

**Preservation of Bridge No. 04550
Barndoor Hills Road over Bissell Brook**



Inland Wetlands Permit Application

Town of Simsbury

Office of Community Planning and Development

933 Hopmeadow Street

Simsbury, CT 06070

June 2020

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Town of Simsbury

Office of Community Planning and Development - Inland Wetlands Permit Application

DATE: 3 June 2020 FEE: \$ 95.0 CK #: _____ APP #: _____

PROPERTY ADDRESS: Bridge 04550 (nearest to 60 Barndoor Hills Road)

NAME OF APPLICANT: Town of Simsbury

MAILING ADDRESS: 933 Hopmeadow Street, Simsbury, CT 06070

EMAIL ADDRESS: _____ TELEPHONE # 860-658-3245

NAME OF OWNER: Town of Simsbury

MAILING ADDRESS: same

EMAIL ADDRESS: same TELEPHONE # same

NOTE: ATTACH A WRITTEN LETTER OF AGENCY, DULY ACKNOWLEDGED, TO ACT FOR THE OWNER, INCLUDING THE ABILITY TO CARRY OUT ACTIVITIES SET FORTH HEREIN.

DESCRIBE THE SPECIFIC ACTIVITY(ies) FOR WHICH A PERMIT IS SOUGHT AS IT RELATES TO "REGULATED ACTIVITIES" AS DEFINED IN SECTION 6 OF THE SIMSBURY INLAND WETLANDS REGULATIONS, SUCH AS: A) REMOVE MATERIAL FROM; B) DEPOSIT MATERIAL IN OR DISCHARGE TO; C) CONSTRUCT ON; D) OBSTRUCT; E) ALTER; F) POLLUTE; OR G) OTHERWISE ADVERSELY AFFECT A REGULATED AREA:
Rehabilitation of Bridge 04550, Barndoor Hills Road over Bissell Brook.

A permit is sought for the following regulated activities: clearing (vegetation), paving (re-paving), and filling (stone rip-rap).

CERTIFICATIONS AND PERMISSIONS:

As owner, I hereby give permission to the Town of Simsbury's Conservation Commission Inland Wetlands Watercourses Agency, their Agents, or Town Staff to enter upon my land to make observations and tests as may be necessary to evaluate this application and ongoing work, subject to twenty-four hours notice of such entry/testing.

I hereby certify that all statements herein are true to the best of my knowledge, whether made by me or my agents. Any permit issued shall be contingent upon field conditions and activities being substantiated as indicated herein. A changed situation shall require reconsideration of the permit by the Commission upon discovery by either party.

I certify that I have the authority to sign this application.

Maia E. Capriola 7/16/20
Signature of Owner Date

[Signature] 7/16/20
Signature and Title of Applicant Date

Telephone (860) 658-3245
Facsimile (860) 658-3206

www.simsbury-ct.gov

933 Hopmeadow Street
Simsbury, CT 06070

INSTRUCTIONS FOR APPLICANT

Any person seeking a permit to carry out a regulated activity on property which has been designated an inland wetland or watercourse by the Conservation Commission or within the 100-foot regulated buffer area of a designated inland wetland or watercourse must complete and submit the Inland Wetlands Permit Application to the Planning Department.

Submission shall occur by the day before a regular meeting of the Conservation Commission. (See Section 5 of the Inland Wetlands and Watercourses Regulations of the Town of Simsbury.) Application will be heard at the following meeting, after petition period.

The original application shall be submitted with eleven (11) copies. Maps on sheets larger than 11"x14" shall be submitted in at least three (3) copies. Additional copies of site plans may be required. PDFs of the maps, if available, should be submitted, as well. PDFs can be emailed to lbarkowski@simsbury-ct.gov.

A filing fee shall accompany the application, as required by the Land Use Application Fees schedule. Please consult with the Planning Office for specific fee determination.

The following information shall be provided on white paper (8 ½"x11") and typewritten. Reproduce the following questions along with the answer and attach to the application.

1. *In the case of a public hearing or map amendment*, list on a separate sheet of paper the names and addresses of all abutting property owners and property owners within 100 feet of all property lines. Identify on one of the attached maps.
2. Describe the site and the regulated area or wetlands/watercourses involved:
 - a. General site conditions, including vegetation and general soil conditions.
 - b. Size of wetland within site or distance of the activity from the wetland.
 - c. Size of total contiguous wetland.
 - d. Position relative to other wetlands on site.
 - e. Type of wetland characterized by vegetative and soil type and/or watercourse, such as: 1) open/deep fresh water pond or lake; 2) shallow marsh; 3) seasonally flooded basins and flats; 4) meadow; 5) shrub swamp; 6) wooded swamp; 7) bog; 8) kettle; 9) stream type; 10) other.

3. Depth to water table, depth to mottled soil, and seasonal variation of water table.
4. Describe the immediate impact on the wetlands and watercourses, including, but not limited to:
 - a. Quantities, by volume and area disturbed, of materials to be removed, deposited, or altered.
 - b. Kinds of materials by soil types and vegetative classifications, and materials classification to be removed, deposited, or altered.
 - c. Percent of wetlands/watercourses disturbed or altered to total area of wetlands/watercourses on the parcel.
5. Describe the related construction activities and their impact on:
 - a. Area and location of wetlands and watercourses.
 - b. Types and amounts of vegetation.
 - c. Surface and groundwater.
 - d. Visual impacts.
 - e. Wildlife habitats.
6. Describe the long term or permanent impact of the activity(ies) on environmental aspects, such as the surface and groundwater quality, storm water runoff, visual impact(s), or wildlife habitats on:
 - a. Wetlands and/or watercourses.
 - b. Abutting riparian properties and/or wetlands and/or watercourses.
7. Identify sedimentation and erosion control measures to be used.
8. Identify alternatives to the proposed activity that were considered, including alternative sites and why this one was chosen.
9. Estimate cost of work and time for completion.
10. Attach drainage calculations and other reports as indicated to substantiate the statements made above.

11. REQUIRED MAPS

- a. Attach a vicinity map on an 8 ½"x11" sheet at scale 1"=200' or 1"=800' (depending upon the size of the parcel) showing the general location of the area in which the regulated activity is proposed. The map should be in sufficient detail to allow the identification of the property on the official Inland Wetlands and Watercourses map. A guide to the kinds of information to be shown is available in the Planning Department at the Town Hall.

b. Site Plan(s) showing:

- i. The topography showing contours at intervals of not more than two (2) feet and a minimum of two (2) contour marks per ten (10) acres at a scale of 1"=100' or 1"=40' (whichever is more appropriate).**
- ii. Location of existing watercourses and/or ponds.**
- iii. Location of regulated activity.**
- iv. Proposed grading and/or filling.**
- v. Proposed drainage, site utilities, wells, etc.**
- vi. Sedimentation and erosion control measures.**

12. The Applicant shall certify whether:

- a. Any portion of the property on which the regulated activity is proposed is located within 500 feet of the boundary of an adjoining municipality.** Not applicable - project is within an existing public right of way.
- b. Traffic attributable to the completed project on the site will use streets within the adjoining municipality to enter or exit the site.** Not applicable - existing traffic patterns will not change as a result of the project.
- c. Sewer or water drainage from the project site will flow through and affect the sewage or drainage system within the adjoining municipality or** Not applicable - existing sewer and stormwater flow will not be altered as a result of the project.
- d. Water runoff from the improved site will affect streets or other municipal or private property within the adjoining municipality.** Not applicable - Water runoff will not be altered as a result of the project.
- e. Documentation that notice of the pending application was provided to the adjacent municipality (certified mail, return receipt requested) on the same day of filing an inland wetland permit application with the Town of Simsbury.** Not applicable - The proposed work is within a public right of way entirely within the Town of Simsbury.
- f. The property is subject to a conservation restriction or preservation restriction, and, if so, what party or parties are holders thereof or intended to be benefitted thereby.** Not applicable - The proposed work is within a public right of way.

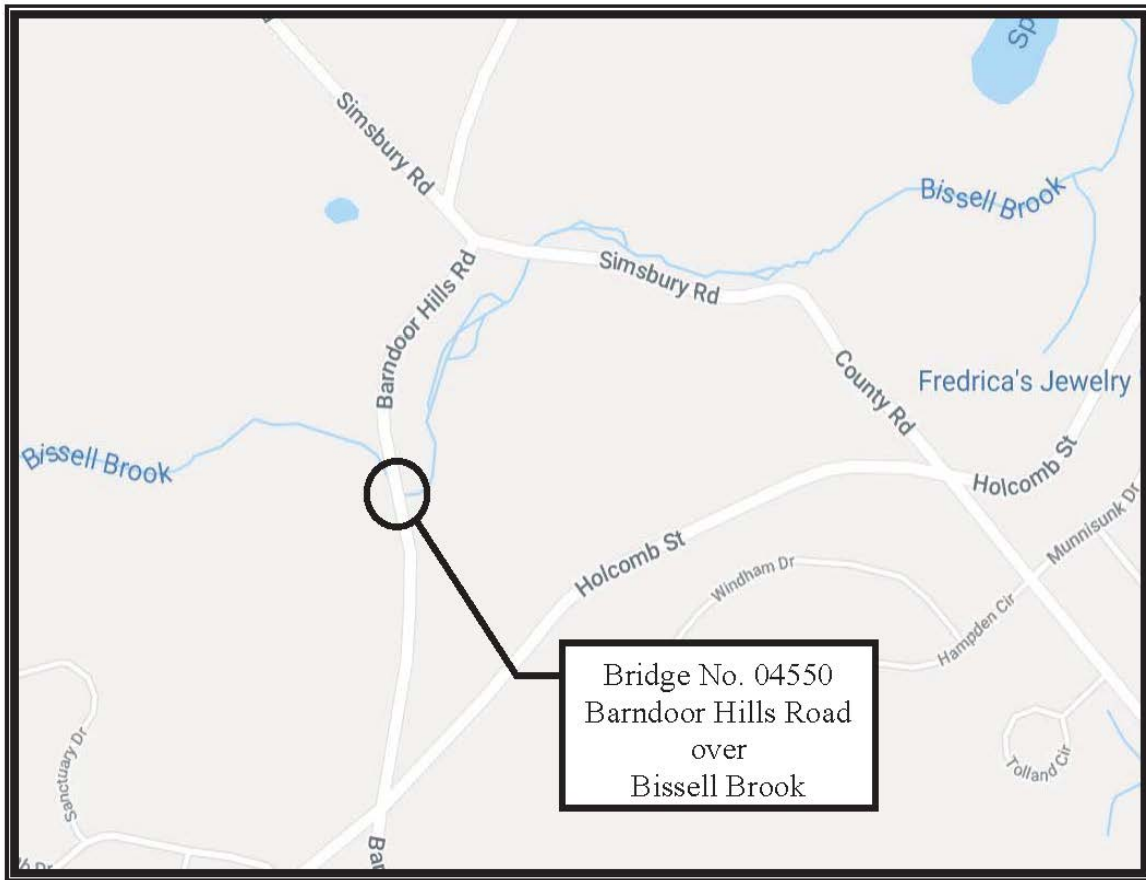
ALL INFORMATION MUST BE COMPLETED TO THE EXTENT INDICATED BY THE COMMISSION BEFORE ANY ACTION IS TAKEN ON THE PERMIT APPLICATION. INCOMPLETE APPLICATIONS WILL BE DENIED. ADDITIONAL INFORMATION MAY BE REQUIRED BY THE COMMISSION.

THE APPLICANT AND/OR AUTHORIZED AGENT SHOULD ATTEND THE CONSERVATION COMMISSION/INLAND WETLANDS & WATERCOURSES AGENCY MEETING IN ORDER FOR A DECISION TO BE RENDERED. IF APPLICANT OR AGENT DOES NOT ATTEND, AND QUESTIONS ARISE, DECISION ON APPLICATION MAY BE DEFERRED OR DENIED.

Project Narrative

The Bridge Preservation Program involves maintenance repairs to extend the service life of Bridge 04550 (the Project). The Program does not involve the replacement or the enhancement of hydraulic capacity. The Bridge carrying Barndoor Hills Road over Bissell Brook consists of a single span pre-stressed concrete superstructure supported on conventional cast in place concrete abutments. The original structure was built in 1956 and reconstructed in 1989. The bridge has a travel way width of approximately 22 feet, an overall length of 40 feet and crosses the Bissell Brook at a 0 degree skew angle. The existing roadway is classified a “Rural – Major Collector” and is eligible for funding under the DOT’s State Bridge Preservation Program for fiscal year 2018.

LOCATION MAP



This Project involves maintenance type repairs to extend the service life of the Bridge. Consequently, the proposed repairs do not involve the replacement or the enhancement of hydraulic capacity of the Bridge. As such, no detailed hydraulic or scour analyses were performed. However, a summary level hydraulic capacity assessment using HDS No. 5 nomographs based on the USGS StreamStats 1% recurrence interval

(Q100) design storm flow rate was performed. As a result, the evaluation indicates that Bridge 04550 is hydraulically adequate.

