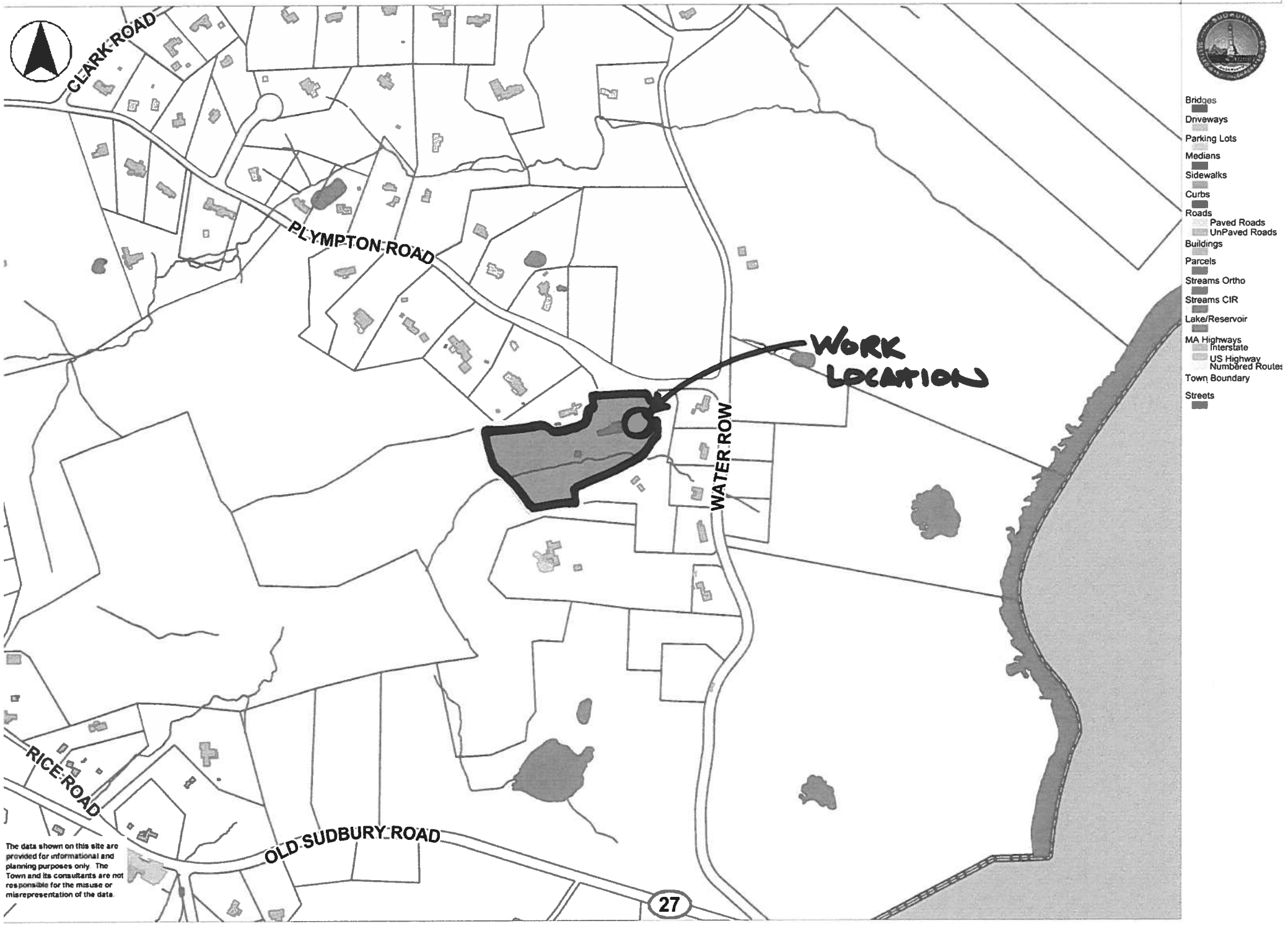
- MAHW Flags
- BVW Flags
- MAHW Line
- 100ft Inner Riparian
- 200ft Outer Riparian
- BVW Line
- 25ft No-Disturb
- 50ft BVW Buffer
- 100ft BVW Buffer
- Property Boundary
- Property Parcels

OXBOW ASSOCIATES, INC.

