

ABBREVIATED NOTICE OF RESOURCE AREA DELINEATION

Filing Under the Massachusetts Wetlands Protection Act M.G.L. Chapter 131, Section 40 and the Town of Shutesbury Wetland Bylaw

Baker Road Project West Pelham Road Shutesbury, Massachusetts

Submitted to:

Shutesbury Conservation Commission

Shutesbury Town Hall
1 Cooleyville Road
Shutesbury, Massachusetts 01072

Filed by:

W.D. Cowls, Inc.

134 Montague Road, P.O. Box 9677 North Amherst, Massachusetts 01059

Prepared by:

TRC Companies

650 Suffolk Street Lowell, Massachusetts 01854

December 2019



December 27, 2019

Town of Shutesbury Conservation Commission Shutesbury Town Hall 1 Cooleyville Road Shutesbury, MA 01072

RE: Baker Road Project
West Pelham Road
Abbreviated Notice of Resource Area Delineation (ANRAD)

Dear Commissioners:

TRC Companies (TRC) is writing on behalf of W.D. Cowls, Inc. to file an ANRAD for a parcel off Baker Road (West Pelham Road), Shutesbury, MA (Site) (Figure 1 in Attachment B). The Site is comprised of approximately 47 acres of a 212.7-acre parcel (listed by the Shutesbury tax assessor as Parcel ID ZQ-6).

TRC conducted a wetland and waterbody delineation survey on October 24, 25, and 29, 2019. This survey resulted in an overall delineation of seven wetlands and four streams. The total linear feet of wetland edge and other resource areas delineated during the wetland and waterbody survey effort for the Site, the focus of this ANRAD filing, are summarized in the following table:

| Resource Area | Delineated Length (linear feet) |
|-----------------------------|---------------------------------|
| Bordering Vegetated Wetland | 3,651 |
| Isolated Vegetated Wetland | 1,587 |
| Bank | 2,547 |

Please refer to Attachment B for survey methodology, delineated wetland descriptions, US Army Corps of Engineers Wetland Determination forms, site photographs, and figures showing the resource areas.

To assist your review, we have provided the following attachments:

- 1. Attachment A Abbreviated Notice of Resource Area Delineation Form & Wetland Fee Transmittal Form
- 2. Attachment B Wetland and Waterbody Delineation Report
- 3. Attachment C Abutter Information (Certified Abutter List, Abutter Notification & Affidavit of Service)
- 4. Attachment D Figure 1: Delineated Resources Map (December 2019)

Attachment B also includes the following figures:

Figure 1 – Project Location (November 2019)

Figure 2 – Wetland Delineation (November 2019)

We very much appreciate your review of this information. If you should have any questions, please do not hesitate to contact me at 978-656-3662 or via email at JBrandt@TRCcompanies.com.

Sincerely,

TRC Companies

Jeff Brandt

Jeff Brandt

Senior Project Manager



ATTACHMENT A Abbreviated Notice of Resource Area Delineation Form & Wetland Fee Transmittal Form





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

key.

Note: Before completing this form consult your

local Conservation Commission regarding any municipal bylaw or ordinance.

Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands

WPA Form 4A – Abbreviated Notice of Resource Area Delineation

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

| Prov | rided by MassDEP: |
|------|-----------------------------|
| | MassDEP File Number |
| | Document Transaction Number |
| | Shutesbury |
| | City/Town |

A. General Information

| West Pelham Road | Shutesbury | 01072 |
|--|--|--|
| a. Street Address | b. City/Town | c. Zip Code |
| 1 - 60 - 1 11 20 - 1 | 42.42365 | -72.42874 |
| Latitude and Longitude: | d. Latitude | e. Longitude |
| Map ZQ | Lot 6 | |
| f. Assessors Map/Plat Number | g. Parcel /Lot Number | |
| Applicant: | | |
| a. First Name | b. Last Name | |
| W.D. Cowls, Inc. | | |
| c. Organization | | |
| P.O. Box 9677 | | |
| d. Mailing Address | | |
| North Amherst | MA | 01059 |
| e. City/Town | f. State | g. Zip Code |
| 336-314-1702 | eturner@ariespowersy | /stems.com |
| h. Phone Number i. Fax Number | j. Email Address | |
| Property owner (if different from applicant) | | nan one owner (attach additiond contact information) |
| a. First Name | b. Last Name | |
| c. Organization | | |
| S | | |
| d. Mailing Address | | |
| | f. State | g. Zip Code |
| d. Mailing Address | f. State | g. Zip Code |
| d. Mailing Address e. City/Town | | g. Zip Code |
| d. Mailing Address e. City/Town h. Phone Number i. Fax Number | | g. Zip Code |
| d. Mailing Address e. City/Town h. Phone Number i. Fax Number Representative (if any): | j. Email Address | |
| d. Mailing Address e. City/Town h. Phone Number Representative (if any): Jeff a. Contact Person First Name | j. Email Address Brandt | |
| d. Mailing Address e. City/Town h. Phone Number Representative (if any): Jeff | j. Email Address Brandt | |
| d. Mailing Address e. City/Town h. Phone Number Representative (if any): Jeff a. Contact Person First Name TRC | j. Email Address Brandt | |
| d. Mailing Address e. City/Town h. Phone Number Representative (if any): Jeff a. Contact Person First Name TRC c. Organization | j. Email Address Brandt | |
| d. Mailing Address e. City/Town h. Phone Number Representative (if any): Jeff a. Contact Person First Name TRC c. Organization 650 Suffolk Street | j. Email Address Brandt | |
| d. Mailing Address e. City/Town h. Phone Number Representative (if any): Jeff a. Contact Person First Name TRC c. Organization 650 Suffolk Street d. Mailing Address | j. Email Address Brandt b. Contact Person Last Nam | ne |
| d. Mailing Address e. City/Town h. Phone Number Representative (if any): Jeff a. Contact Person First Name TRC c. Organization 650 Suffolk Street d. Mailing Address Lowell | j. Email Address Brandt b. Contact Person Last Nam | 01854 g. Zip Code |

Fees will be calculated for online users.

a. Total Fee Paid

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b. State Fee Paid

c. City/Town Fee Paid



B.

Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands

WPA Form 4A – Abbreviated Notice of Resource Area Delineation

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

| vided by MassDEP: |
|-----------------------------|
| MassDEP File Number |
| Document Transaction Number |
| Shutesbury City/Town |
| |

d. Linear Feet Delineated

| Aı | Area(s) Delineated | | | | | | | |
|----|--|---|--------------------------------------|------------|--|--|--|--|
| 1. | Bordering \ | Vegetated Wetland (BVW) | 3,651 Linear Feet of Boundary Deline | eated | | | | |
| 2. | Check all n | methods used to delineate the Bordering Vegetated Wetland (BVW) boundary: | | | | | | |
| | a. Ma | assDEP BVW Field Data Form (attacl | ned) | | | | | |
| | b. 🛛 Otl | her Methods for Determining the BVV | V boundary (attach docum | entation): | | | | |
| | 1. 🛛 | 50% or more wetland indicator plan | ts | | | | | |
| | 2. 🗌 | Saturated/inundated conditions exis | st | | | | | |
| | 3. 🗌 | Groundwater indicators | | | | | | |
| | 4. 🛛 | Direct observation | | | | | | |
| | 5. 🖂 | Hydric soil indicators | | | | | | |
| | 6. \square | Credible evidence of conditions pric | or to disturbance | | | | | |
| 3. | Indicate an | y other resource area boundaries that | | | | | | |
| _ | | ated Wetland | at are dominated. | 1,587 | | | | |
| | a. Resource Area b. Linear Feet Delineated | | | | | | | |
| Ra | ank 2 547 | | | | | | | |

C. Additional Information

c. Resource Area

Applicants must include the following plans with this Abbreviated Notice of Resource Area Delineation. See instructions for details. **Online Users:** Attach the Document Transaction Number (provided on your receipt page) for any of the following information you submit to the Department.

- 1. ANRAD (Delineation Plans only)
- 2. Suggestion of the Area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
- 3. Plans identifying the boundaries of the Bordering Vegetated Wetlands (BVW) (and/or other resource areas, if applicable).
- 4. \boxtimes List the titles and final revision dates for all plans and other materials submitted with this Abbreviated Notice of Resource Area Delineation.

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Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands

WPA Form 4A – Abbreviated Notice of Resource Area Delineation

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

| Prov | ided by MassDEP: |
|------|-----------------------------|
| | MassDEP File Number |
| | Document Transaction Number |
| | Shutesbury |
| | City/Town |

D. Fees

TRC

6. Payor name on check: First Name

| The fees for work proposed under each Abbreviated No calculated and submitted to the Conservation Commiss Wetland Fee Transmittal Form). | | | | | |
|---|--|--|--|--|--|
| 1. Tee Exempt: No filing fee shall be assessed for pr the Commonwealth, federally recognized Indian tribe ho or the Massachusetts Bay Transportation Authority. | | | | | |
| Applicants must submit the following information (in addition to the attached Wetland Fee Transmittal Form) to confirm fee payment: | | | | | |
| 182639 11/19/2019 | | | | | |
| . Municipal Check Number 3. Check date | | | | | |
| 182628 11/19/2019 | | | | | |
| State Check Number 5. Check date | | | | | |

7. Payor name on check: Last Name

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Jeff Brondt

Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands

WPA Form 4A – Abbreviated Notice of Resource Area Delineation

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Shutesbury City/Town

E. Signatures

I certify under the penalties of perjury that the foregoing Abbreviated Notice of Resource Area Delineation and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

I hereby grant permission, to the Agent or member of the Conservation Commission and the Department of Environmental Protection, to enter and inspect the area subject to this Notice at reasonable hours to evaluate the wetland resource boundaries subject to this Notice, and to require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

I acknowledge that failure to comply with these certification requirements is grounds for the Conservation Commission or the Department to take enforcement action.

| | 12/17/2019 |
|--|------------|
| 1. Signature of Applicant | 2. Date |
| Signature of Property Owner (it different) | 4. Date |
| | 12/18/2019 |
| 5. Signature of Representative (if any) | 6. Date |
| | |

For Conservation Commission:

Two copies of the completed Abbreviated Notice of Resource Area Delineation (Form 4A), including supporting plans and documents; two copies of the ANRAD Wetland Fee Transmittal Form; and the city/town fee payment must be sent to the Conservation Commission by certified mail or hand delivery.

For MassDEP:

One copy of the completed Abbreviated Notice of Resource Area Delineation (Form 4A), including supporting plans and documents; one copy of the ANRAD Wetland Fee Transmittal Form; and a copy of the state fee payment must be sent to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery. (E-filers may submit these electronically.)

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

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



return key.



☐ Online users: check box if fee exempt.

Massachusetts Department of Environmental ProtectionBureau of Resource Protection - Wetlands

ANRAD Wetland Fee Transmittal Form

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

| Α. | App | licant Inform | nation | | |
|------------|-------------------------------|--|---|----------------------------|---|
| 1. | Locati | on of Project: | | | |
| | \Most | Pelham Road (Par | real ID: 70-6) | Shutesbury | |
| | | et Address | cer ib. 2Q-0) | b. City/Town | |
| | \$987.5 | | | 1182628 | |
| | c. Fee a | | | d. Check number | |
| | 0.1000 | amount | | d. Official flamber | |
| 2. | Applic | ant: | | | |
| | | | | 1/1 | V.D. Cowls, Inc. |
| | a. First | Name | b. Last Name | | Company |
| | | Box 9677 | | | |
| | | ng Address | | | |
| | | Amherst | | MA | 01059 |
| | e. City/ | | | f. State | |
| | - | 14-1702 | | | 5 . |
| | | e Number | | | |
| _ | _ | | | | |
| 3. | Prope | rty Owner (if differ | ent): | | |
| | a. First | Name | b. Last Name | e c. Company | |
| | d. Mailir | ng Address | | | |
| | e. City/Town | | | f. State | g. Zip Code |
| | h. Phon | e Number | | | |
| В. | Fees | 3 | | | |
| app Are | olicable a Delin ivity. | project type). The leations, is \$200 a ring Vegetated We single family | maximum fee for eac ctivities associated w etland Delineation Fee | | the number of Resource and \$2,000 for any other |
| | _ | house project | a. feet of BVW | x \$2.00 = | b. Fee for BVW |
| | 2. 🛚 | all other | 3,651 | \$7,302 | \$2,000 (maximum fee) |
| | | projects | a. feet of BVW | x \$2.00 = | b. Fee for BVW |
| | Other | Resource Area (e | .g., bank, riverfront ar | ea, etc.): | |
| | 3. 🗌 | single family | | | |
| | | house project | a. linear feet | x \$2.00 = | b. Fee |
| | 4. 🛛 | all other | 4,134 | \$8,268 | \$0 (maximum fee) |
| | | projects a. linear feet | | x \$2.00 = | b. Fee |
| | | | Total Fac | for all Resource Areas: | \$2,000 |
| | | | rotal Fee | ioi ali Resoulce Aleas. | Fee |
| | | | | State chare of filing for: | \$987.50 |
| | | | | State share of filing fee: | 5. 1/2 of total fee less \$12.50 |
| | | | 0:4/ | Town share of filing foot | \$1,012.50 |

City/Town share of filing fee:

6. 1/2 of total fee **plus** \$12.50



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

ANRAD Wetland Fee Transmittal Form

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

C. Submittal Requirements

 a.) Send a copy of this form, with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts, to:

> Department of Environmental Protection Box 4062 Boston, MA 02211

- b.) **To the Conservation Commission:** Send the Abbreviated Notice of Resource Area Delineation; a **copy** of this form; and the city/town fee payment.
- c.) **To DEP Regional Office**: Send one copy of the Abbreviated Notice of Resource Area Delineation (and any additional documentation required as part of a Simplified Review Buffer Zone Project); a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)



Citizens Bank CONNECTICUT 51-7011/2111

CHECK DATE

November 19, 2019

PAY Nine Hundred Eighty Seven and 50/100 Dollars **AMOUNT**

PAY TO THE ORDER OF

\$ 987.50

TO Commonwealth Of Massachusetts

> Department of Environmental Protection P.O. Box 4062

Boston, MA 02211

AUTHORIZED SIGNATURE

EMILY BUSINESS FORMS 800.392.6018 VISION

1182628

21 Griffin Road North Windsor, CT 06095

Check Date: 11/19/2019

| Invoice Number | Date | Voucher | Amount | Discounts | Previous Pay | Net Amount |
|-----------------------------|------------|--------------|--------|-----------|--------------|------------|
| WPA STATE FEE NO19-7 | 11/19/2019 | 007756434890 | 987.50 | | | 987.50 |
| Commonwealth Of Massachu | setts | TOTAL | 987.50 | | | 987.50 |
| Citizen Bank - Disbursement | 10 | 030812 | | | | |

Citizens Bank CONNECTICUT 51-7011/2111

CHECK DATE

November 19, 2019

PAY One Thousand Twelve and 50/100 Dollars **AMOUNT**

PAY TO THE ORDER OF

\$ 1,012.50

TO Town of Shutesbury

1 Cooleyville Road PO BOX 276

Shutesbury, MA 01072

AUTHORIZED SIGNATURE



EMILY BUSINESS FORMS 800.392.6018 VISION

1182639

21 Griffin Road North

Check Date: 11/19/2019

| Invoice Number | Date | Voucher | Amount | Discounts | Previous Pay | Net Amount |
|-----------------------------|------------|--------------|----------|-----------|--------------|------------|
| WPA TOWN FEE NO19-3 | 11/18/2019 | 007756434911 | 1,012.50 | | | 1,012.50 |
| Town of Shutesbury | | TOTAL | 1,012.50 | | | 1,012.50 |
| Citizen Bank - Disbursement | 5 | 123516 | | | | |

ATTACHMENT B Wetland and Waterbody Delineation Report





Baker Road Project

West Pelham Road Shutesbury, Massachusetts

Prepared By:

TRC Wannalancit Mills 650 Suffolk Street Lowell, Massachusetts 01854

Wetland and Waterbody Delineation Report

December 2019



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Wetland Determination Data Forms

NRCS Soil Report

USGS StreamStats Report

Table 1: Mapped Soils5



1.0 Introduction

This report presents the results of a wetland and waterbody delineation conducted on October 24, 25, and 29, 2019 by TRC Companies, Inc. (TRC) off Baker Road in the Town of Shutesbury, Franklin County, Massachusetts (Site). The survey included approximately 47 acres of the 212.7-acre parcel listed by the Shutesbury Tax Assessor as Parcel ID ZQ-6. The entire parcel is off West Pelham Road, but the Site is accessed from Baker Road.

The survey for wetlands and streams focused on the entire Site and adjacent parcels, when accessible, within 200 feet.

This report documents wetlands, streams, and other aquatic resources (ponds, lakes, impoundments, etc.) at the Site regardless of assumed jurisdictional status and addresses the implementation of local and state regulated buffer areas. To the extent practicable, the delineated resources were investigated to determine drainage patterns and a physical nexus to Waters of the United States (WOUS).

Appendix A provides a Site location map (Figure 1) and a map of the resources delineated by TRC (Figure 2). Appendix B includes representative photographs of the Site, Appendix C includes wetland determination data forms, Appendix D contains the Natural Resources Conservation Service (NRCS) Soil Report, and the U.S. Geological Survey (USGS) StreamStats report is included in Appendix E.

2.0 Regulatory Authority

2.1 United States Army Corps of Engineers

In accordance with Section 404 of the Clean Water Act (CWA), the United States Army Corps of Engineers (USACE) asserts jurisdiction over WOUS, defined as wetlands, streams, and other aquatic resources under the regulatory authority per Title 33 Code of Federal Regulations (CFR) Part 328, and the United States Environmental Protection Agency (EPA) per Title 40 CFR Part 230.3(s). Wetlands 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" (EPA, 2019).

The USACE will assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the
 tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three
 months); and
- Wetlands that directly abut such tributaries.

The USACE will decide jurisdiction over the following waters based on analysis to determine whether they have significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;
- · Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and
- Wetlands adjacent to, but that do not directly abut, a relatively permanent non-navigable tributary.



The USACE generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and
- Ditches (including roadside ditches) excavated wholly in and draining only uplands, and that do not carry a relatively permanent flow of water.

The USACE will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself
 and the functions performed by all wetlands adjacent to the tributary to determine if they
 significantly affect the chemical, physical, and biological integrity of downstream traditional
 navigable waters; and
- Significant nexus includes consideration of hydrologic and ecologic factors.

The USACE also regulates navigable waters under Section 10 of the Rivers and Harbor Act (33 U.S.C. 401 et seq.), which requires that a permit must be issued by the USACE to construct any structure in or over any navigable WOUS, as well as any proposed action (such as excavation/dredging or deposition of materials) that would alter or disturb these waters. If the proposed structure or activity affects the course, location, condition, or capacity of the navigable water, even if the proposed activity is outside the boundaries of the stream in associated wetlands, a Section 10 permit from the USACE is required.

2.2 Massachusetts Department of Environmental Protection

The Massachusetts Wetlands Protection Act (WPA) (Section 40 of Chapter 131 of the General Laws of Massachusetts and regulated under 310 Code of Massachusetts Regulations [CMR] section 10.00) defines multiple coastal (310 CMR 10.25-10.37) and inland resource areas (310 CMR 10.54-10.59) and gives the Massachusetts Department of Environmental Protection (MassDEP) jurisdiction over these resource areas. In most cases, the WPA also gives MassDEP jurisdiction over buffer zone extending 100 feet from the edge of the resource area. In addition to MassDEP, local municipalities' Conservation Commissions are responsible for administering the WPA and any local wetlands ordinance or bylaw.

The WPA defines two types of Land Subject to Flooding (310 CMR 10.57): isolated and bordering. Isolated Land Subject to Flooding (ILSF) is defined as "an isolated depression or a closed basin which serves as a ponding area for run-off or high ground water which has risen above the ground surface." Bordering Land Subject to Flooding (BLSF) is defined as "an area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds or lakes. It extends from the banks of these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetland." The boundary of BLSF is further defined as "the estimated maximum lateral extent of flood water which will theoretically result from the statistical 100-year frequency storm" as shown on the most recently available flood profile data prepared for the community by the National Flood Insurance Program (NFIP), currently administered by the Federal Emergency Management Agency (FEMA), successor to the U.S. Department of Housing and Urban Development). Under the WPA, ILSF and BLSF do not have associated buffer zones.

The WPA defines Bordering Vegetated Wetland (BVW) under 310 CMR 10.55 as any freshwater wetland which borders on creeks, rivers, stream ponds or lakes. Under the WPA, a 100-foot buffer zone is associated with BVWs. Isolated wetlands (IWs) are not connected to a waterway or waterbody and, therefore, are not regulated under the WPA and do not have an associated buffer zone under the WPA.



IWs may have an associated buffer zone or similar zone associated with them under the local ordinance or bylaw. In some cases, IWs may qualify as ILSF and, in those instances, are regulated under the WPA.

The WPA defines Bank (310 CMR 10.54) as the portion of the land surface which normally abuts and confines a waterbody, occurring between a waterbody and a BVW and adjacent floodplain, or between a waterbody and an upland. Under the WPA, a 100-foot buffer zone is associated with Banks.

The WPA defines Riverfront Area (310 CMR 10.58) as the 200-foot area of land measured horizontally from a river's Mean Annual High Water (MAHW) line. The section defines a river as any stream that is perennial and includes, but is not limited to, streams shown as perennial on current U. S. Geological Survey (USGS) maps or that have a watershed size greater than or equal to one square mile. Riverfront Area is not associated with intermittent streams as they do not flow throughout the year. Under the WPA, Riverfront Area does not have an associated buffer zone.

A Notice of Intent filing is required from the MassDEP for any disturbance, including the removal of vegetation or alteration to a Banks, BVW, ILSF, BLSF, Riverfront Area, or buffer zone.

2.3 Town of Shutesbury Conservation Commission

The Shutesbury Conservation Commission (SCC) administers a local wetlands bylaw and regulations in addition to the WPA. The SCC has jurisdiction over any freshwater wetland, marsh, wet meadow, bog, swamp, isolated wetland, lake, pond, river, and stream (surface or subsurface) and land within 100 feet of any of these areas. The SCC also has jurisdiction over land under waterbodies and land subject to flooding or inundation by groundwater, surface water, storm flowage, or within a 100-year flood plain.

3.0 Project Site Characteristics

TRC reviewed publicly available literature and materials used for the investigation, survey, and report preparation, including:

- MassGIS OLIVER¹, the National Hydrography Dataset;
- The Shutesbury, Massachusetts 7.5 Minute Quadrangle (USGS 2018);
- The FEMA Flood Insurance Rate Map (FIRM) Panels 2501280015A and 2501280020A (both effective date June 18, 1980);
- The U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI);
- The U.S. Department of Agriculture (USDA), NRCS Web Soil Survey;
- Recent aerial orthoimagery.

The following sections summarize TRC's review of each of these resources.

¹ The MassDEP Wetlands Conservancy Program uses aerial photography and photo interpretation to delineate and map wetland boundaries. These boundaries are available via the Massachusetts Office of Geographic Information (MassGIS) online mapping tool, OLIVER. Desktop review consisted of utilizing MassGIS OLIVER to gather a general understanding of existing conditions and potential regulated resource areas.



3.1 Hydrology

The Site has slopes towards the west and northwest and despite some steeper slopes, overall has gently sloping topography. The Site generally drains northwestwards towards Baker Brook via on site and off site streams and wetlands.

3.1.1 Floodplains

Flood hazard areas identified on the FEMA's Flood Insurance Rate Maps (FIRMs) are identified as Special Flood Hazard Areas (SFHAs). SFHAs are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. FEMA uses a variety of labels for SFHAs:

| Zone A | Zone A99 | Zone AR/A |
|--------------|----------------|--------------|
| Zone AO | Zone AR | Zone V |
| Zone AH | Zone AR/AE | Zone VE, and |
| Zones A1-A30 | Zone AR/AO | Zones V1-V30 |
| Zone AE | Zone AR/A1-A30 | |

Moderate flood hazard areas, labeled Zone B or Zone X (shaded on FEMA mapping) are also shown on the FIRM, and are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (unshaded on FEMA mapping).

According to the FEMA FIRM maps 2501280015A and 2501280020A (both effective date June 18, 1980) the Site is located within a Zone C area of minimal flood disturbance zone. Base flood elevations and flood hazard factors are not available for this area.

3.2 Federal and State Mapped Wetlands and Streams

The USFWS is the principal federal agency tasked with providing information to the public on the status and trends of wetlands on a national scale. The USFWS NWI is a publicly available resource that provides detailed information on the abundance, characteristics, and distribution of nationwide wetlands (where mapped). NWI mapping data is offered to promote the understanding, conservation, and restoration of wetlands. The online MassGIS OLIVER mapping tool was accessed to determine the extent of statemapped aquatic resources.

According to TRC's review of NWI and MassGIS OLIVER mapping, there is one wetland to the west of the Site. The NWI layer shows a freshwater pond to the south of the Site. The MassDEP data layers show one perennial stream that flows in the northern portion of the Site and one intermittent stream on the southern portion of the Site. There is also an intermittent stream mapped to the south of the Site.

3.3 Mapped Soils

The NRCS's Web Soil Survey identifies seven soil map units within the Site. Map units can represent a type of soil, a combination of soils, or miscellaneous land cover types (e.g., water, rock outcrop, developed impervious surface). Map units are usually named for the predominant soil series or land types within the map unit. A summary of soil characteristics for soils mapped at the Site are included in Table 1, below. The following sections provide details about hydric ratings, drainage class, prime farmland, and hydrologic soil



groups (HSGs). Details about soil map unit descriptions are provided in the NRCS Soil Report included as Appendix D.

Table 1: Mapped Soils

| - Pro- | | | | | |
|--------|--|-------------------------|-------------------------|--------------------------|--|
| Symbol | Soil Name | Hydric Rating (%) | Drainage Class | Hydrologic Soil Group | Farmland Classification |
| 50A | Wonsqueak muck, 0 to 2 percent slopes | 100 | Very poorly drained | B/D | Not Prime Farmland |
| 75B | Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony | 88 | Poorly drained | D | Not Prime Farmland |
| 368B | Metacomet fine sandy loam, 3 to 8 percent slopes | 10 | Moderately well drained | B/D | All areas are prime farmland |
| 368C | Metacomet fine sandy loam, 8 to 15 percent slopes | 10 | Moderately well drained | B/D | Farmland of statewide importance |
| 444B | Chichester fine sandy loam, 3 to 8 percent slopes | 0 | Well drained | Α | All areas are prime farmland |
| 444C | Chichester fine sandy loam, 8 to 15 percent slopes | 0 | Well drained | Α | Farmland of statewide importance |
| 445C | Chichester fine sandy loam, 8 to 15 percent slopes, very stony | 0 | Well drained | Α | Farmland of statewide importance |

3.3.1 Hydric Rating

The Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987) (1987 Manual) defines a hydric soil as "...a soil that in its undrained condition, is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation."

Due to limitations imposed by the small scale of the soil survey mapping, it is not uncommon to identify wetlands within areas not mapped as hydric soil while areas mapped as hydric often do not support wetlands. This concept is emphasized by the NRCS:

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.

Hydric Soil Rating (HSR) indicates the percentage of a map unit that meets the criteria for hydric soils.

Map unit 50A has an HSR of 100 percent, map unit 75B has an HSR of 88 percent, map units 368B and 368C both have an HSR of 10 percent, and map units 444B, 444C, and 445C all have an HSR of 0 percent. For map unit 50A, all components of the map unit are hydric. The hydric components within map unit 75B are Pillsbury, very stony; Peacham, very stony; and Wonsqueak. The hydric component within map units 368B and 368C is Pillsbury.



3.3.2 Natural Drainage Class

Natural drainage class refers to the frequency and duration of wet periods under conditions similar to those under which the soil developed. Anthropogenic alteration of the water regime, either through drainage or irrigation, is not a consideration unless the alterations have significantly changed the morphology of the soil.

Map unit 50A is rated as very poorly drained. Map unit 75B is rated as poorly drained. Map units 368B and 368C are rated as moderately well drained. Map units 444B, 444C, and 445C are rated as well drained.

3.3.3 Prime Farmland

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is available for these uses (the land could be cropland, pastureland, rangeland, forestland, or other land, but not urban built-up land or water). Land used for a specific high-value food or fiber crop is classified as "unique farmland." Generally, additional "farmlands of statewide importance" include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. In some local areas, there is concern for certain additional farmlands, even though these lands are not identified as having national or statewide importance. These farmlands are identified as being of "local importance" through ordinances adopted by local government. The NRCS State Conservationist reviews and certifies lists of farmland of state and local importance. These lists, along with state and locally established Land Evaluation and Site Assessment (LESA) systems where applicable, are used by federal agencies to review and evaluate activities that may impact farmland. As defined in 7 CFR Part 657, important farmland encompasses prime and unique farmland, as well as farmland of statewide and local importance.

According to the NRCS, map units 50A and 75B are classified as "not prime farmland," map units 368B and 444B are classified as "all areas are prime farmland," and map units 368C, 444C, and 445C are classified as "farmland of statewide importance."

3.3.4 Hydrologic Soil Groups

Soils are assigned to an HSG based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A: Soils have a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B: Soils have a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C: Soils have a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.



Group D: Soils have a very slow infiltration rate (high runoff potential) when thoroughly wet. Soils consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition in Group D are assigned to dual classes.

Map units 50A, 368B, and 368C are in the dual HSG B/D. Map unit 75B is in HSG D. Map units 444B, 444C, and 445C are in HSG A.

4.0 Wetland and Stream Delineation Methodology

In addition to the desktop review described in Section 3.0, TRC biologists performed field investigations at the Site to identify wetlands, waterbodies, and other surface waters on October 24, 25, and 29, 2019.

4.1 Non-wetland Aquatic Resource Methodology

Streams and other non-wetland aquatic features within the Site were identified by the presence of an ordinary high water mark (OHWM), which is the line established by the fluctuations of water (33 CFR 328.3). The OHWM line is indicated by physical characteristics, which can include: 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 characteristics of the surrounding areas. For streams three feet or more in width, each stream bank was delineated with blue flagging. For smaller streams, the stream centerline is delineated with notes for the width. Flags were located with a handheld global positioning system (GPS) unit and the data post-processed to achieve sub-meter accuracy.

4.2 Wetland Delineation Methodologies

The delineation of wetlands was conducted in accordance with criteria set forth in the 1987 Manual, the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) (USACE, 2012) (Supplement), and the Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act- A Handbook (MassDEP, 1995) (the MassDEP Handbook).

The three-parameter approach to identify and delineate wetlands presented in the 1987 Manual and the Supplement requires that, except for atypical and disturbed situations, wetlands possess hydrophytic vegetation, hydric soils, and wetland hydrology. A two-parameter approach that considers only vegetation and hydrology indicators is presented in the MassDEP Handbook. Per the MassDEP Handbook, hydric soil is included as evidence of wetland hydrology.

Wetland boundary flags were located with a handheld GPS unit and the data were post-processed to achieve sub-meter accuracy. Delineated resources were classified in accordance with the system presented in *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (Federal Geographic Data Committee, 2013).

4.2.1 Hydrophytic Vegetation Methodologies

Hydrophytic vegetation is defined in the 1987 Manual as:



...the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present.

Plants are categorized according to their occurrence in wetlands. Scientific names and wetland indicator statuses for vegetation are those listed in *The National Wetland Plant List: 2016 Wetland Ratings* (NWPL) (Lichvar et al., 2016). The indicator statuses specific to the "Northcentral and Northeast Region" as defined by the USACE apply to the Site. For upland species that are not listed on the NWPL, the Integrated Taxonomic Information System was referenced for currently accepted scientific names. The official short definitions for wetland indicator statuses are as follows:

- Obligate Wetland (OBL): Almost always occur in wetlands;
- Facultative Wetland (FACW): Usually occur in wetlands, but may occur in non-wetlands;
- Facultative (FAC): Occur in wetlands and non-wetlands (50/50 mix);
- Facultative Upland (FACU): Usually occur in non-wetlands, but may occur in wetlands; and
- Upland (UPL): Almost never occur in wetlands.

Plants that are not found in a region, but are found in an adjacent region, take on the indicator status of that adjacent region for dominance calculations. Plants that are included on the NWPL, but not within the Site region or an adjacent region, are not included in dominance calculations. Plants that are not found in wetlands in any region are considered "UPL" for dominance calculations.

Vegetation community sampling was accomplished using the methodologies outlined in the 2012 Supplement. The "50/20 rule" was applied to determine whether a species was dominant in its stratum. In using the 50/20 rule, the plants that comprise each stratum are ranked from highest to lowest in percent cover. The species that cumulatively equal or exceed 50 percent of the total percent cover for each stratum are dominant species, and any additional species that individually provides 20 percent or more percent cover is also considered dominant species of its respective strata.

A hydrophytic vegetation community is present when: 1) all of the dominant species are FACW and/or OBL (Rapid Test for Hydrophytic Vegetation); 2) greater than 50 percent of the dominant species' (as determined by the 50/20 rule) indicator statuses are FAC, FACW, or OBL (Dominance Test); and/or 3) when the calculated Prevalence Index is equal to or less than 3.0. When applying the Prevalence Index, all plants are assigned a numeric value based on indicator status (OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5) and their abundance (absolute percent cover) is used to calculate the prevalence index.

Cover types are also assigned to each wetland and waterbody in accordance with the system presented in *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (Federal Geographic Data Committee, 2013).

4.2.2 Hydric Soil Methodologies

Hydric soil indicators described in *Field Indicators for Identifying Hydric Soils in New England, Version 4* (New England Hydric Soils Technical Committee, 2017) and in *Field Indicators of Hydric Soils in the United States, Version 8.2* (USDA NRCS, 2018) were used to determine the presence of characteristic soil morphologies resulting from prolonged saturation and/or inundation. Soil color was described using standard color notations provided on Munsell® soil color charts (X-Rite, Inc., 2015). Soil texture was



determined using the methods described by Thien (1979). Soil test pits were dug using a spade shovel to a depth of approximately 20 inches or more (if needed).

Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin (MLRA Handbook) (NRCS, 2006) was referenced to determine the hydric soil indicators that apply to the Site. Per the MLRA Handbook, the Site is within Major Land Resource Area (MLRA) 144A (New England and Eastern New York Upland, Southern Part) of Land Resource Region (LRR) R (Northeastern Forage and Forest Region). Hydric soil indicators that do not apply to this MLRA were not considered on the wetland determination data forms.

The presence or absence of hydric soils was determined through examination of samples extracted with a hand shovel or hand auger from the upper horizons of the soil profile. Soils were examined to depths of approximately 18 to 20 inches, unless restrictive layers such as hard pan, rock, densely packed fill materials, etc. were encountered at shallower depths.

4.2.3 Wetland Hydrology Methodologies

Per the 1987 Manual:

The term "wetland hydrology" encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. Areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively. Such characteristics are usually present in areas that are inundated or have soils that are saturated to the surface for sufficient duration to develop hydric soils and support vegetation typically adapted for life in periodically anaerobic soil conditions. Hydrology is often the least exact of the parameters, and indicators of wetland hydrology are sometimes difficult to find in the field. However, it is essential to establish that a wetland area is periodically inundated or has saturated soils during the growing season. (Environmental Laboratory, 1987)

Wetland hydrology indicators are grouped into 18 primary and 11 secondary indicators presented in the Supplement. The USACE considers wetland hydrology to be present when at least one primary indicator or two secondary indicators are identified.

5.0 Results

5.1 Upland Areas

The upland areas consist of successional forests throughout the Site. There has been logging on the Site creating disturbed areas scattered throughout. The dominant vegetation in the uplands consists of eastern hemlock (*Tsuga canadensis*), yellow birch (*Betula alleghaniensis*), mountain-laurel (*Kalmia latifolia*), cinnamon fern (*Osmundastrum cinnamomeum*), red maple (*Acer rubrum*), red oak (*Quercus rubra*), red chokeberry (*Aronia arbutifolia*), northern lady fern (*Athyrium angustum*), American beech (*Fagus grandifolia*), eastern white pine (*Pinus strobus*), American witch-hazel (*Hamamelis virginiana*), and sweet birch (*Betula lenta*). The terrain of the Site has some steep slopes but overall is gently sloping to the west and northwest. The soils observed throughout upland portions of the Site were classified primarily as loam along with some sandy loam, loamy sand, and silt loam.