Bridge 04550 Preservation Program maintenance repairs will consist of

1. Remove vegetation growth near wingwalls;
2. Remove existing guiderail system;
3. Remove existing bridge rail;
4. Remove existing bituminous overlay to expose top of deck slab or deck units;
5. Perform repairs to top of deck slab or pre-stressed deck units;
6. Repair concrete parapets;
7. Repair/reseal joints;
8. Install membrane waterproofing;
9. Install new pavement on bridge and roadway approaches;
10. Mill and overlay roadway approaches;
11. Patch and repair concrete abutments and wingwalls ;
12. Patch and repair concrete bridge deck, curbing and end blocks;
13. Modify ends of concrete parapets;
14. Install new metal handrails on bridge parapet;
15. Install new metal beam rail guiderail on roadway approaches; and
16. Perform embankment repairs.

For Barndoor Hills Road Bridge, the roadway approaches to the bridge have curbing along both sides of the road with a pair of catch basins just south of the bridge and a drainage outfall located near the end of the southeast wingwall. No drainage improvements are recommended or necessary at this site.

It is anticipated that some water handling with temporary cofferdams/sandbags and in-stream work will be necessary to facilitate access for performing some of the repairs.

Prior to beginning the Program erosion control measures will be installed as shown on the plans provided. Erosion control measures will consist of silt fence. Water diversion barriers will be installed to facilitate crack repair to the headwalls and wingwalls as shown on the plans provided. The erosion control measures will be removed following completion of the Program. Refer to the plans provided for more information.

Within the project limits are CT inland wetlands and waterways and federal wetlands. Refer to the Wetland Delineation Report for more information. During the Program we anticipate temporarily disturbing 450 square feet (sf) of wetlands and up to 664 sf of waterway due to temporary cofferdams/sandbags and in-stream work. There will be a permanent disruption of 45 sf CT inland wetlands due to installing stone rip-rap near the base of the southeast wingwall. No temporary or permanent impacts to Federal Wetlands are anticipated. The project is located entirely within the 100-year floodplain. Due to this the project will displace approximately 70 cubic yards (cy) of available flood storage volume (85 cy of fill less 15 cy of excavation).

DEEP Activity Reporting Form

Wetlands Delineation Report

STATEWIDE INLAND WETLANDS & WATERCOURSES ACTIVITY REPORTING FORM

Pursuant to section 22a-39(m) of the General Statutes of Connecticut and section 22a-39-14 of the Regulations of Connecticut State Agencies, inland wetlands agencies must complete the Statewide Inland Wetlands & Watercourses Activity Reporting Form for **each** action taken by such agency.

This form may be made part of a municipality's inland wetlands application package. If the municipality chooses to do this, it is recommended that a copy of the Town and Quadrangle Index of Connecticut and a copy of the municipality's subregional drainage basin map be included in the package.

Please remember, the inland wetlands agency is responsible for ensuring that the information provided is **accurate** and that it reflects the **final** action of the agency. Incomplete or incomprehensible forms will be mailed back to the agency. Instructions for completing the form are located on the following pages.

The inland wetlands agency shall mail completed forms for actions taken during a calendar month no later than the 15th day of the following month to the Department of Energy and Environmental Protection (DEEP). Do **not** mail this cover page or the instruction pages. Please mail **only** the **completed** reporting form to:

DEEP Land & Water Resources Division
Inland Wetlands Management Program
79 Elm Street, 3rd Floor
Hartford, CT 06106

Questions may be directed to the DEEP's Inland Wetlands Management Program at (860) 424-3019.

INSTRUCTIONS FOR COMPLETING

THE STATEWIDE INLAND WETLANDS & WATERCOURSES ACTIVITY REPORTING FORM

*Use a separate form to report EACH action taken by the Agency. Complete the form as described below.
Do NOT submit a reporting form for withdrawn actions.*

PART I: Must Be Completed By The Inland Wetlands Agency

1. Choose the year and month the Inland Wetlands Agency took the action being reported. If multiple actions were taken regarding the same project or activity then multiple forms need to be completed.
2. Choose ONE code letter to describe the final action or decision taken by the Inland Wetlands Agency. Do NOT submit a reporting form for withdrawn actions. Do NOT enter multiple code letters (for example: if an enforcement notice was given and subsequent permit issued - two forms for the two separate actions are to be completed).
 - A** = A Permit Granted by the Inland Wetlands Agency (not including map amendments, see code D below)
 - B** = Any Permit Denied by the Inland Wetlands Agency
 - C** = A Permit Renewed or Amended by the Inland Wetlands Agency
 - D** = A Map Amendment to the Official Town Wetlands Map - or -
An Approved/Permitted Wetland or Watercourse Boundary Amendment to a Project Site Map
 - E** = An Enforcement Action: Permit Revocation, Citation, Notice of Violation, Order, Court Injunction, or Court Fines
 - F** = A Jurisdictional Ruling by the Inland Wetlands Agency (i.e.: activities "permitted as of right" or activities considered non-regulated)
 - G** = An Agent Approval pursuant to CGS 22a-42a(c)(2)
 - H** = An Appeal of Agent Approval Pursuant to 22a-42a(c)(2)
3. Check "yes" if a public hearing was held in regards to the action taken; otherwise check "no".
4. Enter the name of the Inland Wetlands Agency official verifying that the information provided on this form is accurate and that it reflects the FINAL action of the agency.

PART II: To Be Completed By The Inland Wetlands Agency Or The Applicant - If Part II is completed by the applicant, the applicant MUST return the form to the Inland Wetlands Agency. The Inland Wetlands Agency MUST ensure that the information provided is accurate and that it reflects the FINAL action of the Agency.

5. Enter the name of the municipality for which the Inland Wetlands Agency has jurisdiction and in which the action/project/activity is occurring.

Check "yes" if the action/project/activity crosses municipal boundaries and enter the name(s) of the other municipality(ies) where indicated. Check "no" if it does not cross municipal boundaries.
6. Enter the USGS Quad Map name or number (1 through 115) as found on the Connecticut Town and Quadrangle Index Map (the directory to all USGS Quad Maps) that contains the location of the action/project/activity. Click on the following website for USGS Quad Map information:
http://ct.gov/deep/lib/deep/gis/resources/Index_NamedQuadTown.pdf

ALSO enter the four-digit identification number of the corresponding Subregional Drainage Basin in which the action/project/activity is located. If the action/project/activity is located in more than one subregional drainage basin, enter the number of the basin in which the majority of the action/project/activity is located. Town subregional drainage basin maps can be found at UConn – CLEAR's website: http://clear.uconn.edu/data/map_set/index.htm
7. Enter the name of the individual applying for, petitioning, or receiving the action.
8. Enter the name and address or location of the action/project/activity. Check if the action/project/activity is TEMPORARY or PERMANENT in nature. Also provide a brief DESCRIPTION of the action/project/activity. It is always best to provide as much information as possible (i.e., don't just state "forestry", provide details such as "20 acre forestry harvest, permit required for stream crossing".)

9. Carefully review the list below and enter ONLY ONE code letter which best characterizes the action/project/activity. All state agency projects must code "N".

- | | |
|--|---|
| A = Residential Improvement by Homeowner | I = Storm Water / Flood Control |
| B = New Residential Development for Single Family Units | J = Erosion / Sedimentation Control |
| C = New Residential Development for Multi-Family / Condos | K = Recreation / Boating / Navigation |
| D = Commercial / Industrial Uses | L = Routine Maintenance |
| E = Municipal Project | M = Map Amendment |
| F = Utility Company Project | N = State Agency Project |
| G = Agriculture, Forestry or Conservation | P = Other (this code includes the approval of
concept plans with no-on-the-ground work) |
| H = Wetland Restoration, Enhancement, Creation | |

10. Enter between one and four code numbers to best characterize the project or activity being reported. Enter "NA" if this form is being completed for the action of map amendment. You MUST provide code 12 if the activity is located in an established upland review area. You MUST provide code 14 if the activity is located beyond the established upland review area or no established upland review area exists.

- | | |
|--|--|
| 1 = Filling | 8 = Underground Utilities Only (no other activities) |
| 2 = Excavation | 9 = Roadway / Driveway Construction |
| 3 = Land Clearing / Grubbing (no other activity) | 10 = Drainage Improvements |
| 4 = Stream Channelization | 11 = Pond, Lake Dredging / Dam Construction |
| 5 = Stream Stabilization (includes lakeshore stabilization) | 12 = Activity in an Established Upland Review
Area |
| 6 = Stream Clearance (removal of debris only) | 14 = Activity in Upland |
| 7 = Culverting (not for roadways) | |

Examples: Jurisdictional ruling allowing construction of a parking lot in an upland where the municipality does not have an established upland review area must use code 14, other possible codes are 2 and 10. Permitted construction of a free standing garage (residential improvement by homeowner) partially in an established upland review area with the remainder in the upland must use code 12 and 14, other possible codes are 1 and 2.

11. Leave blank for TEMPORARY alterations but please indicate action/project/activity is temporary under question #8 on the form. For PERMANENT alterations, enter in acres the area of wetland soils or watercourses altered. Include areas that are permanently altered, or are proposed to be, for all agency permits, denials, amendments, renewals, jurisdictional rulings, and enforcement actions. For those activities that involve filling or dredging of lakes, ponds or similar open water bodies enter the acres filled or dredged under "open water body". For those activities that involve directly altering a linear reach of a brook, river, lakeshore or similar linear watercourse, enter the total linear feet altered under "stream". Remember that these figures represent only the acreage altered not the total acreage of wetlands or watercourses on the site. You MUST provide all information in ACRES (or linear feet as indicated) including those areas less than one acre. To convert from square feet to acres, divide square feet by the number 43,560. If this report is being completed for an agency jurisdictional ruling and detailed information is not available, provide an estimate. Enter zero if there is no alteration.
12. Enter in acres the area of upland altered as a result of an ACTIVITY REGULATED BY the inland wetlands agency, or as a result of an AGENT APPROVAL pursuant to CGS section 22a-42a(c)(2). Leave blank for TEMPORARY alterations but please indicate action/project/activity is temporary under question #8 on the form. Include areas that are permanently altered, or proposed to be permanently altered, for all agent approvals, agency permits, denials, amendments, renewals, jurisdictional rulings, and enforcement actions. You MUST provide all information in ACRES including those areas less than one acre. See directions above (#11) for conversion factor. If this report is being completed for an agent approval or an agency jurisdictional ruling and detailed information is not available, provide an estimate. Enter zero if there is no alteration.
13. Enter the acres that are, or are proposed to be, restored, enhanced or created for all agency permits, denials, amendments, renewals, jurisdictional rulings and enforcement actions. NOTE restored or enhanced applies to previously existing wetlands or watercourses. Created applies to a non-wetland or non-watercourse area which is converted into wetlands or watercourses (question #10 must provide 12 and/or 14 as an answer, and question #12 must also be answered). You MUST provide all information in ACRES including those areas less than one acre. See directions above (#11) for conversion factor. Enter zero if there is no restoration, enhancement or creation.

PART III: To Be Completed By The DEEP - Please leave this area blank. Incomplete or incomprehensible forms will be mailed back to the inland wetlands agency.



Statewide Inland Wetlands & Watercourses Activity Reporting Form

Please complete and mail this form in accordance with the instructions on pages 2 and 3 to:

DEEP Land & Water Resources Division, Inland Wetlands Management Program, 79 Elm Street, 3rd Floor, Hartford, CT 06106

Incomplete or incomprehensible forms will be mailed back to the inland wetlands agency.