LOCUS MAPPING

USGS LOCUS MAP

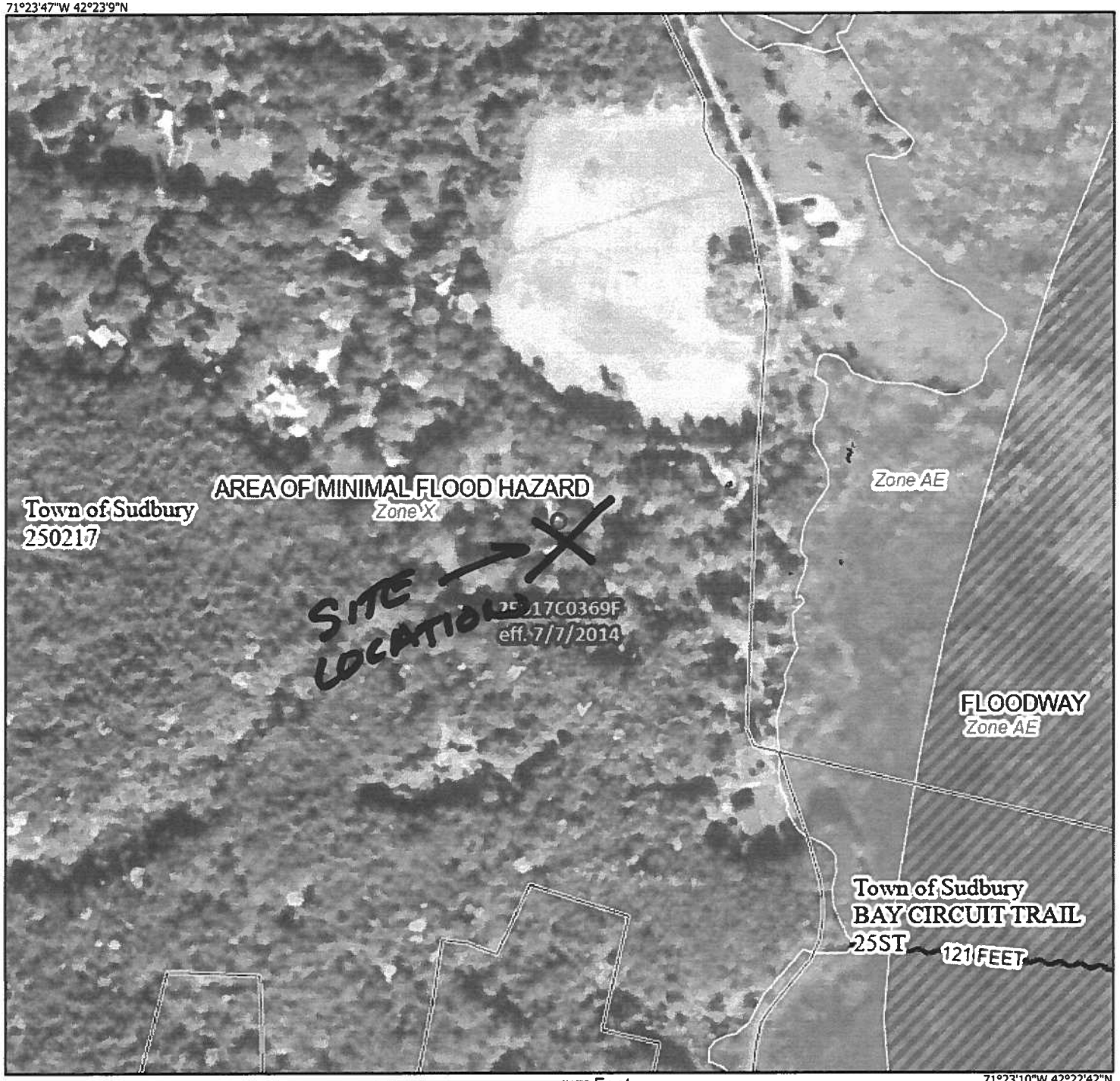



CLARK ROAD
PLYMPTON ROAD
WORK LOCATION
WATER ROW
RICE ROAD
OLD SUDBURY ROAD
27
Bridges
Driveways
Parking Lots
Medians
Sidewalks
Curbs
Roads
Paved Roads
UnPaved Roads
Buildings
Parcels
Streams Ortho
Streams CIR
Lake/Reservoir
MA Highways
Interstate
US Highway
Numbered Routes
Town Boundary
Streets
The data shown on this site are provided for informational and planning purposes only. The Town and its consultants are not responsible for the misuse or misrepresentation of the data.
800
1600 ft
Printed on 12/08/2023 at 11:10 AM
MapsOnline