5.2 Delineated Wetlands and Waterbodies

TRC identified seven wetlands and four waterbodies within the Site during the October 2019 resource delineation effort (Figure 2 in Appendix A). Delineated areas are described in the following sections and summarized at the end of this section in Table 2. Refer to the photographs in Appendix B and the wetland determination data forms in Appendix C for further details about each delineated area.

5.2.1 Delineated Wetlands

Wetland W-MJR-1 is a palustrine emergent (PEM) wetland located near the central southern edge of the Site and connects to an off-site pond to the east via a culvert. The dominant vegetation included eastern white pine, red maple, red chokeberry, fowl manna grass (*Glyceria striata*), and northern lady fern. Indicators of wetland hydrology included high water table, saturation at the soil surface, geomorphic position, and the FAC-neutral test. Soils were composed of a thick layer of dark loam with redoximorphic features on top of a restrictive rock layer. This soil meets Hydric Soil Indicator F6 as described in *Field Indicators of Hydric Soils in the United States, Version 8.2* (Field Indicators) (USDA NRCS, 2018). *This wetland is MassDEP jurisdictional as a BVW to off-site wetlands and falls under USACE jurisdiction, as it is likely connected to other WOUS*.

Wetland W-MJR-2 is a palustrine scrub/shrub (PSS) wetland associated with stream S-MJR-2. The wetland is located near central southern edge of the Site and extends off site to the east. The dominant vegetation included red maple, red chokeberry, cinnamon fern, New York fern (*Parathelypteris noveboracensis*), and spotted touch-me-not (*Impatiens capensis*). Indicators of wetland hydrology included surface water, high water table, saturation, drainage patterns, geomorphic position, and the FAC-neutral test. Soils within wetland W-MJR-2 were composed of a thick layer of dark silt loam. This wetland's soil did not meet any of the Hydric Soil Indicators according to the Field Indicators (USDA NRCS, 2018), however; the soil was presumed to be hydric due to the presence of inundation, FACW and OBL vegetation species, and a definitive wetland boundary. *This wetland is MassDEP jurisdictional as a BVW and falls under USACE jurisdiction, as it is likely connected to other WOUS*.

Wetland W-MJR-3 is a primarily PEM wetland with sections of palustrine forested (PFO) wetland skirting the northern, southern, and eastern edges of the wetland. The wetland is in the southwest corner of the Site and extends off site to the south. It likely flows into an off-site intermittent stream to the south. The dominant vegetation within the PEM portion of the wetland included Allegheny blackberry (Rubus allegheniensis), shallow sedge (Carex Iurida), fowl manna grass, and broad-leaf cat-tail (Typha latifolia). The dominant vegetation within the PFO portion of the wetland included eastern hemlock, red chokeberry, and cinnamon fern. Indicators of wetland hydrology within the PEM portion of the wetland included high water table, saturation, hydrogen sulfide odor, geomorphic position, and the FAC-neutral test. Indicators of wetland hydrology within the PFO portion of the wetland included saturation, dry-season water table, and geomorphic position. Soils within the PEM portion were composed of a thick layer of dark clay loam on top of a restrictive layer of rock. Soils within the PFO portion were composed of a thick layer of dark silt loam on top of a thick layer of loamy sand with redoximorphic concentrations in the matrix. The soil within the PEM portion of the wetland meets Hydric Soil Indicator A4, and the soil within the PFO portion of the wetland meets Hydric soil indicators A11 and S5 according to the Field Indicators (USDA NRCS, 2017). This wetland is likely MassDEP jurisdictional as a BVW to an off-site stream to the south and falls under USACE jurisdiction, as it is likely connected to other WOUS.

Wetland W-MJR-4 is an isolated PEM wetland located in the central western portion of the Site and completely contained on site. The dominant vegetation within this wetland included red chokeberry,



mountain laurel (*Kalmia latifolia*), and fowl manna grass. Indicators of wetland hydrology within this wetland included high water table, saturation, geomorphic position, and the FAC-neutral test. Soils were composed of a thick layer of dark silt loam on top of a thick layer of sandy loam with redoximorphic concentrations in the matrix. This soil meets Hydric Soil Indicators A11 and F2 according to the Field Indicators (USDA NRCS, 2017). *This wetland is SCC jurisdictional as an isolated wetland. However, it is not MassDEP jurisdictional as BVW or as ILSF and is also unlikely to fall under USACE jurisdiction.*

Wetland W-MJR-5 is a primarily PEM wetland with a small section of PFO wetland skirting the northern edge of the wetland. The wetland is in the northwest corner of the Site and extends off site to the north. This wetland flows into Baker Brook, an off-site perennial stream to the north. The dominant vegetation within the PEM portion of the wetland included common red raspberry (*Rubus idaeus*), red maple, eastern hop-hornbeam (*Ostrya virginiana*), and shallow sedge. The dominant vegetation within the PFO portion of the wetland included eastern hemlock and yellow birch. Indicators of wetland hydrology within both the PEM and PFO portions of the wetland included saturation at the soil surface, dry-season water table, and geomorphic position. Soils within both the PEM and PFO portions of the wetland were composed of a thick layer of dark loam on top of a thick layer of loamy sand with redoximorphic concentrations in the matrix. The soil within both the PEM and PFO portions of the wetland meets Hydric Soil Indicator A11 according to the Field Indicators (USDA NRCS, 2017). *This wetland is MassDEP jurisdictional as a BVW to Baker Brook and falls under USACE jurisdiction, as it is likely connected to other WOUS.*

Wetland W-MJR-6 is an isolated PEM wetland located near the central northern edge of the Site. The dominant vegetation within this wetland included soft-stem club-rush (*Schoenoplectus tabernaemontani*) and shallow sedge. Indicators of wetland hydrology within this wetland included saturation, dry-season water table, geomorphic position, and the FAC-neutral test. Soils were composed of a thick layer of dark loam on top of a thick layer of loamy sand. This soil meets Hydric Soil Indicator A11 according to the Field Indicators (USDA NRCS, 2018). *This wetland is not SCC jurisdictional as an isolated wetland, as it is less than 1,000 square feet in area Similarly, it is not MassDEP jurisdictional as BVW or as ILSF and is also unlikely to fall under USACE jurisdiction.*

Wetland W-MJR-7 is an isolated PFO wetland located in the center of the Site. The dominant vegetation included eastern hemlock, red maple, yellow birch, northern lady fern, and cinnamon fern. Indicators of wetland hydrology included high water table, saturation, and geomorphic position. Soils were composed of a thick layer of dark loam on top of a thick layer of loamy sand with redoximorphic concentrations in the matrix. This soil meets Hydric Soil Indicator A11 according to the Field Indicators (USDA NRCS, 2017). **This wetland is SCC jurisdictional as an isolated wetland and is likely MassDEP jurisdictional as ILSF. It is unlikely to fall under USACE jurisdiction.**

5.2.2 Delineated Waterbodies

Stream S-MJR-1 is an intermittent stream (R4, NWI classification) that flows westward from off-Site near the central southern edge of the Site. The streambed was composed of silt and clay. TRC observed an average width of approximately 2 feet and a water depth of approximately 1 inch. Stream S-MJR-1 has poorly defined banks such that the OHWM line is approximately 0.5 feet wider than the MAHW line on both sides of the stream. The centerline of the stream was delineated.

The USGS does not map stream S1, and the stream is not digitized for USGS StreamStats. Based on the available topography, the watershed is less than 0.5 square miles. Therefore, this stream is considered intermittent. This stream is MassDEP jurisdictional and falls under USACE jurisdiction, as it is likely connected to other WOUS.



Stream S-MJR-2 is an intermittent stream (R4, NWI classification) that flows westward from off-site through wetland W-MJR-2 and converges with stream S-MJR-1. The stream is near the central southern edge of the Site. The streambed was composed of silt and clay. TRC observed an average width of approximately 2 feet and a water depth of approximately 2 inches. Stream S2 has poorly defined banks that are coincident with the MAHW line. The centerline of the stream was delineated.

The USGS and MassDEP do not map stream S2, and the stream is not digitized for USGS StreamStats. Based on the available topography, the watershed is less than 0.5 square miles. Therefore, this stream is considered intermittent. *This stream is MassDEP jurisdictional and falls under USACE jurisdiction, as it is likely connected to other WOUS.*

Stream S-MJR-3 is an intermittent stream (R4, NWI classification) located near the central northern edge of the Site that flows northwestward and eventually off-Site. The streambed was comprised of sand. TRC observed an average width of approximately 2 feet and a water depth of approximately 4 inches. Stream S3 has defined banks that are approximately 0.5 feet wider than the MAHW line on both sides of the stream. The centerline of the stream was delineated.

The USGS and MassDEP do not map stream S-MJR-3, and the stream is not digitized for USGS StreamStats. Based on the available topography, the watershed is less than 0.5 square miles. Therefore, this stream is considered intermittent. This stream is MassDEP jurisdictional and falls under USACE jurisdiction, as it is likely connected to other WOUS.

Stream S-MJR-5 is Baker Brook, a perennial stream (R3, NWI classification) that parallels the northern boundary of the Site and flows westward. The streambed was comprised of cobble and gravel. TRC observed an average width of approximately 7 feet and a water depth of approximately 6 inches. Stream S5 has defined banks such that the OHWM line is approximately 0.5 inches wider than the MAHW line on both sides of the stream. The MAHW line was delineated on the southern side of the stream.

The USGS maps stream S-MJR-5 as perennial. Additionally, the USGS StreamStats analysis in Appendix E shows that is has a watershed greater than 0.5 square miles in size and has a predicted flow rate of greater than 0.01 cubic feet per second at the 99% flow duration. Therefore, this stream qualifies as perennial under 310 CMR 10.58(2)(a)(1)(a) and has an associated 200-foot Riverfront Area measured horizontally from the MAHW line. This stream is MassDEP jurisdictional and falls under USACE jurisdiction, as it is likely connected to other WOUS.

Table 2. Delineated Wetlands and Waterbodies

| Wetland Field Designation | Field Designated NWI Classification ¹ | Assumed Jurisdictional Status | Assumed Buffer/ Setback Requirements |
|------------------------------|---|-------------------------------|---|
| W-MJR-1 | PEM | USACE/MassDEP/Local | 100-ft buffer zone |
| W-MJR-2 | PSS | USACE/MassDEP/Local | 100-ft buffer zone |
| W-MJR-3 | PEM/PFO | USACE/MassDEP/Local | 100-ft buffer zone |
| W-MJR-4 | PEM | Local | 100-ft buffer zone |
| W-MJR-5 | PEM/PFO | USACE/MassDEP/Local | 100-ft buffer zone |
| W-MJR-6 | PEM | None | None |
| W-MJR-7 | PFO | MassDEP/Local | 100-ft buffer zone |
| S-MJR-1 | R4 | USACE/MassDEP/Local | 100-ft buffer zone |
| S-MJR-2 | R4 | USACE/MassDEP/Local | 100-ft buffer zone |
| S-MJR-3 | R4 | USACE/MassDEP/Local | 100-ft buffer zone |



Table 2. Delineated Wetlands and Waterbodies

| Wetland Field Designation | Field Designated NWI Classification ¹ | Assumed Jurisdictional Status | Assumed Buffer/ Setback Requirements |
|------------------------------|---|-------------------------------|---|
| S-MJR-5 | R3 | USACE/MassDEP/Local | 200-ft Riverfront Area |

¹ The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition (Federal Geographic Data Committee, 2013). Categories include: Palustrine Emergent (PEM), Palustrine Scrub-Shrub (PSS), Palustrine Forested (PFO), Riverine Perennial (R3), and Riverine Intermittent (R4).

6.0 Conclusions

It is TRC's opinion that four of the delineated wetlands, W-MJR-1, W-MJR-2, W-MJR-3, and W-MJR-5, are BVWs regulated by MassDEP. Wetlands W-MJR-4 and W-MJR-7 are regulated by the SCC and its local bylaw; W-MJR-7 is also likely under MassDEP jurisdiction as ILSF. Wetland W-MJR-6 is less than 1,000 square feet in area and, therefore, is not regulated at the federal, state, or local level. There are no buffers or setbacks associated with USACE-regulated wetlands. However, there is a 100-foot buffer zone associated with MassDEP- and SCC-regulated wetlands.

Perennial stream S-MJR-5 and intermittent streams S-MJR-1, S-MJR-2, and S-MJR-3 are USACE jurisdictional, as they are hydrologically connected to WOUS. These streams are also regulated by the MassDEP, as they flow within, into, or out of a MassDEP-regulated wetland resource area.

Final determination of jurisdictional status for on-site wetlands and waterbodies must be made by the regulators.

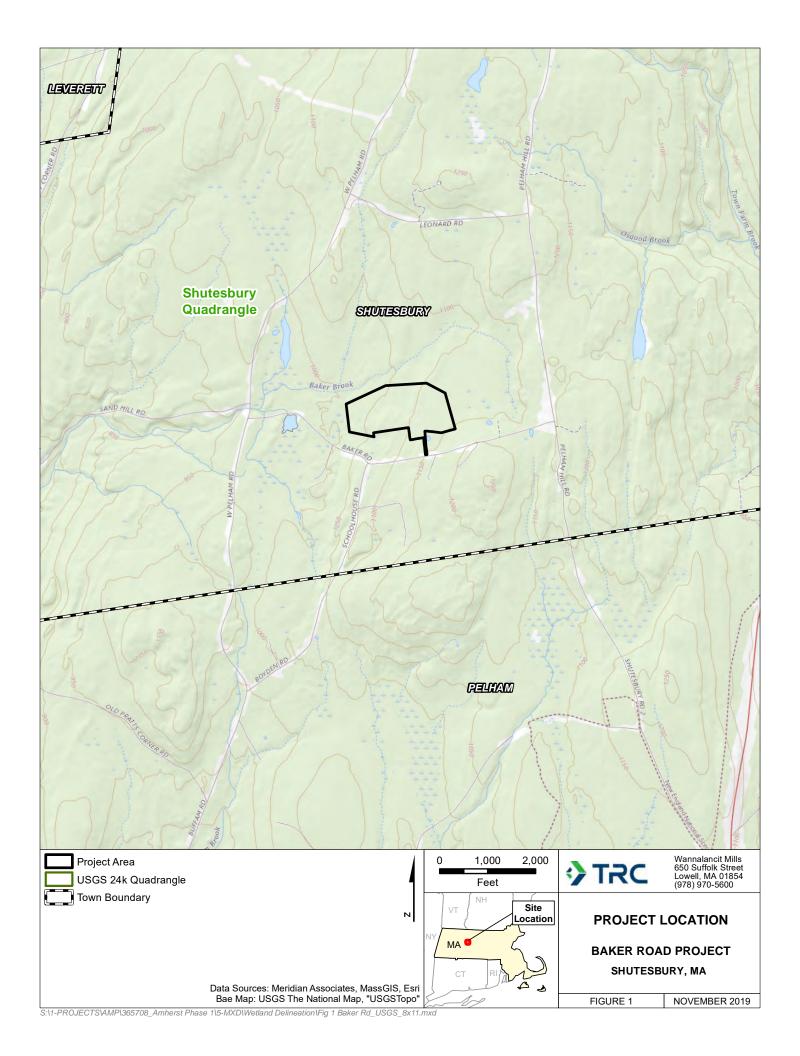


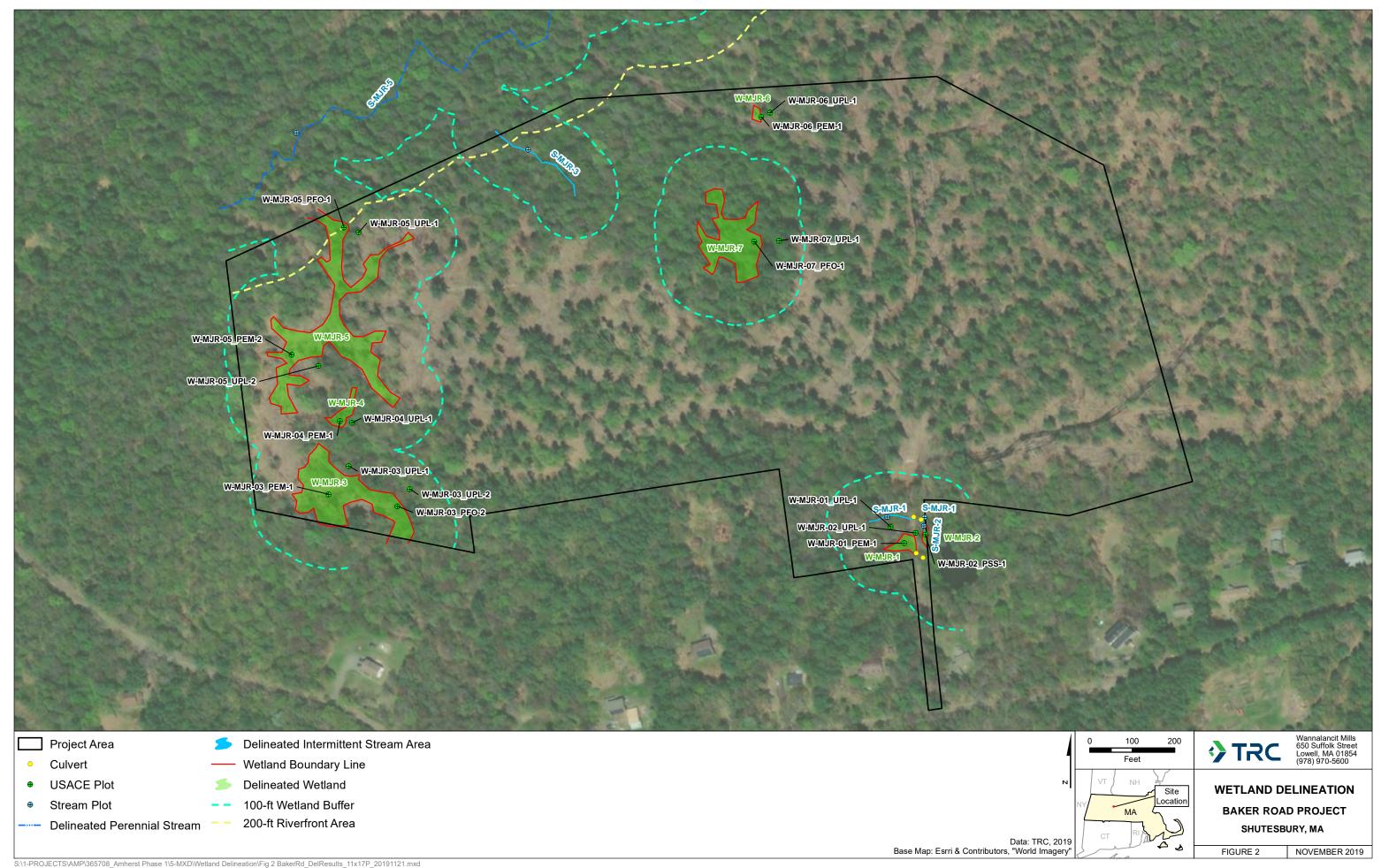
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Appendix A: Figures







Appendix B: Photographs

BAKER ROAD PROJECT WEST PELHAM ROAD, SHUTESBURY, MASSACHUSETTS

Photograph: 1

Date: 10/24/2019

Direction: East

Description:

Typical conditions observed within palustrine emergent (PEM) wetland W-MJR-1.



Photograph: 2

Date: 10/24/2019

Direction: East

Description:

Upstream view of intermittent stream S-MJR-1 flowing westward out of culvert.





BAKER ROAD PROJECT WEST PELHAM ROAD, SHUTESBURY, MASSACHUSETTS

Photograph: 3

Date: 10/24/2019

Direction: South

Description:

Upstream view of intermittent stream S-

MJR-2.



Photograph: 4

Date: 10/24/2019

Direction: East

Description:

Typical conditions observed within palustrine scrub-shrub (PSS) wetland W-MJR-1.





Photograph: 5

Date: 10/24/2019

Direction: West

Description:

Typical conditions observed within the PEM section of wetland W-MJR-3.



Photograph: 6

Date: 10/25/2019

Direction: East

Description:

Typical conditions observed within the palustrine forested (PFO) section of wetland W-MJR-3.





Photograph: 7

Date: 10/25/2019

Direction: Northeast

Description:

Typical conditions observed within PEM wetland W-MJR-4.



Photograph: 8

Date: 10/25/2019

Direction: N/A

Description:

Typical conditions observed within the PEM section of wetland W-

MJR-5.





Photograph: 9

Date: 10/25/2019

Direction: South

Description:

Typical conditions observed within the PFO section of wetland W-MJR-5.



Photograph: 10

Date: 10/25/2019

Direction: Northwest

Description:

Typical conditions observed within PEM wetland W-MJR-6.





Photograph: 11

Date: 10/25/2019

Direction: Southeast

Description:

Upstream view of intermittent stream S-

MJR-3.



Photograph: 12

Date: 10/28/2019

Direction: South

Description:

Typical conditions observed within PFO wetland W-MJR-7.







Appendix C: Wetland Determination Data Forms

| Project/Site: Baker | City/County: Shu | tesbury, Franklin | Sampling Dat | e: 2019-Oct-24 | |
|-----------------------------------|--|--------------------------------|------------------------------|---------------------|--|
| Applicant/Owner: | | State: MA | Sampling Point: | : W-MJR-01_PEM-1 | |
| Investigator(s): Matt Regan, M | olly Lennon | Section, Township, | Range: | | |
| Landform(hillslope,terrace,etc.): | Depression | Local relief (concave, conv | ex, none): Concave | Slope (%): 0 to 1 | |
| Subregion(LRRorMLRA): M | LRA 144A of LRR R | Lat: 42.421491304 | 5 Long: -72.428474910 | 6 Datum: WGS84 | |
| Soil Map Unit Name: 368B: Me | etacomet fine sandy loam, 3 to 8 perc | ent slopes | NWI classi | fication: | |
| Are climatic/hydrologic condition | ns on the site typical for this time of ye | | (If no, explain in Ren | narks.) | |
| Are Vegetation, Soil, | or Hydrology significantly di | | al Circumstances" present | | |
| Are Vegetation, Soil, | or Hydrology naturally prob | lematic? (If needed, | explain any answers in Re | marks.) | |
| | | | | | |
| SUMMARY OF FINDINGS – A | Attach site map showing sampli | ng point locations, trai | nsects, important feati | ures, etc. | |
| Hydrophytic Vegetation Present | ? Yes 🗸 No | | | | |
| Hydric Soil Present? | Yes No | Is the Sampled Area withi | n a Wetland? | Yes No | |
| Wetland Hydrology Present? | Yes _ _ _ No | If yes, optional Wetland S | ite ID: | W-MJR-01 | |
| | ocedures here or in a separate report | | | | |
| Covertype is PEM. | ocedures here or in a separate report | J | | | |
| Covertype is PEIVI. | | | | | |
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| HYDROLOGY | | | | | |
| | | | | | |
| Wetland Hydrology Indicators: | | | | | |
| Primary Indicators (minimum of | one is required; check all that apply) | | Secondary Indicators (mir | • | |
| Surface Water (A1) | Water-Stained Lea | aves (B9) | Surface Soil Cracks (Be | | |
| <u>✓</u> High Water Table (A2) | Aquatic Fauna (B1 | | Drainage Patterns (B1 | | |
| ✓ Saturation (A3) | Marl Deposits (B1 | | Moss Trim Lines (B16) | | |
| Water Marks (B1) | Hydrogen Sulfide | | 6 6 1 5 (60) | | |
| Sediment Deposits (B2) | Oxidized Rhizospi | heres on Living Roots (C3) | Saturation Visible on A | Aerial Imagery (C9) | |
| Drift Deposits (B3) | Presence of Redu | ced Iron (C4) | Stunted or Stressed Pl | | |
| Algal Mat or Crust (B4) | | ction in Tilled Soils (C6) | ✓ Geomorphic Position (| ` ' | |
| Iron Deposits (B5) | Thin Muck Surface | | Shallow Aquitard (D3) | | |
| Inundation Visible on Aerial | | | Microtopographic Reli | | |
| Sparsely Vegetated Concave | | • | ✓ FAC-Neutral Test (D5) | | |
| Field Observations: | | | | | |
| Surface Water Present? | Yes No 🟒 Depth | (inches): | | | |
| Water Table Present? | Yes ✓ No Depth | (inches): 2 | Wetland Hydrology Prese | nt? Yes No | |
| Saturation Present? | · | (inches): 0 | | | |
| (includes capillary fringe) | | | | | |
| | | | | · | |
| Describe Recorded Data (stream | n gauge, monitoring well, aerial photo | s, previous inspections), ir a | avallable: | | |
| | | | | | |
| | | | | | |
| Remarks: | | | | | |
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| | Absolute | Dominant | Indicator | Dominance Test worksheet: | | | | |
|--|------------|--------------|-----------|--|---------------|-------------|--|--|
| <u>Tree Stratum</u> (Plot size: <u>30 ft</u>) | % Cover | Species? | Status | Number of Dominant Species That | 4 | (A) | | |
| 1. Pinus strobus | 5 | Yes | FACU | Are OBL, FACW, or FAC: | | (A) | | |
| 2. Acer rubrum | 5 | Yes | FAC | Total Number of Dominant Species | 5 | (B) | | |
| 3. | | | | Across All Strata: | | | | |
| 4. | | | | Percent of Dominant Species That | 80 | (A/B) | | |
| 5. | | | | Are OBL, FACW, or FAC: | | ` | | |
| 6. | | | | Prevalence Index worksheet: | | _ | | |
| 7. | | | | Total % Cover of: | Multiply | - | | |
| | 10 | = Total Cov | er | OBL species 30 | x 1 = _ | 30 | | |
| Sapling/Shrub Stratum (Plot size:15 ft) | | - | | FACW species 35 | x 2 = | 70 | | |
| 1. Aronia arbutifolia | 10 | Yes | FACW | FAC species 30 | x 3 = | 90 | | |
| 2. | | | | FACU species 5 | x 4 = | 20 | | |
| 3. | | | | UPL species 0 | x 5 = | 0 | | |
| 4. | | | | Column Totals 100 | (A) | 210 (B) | | |
| 5. | | | | Prevalence Index = B/A = | 2.1 | | | |
| 6. | | | | Hydrophytic Vegetation Indicators: | | | | |
| 7. | | | | 1- Rapid Test for Hydrophytic \ | /egetation | | | |
| 7. | 10 | - Total Cov | | 2 - Dominance Test is >50% | | | | |
| Harly Christian (District F. ft.) | 10 | _= Total Cov | er | \checkmark 3 - Prevalence Index is \le 3.0 ¹ | | | | |
| Herb Stratum (Plot size:5 ft) | 20 | \/a-a | ODI | 4 - Morphological Adaptations | ¹ (Provide | supporting | | |
| 1. Glyceria striata | 30 | Yes | OBL | data in Remarks or on a separate sh | neet) | | | |
| 2. Athyrium angustum | | Yes | FAC | Problematic Hydrophytic Vege | tation¹ (Ex | (plain) | | |
| 3. Rubus hispidus | 10 | No | FACW | Indicators of hydric soil and wetlan | | gy must be | | |
| 4. Osmundastrum cinnamomeum | | No No | FACW | present, unless disturbed or problematic | | | | |
| 5. Enemion biternatum | 5 | No | FAC | Definitions of Vegetation Strata: | | | | |
| 6. <i>Impatiens capensis</i> | 5 | <u>No</u> | FACW | Tree – Woody plants 3 in. (7.6 cm) o | | diameter at | | |
| 7 | | | | breast height (DBH), regardless of h | _ | | | |
| 8 | | | | Sapling/shrub – Woody plants less t | | OBH and | | |
| 9 | | | | greater than or equal to 3.28 ft (1 m | | | | |
| 10 | | | | Herb – All herbaceous (non-woody) size, and woody plants less than 3.2 | | gardiess of | | |
| 11 | | | | Woody vines – All woody vines grea | | 28 ft in | | |
| 12 | | | | height. | ter triair 5. | .2010111 | | |
| | 80 | _= Total Cov | er | | /a.a. / N | la. | | |
| Woody Vine Stratum (Plot size: 30 ft) | | | | Hydrophytic Vegetation Present? | res i | 10 | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| | 0 | = Total Cov | er | | | | | |
| Remarks: (Include photo numbers here or on a separa | te sheet.) | | | | | | | |
| The state of the separation of | | | | | | | | |
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| | | o the d | - | | | indicator | r or confirm the a | bsence of indicators.) |
|------------------------------|--------------------------|-----------|-------------------------------|----------|-------------------|------------------|-----------------------------|--|
| Depth | Matrix | | Redox | | | | | |
| | Color (moist) | <u>%</u> | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Texture | Remarks |
| 0 - 8 | 2.5Y 3/1 | 95 | 2.5YR 4/4 | 5 | C | M | Loam | |
| | | | | _ | | | | |
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| | 5 5 | | D14 D I | | | | | |
| | | Depletio | on, RM = Reduce | d Mat | rix, MS = | Masked | Sand Grains. ² L | ocation: PL = Pore Lining, M = Matrix. |
| Hydric Soil Indi | | | D 1 1 = | | | | | Indicators for Problematic Hydric Soils ³ : |
| Histosol (A1 | | | | | | | R, MLRA 149B) | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| Histic Epipe | | | Thin Dark Su | | | | | Coast Prairie Redox (A16) (LRR K, L, R) |
| Black Histic Hydrogen S | | | Loamy Muck | - | | (LKK K, L | -) | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| Stratified La | | | Loamy Gleye | | | | | Dark Surface (S7) (LRR K, L) |
| | | co (Δ11 | Depleted Ma)_✓ Redox Dark | | | | | Polyvalue Below Surface (S8) (LRR K, L) |
| | Surface (A12) | CE (AT | Depleted Da | | | ١ | | Thin Dark Surface (S9) (LRR K, L) |
| | ky Mineral (S1) | | Redox Depr | | | , | | Iron-Manganese Masses (F12) (LRR K, L, R) |
| | ed Matrix (S4) | | Redox Bepi | 233101 | 13 (10) | | | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| Sandy Redo | | | | | | | | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| - | | | | | | | | Red Parent Material (F21) |
| Stripped Ma | | I D A 1 A | ODV | | | | | Very Shallow Dark Surface (TF12) |
| Dark Suriac | ce (S7) (LRR R, M | LKA 14 | 98) | | | | | Other (Explain in Remarks) |
| ³ Indicators of h | nydrophytic vege | etation | and wetland hyd | rolog | y must b | e presen | it, unless disturbe | ed or problematic. |
| Restrictive Laye | er (if observed): | | | | | | | |
| Тур | oe: | | Rock | _ | | Hydric | Soil Present? | Yes No |
| De | pth (inches): | | 8 | | | | | |
| Remarks: | | | | | | | | |