PART I: Must Be Completed By The Inland Wetlands Agency

- DATE ACTION WAS TAKEN: year: _____ month: _____
- ACTION TAKEN (see instructions, only use one code): _____
- WAS A PUBLIC HEARING HELD (check one)? yes no
- NAME OF AGENCY OFFICIAL VERIFYING AND COMPLETING THIS FORM:
(print name) _____ (signature) _____

PART II: To Be Completed By The Inland Wetlands Agency Or The Applicant

- TOWN IN WHICH THE ACTION IS OCCURRING (print name): _____
does this project cross municipal boundaries (check one)? yes no
if yes, list the other town(s) in which the action is occurring (print name(s)): _____, _____
- LOCATION (see instructions for information): USGS quad name: _____ or number: _____
subregional drainage basin number: _____
- NAME OF APPLICANT, VIOLATOR OR PETITIONER (print name): _____
- NAME & ADDRESS / LOCATION OF PROJECT SITE (print information): _____
briefly describe the action/project/activity (check and print information): temporary permanent description: _____
- ACTIVITY PURPOSE CODE (see instructions, only use one code): _____
- ACTIVITY TYPE CODE(S) (see instructions for codes): _____, _____, _____, _____
- WETLAND / WATERCOURSE AREA ALTERED (must provide acres or linear feet):
wetlands: _____ acres open water body: _____ acres stream: _____ linear feet
- UPLAND AREA ALTERED (must provide acres): _____ acres
- AREA OF WETLANDS / WATERCOURSES RESTORED, ENHANCED OR CREATED (must provide acres): _____ acres

DATE RECEIVED:

PART III: To Be Completed By The DEEP

DATE RETURNED TO DEEP:

FORM COMPLETED: YES NO

FORM CORRECTED / COMPLETED: YES NO

SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

Wetland Delineations Ecological Studies Site Assessments Project Planning Soil Testing

April 16, 2019

ATTN: Jagdeesh Gopal
GM2 Associates, Inc.
115 Glastonbury Boulevard, Suite 200
Glastonbury, CT 06033

**Re: Wetlands Delineation Report
Barndoor Hills Road Bridge (No. 04550) over Bissell Brook,
Simsbury, CT
SS&ES Job No. 2019-34-CT-SIM**

Dear Mr. Gopal:

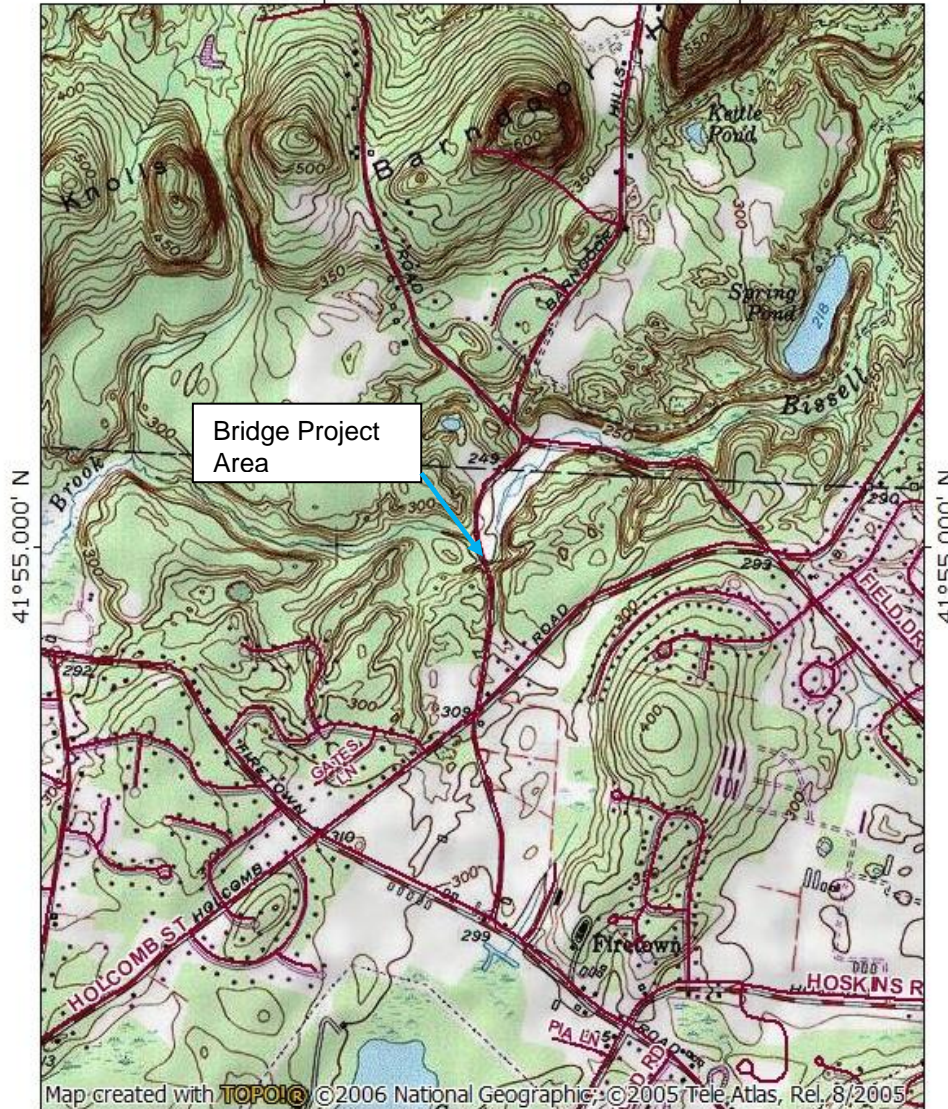
In accordance with your request, Scott D. Stevens, Registered Professional Soil Scientist and Jennifer L. Beno, Biologist/Wetland Scientist, with Soil Science And Environmental Services, Inc. (SSES) inspected the Barndoor Hills Road bridge over Bissell Brook project area on March 27, 2019. During our inspection, we encountered approximately 3 to 4 inches of snow cover within the wetland southwest of the bridge project area. The purpose of the inspection was to identify regulated wetlands and ordinary high water in the vicinity of the bridge project area. The project site is situated in the northern portion of Simsbury (Figure 1).

Regulated waters and wetlands present in and near the project area include Bissell Brook and associated CT inland wetlands and Federal wetlands. Definitions of waters and wetlands that are regulated by the State of Connecticut and Federal Government are presented in Appendix I. Rivers and streams are regulated by the State of CT as watercourses, according to the Inland Wetlands and Watercourses Act. Rivers and streams are regulated by the Federal Government as "Waters of the U.S." Wetlands are defined differently by the State of CT and the Federal Government. CT Inland Wetlands are defined by soil types that are either poorly drained, very poorly drained, floodplain or alluvial. Federal Wetlands consist of areas that are inundated or saturated by ground or surface water at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

TOPO! map printed on 04/12/19 from "Untitled.tpo"

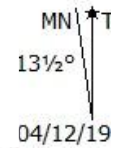
72°50.000' W

WGS84 72°49.000' W



72°50.000' W

WGS84 72°49.000' W



**SOIL SCIENCE and
ENVIRONMENTAL
SERVICES, INC.**

U.S.G.S. Topography Map
Barndoor Hills Road Bridge over
Bissell Brook,
Simsbury, CT

Date 4/12/19

Figure No. 1

A spade and auger were used to dig test holes for soils identification during the investigations. The vegetation communities and any physical indicators of hydrology in the project area were also examined. The limits of the CT inland wetlands and the Federal wetlands were determined to differ within the limits of the project area. The CT inland wetland boundaries were delineated with consecutively numbered orange survey tapes while Federal wetland boundaries were delineated with consecutively numbered blue survey tapes. Sketch maps of the delineated wetland boundaries are included as Figures 2 and 3.

CONNECTICUT INLAND WETLANDS & SOIL TYPES

CT inland wetlands were delineated within the Barndoor Hills Road bridge over Bissell Brook project area. See Figure 2.

The wetland soils within the project area include:

Aq Aquents - This is a poorly to very poorly drained, disturbed soil where two or more feet of the original soil surface has been altered by filling, excavation and/or grading. Aquents are characterized by a seasonal to prolonged high groundwater table at or near the ground surface. Aquents are capable of supporting a prevalence of hydrophytic plants.

102 Pootatuck fine sandy loam (Fluvaqentic Dystrudepts) – This is a deep, moderately well drained, friable, coarse-loamy textured soil that formed in alluvial sediments principally derived from schist, gneiss and granite. Pootatuck soils occur in nearly level floodplains and along rivers and streams which are subject to frequent flooding. The Pootatuck soil was formerly mapped in Connecticut as the Podunk fine sandy loam.

103 Rippowam fine sandy loam (Aeric Fluvaquents) – This is a deep, poorly drained, friable, coarse-loamy textured soil that formed in alluvial sediments principally derived from schist, gneiss and granite. Rippowam soils occur in nearly level floodplains and along rivers and streams which are subject to frequent flooding.

109 Fluvaquents-Udifluvents This soil map unit consists of well drained to very poorly drained, nearly level soils that formed in very recent alluvium deposited by rivers and streams. The soils are occasionally to frequently flooded, which often results in stream scouring, lateral erosion and shifting of soil from place to place. Soil characteristics, such as texture and stoniness, are usually highly variable within short distances.

The non-wetland soils within the project area include:

21 Ninigret and Tisbury soils (Aquic Dystrudepts) – These are deep, moderately well drained, friable, coarse-loamy and loamy textured soils that developed over sandy and gravelly, glacial outwash derived from schist, gneiss and granite. Outwash soils occur in valleys, outwash plains and terraces.

38 Hinckley gravelly sandy loam (Typic Udorthents) – This is a deep, excessively drained, gravelly sandy textured soil that developed over sandy and gravelly, glacial outwash derived from schist, gneiss and granite. Hinckley soils occur in valleys, outwash plains, terraces, kames and eskers landforms.

306 Udorthents-Urban land complex This map unit consists of extensive areas where soils have been disturbed from land development along with large areas of impervious surfaces associated with streets, parking lots, buildings and other structures.

308 Udorthents, smoothed This is a well drained to moderately well drained soil area that has had two or more feet of the original soil surface altered by filling, excavation or grading activities. Udorthents, smoothed soils commonly occur on leveled land and fill landforms.

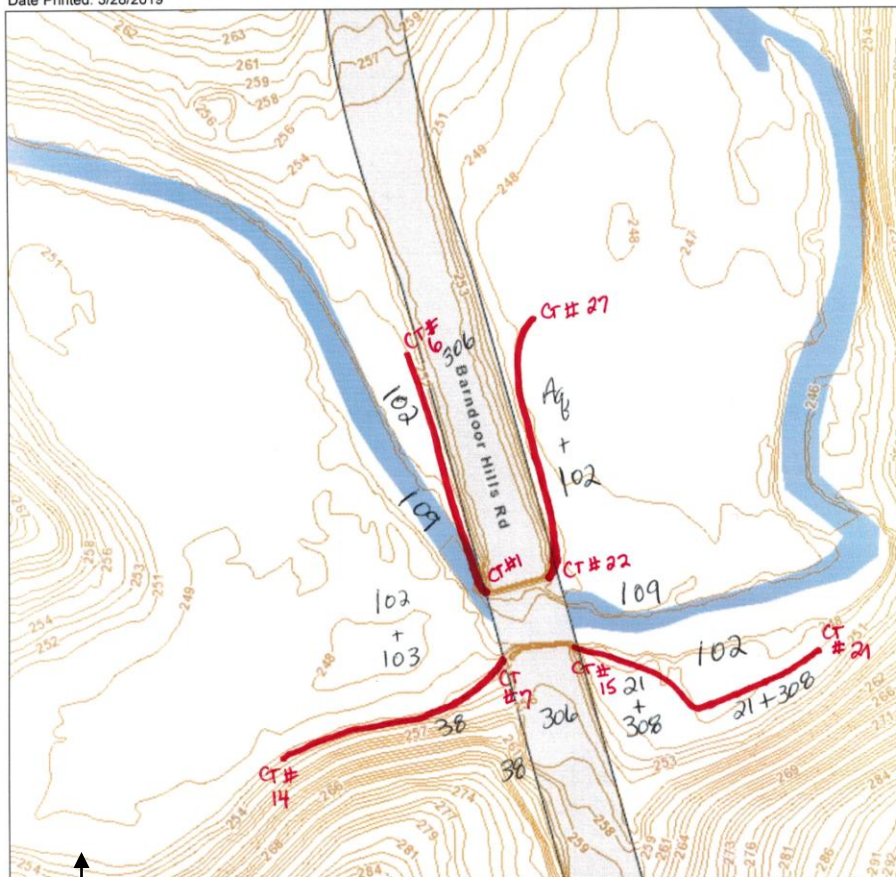
Print Map

http://simsbury.mapxpress.net/ags_map/printmap.asp?extentYmin...

Town of Simsbury
Geographic Information System (GIS)



Date Printed: 3/28/2019



MAP DISCLAIMER - NOTICE OF LIABILITY

This map is for assessment purposes only. It is not for legal description or conveyances. All information is subject to verification by any user. The Town of Simsbury and its mapping contractors assume no legal responsibility for the information contained herein.

Approximate Scale: 1 inch = 75 feet



Figure No. 2 – Sketch of CT Wetland Boundaries (approx.)

FEDERAL WETLANDS

Federal wetlands were delineated within the project area. The Federal wetland boundaries differ from the CT wetland boundaries within the bridge project area. See Figure 3. The Federal wetlands in the Bissell Brook project area are dominated by a wooded swamp community. One data transect with two Federal wetland data plots was established (Data Plots 8-W and 8-U). The approximate location of the data plots within the transect is shown in Figure 3. The information gathered from each data plot was recorded on Federal Wetland Data Sheets. These sheets are included at the end of this report.



Federal Data Plots 8-W and 8-U (3/27/19).