National Flood Hazard Layer FIRMette

FEMA

71°23'47"W 42°23'9"N



71°23'10"W 42°22'42"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

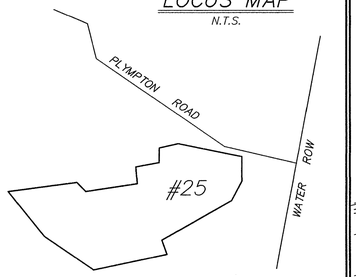
The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/8/2023 at 11:14 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

LOCUS MAP
N.T.S.



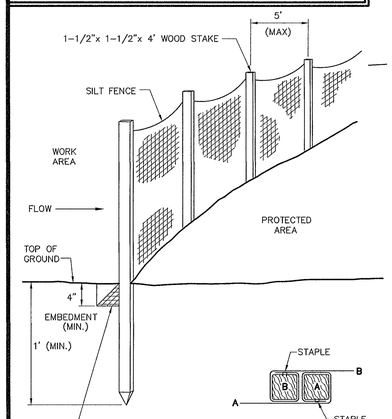
SCHEDULE OF ELEVATIONS

TOP OF FOUNDATION T.C. =	172.74
CONTRACTOR TO CONFIRM INVERTS PRIOR TO CONSTRUCTION	
INVERT OF PIPE AT FOUNDATION =	BELOW SLAB
INVERT AT SEPTIC TANK INLET =	156.9
INVERT AT SEPTIC TANK OUTLET =	156.7
INVERT AT DISTRIBUTION BOX INLET =	156.4
INVERT AT DISTRIBUTION BOX OUTLET =	156.2
INVERT AT LEACHING LINES (BEGINNING) =	156.0
INVERT AT LEACHING LINES (END) =	155.7
ELEVATION OF BED BOTTOM =	155.2
FINISH GRADE OVER LEACHING AREA =	158±

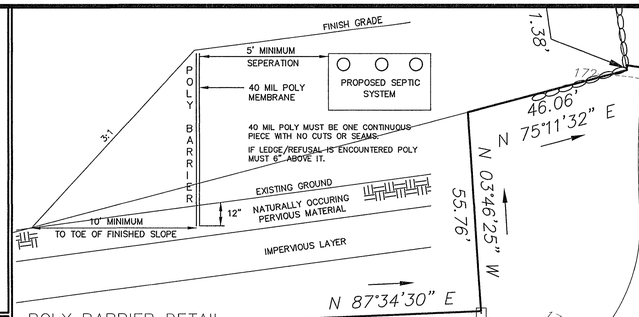
DESIGN CRITERIA

1. ESTIMATED FLOW = 5 BDRMS X 110 GPD/BR=550 GPD
2. LEACH FIELD PERCOLATION RATE = 20 MPI
3. LEACHING AREA CALCULATION =

BED AREA = 17.5'x60' = 1050 SF(0.53 GPD/SF)=556 GPD
LEACH BED SIZED TO ACCOMMODATE FLOW FROM A POSSIBLE FUTURE CONNECTION OF THE ONE BEDROOM GUEST SYSTEM



SILT FENCE DETAIL
NOT TO SCALE



POLY BARRIER DETAIL
NOT TO SCALE

SITE PLAN
SCALE: 1" = 20'

MAP H11, PARCEL 4
AREA=277,307 S.F.
(6.4± ACRES)

SHED

WETLAND AND BANK DELINEATION BY OXBOW ASSOCIATES NOVEMBER 2023

GENERAL NOTES:

1. Contractor shall call Digsafe at (888) 344-7233 a minimum of 72 hours prior to commencing any construction activities on site.
2. Inspections by Design Engineer and Board of Health are as required by the Board of Health.
3. This plan was prepared for the design of the subsurface sewage disposal system only and is based on the subsurface explorations and percolation tests listed below.
4. System was designed only to accomodate sanitary sewage associated with normal domestic usage, consisting of water carried putrescible waste, and for flows indicated in the design criteria.
5. The system must be vented through the buildings plumbing in accordance with the state building code.
6. Plans show only features that were visually apparent on the date of the topographic survey, and the absence of subsurface structures, utilities, etc. is not guaranteed.
7. Contractor to determine if site conditions are suitable for construction of proposed system, and must promptly notify the Design Engineer and Owner, in writing, of any plan deficiencies, unforseen subsurface conditions, or required changes.
8. There are no wells located within 100 feet of the proposed leaching area or within 100 feet of the proposed septic tank (except as shown).
9. The subject property is not located within a Zone II of a public drinking water supply well.
10. All construction is to conform to the requirements of the Massachusetts Environmental Code, Title V, and the town of SUDBURY Board of Health regulations.
11. There are no bordering vegetated wetlands, inland banks, or surface waters within 100' of the proposed system.
12. There are no surface or subsurface drains which are used to lower the ground water.
13. All elevations refer to TBM 12" PINE NAIL EL=167.43
14. For proper performance, septic tank should be pumped annually.
15. System cannot be backfilled or concealed until design firm and board of health have inspected the system and permission to backfill has been given.
16. Design firm must prepare and submit "As-Built" plan to Board of Health. This plan must certify that the system was installed in accordance with state and local regulations and that it complies with the proposed plan.
17. Property lines are approximate and are not to be used for boundary survey purposes. Surface features and topography outside of work area are approximate.
18. System is not designed to accomodate a garbage grinder.

TECHNICAL NOTES:

1. Building sewer shall be in accordance with state plumbing code and have a minimum of 4" of cover in landscaped areas. A minimum of 12" of cover and/or appropriate sleeving shall be used in areas subject to vehicular traffic.
2. All tanks, including septic tanks, distribution boxes, dosing chambers, and grease traps shall be either watertight through manufacturer's specification and warranty, or made watertight by the manufacturer or other individual by means and persons as approved in 310 CMR 15.221. Septic tank shall be constructed and placed in accordance with 310 CMR 15.223 through 310 CMR 15.228.
3. Septic tanks shall have at least three (3) 20" manholes with at least one (1) of these manholes located no more than 6" below finish grade. (Systems over 1,000 gpd shall have access ports at both the inlet and outlet tees.)
4. Distribution box ("d-box") shall be of watertight construction, installed level on a firm base, and installed in accordance with 310 CMR 15.232.
5. Septic tank covers and d-box are to be brought within 6" and 9" of finish grade respectively by the use of riser sections.
6. When the soil absorption system (SAS) is to be dosed or the slope of the inlet pipe exceeds 0.08 feet per foot, an inlet tee, baffle or splash plate extending to one inch above the outlet invert elevation shall be provided to dissipate velocity of the influent.
7. When the SAS is installed within the top and subsoil layers or above natural grade, all topsoil and subsoil shall be removed below and laterally a minimum of 5 feet beyond the surrounding the SAS. Removed material shall be replaced with clean granular material in accordance with 310 CMR 15.255(3).
8. All disturbed areas shall be loamed, seeded, and maintained so as to prevent erosion.
9. All native soil interfaces which will contact the SAS shall be scarified prior to placement of stone.

PERCOLATION TESTS

HOLE NO. & DATE	TOP ELEVATION	DEPTH (In.)	SATURATION (Min.)	12"-9" DROP (Min.)	9"-6" DROP (Min.)	PERC. RATE (Min./In.)
PT-A 11/15/23	156.0	51"	15 MIN	41 MIN	59 MIN	20 MIN/IN
PT-B 11/15/23	155.0	57"	15 MIN	11 MIN	16 MIN	6 MIN/IN