| Project/Site: Baker | City/County: Shute | esbury, Franklin | Sampling Date: 2019-Oct-24 | | |
|---|--|-------------------------------|----------------------------------|----------------------|--|
| Applicant/Owner: | | State: MA | A Sampling Point: W-MJR-01_UPL-1 | | |
| Investigator(s): Matt Regan, Mo | olly Lennon | Section, Township, | Range: | | |
| Landform(hillslope,terrace,etc.): | Hillslope | Local relief (concave, conv | ex, none): Convex | Slope (%): 0 to 1 | |
| Subregion(LRRorMLRA): ML | RA 144A of LRR R | Lat: 42.421490550 | 1 Long: -72.4285209273 | Datum: WGS84 | |
| Soil Map Unit Name: 368B: Met | tacomet fine sandy loam, 3 to 8 perce | nt slopes | NWI classific | ation: | |
| Are climatic/hydrologic conditions | s on the site typical for this time of yea | | (If no, explain in Remar | ks.) | |
| Are Vegetation, Soil, | or Hydrology significantly dis | | al Circumstances" present? | Yes No | |
| Are Vegetation, Soil, | or Hydrology naturally proble | ematic? (If needed, | explain any answers in Rema | ırks.) | |
| | | | | | |
| SUMMARY OF FINDINGS – At | ttach site map showing samplin | ng point locations, trar | nsects, important feature | es, etc. | |
| Hydrophytic Vegetation Present? | Yes <u></u> No | | | | |
| Hydric Soil Present? | Yes No _ _ _ | Is the Sampled Area with | in a Wetland? | Yes No/_ | |
| Wetland Hydrology Present? | Yes No _ | If yes, optional Wetland S | | | |
| | * | | oite iD. | | |
| | ocedures here or in a separate report) | | | | |
| Covertype is UPL. | | | | | |
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| LIVEROLOGY | | | | | |
| HYDROLOGY | | | | | |
| Wetland Hydrology Indicators: | | | | | |
| Primary Indicators (minimum of o | one is required; check all that apply) | | Secondary Indicators (minim | num of two required) | |
| Surface Water (A1) | Water-Stained Lea | ves (B9) | Surface Soil Cracks (B6) | | |
| High Water Table (A2) | Aquatic Fauna (B13 | 3) | Drainage Patterns (B10) | | |
| Saturation (A3) | Marl Deposits (B15 | 5) | Moss Trim Lines (B16) | | |
| Water Marks (B1) | Hydrogen Sulfide (| Odor (C1) | Dry-Season Water Table | (C2) | |
| Sediment Deposits (B2) | Oxidized Rhizosph | eres on Living Roots (C3) | | | |
| | | | Saturation Visible on Aer | | |
| Drift Deposits (B3) | Presence of Reduc | | Stunted or Stressed Plan | | |
| Algal Mat or Crust (B4) | | tion in Tilled Soils (C6) | Geomorphic Position (D2 | <u>'</u>) | |
| Iron Deposits (B5) | Thin Muck Surface | | Shallow Aquitard (D3) | (D4) | |
| Inundation Visible on Aerial In | | ternarks) | Microtopographic Relief | (D4) | |
| Sparsely Vegetated Concave S Field Observations: | ourrace (B8) | | ✓ FAC-Neutral Test (D5) | | |
| | Vos No (Donth (| inchae). | | | |
| Surface Water Present? | Yes No Depth (| | | | |
| Water Table Present? | Yes No _ _/ Depth (| inches): | Wetland Hydrology Present | ? Yes No | |
| Saturation Present? | Yes No _ _/ Depth (| inches): | _ | | |
| (includes capillary fringe) | | | | | |
| Describe Recorded Data (stream | gauge, monitoring well, aerial photos | , previous inspections), if a | available: | | |
| | | | | | |
| | | | | | |
| Remarks: | | | | | |
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| ree Stratum (Plot size: <u>30 ft</u>) | | Dominant Species? | Indicator Status | Dominance Test worksheet: Number of Dominant Species Tha | t 4 | (A) |
|---|-----|-------------------|---------------------|---|----------------|--------------|
| . Acer rubrum | 50 | Yes | FAC | Are OBL, FACW, or FAC: | | (A) |
| . Pinus strobus | 10 | No | FACU | Total Number of Dominant Specie Across All Strata: | s 5 | (B) |
| l | | | | Percent of Dominant Species That Are OBL, FACW, or FAC: | 80 | (A/B) |
| j | | | | Prevalence Index worksheet: | | |
| · | | | | Total % Cover of: | Multiply | Bv. |
| | | | | OBL species 0 | x 1 = | 0 |
| | 60 | = Total Cov | er | FACW species 35 | - ^ ' - x2= | 70 |
| apling/Shrub Stratum (Plot size: <u>15 ft</u>) | | | | FAC species 60 | - ^2 - x3= | 180 |
| . Aronia arbutifolia | 25 | Yes | FACW | FACU species 25 | _ x4= | 100 |
| . Pinus strobus | 10 | Yes | FACU | UPL species 0 | | 0 |
| . Fagus grandifolia | 5 | No | FACU | · · | _ x5= _ | |
| · | | | | | _ (A) _ | 350 (B) |
| | | | | Prevalence Index = B/A : | 2.9 | |
| | | | | Hydrophytic Vegetation Indicators | : | |
| | | | | 1- Rapid Test for Hydrophytic | Vegetation | |
| ', | | - Tatal Cau | | ✓ 2 - Dominance Test is >50% | | |
| | 40 | = Total Cov | er | \checkmark 3 - Prevalence Index is \le 3.0° | | |
| Herb Stratum (Plot size: <u>5 ft</u>) | 4.0 | ., | F4.6 | 4 - Morphological Adaptation | ıs¹ (Provide | supporting |
| . Athyrium angustum | 10 | Yes | FAC | data in Remarks or on a separate | sheet) | |
| 2. Osmundastrum cinnamomeum | 10 | Yes | FACW | Problematic Hydrophytic Veg | getation¹ (Ex | plain) |
| 3. | | | | ¹Indicators of hydric soil and wetla | nd hydrolog | y must be |
| 1. | | | | present, unless disturbed or prob | | |
| 5. | | | | Definitions of Vegetation Strata: | | |
| 5. | | | | Tree – Woody plants 3 in. (7.6 cm) | or more in a | liameter a |
| 7 | | | | breast height (DBH), regardless of | | alarricter a |
| | | | | Sapling/shrub – Woody plants less | | BH and |
|). | | | | greater than or equal to 3.28 ft (1 | | Birana |
| | | | | Herb – All herbaceous (non-wood) | | ardless of |
| 0 | | | | size, and woody plants less than 3 | | gar aress or |
| <u> </u> | | | | Woody vines – All woody vines gre | | 28 ft in |
| 2 | | | | height. | acci ciari 5. | 2010111 |
| | 20 | = Total Cov | er | | | |
| Noody Vine Stratum (Plot size: <u>30 ft</u>) | | | | Hydrophytic Vegetation Present? | Yes N | 0 |
| | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 1. | | | | • | | |
| | | = Total Cov | or | • | | |
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| (inches) | Matrix | | Redox | | | 1 - 3 | - : | 5 1 |
|------------|--|-----------|-------------------------------------|------------|-------------------|------------------|------------------------------|--|
| | Color (moist) | <u>%</u> | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Texture | Remarks |
| 0 - 7 | 7.5YR 2.5/1 | 100 | | - | | | Loam | |
| | | | | - | | | | |
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| /pe: C = | Concentration, D = I | Depletio | n. RM = Reduced | l Matr | ix. MS = | Masked : | Sand Grains. ² Lo | ocation: PL = Pore Lining, M = Matrix. |
| | Indicators: | | , | | , - | | | Indicators for Problematic Hydric Soils ³ : |
| _ Histosc | | | Polyvalue Be | low Si | urface (S | 8) (LRR R | , MLRA 149B) | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| | pipedon (A2) | | Thin Dark Su | | | | | Coast Prairie Redox (A16) (LRR K, L, R) |
| _ | listic (A3) | | Loamy Mucky Mineral (F1) (LRR K, L) | | | | | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| _ , . | en Sulfide (A4) | | Loamy Gleye | | | | | Dark Surface (S7) (LRR K, L) |
| _ | ed Layers (A5) | co (A11) | Depleted Ma | | | | | Polyvalue Below Surface (S8) (LRR K, L) |
| | ed Below Dark Surfa ark Surface (A12) | ce (ATT) | Redox Dark s Depleted Dai | | | | | Thin Dark Surface (S9) (LRR K, L) |
| _ | Mucky Mineral (S1) | | Redox Depre | | | | | Iron-Manganese Masses (F12) (LRR K, L, R) |
| | Gleyed Matrix (S4) | | Redox Depre | .551011 | 3 (1 0) | | | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| - | Redox (S5) | | | | | | | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| - | d Matrix (S6) | | | | | | | Red Parent Material (F21) |
| | urface (S7) (LRR R, M | I DA 1/0 |)D) | | | | | Very Shallow Dark Surface (TF12) |
| Dark 30 | arrace (37) (ERR IC, IV | LIVA 14. | ,6, | | | | | Other (Explain in Remarks) |
| | of hydrophytic veg | etation a | and wetland hyd | rology | / must be | e present | , unless disturbe | d or problematic. |
| estrictive | Layer (if observed): | | | | | | | |
| | Type: | | Rock | - | | Hydric S | Soil Present? | Yes No⁄_ |
| | Depth (inches): | | 7 | | | | | |
| emarks: | | | | | | | | |
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| Project/Site: Baker | City/County: Shu | tesbury, Franklin | Sampling Da | Sampling Date: 2019-Oct-24 | |
|-----------------------------------|--|-------------------------------|-------------------------------|----------------------------|--|
| Applicant/Owner: | | State: MA | Sampling Poin | t: W-MJR-02_PSS-1 | |
| Investigator(s): Matt Regan, M | olly Lennon | Section, Township, | Range: | | |
| Landform(hillslope,terrace,etc.): | Channel | Local relief (concave, conv | ex, none): Concave | Slope (%): 0 to 1 | |
| Subregion(LRRorMLRA): M | LRA 144A of LRR R | Lat: 42.421545954 | 5 Long: -72.42838505 | Datum: WGS84 | |
| Soil Map Unit Name: 368B: M | etacomet fine sandy loam, 3 to 8 perc | ent slopes | NWI clas | sification: | |
| • • | ns on the site typical for this time of ye | | (If no, explain in Re | | |
| Are Vegetation, Soil, | or Hydrology significantly di | | al Circumstances" presen | | |
| Are Vegetation, Soil, | or Hydrology naturally prob | lematic? (If needed, | explain any answers in R | emarks.) | |
| | | | | | |
| SUMMARY OF FINDINGS – A | Attach site map showing sampli | ng point locations, trai | nsects, important fea | tures, etc. | |
| Hydrophytic Vegetation Present | ? Yes 🗸 No | | | | |
| Hydric Soil Present? | Yes No | Is the Sampled Area withi | n a Wetland? | Yes No | |
| Wetland Hydrology Present? | Yes _ _ _ No | If yes, optional Wetland S | ite ID: | W-MJR-02 | |
| | ocedures here or in a separate report | | | | |
| | ocedures here or in a separate report | .) | | | |
| Covertype is PSS. | | | | | |
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| HYDROLOGY | | | | | |
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| Wetland Hydrology Indicators: | | | | | |
| Primary Indicators (minimum of | one is required; check all that apply) | | Secondary Indicators (m | inimum of two required) | |
| ✓ Surface Water (A1) | Water-Stained Lea | aves (B9) | Surface Soil Cracks (E | 36) | |
| High Water Table (A2) | Aquatic Fauna (B1 | | _✓ Drainage Patterns (B | 10) | |
| ✓ Saturation (A3) | Marl Deposits (B1 | | Moss Trim Lines (B16 | 5) | |
| Water Marks (B1) | Hydrogen Sulfide | | Dry-Season Water Table (C2) | | |
| Sediment Deposits (B2) | , , | heres on Living Roots (C3) | Crayfish Burrows (C8 | | |
| Sediment Deposits (B2) | Oxidized Kilizospi | neres on Living Roots (CS) | Saturation Visible on | | |
| Drift Deposits (B3) | Presence of Redu | ced Iron (C4) | Stunted or Stressed | | |
| Algal Mat or Crust (B4) | | ction in Tilled Soils (C6) | ✓ Geomorphic Position | ` ' | |
| Iron Deposits (B5) | Thin Muck Surface | | Shallow Aquitard (D3 | | |
| Inundation Visible on Aerial | | | Microtopographic Re | | |
| | · · · | Nemarks) | | | |
| Sparsely Vegetated Concave | Surface (B8) | | <u>✓</u> FAC-Neutral Test (D5 |) | |
| Field Observations: | V N | <i>(</i> ,) 2 | | | |
| Surface Water Present? | • | (inches): 2 | | | |
| Water Table Present? | Yes 🗸 No Depth | (inches): 0 | Wetland Hydrology Pres | sent? Yes No | |
| Saturation Present? | Yes 🔽 No Depth | (inches): 0 | | | |
| (includes capillary fringe) | | | | | |
| | n gauge, monitoring well, aerial photo | s previous inspections) if | available: | | |
| Describe Recorded Data (stream | r gauge, morntoring well, aeriai prioto | s, previous irispections,, ir | available. | | |
| | | | | | |
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| Remarks: | | | | | |
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|--|-------------|--------------|--------|---|---------------|-------------|
| <u>Tree Stratum</u> (Plot size: <u>30 ft</u>) | | Dominant | | Dominance Test worksheet: | | |
| · | % Cover | Species? | Status | Number of Dominant Species Tha | t 5 | (A) |
| 1. Acer rubrum | 15 | Yes | FAC | Are OBL, FACW, or FAC: | | |
| 2 | | | | Total Number of Dominant Specie Across All Strata: | s 5 | (B) |
| 3 | | | | | | |
| 4 | | | | Percent of Dominant Species That | 100 | (A/B) |
| 5. | | | | Are OBL, FACW, or FAC: | | |
| 6. | | | | Prevalence Index worksheet: | | _ |
| 7. | | | | Total % Cover of: | Multiply I | - |
| | 15 | = Total Cove | r | OBL species 0 | _ x1= _ | 0 |
| Sapling/Shrub Stratum (Plot size: 15 ft) | | _ | | FACW species 45 | x 2 = | 90 |
| 1. Aronia arbutifolia | 30 | Yes | FACW | FAC species 20 | x 3 = | 60 |
| - | | 163 | FACW | FACU species 0 | x 4 = | 0 |
| 2. | | | | UPL species 0 | x 5 = | 0 |
| 3. | | | | Column Totals 65 | (A) | 150 (B) |
| 4 | | | | Prevalence Index = B/A | 2.3 | |
| 5 | | | | Hydrophytic Vegetation Indicators | | |
| 6. | | | | 1- Rapid Test for Hydrophytic | | |
| 7 | | | | 2 - Dominance Test is >50% | vegetation | |
| | 30 | = Total Cove | r | \checkmark 3 - Prevalence Index is \le 3.0° | | |
| Herb Stratum (Plot size: <u>5 ft</u>) | | | | | | |
| 1. Osmundastrum cinnamomeum | 10 | Yes | FACW | 4 - Morphological Adaptation data in Remarks or on a separate | | supporting |
| 2. <i>Parathelypteris noveboracensis</i> | 5 | Yes | FAC | Problematic Hydrophytic Veg | | nlain) |
| 3. Impatiens capensis | 5 | Yes | FACW | Indicators of hydric soil and wetla | | |
| 4. | | | | present, unless disturbed or prob | | gy must be |
| 5. | | | | | emanc | |
| 6. | | | | Definitions of Vegetation Strata: | | |
| | | | | Tree – Woody plants 3 in. (7.6 cm) | | liameter at |
| 7. | | | | breast height (DBH), regardless of | | DI Lavad |
| 8. | | | | Sapling/shrub – Woody plants less | | IBH and |
| 9 | | | | greater than or equal to 3.28 ft (1 | | |
| 10 | | | | Herb – All herbaceous (non-woody size, and woody plants less than 3 | | ardiess of |
| 11 | | | | | | 20 ft in |
| 12 | | | | Woody vines – All woody vines gre | ater triari 5 | 20 11 111 |
| | 20 | = Total Cove | r | height. | | |
| Woody Vine Stratum (Plot size: 30 ft) | | | | Hydrophytic Vegetation Present? | Yes N | 0 |
| 1. | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| " - | | = Total Cove | r | • | | |
| | | - 10101 COVC | ' | | | |
| Remarks: (Include photo numbers here or on a separ | ate sheet.) | | | | | |
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| Depth Matrix | Redo | x Features | | e absence of indicators.) |
|---|-----------------------|-----------------------------------|--------------------------|---|
| (inches) Color (moist) | % Color (moist) | % Type¹ | Loc² Textur | re Remarks |
| 0 - 8 10YR 3/1 | 100 | | Silt Loa | <u> </u> |
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| Type: C = Concentration, D = Do | epletion, RM = Reduce | d Matrix, MS = | Masked Sand Grains. | ² Location: PL = Pore Lining, M = Matrix. |
| Hydric Soil Indicators: | | | | Indicators for Problematic Hydric Soils ³ : |
| Histosol (A1) | • | | S8) (LRR R, MLRA 149B) | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| Histic Epipedon (A2) | | | R R, MLRA 149B) | Coast Prairie Redox (A16) (LRR K, L, R) |
| Black Histic (A3) Hydrogen Sulfide (A4) | Loamy Gley | ky Mineral (F1) ed Matrix (F2) | (LKK K, L) | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| Stratified Layers (A5) | Depleted M | | | Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) |
| Depleted Below Dark Surfac | · · | | | Thin Dark Surface (S9) (LRR K, L) |
| Thick Dark Surface (A12) Sandy Mucky Mineral (S1) | Depleted D | | ') | Iron-Manganese Masses (F12) (LRR K, L, R) |
| Sandy Mucky Milleral (31) Sandy Gleyed Matrix (S4) | Redox Depr | essions (Fo) | | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| Sandy Redox (S5) | | | | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| Stripped Matrix (S6) | | | | Red Parent Material (F21) Very Shallow Dark Surface (TF12) |
| Dark Surface (S7) (LRR R, ML | .RA 149B) | | | ✓ Other (Explain in Remarks) |
| Indicators of hydrophytic veget | ation and wetland hyd | drology must b | e present, unless distur | bed or problematic. |
| Restrictive Layer (if observed): | | | | |
| Type: | Rock | _ | Hydric Soil Present? | Yes No |
| Depth (inches): | 8 | | | <u> </u> |
| Remarks: Soils were assumed to be hydric | c due to the presence | of inundation, | FACW and OBL vegetati | on species, and a definitive wetland boundary. |

| Project/Site: Baker | City/County: Shut | esbury, Franklin | Sampling Date: 2019-Oct-24 | | | |
|---|--|-------------------------------|-----------------------------|-----------------------|--|--|
| Applicant/Owner: | | State: MA | Sampling Point: | W-MJR-02_UPL-1 | | |
| Investigator(s): Matt Regan, Mo | lly Lennon | Section, Township, | Range: | | | |
| Landform (hillslope, terrace, etc.): | Hillslope | Local relief (concave, conv | ex, none): Convex | Slope (%): 1 to 3 | | |
| Subregion (LRR or MLRA): MI | LRA 144A of LRR R | Lat: 42.4214776 | Long: -72.428319342 | Datum: WGS84 | | |
| Soil Map Unit Name: 368B: Met | tacomet fine sandy loam, 3 to 8 perce | nt slopes | NWI classi | fication: | | |
| Are climatic/hydrologic conditions | on the site typical for this time of yea | | (If no, explain in Rem | iarks.) | | |
| Are Vegetation, Soil, | or Hydrology significantly dis | | al Circumstances" present? | | | |
| Are Vegetation, Soil, | or Hydrology naturally proble | ematic? (If needed, | explain any answers in Re | marks.) | | |
| | | | | | | |
| SUMMARY OF FINDINGS – At | ttach site map showing samplin | ng point locations, trar | nsects, important featu | ıres, etc. | | |
| Hydrophytic Vegetation Present? | Yes _ 🗸 No | | | | | |
| Hydric Soil Present? | Yes No / _ | Is the Sampled Area with | in a Wetland? | Yes No ∠ _ | | |
| Wetland Hydrology Present? | Yes No _ _ _ | If yes, optional Wetland S | | | | |
| | · | | one iD. | | | |
| | cedures here or in a separate report) | | | | | |
| Covertype is UPL. | | | | | | |
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| LIVEROLOGY | | | | | | |
| HYDROLOGY | | | | | | |
| Wetland Hydrology Indicators: | | | | | | |
| Primary Indicators (minimum of o | one is required; check all that apply) | | Secondary Indicators (mir | imum of two required) | | |
| Surface Water (A1) | Water-Stained Lea | ves (B9) | Surface Soil Cracks (B6 | 5) | | |
| High Water Table (A2) | Aquatic Fauna (B13 | 3) | Drainage Patterns (B1 | 0) | | |
| Saturation (A3) | Marl Deposits (B15 | 5) | Moss Trim Lines (B16) | | | |
| Water Marks (B1) | Hydrogen Sulfide (| Odor (C1) | Dry-Season Water Table (C2) | | | |
| Sediment Deposits (B2) | Oxidized Rhizosph | eres on Living Roots (C3) | | | | |
| | | | Saturation Visible on A | | | |
| Drift Deposits (B3) | Presence of Reduc | | Stunted or Stressed Pl | | | |
| Algal Mat or Crust (B4) | | tion in Tilled Soils (C6) | Geomorphic Position (| D2) | | |
| Iron Deposits (B5) | Thin Muck Surface | | Shallow Aquitard (D3) | of (D4) | | |
| Inundation Visible on Aerial In | | ternarks) | Microtopographic Reli | ei (D4) | | |
| Sparsely Vegetated Concave S Field Observations: | difface (Bo) | | ✓ FAC-Neutral Test (D5) | | | |
| | Voc. No. (Donth (| inches). | | | | |
| Surface Water Present? | Yes No / Depth (| | | | | |
| Water Table Present? | Yes No Depth (| inches): | Wetland Hydrology Prese | nt? Yes No _ ∠ | | |
| Saturation Present? | Yes No Depth (| inches): | - | | | |
| (includes capillary fringe) | | | | · | | |
| Describe Recorded Data (stream | gauge, monitoring well, aerial photos | , previous inspections), if a | available: | | | |
| | | | | | | |
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| Remarks: | | | | | | |
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| | Absolute | Dominant | Indicator | Dominance Test worksheet: | | |
|---|----------|-------------|------------|---|----------------|-------------|
| Tree Stratum (Plot size: 30 ft) | | Species? | Status | Number of Dominant Species That | - | (4) |
| 1. Acer rubrum | 30 | Yes | FAC | Are OBL, FACW, or FAC: | 5 | (A) |
| 2. Quercus rubra | 15 | Yes | FACU | Total Number of Dominant Species | 6 | (B) |
| 3. Tsuga canadensis | 10 | No | FACU | Across All Strata: | | (D) |
| 4. | | | | Percent of Dominant Species That | 83.3 | (A/B) |
| | | | | Are OBL, FACW, or FAC: | | |
| 6. | | | | Prevalence Index worksheet: | | |
| 7. | | | | Total % Cover of: | Multiply E | <u>Ву:</u> |
| /· | 55 | = Total Cov | or. | OBL species 0 | x 1 = | 0 |
| Sapling/Shrub Stratum (Plot size:15 ft) | | - Total Cov | C 1 | FACW species 35 | x 2 = | 70 |
| 1. Aronia arbutifolia | 25 | Yes | FACW | FAC species 70 | x 3 = | 210 |
| 2. Acer rubrum | 10 | Yes | | FACU species 25 | x 4 = | 100 |
| | | res | FAC | UPL species 0 | x 5 = | 0 |
| 3 | | | | Column Totals 130 | (A) | 380 (B) |
| 4 | | | | Prevalence Index = B/A = | 2.9 | |
| 5. | | | | Hydrophytic Vegetation Indicators: | | |
| 6 | | | | 1- Rapid Test for Hydrophytic \ | /egetation | |
| 7 | | | | ✓ 2 - Dominance Test is >50% | U | |
| | 35 | = Total Cov | er | \checkmark 3 - Prevalence Index is \le 3.01 | | |
| Herb Stratum (Plot size:5 ft) | | | | 4 - Morphological Adaptations | ¹ (Provide s | supporting |
| 1. Athyrium angustum | 25 | Yes | FAC | data in Remarks or on a separate sh | - | 111111111 |
| 2. Osmundastrum cinnamomeum | 10 | Yes | FACW | Problematic Hydrophytic Vege | | olain) |
| 3. Microstegium vimineum | 5 | No | FAC | ¹Indicators of hydric soil and wetlan | | |
| 4 | | | | present, unless disturbed or proble | matic | - |
| 5 | | | | Definitions of Vegetation Strata: | | |
| 6 | | | | Tree – Woody plants 3 in. (7.6 cm) or | r more in d | liameter at |
| 7. | | | | breast height (DBH), regardless of h | eight. | |
| 8. | | | | Sapling/shrub – Woody plants less t | han 3 in. D | BH and |
| 9. | | | | greater than or equal to 3.28 ft (1 m |) tall. | |
| 10. | | | | Herb – All herbaceous (non-woody) | | ardless of |
| 11. | | | | size, and woody plants less than 3.2 | | |
| 12. | | | | Woody vines – All woody vines great | ter than 3.2 | 28 ft in |
| | 40 | = Total Cov | er | height. | | |
| Woody Vine Stratum (Plot size: 30 ft) | - | • | | Hydrophytic Vegetation Present? | res <u>√</u> N | 0 |
| 1. | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| | 0 | = Total Cov | | | | |
| | | | | <u></u> | | |
| Remarks: (Include photo numbers here or on a separate | sheet.) | | | | | |
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| Profile Desc | cription: (Describe | to the de | epth needed to de | | | indicato | r or confirm the al | bsence of ir | ndicators.) |
|--------------|----------------------------|-------------|-------------------|-------|-------------------|------------------|------------------------------|--------------|--|
| (inches) | Color (moist) | | Color (moist) | % | Type ¹ | Loc ² | Texture | | Remarks |
| 0 - 8 | 10YR 4/2 | 100 | Color (moist) | | Турс | | Silt Loam | | Remarks |
| 0-0 | 1011(4/2 | 100 | | _ | | | Silt Loain | <u> </u> | |
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| | Concentration, D = | Depletic | n, RM = Reduced | Matı | rıx, MS = | Masked | Sand Grains. ² Lo | | = Pore Lining, M = Matrix. |
| Hydric Soil | | | | | | | | Indicators | s for Problematic Hydric Soils ³ : |
| Histoso | | | - | | | | R, MLRA 149B) | | Muck (A10) (LRR K, L, MLRA 149B) |
| | oipedon (A2) istic (A3) | | Thin Dark Sui | | | | | | Prairie Redox (A16) (LRR K, L, R) |
| | en Sulfide (A4) | | Loamy Gleye | | | (LKK K, | L) | | Mucky Peat or Peat (S3) (LRR K, L, R) |
| | d Layers (A5) | | Depleted Mat | | | | | | Surface (S7) (LRR K, L) |
| | d Below Dark Surfa | ace (A11 | | | | | | | alue Below Surface (S8) (LRR K, L) |
| Thick Da | ark Surface (A12) | - | Depleted Dar | k Sui | face (F7) |) | | | Dark Surface (S9) (LRR K, L) |
| Sandy N | lucky Mineral (S1) | | Redox Depre | ssion | ıs (F8) | | | | Manganese Masses (F12) (LRR K, L, R) |
| Sandy G | Gleyed Matrix (S4) | | | | | | | | nont Floodplain Soils (F19) (MLRA 149B) |
| Sandy F | Redox (S5) | | | | | | | | Spodic (TA6) (MLRA 144A, 145, 149B) arent Material (F21) |
| Stripped | d Matrix (S6) | | | | | | | | Shallow Dark Surface (TF12) |
| Dark Su | rface (S7) (LRR R, N | 1LRA 149 | 9B) | | | | | - | (Explain in Remarks) |
| 3Indicators | of hydrophytic veg | otation | and wotland bydr | مامھ | , must b | o procor | at uplace dicturba | | |
| | Layer (if observed): | | and Welland nyul | ology | y iliust b | e preser | it, uriless disturbe | u or proble | matic. |
| | Type: | | Rock | | | Hydric | Soil Present? | , | ∕es No <u>_</u> ⁄_ |
| | Depth (inches): | | 8 8 | | | Пуштс | 3011 Present: | 1 | res NO/_ |
| - | Deptil (inches). | | 0 | | | l . | | · | |
| Remarks: | | | | | | | | | |
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| Project/Site: Baker | City/County: , | | Sampling Date: 2019-Oct-24 | | | | | |
|-----------------------------------|--|---------------------------------------|---|--------------------------------|-------------------|--|--|--|
| Applicant/Owner: | | State: | Sa | Sampling Point: W-MJR-03_PEM-1 | | | | |
| Investigator(s): Matt Regan, M | olly Lennon | Section, Township, | Range: | | | | | |
| Landform(hillslope,terrace,etc.): | Depression | Local relief (concave, conv | ex, none): C | oncave | Slope (%): 0 to 1 | | | |
| Subregion(LRRorMLRA): MI | LRA 144A of LRR R | Lat: 42.421879135 | 1 Long: -7 | 2.4335391727 | Datum: WGS84 | | | |
| Soil Map Unit Name: 75B: Pills | sbury fine sandy loam, 0 to 8 percent s | slopes, very stony | | NWI classification | | | | |
| , , | is on the site typical for this time of ye | | | explain in Remarks.) | | | | |
| Are Vegetation, Soil, | or Hydrology significantly di | | | · | es No | | | |
| Are Vegetation, Soil, | or Hydrology naturally probl | ematic? (If needed, | explain any a | answers in Remarks.) | | | | |
| | | | | | | | | |
| SUMMARY OF FINDINGS – A | Attach site map showing sampli | ng point locations, trar | nsects, imp | ortant features, e | tc. | | | |
| Hydrophytic Vegetation Present | ? Yes No | | | | | | | |
| Hydric Soil Present? | Yes No | Is the Sampled Area withi | n a Wetland? | Yes _ | ∠_ No | | | |
| Wetland Hydrology Present? | Yes _ _ No | If yes, optional Wetland Si | ite ID: | W-MI | R-03 | | | |
| | · · · · · · · · · · · · · · · · · · · | | | | | | | |
| | ocedures here or in a separate report | , | | | | | | |
| Covertype is PEM. | | | | | | | | |
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| HYDROLOGY | | | | | | | | |
| Wetland Hydrology Indicators: | | | | | | | | |
| | one is required; check all that apply) | | Secondary Ir | ndicators (minimum o | of two required) | | | |
| • | | (50) | - | Soil Cracks (B6) | or ewo required, | | | |
| Surface Water (A1) | Water-Stained Lea | | | Patterns (B10) | | | | |
| ✓ High Water Table (A2) | Aquatic Fauna (B1 | | _ | m Lines (B16) | | | | |
| ✓ Saturation (A3) | Marl Deposits (B1 | | | Dry-Season Water Table (C2) | | | | |
| Water Marks (B1) | <u>✓</u> Hydrogen Sulfide | | rs on Living Roots (C3) — Crayfish Burrows (C8) | | | | | |
| Sediment Deposits (B2) | Oxidized Kilizospi | ieres on Living Roots (C3) | | on Visible on Aerial Im | agery (C9) | | | |
| Drift Deposits (B3) | Presence of Redu | ced Iron (C4) | | or Stressed Plants (D´ | | | | |
| Algal Mat or Crust (B4) | | ction in Tilled Soils (C6) | | phic Position (D2) | • 7 | | | |
| Iron Deposits (B5) | Thin Muck Surface | | | Shallow Aguitard (D3) | | | | |
| Inundation Visible on Aerial I | | | | ographic Relief (D4) | | | | |
| Sparsely Vegetated Concave | | , | | tral Test (D5) | | | | |
| Field Observations: | | | | | | | | |
| Surface Water Present? | Yes No 🟒 Depth | (inches): | | | | | | |
| Water Table Present? | | (inches): 0 | Wetland Hvo | drology Present? | Yes No | | | |
| Saturation Present? | · | · · · · · · · · · · · · · · · · · · · | . Wedana riye | arology r reserie. | 103 | | | |
| | res 🗸 No Deptil | (inches): 0 | | | | | | |
| (includes capillary fringe) | | | | | - - | | | |
| Describe Recorded Data (stream | n gauge, monitoring well, aerial photo | s, previous inspections), if a | available: | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Remarks: | | | | | | | | |
| Remarks. | | | | | | | | |
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| - | Absolute | Dominant | Indicator | Dominance Test worksheet: | | |
|---|-------------|---------------|-----------|---|-------------|-------------|
| Tree Stratum (Plot size: 30 ft) | | Species? | Status | Number of Dominant Species That | _ | |
| 1. | | | | Are OBL, FACW, or FAC: | 3 | (A) |
| 2. | | | | Total Number of Dominant Species | | |
| 3. | | | | Across All Strata: | 4 | (B) |
| 4. | | | | Percent of Dominant Species That | 75 | (A /D) |
| 5. | | | | Are OBL, FACW, or FAC: | | (A/B) |
| | | | | Prevalence Index worksheet: | | _ |
| 6. | | | | Total % Cover of: | Multiply | <u>Ву:</u> |
| 7 | | | | OBL species 115 | x 1 = | 115 |
| | 0 | _= Total Cove | r | FACW species 0 | x 2 = | 0 |
| Sapling/Shrub Stratum (Plot size: 15 ft) | | | | FAC species 5 | x 3 = | 15 |
| 1. Rubus allegheniensis | 10 | Yes | FACU | FACU species 10 | x 4 = | 40 |
| 2 | | | | UPL species 0 | x 5 = | 0 |
| 3 | | | | Column Totals 130 | (A) | 170 (B) |
| 4 | | | | Prevalence Index = B/A = | - | (-) |
| 5 | | | | | | |
| 6 | | | | Hydrophytic Vegetation Indicators: | logotation | |
| 7 | | | | 1- Rapid Test for Hydrophytic | regetation | |
| | 10 | = Total Cove | r | ✓ 2 - Dominance Test is >50% | | |
| Herb Stratum (Plot size: _ 5 ft) | | = | | ✓ 3 - Prevalence Index is ≤ 3.01 | 1 (D | |
| 1. Carex lurida | 50 | Yes | OBL | 4 - Morphological Adaptations data in Remarks or on a separate sl | | supporting |
| 2. <i>Glyceria striata</i> | 30 | Yes | OBL | Problematic Hydrophytic Vege | | nlain) |
| 3. <i>Typha latifolia</i> | 25 | Yes | OBL | Indicators of hydric soil and wetlar | | - |
| 4. Schoenoplectus tabernaemontani | 10 | No | OBL | present, unless disturbed or proble | | gy must be |
| 5. Athyrium angustum | 5 | No | FAC | Definitions of Vegetation Strata: | matic | |
| 6. | | | | Tree – Woody plants 3 in. (7.6 cm) o | r more in (| diameter at |
| 7. | | | | breast height (DBH), regardless of h | | diameter at |
| 8. | | | | Sapling/shrub – Woody plants less t | _ | OBH and |
| 9. | | | | greater than or equal to 3.28 ft (1 m | | Di i di id |
| 40 | | | | Herb – All herbaceous (non-woody) | | gardless of |
| | | | | size, and woody plants less than 3.2 | | J |
| 11. | | | | Woody vines – All woody vines grea | | 28 ft in |
| 12 | 420 | Tatal Carra | | height. | | |
| | 120 | = Total Cove | r | Hydrophytic Vegetation Present? | Yes / N | lo. |
| Woody Vine Stratum (Plot size: 30 ft) | | | | , a. op., yee rogetation resents | | |
| 1. | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| | 0 | = Total Cove | r | | | |
| Remarks: (Include photo numbers here or on a separa | ate sheet.) | | | | | |
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| Depth Matrix | | Redox Color (moist) | | Type ¹ | Loc ² | Texture | | |
|---|--------------|------------------------|----------|-------------------|------------------|---------------------|--------------|---|
| | | Color (moist) | <u>%</u> | Type | I OC2 | | | |
| 0 - 8 2.5Y 2.5/1 | 100 | _ | | | | | | Remarks |
| | | | | | | Clay Loan | <u> </u> | |
| | | | - — | | | | | |
| | | | - — | | | | | |
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| 1Type C = Consentration I | | DM = Doducod | Matr | iv MC = | Mackad | Cand Crains 21 s | | - Doro Lining M - Matrix |
| ¹Type: C = Concentration, I |) – Depietio | on, Rivi – Reduced | Man | IX, IVIS – | iviaskeu | Sand Grains. *LC | | = Pore Lining, M = Matrix. |
| Hydric Soil Indicators: | | | | | | | indicators | for Problematic Hydric Soils ³ : |
| Histosol (A1) | | - | | | | R, MLRA 149B) | 2 cm N | /luck (A10) (LRR K, L, MLRA 149B) |
| Histic Epipedon (A2) | | Thin Dark Su | | | | | Coast I | Prairie Redox (A16) (LRR K, L, R) |
| Black Histic (A3) Hydrogen Sulfide (A4) | | Loamy Muck | | | (LKK K, I | -) | 5 cm M | /lucky Peat or Peat (S3) (LRR K, L, R) |
| Stratified Layers (A5) | | Depleted Ma | | | | | | urface (S7) (LRR K, L) |
| Depleted Below Dark S | urface (A11 | | | | | | - | lue Below Surface (S8) (LRR K, L) |
| Thick Dark Surface (A12 | - | Depleted Dark | | | | | | ark Surface (S9) (LRR K, L) |
| Sandy Mucky Mineral (| - | Redox Depre | | | | | Iron-M | langanese Masses (F12) (LRR K, L, R) |
| Sandy Gleyed Matrix (S | | | 55.0 | . (. 0) | | | | ont Floodplain Soils (F19) (MLRA 149B) |
| Sandy Gleyed Matrix (5 | 7) | | | | | | | Spodic (TA6) (MLRA 144A, 145, 149B) |
| Stripped Matrix (S6) | | | | | | | | arent Material (F21) |
| Dark Surface (S7) (LRR | D MIDA 140 | ופו | | | | | - | hallow Dark Surface (TF12) |
| Dark Surface (37) (LKK | K, WILKA 14: | 76) | | | | | Other | (Explain in Remarks) |
| ³ Indicators of hydrophytic | vegetation | and wetland hydr | ology | must be | e presen | t, unless disturbed | d or probler | matic. |
| Restrictive Layer (if observ | ed): | | | | | | | |
| Type: | | Rock | _ | | Hydric | Soil Present? | • | Yes No |
| Depth (inches) | : | 8 | - | | | | | |
| Remarks: | | | | | | | | |