Town of Simsbury

Geographic Information System (GIS)



Date Printed: 3/28/2019

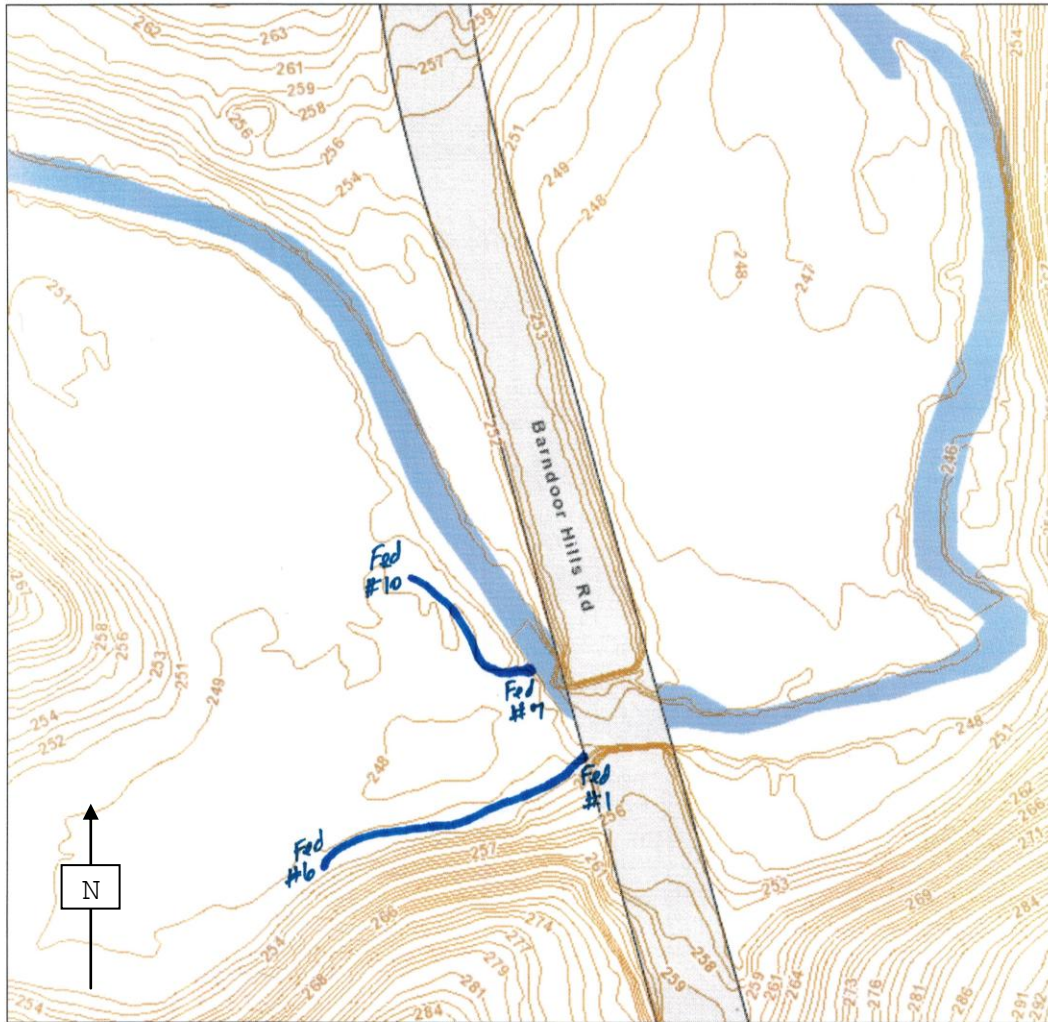


Figure No. 3 – Sketch of Federal Wetland Boundaries (approx.)

ORDINARY HIGH WATER MARK IDENTIFICATION

The lateral limits of U.S. Army Corps jurisdiction for non-tidal rivers, streams and water bodies extends to the ordinary high water mark (OHW), in the absence of adjacent wetlands. The Corps defines the term “ordinary high water mark” as the following: “means the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.” 33 CFR 328.3(e). The Corps recommends that whenever possible the investigator should consider the former indicators along with a number of others, that include: wracking; vegetation matted down, bent or absent; sediment sorting; leaf litter disturbed or washed away; scour; deposition; multiple observed flow events; beds and banks; water staining; and change in plant community.

The above-listed indicators were utilized during the March 27, 2019 investigation to determine the ordinary high water (OHW) along Bissell Brook within the project area. Blue survey tapes were tied onto plant material within the bridge project area in order to identify the OHW elevation. The knot of the tied survey tape marks the OHW elevation. A sketch showing locations of the OHW boundary survey tapes is presented in Figure 4.

Respectfully submitted,

SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.



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Registered Professional Soil Scientist



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Town of Simsbury

Geographic Information System (GIS)



Date Printed: 3/28/2019

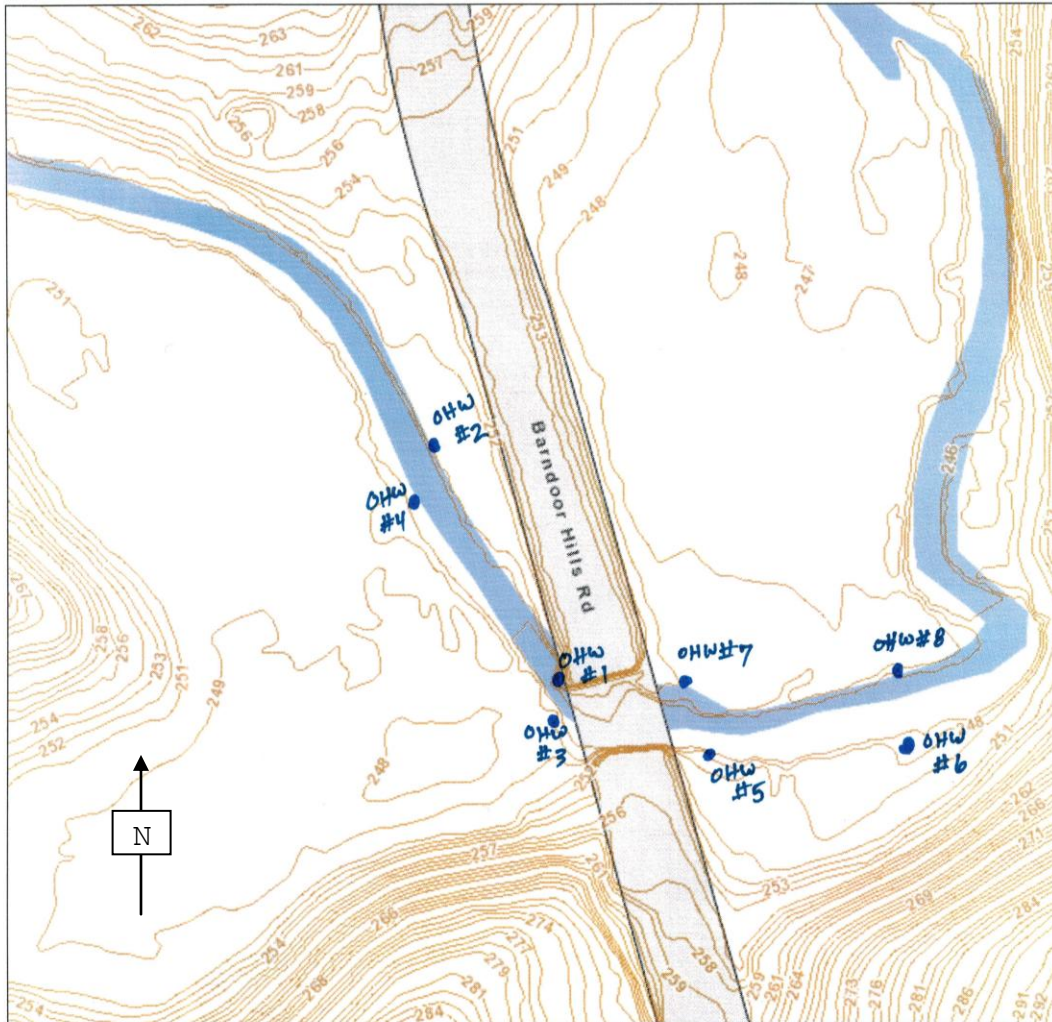


Figure No. 4 – Sketch of Ordinary High Water Flag Locations (approx.)

APPENDIX I

REGULATED WATERS AND WETLANDS BY THE STATE OF CT AND FEDERAL GOVERNMENT

I. State of Connecticut

Wetlands and watercourses are regulated in the State of Connecticut by the Connecticut General Statutes, Chapter 440, sections 22a-28 to 22a-45. These Statutes are divided into the Inland Wetlands and Watercourses Act (sections 22a-36 to 22a-45) and the Tidal Wetlands Act (sections 22a-28 to 22a-35). Definitions of the resources are provided in the statutes.

Inland Wetlands, "means land, including submerged land, not regulated pursuant to sections 22a-28 to 22a-35, inclusive, which consist of any of the soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soils Survey, as may be amended from time to time, of the Natural Resources Conservation Service of the United States Department of Agriculture" section 22a-38(15).

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 this state or any portion thereof, not regulated pursuant to sections 22a-28 to 22a-35, inclusive. Intermittent watercourses shall be delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (A) Evidence of scour or deposits of alluvium or detritus, (B) the presence of standing or flowing water for a duration longer than a particular storm incident, and (C) the presence of hydrophytic vegetation" section 22a-38(16).

Tidal Wetlands are defined as "those areas which border on or lie beneath tidal waters, such as, but not limited to banks, bogs, salt marsh, swamps, meadows, flats, or other low lands subject to tidal action, including those areas now or formerly connected to tidal waters, and whose surface is at or below an elevation of one foot above local extreme high water; and upon which may grow or be capable of growing some but not necessarily all, of the following:" (includes plant list) section 22a-29(2).

II. Federal Government

The Federal Government regulates waters and wetlands in accordance with the Code of Federal Regulations, Title 33, Parts 320 through 330 (33 CFR parts 320 to 330). Regulated areas include navigable waters; interstate waters; tributaries to navigable and interstate waters, including adjacent wetlands; and certain other waters and wetlands of the U.S. The United States Army Corps of Engineers has been authorized to regulate these waters and wetlands by Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Definitions of wetlands and watercourses that are regulated by the Corps are found in Parts 328 and 329 of the Code.

Waters of the United States as defined in Part 328 means, " (1) all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce; (4) all impoundments of waters otherwise defined as waters of the U.S. under the definition; (5) tributaries of waters identified in 1 thru 4; (6) territorial seas; and (7) wetlands adjacent to waters that were identified in 1 thru 6. Waters of the United States do not include prior converted cropland" (33 CFR Part 328.3 (a)).

Wetlands are a subset of waters of the United States and are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33CFR Part 328.3(b)). The 1987 U.S. Corps of Engineers Delineation Manual and the Draft Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (dated July 2008) provide information and procedures for conducting Federal Wetland delineation. The methodology established by the Federal Government uses a three parameter approach utilizing hydrologic indicators, hydrophytic vegetation and hydric soils for identifying Federal Wetlands.

Navigable waters of the United States as defined in Part 329 mean "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce" (33CFR Part 329.2).

NRCS Soil Map



United States
Department of
Agriculture

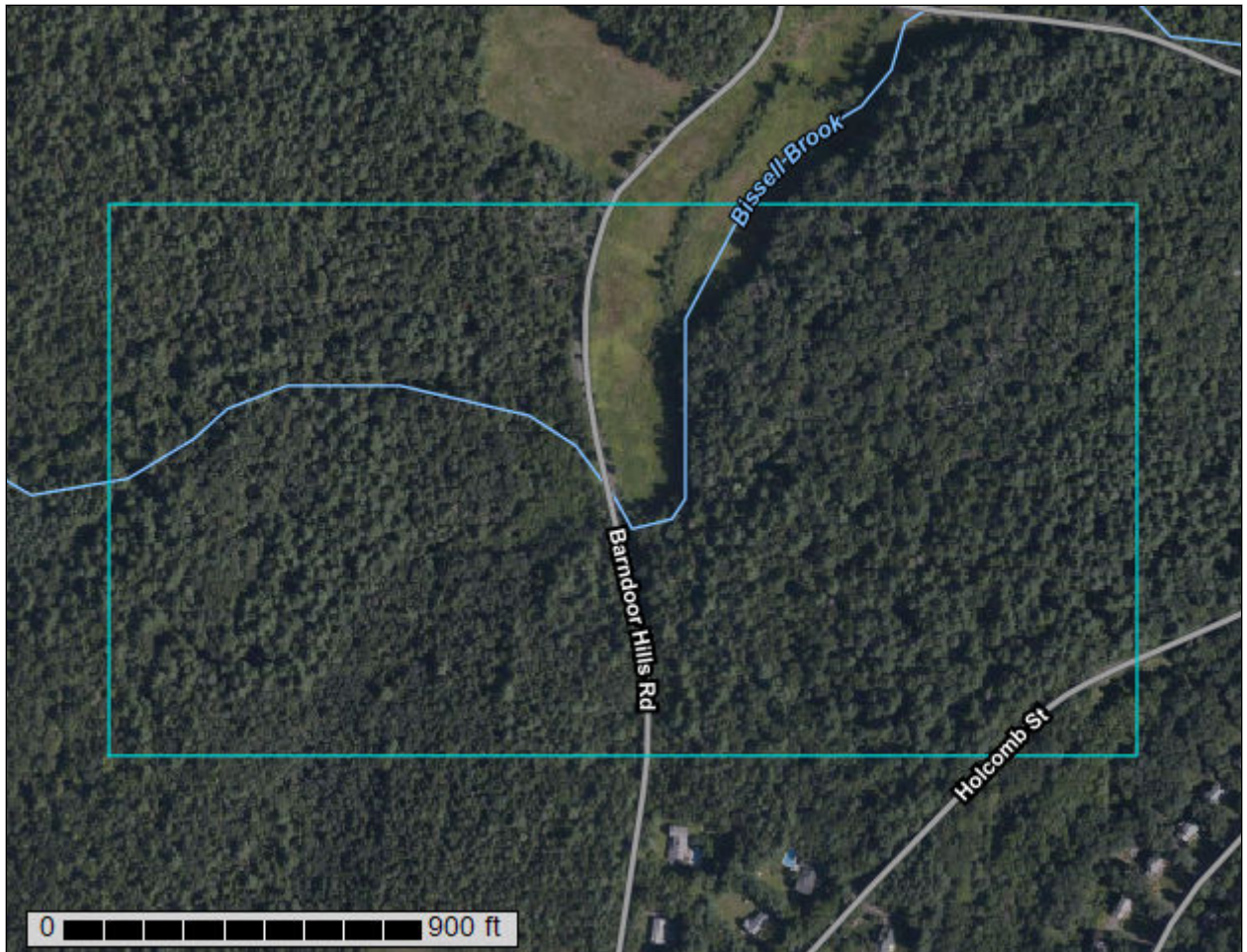
NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for State of Connecticut

Br 04550 Barndoor Hills Road



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

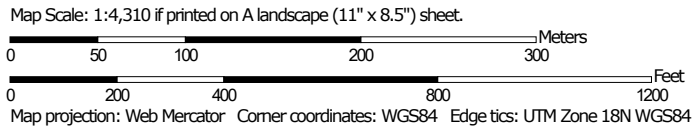
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.