DEEP OBSERVATION HOLE LOG

NO., DATE & ELEV.	DEPTH (In.)	SOIL HORIZON	TEXTURE (USDA)	COLOR (MUNSELL)	SOIL MOTTLING	OTHER
DTH-1 11/15/23 158.0	0-50"	Ap	FILL	10YR3/4		
	50-92"	C1	LOAMY SAND	10YR6/4	70"	
DEPTH TO BEDROCK: – STANDING WATER: – WEEPING FROM PIT FACE: –						ESHWT: 152.2
DTH-2 11/15/23 156.0	0-7"	Ap	SANDY LOAM	10YR3/2		
	7-25"	Bw	LOAMY SAND	10YR6/8		
	25-80"	C1	LOAMY SAND	2.5YR5/4	50"	COBBLES & BOULDERS
DEPTH TO BEDROCK: – STANDING WATER: – WEEPING FROM PIT FACE: –						ESHWT: 151.8
DTH-3 11/15/23 155.0	0-8"	Ap	SANDY LOAM	10YR3/2		
	8-23"	Bw	LOAMY SAND	10YR6/8		
	23-45"	C1	FINE SAND	10YR6/4	45"	
	45-80"	C2	LOAMY SAND	2.5YR5/4		
DEPTH TO BEDROCK: – STANDING WATER: – WEEPING FROM PIT FACE: –						ESHWT: 151.25
DTH-4 11/15/23 161.0	0-8"	Ap	SANDY LOAM	10YR3/2		
	8-22"	Bw	LOAMY SAND	10YR6/8		
	22-35"	C1	FINE SAND	10YR6/4	70"	COBBLES & BOULDERS
	35-110"	C2	LOAMY SAND	2.5YR5/4		
DEPTH TO BEDROCK: – STANDING WATER: – WEEPING FROM PIT FACE: –						ESHWT: 155.2
DTH-5 11/15/23 164.0	0-8"	Ap	SANDY LOAM	10YR3/2		
	8-23"	Bw	LOAMY SAND	10YR6/8		
	23-42"	C1	FINE SAND	10YR6/4		
	42-73"	C2	LOAMY SAND	2.5YR5/4	NONE	COBBLES & BOULDERS
DEPTH TO BEDROCK: – STANDING WATER: – WEEPING FROM PIT FACE: –						ESHWT: 157.9

TESTS CONDUCTED BY: MIKE SULLIVAN
TESTS OBSERVED BY: ROB LAZZO DATE: 11/15/23

I certify that I have passed the examination approved by the department of Environmental Protection and that the above analysis has been performed by me consistent with the required training, expertise, and experience described in 310 CMR 15.018(2).

Certified:

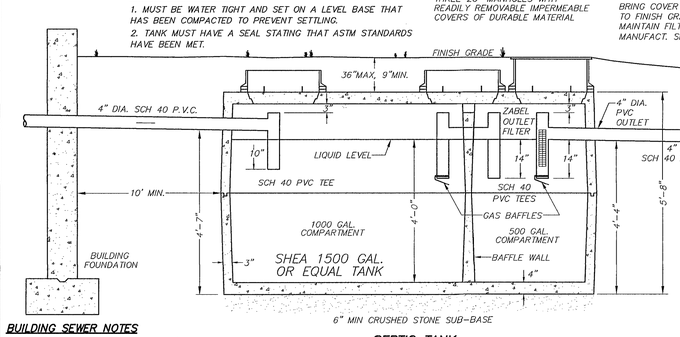
SEPTIC TANK NOTES

1. MUST BE WATER TIGHT AND SET ON A LEVEL BASE THAT HAS BEEN COMPACTED TO PREVENT SETTLING.
2. TANK MUST HAVE A SEAL STATING THAT ASTM STANDARDS HAVE BEEN MET.