| Project/Site: Baker | City/County: Shu | itesbury,, Franklin | Sampl | Sampling Date: 2019-Oct-25 | | |
|----------------------------------|--|--------------------------------|--------------------------|--------------------------------|------------------|--|
| Applicant/Owner: | | State: MA | Samplin | Sampling Point: W-MJR-03_PFO-2 | | |
| Investigator(s): Matt Regan, N | Aolly Lennon | Section, Township, | Range: | | | |
| Landform(hillslope,terrace,etc.) | : <u>Toe</u> | Local relief (concave, conv | /ex, none): Concav | e S | lope (%): 0 to 1 | |
| Subregion(LRRorMLRA): <u>N</u> | ILRA 144A of LRR R | Lat: 42.421660074 | Long: -72.432 | 9351728 D | atum: WGS84 | |
| Soil Map Unit Name: 75B: Pill | lsbury fine sandy loam, 0 to 8 percent | slopes, very stony | NV | VI classification:_ | | |
| Are climatic/hydrologic conditio | ns on the site typical for this time of ye | | (If no, explain | | | |
| Are Vegetation, Soil, | | | al Circumstances" p | | s _ ∠ No | |
| Are Vegetation, Soil, | or Hydrology naturally prob | olematic? (If needed, | explain any answe | rs in Remarks.) | | |
| | | | | | | |
| SUMMARY OF FINDINGS - | Attach site map showing sampli | ing point locations, tra | nsects, importan | it features, etc | • | |
| Hydrophytic Vegetation Presen | t? Yes No | | | | | |
| Hydric Soil Present? | Yes _ ✓ _ No | Is the Sampled Area with | in a Wetland? | Yes | No | |
| Wetland Hydrology Present? | Yes No | If yes, optional Wetland S | | W-MJR- | | |
| | | | ite ib. | ** 141311 | | |
| • | rocedures here or in a separate report | ı) | | | | |
| Covertype is PFO. | | | | | | |
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| " (DDG) | | | | | | |
| HYDROLOGY | | | | | | |
| Wetland Hydrology Indicators: | | | | | | |
| | of one is required; check all that apply) | | Cocondany Indicate | ors (minimum of | two required) | |
| Primary indicators (minimum d | Torie is required, crieck all triat apply) | | Secondary Indicate | | two required) | |
| Surface Water (A1) | Water-Stained Le | aves (B9) | Surface Soil Cr | | | |
| High Water Table (A2) | Aquatic Fauna (B ² | 13) | Drainage Patte | rns (B10) | | |
| ✓ Saturation (A3) | Marl Deposits (B1 | 15) | Moss Trim Lines (B16) | | | |
| Water Marks (B1) | Hydrogen Sulfide | Odor (C1) | _ <u>✓</u> Dry-Season Wa | | | |
| Sediment Deposits (B2) | , , | heres on Living Roots (C3) | Crayfish Burro | ws (C8) | | |
| , | | 8(, | Saturation Visil | ble on Aerial Ima | gery (C9) | |
| Drift Deposits (B3) | Presence of Redu | iced Iron (C4) | Stunted or Stre | essed Plants (D1) | | |
| Algal Mat or Crust (B4) | | ction in Tilled Soils (C6) | ✓ Geomorphic Po | | | |
| Iron Deposits (B5) | Thin Muck Surfac | | Shallow Aquitard (D3) | | | |
| Inundation Visible on Aerial | | | Microtopograp | | | |
| | · · · · · · · · · · · · · · · · · · · | Kerriai KS) | | | | |
| Sparsely Vegetated Concave | s Surface (B8) | | FAC-Neutral Te | St (D5) | | |
| Field Observations: | | | | | | |
| Surface Water Present? | · | (inches): | - | | | |
| Water Table Present? | Yes No Depth | i (inches): 16 | Wetland Hydrolog | y Present? | Yes No | |
| Saturation Present? | Yes No Depth | i (inches): | _ | | | |
| (includes capillary fringe) | | | | | | |
| | m gauge, monitoring well, aerial photo | s provious inspections) if | available: | | | |
| Describe Recorded Data (stream | in gauge, monitoring well, aeriai prioto | is, previous irispections), ir | avallable. | | | |
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| Dama aultar | | | | | | |
| Remarks: | | | | | | |
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| Tree Stratum (Plot size: <u>30 ft</u>) | | Dominant Species? | Indicator Status | Dominance Test worksheet: Number of Dominant Species Th | at 2 | (4) |
|---|----|----------------------|---------------------|--|------------------|-------------|
| . Tsuga canadensis | 25 | Yes | FACU | Are OBL, FACW, or FAC: | | (A) |
| 2. Acer rubrum | | No | FAC | Total Number of Dominant Spec | es 4 | (B) |
| Betula alleghaniensis | | No | FAC | Across All Strata: | | |
| l. | | | | Percent of Dominant Species Th | at 50 | (A/B) |
| 5. | | | | Are OBL, FACW, or FAC: | · | |
| 5. | | | | Prevalence Index worksheet: | N. A. Jahrelo | D |
| · | | | | Total % Cover of: | Multiply | - |
| | 35 | = Total Cov | er | OBL species 0 | x1= _ | 0 |
| apling/Shrub Stratum (Plot size:15 ft) | | - | | FACW species 65 | x 2 = | 130 |
| . Tsuga canadensis | 5 | Yes | FACU | FAC species 10 | _ x3=_ | 30 |
| 2. Aronia arbutifolia | | Yes | FACW | FACU species 30 | x 4 = _ | 120 |
| 3. | | | | UPL species 0 | x 5 = _ | 0 |
| | | | | Column Totals 105 | (A) _ | 280 (B) |
| | | | | Prevalence Index = B/A | <u> 2.7</u> | |
| | | | | Hydrophytic Vegetation Indicato | rs: | |
|). | | | | 1- Rapid Test for Hydrophy | ic Vegetation | |
| | | = Total Cov | ar | 2 - Dominance Test is > 509 | ó | |
| Herb Stratum (Plot size: _ 5 ft) | | | -1 | \checkmark 3 - Prevalence Index is \leq 3. | 01 | |
| . Osmundastrum cinnamomeum | 60 | Yes | FACW | 4 - Morphological Adaptation | | supporting |
| 2. | | 163 | TACW | data in Remarks or on a separat | | |
| \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | | | | Problematic Hydrophytic V | _ | |
| 3 | | | | ¹ Indicators of hydric soil and we | - | gy must be |
| 1 | | | | present, unless disturbed or pro | blematic | |
| 5. | | | | Definitions of Vegetation Strata: | | |
| 5 | | | | Tree – Woody plants 3 in. (7.6 cm | | diameter a |
| 7 | | | | breast height (DBH), regardless | | |
| 3 | | | | Sapling/shrub - Woody plants le | | DBH and |
| 9 | | | | greater than or equal to 3.28 ft (| | |
| 0 | | | | Herb – All herbaceous (non-woo | | gardiess of |
| l1 | | | | size, and woody plants less than | | 20 & : |
| 2 | | | | Woody vines – All woody vines g height. | eater than 3. | 28 IL IN |
| | 60 | = Total Cov | er | | | |
| Noody Vine Stratum (Plot size:30 ft) | | | | Hydrophytic Vegetation Present | ? Yes <u>/</u> N | lo |
| i | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| | | = Total Cov | er | | | |

| | cription: (Describe | to the de | - | | | indicato | r or confirm the at | osence of ind | licators.) |
|-------------|-------------------------------------|-----------|------------------|----------|-------------------|------------------|------------------------------|---------------|---|
| Depth | Matrix | | Redox | | | | _ | | |
| (inches) | Color (moist) | | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Texture | | Remarks |
| 0 - 10 | 10YR 2/1 | 100 | | . — | | | Silt Loa | m | |
| 10 - 18 | 2.5Y 6/1 | 95 | 10YR 5/6 | 5 | C | M | Loamy Sa | and | - |
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| | | <u> </u> | D14 D I | | | | <u> </u> | | |
| | Concentration, D = | Depletio | n, RM = Reduced | Mat | rix, MS = | Masked | Sand Grains. ² Lo | | Pore Lining, M = Matrix. |
| Hydric Soil | | | | | | | | Indicators f | or Problematic Hydric Soils³: |
| Histoso | | | | | | | R, MLRA 149B) | 2 cm Mi | uck (A10) (LRR K, L, MLRA 149B) |
| | oipedon (A2) | | Thin Dark Su | | | | | Coast P | rairie Redox (A16) (LRR K, L, R) |
| | istic (A3) | | Loamy Muck | | | (LRR K, I | L) | 5 cm Mi | ucky Peat or Peat (S3) (LRR K, L, R) |
| | en Sulfide (A4) d Layers (A5) | | Loamy Gleye | | | | | Dark Su | rface (S7) (LRR K, L) |
| | d Layers (AS) d Below Dark Surfa | aco (A11 | Depleted Ma | | | | | Polyvalı | ue Below Surface (S8) (LRR K, L) |
| ' | ark Surface (A12) | ace (ATT | Depleted Daik | | ` ' | , | | Thin Da | rk Surface (S9) (LRR K, L) |
| | Aucky Mineral (S1) | | Redox Depre | | | , | | Iron-Ma | inganese Masses (F12) (LRR K, L, R) |
| | Gleyed Matrix (S4) | | Redox Depre | 33101 | 15 (1-0) | | | Piedmo | nt Floodplain Soils (F19) (MLRA 149B) |
| Sandy | | | | | | | | Mesic S | podic (TA6) (MLRA 144A, 145, 149B) |
| - | d Matrix (S6) | | | | | | | Red Par | ent Material (F21) |
| | | AL DA 140 | ND) | | | | | Very Sh | allow Dark Surface (TF12) |
| Dark Su | rface (S7) (LRR R, N | ILKA 14: | 9D) | | | | | Other (E | Explain in Remarks) |
| 3Indicators | of hydrophytic veg | etation a | and wetland hydi | olog | y must b | e preser | nt, unless disturbe | d or problem | natic. |
| • | Layer (if observed): | | , | | , | İ | • | ' | |
| | Type: | | None | | | Hvdric | Soil Present? | | Yes No |
| | Depth (inches): | - | TTOTIC | - | | i iyane | Join Frederica | | 163110 |
| | Deptil (iliciles). | | | | | | | | |
| Remarks: | | | | | | | | | |
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| Project/Site: Baker | City/County:_ , | | Sampling Date: 2019-Oct-25 | | | | | |
|------------------------------------|---|-------------------------------|-----------------------------------|-------------------|--|--|--|--|
| Applicant/Owner: | | State: | Sampling Point: W-M | JR-03_UPL-1 | | | | |
| Investigator(s): Matt Regan, Mol | lly Lennon | Section, Township, | , Range: | | | | | |
| Landform(hillslope,terrace,etc.): | Foot slope | Local relief (concave, conv | vex, none): Convex | Slope (%): 1 to 3 | | | | |
| Subregion(LRRorMLRA): MLR | RA 144A of LRR R | Lat: 42.421453879 | 93 Long: -72.4329080992 | Datum: WGS84 | | | | |
| Soil Map Unit Name: 78B: Pillsb | ury fine sandy loam, 0 to 8 percent | slopes, very stony | NWI classification | n: | | | | |
| Are climatic/hydrologic conditions | on the site typical for this time of ye | ear? Yes 🟒 No | o (If no, explain in Remarks.) | | | | | |
| Are Vegetation, Soil, | or Hydrology significantly di | sturbed? Are "Norm | al Circumstances" present? | Yes No | | | | |
| Are Vegetation, Soil, | or Hydrology naturally prob | lematic? (If needed, | , explain any answers in Remarks. |) | | | | |
| | | | | | | | | |
| SUMMARY OF FINDINGS - Att | tach site map showing sampli | ng point locations, tra | nsects, important features, o | etc. | | | | |
| Hydrophytic Vegetation Present? | Yes No _ _ ∕_ | | | | | | | |
| Hydric Soil Present? | Yes No | Is the Sampled Area with | in a Wetland? Yes | s No _∠ | | | | |
| | | · · | | | | | | |
| Wetland Hydrology Present? | Yes No _ ∠ | If yes, optional Wetland S | site ID: | | | | | |
| Remarks: (Explain alternative proc | cedures here or in a separate report | :) | | | | | | |
| Covertype is UPL. | | | | | | | | |
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| HYDROLOGY | | | | | | | | |
| | | | | | | | | |
| Wetland Hydrology Indicators: | | | | | | | | |
| Primary Indicators (minimum of o | ne is required; check all that apply) | | Secondary Indicators (minimum | of two required) | | | | |
| Surface Water (A1) | Water-Stained Le | aves (B9) | Surface Soil Cracks (B6) | | | | | |
| High Water Table (A2) | Aquatic Fauna (B´ | 13) | Drainage Patterns (B10) | | | | | |
| Saturation (A3) | Marl Deposits (B1 | 5) | Moss Trim Lines (B16) | | | | | |
| Water Marks (B1) | Hydrogen Sulfide | Odor (C1) | Dry-Season Water Table (C2) | | | | | |
| Sediment Deposits (B2) | Oxidized Rhizosp | heres on Living Roots (C3) | Crayfish Burrows (C8) | (50) | | | | |
| | | | Saturation Visible on Aerial I | 9 , | | | | |
| Drift Deposits (B3) | Presence of Redu | | Stunted or Stressed Plants ([| 01) | | | | |
| Algal Mat or Crust (B4) | | ction in Tilled Soils (C6) | Geomorphic Position (D2) | | | | | |
| Iron Deposits (B5) | Thin Muck Surfac | | Shallow Aquitard (D3) | | | | | |
| Inundation Visible on Aerial Im | · · · · · · · · · · · · · · · · · · · | Remarks) | Microtopographic Relief (D4) | | | | | |
| Sparsely Vegetated Concave Su | urface (B8) | | FAC-Neutral Test (D5) | | | | | |
| Field Observations: | | | | | | | | |
| Surface Water Present? | Yes No Depth | (inches): | _ | | | | | |
| Water Table Present? | Yes No 🟒 Depth | (inches): | Wetland Hydrology Present? | Yes No | | | | |
| Saturation Present? | Yes No _ _/ Depth | (inches): | | | | | | |
| (includes capillary fringe) | | | - | | | | | |
| | gauge, monitoring well, aerial photo | s provious inspections) if | | | | | | |
| Describe Recorded Data (stream g | gauge, monitoring well, aeriai photo | s, previous irispections), ii | available. | | | | | |
| | | | | | | | | |
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| Remarks: | | | | | | | | |
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| s o F o F o F o F o F o F o F o F o F o | FACU FACU FACU FACU FACU FACU FACU FACU | Are OBL, FACW, or FA Total Number of Don Across All Strata: Percent of Dominant Are OBL, FACW, or FA Prevalence Index wo Total % Cov. OBL species FACW species FACU species VPL species UPL species Column Totals Prevalence Hydrophytic Vegetati 1 - Rapid Test fo 2 - Dominance 3 - Prevalence II 4 - Morphologic data in Remarks or o Problematic Hy Indicators of hydric present, unless distu | species That AC: rksheet: er of: 0 10 30 70 0 110 e Index = B/A = ion Indicators: or Hydrophytic V Test is > 50% ndex is ≤ 3.01 cal Adaptations! on a separate sh | egetation (Provide s leet) tation¹ (Exp | 0 20 90 280 0 390 (B) |
|---|---|--|--|---|--|
| al Cover S F D F D F S F S F S F S F S F S F S F S F S F S | FAC FACU FACU FACU FACU | Across All Strata: Percent of Dominant Are OBL, FACW, or FA Prevalence Index wo Total % Cov. OBL species FACW species FAC species FACU species UPL species Column Totals Prevalence Hydrophytic Vegetati 1 - Rapid Test fo 2 - Dominance 3 - Prevalence II 4 - Morphologic data in Remarks or o Problematic Hy Indicators of hydric | Species That AC: rksheet: er of: 0 10 30 70 0 110 e Index = B/A = ion Indicators: or Hydrophytic V Test is > 50% ndex is ≤ 3.0¹ cal Adaptations¹ on a separate sh drophytic Vege | Multiply E x 1 = x 2 = x 3 = x 4 = x 5 = (A) 3.5 (egetation (Provide seet) tation¹ (Exp | (A/B) By: 0 20 90 280 0 390 (B) |
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| s F D F D F All Cover | FACU FACU FACU | Are OBL, FACW, or FA Prevalence Index wo Total % Cov. OBL species FACW species FACU species VPL species Column Totals Prevalence Hydrophytic Vegetati 1 - Rapid Test fo 2 - Dominance 3 - Prevalence II 4 - Morphologic data in Remarks or o Problematic Hy Indicators of hydric | AC: rksheet: o 10 30 70 0 110 and rksheet: o 10 30 70 o 110 c Index = B/A = constant in the sheet in the | Multiply E x 1 = x 2 = x 3 = x 4 = x 5 = (A) 3.5 /egetation (Provide seet) tation¹ (Exp | By: 0 20 90 280 0 390 (B) |
| s F | FACU | Prevalence Index wo Total % Covered OBL species FACW species FAC species FACU species UPL species Column Totals Prevalence Hydrophytic Vegetati 1 - Rapid Test fo 2 - Dominance 3 - Prevalence II 4 - Morphologic data in Remarks or o Problematic Hy Indicators of hydric | rksheet: er of: 0 10 30 70 0 110 e Index = B/A = ion Indicators: or Hydrophytic V Test is > 50% ndex is ≤ 3.0¹ cal Adaptations¹ on a separate sh drophytic Vege | x 1 = x 2 = x 3 = x 4 = x 5 = (A) 3.5 (egetation) (Provide seet) tation¹ (Exp | 0 20 90 280 0 390 (B) |
| s F | FACU | Total % Covered Covere | er of: 0 10 30 70 0 110 et Index = B/A = 1 ion Indicators: or Hydrophytic V Test is $> 50\%$ ndex is $\leq 3.0^{\circ}$ cal Adaptations' on a separate shedrophytic Vege | x 1 = x 2 = x 3 = x 4 = x 5 = (A) 3.5 (egetation) (Provide seet) tation¹ (Exp | 0 20 90 280 0 390 (B) |
| s F | FACU | - OBL species FACW species FAC species - FACU species - UPL species - Column Totals - Prevalence - Hydrophytic Vegetati - 1- Rapid Test fo - 2 - Dominance - 3 - Prevalence II - 4 - Morphologic data in Remarks or o - Problematic Hy - Indicators of hydric | 0 10 30 70 0 110 e Index = B/A = ion Indicators: or Hydrophytic V Test is > 50% ndex is ≤ 3.0¹ cal Adaptations¹ on a separate sh drophytic Vege | x 1 = x 2 = x 3 = x 4 = x 5 = (A) 3.5 (egetation) (Provide seet) tation¹ (Exp | 0 20 90 280 0 390 (B) |
| s F | FACU | FACW species FAC species FACU species UPL species Column Totals Prevalence Hydrophytic Vegetati 1 - Rapid Test fo 2 - Dominance 3 - Prevalence li 4 - Morphologic data in Remarks or o Problematic Hy Indicators of hydric | 10 30 70 0 110 e Index = B/A = ion Indicators: or Hydrophytic V Test is > 50% ndex is ≤ 3.0¹ cal Adaptations¹ on a separate sh drophytic Vege | x 2 = x 3 = x 4 = x 5 = (A) 3.5 (egetation (Provide seet) (tation¹ (Exp | 20 90 280 0 390 (B) |
| s F | FACU | FAC species FACU species UPL species Column Totals Prevalence Hydrophytic Vegetati 1 - 1- Rapid Test fo 2 - Dominance 3 - Prevalence II 4 - Morphologic data in Remarks or o Problematic Hy Indicators of hydric | 30 70 0 110 e Index = B/A = ion Indicators: rr Hydrophytic V Test is > 50% ndex is ≤ 3.0¹ cal Adaptations¹ on a separate sh drophytic Vege | x 3 = | 90 280 0 390 (B) |
| o F | FACU | - FACU species - UPL species - Column Totals - Prevalence - Hydrophytic Vegetati - 1- Rapid Test fo - 2 - Dominance - 3 - Prevalence II - 4 - Morphologic - data in Remarks or o - Problematic Hy - Indicators of hydric | 70 0 110 e Index = B/A = ion Indicators: or Hydrophytic V Test is > 50% ondex is $\leq 3.0^{\circ}$ cal Adaptations! on a separate shidrophytic Vege | x 4 = x 5 = (A) 3.5 'egetation (Provide seet) tation¹ (Exp | 280 0 390 (B) |
| o F | FACU | UPL species Column Totals Prevalence Hydrophytic Vegetati 1 - Rapid Test fo 2 - Dominance 3 - Prevalence II 4 - Morphologic data in Remarks or o Problematic Hy Indicators of hydric | 0 110 Index = B/A = ion Indicators: or Hydrophytic V Test is > 50% ndex is ≤ 3.0¹ cal Adaptations¹ on a separate sh drophytic Vege | x 5 = (A) | 0 390 (B) |
| al Cover | FACU | - Column Totals - Prevalence - Hydrophytic Vegetati - 1- Rapid Test fo - 2 - Dominance - 3 - Prevalence II - 4 - Morphologic data in Remarks or o - Problematic Hy - Indicators of hydric | 110 e Index = B/A = ion Indicators: r Hydrophytic V Test is > 50% ndex is ≤ 3.0¹ cal Adaptations¹ on a separate sh drophytic Vege | (A) 3.5 regetation (Provide seet) tation¹ (Exp | 390 (B) |
| al Cover | | Prevalence Hydrophytic Vegetati 1- Rapid Test fo 2 - Dominance 3 - Prevalence II 4 - Morphologic data in Remarks or o Problematic Hy Indicators of hydric | e Index = B/A = ion Indicators: r Hydrophytic V Test is > 50% ndex is ≤ 3.0¹ cal Adaptations¹ on a separate sh drophytic Vege | 3.5 /egetation / (Provide seet) tation¹ (Exp | supporting |
| s F | ACW | Hydrophytic Vegetati 1 - Rapid Test fo 2 - Dominance 3 - Prevalence II 4 - Morphologic data in Remarks or o Problematic Hy Indicators of hydric | ion Indicators: or Hydrophytic V Test is > 50% ndex is ≤ 3.0¹ cal Adaptations¹ on a separate sh drophytic Vege | egetation (Provide s leet) tation¹ (Exp | |
| s F | ACW | 1- Rapid Test fo 2 - Dominance 3 - Prevalence l 4 - Morphologic data in Remarks or o Problematic Hy Indicators of hydric | r Hydrophytic V Test is > 50% ndex is ≤ 3.0¹ cal Adaptations¹ on a separate sh drophytic Vege | (Provide s leet) tation¹ (Exp | |
| s F | ACW | 2 - Dominance 3 - Prevalence II 4 - Morphologic data in Remarks or o Problematic Hy Indicators of hydric | Test is > 50% ndex is ≤ 3.0¹ cal Adaptations¹ on a separate shedrophytic Vege | (Provide s leet) tation¹ (Exp | |
| s F | ACW | 2 - Dominance 3 - Prevalence II 4 - Morphologic data in Remarks or o Problematic Hy Indicators of hydric | Test is > 50% ndex is ≤ 3.0¹ cal Adaptations¹ on a separate shedrophytic Vege | (Provide s leet) tation¹ (Exp | |
| s F | ACW | 4 - Morphologic data in Remarks or o Problematic Hy Indicators of hydric | cal Adaptations ¹ on a separate sh drophytic Vege | ieet) tation¹ (Exp | |
| | ACW | data in Remarks or o Problematic Hy Indicators of hydric | on a separate sh drophytic Vege | ieet) tation¹ (Exp | |
| | ACW | data in Remarks or o Problematic Hy Indicators of hydric | on a separate sh drophytic Vege | ieet) tation¹ (Exp | |
| | | Problematic Hy Indicators of hydric | drophytic Vege | tation¹ (Exp | olain) |
| | | ¹Indicators of hydric | | | |
| | | - | | d hydrolog | |
| | | | | - | ,y mase se |
| | | Definitions of Vegeta | | Hatic | |
| | | Tree – Woody plants | | more in d | liamotor a |
| | | breast height (DBH), | | | lameter a |
| | | Sapling/shrub – Woo | • | _ | DU and |
| | | greater than or equa | | | вп апи |
| | | _ ~ | | | ardlace of |
| | | | | | al uless of |
| | | | | | 28 ft in |
| | | - | ody viries great | .CI (IIaII 3.2 | 20 11 111 |
| al Cover | | | | | |
| | | Hydrophytic Vegetat | tion Present? \ | /es No | 0 |
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| al Cover | | - | | | |
| ai Cover | | | | | |
| | | al Cover | Herb - All herbaceousize, and woody plan Woody vines - All woheight. Hydrophytic Vegetar | Herb – All herbaceous (non-woody) size, and woody plants less than 3.2 Woody vines – All woody vines great height. Hydrophytic Vegetation Present? | Herb – All herbaceous (non-woody) plants, reg size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.2 height. Hydrophytic Vegetation Present? Yes No.2 height. |

| Profile Des | scription: (Describe | to the d | epth needed to d | ocun | nent the | indicato | r or confirm the at | bsence of indi | cators.) |
|-------------------------|-----------------------|----------|------------------|----------|-------------------|------------------|------------------------------|-----------------|---|
| Depth | Matrix | | Redox | Feat | ures | | | | |
| (inches) | Color (moist) | <u>%</u> | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Textur | re | Remarks |
| 0 - 4 | 10YR 2/1 | 100 | | _ | | | Loam | 1 | |
| 4 - 11 | 10YR 4/1 | 100 | | | | | Sandy Lo | oam | |
| | | | | | | | | | |
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| ¹Type: C = | Concentration, D = | Depletic | n. RM = Reduced | Mati | rix. MS = | Masked | Sand Grains. ² Lo | ocation: PL = P | Pore Lining, M = Matrix. |
| | Indicators: | | , | | | | | | or Problematic Hydric Soils ³ : |
| Histoso | | | Polyvalue Be | ow S | urface (S | 8) (LRR | R, MLRA 149B) | | • |
| | pipedon (A2) | | Thin Dark Su | | | | | | ck (A10) (LRR K, L, MLRA 149B) airie Redox (A16) (LRR K, L, R) |
| | listic (A3) | | Loamy Muck | | | | | | |
| Hydrog | gen Sulfide (A4) | | Loamy Gleye | d Ma | trix (F2) | | | | cky Peat or Peat (S3) (LRR K, L, R) face (S7) (LRR K, L) |
| Stratifie | ed Layers (A5) | | Depleted Ma | trix (f | - 3) | | | | e Below Surface (S8) (LRR K, L) |
| | ed Below Dark Surf | ace (A11 | | | | | | • | k Surface (S9) (LRR K, L) |
| | Park Surface (A12) | | Depleted Dar | | |) | | | nganese Masses (F12) (LRR K, L, R) |
| | Mucky Mineral (S1) | | Redox Depre | ssior | ıs (F8) | | | | it Floodplain Soils (F19) (MLRA 149B) |
| - | Gleyed Matrix (S4) | | | | | | | | odic (TA6) (MLRA 144A, 145, 149B) |
| _ | Redox (S5) | | | | | | | | ent Material (F21) |
| | ed Matrix (S6) | | | | | | | | llow Dark Surface (TF12) |
| Dark Si | urface (S7) (LRR R, N | MLRA 14 | 9B) | | | | | - | kplain in Remarks) |
| ³ Indicators | of hydrophytic veg | getation | and wetland hydr | olog | y must b | e preser | nt, unless disturbe | d or problema | atic. |
| Restrictive | Layer (if observed) | : | | | | | | | |
| | Type: | | Rock | | | Hydric | Soil Present? | | Yes No/_ |
| | Depth (inches): | | 11 | • | | | | | |
| Remarks: | | | | | | | | | |
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| Project/Site: Baker | City/County: Shu | tesbury, Franklin | Sampling Date: | 2019-Oct-25 |
|---|-----------------------------|------------------------------|------------------------------|---------------------|
| Applicant/Owner: | <u> </u> | State: MA | Sampling Point: W | -MJR-03_UPL-2 |
| Investigator(s): Matt Regan, Molly Lennon | | Section, Township, | Range: | |
| Landform (hillslope, terrace, etc.): Hillslop | oe | Local relief (concave, conv | vex, none): Convex | Slope (%): 2 to 5 |
| Subregion (LRR or MLRA): MLRA 144A of | LRR R | Lat: 42.421774193 | 7 Long: -72.4328764156 | Datum: WGS84 |
| Soil Map Unit Name: 75B: Pillsbury fine san | dy loam, 0 to 8 percent | slopes, very stony | NWI classifica | tion: |
| Are climatic/hydrologic conditions on the site t | cypical for this time of ye | ear? Yes <u>✓</u> No | (If no, explain in Remark | (s.) |
| Are Vegetation, Soil, or Hydrol | ogy significantly di | sturbed? Are "Norm | al Circumstances" present? | Yes No |
| Are Vegetation, Soil, or Hydrol | ogy naturally prob | lematic? (If needed, | explain any answers in Remar | rks.) |
| | | | | |
| SUMMARY OF FINDINGS – Attach site r | nap showing sampli | ng point locations, trai | nsects, important feature | s, etc. |
| Hydrophytic Vegetation Present? | Yes No _ _ _ | | | |
| Hydric Soil Present? | Yes No | Is the Sampled Area withi | in a Wetland? | Yes No ∠ |
| Wetland Hydrology Present? | Yes No | If yes, optional Wetland S | ite ID: | |
| Remarks: (Explain alternative procedures here | | | ite is. | |
| 1 | e or in a separate report | .) | | |
| Covertype is UPL. | | | | |
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| HYDROLOCY | | | | |
| HYDROLOGY | | | | |
| Wetland Hydrology Indicators: | | | | |
| Primary Indicators (minimum of one is require | ed; check all that apply) | | Secondary Indicators (minim | um of two required) |
| Surface Water (A1) | Water-Stained Le | aves (B9) | Surface Soil Cracks (B6) | |
| High Water Table (A2) | Aquatic Fauna (B | 13) | Drainage Patterns (B10) | |
| Saturation (A3) | Marl Deposits (B1 | 5) | Moss Trim Lines (B16) | |
| Water Marks (B1) | Hydrogen Sulfide | Odor (C1) | Dry-Season Water Table (| C2) |
| Sediment Deposits (B2) | Oxidized Rhizosp | heres on Living Roots (C3) | Crayfish Burrows (C8) | |
| | | | Saturation Visible on Aeria | 9 , |
| Drift Deposits (B3) | Presence of Redu | · · | Stunted or Stressed Plant | |
| Algal Mat or Crust (B4) | | ction in Tilled Soils (C6) | Geomorphic Position (D2) | |
| Iron Deposits (B5) | Thin Muck Surfac | | Shallow Aquitard (D3) | D4) |
| Inundation Visible on Aerial Imagery (B7) | Other (Explain in | Remarks) | Microtopographic Relief (I | D4) |
| Sparsely Vegetated Concave Surface (B8) Field Observations: | | | FAC-Neutral Test (D5) | |
| Surface Water Present? Yes | No / Donth | (inches): | | |
| | | | - | V N - |
| Water Table Present? Yes | | (inches): | Wetland Hydrology Present? | Yes No |
| Saturation Present? Yes | No <u>/</u> Depth | (inches): | _ | |
| (includes capillary fringe) | | | | |
| Describe Recorded Data (stream gauge, moni | toring well, aerial photo | s, previous inspections), if | available: | |
| | | | | |
| | | | | |
| Remarks: | | | | |
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| Tree Stratum (Plot size: <u>30 ft</u>) | | Dominant Species? | Indicator Status | Dominance Test worksheet: Number of Dominant Species That | 2 | (A) |
|---|------|----------------------|---------------------|--|---------------|-------------|
| . Quercus rubra | 20 | Yes | FACU | Are OBL, FACW, or FAC: | | |
| . Betula lenta | 15 | Yes | FACU | Total Number of Dominant Species | 7 | (B) |
| . Pinus strobus | 15 | Yes | FACU | Across All Strata: | | ` |
| . Betula papyrifera | 5 | No | FACU | Percent of Dominant Species That | 28.6 | (A/B) |
| . Quercus alba | 5 | No | FACU | Are OBL, FACW, or FAC: | | _ |
| | | | | Prevalence Index worksheet: | NA deimbe D | |
| | | | | | Multiply B | - |
| | 60 | = Total Cov | er | OBL species 0 | x 1 = | 0 |
| apling/Shrub Stratum (Plot size: 15 ft) | | = | | FACW species 0 | x 2 = | 0 |
| . Pinus strobus | 10 | Yes | FACU | FAC species 15 | x 3 = | 45 |
| . Tsuga canadensis | 5 | Yes | FACU | FACU species 75 | x 4 = | 300 |
| . Acer rubrum | 5 | Yes | FAC | UPL species 0 | x 5 = | 0 |
| , reci rabiam | | 103 | 1710 | Column Totals 90 | (A) | 345 (B) |
| | | | | Prevalence Index = B/A = _ | 3.8 | |
| | | | | Hydrophytic Vegetation Indicators: | | |
| | - —— | | | 1- Rapid Test for Hydrophytic Ve | egetation | |
| • | | | | 2 - Dominance Test is > 50% | J | |
| | 20 | _= Total Cov | er | 3 - Prevalence Index is ≤ 3.01 | | |
| erb Stratum (Plot size: <u>5 ft</u>) | | | | 4 - Morphological Adaptations¹ | (Provide si | upporting |
| . Athyrium angustum | 10 | Yes | FAC | data in Remarks or on a separate she | | apporting |
| • | | | | Problematic Hydrophytic Veget | | lain) |
| • | | | | ¹Indicators of hydric soil and wetland | | |
| | | | | present, unless disturbed or problen | , 0, | illust be |
| | | | | Definitions of Vegetation Strata: | idere | |
| | | | | Tree – Woody plants 3 in. (7.6 cm) or | mara in di | amatar a |
| · | | | | breast height (DBH), regardless of he | | ameter a |
| · i. | | | | Sapling/shrub – Woody plants less th | | Dand |
| | | | | greater than or equal to 3.28 ft (1 m) | | on allu |
| | | | | Herb – All herbaceous (non-woody) p | | rdloce of |
| 0 | - —— | | | size, and woody plants less than 3.28 | _ | ii uiess oi |
| 1 | | | | Woody vines – All woody vines greate | | 0 ft in |
| 2 | | | | height. | ei tilali 3.2 | 0 11 111 |
| | 10 | = Total Cov | er | | | |
| Voody Vine Stratum (Plot size: <u>30 ft</u>) | | | | Hydrophytic Vegetation Present? You | es No | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | • | | |
| • | | = Total Cov | or | • | | |
| | | - Total Cov | CI | | | |