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 19, Sep 13, 2019

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

Date(s) aerial images were photographed: Aug 24, 2019—Oct 24, 2019

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
38A	Hinckley loamy sand, 0 to 3 percent slopes	1.6	1.9%
38C	Hinckley loamy sand, 3 to 15 percent slopes	42.2	51.6%
38E	Hinckley loamy sand, 15 to 45 percent slopes	25.4	31.1%
39A	Groton gravelly sandy loam, 0 to 3 percent slopes	1.0	1.3%
102	Pootatuck fine sandy loam	8.6	10.5%
108	Saco silt loam	2.9	3.6%
704A	Enfield silt loam, 0 to 3 percent slopes	0.0	0.1%
Totals for Area of Interest		81.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not

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mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

State of Connecticut

38A—Hinckley loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svm7

Elevation: 0 to 1,420 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash terraces, outwash deltas, kame terraces, outwash plains

Landform position (three-dimensional): Tread

Down-slope shape: Linear, convex, concave

Across-slope shape: Concave, linear, convex

Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 8 inches: loamy sand

Bw1 - 8 to 11 inches: gravelly loamy sand

Bw2 - 11 to 16 inches: gravelly loamy sand

BC - 16 to 19 inches: very gravelly loamy sand

C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Excessively drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent
Landform: Kame terraces, outwash deltas, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex, concave, linear
Across-slope shape: Linear, convex, concave
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Kame terraces, outwash deltas, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex, concave, linear
Across-slope shape: Linear, convex, concave
Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent
Landform: Kame terraces, outwash deltas, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex, concave, linear
Across-slope shape: Linear, convex, concave
Hydric soil rating: No

38C—Hinckley loamy sand, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2svmb
Elevation: 0 to 1,290 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Eskers, outwash terraces, kames, kame terraces, outwash plains, moraines, outwash deltas
Landform position (two-dimensional): Footslope, toeslope, shoulder, backslope, summit
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser, tread

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Down-slope shape: Convex, concave, linear

Across-slope shape: Concave, linear, convex

Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 8 inches: loamy sand

Bw1 - 8 to 11 inches: gravelly loamy sand

Bw2 - 11 to 16 inches: gravelly loamy sand

BC - 16 to 19 inches: very gravelly loamy sand

C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 15 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Excessively drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Windsor

Percent of map unit: 5 percent

Landform: Moraines, outwash terraces, eskers, kames, kame terraces, outwash plains, outwash deltas

Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope, summit

Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser, tread

Down-slope shape: Convex, linear, concave

Across-slope shape: Linear, convex, concave

Hydric soil rating: No

Merrimac

Percent of map unit: 5 percent

Landform: Outwash terraces, kames, moraines, outwash plains, eskers

Landform position (two-dimensional): Backslope, footslope, shoulder, toeslope, summit

Landform position (three-dimensional): Side slope, crest, head slope, nose slope, riser, tread

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Custom Soil Resource Report

Agawam

Percent of map unit: 3 percent

Landform: Eskers, outwash terraces, kames, kame terraces, outwash plains, moraines, outwash deltas

Landform position (two-dimensional): Shoulder, backslope, toeslope, summit, footslope

Landform position (three-dimensional): Crest, head slope, nose slope, side slope, riser, tread

Down-slope shape: Linear, convex, concave

Across-slope shape: Convex, linear, concave

Hydric soil rating: No

Sudbury

Percent of map unit: 2 percent

Landform: Outwash deltas, outwash terraces, kame terraces, outwash plains, moraines

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Base slope, tread

Down-slope shape: Linear, concave

Across-slope shape: Concave, linear

Hydric soil rating: No

38E—Hinckley loamy sand, 15 to 45 percent slopes

Map Unit Setting

National map unit symbol: 2svmj

Elevation: 0 to 1,280 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Hinckley and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash deltas, outwash terraces, eskers, kames, kame terraces, outwash plains, moraines

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser

Down-slope shape: Linear, convex, concave

Across-slope shape: Linear, concave, convex

Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Custom Soil Resource Report

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 15 to 45 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent
Landform: Eskers, outwash terraces, kames, moraines, outwash plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, head slope, nose slope, crest, riser
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Outwash deltas, moraines, outwash terraces, eskers, kames, kame terraces, outwash plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Agawam

Percent of map unit: 3 percent
Landform: Kame terraces, outwash terraces, eskers, kames, outwash plains, moraines, outwash deltas
Landform position (two-dimensional): Backslope

Custom Soil Resource Report

Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser

Down-slope shape: Linear, convex, concave

Across-slope shape: Convex, linear, concave

Hydric soil rating: No

Sudbury

Percent of map unit: 2 percent

Landform: Kame terraces, outwash plains, outwash deltas, outwash terraces, eskers, kames, moraines

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Base slope, tread

Down-slope shape: Linear, concave

Across-slope shape: Concave, linear

Hydric soil rating: No

39A—Groton gravelly sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9InC

Elevation: 0 to 1,200 feet

Mean annual precipitation: 43 to 52 inches

Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 140 to 185 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Groton and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Groton

Setting

Landform: Kames, terraces, outwash plains, eskers

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Sandy and gravelly glaciofluvial deposits derived from limestone and dolomite and/or schist

Typical profile

Ap - 0 to 8 inches: gravelly sandy loam

Bw1 - 8 to 18 inches: very gravelly sandy loam

Bw2 - 18 to 24 inches: very gravelly loamy sand

Bw3 - 24 to 30 inches: very gravelly loamy sand

C1 - 30 to 52 inches: stratified extremely gravelly coarse sand to very gravelly loamy fine sand

C2 - 52 to 72 inches: stratified extremely gravelly coarse sand to gravelly loamy fine sand

Custom Soil Resource Report

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Available water storage in profile: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Copake

Percent of map unit: 5 percent
Landform: Kames, terraces, outwash plains
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Hero

Percent of map unit: 5 percent
Landform: Terraces, outwash plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: No

Fredon

Percent of map unit: 3 percent
Landform: Terraces, depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Halsey

Percent of map unit: 2 percent
Landform: Drainageways, terraces, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

102—Pootatuck fine sandy loam

Map Unit Setting

National map unit symbol: 9ljn
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Pootatuck and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pootatuck

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Coarse-loamy alluvium

Typical profile

Ap - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 16 inches: fine sandy loam
Bw2 - 16 to 21 inches: fine sandy loam
Bw3 - 21 to 29 inches: sandy loam
C1 - 29 to 35 inches: stratified very gravelly coarse sand to loamy fine sand
C2 - 35 to 40 inches: stratified very gravelly coarse sand to loamy fine sand
C3 - 40 to 65 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Suncook

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Occum

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Lim

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Rippowam

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Saco

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Limerick

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

108—Saco silt loam

Map Unit Setting

National map unit symbol: 9ljv
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F

Custom Soil Resource Report

Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Saco and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Saco

Setting

Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-silty alluvium

Typical profile

A - 0 to 12 inches: silt loam
Cg1 - 12 to 32 inches: silt loam
Cg2 - 32 to 48 inches: silt loam
2Cg3 - 48 to 60 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Available water storage in profile: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Lim

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Limerick

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Winooski

Percent of map unit: 3 percent

Custom Soil Resource Report

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Rippowam

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Hadley

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Bash

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

704A—Enfield silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2y07p
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Enfield and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Enfield

Setting

Landform: Outwash terraces, outwash plains
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-silty eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite, schist, and/or gneiss

Custom Soil Resource Report

Typical profile

Ap - 0 to 7 inches: silt loam
Bw1 - 7 to 15 inches: silt loam
Bw2 - 15 to 25 inches: silt loam
2C - 25 to 60 inches: stratified very gravelly coarse sand to loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 16 to 39 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Haven

Percent of map unit: 5 percent
Landform: Outwash terraces, outwash plains
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Tisbury

Percent of map unit: 5 percent
Landform: Outwash terraces, outwash plains, deltas, valley trains
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: No

Agawam

Percent of map unit: 3 percent
Landform: Kame terraces, outwash terraces, kames, moraines, outwash plains
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope, crest, tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Raypol

Percent of map unit: 2 percent
Landform: Drainageways, depressions
Down-slope shape: Concave
Across-slope shape: Concave

Custom Soil Resource Report

Hydric soil rating: Yes

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Custom Soil Resource Report

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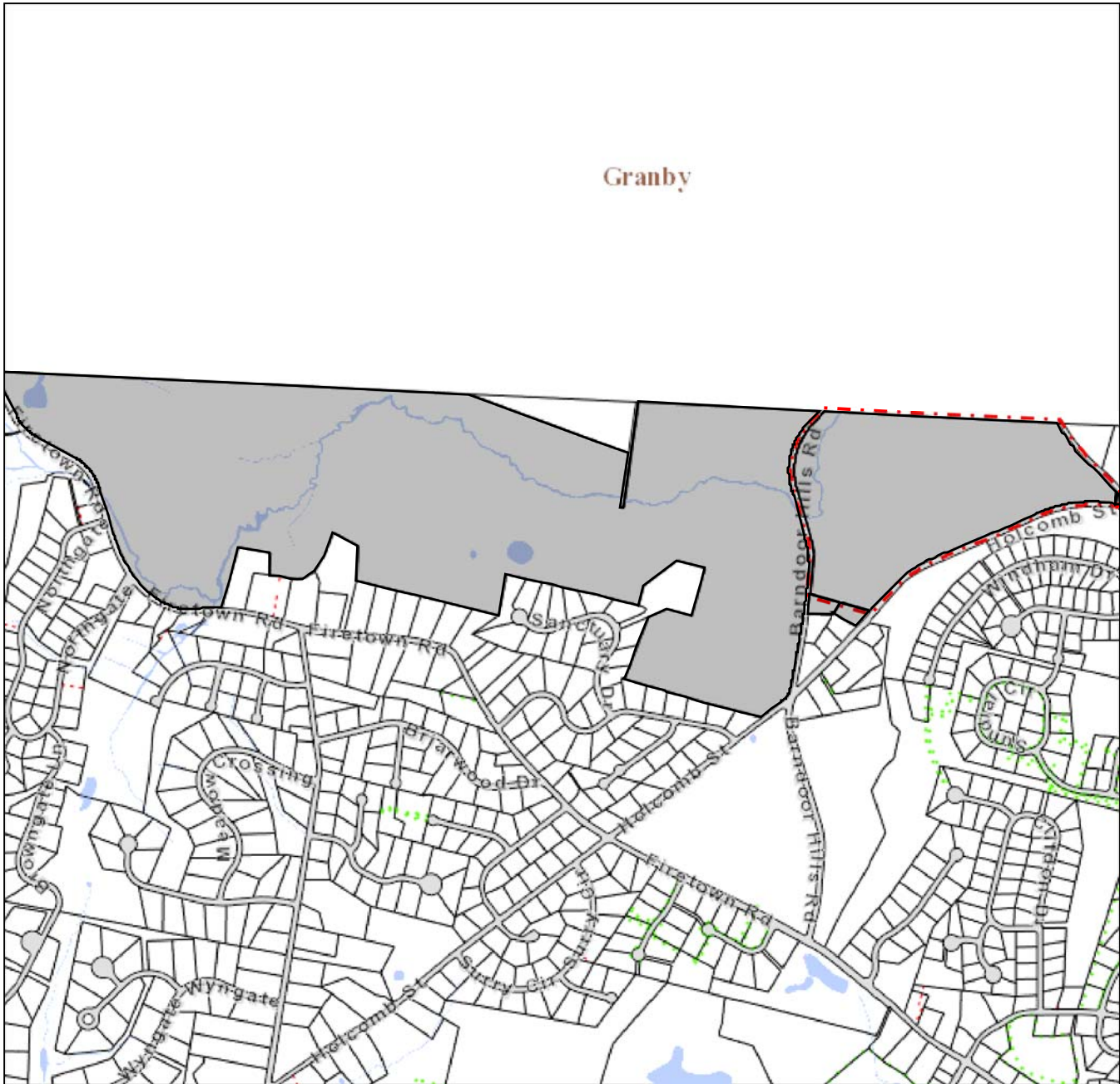
List of adjacent property owners

Town of Simsbury

Geographic Information System (GIS)