THREE 20" MANHOLES WITH READILY REMOVABLE IMPERMEABLE COVERS OF DURABLE MATERIAL

IF A FILTER IS INSTALLED: BRING COVER OVER FILTER TO FINISH GRADE. MAINTAIN FILTER PER MANUFACT. SPECS./APPROVAL

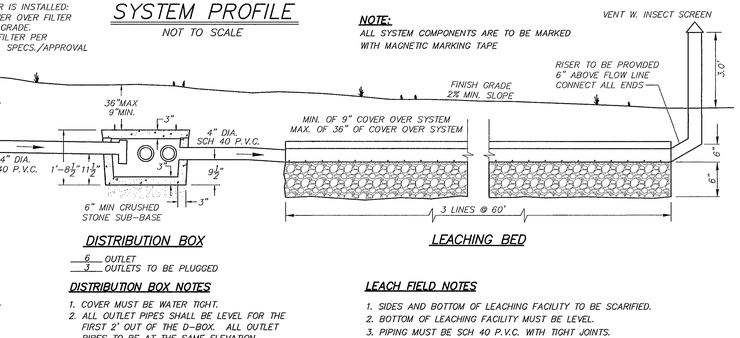
SYSTEM PROFILE
NOT TO SCALE



BUILDING SEWER NOTES

1. SEWER LINE MUST BE LAID ON A FIRM COMPACTED BASE.
2. PIPE MUST BE SLOPED AT A MIN. OF 1% (2% PREFERRED)
3. PIPE MUST BE LAID ON A CONTINUOUS UNIFORM GRADIENT.

SEPTIC TANK
PRECAST REINFORCED CONCRETE
CAPACITY OF TANK = 1500 GAL.



DISTRIBUTION BOX

6 OUTLET
3 OUTLETS TO BE PLUGGED

DISTRIBUTION BOX NOTES

1. COVER MUST BE WATER TIGHT.
2. ALL OUTLET PIPES SHALL BE LEVEL FOR THE FIRST 2' OUT OF THE D-BOX. ALL OUTLET PIPES TO BE AT THE SAME ELEVATION.
3. SOIL MUST BE COMPACTED UNDER "D" BOX TO PREVENT SETTLING.
4. MINIMUM INSIDE DIMENSION SHALL BE 12".

NOTE:
ALL SYSTEM COMPONENTS ARE TO BE MARKED WITH MAGNETIC MARKING TAPE

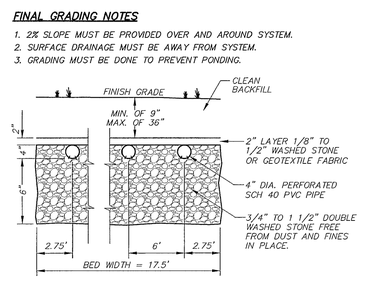
LEACHING BED

LEACH FIELD NOTES

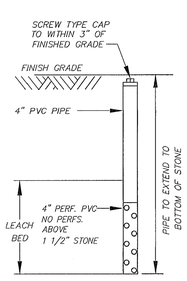
1. SIDES AND BOTTOM OF LEACHING FACILITY TO BE SCARIFIED.
2. BOTTOM OF LEACHING FACILITY MUST BE LEVEL.
3. PIPING MUST BE SCH 40 P.V.C. WITH TIGHT JOINTS.
4. THE ORIFICES OF THE PIPE MUST BE 3/8" – 5/8".
5. VENT REQUIRED IF LEACH LINES ARE GREATER THAN 50'.

FINAL GRADING NOTES

1. 2% SLOPE MUST BE PROVIDED OVER AND AROUND SYSTEM.
2. SURFACE DRAINAGE MUST BE AWAY FROM SYSTEM.
3. GRADING MUST BE DONE TO PREVENT PONDING.



TYPICAL LEACHING BED CROSS SECTION



INSPECTION PORT
NOT TO SCALE

APPLICANT	LOCATION
DAVID BARRONE	25 PLYMPTON ROAD SUDBURY, MA ASSESSORS MAP H11 & PARCEL 4

NO.	DATE:	REVISION:	BY:

DIGSAFE 1-888-344-7233

PROPOSED SEWAGE DISPOSAL SYSTEM

CONNORSTONE ENGINEERING
CONSULTING CIVIL ENGINEERS AND LAND SURVEYORS
10 SOUTHWEST CUTOFF, SUITE 7
NORTHBOROUGH, MASSACHUSETTS 01532
PHONE: 508-393-9727 WWW.CSEI.NET
121 BOSTON POST RD. SUDBURY, MA. 01776
PHONE: 978-443-9566 WWW.SULLIVANCONNORS.COM

COMMONWEALTH OF MASSACHUSETTS VITO COLONNA No. 47635 PROFESSIONAL ENGINEER
12.6.23

DATE: 12/6/23 SHEET 1 OF 1