| (inches) Color (moist) | Profile Desc Depth | ription: (Describe Matrix | to the de | epth needed to de Redox | | | ndicato | r or confirm the a | bsence of ind | icators.) |
|---|-----------------------|------------------------------|-----------|----------------------------|-------|------------------|------------------|-----------------------------|---------------|----------------------------------|
| Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. ²Location: PL = Pore Lining, M = Matrix. Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loarny Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Below Dark Surface (A11) Depleted Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Redox Depressions (F8) Stripped Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, L) Redox Depressions (F8) Stripped Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, L) Mesic Spodic (TA6) (MLRA 144A, 14: Mesic Spodic (TA6) (MLRA 144B) Pindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rock Depth (inches): 11 | - | | % | | | | Loc ² | Textu | re | Remarks |
| Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. *Location: PL = Pore Lining, M = Matrix. Hydric Soil Indicators: | | | . —— . | • • • | _ | | | - | | |
| Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. ²Location: PL = Pore Lining, M = Matrix. Hydric Soil Indicators: Histosol (A1) | 4 - 11 | | . —— . | | _ | | | | | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, L) Redox Depressions (F8) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No/ Hydric Soil Present? Yes No/ | | | | | _ | | | | | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, L) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L) Mesic Spodic (TA6) (MLRA 144A, 145) Redox Dark Surface (F7) Liron-Manganese Masses (F12) (LRR Piedmont Floodplain Soils (F19) (MLRA 144A, 145) Redox Dark Surface (S7) (LRR R, MLRA 149B) All Mesic Spodic (TA6) (MLRA 144A, 145) Thin Dark Surface (TF12) Other (Explain in Remarks) All Midicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Type: Rock Depth (inches): 11 | | | | | _ | | | | | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, L) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L) Mesic Spodic (TA6) (MLRA 144A, 145) Redox Dark Surface (F7) Liron-Manganese Masses (F12) (LRR Piedmont Floodplain Soils (F19) (MLRA 144A, 145) Redox Dark Surface (S7) (LRR R, MLRA 149B) All Mesic Spodic (TA6) (MLRA 144A, 145) Thin Dark Surface (TF12) Other (Explain in Remarks) All Midicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Type: Rock Depth (inches): 11 | | | | | _ | | | | | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, L) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L) Mesic Spodic (TA6) (MLRA 144A, 145) Redox Dark Surface (F7) Liron-Manganese Masses (F12) (LRR Piedmont Floodplain Soils (F19) (MLRA 144A, 145) Redox Dark Surface (S7) (LRR R, MLRA 149B) All Mesic Spodic (TA6) (MLRA 144A, 145) Thin Dark Surface (TF12) Other (Explain in Remarks) All Midicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Type: Rock Depth (inches): 11 | | | | | | | | | | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, L) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L) Mesic Spodic (TA6) (MLRA 144A, 145) Redox Dark Surface (F7) Liron-Manganese Masses (F12) (LRR Piedmont Floodplain Soils (F19) (MLRA 144A, 145) Redox Dark Surface (S7) (LRR R, MLRA 149B) All Mesic Spodic (TA6) (MLRA 144A, 145) Thin Dark Surface (TF12) Other (Explain in Remarks) All Midicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Type: Rock Depth (inches): 11 | | | | | | | | | | |
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| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, L) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L) Mesic Spodic (TA6) (MLRA 144A, 145) Redox Dark Surface (F7) Liron-Manganese Masses (F12) (LRR Piedmont Floodplain Soils (F19) (MLRA 144A, 145) Redox Dark Surface (S7) (LRR R, MLRA 149B) All Mesic Spodic (TA6) (MLRA 144A, 145) Thin Dark Surface (TF12) Other (Explain in Remarks) All Midicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Type: Rock Depth (inches): 11 | | | | | | | | | | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, L) Redox Depressions (F8) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No/ Hydric Soil Present? Yes No/ | | | | | _ | | | | | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, L) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L) Mesic Spodic (TA6) (MLRA 144A, 145) Redox Dark Surface (F7) Liron-Manganese Masses (F12) (LRR Piedmont Floodplain Soils (F19) (MLRA 144A, 145) Redox Dark Surface (S7) (LRR R, MLRA 149B) All Mesic Spodic (TA6) (MLRA 144A, 145) Thin Dark Surface (TF12) Other (Explain in Remarks) All Midicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Type: Rock Depth (inches): 11 | | | | | _ | | | | | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, L) Redox Depressions (F8) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No/ Hydric Soil Present? Yes No/ | | | | | _ | | | | | |
| Histosol (A1) — Polyvalue Below Surface (S8) (LRR R, MLRA 149B) — 2 cm Muck (A10) (LRR K, L, MLRA 14 14 14 14 14 14 14 15 15 15 15 15 15 15 15 15 15 15 15 15 | ¹Type: C = C | oncentration, D = | Depletio | n, RM = Reduced | Mat | rix, MS = | Masked | Sand Grains. ² L | ocation: PL = | Pore Lining, M = Matrix. |
| Histosol (A1) — Polyvalue Below Surface (S8) (LRR R, MLRA 149B) — 2 cm Muck (A10) (LRR K, L, MLRA 142B) — Histic Epipedon (A2) — Thin Dark Surface (S9) (LRR R, MLRA 149B) — Coast Prairie Redox (A16) (LRR K, L, Black Histic (A3) — Loamy Mucky Mineral (F1) (LRR K, L) — 5 cm Mucky Peat or Peat (S3) (LRR INDICATE (LRR INDICATE) — Dark Surface (S7) (LRR K, L) — Dark Surface (S7) (LRR K, L) — Dorlyvalue Below Surface (S7) (LRR K, L) — Polyvalue Below Surface (S8) (LRR INDICATE) — Polyvalue Below Surface (S9) (LRR INDICATE) — Pol | Hydric Soil I | ndicators: | | | | | | | | |
| Histic Epipedon (A2) | | | | Polyvalue Bel | low S | urface (S | 8) (LRR | R, MLRA 149B) | | |
| | Histic Ep | ipedon (A2) | | Thin Dark Su | rface | (S9) (LRR | R, MLR | A 149B) | | |
| — Hydrogen Sulfide (A4) — Loamy Gleyed Matrix (F2) — Dark Surface (S7) (LRR K, L) — Stratified Layers (A5) — Depleted Matrix (F3) — Polyvalue Below Surface (S8) (LRR K, L) — Depleted Below Dark Surface (A11) — Redox Dark Surface (F6) — Thin Dark Surface (S9) (LRR K, L) — Thick Dark Surface (A12) — Depleted Dark Surface (F7) — Iron-Manganese Masses (F12) (LRR K, L) — Sandy Mucky Mineral (S1) — Redox Depressions (F8) — Piedmont Floodplain Soils (F19) (MI — Sandy Gleyed Matrix (S4) — Mesic Spodic (TA6) (MLRA 144A, 14: A14: A14: A14: A14: A14: A14: A14: | | | | , . | , | | (LRR K, | L) | | |
| Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L) Sandy Mucky Mineral (S1) Redox Depressions (F8) Piedmont Floodplain Soils (F19) (MI) Sandy Gleyed Matrix (S4) Piedmont Floodplain Soils (F19) (MI) Sandy Redox (S5) Red Parent Material (F21) Dark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) **Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.** Restrictive Layer (if observed): Type: Rock Hydric Soil Present? Yes No Very Shollow Very Shollow Very Shollow Dark Surface (TF12) Depth (inches): 11 | | | | | | | | | | - |
| Thick Dark Surface (A12) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L) Sandy Mucky Mineral (S1) Redox Depressions (F8) Piedmont Floodplain Soils (F19) (MI Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145) Stripped Matrix (S6) Red Parent Material (F21) Dark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) **Inin Dark Surface (S9) (LRR R, L) Iron-Manganese Masses (F12) (LRR Piedmont Floodplain Soils (F19) (MI Mesic Spodic (TA6) (MLRA 144A, 145) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) **Inin Dark Surface (S9) (LRR R, L) Iron-Manganese Masses (F12) (LRR R, | | | 250 (411) | | | | | | Polyvalu | ue Below Surface (S8) (LRR K, L) |
| Sandy Mucky Mineral (S1) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR Piedmont Floodplain Soils (F19) (MI Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) Other (Explain in Remarks) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Other (Explain in Remarks) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Stripped Matrix (S6) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Stripped Matrix (S6) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Stripped Matrix (S6) Stripped Matrix (S6) | | | ace (ATT) | | | | ı | | | |
| Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Restrictive Layer (if observed): Type: Depth (inches): **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Hydric Soil Present?** **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Judicators of hydrophytic vegetation and wetland hydrology must be | | | | | | | | | | |
| Sandy Redox (S5) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rock Hydric Soil Present? Yes No✓. | | | | | | (, | | | | |
| Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rock Hydric Soil Present? Yes No ✓ Depth (inches): 11 | - | • | | | | | | | | |
| Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rock Hydric Soil Present? Yes No ✓ Depth (inches): 11 | - | | | | | | | | | |
| ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): 11 Type: Depth (inches): 11 | | | /ILRA 149 | 9B) | | | | | - | |
| Restrictive Layer (if observed): Type: Rock Hydric Soil Present? Yes No _ ✓ Depth (inches): 11 | | | | | | | | | | |
| Type: Rock Hydric Soil Present? Yes No _✓ Depth (inches): 11 | - | | | and wetland hydr | olog | y must be | e preser | nt, unless disturbe | ed or problem | atic. |
| Depth (inches): 11 | | - | | Dock | | | Lludric | Coil Drocont? | | Voc. No. (|
| | | | | | • | | Hydric | Soil Present? | | res No _ _/ _ |
| Remarks: | | Depth (inches): | | 11 | | | | | | |
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| Project/Site: Baker | City/County: Shu | itesbury, Franklin | Sampling Date: 2019-Oct-25 | | | |
|---|--|-----------------------------|--------------------------------|---------------------------|--|--|
| Applicant/Owner: | | State: MA | Sampling Point: W-MJR-04_PEM-1 | | | |
| Investigator(s): Matt Regan, N | folly Lennon | Section, Township, | Range: | | | |
| Landform(hillslope,terrace,etc.) | : Depression | Local relief (concave, conv | /ex, none): Concave | Slope (%): 0 to 1 | | |
| Subregion (LRR or MLRA): | MLRA 144A of LRR R | Lat: 42.422253806 | 2 Long: -72.433469 | 98544 Datum: WGS84 | | |
| Soil Map Unit Name: 75B: Pill | lsbury fine sandy loam, 0 to 8 percent | slopes, very stony | NWI c | :lassification: | | |
| | ns on the site typical for this time of ye | | (If no, explain in | | | |
| Are Vegetation, Soil, | | | al Circumstances" pre | | | |
| Are Vegetation, Soil, | or Hydrology naturally prob | lematic? (If needed, | explain any answers i | n Remarks.) | | |
| | | | | | | |
| SUMMARY OF FINDINGS - | Attach site map showing sampli | ng point locations, trai | nsects, important f | eatures, etc. | | |
| Hydrophytic Vegetation Presen | t? Yes No | | | | | |
| Hydric Soil Present? | Yes _ ∠ _ No | Is the Sampled Area withi | in a Wetland? | Yes/_ No | | |
| Wetland Hydrology Present? | Yes No | If yes, optional Wetland S | | W-MJR-04 | | |
| | · · · · · · · · · · · · · · · · · · · | | ·· | | | |
| · · | rocedures here or in a separate report | τ) | | | | |
| Covertype is PEM. | | | | | | |
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| HYDROLOGY | | | | | | |
| IIIDKOLOGI | | | | | | |
| Wetland Hydrology Indicators: | | | | | | |
| Primary Indicators (minimum o | of one is required; check all that apply) | | Secondary Indicators | (minimum of two required) | | |
| • | | | Surface Soil Crack | • | | |
| Surface Water (A1) | Water-Stained Le | | Drainage Patterns | | | |
| ✓ High Water Table (A2)✓ Saturation (A3) | Aquatic Fauna (B ⁻ Marl Deposits (B1 | | Moss Trim Lines (B16) | | | |
| Water Marks (B1) | Hydrogen Sulfide | | Dry-Season Water Table (C2) | | | |
| Sediment Deposits (B2) | , , | heres on Living Roots (C3) | C C L D (CO) | | | |
| Sediment Deposits (B2) | Oxidized Kilizosp | rieles on Living Roots (C3) | | on Aerial Imagery (C9) | | |
| Drift Deposits (B3) | Presence of Redu | iced Iron (C4) | Stunted or Stresse | 3 , | | |
| Algal Mat or Crust (B4) | | ction in Tilled Soils (C6) | ✓ Geomorphic Posit | | | |
| Iron Deposits (B5) | Thin Muck Surfac | | Shallow Aquitard (D3) | | | |
| Inundation Visible on Aerial | | | Microtopographic | | | |
| Sparsely Vegetated Concave | 9 7 1 1 | rtemarks | ✓ FAC-Neutral Test (| | | |
| | Surface (Bo) | | | ,03) | | |
| Field Observations: | Yes No. 6 Double | Construction | | | | |
| Surface Water Present? | · | (inches): | = | | | |
| Water Table Present? | Yes No Depth | i (inches): 7 | Wetland Hydrology P | resent? Yes No | | |
| Saturation Present? | Yes No Depth | (inches): 0 | - | | | |
| (includes capillary fringe) | | | | | | |
| Describe Recorded Data (stream | m gauge, monitoring well, aerial photo | s previous inspections) if | available: | · | | |
| Describe Recorded Data (Stream | in Sauge, morneoring wen, derial prioto | s, previous inspections, in | available. | | | |
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| Remarks: | | | | | | |
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| <u>Tree Stratum</u> (Plot size: <u>30 ft</u>) | | Dominant | | Dominance Test worksheet: | | |
|---|--------------|---------------|--------|--|-----------------|---------------|
| | % Cover | Species? | Status | Number of Dominant Species Tha | t 2 | (A) |
| 1 | | | | Are OBL, FACW, or FAC: | | |
| 2 | | | | Total Number of Dominant Specie | s 3 | (B) |
| 3 | | | | Across All Strata: | | |
| 4. | | | | Percent of Dominant Species Tha | 66.7 | (A/B) |
| 5. | | | | Are OBL, FACW, or FAC: | | _ |
| 6. | | | | Prevalence Index worksheet: | | _ |
| 7. | | | | Total % Cover of: | <u>Multiply</u> | - |
| | | = Total Cove | r | OBL species 70 | _ x 1 = _ | 70 |
| Sapling/Shrub Stratum (Plot size: 15 ft) | | - | | FACW species 20 | x 2 = | 40 |
| 1. Aronia arbutifolia | 10 | Yes | FACW | FAC species 0 | x 3 = | 0 |
| 2. Kalmia latifolia | | Yes | FACU | FACU species 5 | x 4 = | 20 |
| - | | res | FACU | UPL species 0 | x 5 = | 0 |
| 3. | | | | Column Totals 95 | (A) | 130 (B) |
| 4 | | | | Prevalence Index = B/A | =1.4 | |
| 5 | | | | Hydrophytic Vegetation Indicators | | |
| 6 | | | | 1- Rapid Test for Hydrophyti | | |
| 7 | | | | 2 - Dominance Test is >50% | | |
| | 15 | = Total Cove | r | \checkmark 3 - Prevalence Index is \le 3.0 | 1 | |
| Herb Stratum (Plot size: <u>5 ft</u>) | | | | 4 - Morphological Adaptatio | | supporting |
| 1. <i>Glyceria striata</i> | 70 | Yes | OBL | data in Remarks or on a separate | | supporting |
| 2. Osmundastrum cinnamomeum | 10 | No | FACW | Problematic Hydrophytic Ve | | nlain) |
| 3. | | | | ¹Indicators of hydric soil and wetl | | |
| 4. | | | | present, unless disturbed or prob | | sy must be |
| 5. | | | | Definitions of Vegetation Strata: | iciliatic | |
| 6. | | | | Tree – Woody plants 3 in. (7.6 cm) | or more in a | diameter at |
| 7. | | | | breast height (DBH), regardless o | | nameter at |
| 8. | | | | Sapling/shrub – Woody plants les | | IRH and |
| 9. | | | | greater than or equal to 3.28 ft (1 | | , Di l'alla |
| 40 | | | | Herb – All herbaceous (non-wood | | ardless of |
| 10 | | | | size, and woody plants less than 3 | | gar aress or |
| 11 | | | | Woody vines – All woody vines gro | | 28 ft in |
| 12 | | | | height. | acer chairs. | 2010111 |
| | 80 | _= Total Cove | r | | V (N | |
| Woody Vine Stratum (Plot size: 30 ft) | | | | Hydrophytic Vegetation Present? | yes IN | 0 |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4. | | | | | | |
| | 0 | = Total Cove | r | | | |
| December (to all decembers) | | _ | | | | |
| Remarks: (Include photo numbers here or on a sepa | rate sheet.) | | | | | |
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| | cription: (Describe | to the de | - | | | indicato | or confirm the at | osence of ind | licators.) |
|--------------|--------------------------|--------------|--------------------|-------|-------------------|------------------|--------------------|---------------|---|
| Depth _ | Matrix | | Redox | | | | | | |
| (inches) | Color (moist) | <u>%</u> | Color (moist) | % | Type ¹ | Loc ² | Texture | | Remarks |
| 0 - 8 | 10YR 2/1 | 100 | | | | | Silt Loam | | |
| 8 - 18 | N 6/ | 95 | 10YR 5/4 | 5 | C | M | Sandy Lo | am | |
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| 1Type: C = C | Concentration, D = | Denletic | n PM = Peduced | Mat | riv MS = | Maskad | Sand Grains 21 (| ocation: PL = | Pore Lining, M = Matrix. |
| Hydric Soil | | Depletic | ii, Kivi – Reduced | iviat | 11X, 1813 - | iviaskeu | Janu GranisLC | | or Problematic Hydric Soils ³ : |
| Histoso | | | Dalumalua Da | | | :0) (I DD | D MI DA 140D) | | • |
| | oipedon (A2) | | Thin Dark Su | | | | R, MLRA 149B) | | uck (A10) (LRR K, L, MLRA 149B) |
| | istic (A3) | | Loamy Muck | | | | | | rairie Redox (A16) (LRR K, L, R) |
| | en Sulfide (A4) | | Loamy Gleye | | | (LIXIX IX, I | -) | | ucky Peat or Peat (S3) (LRR K, L, R) |
| | d Layers (A5) | | Depleted Ma | | | | | | rface (S7) (LRR K, L) |
| | d Below Dark Surfa | ace (A11 | • | | | | | - | ue Below Surface (S8) (LRR K, L) |
| Thick Da | ark Surface (A12) | , | Depleted Dai | k Su | rface (F7) |) | | | rk Surface (S9) (LRR K, L) |
| Sandy N | Mucky Mineral (S1) | | Redox Depre | ssior | ıs (F8) | | | | inganese Masses (F12) (LRR K, L, R) |
| Sandy C | Gleyed Matrix (S4) | | | | | | | | nt Floodplain Soils (F19) (MLRA 149B) |
| Sandy F | Redox (S5) | | | | | | | | podic (TA6) (MLRA 144A, 145, 149B) |
| - | d Matrix (S6) | | | | | | | | rent Material (F21) |
| | rface (S7) (LRR R, N | /ILRA 149 | 9B) | | | | | - | allow Dark Surface (TF12) |
| | | | | | | | | | Explain in Remarks) |
| - | of hydrophytic veg | | and wetland hydi | olog | y must b | e preser | t, unless disturbe | d or problem | natic. |
| | Layer (if observed): | : | | | | | | | |
| | Type: | | None | | | Hydric | Soil Present? | | Yes No |
| | Depth (inches): | | | | | | | | |
| Remarks: | | | | | | | | | |
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| Project/Site: Baker | City/County: Shu | tesbury, Franklin | | 9-Oct-25 | |
|--------------------------------------|---|---------------------------------|--|---|-------------------|
| Applicant/Owner: | | State: MA | 1A Sampling Point: W-MJR-04_UPL-1 | | |
| Investigator(s): Matt Regan, Mo | olly Lennon | Section, Township, | | | |
| Landform (hillslope, terrace, etc.): | Hillslope | Local relief (concave, conve | ex, none):_ | Convex | Slope (%): 2 to 5 |
| Subregion (LRR or MLRA): M | LRA 144A of LRR R | Lat: 42.422197354 | 1 Long:_ | -72.433313448 | Datum: WGS84 |
| Soil Map Unit Name: 75B: Pills | bury fine sandy loam, 0 to 8 percent s | slopes, very stony | | NWI classification | : |
| Are climatic/hydrologic conditions | s on the site typical for this time of ye | | | , explain in Remarks.) | |
| Are Vegetation, Soil, | or Hydrology significantly di | | | • | ′es No |
| Are Vegetation, Soil, | or Hydrology naturally probl | ematic? (If needed, | explain any | answers in Remarks.) | |
| | | | | | |
| Summary of Findings – A | ttach site map showing sampli | ng point locations, tran | nsects, im | portant features, e | tc. |
| Hydrophytic Vegetation Present? | Yes No _ ✓ | | | | |
| Hydric Soil Present? | Yes No _ _ _ | Is the Sampled Area within | n a Wetland | d? Yes | No/ |
| Wetland Hydrology Present? | Yes No _ _ ∠ | If yes, optional Wetland Si | ite ID: | | |
| | | | | | |
| Covertype is UPL. | ocedures here or in a separate report |) | | | |
| Covertype is OPL. | | | | | |
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| HYDROLOGY | | | | | |
| TITOROLOGI | | | | | |
| Wetland Hydrology Indicators: | | | | | |
| Primary Indicators (minimum of | one is required; check all that apply) | | Secondary | Indicators (minimum | of two required) |
| Surface Water (A1) | Water-Stained Lea | aves (B9) | | e Soil Cracks (B6) | |
| High Water Table (A2) | Aquatic Fauna (B1 | 3) | | ge Patterns (B10) | |
| Saturation (A3) | Marl Deposits (B1 | | Moss Trim Lines (B16) | | |
| Water Marks (B1) | Hydrogen Sulfide | | Dry-Season Water Table (C2) Crayfish Burrows (C8) | | |
| Sediment Deposits (B2) | Oxidized Rhizospl | neres on Living Roots (C3) | | n Burrows (C8) tion Visible on Aerial In | nagen/ (C9) |
| Drift Deposits (B3) | Presence of Redu | cod Iron (CA) | | d or Stressed Plants (D | |
| Algal Mat or Crust (B4) | | ction in Tilled Soils (C6) | | orphic Position (D2) | 1) |
| Iron Deposits (B5) | Thin Muck Surface | | | v Aquitard (D3) | |
| Inundation Visible on Aerial Ir | | | | opographic Relief (D4) | |
| Sparsely Vegetated Concave S | | · | | eutral Test (D5) | |
| Field Observations: | | | | | |
| Surface Water Present? | Yes No 🟒 Depth | (inches): | | | |
| Water Table Present? | Yes No <u></u> ✓ Depth | (inches): | - Wetland H | lydrology Present? | Yes No ∠ |
| Saturation Present? | | (inches): | - | , | |
| (includes capillary fringe) | | | - | | |
| | gauge, monitoring well, aerial photo: | s provious inspections) if a | available: | | |
| Describe Recorded Data (stream | gauge, monitoring well, aeriai prioto: | s, previous irispections), ii a | avallable. | | |
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| Remarks: | | | | | |
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| | Absoluto | Dominant | Indicator | Dominance Test worksheet: | | |
|---|------------|-------------|------------|---|-----------------|-------------|
| Tree Stratum (Plot size: 30 ft) | | Species? | Status | Number of Dominant Species That | | |
| 1. Tsuga canadensis | 30 | Yes | FACU | Are OBL, FACW, or FAC: | 2 | (A) |
| Betula alleghaniensis | 20 | Yes | FAC | Total Number of Dominant Species | | (D) |
| 3. Pinus strobus | 10 | No No | FACU | Across All Strata: | 5 | (B) |
| 4. Betula papyrifera | 5 | No | FACU | Percent of Dominant Species That | 40 | (A/B) |
| 5. | | | FACO | Are OBL, FACW, or FAC: | | (A/B) |
| 6. | | | | Prevalence Index worksheet: | | |
| | | | | Total % Cover of: | <u>Multiply</u> | By: |
| 7 | | Tatal Care | | OBL species 0 | x 1 = | 0 |
| | 65 | = Total Cov | er | FACW species 5 | x 2 = | 10 |
| Sapling/Shrub Stratum (Plot size:15 ft) | 4.0 | | E4.611 | FAC species 20 | x 3 = | 60 |
| 1. Tsuga canadensis | | Yes | FACU | FACU species 60 | x 4 = | 240 |
| 2. Fagus grandifolia | 5 | Yes | FACU | UPL species 0 | x 5 = | 0 |
| 3 | | | | Column Totals 85 | (A) | 310 (B) |
| 4 | | | | Prevalence Index = B/A = | 3.6 | |
| 5 | | | | Hydrophytic Vegetation Indicators: | | |
| 6. | | | | 1- Rapid Test for Hydrophytic \ | /egetation | 1 |
| 7 | | | | 2 - Dominance Test is > 50% | regetation | ' |
| | 15 | = Total Cov | er | $3 - Prevalence Index is \le 3.0^{\circ}$ | | |
| Herb Stratum (Plot size:5 ft) | | | | 4 - Morphological Adaptations | 1 (Provide | supporting |
| 1. Osmundastrum cinnamomeum | 5 | Yes | FACW | data in Remarks or on a separate sh | | supporting |
| 2. | | | | Problematic Hydrophytic Vege | | (nlain) |
| 3. | | | | ¹Indicators of hydric soil and wetlan | | - |
| 4. | | | | present, unless disturbed or proble | | gy mast be |
| 5. | | | | Definitions of Vegetation Strata: | | |
| 6. | | | | Tree – Woody plants 3 in. (7.6 cm) o | r more in (| diameter at |
| 7. | | | | breast height (DBH), regardless of h | | a.aetc. at |
| 8. | | | | Sapling/shrub – Woody plants less t | _ | DBH and |
| 9. | | | | greater than or equal to 3.28 ft (1 m | | |
| 40 | | | | Herb – All herbaceous (non-woody) | plants, reg | gardless of |
| | | | | size, and woody plants less than 3.2 | 8 ft tall. | |
| 11. 12. | | | | Woody vines – All woody vines grea | ter than 3. | .28 ft in |
| | | = Total Cov | or | height. | | |
| Manda Vino Street up (Plat sino 20 ft) | | _ 10tal C0V | 2 1 | Hydrophytic Vegetation Present? | Yes N | 10 / |
| Woody Vine Stratum (Plot size: 30 ft) | | | | | | |
| 1. | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4 | | | | | | |
| | 0 | = Total Cov | er | | | |
| Remarks: (Include photo numbers here or on a separa | te sheet.) | | | | | |
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| (nches) Color (moist) | Profile Desc | ription: (Describe t | to the de | epth needed to de | | | indicato | r or confirm the a | bsence of indicators.) |
|---|--------------|----------------------|---------------|-------------------|-------|-----------|----------|-----------------------------|--|
| Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. *Location: PL = Pore Lining, M = Matrix. Hydric Soil Indicators: Histosol (A1) | _ | | % | | | | Loc2 | Texture | Remarks |
| Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. *Location: PL = Pore Lining, M = Matrix. Hydric Soil Indicators: Histosol (A1) | | | | Color (moist) | | Турс | | - | Kemarks |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S9) (LRR K, L) Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soils . Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic File Aux And And And And And And And And And And | | 1011(2/1 | 100 | | _ | | | Loam | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S9) (LRR K, L) Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soils . Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic File Aux And And And And And And And And And And | | | | | _ | | | | |
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| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S9) (LRR K, L) Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soils . Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic File Aux And And And And And And And And And And | | | | | | | | | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S9) (LRR K, L) Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soils . Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic File Aux And And And And And And And And And And | | | | | | | | | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S9) (LRR K, L) Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soils . Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic File Aux And And And And And And And And And And | | | | | _ | | | | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S9) (LRR K, L) Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soils . Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic File Aux And And And And And And And And And And | | | | | | | | | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S9) (LRR K, L) Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soils . Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic File Aux And And And And And And And And And And | | | | | | | | | |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S9) (LRR K, L) Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soils . Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soils ?: Indicators for Problematic Hydric Soil Present? Indicators for Problematic File Aux And And And And And And And And And And | ¹Type: C = C | oncentration, D = I | Depletic | n, RM = Reduced | Mati | rix, MS = | Masked | Sand Grains. ² L | ocation: PL = Pore Lining, M = Matrix. |
| Histosol (A1) | | | | | | • | | | |
| Histic Epipedon (A2) | _ | | | Polvvalue Rel | ow S | urface (S | 8) (LRR | R. MLRA 149R) | · |
| Black Histic (A3) | | | | - | | | | | |
| Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L) Depleted Layers (A5) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): 5 | | • | | | | | | | |
| Stratified Layers (A5) Depleted Matrix (F3) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Redox Depressions (F8) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Red Parent Material (F21) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) **JIndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.** Restrictive Layer (if observed): Type: Rock Hydric Soil Present? Yes No ✓ Depth (inches): 5 | | | | , , | | | | • | |
| Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Piedmont Floodplain Soils (F19) (MLRA 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rock Hydric Soil Present? Yes No ✓ Depth (inches): 5 | | | | | | | | | |
| — Inlick Dark Surface (A12) — Depleted Dark Surface (F7) — Iron-Manganese Masses (F12) (LRR K, L, R) — Sandy Mucky Mineral (S1) — Redox Depressions (F8) — Piedmont Floodplain Soils (F19) (MLRA 149B) — Mesic Spodic (TA6) (MLRA 144A, 145, 149B) — Mesic Spodic (TA6) (MLRA 144A, 145, 149B) — Red Parent Material (F21) — Very Shallow Dark Surface (TF12) — Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rock — Hydric Soil Present? Yes No _✓ | Deplete | d Below Dark Surfa | ace (A11 |) Redox Dark S | urfac | ce (F6) | | | |
| Sandy Mucky Mineral (S1) Redox Depressions (F8) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) Other (Explain in Remarks) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Other (Explain in Remarks) Other (Explain in Remarks) Stripped Matrix (S6) Depth (inches): Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Stripped Matrix (S6) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Nother Stripped Matrix (S6) Ned Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Nother (| Thick Da | ark Surface (A12) | | Depleted Dar | k Sur | face (F7) |) | | |
| — Sandy Gleyed Matrix (S4) — Sandy Redox (S5) — Stripped Matrix (S6) — Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rock Hydric Soil Present? Yes No ✓ Depth (inches): 5 | Sandy N | lucky Mineral (S1) | | Redox Depre | ssior | ıs (F8) | | | |
| Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rock | Sandy G | ileyed Matrix (S4) | | | | | | | · |
| Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rock | Sandy R | edox (S5) | | | | | | | |
| Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rock | Stripped | d Matrix (S6) | | | | | | | |
| Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rock Hydric Soil Present? Yes No _✓ Depth (inches): 5 | Dark Su | rface (S7) (LRR R, N | 1LRA 149 | 9B) | | | | | |
| Restrictive Layer (if observed): Type: Rock Hydric Soil Present? Yes No ✓ Depth (inches): 5 | | | | | | | | | |
| Type: Rock Hydric Soil Present? Yes No _✓ Depth (inches): 5 | • | | | and wetland hydr | olog | y must b | e preser | nt, unless disturbe | ed or problematic. |
| Depth (inches): 5 | | = | | Rock | | | Hydric | Soil Present? | Ves No / |
| | | • • | | | | | riyaric | Son i reserie. | 10310_ <u></u> |
| REMARKS: | - | Deptil (iliches). | _ | 5 | | | | | <u> </u> |
| | kemarks: | | | | | | | | |