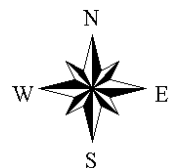


Date Printed: 6/3/2020



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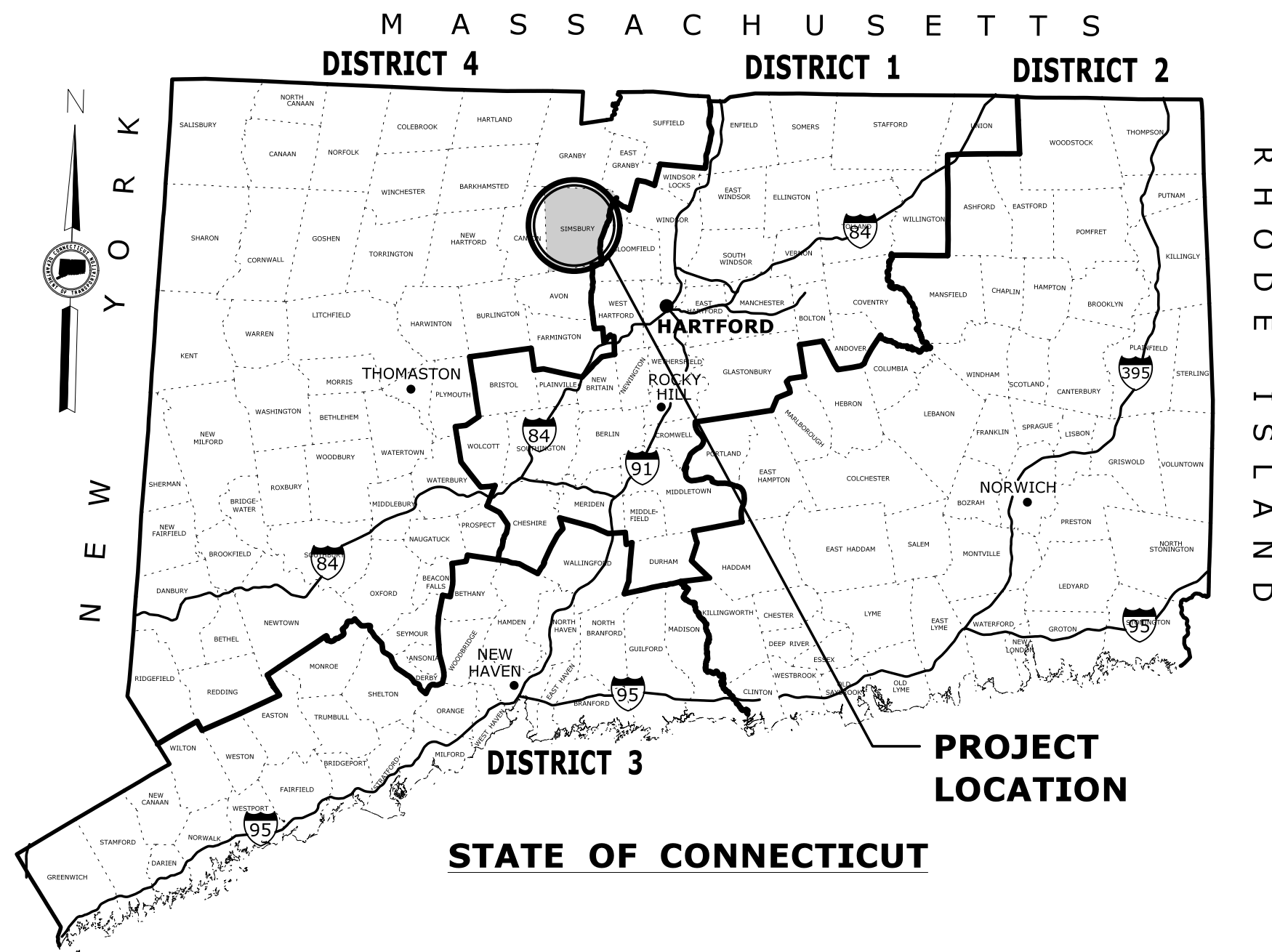
TOWN OF SIMSBURY, CONNECTICUT

Parcel ID	Site Address	Owner Name	Mailing Address	Mailing City	Mailing State	Mailing Zip
E02 201 002	BARNDOR HILLS ROAD	MCLEAN GAME REFUGE INC	75 GREAT POND ROAD	SIMSBURY	CT	06070- 0000
C02 202 001	550 FIRETOWN ROAD	MCLEAN GAME REFUGE INC	75 GREAT POND ROAD	SIMSBURY	CT	06070- 0000