| Project/Site: Baker | City/County: Shu | itesbury, Franklin | Sampling Date: 2019-Oct-25 | | | |
|---|--|------------------------------|---|--------------------------------|--|--|
| Applicant/Owner: | - | State: MA | Sampling Po | Sampling Point: W-MJR-05_PEM-2 | | |
| Investigator(s): Matt Regan, N | 1olly Lennon | Section, Township, | Range: | | | |
| Landform (hillslope, terrace, etc. | .): Hillslope | Local relief (concave, conv | ex, none): Concave | Slope (%): 1 to 3 | | |
| Subregion (LRR or MLRA): | MLRA 144A of LRR R | Lat: 42.422745949 | 6 Long: -72.433807 | 76451 Datum: WGS84 | | |
| Soil Map Unit Name: 75B: Pill | sbury fine sandy loam, 0 to 8 percent | slopes, very stony | NWI c | lassification: | | |
| • | ns on the site typical for this time of ye | | (If no, explain in | | | |
| Are Vegetation, Soil, | | | al Circumstances" pres | | | |
| Are Vegetation, Soil, | or Hydrology naturally prob | lematic? (If needed, | explain any answers in | n Remarks.) | | |
| | | | | | | |
| SUMMARY OF FINDINGS – A | Attach site map showing sampli | ng point locations, trai | nsects, important f | eatures, etc. | | |
| Hydrophytic Vegetation Present | t? Yes No | | | | | |
| Hydric Soil Present? | Yes _ . ✓_ No | Is the Sampled Area withi | n a Wetland? | Yes/_ No | | |
| Wetland Hydrology Present? | Yes No | If yes, optional Wetland S | | W-MJR-05 | | |
| | | | ite ib. | | | |
| | rocedures here or in a separate report | L) | | | | |
| Covertype is PEM. | | | | | | |
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| HYDROLOGY | | | | | | |
| Wetland Hydrology Indicators: | | | | | | |
| • •• | f one is required; check all that apply) | | Secondary Indicators | (minimum of two required) | | |
| | | | Surface Soil Crack | • | | |
| Surface Water (A1) | Water-Stained Le | | Drainage Patterns | | | |
| High Water Table (A2) | Aquatic Fauna (B | | Moss Trim Lines (B16) | | | |
| ✓ Saturation (A3) | Marl Deposits (B1 Hydrogen Sulfide | | Moss min Ellies (B10) Dry-Season Water Table (C2) | | | |
| Water Marks (B1) Sediment Deposits (B2) | , , | heres on Living Roots (C3) | C C L D (CO) | | | |
| Sediment Deposits (D2) | Oxidized Kilizosp | ricres on Living Roots (CS) | | on Aerial Imagery (C9) | | |
| Drift Deposits (B3) | Presence of Redu | iced Iron (C4) | Stunted or Stresse | ed Plants (D1) | | |
| Algal Mat or Crust (B4) | | ction in Tilled Soils (C6) | ✓ Geomorphic Posit | | | |
| Iron Deposits (B5) | Thin Muck Surfac | | Shallow Aquitard (D3) | | | |
| Inundation Visible on Aerial | Imagery (B7) Other (Explain in | Remarks) | Microtopographic | : Relief (D4) | | |
| Sparsely Vegetated Concave | | | FAC-Neutral Test (| (D5) | | |
| Field Observations: | | | | | | |
| Surface Water Present? | Yes No Depth | ı (inches): | | | | |
| Water Table Present? | | i (inches): 15 | - Wetland Hydrology P | resent? Yes No | | |
| Saturation Present? | | (inches): 0 | - | | | |
| (includes capillary fringe) | res_ <u>v</u> _140 | | | | | |
| . , , , , | | | | | | |
| Describe Recorded Data (strear | m gauge, monitoring well, aerial photo | s, previous inspections), if | available: | | | |
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| | | | | | | |
| Remarks: | | | | | | |
| Remarks. | | | | | | |
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| <u>rree Stratum</u> (Plot size: <u>30 ft</u>) | | Dominant Species? | Indicator Status | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: | 2 | (A) | | |
|--|-----|----------------------|---------------------|--|--------------------|------------|--|--|
| 2. | | | | Total Number of Dominant Species Across All Strata: | 4 | (B) | | |
| 3. | | | | Percent of Dominant Species That Are OBL, FACW, or FAC: | 50 | (A/B) | | |
| i | | | | Prevalence Index worksheet: | • | | | |
| i | | | | Total % Cover of: | Multiply I | <u>Зу:</u> | | |
| | | | | OBL species 105 | x 1 = | 105 | | |
| | 0 | = Total Cov | er | FACW species 5 | x 2 = | 10 | | |
| apling/Shrub Stratum (Plot size: 15 ft) | | ., | =. = | FAC species 10 | x 3 = | 30 | | |
| . Rubus idaeus | 15 | Yes | FACU | FACU species 20 | x 4 = | 80 | | |
| . Acer rubrum | 5 | Yes | FAC | UPL species 0 | x 5 = | 0 | | |
| . Ostrya virginiana | 5 | Yes | FACU | Column Totals 140 | (A) | 225 (B) | | |
| · | | | | Prevalence Index = B/A = | _ | | | |
| · | | | | | 1.0 | | | |
| | | | | Hydrophytic Vegetation Indicators: | | | | |
| | | | | 1- Rapid Test for Hydrophytic \ | /egetation | | | |
| | 25 | = Total Cov | er | 2 - Dominance Test is > 50% | | | | |
| lerb Stratum (Plot size: <u>5 ft</u>) | | - | | \checkmark 3 - Prevalence Index is ≤ 3.0 ¹ | | | | |
| . Carex lurida | 80 | Yes | OBL | 4 - Morphological Adaptations | | supporting | | |
| . Schoenoplectus tabernaemontani | 15 | No | OBL | data in Remarks or on a separate sh | | | | |
| | | | | Problematic Hydrophytic Vege | | | | |
| . Carex crinita | | No No | OBL | Indicators of hydric soil and wetlan | , . | gy must be | | |
| . Rubus hispidus | 5 | <u>No</u> | FACW | present, unless disturbed or problematic | | | | |
| S. Parathelypteris noveboracensis | 5 | No | FAC | Definitions of Vegetation Strata: | | | | |
| j | | | | Tree – Woody plants 3 in. (7.6 cm) o | | liameter a | | |
| 7 | | | | breast height (DBH), regardless of h | eight. | | | |
| B | | | | Sapling/shrub – Woody plants less t | han 3 in. D | BH and | | |
|). | | | | greater than or equal to 3.28 ft (1 m | ı) tall. | | | |
| 0 | | | | Herb – All herbaceous (non-woody) | | ardless of | | |
| 1. | | | | size, and woody plants less than 3.2 | 8 ft tall. | | | |
| 2. | | | | Woody vines – All woody vines grea | ter than 3. | 28 ft in | | |
| | 115 | = Total Cov | er | height. | | | | |
| Noody Vina Stratum (Blat size: 20 ft) | 113 | - 10tal Cov | Ci | Hydrophytic Vegetation Present? | Yes _ ∠ _ N | 0 | | |
| Voody Vine Stratum (Plot size: <u>30 ft</u>) | | | | | | | | |
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| | cription: (Describe | to the de | - | | | indicato | or confirm the ab | osence of ind | licators.) |
|---------------|-----------------------------|------------|----------------------------|----------|-------------------|------------------|--------------------|---------------|---|
| Depth _ | Matrix | | Redox | | | 12 | T | _ | Davis and a |
| (inches) | Color (moist) | <u>%</u> | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Texture Loam | | Remarks |
| 0 - 8 | 10YR 2/1 | 100 | | | | | | | |
| 8 - 18 | N 4/ | 95 | 10YR 5/6 | 5 | C | M | Loamy Sa | and | |
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| 1Typo: C = C | Concentration, D = | Doplotio | n DM - Poducod | N/a+ | riv MC – | Macked | Sand Grains 21 o | acation: DL = | Pore Lining, M = Matrix. |
| | | Depletio | iii, Rivi – Reduced | IVIAL | 1X, IVIS – | Maskeu | Sand Grains. *LC | | • |
| Hydric Soil | | | Dala I D | | | .0) (1.55. | D A41 DA 4 400' | | or Problematic Hydric Soils³: |
| Histosol | | | | | | | R, MLRA 149B) | | uck (A10) (LRR K, L, MLRA 149B) |
| | oipedon (A2) | | Thin Dark Su Loamy Muck | | | | | | rairie Redox (A16) (LRR K, L, R) |
| Black Hi | en Sulfide (A4) | | Loamy Gleye | | | (LKK K, I | -) | | ucky Peat or Peat (S3) (LRR K, L, R) |
| | d Layers (A5) | | Depleted Ma | | | | | | rface (S7) (LRR K, L) |
| | d Below Dark Surfa | ace (A11 | | | | | | • | ue Below Surface (S8) (LRR K, L) |
| | ark Surface (A12) | acc (/ tri | Depleted Dai | | . , |) | | | rk Surface (S9) (LRR K, L) |
| | fucky Mineral (S1) | | Redox Depre | | | , | | Iron-Ma | inganese Masses (F12) (LRR K, L, R) |
| | ileyed Matrix (S4) | | | 55.0. | .5 (. 5) | | | | nt Floodplain Soils (F19) (MLRA 149B) |
| - | edox (S5) | | | | | | | | podic (TA6) (MLRA 144A, 145, 149B) |
| - | d Matrix (S6) | | | | | | | | rent Material (F21) |
| | rface (S7) (LRR R, N | AI DA 140 | יסו | | | | | - | allow Dark Surface (TF12) |
| Dark 3u | 11ace (37) (LKK K, K | ILKA 14: | 7D) | | | | | Other (E | Explain in Remarks) |
| 3Indicators | of hydrophytic veg | etation a | and wetland hydi | olog | y must b | e preser | t, unless disturbe | d or problem | natic. |
| Restrictive I | _ayer (if observed): | | | | | | | | |
| | Type: | | None | | | Hydric | Soil Present? | | Yes No |
| | Depth (inches): | | | | | | | | |
| Remarks: | | | | | | 1 | | | |
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| Project/Site: Baker | City/County: Shu | tesbury, Franklin | Sampling Date: 2019-Oct-25 | | | |
|-----------------------------------|--|------------------------------|---|-----------------------------|--|--|
| Applicant/Owner: | | State: MA | Sampling Point: W-MJR-05_PFO-1 | | | |
| Investigator(s): Matt Regan, M | Iolly Lennon | Section, Township, | Range: | | | |
| Landform(hillslope,terrace,etc.): | Toe | Local relief (concave, conv | rex, none): Concave | Slope (%): 1 to 3 | | |
| • · | MLRA 144A of LRR R | Lat: 42.423445629 | Long: -72.43348 | 391327 Datum: WGS84 | | |
| · — — | sbury fine sandy loam, 0 to 8 percent s | | NWI | classification: | | |
| • • | ns on the site typical for this time of ye | | (If no, explain in | | | |
| Are Vegetation, Soil, | | | al Circumstances" pre | | | |
| Are Vegetation, Soil, | or Hydrology naturally probl | lematic? (If needed, | explain any answers | in Remarks.) | | |
| | | | _ | _ | | |
| SUMMARY OF FINDINGS – A | Attach site map showing sampli | ng point locations, trai | nsects, important | features, etc. | | |
| Hydrophytic Vegetation Present | t? Yes No <u></u> ✓ | | | | | |
| Hydric Soil Present? | Yes No | Is the Sampled Area withi | n a Wetland? | Yes No | | |
| Wetland Hydrology Present? | Yes No | If yes, optional Wetland S | ite ID: | W-MJR-05 | | |
| | rocedures here or in a separate report | | | | | |
| | occurres here of in a separate report | J | | | | |
| Covertype is PFO. | | | | | | |
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| HYDROLOGY | | | | | | |
| Wetland Hydrology Indicators: | | | | | | |
| , ,, | f one is required; check all that apply) | | Secondary Indicator | s (minimum of two required) | | |
| | | (50) | Surface Soil Crac | • | | |
| Surface Water (A1) | Water-Stained Lea | | Drainage Patterns (B10) | | | |
| High Water Table (A2) | Aquatic Fauna (B1 | | Moss Trim Lines (B16) | | | |
| ✓ Saturation (A3) | Marl Deposits (B1 | | ✓ Dry-Season Water Table (C2) | | | |
| Water Marks (B1) | Hydrogen Sulfide | | 6 6 1 5 (60) | | | |
| Sediment Deposits (B2) | Oxidized knizospr | heres on Living Roots (C3) | Saturation Visible on Aerial Imagery (C9) | | | |
| Drift Deposits (B3) | Presence of Redu | ced Iron (C4) | Stunted or Stressed Plants (D1) | | | |
| Algal Mat or Crust (B4) | | ction in Tilled Soils (C6) | ✓ Geomorphic Position (D2) | | | |
| Iron Deposits (B5) | Thin Muck Surface | | Shallow Aquitard | | | |
| Inundation Visible on Aerial | | | Microtopographi | | | |
| Sparsely Vegetated Concave | · · · · · · · · · · · · · · · · · · · | (Cirial K5) | FAC-Neutral Test | | | |
| | Surface (Do) | | rac-neutral lest | (03) | | |
| Field Observations: | Von No (Danth | (in all an). | | | | |
| Surface Water Present? | • | (inches): | .[| | | |
| Water Table Present? | Yes <u></u> ✓ No Depth | (inches): 14 | Wetland Hydrology I | Present? Yes No | | |
| Saturation Present? | Yes No Depth | (inches): 0 | _ | | | |
| (includes capillary fringe) | | | | | | |
| Describe Recorded Data (stream | n gauge, monitoring well, aerial photo: | s, previous inspections), if | available: | · | | |
| - | | ., . | | | | |
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| | | | | | | |
| Remarks: | | | | | | |
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| | Absoluto | Dominant | Indicator | Dominance Test worksheet: | | |
|---|-------------|--------------|-----------|--|--------------|-------------|
| <u>Tree Stratum</u> (Plot size: <u>30 ft</u>) | | Species? | Status | Number of Dominant Species That | | |
| 1 Touga capadoncio | 50 | <u> </u> | FACU | Are OBL, FACW, or FAC: | 1 | (A) |
| 1. Tsuga canadensis | . —— | Yes | | Total Number of Dominant Species | | |
| 2. Betula alleghaniensis | 25 | Yes | FAC | Across All Strata: | 3 | (B) |
| 3. | | | | Percent of Dominant Species That | | |
| 4 | | | | - Are OBL, FACW, or FAC: | 33.3 | (A/B) |
| 5 | | | | Prevalence Index worksheet: | | |
| 6 | | | | Total % Cover of: | Multiply I | B <u>v:</u> |
| 7 | | | | - OBL species 0 | x 1 = | 0 |
| | 75 | = Total Cove | er | FACW species 0 | x 2 = | 0 |
| Sapling/Shrub Stratum (Plot size: 15 ft) | | | | FAC species 25 | x 3 = | 75 |
| 1. <i>Tsuga canadensis</i> | 5 | Yes | FACU | - FACU species 55 | x 4 = | 220 |
| 2. | | | | - UPL species 0 | x5= | 0 |
| 3. | | | | · — | _ | |
| 4. | | | | | (A) _ | 295 (B) |
| 5. | | | | Prevalence Index = B/A = | 3./ | |
| 6. | | | | Hydrophytic Vegetation Indicators: | | |
| 7. | | | | 1- Rapid Test for Hydrophytic | /egetation | |
| | 5 | = Total Cove | ar | 2 - Dominance Test is > 50% | | |
| Herb Stratum (Plot size: _ 5 ft) | | _ Total Cov | -1 | $_{}$ 3 - Prevalence Index is $\leq 3.0^{1}$ | | |
| 4 | | | | 4 - Morphological Adaptations | ¹ (Provide s | supporting |
| | | | | data in Remarks or on a separate sl | | |
| | · —— | | | Problematic Hydrophytic Vege | | |
| 3. | | | | - landicators of hydric soil and wetlar | d hydroloខ្ | gy must be |
| 4 | | | | present, unless disturbed or proble | matic | _ |
| 5 | | | | Definitions of Vegetation Strata: | | |
| 6 | | | | Tree – Woody plants 3 in. (7.6 cm) o | r more in c | diameter at |
| 7 | | | | breast height (DBH), regardless of h | eight. | |
| 8 | | | | Sapling/shrub – Woody plants less t | | BH and |
| 9. | | | | greater than or equal to 3.28 ft (1 m | ı) tall. | |
| 10. | | | | Herb – All herbaceous (non-woody) | | gardless of |
| 11. | | | | size, and woody plants less than 3.2 | | |
| 12. | | | | Woody vines – All woody vines grea | ter than 3. | 28 ft in |
| | 0 | = Total Cove | er | height. | | |
| Woody Vine Stratum (Plot size:30 ft) | | | | Hydrophytic Vegetation Present? | Yes N | 0 |
| 1. | | | | | | |
| 2. | | | | - | | |
| - | | | | - | | |
| 3. | · —— | | | - | | |
| 4 | | | | - | | |
| | 0 | = Total Cov | er | | | |
| Remarks: (Include photo numbers here or on a separa | te sheet.) | | | | | |
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| | cription: (Describe | to the de | - | | | indicato | or confirm the ab | osence of ind | licators.) |
|-------------|-------------------------------|-----------|------------------|-------|-------------------|------------------|------------------------------|---------------|--|
| Depth | Matrix | 0/ | Redox | | | 12 | T | _ | Davis and a |
| (inches) | Color (moist) | <u>%</u> | Color (moist) | % | Type ¹ | Loc ² | Texture Loam | | Remarks |
| 0 - 10 | 5YR 2.5/1 | 100 | | - — | | | | | |
| 10 - 18 | N 6/ | 95 | 2.5Y 6/6 | 5 | C | <u>M</u> | Loamy Sa | and | |
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| | Concentration, D = | Depletic | n, RM = Reduced | Mat | rix, MS = | Masked | Sand Grains. ² Lo | | Pore Lining, M = Matrix. |
| Hydric Soil | | | | | | | | Indicators f | for Problematic Hydric Soils³: |
| Histoso | | | | | | | R, MLRA 149B) | 2 cm M | uck (A10) (LRR K, L, MLRA 149B) |
| | oipedon (A2) | | Thin Dark Su | | | | | Coast P | rairie Redox (A16) (LRR K, L, R) |
| | istic (A3) en Sulfide (A4) | | Loamy Muck | • | | (LKK K, I | -) | | ucky Peat or Peat (S3) (LRR K, L, R) |
| | d Layers (A5) | | Depleted Ma | | | | | | ırface (S7) (LRR K, L) |
| | d Below Dark Surfa | ace (A11 | | | | | | - | ue Below Surface (S8) (LRR K, L) |
| | ark Surface (A12) | | Depleted Dai | | ` ' |) | | | rk Surface (S9) (LRR K, L) |
| Sandy N | Mucky Mineral (S1) | | Redox Depre | ssior | ıs (F8) | | | | anganese Masses (F12) (LRR K, L, R) |
| Sandy C | Gleyed Matrix (S4) | | | | | | | | ont Floodplain Soils (F19) (MLRA 149B) podic (TA6) (MLRA 144A, 145, 149B) |
| Sandy F | Redox (S5) | | | | | | | | rent Material (F21) |
| Strippe | d Matrix (S6) | | | | | | | | allow Dark Surface (TF12) |
| Dark Su | ırface (S7) (LRR R, N | /ILRA 149 | 9B) | | | | | - | Explain in Remarks) |
| 3Indicators | of hydrophytic veg | otation | and watland byd | olog | v must b | o procon | t uplace disturba | | |
| | Layer (if observed): | | and Welland Hydi | olog | y must b | e preser | it, uniess disturbed | d or problem | iauc. |
| | Type: | | None | | | Hydric | Soil Present? | | Yes/_ No |
| | Depth (inches): | | | • | | | | | |
| Remarks: | | - | | | | | | | |
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| Project/Site: Baker | City/County: Sh | utesbury, Franklin | Sampling Date: 2019-Oct-25 | | |
|--------------------------------------|--|-------------------------------|---|--------------------|--|
| Applicant/Owner: | | State: MA | Sampling Point: W-M | IJR-05_UPL-1 | |
| Investigator(s): Matt Regan, Mo | olly Lennon | Section, Township, | Range: | | |
| Landform (hillslope, terrace, etc.): | : Hillslope | Local relief (concave, conv | vex, none): Convex | Slope (%): 1 to 3 | |
| Subregion (LRR or MLRA): N | ILRA 144A of LRR R | Lat: 42.423372203 | 5 Long: -72.4331778289 | Datum: WGS84 | |
| Soil Map Unit Name: 75B: Pills | bury fine sandy loam, 0 to 8 percent | slopes, very stony | NWI classification | on: | |
| Are climatic/hydrologic condition: | s on the site typical for this time of y | rear? Yes <u>✓</u> No | (If no, explain in Remarks. |) | |
| Are Vegetation, Soil, | or Hydrology significantly o | | al Circumstances" present? | Yes No | |
| Are Vegetation, Soil, | or Hydrology naturally pro | blematic? (If needed, | explain any answers in Remarks | 5.) | |
| | | | | | |
| SUMMARY OF FINDINGS – A | ttach site map showing samp | ling point locations, trai | nsects, important features, | etc. | |
| Hydrophytic Vegetation Present? | ? Yes No ⁄_ | | | | |
| Hydric Soil Present? | Yes No | Is the Sampled Area withi | in a Wetland? Ye | s No⁄_ | |
| | | • | | 3110 | |
| Wetland Hydrology Present? | Yes No _ ✓_ | If yes, optional Wetland S | ite ID: | | |
| Remarks: (Explain alternative pro | ocedures here or in a separate repo | rt) | | | |
| Covertype is UPL. | | | | | |
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| HYDROLOGY | | | | | |
| Watland Hydrology Indicators: | | | | | |
| Wetland Hydrology Indicators: | one is required; check all that apply | ١ | Secondary Indicators (minimum | of two required) | |
| • | | | Secondary Indicators (minimun | roi two required) | |
| Surface Water (A1) | Water-Stained Lo | | Surface Soil Cracks (B6) Drainage Patterns (B10) | | |
| High Water Table (A2) | Aquatic Fauna (E | | Moss Trim Lines (B16) | | |
| Saturation (A3) | Marl Deposits (B | | Noss Hill Lines (BTo) Dry-Season Water Table (C2) | | |
| Water Marks (B1) | Hydrogen Sulfid | | Crayfish Burrows (C8) | | |
| Sediment Deposits (B2) | Oxidized Rilizos | oheres on Living Roots (C3) | Saturation Visible on Aerial | Imagery (C9) | |
| Drift Deposits (B3) | Presence of Red | uced Iron (C4) | Stunted or Stressed Plants (| 0 , | |
| Algal Mat or Crust (B4) | | uction in Tilled Soils (C6) | Geomorphic Position (D2) | 51) | |
| Iron Deposits (B5) | Thin Muck Surfa | | Shallow Aquitard (D3) | | |
| Inundation Visible on Aerial I | | | Microtopographic Relief (D4 | 1) | |
| Sparsely Vegetated Concave | · · · · · · · · · · · · · · · · · · · | , | FAC-Neutral Test (D5) | , | |
| Field Observations: | | | | | |
| Surface Water Present? | Yes No <u></u> ✓ Deptl | n (inches): | | | |
| Water Table Present? | · | n (inches): | - Wetland Hydrology Present? | Yes No | |
| | · | | - Wedand Hydrology Fresent? | ies ivo Z _ | |
| Saturation Present? | Yes No Depti | n (inches): | _ | | |
| (includes capillary fringe) | | | | | |
| Describe Recorded Data (stream | gauge, monitoring well, aerial phot | os, previous inspections), if | available: | | |
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| Remarks: | | | | | |
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| | Absoluto | Dominant | Indicator | Dominance Test worksheet: | | |
|---|-------------|--------------|-----------|---|--------------|---------------|
| <u>Tree Stratum</u> (Plot size: <u>30 ft</u>) | | Species? | Status | Number of Dominant Species That | | |
| 1. Tsuga canadensis | 35 | Yes | FACU | Are OBL, FACW, or FAC: | 1 | (A) |
| 2. Acer rubrum | 10 | Yes | FAC | Total Number of Dominant Species | | (D) |
| 3. | | 103 | 1710 | Across All Strata: | 4 | (B) |
| 4. | | | | Percent of Dominant Species That | 25 | (A /D) |
| 5. | | | | Are OBL, FACW, or FAC: | | (A/B) |
| - | | | | Prevalence Index worksheet: | | |
| 6. | | | | Total % Cover of: | Multiply | <u>By:</u> |
| 7 | | | | OBL species 0 | x 1 = | 0 |
| | 45 | = Total Cove | er | FACW species 0 | x 2 = | 0 |
| Sapling/Shrub Stratum (Plot size: 15 ft) | | | | FAC species 10 | x 3 = | 30 |
| 1. Tsuga canadensis | 10 | Yes | FACU | FACU species 50 | x 4 = | 200 |
| 2 | | | | UPL species 0 | x 5 = | 0 |
| 3 | | | | Column Totals 60 | (A) | 230 (B) |
| 4 | | | | Prevalence Index = B/A = | - | |
| 5 | | | | | | |
| 6 | | | | Hydrophytic Vegetation Indicators: | Vagatation | |
| 7 | | | | 1- Rapid Test for Hydrophytic | regetation | • |
| | 10 | = Total Cove | er | 2 - Dominance Test is > 50% | | |
| Herb Stratum (Plot size:5 ft) | | _ | | 3 - Prevalence Index is ≤ 3.0¹ | 1 (Durandala | |
| 1. Fagus grandifolia | 5 | Yes | FACU | 4 - Morphological Adaptations | | supporting |
| 2. | | | | data in Remarks or on a separate sl | | (nlain) |
| 3. | | | | Problematic Hydrophytic Vege | | - |
| 4. | | | | Indicators of hydric soil and wetlar present, unless disturbed or proble | | gy must be |
| 5. | | | | Definitions of Vegetation Strata: | matic | |
| 6. | | | | Tree – Woody plants 3 in. (7.6 cm) o | r moro in | diameter at |
| 7. | | | | breast height (DBH), regardless of h | | ularrieter at |
| 8. | | | | Sapling/shrub – Woody plants less t | _ | OBH and |
| 9. | | | | greater than or equal to 3.28 ft (1 m | | JBIT allu |
| 40 | | | | Herb – All herbaceous (non-woody) | | gardless of |
| 10. | | | | size, and woody plants less than 3.2 | | gar aress or |
| 11 | | | | Woody vines – All woody vines grea | | .28 ft in |
| 12 | | | | height. | | |
| | 5 | = Total Cove | er | Hydrophytic Vegetation Present? | Voc N | do . |
| Woody Vine Stratum (Plot size: 30 ft) | | | | Trydrophytic vegetation Fresent: | 162 1 | NO _ - |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| | 0 | = Total Cove | er | | | |
| Remarks: (Include photo numbers here or on a separa | te sheet.) | | | | | |
| Themans, (medade prioto hambers here or on a separa | te sileet., | | | | | |
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| Profile Description: (Describe to the o | depth needed to docur Redox Fea | | indicator | or confirm the | absence of indicators.) |
|---|------------------------------------|-------------------|------------------|-------------------|--|
| · - | - | | 12 | Tauduma | Damania |
| (inches) Color (moist) % | Color (moist) % | Type ¹ | Loc ² | Texture | Remarks |
| 0 - 6 5YR 2.5/1 100 | | | | Loam | |
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| | ion, RM = Reduced Mat | trix, MS = | Masked | Sand Grains. | ² Location: PL = Pore Lining, M = Matrix. |
| Hydric Soil Indicators: | | | | | Indicators for Problematic Hydric Soils ³ : |
| Histosol (A1) | Polyvalue Below S | | | | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| Histic Epipedon (A2) | Thin Dark Surface | | | | Coast Prairie Redox (A16) (LRR K, L, R) |
| Black Histic (A3) | Loamy Mucky Mir | | (LRR K, L |) | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| Hydrogen Sulfide (A4) | Loamy Gleyed Ma | | | | Dark Surface (S7) (LRR K, L) |
| Stratified Layers (A5) | Depleted Matrix (| | | | Polyvalue Below Surface (S8) (LRR K, L) |
| Depleted Below Dark Surface (A1 | | | | | Thin Dark Surface (S9) (LRR K, L) |
| Thick Dark Surface (A12) | Depleted Dark Su | |) | | Iron-Manganese Masses (F12) (LRR K, L, R) |
| Sandy Mucky Mineral (S1) | Redox Depression | ns (F8) | | | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| Sandy Gleyed Matrix (S4) | | | | | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| Sandy Redox (S5) | | | | | Red Parent Material (F21) |
| Stripped Matrix (S6) | | | | | Very Shallow Dark Surface (TF12) |
| Dark Surface (S7) (LRR R, MLRA 14 | 49B) | | | | Other (Explain in Remarks) |
| ³ Indicators of hydrophytic vegetation | and watland budgalag | n, must b | o procop | t uplace dictur | had or problematic |
| Restrictive Layer (if observed): | i and wetiand nydrolog | sy must b | Г | t, uriless distur | bed of problematic. |
| | Daale | | l leadain a | Cail Duanama | Von No (|
| Type: | Rock | | nyuric . | Soil Present? | Yes No ∕ _ |
| Depth (inches): | 6 | | | | |
| Remarks: | | | | | |
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| Project/Site: Baker | City/County: Shu | tesbury, Franklin | Sampling Date: 2019-Oct-25 | | | |
|---|---|--------------------------------|---------------------------------|---------------------|--|--|
| Applicant/Owner: | - | State: MA | Sampling Point: W-MJR-05_UPL-2 | | | |
| Investigator(s): Matt Regan, Mo | olly Lennon | Section, Township, | Range: | | | |
| Landform (hillslope, terrace, etc.): | Hillslope | Local relief (concave, conve | ex, none): Convex | Slope (%): 1 to 3 | | |
| Subregion (LRR or MLRA): M | ILRA 144A of LRR R | Lat: 42.4229327403 | 3 Long: -72.4339635485 | Datum: WGS84 | | |
| Soil Map Unit Name: 75B: Pillsk | bury fine sandy loam, 0 to 8 percent s | slopes, very stony | NWI classifica | tion: | | |
| Are climatic/hydrologic conditions | s on the site typical for this time of ye | ar? Yes No | (If no, explain in Remark | s.) | | |
| Are Vegetation, Soil, | or Hydrology significantly dis | | al Circumstances" present? | Yes No | | |
| Are Vegetation, Soil, | or Hydrology naturally probl | ematic? (If needed, | explain any answers in Remar | ·ks.) | | |
| | | | | | | |
| SUMMARY OF FINDINGS – A | ttach site map showing sampli | ng point locations, tran | sects, important feature | s, etc. | | |
| Hydrophytic Vegetation Present? | Yes No _ ✓ | | | | | |
| Hydric Soil Present? | Yes No ∠ | Is the Sampled Area within | n a Wetland? | Yes No⁄_ | | |
| Wetland Hydrology Present? | Yes No _ _ | If yes, optional Wetland Sit | | | | |
| | | | te ib. | | | |
| | ocedures here or in a separate report |) | | | | |
| Covertype is UPL. | | | | | | |
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| LIVEROLOGY | | | | | | |
| HYDROLOGY | | | | | | |
| Wetland Hydrology Indicators: | | | | | | |
| Primary Indicators (minimum of o | one is required; check all that apply) | | Secondary Indicators (minimi | um of two required) | | |
| Surface Water (A1) | Water-Stained Lea | aves (B9) | Surface Soil Cracks (B6) | | | |
| High Water Table (A2) | Aquatic Fauna (B1 | 3) | Drainage Patterns (B10) | | | |
| Saturation (A3) | Marl Deposits (B1 | 5) | Moss Trim Lines (B16) | | | |
| Water Marks (B1) | Hydrogen Sulfide | Odor (C1) | Dry-Season Water Table (0 | C2) | | |
| Sediment Deposits (B2) | Oxidized Rhizosph | heres on Living Roots (C3) | Crayfish Burrows (C8) | (60) | | |
| | | | Saturation Visible on Aeria | | | |
| Drift Deposits (B3) | Presence of Redu | | Stunted or Stressed Plants (D1) | | | |
| Algal Mat or Crust (B4) | | ction in Tilled Soils (C6) | Geomorphic Position (D2) | | | |
| Iron Deposits (B5) Inundation Visible on Aerial Ir | Thin Muck Surface | | Shallow Aquitard (D3) | 24) | | |
| | · · · · · · · · · · · · · · · · · · · | Remarks) | Microtopographic Relief (I | J4) | | |
| Sparsely Vegetated Concave S Field Observations: | our face (Bo) | | FAC-Neutral Test (D5) | | | |
| | Vos No (Donth | (in chas). | | | | |
| Surface Water Present? | | (inches): | | | | |
| Water Table Present? | | (inches): | Wetland Hydrology Present? | Yes No ∠ | | |
| Saturation Present? | Yes No Depth | (inches): | | | | |
| (includes capillary fringe) | | | | · | | |
| Describe Recorded Data (stream | gauge, monitoring well, aerial photos | s, previous inspections), if a | available: | | | |
| | | | | | | |
| | | | | | | |
| Remarks: | | | | | | |
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| | Abcoluto | Dominant | Indicator | Dominance Test worksheet: | | |
|---|------------|-------------|-----------|--|-------------|-------------|
| <u>Tree Stratum</u> (Plot size: <u>30 ft</u>) | | Species? | Status | Number of Dominant Species That | | |
| 1 Touga capadoncio | 30 | <u> </u> | FACU | Are OBL, FACW, or FAC: | 1 | (A) |
| 1. Tsuga canadensis | | Yes | | Total Number of Dominant Species | | |
| 2. Quercus rubra | 10 | Yes | FACU | Across All Strata: | 5 | (B) |
| 3. | | | | Percent of Dominant Species That | | |
| 4 | | | | Are OBL, FACW, or FAC: | 20 | (A/B) |
| 5 | | | | Prevalence Index worksheet: | - | |
| 6 | | | | Total % Cover of: | Multiply | By: |
| 7 | | | | OBL species 0 | x 1 = | 0 |
| | 40 | = Total Cov | er | FACW species 5 | x 2 = | 10 |
| Sapling/Shrub Stratum (Plot size:15 ft) | | | | FAC species 0 | x 3 = | 0 |
| 1. Tsuga canadensis | 10 | Yes | FACU | FACU species 70 | x 4 = | 280 |
| 2. Fagus grandifolia | 10 | Yes | FACU | UPL species 0 | x5= | 0 |
| 3. Ostrya virginiana | 5 | No | FACU | Column Totals 75 | - | |
| 4. <i>Kalmia latifolia</i> | 5 | No | FACU | | (A) _ | 290 (B) |
| 5. | | | | Prevalence Index = B/A = | 3.9 | |
| 6. | | | | Hydrophytic Vegetation Indicators: | | |
| 7. | | | | 1- Rapid Test for Hydrophytic \ | egetation/ | ı |
| | 30 | = Total Cov | or | 2 - Dominance Test is > 50% | | |
| Herb Stratum (Plot size:5 ft) | | _ Total Cov | CI | 3 - Prevalence Index is $\leq 3.0^{1}$ | | |
| 1. Osmundastrum cinnamomeum | 5 | Yes | FACW | 4 - Morphological Adaptations | | supporting |
| 2. | | 163 | FACV | data in Remarks or on a separate sh | | |
| - | | | | Problematic Hydrophytic Vege | | - |
| 3. | | | | landicators of hydric soil and wetlan | d hydrolog | gy must be |
| 4 | | | | present, unless disturbed or proble | matic | |
| 5. | | | | Definitions of Vegetation Strata: | | |
| 6 | | | | Tree – Woody plants 3 in. (7.6 cm) o | r more in (| diameter at |
| 7 | | | | breast height (DBH), regardless of h | eight. | |
| 8. | | | | Sapling/shrub – Woody plants less t | han 3 in. [| DBH and |
| 9. | - | | | greater than or equal to 3.28 ft (1 m | ı) tall. | |
| 10. | | | | Herb – All herbaceous (non-woody) | plants, reg | gardless of |
| 11. | | | | size, and woody plants less than 3.2 | 8 ft tall. | |
| 12. | | | | Woody vines – All woody vines grea | ter than 3. | .28 ft in |
| | 5 | = Total Cov | er | height. | | |
| Woody Vine Stratum (Plot size:30 ft) | | - | C1 | Hydrophytic Vegetation Present? | Yes N | lo <u> </u> |
| 1. | | | | | | |
| · | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4 | | | | | | |
| | 0 | = Total Cov | er | | | |
| Remarks: (Include photo numbers here or on a separa | te sheet.) | | | | | |
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| Profile Desc | cription: (Describe | to the d | epth needed to d | ocum | nent the | indicato | r or confirm the al | bsence of indica | tors.) |
|---------------------|----------------------------------|----------------|--------------------|-------------|-------------------|------------------|------------------------------|------------------|--|
| Depth | Matrix | | Redox | Feat | ures | | | | |
| (inches) | Color (moist) | % | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Textu | re | Remarks |
| 0 - 6 | 10YR 2/2 | 100 | | _ | | | Loan | <u> </u> | |
| 6 - 18 | 10YR 4/6 | 100 | | _ | | | Loamy S | and | |
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| | | | | | - 146 | | <u> </u> | | |
| | Concentration, D = | Depletio | on, KIVI = Reduced | Mati | rıx, MS = | ıvıasked | Sand Grains. ² Lo | | re Lining, M = Matrix. |
| Hydric Soil Histoso | | | Polyadua Pal | صهر د | urfaca (C | (Q) / DD | D MIDA 140D\ | | Problematic Hydric Soils ³ : |
| | oipedon (A2) | | Polyvalue Bel | | | | R, MLRA 149B) A 149B) | | (A10) (LRR K, L, MLRA 149B) |
| Black Hi | • | | Loamy Mucky | | | | | | rie Redox (A16) (LRR K, L, R) |
| | en Sulfide (A4) | | Loamy Gleye | | | | • | | cy Peat or Peat (S3) (LRR K, L, R) ce (S7) (LRR K, L) |
| Stratifie | d Layers (A5) | | Depleted Mat | trix (F | -3) | | | | Below Surface (S8) (LRR K, L) |
| | d Below Dark Surf | ace (A11 | | | | | | | Surface (S9) (LRR K, L) |
| | ark Surface (A12) | | Depleted Dar | | |) | | | anese Masses (F12) (LRR K, L, R) |
| | Mucky Mineral (S1) | | Redox Depre | ssion | IS (F8) | | | | Floodplain Soils (F19) (MLRA 149B) |
| - | Gleyed Matrix (S4) Redox (S5) | | | | | | | Mesic Spoo | dic (TA6) (MLRA 144A, 145, 149B) |
| - | d Matrix (S6) | | | | | | | | t Material (F21) |
| | rface (S7) (LRR R, N | JI RA 14 | 9R) | | | | | | ow Dark Surface (TF12) |
| Durk Su | , , (Line 14, 1 | VII. LIU (I I | <i>3</i> 2, | | | | | Other (Exp | lain in Remarks) |
| | of hydrophytic veg | | and wetland hydr | ology | y must b | e preser | nt, unless disturbe | d or problemati | С. |
| | Layer (if observed) | : | | | | | _ | | |
| | Type: | | None | | | Hydric | Soil Present? | `` | Yes No <u>_</u> ✓ |
| - | Depth (inches): | | | | | | | | |
| Remarks: | | | | | | | | | |
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| Project/Site: Baker | City/County: Shu | ıtesbury, Franklin | Sampling Da | te: 2019-Oct-25 | |
|----------------------------------|--|-------------------------------|---------------------------------|--------------------------------|--|
| Applicant/Owner: | - | State: MA | Sampling Point | Sampling Point: W-MJR-06_PEM-1 | |
| Investigator(s): Matt Regan, N | folly Lennon | Section, Township, | , Range: | | |
| Landform(hillslope,terrace,etc.) | : Depression | Local relief (concave, conv | vex, none): Concave | Slope (%): 0 to 1 | |
| Subregion (LRR or MLRA): | MLRA 144A of LRR R | Lat: 42.424223972 | 25 Long: -72.429749295 | Datum: WGS84 | |
| Soil Map Unit Name: 75B: Pill | sbury fine sandy loam, 0 to 8 percent | slopes, very stony | NWI class | ification: | |
| , , | ns on the site typical for this time of ye | | (If no, explain in Rer | | |
| Are Vegetation, Soil, | | | nal Circumstances" present | | |
| Are Vegetation, Soil, | or Hydrology naturally prob | olematic? (If needed, | , explain any answers in Re | emarks.) | |
| | | | | | |
| SUMMARY OF FINDINGS – A | Attach site map showing sampli | ing point locations, tra | nsects, important feat | ures, etc. | |
| Hydrophytic Vegetation Present | t? Yes <u></u> No | | | | |
| Hydric Soil Present? | Yes No | Is the Sampled Area with | in a Wetland? | Yes No | |
| Wetland Hydrology Present? | Yes _ . ✓_ No | If yes, optional Wetland S | iite ID: | W-MJR-06 | |
| | | | <u> </u> | | |
| · | rocedures here or in a separate repor | y . | | | |
| Covertype is PEM. | | | | | |
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| LIVEROLOGY | | | | | |
| HYDROLOGY | | | | | |
| Wetland Hydrology Indicators: | | | | | |
| Primary Indicators (minimum o | of one is required; check all that apply) | | Secondary Indicators (mi | nimum of two required) | |
| Surface Water (A1) | Water-Stained Le | | Surface Soil Cracks (B | • | |
| High Water Table (A2) | Water-Stained Le Aquatic Fauna (B | • • | Drainage Patterns (B10) | | |
| ✓ Saturation (A3) | Marl Deposits (B | | Moss Trim Lines (B16) | | |
| Water Marks (B1) | Hydrogen Sulfide | | ∕ Dry-Season Water Table (C2) | | |
| Sediment Deposits (B2) | , , | heres on Living Roots (C3) | Crayfish Burrows (C8) | | |
| , | | 8 | Saturation Visible on | Aerial Imagery (C9) | |
| Drift Deposits (B3) | Presence of Redu | iced Iron (C4) | Stunted or Stressed Plants (D1) | | |
| Algal Mat or Crust (B4) | Recent Iron Redu | iction in Tilled Soils (C6) | ✓ Geomorphic Position | (D2) | |
| Iron Deposits (B5) | Thin Muck Surfac | te (C7) | Shallow Aquitard (D3) |) | |
| Inundation Visible on Aerial | Imagery (B7) Other (Explain in | Remarks) | Microtopographic Rel | ief (D4) | |
| Sparsely Vegetated Concave | Surface (B8) | | ✓ FAC-Neutral Test (D5) | | |
| Field Observations: | | | | | |
| Surface Water Present? | Yes No <u></u> Depth | ı (inches): | | | |
| Water Table Present? | | i (inches): | - Wetland Hydrology Prese | ent? Yes No | |
| Saturation Present? | | n (inches): | - Treation of the second | | |
| | res <u></u> № Depti | T (ITICITES). | - | | |
| (includes capillary fringe) | | | | . | |
| Describe Recorded Data (strear | m gauge, monitoring well, aerial photo | os, previous inspections), if | available: | | |
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| Remarks: | | | | | |
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| | Abcoluto | Dominant | Indicator | Dominance Test worksheet: | | |
|--|--------------|--------------|-----------|---|---------------|------------|
| Tree Stratum (Plot size:30 ft) | | Species? | Status | Number of Dominant Species That | | |
| | 70 COVE | Species: | Jiaius | Are OBL, FACW, or FAC: | 2 | (A) |
| 1 | | | | Total Number of Dominant Species | - | |
| 2 | | | | Across All Strata: | 2 | (B) |
| 3 | | | | Percent of Dominant Species That | | |
| 4 | | | | Are OBL, FACW, or FAC: | 100 | (A/B) |
| 5 | | | | Prevalence Index worksheet: | | |
| 6 | | | | Total % Cover of: | Multiply E | Bv: |
| 7 | | | | OBL species 70 | x 1 = | 70 |
| | 0 | = Total Cove | er | FACW species 0 | x 2 = | 0 |
| Sapling/Shrub Stratum (Plot size:15 ft) | | | | FAC species 5 | x3= | 15 |
| 1 | _ | | | FACU species 0 | x 4 = | 0 |
| 2. | | | | UPL species 0 | _ | 0 |
| 3. | | | | | x 5 = | |
| 4. | | | | Column Totals 75 | (A) | 85 (B) |
| 5. | | | | Prevalence Index = B/A = | 1.1 | |
| 6. | | | | Hydrophytic Vegetation Indicators: | | |
| 7. | | | | 1- Rapid Test for Hydrophytic | Vegetation | |
| | | = Total Cove | ar | ✓ 2 - Dominance Test is >50% | | |
| Herb Stratum (Plot size:5 ft) | | - | ., | \checkmark 3 - Prevalence Index is ≤ 3.01 | | |
| Schoenoplectus tabernaemontani | 50 | Yes | OBL | 4 - Morphological Adaptations | | supporting |
| 2. Carex lurida | 20 | Yes | OBL | data in Remarks or on a separate s | | |
| | | No | FAC | Problematic Hydrophytic Veg | | |
| | | INO | FAC | Indicators of hydric soil and wetlan | | y must be |
| 4. | | | | present, unless disturbed or proble | matic | |
| 5. | | | | Definitions of Vegetation Strata: | | |
| 6. | | | | Tree – Woody plants 3 in. (7.6 cm) o | | iameter at |
| 7 | | | | breast height (DBH), regardless of l | _ | |
| 8 | | | | Sapling/shrub – Woody plants less | | BH and |
| 9 | | | | greater than or equal to 3.28 ft (1 n | | |
| 10 | | | | Herb – All herbaceous (non-woody size, and woody plants less than 3. | | ardiess of |
| 11 | | | | | | 00 ft in |
| 12 | | | | Woody vines – All woody vines greatheight. | iter than 5.2 | 20 11 111 |
| | 75 | = Total Cove | er | | | |
| Woody Vine Stratum (Plot size: 30 ft) | | | | Hydrophytic Vegetation Present? | Yes No | 0 |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | _ | | | | | |
| 4. | | | | | | |
| | 0 | = Total Cove | er | | | |
| Remarks: (Include photo numbers here or on a separa | ate sheet) | | | | | |
| Remarks. (include prioto numbers here or on a separa | ate sileet.) | | | | | |
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| | cription: (Describe | to the de | - | | | indicato | r or confirm the at | sence of ind | icators.) |
|--------------|--|-----------|------------------|----------|-------------------|------------------|------------------------------|--------------|---|
| Depth _ | Matrix | | Redox | | | | - . | | |
| (inches) | Color (moist) | <u>%</u> | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Texture | | Remarks |
| 0 - 8 | 10YR 2/1 | 100 | | | | | Loam | | |
| 8 - 18 | N 5/ | 100 | | - | | | Loamy Sa | and | |
| | | | | - — | | | | | |
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| ¹Type: C = 0 | Concentration, D = | Depletio | n, RM = Reduced | Mat | rix, MS = | Masked | Sand Grains. ² Lo | cation: PL = | Pore Lining, M = Matrix. |
| Hydric Soil | | | | | | | | | or Problematic Hydric Soils³: |
| Histoso | | | Polyvalue Be | low S | urface (S | 8) (LRR | R, MLRA 149B) | | uck (A10) (LRR K, L, MLRA 149B) |
| Histic E | Histic Epipedon (A2) Thin Dark Surface (S9) (LRR | | | | | | | | rairie Redox (A16) (LRR K, L, R) |
| Black Hi | Black Histic (A3) Loamy Mucky Mineral (F1) (| | | | | | L) | | ucky Peat or Peat (S3) (LRR K, L, R) |
| | en Sulfide (A4) | | Loamy Gleye | | | | | | rface (S7) (LRR K, L) |
| | d Layers (A5) | | Depleted Ma | | | | | | ue Below Surface (S8) (LRR K, L) |
| | d Below Dark Surf | ace (A11 | | | ` ' | | | - | rk Surface (S9) (LRR K, L) |
| | ark Surface (A12) | | Depleted Dar | | |) | | | inganese Masses (F12) (LRR K, L, R) |
| | Mucky Mineral (S1) | | Redox Depre | ssior | is (F8) | | | Piedmo | nt Floodplain Soils (F19) (MLRA 149B) |
| - | Gleyed Matrix (S4) | | | | | | | | podic (TA6) (MLRA 144A, 145, 149B) |
| _ | Redox (S5) | | | | | | | Red Par | ent Material (F21) |
| | d Matrix (S6) | | | | | | | | allow Dark Surface (TF12) |
| Dark Su | ırface (S7) (LRR R, N | /ILRA 149 | 9B) | | | | | Other (E | Explain in Remarks) |
| 3Indicators | of hydrophytic veg | etation a | and wetland hydi | olog | v must b | e preser | nt. unless disturbe | d or problem | natic. |
| - | Layer (if observed): | | | 0. | , | | | р | |
| | Type: | | None | | | Hydric | Soil Present? | | Yes No |
| | Depth (inches): | | | - | | | | | |
| Remarks: | | | | | | ı | | | · |
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| Project/Site: Baker | City/County: Shu | tesbury, Franklin | Sampling Date: 2019-Oct-25 | | | |
|--|---|-----------------------------|---|--------------------------------|--|--|
| Applicant/Owner: | | State: MA | Sampling Point: V | V-MJR-06_UPL-1 | | |
| Investigator(s): Matt Regan, Mo | olly Lennon | Section, Township, | Range: | | | |
| Landform(hillslope,terrace,etc.): | Toe | Local relief (concave, conv | ex, none): Concave | Slope (%): 0 to 1 | | |
| Subregion(LRRorMLRA): ML | LRA 144A of LRR R | Lat: 42.424163874 | 3 Long: -72.4297658914 | Datum: WGS84 | | |
| Soil Map Unit Name: 75B: Pills | bury fine sandy loam, 0 to 8 percent s | slopes, very stony | NWI classifica | ation: | | |
| Are climatic/hydrologic condition | s on the site typical for this time of ye | | (If no, explain in Remar | ks.) | | |
| Are Vegetation, Soil, | or Hydrology significantly di | | al Circumstances" present? | Yes _ ✓ No | | |
| Are Vegetation, Soil, | or Hydrology naturally prob | lematic? (If needed, | explain any answers in Rema | rks.) | | |
| | | | | | | |
| SUMMARY OF FINDINGS – A | ttach site map showing sampli | ng point locations, trar | nsects, important feature | s, etc. | | |
| Hydrophytic Vegetation Present? | ? Yes No _ _/ | | | | | |
| Hydric Soil Present? | Yes No _ _/ _ | Is the Sampled Area withi | n a Wetland? | Yes No/_ | | |
| Wetland Hydrology Present? | Yes No _ _ ✓ | If yes, optional Wetland Si | ite ID: | | | |
| | | | ice is. | <u> </u> | | |
| Covertype is UPL. | ocedures here or in a separate report | .) | | | | |
| Covertype is OPL. | | | | | | |
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| HADBOLOCA | | | | | | |
| HYDROLOGY | | | | | | |
| Wetland Hydrology Indicators: | | | | | | |
| Primary Indicators (minimum of | one is required; check all that apply) | | Secondary Indicators (minim | um of two required) | | |
| Surface Water (A1) | Water-Stained Lea | aves (B9) | Surface Soil Cracks (B6) | | | |
| High Water Table (A2) | Aquatic Fauna (B1 | 13) | Drainage Patterns (B10) | | | |
| Saturation (A3) | Marl Deposits (B1 | 5) | Moss Trim Lines (B16) | | | |
| Water Marks (B1) | Hydrogen Sulfide | Odor (C1) | Dry-Season Water Table (| (C2) | | |
| Sediment Deposits (B2) | Oxidized Rhizospl | heres on Living Roots (C3) | | | | |
| - 16 - 1, 1-2 | | | Saturation Visible on Aer | | | |
| Drift Deposits (B3) | Presence of Redu | | | runted or Stressed Plants (D1) | | |
| Algal Mat or Crust (B4) | | ction in Tilled Soils (C6) | Geomorphic Position (D2 | .) | | |
| Iron Deposits (B5) Inundation Visible on Aerial I | Thin Muck Surface | | Shallow Aquitard (D3)Microtopographic Relief (| (D4) | | |
| Sparsely Vegetated Concave | · · · | Remarks) | FAC-Neutral Test (D5) | ,04) | | |
| Field Observations: | Surface (Do) | | FAC-Neutral Test (D3) | | | |
| | Voc. No. (Donth | (inches): | | | | |
| Surface Water Present? | | (inches): | | | | |
| Water Table Present? | · | (inches): | Wetland Hydrology Present? | Yes No | | |
| Saturation Present? | Yes No Depth | (inches): | | | | |
| (includes capillary fringe) | | | | · | | |
| | n gauge, monitoring well, aerial photo | | available: | | | |
| | | | | | | |
| | | | | | | |
| Remarks: | | | | | | |
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| <u>Free Stratum</u> (Plot size: <u>30 ft</u>) | | Dominant Species? | Indicator Status | Dominance Test worksheet: Number of Dominant Species That | 3 | (4) |
|--|----|-------------------|---------------------|--|---------------|-------------|
| . Tsuga canadensis | 30 | Yes | FACU | Are OBL, FACW, or FAC: | | (A) |
| . Acer rubrum | 10 | Yes | FAC | Total Number of Dominant Species Across All Strata: | 7 | (B) |
| 3. | | | | Percent of Dominant Species That Are OBL, FACW, or FAC: | 42.9 | (A/B) |
| j | | | | Prevalence Index worksheet: | | |
| | | | | Total % Cover of: | Multiply E | Bv: |
| · | | | | OBL species 0 | x 1 = | 0 |
| | 40 | = Total Cov | er | FACW species 60 | x 2 = | 120 |
| apling/Shrub Stratum (Plot size:15 ft) | | | | FAC species 30 | x 3 = | 90 |
| . Tsuga canadensis | 15 | Yes | FACU | FACU species 70 | _ x4= | 280 |
| . Fagus grandifolia | 5 | Yes | FACU | UPL species 0 | _ x5= | 0 |
| S. Pinus strobus | 5 | Yes | FACU | | - | |
| | | | | | _ (A) _ | 490 (B) |
| | | | | Prevalence Index = B/A = | 3.1 | |
| | | | | Hydrophytic Vegetation Indicators | | |
| · : | | | | 1- Rapid Test for Hydrophytic | Vegetation | |
| · | 25 | = Total Cov | or | 2 - Dominance Test is > 50% | | |
| Look Chartery (Diet sines E.f.) | | _ 10tal COV | ei | 3 - Prevalence Index is $\leq 3.0^{\circ}$ | | |
| lerb Stratum (Plot size: _5 ft) | 60 | V | EACIA! | 4 - Morphological Adaptation | s¹ (Provide s | upporting |
| . Osmundastrum cinnamomeum | 60 | Yes | FACW | data in Remarks or on a separate s | sheet) | |
| . Athyrium angustum | | Yes | FAC | Problematic Hydrophytic Veg | etation¹ (Exp | olain) |
| s. Mitchella repens | 15 | No | FACU | ¹ Indicators of hydric soil and wetla | nd hydrolog | y must be |
| l | | | | present, unless disturbed or probl | ematic | |
| 5. | | | | Definitions of Vegetation Strata: | | |
| 5. | | | | Tree – Woody plants 3 in. (7.6 cm) | or more in d | iameter a |
| 7. | | | | breast height (DBH), regardless of | | |
| | | | | Sapling/shrub – Woody plants less | - | BH and |
| | | | | greater than or equal to 3.28 ft (1) | | |
| | | | | Herb – All herbaceous (non-wood) |) plants, reg | ardless of |
| 1 | | | | size, and woody plants less than 3 | | |
| 2 | | | | Woody vines - All woody vines gre | ater than 3.2 | 28 ft in |
| 2 | | | | height. | | |
| | 95 | _= Total Cov | er | Hydrophytic Vegetation Present? | Vac N | 0 / |
| Noody Vine Stratum (Plot size: 30 ft) | | | | Trydrophyde Vegetation i resent. | 103 140 | · _v_ |
| · | | | | | | |
| | | | | | | |
| 3. | | | | | | |
| l . | | | | | | |
| | 0 | = Total Cov | er | | | |

| Profile Desc | ription: (Describe t | to the de | epth needed to d Redox | | | indicato | r or confirm the a | absence of indicators.) |
|---------------|-----------------------------|-----------|---------------------------|-------|-------------------|------------------|--------------------|--|
| (inches) | Color (moist) | <u></u> % | Color (moist) | % | Type ¹ | Loc ² | Texture | Remarks |
| 0 - 10 | 10YR 2/1 | 100 | Color (moist) | 70 | туре | LUC | Loam | Remarks |
| 0-10 | 1011 2/1 | 100 | | _ | | | Loain | |
| | | · —— | | _ | | - | - | |
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| | | | | _ | | | | |
| ¹Type: C = C | oncentration, D = | Depletic | n, RM = Reduced | Mati | rix, MS = | Masked | Sand Grains. 2l | Location: PL = Pore Lining, M = Matrix. |
| Hydric Soil | ndicators: | | <u> </u> | | | | | Indicators for Problematic Hydric Soils ³ : |
| Histosol | (A1) | | | | | | R, MLRA 149B) | 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| Histic Ep | ipedon (A2) | | Thin Dark Su | rface | (S9) (LRF | R R, MLR | A 149B) | Coast Prairie Redox (A16) (LRR K, L, R) |
| Black Hi | stic (A3) | | Loamy Mucky | y Min | eral (F1) | (LRR K, | L) | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| | n Sulfide (A4) | | Loamy Gleye | | | | | Dark Surface (S7) (LRR K, L) |
| | d Layers (A5) | | Depleted Mar | | | | | Polyvalue Below Surface (S8) (LRR K, L) |
| | d Below Dark Surfa | ace (A11 | · | | | | | Thin Dark Surface (S9) (LRR K, L) |
| | rk Surface (A12) | | Depleted Dar | | |) | | Iron-Manganese Masses (F12) (LRR K, L, R) |
| • | lucky Mineral (S1) | | Redox Depre | ssior | IS (F8) | | | Piedmont Floodplain Soils (F19) (MLRA 149B) |
| - | leyed Matrix (S4) | | | | | | | Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| - | edox (S5) | | | | | | | Red Parent Material (F21) |
| | Matrix (S6) | | | | | | | Very Shallow Dark Surface (TF12) |
| Dark Su | rface (S7) (LRR R, M | 1LRA 149 | 9B) | | | | | Other (Explain in Remarks) |
| 3Indicators | of hydrophytic veg | etation | and wetland hydr | olog | y must b | e preser | nt, unless disturb | ed or problematic. |
| Restrictive I | .ayer (if observed): | | | | | | | |
| | Туре: | | Rock | | | Hydric | Soil Present? | Yes No <u>_</u> ✓ |
| | Depth (inches): | | 10 | | | | | |
| Remarks: | | | | | | 1 | | |
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| Project/Site: Baker | City/County: Shu | tesbury, Franklin | | Sampling Date: 2019-Oct-29 | | |
|--|--|--------------------------------|-------------------------|--|-------------------|--|
| Applicant/Owner: | | State: MA | | Sampling Point: W-MJR-07_PFO- | | |
| Investigator(s): Matt Regan, M | att Boscow | Section, Township, | Range: | | | |
| Landform(hillslope,terrace,etc.): | Toe | Local relief (concave, conv | /ex, none):_ | Concave | Slope (%): 0 to 1 | |
| Subregion(LRRorMLRA): M | LRA 144A of LRR R | Lat: 42.423370233 | 88 Long: | -72.4298662227 | Datum: WGS84 | |
| SoilMapUnitName: 50A: Won: | squeak muck, 0 to 2 percent slopes | | | NWI classification | າ: | |
| Areclimatic/hydrologicconditions | sonthesitetypicalforthistimeofyear? | | _ ∠ (If no, | explain in Remarks.) | | |
| Are Vegetation, Soil, | or Hydrology significantly di | | | · | Yes No | |
| Are Vegetation, Soil, | or Hydrology naturally prob | lematic? (If needed, | explain any | y answers in Remarks.) |) | |
| | | | | | | |
| SUMMARY OF FINDINGS – A | Attach site map showing sampli | ng point locations, trai | nsects, im | portant features, e | etc. | |
| Hydrophytic Vegetation Present | ? Yes _ 🗸 No | | | | | |
| Hydric Soil Present? | Yes No | Is the Sampled Area withi | in a Wetland | d? Yes_ | No | |
| Wetland Hydrology Present? | Yes ∠ _ No | If yes, optional Wetland S | | | 1 R-07 | |
| | | | ice ib. | | Ji. 07 | |
| Covertype is PFO. | ocedures here or in a separate report | -) | | | | |
| Covertype is PFO. | | | | | | |
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| HYDROLOGY | | | | | | |
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| Wetland Hydrology Indicators: | | | | | | |
| Primary Indicators (minimum of | one is required; check all that apply) | | • | Indicators (minimum | of two required) | |
| Surface Water (A1) | Water-Stained Lea | aves (B9) | Surface | | | |
| <u>✓</u> High Water Table (A2) | Aquatic Fauna (B1 | | Drainage Patterns (B10) | | | |
| ✓ Saturation (A3) | Marl Deposits (B1 | | | Moss Trim Lines (B16) Dry-Season Water Table (C2) | | |
| Water Marks (B1) | Hydrogen Sulfide | | - | Crayfish Burrows (C8) | | |
| Sediment Deposits (B2) | Oxidized Rhizospl | heres on Living Roots (C3) | - | Saturation Visible on Aerial Imagery (C9) | | |
| Drift Danosits (B3) | Prosence of Padu | cod Iron (CA) | | | | |
| Drift Deposits (B3) Algal Mat or Crust (B4) | Presence of Redu | ction in Tilled Soils (C6) | | _ Stunted or Stressed Plants (D1) <u>′</u> Geomorphic Position (D2) | | |
| Iron Deposits (B5) | Thin Muck Surface | | | _Geomorphic Position (D2) _Shallow Aquitard (D3) | | |
| Inundation Visible on Aerial I | | | | opographic Relief (D4) | | |
| Sparsely Vegetated Concave | · · · | , | | eutral Test (D5) | | |
| Field Observations: | | | | | | |
| Surface Water Present? | Yes No 🟒 Depth | (inches): | | | | |
| Water Table Present? | | (inches): 12 | - Wetland H | lydrology Present? | Yes No | |
| Saturation Present? | · | (inches): 0 | - | , | - | |
| (includes capillary fringe) | 165 <u>v</u> 145 <u> </u> | (1110105). | - | | | |
| - , , , , , , , | | | | | | |
| Describe Recorded Data (stream | n gauge, monitoring well, aerial photo | s, previous inspections), ir a | avallable: | | | |
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| Remarks: | | | | | | |
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| | Dominant Species? | Indicator Status | _ | . 4 | (A) |
|------|--------------------------------|---|---|--|---|
| 25 | Yes | FACU | | | ` |
| 5 | No | FAC | Across All Strata: | 5 | (B) |
| | | | Percent of Dominant Species That Are OBL, FACW, or FAC: | 80 | (A/B) |
| | | | Prevalence Index worksheet: | | - |
| | | | Total % Cover of: | Multiply | By: |
| | | | - OBL species 0 | x 1 = | 0 |
| 30 | _= Total Cov | er | FACW species 15 | x 2 = | 30 |
| | | | FAC species 55 | x 3 = | 165 |
| 10 | Yes | FAC | | - | 120 |
| 10 | Yes | FAC | | - | 0 |
| 5 | No | FACW | | - | 315 (B) |
| 5 | No | FACU | | - | 313 (b) |
| | | | | | |
| | | | 1 | | |
| | | | | Vegetation | |
| 30 | = Total Cov | er | | | |
| | _ | | | | |
| 30 | Ves | FΔC | | | supporting |
| | | | · | - | |
| - 10 | res | FACVV | - Problematic Hydrophytic Veg | etation¹ (Ex | plain) |
| - —— | | | - ¹ Indicators of hydric soil and wetla | nd hydrolog | gy must be |
| | | | present, unless disturbed or probl | ematic | |
| | | | Definitions of Vegetation Strata: | | |
| | | | Tree – Woody plants 3 in. (7.6 cm) | or more in o | diameter a |
| | | | breast height (DBH), regardless of | height. | |
| | | | Sapling/shrub - Woody plants less | than 3 in. [| BH and |
| | | | greater than or equal to 3.28 ft (1 i | n) tall. | |
| | | | Herb – All herbaceous (non-woody |) plants, reg | gardless of |
| . —— | | | size, and woody plants less than 3. | 28 ft tall. | |
| - —— | | | - Woody vines – All woody vines gre | ater than 3. | 28 ft in |
| - 40 | Takal Car | | height. | | |
| 40 | _= lotal Cov | er | Hydronhytic Vegetation Present? | Ves / N | lo |
| | | | Trydrophydic vegetadion i resent. | 1051 | |
| | | | - | | |
| . —— | | | | | |
| | | | _ | | |
| · | | | - | | |
| · —— | | | - - | | |
| | 25 5 30 10 10 5 | 30 = Total Cov 10 Yes 10 Yes 5 No 5 No 30 = Total Cov 30 Yes 10 Yes | 25 | Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: OBL species | Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply OBL species 10 Yes FAC S No FACW No FACW No FACW No FACU Total % Cover of: Multiply OBL species 15 x 2 = FAC species FAC species FACU species O x 5 = Column Totals UPL species O x 5 = Column Totals Hydrophytic Vegetation Indicators: 1- Rapid Test for Hydrophytic Vegetation Yes FAC Hydrophytic Vegetation Indicators: 1- Rapid Test for Hydrophytic Vegetation Yes FACW No FACW Total Number of Dominant Species 80 X 1 = FAC OBL, FACW, or FAC: Numutiply OBL species O x 1 = FACW species 55 x 3 = FACU species O x 5 = Column Totals 100 (A) Prevalence Index = B/A = 3.2 Hydrophytic Vegetation Indicators: 1- Rapid Test for Hydrophytic Vegetation Yes FACW Are OBL, FACW, or FAC: Total Number of Dominant Species No Total Number of Dominant Species No Multiply OBL species O x 1 = FACW species 30 x 4 = UPL species O x 5 = Column Totals 100 (A) Prevalence Index = B/A = 3.2 Hydrophytic Vegetation Indicators: 1- Rapid Test for Hydrophytic Vegetation Yes FACW Are OBL, FACW, or FAC: Prevalence Index worksheet: No Prevalence Index = B/A = 3.2 Hydrophytic Vegetation Indicators: 1- Rapid Test for Hydrophytic Vegetation Yes FACW Problematic Hydrophytic Vegetation (Extended to the problematic Hydrophytic Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in the prevalence index in the problematic Hydrophytic Vegetation Strata: Tree - Woody plants Iess than 3 in. Extended to the problematic Hydrophytic Vegetation Strata: Tree - Woody plants Iess than 3 in. Extended to the problematic Hydrophytic Vegetation Strata: Tree - Woody plants Iess than 3 in. Extended to the problematic Hydrophytic Vegetation Strata: Tree - Woody plants Iess than 3 in. Extended to the problematic Hydrophytic Vegetation Strata: Tree - Woody plants Iess than 3 in. Extended to the problematic Hydrophytic Vegeta |

| | cription: (Describe | to the de | - | | | indicato | r or confirm the at | sence of ind | licators.) |
|--------------|---------------------------|-----------|------------------------------|----------|-------------------|------------------|--------------------------|---------------|---|
| Depth _ | Matrix | | Redox | | | 12 | T | _ | Davis and a |
| (inches) | Color (moist) | <u>%</u> | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Texture | | Remarks |
| 0 - 10 | 10YR 2/1 | 100 | | | | | Loam | | |
| 10 - 18 | N 6/ | 95 | 10YR 6/6 | 5 | C | M | Loamy Sa | and | |
| | | | | _ | | | | | |
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| 1Typo: C = C | Concentration, D = | Donlatio | n PM - Poducod | N/at | riv MS - | Macked | Sand Grains 21 o | ocation: DL = | Pore Lining, M = Matrix. |
| | | Depletio | ii, Kivi – Reduced | iviat | 11X, 1813 - | Maskeu | Janu GranisLC | | • |
| Hydric Soil | | | Dobardus De | ر ا | urfa (C | O) (I DD | D MI DA 440D) | | or Problematic Hydric Soils³: |
| Histoso | r (A1) pipedon (A2) | | Polyvalue Be Thin Dark Su | | | | R, MLRA 149B) a 149B) | | uck (A10) (LRR K, L, MLRA 149B) |
| | istic (A3) | | Loamy Muck | | | | | | rairie Redox (A16) (LRR K, L, R) |
| | en Sulfide (A4) | | Loamy Gleye | • | | (LIXIX IX, I | -) | | ucky Peat or Peat (S3) (LRR K, L, R) |
| | d Layers (A5) | | Depleted Ma | | | | | | rface (S7) (LRR K, L) |
| | d Below Dark Surfa | ace (A11 | | | | | | - | ue Below Surface (S8) (LRR K, L) |
| ' | ark Surface (A12) | | Depleted Dai | | |) | | | rk Surface (S9) (LRR K, L) |
| Sandy N | Mucky Mineral (S1) | | Redox Depre | | | | | | inganese Masses (F12) (LRR K, L, R) |
| | Gleyed Matrix (S4) | | • | | | | | | nt Floodplain Soils (F19) (MLRA 149B) |
| - | Redox (S5) | | | | | | | | podic (TA6) (MLRA 144A, 145, 149B) |
| _ | d Matrix (S6) | | | | | | | | rent Material (F21) |
| | rface (S7) (LRR R, N | /ILRA 149 | 9B) | | | | | | allow Dark Surface (TF12) |
| | | | , | | | | | Other (E | Explain in Remarks) |
| - | of hydrophytic veg | | and wetland hydi | olog | y must b | e preser | nt, unless disturbe | d or problem | natic. |
| | Layer (if observed): _ | | | | | | | | |
| | Type: | | None | | | Hydric | Soil Present? | | Yes No |
| | Depth (inches): | | | | | | | | |
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| | | | | | | | | | |

| Project/Site: Baker | City/County: Shu | itesbury, Franklin | Sa | Sampling Date: 2019-Oct-29 | | | |
|-------------------------------------|--|---|-----------------|--|------------------|--|--|
| Applicant/Owner: | | State: MA | Sam | Sampling Point: W-MJR-07_UPL-1 | | | |
| Investigator(s): Matt Regan, Matt | Boscow | Section, Township, | Range: | | | | |
| Landform(hillslope,terrace,etc.): | Toe | Local relief (concave, convex, none): Concave | | | | | |
| Subregion(LRRorMLRA): MLRA | A 144A of LRR R | Lat: 42.423396343 | 4 Long: -72. | .4296370615 | Datum: WGS84 | | |
| SoilMapUnitName: 50A: Wonsqu | ueak muck, 0 to 2 percent slopes | | | NWI classification: | | | |
| Areclimatic/hydrologicconditionsor | • | | | lain in Remarks.) | | | |
| Are Vegetation, Soil, | or Hydrology significantly di | | al Circumstance | · | es No | | |
| Are Vegetation, Soil, | or Hydrology naturally prob | lematic? (If needed, | explain any an | swers in Remarks.) | | | |
| | | | | | | | |
| SUMMARY OF FINDINGS – Atta | ach site map showing sampli | ng point locations, tran | sects, impor | rtant features, et | tc. | | |
| Hydrophytic Vegetation Present? | Yes No _ _ _ | | | | | | |
| Hydric Soil Present? | Yes No _ _/ _ | Is the Sampled Area within | n a Wetland? | Yes _ | No⁄_ | | |
| Wetland Hydrology Present? | Yes No _ ✓ | If yes, optional Wetland Si | te ID: | | | | |
| Remarks: (Explain alternative proce | | <u> </u> | | | _ | | |
| Covertype is UPL. | sadies here of in a separate report | <i>-</i> | | | | | |
| Covertype is or L. | | | | | | | |
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| HYDROLOGY | | | | | | | |
| | | | | | | | |
| Wetland Hydrology Indicators: | | | | | | | |
| Primary Indicators (minimum of or | <u>ie is required; check all that apply)</u> | | • | dicators (minimum o | of two required) | | |
| Surface Water (A1) | Water-Stained Le | | | oil Cracks (B6) | | | |
| High Water Table (A2) | Aquatic Fauna (B | | • | Patterns (B10) | | | |
| Saturation (A3) | Marl Deposits (B1 | | | _ Moss Trim Lines (B16) _ Dry-Season Water Table (C2) | | | |
| Water Marks (B1) | Hydrogen Sulfide | | - | _ Crayfish Burrows (C8) | | | |
| Sediment Deposits (B2) | Oxidized Rhizosp | heres on Living Roots (C3) | - | Visible on Aerial Im | nagery (C9) | | |
| Drift Deposits (B3) | Presence of Redu | iced Iron (C4) | | Stressed Plants (D | - | | |
| Algal Mat or Crust (B4) | | ction in Tilled Soils (C6) | | nic Position (D2) | 1) | | |
| Iron Deposits (B5) | Thin Muck Surfac | | | quitard (D3) | | | |
| Inundation Visible on Aerial Ima | | | | graphic Relief (D4) | | | |
| Sparsely Vegetated Concave Su | · · · · · · · · · · · · · · · · · · · | • | | al Test (D5) | | | |
| Field Observations: | | | | | | | |
| Surface Water Present? | Yes No Depth | ı (inches): | | | | | |
| Water Table Present? | Yes No Depth | (inches): | Wetland Hydr | ology Present? | Yes No ∠ | | |
| Saturation Present? | | (inches): | 1 | | • | | |
| (includes capillary fringe) | | | | | | | |
| Describe Recorded Data (stream ga | auge monitoring well perial photo | s provious inspections) if a | vailable: | | | | |
| Describe Recorded Data (stream go | auge, monitoring well, aeriai photo | is, previous irispections), ir a | ivaliable. | | | | |
| | | | | | | | |
| | | | | | | | |
| Remarks: | | | | | | | |
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| | Absolute | Dominant | Indicator | Dominance Test worksheet: | | |
|--|-------------|-------------|-----------|--|-------------|-------------|
| Tree Stratum (Plot size: <u>30 ft</u>) | | Species? | Status | Number of Dominant Species That | | |
| 1 Touga canadonsis | 50 | · | FACU | Are OBL, FACW, or FAC: | 1 | (A) |
| 1. Tsuga canadensis | | Yes | | Total Number of Dominant Species | | |
| 2. Betula alleghaniensis | 5 | No | FAC | Across All Strata: | 5 | (B) |
| 3. | | | | Percent of Dominant Species That | | |
| 4 | | | | Are OBL, FACW, or FAC: | 20 | (A/B) |
| 5 | | | | Prevalence Index worksheet: | - | |
| 6. | | | | Total % Cover of: | Multiply | By: |
| 7 | | | | OBL species 0 | x 1 = | 0 |
| | 55 | = Total Cov | er | FACW species 0 | x 2 = | 0 |
| Sapling/Shrub Stratum (Plot size:15 ft) | | | | FAC species 10 | x 3 = | 30 |
| 1. Hamamelis virginiana | 10 | Yes | FACU | FACU species 70 | x 4 = | 280 |
| 2. Kalmia latifolia | 5 | Yes | FACU | UPL species 0 | x5= | 0 |
| 3. Tsuga canadensis | 5 | Yes | FACU | Column Totals 80 | - | |
| 4. Betula alleghaniensis | | Yes | FAC | | (A) _ | 310 (B) |
| 5. | | | | Prevalence Index = B/A = | 3.9 | |
| 6. | | | | Hydrophytic Vegetation Indicators: | | |
| 7. | | | | 1- Rapid Test for Hydrophytic \ | /egetation | 1 |
| | 25 | = Total Cov | er | 2 - Dominance Test is > 50% | | |
| Herb Stratum (Plot size:5 ft) | | - | C1 | 3 - Prevalence Index is $\leq 3.0^{1}$ | | |
| 1 | | | | 4 - Morphological Adaptations | | supporting |
| | | | | data in Remarks or on a separate sh | | |
| | | | | Problematic Hydrophytic Vege | | - |
| 3. | | | | Indicators of hydric soil and wetlan | - | gy must be |
| 4 | | | | present, unless disturbed or proble | matic | |
| 5 | | | | Definitions of Vegetation Strata: | | |
| 6 | | | | Tree – Woody plants 3 in. (7.6 cm) o | | diameter at |
| 7 | | | | breast height (DBH), regardless of h | _ | |
| 8 | | | | Sapling/shrub – Woody plants less t | | DBH and |
| 9 | | | | greater than or equal to 3.28 ft (1 m | | |
| 10 | | | | Herb – All herbaceous (non-woody) | | gardless of |
| 11 | | | | size, and woody plants less than 3.2 | | |
| 12. | | | | Woody vines – All woody vines grea | ter than 3. | .28 ft in |
| | | = Total Cov | er | height. | | |
| Woody Vine Stratum (Plot size:30 ft) | | = | | Hydrophytic Vegetation Present? | Yes N | No <u> </u> |
| 1. | | | | | | |
| 2. | | | | • | | |
| 3. | | | | • | | |
| 4. | | | | - | | |
| | | = Total Cov | or | | | |
| | | _ 10tal Cov | er | | | |
| Remarks: (Include photo numbers here or on a separ | ate sheet.) | | | | | |
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| | - | to the de | epth needed to de Redox | | | indicato | r or confirm the | absence of indicators.) | |
|---------------|-----------------------------|------------|----------------------------|----------|-------------------|---|-------------------|--|------|
| Depth | Matrix | | | | | | - . | ъ | |
| (inches) | Color (moist) | | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Texture | Remarks | |
| 0 - 12 | 7.5YR 2.5/1 | 100 | | _ | | | Loam | | |
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| | | | | _ | | | | | |
| ¹Type: C = C | Concentration, D = | Depletio | n, RM = Reduced | Mati | rix, MS = | Masked | Sand Grains. | Location: PL = Pore Lining, M = Matrix. | |
| Hydric Soil | | | | | | | | Indicators for Problematic Hydric Soils ³ : | _ |
| Histosol | | | Polyvalue Bel | ow S | urface (S | 8) (LRR I | R, MLRA 149B) | • | ١ |
| | pipedon (A2) | | Thin Dark Sur | | | | | 2 cm Muck (A10) (LRR K, L, MLRA 149B |) |
| Black Hi | | | Loamy Mucky | | | | | Coast Prairie Redox (A16) (LRR K, L, R) | ъ. |
| | en Sulfide (A4) | | Loamy Gleye | | | . , | , | 5 cm Mucky Peat or Peat (S3) (LRR K, L | , K) |
| | d Layers (A5) | | Depleted Mat | | | | | Dark Surface (S7) (LRR K, L) | |
| | d Below Dark Surfa | | | | | | | Polyvalue Below Surface (S8) (LRR K, L) |) |
| Thick Da | ark Surface (A12) | | Depleted Dar | k Sur | face (F7) |) | | Thin Dark Surface (S9) (LRR K, L) | . 5. |
| Sandy N | lucky Mineral (S1) | | Redox Depre | ssior | ıs (F8) | | | Iron-Manganese Masses (F12) (LRR K, | |
| Sandy G | Gleyed Matrix (S4) | | | | | | | Piedmont Floodplain Soils (F19) (MLRA | |
| _ | ledox (S5) | | | | | | | Mesic Spodic (TA6) (MLRA 144A, 145, 1 | 49B) |
| _ | d Matrix (S6) | | | | | | | Red Parent Material (F21) | |
| | rface (S7) (LRR R, N | ΛΙ DΔ 1/10 | ar) | | | | | Very Shallow Dark Surface (TF12) | |
| Dark 3u | riace (37) (ERR IC, IC | ILIVA 143 | , Б, | | | | | Other (Explain in Remarks) | |
| 3Indicators | of hydrophytic veg | etation a | and wetland hydr | olog | y must b | e preser | nt, unless distur | oed or problematic. | |
| Restrictive I | Layer (if observed): | | - | | | | | · | |
| | Type: | | Rock | | | Hvdric | Soil Present? | Yes No <u>_</u> ✓ | |
| | Depth (inches): | | 12 | | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | |
| Remarks: | Deptir (inches). | | 12 | | | | | <u>_</u> | |
| Remarks. | | | | | | | | | |
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Appendix D: NRCS Soil Report



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 Franklin County, Massachusetts



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.

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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.