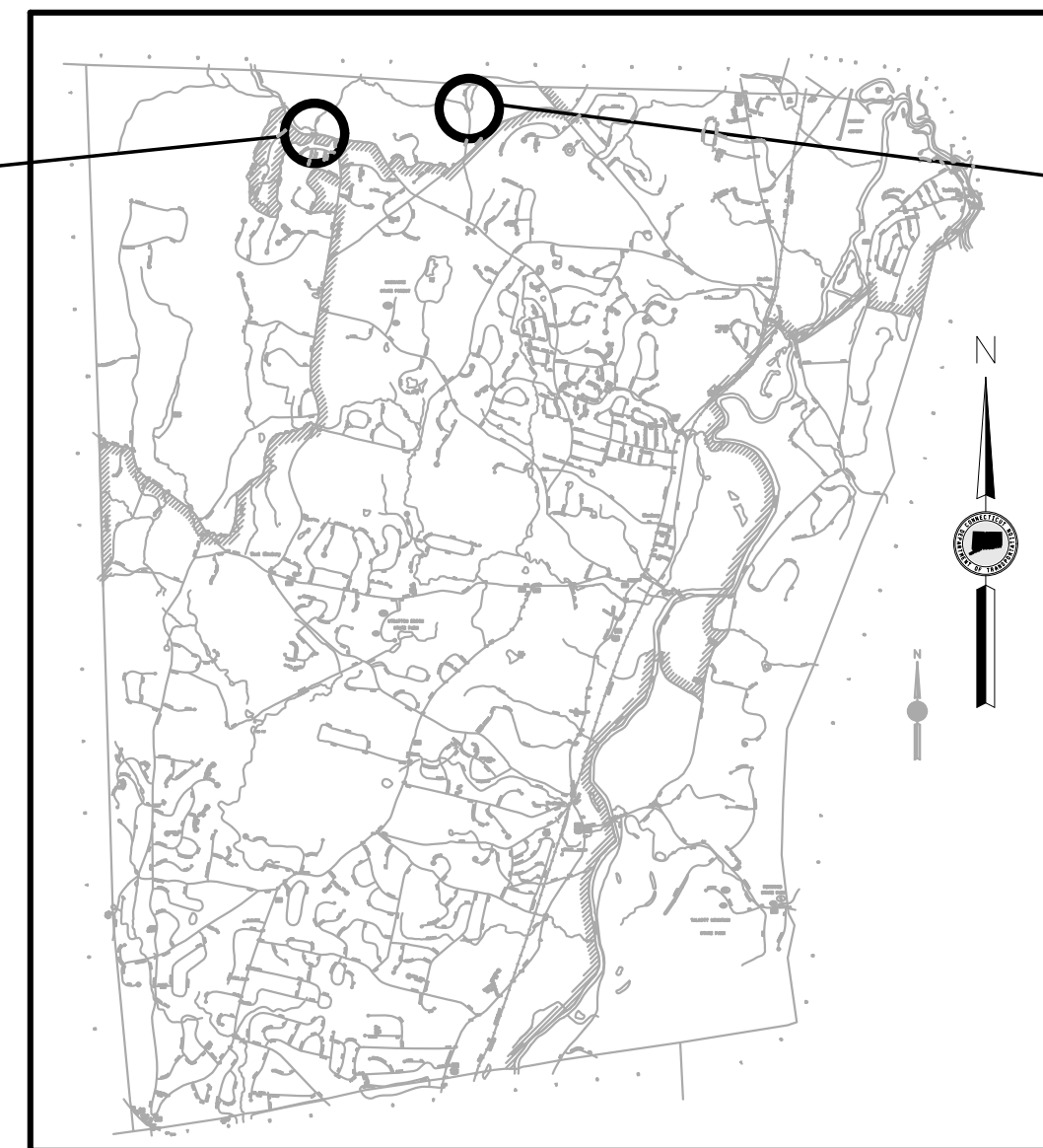
Plans Identifying Proposed Work

ENVIRONMENTAL PERMIT PLANS

PRESERVATION OF BRIDGES NO. 04549, AND 04550 IN THE TOWN OF SIMSBURY

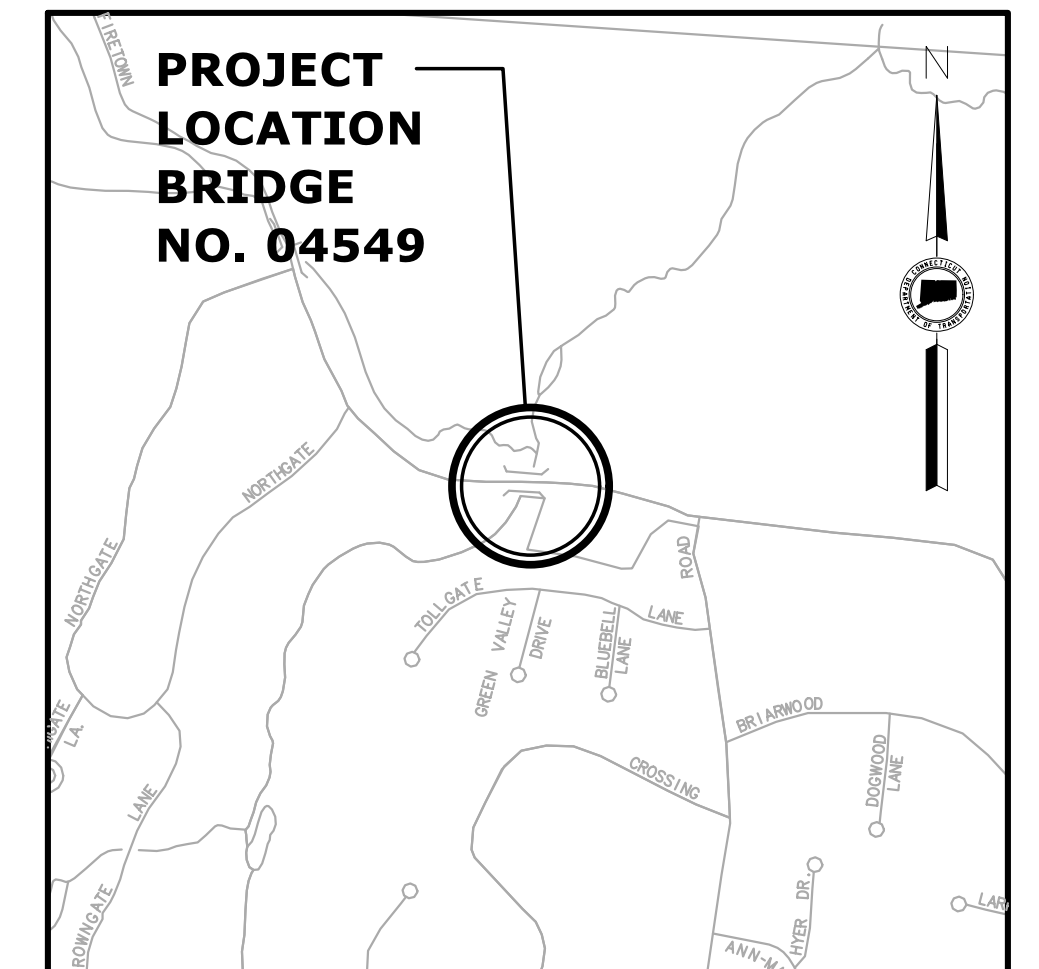


PROJECT LOCATION BRIDGE NO. 04549

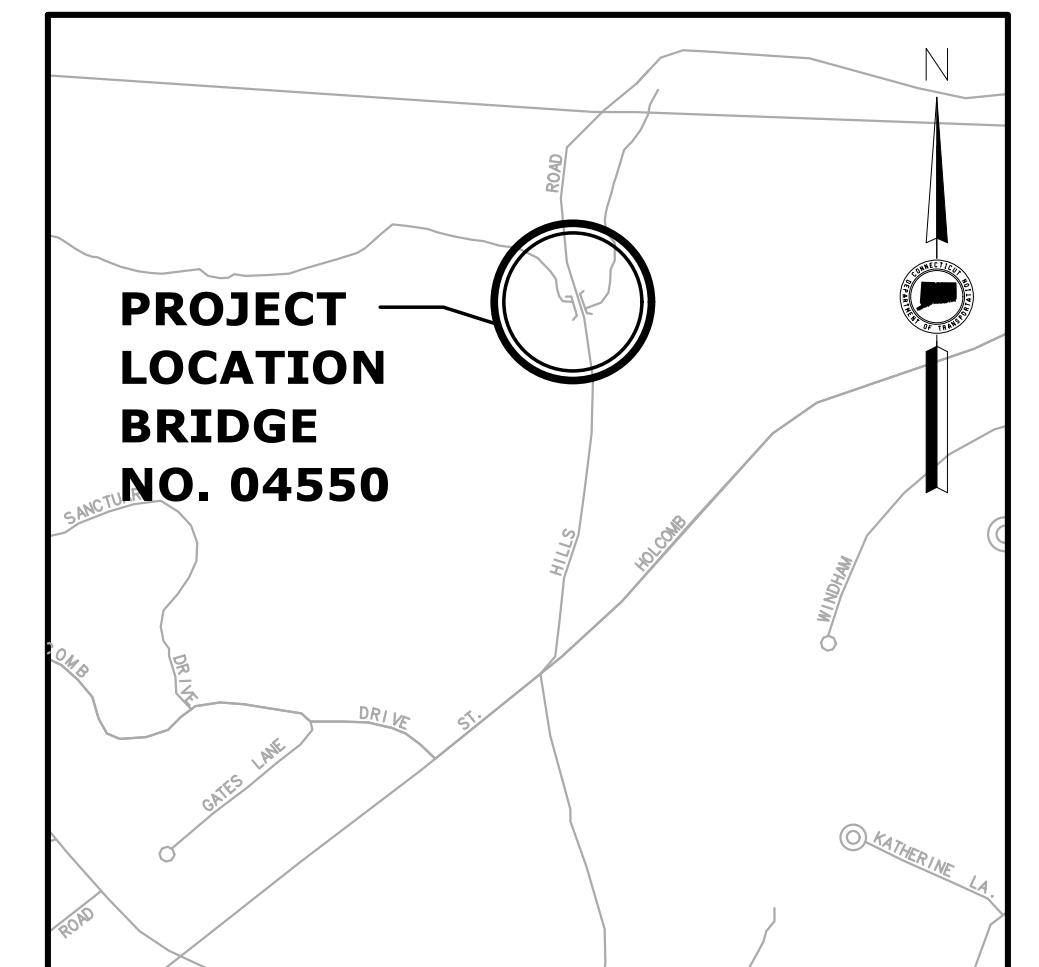


TOWN OF SIMSBURY NOT TO SCALE

PROJECT LOCATION BRIDGE NO. 04550



LOCATION PLAN FIRETOWN ROAD NOT TO SCALE



LOCATION PLAN BARNDOOR HILL ROAD NOT TO SCALE

GENERAL NOTES:

- FEDERAL AID PROJECT NO. NA
- CONSTRUCTION SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES AND INCIDENTAL CONSTRUCTION, FORM 817, DATED 2016; SUPPLEMENTAL SPECIFICATIONS, DATED JULY 2019; AND SPECIAL PROVISIONS
- 400 FOOT GRID BASED ON CONNECTICUT COORDINATE SYSTEM N.A.D. 1983
- VERTICAL DATUM BASED ON NAVD 1988

DISCLAIMER

IT IS THE RESPONSIBILITY OF EACH BIDDER AND ALL OTHER INTERESTED PARTIES TO OBTAIN ALL BIDDING RELATED INFORMATION AND DOCUMENTS FROM OFFICIAL SOURCES WITHIN THE DEPARTMENT.

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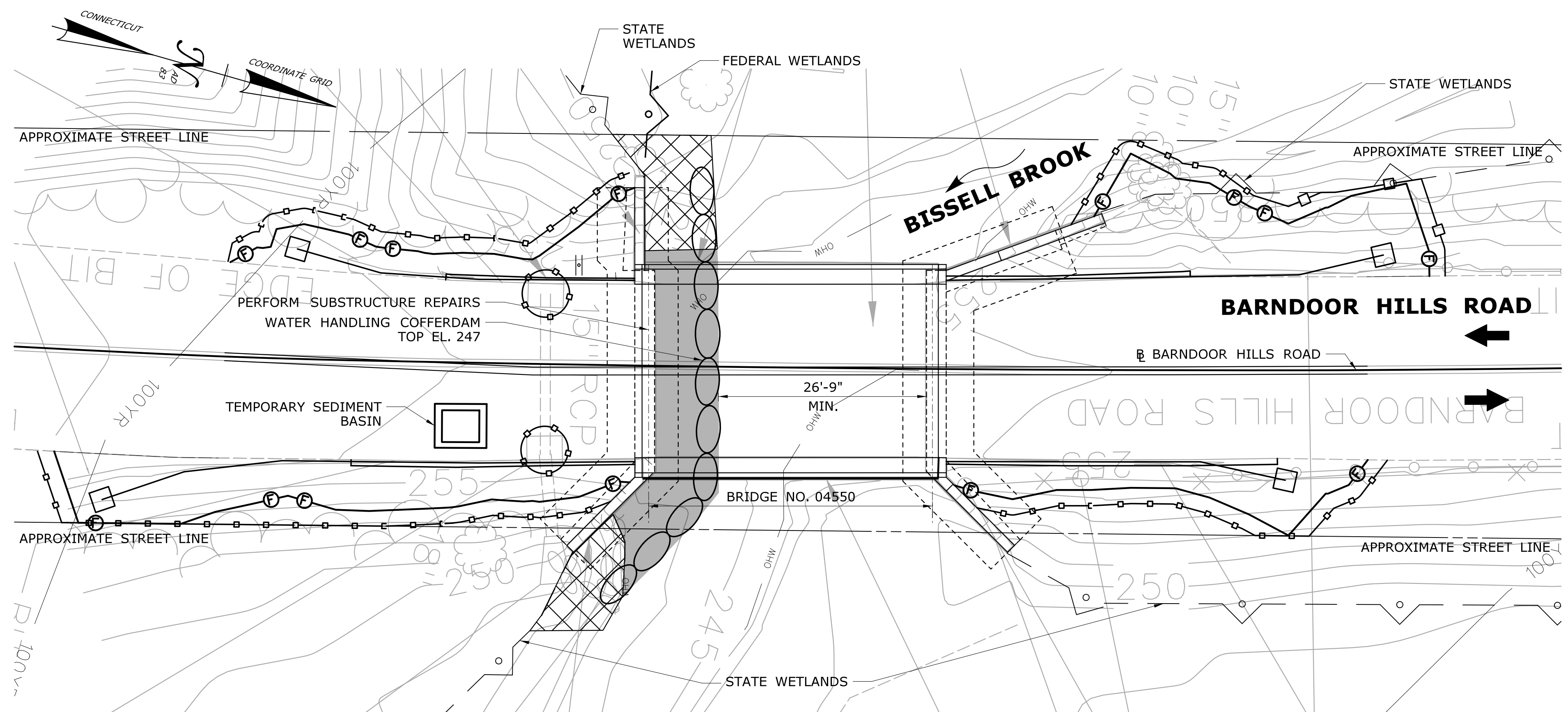
LIST OF DRAWINGS

SHEET NO.	DRAWING TITLE
PMT-01	TITLE SHEET
PMT-02	ROADWAY PLAN BRIDGE NO. 04549
PMT-03	WATER HANDLING PLAN BRIDGE NO. 04549
PMT-04	GENERAL PLAN BRIDGE NO. 04549
PMT-05	ROADWAY PLAN BRIDGE NO. 04550
PMT-06	WATER HANDLING PLAN BRIDGE NO. 04550
PMT-07	GENERAL PLAN BRIDGE NO. 04550

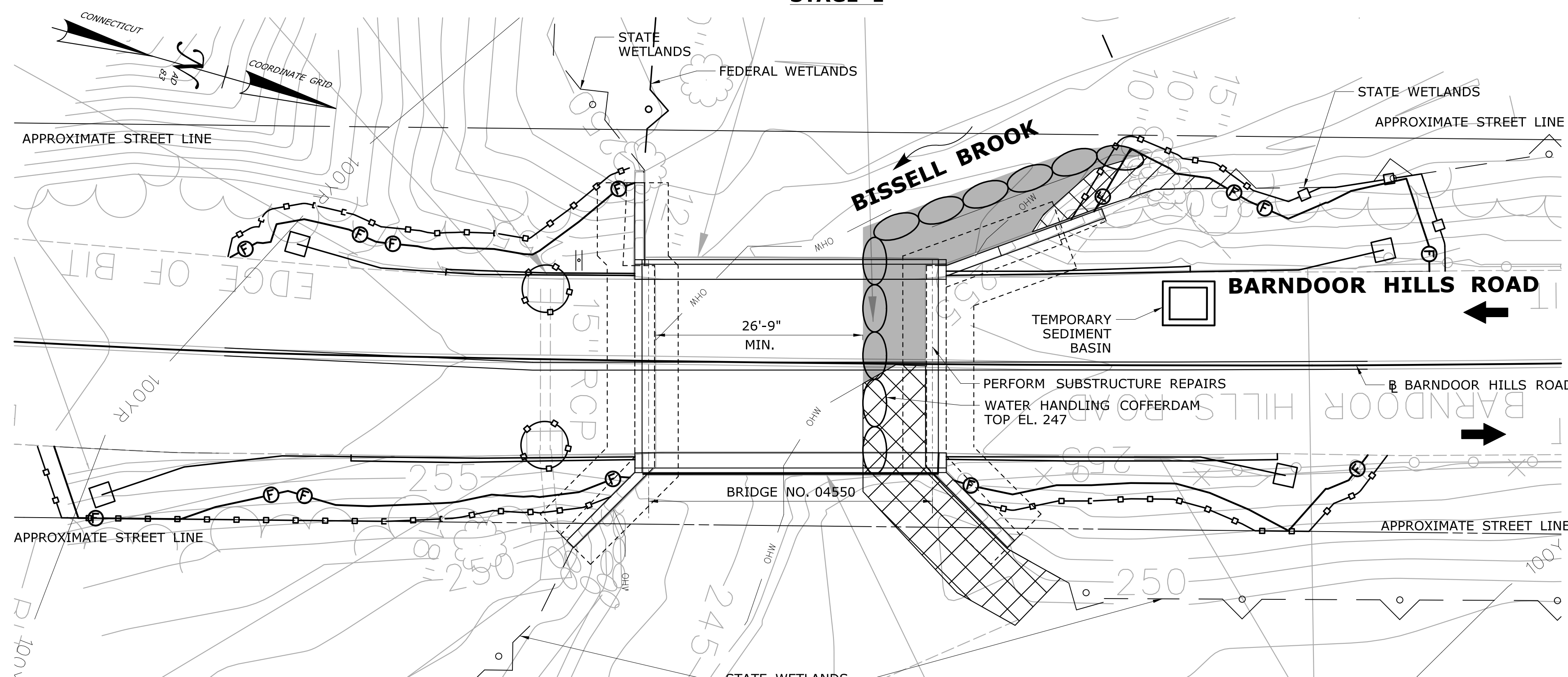
ENVIRONMENTAL PERMIT PLANS - 07/10/2020

DESIGNER/DRAFTER: DK	TOWN OF SIMSBURY	SIGNATURE/ BLOCK:	 GM2 ASSOCIATES, INC. 115 GLASTONBURY BLVD. GLASTONBURY, CT 06033	PROJECT TITLE: PRESERVATION OF BRIDGE NO. 04549 AND BRIDGE NO. 04550	TOWN: SIMSBURY	PROJECT NO. 9128-4549
CHECKED BY: PB					DRAWING TITLE: TITLE SHEET	DRAWING NO. PMT-01
SCALE AS NOTED	Plotted Date: 7/10/2020	Filename: ...VHW_MSH_9128-4549_TSH_perMITS.dgn			SHEET NO.	

REV.	DATE	REVISION DESCRIPTION	SHEET NO.



STAGE 1



STAGE 2

WATER HANDLING NOTES:

1. THE SUGGESTED METHOD OF CONTROLLING WATER DURING CONSTRUCTION CONSISTS OF A TEMPORARY WATER HANDLING COFFERDAM AS SHOWN ON THIS DRAWING. THE CONTRACTOR SHALL DESIGN AND SUBMIT FOR REVIEW AND APPROVAL A WATER HANDLING PLAN PRIOR TO INSTALLATION. THIS WORK TO BE PAID FOR UNDER THE ITEM "HANDLING WATER (SITE NO. 2)". SEE SPECIAL PROVISIONS.
2. THIS SUGGESTED WATER HANDLING SCHEME IS TO PERFORM REPAIRS TO THE EXISTING ABUTMENTS AND WINGWALLS DURING CONSTRUCTION ACTIVITIES ONLY. THE INSTALLATION OF WATER HANDLING COFFERDAM TO HANDLE WATER FOR OTHER CONSTRUCTION ACTIVITIES IS NOT PERMITTED.
3. THE TEMPORARY WATER HANDLING COFFERDAM SHALL BE IN PLACE PRIOR TO START OF ANY EXISTING CULVERT AND WINGWALL REPAIRS IF REQUIRED.
4. TOP OF THE WATER HANDLING COFFERDAM SHALL BE EL. 30.00 MIN.

SEQUENCE OF CONSTRUCTION:

1. INSTALL NECESSARY EROSION AND SEDIMENTATION CONTROLS.
2. INSTALL TRAFFIC CONTROL AS DETAILED IN M&PT PLANS.
3. INSTALL TEMPORARY WATER HANDLING COFFERDAM AS SHOWN.
4. PERFORM REPAIRS TO ABUTMENTS AND WINGWALLS DURING UNCONFINED INSTREAM WORK PERIOD.
5. REMOVE TEMPORARY WATER HANDLING COFFERDAM.

WETLAND IMPACT TABLE

	WETLAND IMPACTS				WATERWAY IMPACTS		TOTAL
	FEDERAL		STATE				
	STAGE 1	STAGE 2	STAGE 1	STAGE 2	STAGE 1	STAGE 2	
PERMANENT	0 SF	0 SF	0 SF	45 SF	0 SF	0 SF	45 SF
TEMPORARY	130 SF	0 SF	110 SF	340 SF	340 SF	324 SF	1244 SF
TOTAL	130 SF	0 SF	110 SF	385 SF	340 SF	324 SF	1289 SF

100-YEAR FLOODPLAIN AREA IMPACTS, CUT & FILL INFORMATION

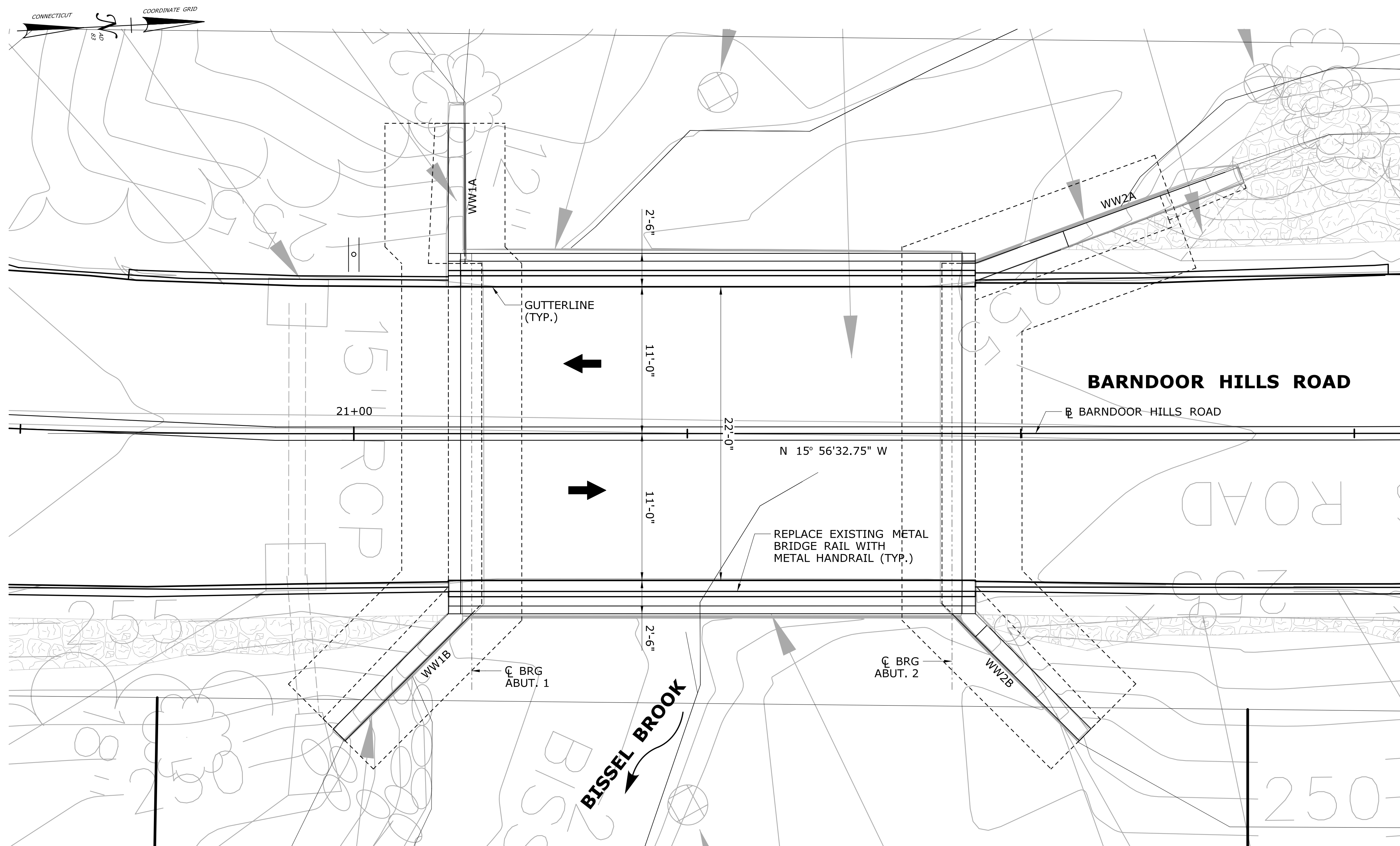
VOLUME IMPACTS	
EXCAVATION IN FEMA FLOODPLAIN	FILL IN FEMA FLOODPLAIN
15.00 CY	85.00 CY

LEGEND OF IMPACTS

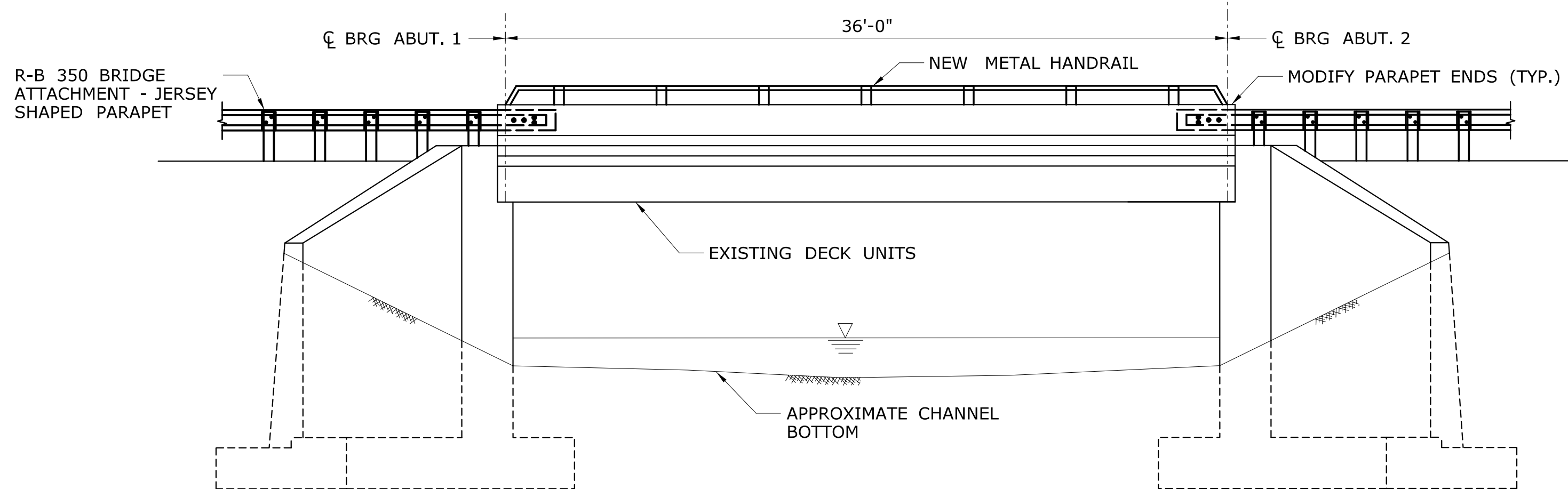
- TEMPORARY WETLAND IMPACTS (FEDERAL)
- TEMPORARY WETLAND IMPACTS (STATE)
- PERMANENT WETLAND IMPACTS (STATE)
- TEMPORARY WATERWAY IMPACTS

ENVIRONMENTAL PERMIT PLANS - 07/10/2020

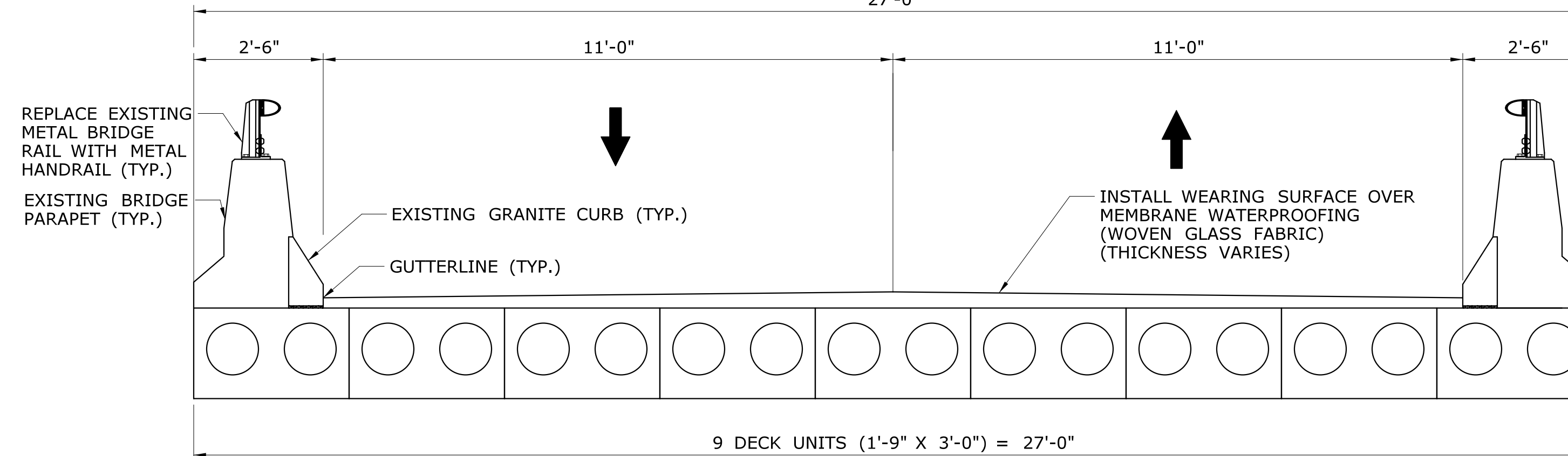
	THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER/DRAFTER: DK CHECKED BY: DAG SCALE AS NOTED	TOWN OF SIMSBURY	SIGNATURE/BLOCK:	 <small>GM2 ASSOCIATES, INC. 115 GLASTONBURY BLVD. GLASTONBURY, CT 06033</small>	PROJECT TITLE:	TOWN:	SIMSBURY	PROJECT NO.:	9128-4549		
						PRESERVATION OF BRIDGE NO. 04550 AND BRIDGE NO. 04550			DRAWING TITLE:	WATER HANDLING PLAN BRIDGE NO. 04550	DRAWING NO.:	PMT-06
REV. DATE REVISION DESCRIPTION SHEET NO. Plotted Date: 7/10/2020											SHEET NO.	



GENERAL PLAN
SCALE: 1" = 5'



ELEVATION
SCALE: 1" = 5'



TYPICAL SECTION
SCALE: 1/2" = 1'-0"

SCOPE OF WORK:

1. CLOSE ROAD AND DETOUR TRAFFIC.
2. REMOVE EXISTING BITUMINOUS OVERLAY TO EXPOSE TOP OF CONCRETE DECK UNITS.
3. REMOVE EXISTING METAL BRIDGE RAIL.
4. REPAIR CONCRETE BRIDGE PARAPETS.
5. REPAIR LONGITUDINAL JOINTS FOR CONCRETE DECK UNITS, PLACE NEW MEMBRANE WATERPROOFING AND PAVEMENT ON THE BRIDGE.
6. INSTALL NEW ASPHALTIC PLUG EXPANSION JOINT SYSTEMS.
7. MODIFY REINFORCEMENT CONCRETE PARAPETS ENDS AT ALL FOUR CORNERS OF THE BRIDGE TO ACCOMMODATE NEW BRIDGE ATTACHMENT.
8. INSTALL NEW METAL HANDRAIL.
9. REPLACE AND UPGRADE EXISTING GUIDERAIL SYSTEM WITH NEW R-B 350 GUIDERAIL.
10. MILL AND PAVE APPROACH ROADWAY AS NECESSARY.
11. CUT BACK AND REMOVE VEGETATION GROWING OVER AND NEAR THE WINGWALLS.
12. REPAIR CONCRETE ABUTMENTS AND WINGWALLS.

NOTE:

1. FOR LIMITS OF GUIDERAIL AND ROADWAY MILL AND PAVE LIMITS SEE "ROADWAY PLAN BRIDGE NO. 04550".

HYDRAULIC DATA

DRAINAGE AREA	4.38 SQ. MI.
DESIGN FREQUENCY	100 YEAR
DESIGN DISCHARGE	1080 CFS
AVERAGE DAILY FLOW ELEVATION	246 FT.
UPSTREAM DESIGN WATER SURFACE ELEVATION	250.19 FT.
DOWNSTREAM DESIGN WATER SURFACE ELEVATION	250 FT.
MAXIMUM SCOUR ELEVATION	NA FT.
FREQUENCY	NA YEAR
DISCHARGE	NA CFS
WORST CASE SCOUR SUBSTRUCTURE UNIT	NA ABUTMENT

ENVIRONMENTAL PERMIT PLANS - 07/10/2020

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/10/2020	GENERAL PLAN BRIDGE NO. 04550			