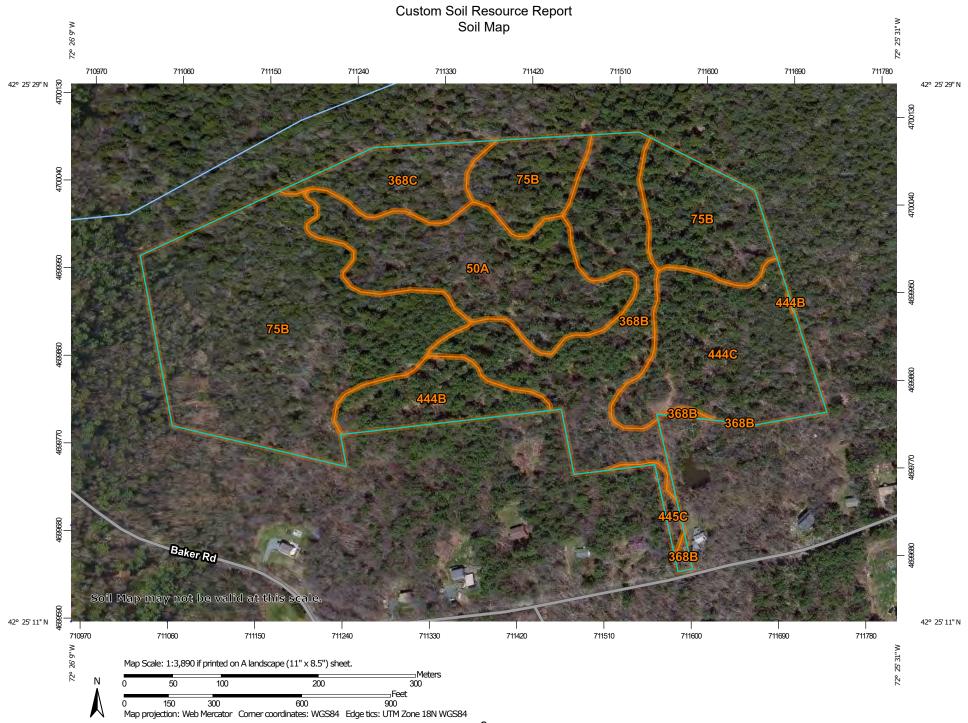
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

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.



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

(0)

Blowout

 \boxtimes

Borrow Pit

Ж

Clay Spot

 \Diamond

Closed Depression

Ċ

Gravel Pit

...

Gravelly Spot

0

Landfill Lava Flow

٨

Marsh or swamp

@

Mine or Quarry

0

Miscellaneous Water
Perennial Water

0

Rock Outcrop

+

Saline Spot

. .

Sandy Spot

Severely Eroded Spot

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Sinkhole

24

Slide or Slip

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Sodic Spot

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8

Spoil Area Stony Spot



Very Stony Spot



Wet Spot Other

Δ

Special Line Features

Water Features

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Streams and Canals

Transportation

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Rails

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Interstate Highways

US Routes

 \sim

Major Roads Local Roads

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Background

Marie Control

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: Franklin County, Massachusetts Survey Area Data: Version 14, Sep 12, 2019

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: Sep 29, 2013—Oct 16, 2016

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 |
|-----------------------------|--|--------------|----------------|
| 50A | Wonsqueak muck, 0 to 2 percent slopes | 6.9 | 15.2% |
| 75B | Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony | 19.1 | 42.3% |
| 368B | Metacomet fine sandy loam, 3 to 8 percent slopes | 7.6 | 16.8% |
| 368C | Metacomet fine sandy loam, 8 to 15 percent slopes | 2.6 | 5.7% |
| 444B | Chichester fine sandy loam, 3 to 8 percent slopes | 2.5 | 5.6% |
| 444C | Chichester fine sandy loam, 8 to 15 percent slopes | 6.2 | 13.7% |
| 445C | Chichester fine sandy loam, 8 to 15 percent slopes, very stony | 0.3 | 0.6% |
| Totals for Area of Interest | | 45.2 | 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

Custom Soil Resource Report

descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not 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.

Franklin County, Massachusetts

50A—Wonsqueak muck, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2ty72 Elevation: 300 to 2,000 feet

Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F

Frost-free period: 90 to 160 days

Farmland classification: Not prime farmland

Map Unit Composition

Wonsqueak and similar soils: 81 percent

Minor components: 19 percent

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

Description of Wonsqueak

Setting

Landform: Hills, mountains

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Mountainbase, interfluve, base slope

Down-slope shape: Concave Across-slope shape: Concave

Parent material: Herbaceous organic material over loamy till

Typical profile

Oa1 - 0 to 8 inches: muck
Oa2 - 8 to 32 inches: muck
2Cg - 32 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high

(0.14 to 14.17 in/hr)

Depth to water table: About 0 inches

Frequency of flooding: None Frequency of ponding: Frequent

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

Available water storage in profile: Very high (about 18.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: B/D Hydric soil rating: Yes

Minor Components

Bucksport

Percent of map unit: 7 percent Landform: Hills, mountains

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Mountainbase, interfluve, base slope

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Medomak, fine-silty

Percent of map unit: 6 percent

Landform: Flood plains

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

Peacham, very stony

Percent of map unit: 3 percent Landform: Hills, mountains

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Mountainbase, interfluve, base slope

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Searsport

Percent of map unit: 3 percent Landform: Hills, mountains

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Mountainbase, interfluve, base slope

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

75B—Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2ty6x Elevation: 360 to 2,070 feet

Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F

Frost-free period: 90 to 140 days

Farmland classification: Not prime farmland

Map Unit Composition

Pillsbury, very stony, and similar soils: 79 percent

Minor components: 21 percent

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

Description of Pillsbury, Very Stony

Setting

Landform: Hills, mountains

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Mountainbase, base slope, interfluve

Down-slope shape: Concave Across-slope shape: Concave

Parent material: Loamy lodgment till derived from gneiss and/or loamy lodgment till derived from mica schist and/or loamy lodgment till derived from granite

Typical profile

Oe - 0 to 1 inches: mucky peat A - 1 to 6 inches: fine sandy loam

Bg1 - 6 to 13 inches: cobbly fine sandy loam Bg2 - 13 to 23 inches: cobbly fine sandy loam Cd - 23 to 65 inches: cobbly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent

Percent of area covered with surface fragments: 1.1 percent Depth to restrictive feature: 21 to 43 inches to densic material

Natural drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.01 to 1.42 in/hr)

Depth to water table: About 0 to 12 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 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: D Hydric soil rating: Yes

Minor Components

Peru, very stony

Percent of map unit: 9 percent Landform: Hills, mountains

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountainbase, interfluve, base slope

Microfeatures of landform position: Rises, rises

Down-slope shape: Convex

Across-slope shape: Linear, convex

Hydric soil rating: No

Peacham, very stony

Percent of map unit: 5 percent Landform: Mountains, hills

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Mountainbase, base slope, interfluve *Microfeatures of landform position:* Closed depressions, closed depressions

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Wonsqueak

Percent of map unit: 4 percent

Landform: Mountains, hills

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Mountainbase, base slope, interfluve *Microfeatures of landform position:* Closed depressions, closed depressions

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Lyman, very stony

Percent of map unit: 3 percent Landform: Hills, mountains

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

Landform position (three-dimensional): Mountainbase, interfluve, base slope

Microfeatures of landform position: Rises, rises

Down-slope shape: Convex Across-slope shape: Convex

Hydric soil rating: No

368B—Metacomet fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9ccj Elevation: 960 to 1,260 feet

Mean annual precipitation: 39 to 53 inches
Mean annual air temperature: 34 to 56 degrees F

Frost-free period: 140 to 174 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Metacomet and similar soils: 85 percent

Minor components: 15 percent

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

Description of Metacomet

Setting

Landform: Ground moraines, drumlins

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Convex

Parent material: Loamy till underlain by sandy lodgment till derived from gneiss

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material Oe - 2 to 2 inches: moderately decomposed plant material

A - 2 to 5 inches: fine sandy loam
E - 5 to 6 inches: fine sandy loam
Bw1 - 6 to 13 inches: fine sandy loam
Bw2 - 13 to 18 inches: fine sandy loam

Bw3 - 18 to 27 inches: sandy loam C - 27 to 32 inches: stony loamy sand Cd1 - 32 to 48 inches: loamy sand Cd2 - 48 to 65 inches: sandy loam

Properties and qualities

Slope: 3 to 8 percent

Percent of area covered with surface fragments: 0.0 percent Depth to restrictive feature: 20 to 37 inches to densic material

Natural drainage class: Moderately well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.20 in/hr)

Depth to water table: About 16 to 24 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B/D Hydric soil rating: No

Minor Components

Pillsbury

Percent of map unit: 10 percent Landform: Ground moraines, drumlins

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Henniker

Percent of map unit: 5 percent

Landform: Ground moraines, drumlins

Landform position (two-dimensional): Backslope, toeslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Hydric soil rating: No

368C—Metacomet fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9cch Elevation: 970 to 1,250 feet

Mean annual precipitation: 39 to 53 inches
Mean annual air temperature: 34 to 56 degrees F

Frost-free period: 140 to 174 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Metacomet and similar soils: 85 percent

Minor components: 15 percent

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

Description of Metacomet

Setting

Landform: Ground moraines, drumlins

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Convex

Parent material: Loamy till underlain by sandy lodgment till derived from gneiss

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material Oe - 2 to 2 inches: moderately decomposed plant material

A - 2 to 5 inches: fine sandy loam
E - 5 to 6 inches: fine sandy loam
Bw1 - 6 to 13 inches: fine sandy loam
Bw2 - 13 to 18 inches: fine sandy loam
Bw3 - 18 to 27 inches: sandy loam
C - 27 to 32 inches: stony loamy sand
Cd1 - 32 to 48 inches: loamy sand
Cd2 - 48 to 65 inches: sandy loam

Properties and qualities

Slope: 8 to 15 percent

Percent of area covered with surface fragments: 0.0 percent Depth to restrictive feature: 20 to 37 inches to densic material

Natural drainage class: Moderately well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.20 in/hr)

Depth to water table: About 16 to 24 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B/D Hydric soil rating: No

Minor Components

Pillsbury

Percent of map unit: 10 percent Landform: Ground moraines, drumlins

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Henniker

Percent of map unit: 5 percent

Landform: Ground moraines, drumlins

Landform position (two-dimensional): Backslope, toeslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Hydric soil rating: No

444B—Chichester fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9cfm Elevation: 940 to 1,400 feet

Mean annual precipitation: 39 to 53 inches
Mean annual air temperature: 34 to 56 degrees F

Frost-free period: 140 to 174 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Chichester and similar soils: 85 percent

Minor components: 15 percent

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

Description of Chichester

Setting

Landform: Valley sides, ground moraines

Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Side slope, base slope

Down-slope shape: Linear, concave Across-slope shape: Linear, convex

Parent material: Loamy over sandy supraglacial meltout till derived from gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: fine sandy loam
Ap - 3 to 7 inches: fine sandy loam
Bw1 - 7 to 10 inches: fine sandy loam
Bw2 - 10 to 20 inches: fine sandy loam

C1 - 20 to 28 inches: gravelly loamy coarse sand

C2 - 28 to 35 inches: sand C3 - 35 to 44 inches: stony sand C4 - 44 to 65 inches: stony sand

Properties and qualities

Slope: 3 to 8 percent

Percent of area covered with surface fragments: 0.0 percent

Depth to restrictive feature: About 20 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 (0.20 to 6.00 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 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Henniker

Percent of map unit: 10 percent Landform: Ground moraines, drumlins

Landform position (two-dimensional): Backslope, toeslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Hydric soil rating: No

Millsite

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank, side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

444C—Chichester fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9cfl Elevation: 380 to 1,040 feet

Mean annual precipitation: 39 to 53 inches
Mean annual air temperature: 34 to 56 degrees F

Frost-free period: 140 to 174 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Chichester and similar soils: 90 percent

Minor components: 10 percent

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

Description of Chichester

Setting

Landform: Valley sides, ground moraines

Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Side slope, base slope

Down-slope shape: Linear, concave Across-slope shape: Linear, convex

Parent material: Loamy over sandy supraglacial meltout till derived from gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: fine sandy loam

Ap - 3 to 7 inches: fine sandy loam

Bw1 - 7 to 10 inches: fine sandy loam

Bw2 - 10 to 20 inches: fine sandy loam

C1 - 20 to 28 inches: gravelly loamy coarse sand

C2 - 28 to 35 inches: sand C3 - 35 to 44 inches: stony sand C4 - 44 to 65 inches: stony sand

Properties and qualities

Slope: 8 to 15 percent

Percent of area covered with surface fragments: 0.0 percent

Depth to restrictive feature: About 20 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 (0.20 to 6.00 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 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Henniker

Percent of map unit: 10 percent Landform: Ground moraines, drumlins

Landform position (two-dimensional): Backslope, toeslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Hydric soil rating: No

445C—Chichester fine sandy loam, 8 to 15 percent slopes, very stony

Map Unit Setting

National map unit symbol: 9cfh Elevation: 900 to 1,250 feet

Mean annual precipitation: 39 to 53 inches Mean annual air temperature: 34 to 56 degrees F

Frost-free period: 140 to 174 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Chichester, very stony, and similar soils: 90 percent

Minor components: 10 percent

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

Description of Chichester, Very Stony

Setting

Landform: Valley sides, ground moraines

Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Side slope, base slope

Down-slope shape: Linear, concave Across-slope shape: Linear, convex

Parent material: Loamy over sandy supraglacial meltout till derived from gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: fine sandy loam

Ap - 3 to 7 inches: fine sandy loam

Bw1 - 7 to 10 inches: fine sandy loam

Bw2 - 10 to 20 inches: fine sandy loam

C1 - 20 to 28 inches: gravelly loamy coarse sand

C2 - 28 to 35 inches: sand C3 - 35 to 44 inches: stony sand C4 - 44 to 65 inches: stony sand

Properties and qualities

Slope: 8 to 15 percent

Percent of area covered with surface fragments: 2.1 percent

Depth to restrictive feature: About 20 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 (0.20 to 6.00 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 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Henniker, very stony

Percent of map unit: 10 percent Landform: Ground moraines, drumlins

Landform position (two-dimensional): Backslope, toeslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear Across-slope shape: Linear, convex

Hydric soil rating: No

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Appendix E: USGS StreamStats Report

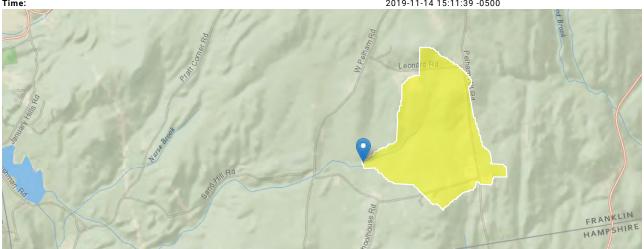
StreamStats Page 1 of 5

StreamStats Page 2 of 5

AMP Baker MJR-S5 StreamStats Report

Region ID: Workspace ID: Clicked Point (Latitude, Longitude):

MA MA20191114201122212000 42.42400, -72.43503 2019-11-14 15:11:39 -0500



| Parameter Code | Parameter Description | Value | Unit |
|----------------|--|----------|----------------------|
| DRNAREA | Area that drains to a point on a stream | 0.61 | square miles |
| ELEV | Mean Basin Elevation | 1150 | feet |
| LC06STOR | Percentage of water bodies and wetlands determined from the NLCD 2006 | 0.96 | percent |
| DRFTPERSTR | Area of stratified drift per unit of stream length | 0.0211 | square mile per mile |
| MAREGION | Region of Massachusetts 0 for Eastern 1 for Western | 1 | dimensionless |
| BSLDEM250 | Mean basin slope computed from 1:250K DEM | 4.127 | percent |
| BSLDEM10M | Mean basin slope computed from 10 m DEM | 6.27 | percent |
| PCTSNDGRV | Percentage of land surface underlain by sand and gravel deposits | 3.23 | percent |
| FOREST | Percentage of area covered by forest | 93.69 | percent |
| ACRSDFT | Area underlain by stratified drift | 0.0228 | square miles |
| CENTROIDX | Basin centroid horizontal (x) location in state plane coordinates | 123930.1 | meters |
| CENTROIDY | Basin centroid vertical (y) location in state plane units | 908894.8 | meters |
| CRSDFT | Percentage of area of coarse-grained stratified drift | 3.23 | percent |
| LAKEAREA | Percentage of Lakes and Ponds | 0.09 | percent |
| LC11DEV | Percentage of developed (urban) land from NLCD 2011 classes 21-24 | 6.86 | percent |
| LC11IMP | Average percentage of impervious area determined from NLCD 2011 impervious dataset | 0.58 | percent |
| MAXTEMPC | Mean annual maximum air temperature over basin area, in degrees Centigrade | 13.2 | feet per mi |
| OUTLETX | Basin outlet horizontal (x) location in state plane coordinates | 123055 | feet |
| OUTLETY | Basin outlet vertical (y) location in state plane coordinates | 908585 | feet |
| PRECPRIS00 | Basin average mean annual precipitation for 1971 to 2000 from PRISM | 49.6 | inches |
| STRMTOT | total length of all mapped streams (1:24,000-scale) in the basin | 1.08 | miles |
| WETLAND | Percentage of Wetlands | 3.42 | percent |

General Disclaimers

StreamStats Page 3 of 5

This watershed has been edited, computed flows may not apply.

| Peak-Flow Statistics Parameters[Peak Statewide 2016 5156] | | | | | | | |
|---|-------------------------------|-------|--------------|-----------|-----------|--|--|
| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit | | |
| DRNAREA | Drainage Area | 0.61 | square miles | 0.16 | 512 | | |
| ELEV | Mean Basin Elevation | 1150 | feet | 80.6 | 1948 | | |
| LC06STOR | Percent Storage from NLCD2006 | 0.96 | percent | 0 | 32.3 | | |

Peak-Flow Statistics Flow Report[Peak Statewide 2016 5156]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

| Statistic | Value | Unit | PII | Plu | SEp |
|---------------------|-------|--------|------|------|------|
| 2 Year Peak Flood | 45.1 | ft^3/s | 22.1 | 92.1 | 42.3 |
| 5 Year Peak Flood | 78.6 | ft^3/s | 37.9 | 163 | 43.4 |
| 10 Year Peak Flood | 107 | ft^3/s | 50.2 | 228 | 44.7 |
| 25 Year Peak Flood | 150 | ft^3/s | 67.7 | 332 | 47.1 |
| 50 Year Peak Flood | 187 | ft^3/s | 81.5 | 430 | 49.4 |
| 100 Year Peak Flood | 228 | ft^3/s | 95.8 | 541 | 51.8 |
| 200 Year Peak Flood | 273 | ft^3/s | 111 | 671 | 54.1 |
| 500 Year Peak Flood | 340 | ft^3/s | 149 | 777 | 57.6 |

Peak-Flow Statistics Citations

Zarriello, P.J.,2017, Magnitude of flood flows at selected annual exceedance probabilities for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2016–5156, 99 p. (https://dx.doi.org/10.3133/sir20165156)

| Flow-Duration Statistics Parameters[Statewide Low Flow WRIR00 4135] | | | | | | | | |
|---|--|--|--|--|--|--|--|--|
| | | | | | | | | |
| | | | | | | | | |

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|----------------|------------------------------------|--------|----------------------|-----------|-----------|
| DRNAREA | Drainage Area | 0.61 | square miles | 1.61 | 149 |
| DRFTPERSTR | Stratified Drift per Stream Length | 0.0211 | square mile per mile | 0 | 1.29 |
| MAREGION | Massachusetts Region | 1 | dimensionless | 0 | 1 |
| BSLDEM250 | Mean Basin Slope from 250K DEM | 4.127 | percent | 0.32 | 24.6 |

Flow-Duration Statistics Disclaimers[Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors $\frac{1}{2}$

Flow-Duration Statistics Flow Report[Statewide Low Flow WRIR00 4135]

| Statistic | Value | Unit |
|---------------------|--------|--------|
| 50 Percent Duration | 0.577 | ft^3/s |
| 60 Percent Duration | 0.35 | ft^3/s |
| 70 Percent Duration | 0.222 | ft^3/s |
| 75 Percent Duration | 0.173 | ft^3/s |
| 80 Percent Duration | 0.127 | ft^3/s |
| 85 Percent Duration | 0.0917 | ft^3/s |
| 90 Percent Duration | 0.0611 | ft^3/s |
| 95 Percent Duration | 0.0353 | ft^3/s |
| 98 Percent Duration | 0.0239 | ft^3/s |
| 99 Percent Duration | 0.0166 | ft^3/s |

Flow-Duration Statistics Citations

StreamStats Page 4 of 5

Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)

Low-Flow Statistics Parameters[Statewide Low Flow WRIR00 4135]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|----------------|------------------------------------|--------|----------------------|-----------|-----------|
| DRNAREA | Drainage Area | 0.61 | square miles | 1.61 | 149 |
| BSLDEM250 | Mean Basin Slope from 250K DEM | 4.127 | percent | 0.32 | 24.6 |
| DRFTPERSTR | Stratified Drift per Stream Length | 0.0211 | square mile per mile | 0 | 1.29 |
| MAREGION | Massachusetts Region | 1 | dimensionless | 0 | 1 |

Low-Flow Statistics Disclaimers[Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[Statewide Low Flow WRIR00 4135]

| Statistic | Value | Unit |
|------------------------|--------|--------|
| 7 Day 2 Year Low Flow | 0.0376 | ft^3/s |
| 7 Day 10 Year Low Flow | 0.014 | ft^3/s |

Low-Flow Statistics Citations

Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)

August Flow-Duration Statistics Parameters[Statewide Low Flow WRIR00 4135]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|----------------|------------------------------------|--------|----------------------|-----------|-----------|
| DRNAREA | Drainage Area | 0.61 | square miles | 1.61 | 149 |
| BSLDEM250 | Mean Basin Slope from 250K DEM | 4.127 | percent | 0.32 | 24.6 |
| DRFTPERSTR | Stratified Drift per Stream Length | 0.0211 | square mile per mile | 0 | 1.29 |
| MAREGION | Massachusetts Region | 1 | dimensionless | 0 | 1 |

August Flow-Duration Statistics Disclaimers[Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

August Flow-Duration Statistics Flow Report[Statewide Low Flow WRIR00 4135]

| Statistic | Value | Unit |
|----------------------------|-------|--------|
| August 50 Percent Duration | 0.101 | ft^3/s |

August Flow-Duration Statistics Citations

Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)

Bankfull Statistics Parameters[Bankfull Statewide SIR2013 5155]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|----------------|-------------------------------|-------|--------------|-----------|-----------|
| DRNAREA | Drainage Area | 0.61 | square miles | 0.6 | 329 |
| BSLDEM10M | Mean Basin Slope from 10m DEM | 6.27 | percent | 2.2 | 23.9 |

Bankfull Statistics Flow Report[Bankfull Statewide SIR2013 5155]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

| Statistic | Value | Unit | SEp |
|----------------|-------|------|------|
| Bankfull Width | 12.1 | ft | 21.3 |

StreamStats Page 5 of 5

| Statistic | Value | Unit | SEp |
|---------------------|-------|--------|------|
| Bankfull Depth | 0.81 | ft | 19.8 |
| Bankfull Area | 9.67 | ft^2 | 29 |
| Bankfull Streamflow | 23.2 | ft^3/s | 55 |

Bankfull Statistics Citations

Bent, G.C., and Waite, A.M.,2013, Equations for estimating bankfull channel geometry and discharge for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2013–5155, 62 p., (http://pubs.usgs.gov/sir/2013/5155/)

| Probability Statistics Parameters[Perennial Flow Probability] | | | | | |
|---|--------------------------------------|-------|---------------|-----------|-----------|
| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
| DRNAREA | Drainage Area | 0.61 | square miles | 0.01 | 1.99 |
| PCTSNDGRV | Percent Underlain By Sand And Gravel | 3.23 | percent | 0 | 100 |
| FOREST | Percent Forest | 93.69 | percent | 0 | 100 |
| MAREGION | Massachusetts Region | 1 | dimensionless | 0 | 1 |

Probability Statistics Flow Report[Perennial Flow Probability]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

| Statistic | Value | Unit | PC |
|--|-------|------|----|
| Probability Stream Flowing Perennially | 0.716 | dim | 71 |

Probability Statistics Citations

Bent, G.C., and Steeves, P.A.,2006, A revised logistic regression equation and an automated procedure for mapping the probability of a stream flowing perennially in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2006–5031, 107 p. (http://pubs.usgs.gov/sir/2006/5031/pdfs/SIR_2006-5031rev.pdf)

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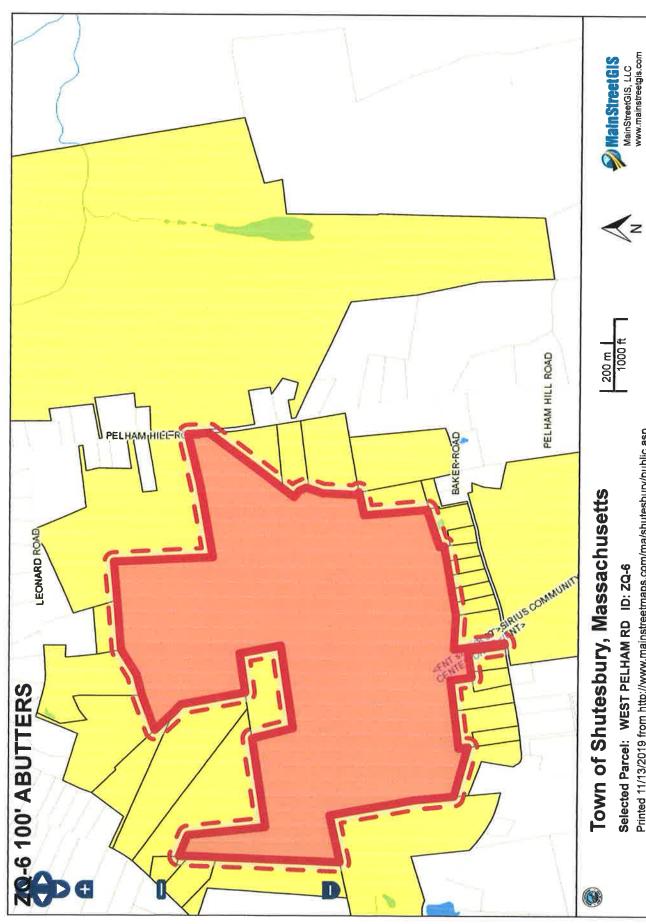
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Application Version: 4.3.8

ATTACHMENT C
Abutter Information
(Certified Abutter List, Abutter Notification
& Affidavit of Service)





Selected Parcel: WEST PELHAM RD ID: ZQ-6

Printed 11/13/2019 from http://www.mainstreetmaps.com/ma/shutesbury/public.asp

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Parcel ID: Q-24

SHIELDS-ZUMBRUSKI MARJORIE

WEST CHESTERFIELD NH 03466

Parcel ID: Q-48, Q-5

P O BOX 271

MCKAY ROBERT B
MCKAY F ELLEN
P O BOX 1
SHUTESBURY MA 01072

SHOTESDORT WAR OLO

Parcel ID: Q-55

BUONACCORSI JOHN P PULEO ELAINE M 129 BAKER RD SHUTESBURY MA 01072

Parcel ID: Q-62

EVMV NOMINEE TRUST
C/O VENDETTE, E. J. JR & M.C., TRUSTEE
47 BAKER RD

TI DAKEK KO

AMHERST MA 01002

Parcel ID: ZR-12

SIRIUS COMMUNITY INC C/O WILSON, DEBORAH 72 BAKER RD SHUTESBURY MA 01072

Parcel ID: ZQ-33

JACOBSEN ROGER G 10310 LYNNHAVEN AVE LUBBOCK TX 79423

Parcel ID: ZO-6, ZQ-6, Q-70

W D COWLS INC

PO BOX 9677

NORTH AMHERST MA 01059

Parcel ID: Q-74

LACY JEFFREY R
LACY ELIZABETH ANN M
7 BAKER RD
SHUTESBURY MA 01072

Parcel ID: Q-27

GEDDES HENRY
111 BAKER ROAD
SHUTESBURY MA 01072

Parcel ID: Q-50

LATEEF AYESHA P O BOX 393 AMHERST MA 01004 Parcel ID: Q-36

D'ALESSANDRO NICHOLAS G. 79 BAKER RD SHUTESBURY MA 01072

Parcel ID: Q-51

MARGLIN STEPHEN
102 LEONARD ROAD
SHUTESBURY MA 01072

Parcel ID: Q-56

HANSCOM LINDA L 690 GULF ROAD BELCHERTOWN MA 01007

Parcel ID: Q-67

DERIN Z SEREN & DERIN CAINES S. YESIM CO-TRUSTEES OF SEREN DERIN REVOCABL TRST 353 PELHAM HILL RD

SHUTESBURY MA 01072

Parcel ID: Q-35

GREENBERG DANIEL B GAUTHIER MONIQUE

85 BAKER RD

SHUTESBURY MA 01072

Parcel ID: Q-11

MARGLIN STEPHEN 102 LEONARD ROAD SHUTESBURY MA 01072

Parcel ID: Q-18

HANSON DAVID A 373 PELHAM HILL ROAD SHUTESBURY MA 01072

Parcel ID: Q-45

HARRIS, L. JOSEPHINE 326 WEST PELHAM RD AMHERST MA 01002

Parcel ID: O-73

MARGLIN STEPHEN
102 LEONARD ROAD
SHUTESBURY MA 01072

Parcel ID: Q-34

REAGAN, ANDREW J.
SPISIAK SAMANTHA A
91 BAKER RD
SHUTESBURY MA 01072

Parcel ID: Q-46

MOLLNER TERRANCE J PO BOX 631 SHUTESBURY MA 01072

Parcel ID: Q-54

BONAK CHRISTOPHER J ANTONELLIS MARY A 339 PELHAM HILL ROAD SHUTESBURY MA 01072

Parcel ID: Q-57

RAYMOND ROBERT S
RAYMOND SHARON C
145 BAKER ROAD
SHUTESBURY MA 01072

Parcel ID: Q-68

LARUE, DAVID J.

WOODMANSEE KATE CHANDRA

284 WEST PELHAM RD SHUTESBURY MA 01072

Parcel ID: ZQ-30

SELETSKY ROBERT
231 BAKER RD
SHUTESBURY MA 01072

Parcel ID: Q-13

TIBBETTS WALTER R
273 PELHAM HILL ROAD
SHUTESBURY MA 01072

Parcel ID: Q-21

VENDETTE JR EDWARD J VENDETTE, MARY C. 47 BAKER ROAD AMHERST MA 01002

Parcel ID: Q-77

GRIFFIN, JENNY LOUISE & MICCOLI, T. C/O KIRLEY, JENNY LOUISE 353 FULLER ST UNIT 36 LUDLOW MA 01056

Parcel ID: Q-26

PYECROFT, JOSHUA B. PYECROFT, ASHLEIGH L. 109 BAKER RD

SHUTESBURY MA 01072

Parcel ID: Q-37

MYERS DAVID P MYERS REBECCA C 77 BAKER RD

SHUTESBURY MA 01072

Parcel ID: Q-60
CITKOVITZ CLAUDIA
147 BAKER RD
SHUTESBURY MA 01072

Parcel ID: Q-69
WOODRUFF RICK BRYAN & LAUREN BROOKE
C/O GENDRON DEAN & SIMONSEN GARRETT
294 WEST PELHAM RD
SHUTESBURY MA 01072

TOWN OF SHUTESBURY OFFICIAL 100' ABUTTERS LIST FOR WEST PELHAM RD PARCEL ZQ-6

| MAP | ГОТ | OWNER 6 W D COWLS INC | CO-OWNER | MAILING ADDRESS P O BOX 9677 | TOWN ST NORTH AMHERS1 MA | ST | ZIP 01059 | LOCATION WEST PELHAM RD |
|-----|-----|---|--------------------------------------|---|-------------------------------------|------------------|---------------------|--------------------------------------|
| aа | | 5 MCKAY ROBERT B 11 MARGLIN STEPHEN | MCKAY F ELLEN | P O BOX 1 102 LEONARD ROAD | SHUTESBURY SHUTESBURY | Σ Σ Σ Σ | 01072 | WEST PELHAM RD 102 LEONARD RD |
| o o | | 13 TIBBETTS WALTER R 18 HANSON DAVID A | | 273 PELHAM HILL ROA SHUTESBURY 373 PELHAM HILL ROA SHUTESBURY | A SHUTESBURY A SHUTESBURY | Δ A A A | 01072 | PELHAM HILL RU 373 PELHAM HILL RD |
| ď | | 21 VENDETTE JR EDWARD J | VENDETTE, MARY C. | 47 BAKER ROAD | AMHERST | MΑ | 01002 | 47 BAKER RD |
| Ø | | 24 SHIELDS-ZUMBRUSKI MARJORIE | | P O BOX 271 | W. CHESTERFIELE NH | LNH | 03466 | BAKER RD |
| Ø | | 26 PYECROFT, JOSHUA B. | PYECROFT, ASHLEIGH L. | 109 BAKER RD | SHUTESBURY | ΔA | 01072 | 109 BAKER RD |
| Ø | | 27 GEDDES HENRY | | 111 BAKER ROAD | SHUTESBURY | Ψ | 01072 | 111 BAKER RD |
| Ø | | 34 REAGAN ANDREW J | SPISIAK SAMANTHA A | 91 BAKER RD | SHUTESBURY | ΔA | 01072 | 91 BAKER RD |
| Ø | | | GAUTHIER MONIQUE | 85 BAKER RD | SHUTESBURY | ¥Ξ | 01072 | 85 BAKER RD |
| Ø | | 36 D'ALESSANDRO NICHOLAS G. | | 79 BAKER RD | SHUTESBURY | Ψ | 01072 | 79 BAKER RD |
| ď | | 37 MYERS DAVID P | MYERS REBECCA C | 77 BAKER RD | SHUTESBURY | MΑ | 01002 | 77 BAKER RD |
| Ø | | 45 HARRIS, L. JOSEPHINE | | 326 WEST PELHAM RD AMHERST | D AMHERST | MΑ | 01002 | 326 WEST PELHAM RD |
| Ø | | 46 MOLLNER TERRANCE J | | 61 BAKER RD | SHUTESBURY | ΔA | 01072 | 61 BAKER RD |
| ď | | 48 MCKAY ROBERT B | MCKAY F ELLEN | P O BOX 1 | SHUTESBURY | MΑ | 01072 | 314 WEST PELHAM RD |
| ø | | 50 LATEEF, AYESHA | | P O BOX 393 | AMHERST | MΑ | 01004 | 67 BAKER RD |
| Ø | | 51 MARGLIN STEPHEN | | 102 LEONARD ROAD | SHUTESBURY | Ψ | 01072 | LEONARD RD |
| Ø | | 54 BONAK CHRISTOPHER J | ANTONELLIS MARY A | 339 PELHAM HILL ROA SHUTESBURY | A SHUTESBURY | Ψ | 01072 | 339 PELHAM HILL RD |
| Ö | | 55 BUONACCORSI JOHN P | PULEO ELAINE M | 129 BAKER RD | SHUTESBURY | Ψ | 01072 | 129 BAKER RD |
| Ø | | 56 HANSCOM LINDA L | | 690 GULF ROAD | BELCHERTOWN | Ψ | 01007 | 123 BAKER RD |
| ď | | 57 RAYMOND ROBERT S | RAYMOND SHARON C | 145 BAKER ROAD | SHUTESBURY | Ψ | 01072 | 135-145 BAKER RD |
| Ø | | 60 CITKOVITZ CLAUDIA | | 147 BAKER RD | SHUTESBURY | MA | 01072 | 147 BAKER RD |
| ď | | 62 EVMV NOMINEE TRUST | C/O VENDETTE, E. J. JR & M.C., TRU | 47 BAKER RD | AMHERST | МА | 01002 | 45 BAKER RD |
| ď | | 67 SEREN DEREN REVOCABLE TRUST | DERIN Z SEREN & DERIN CAINES S. YESI | 353 PELHAM HILL RD | SHUTESBURY | ΜA | 01002 | 353 PELHAM HILL RD |
| Ø | | 68 LARUE, DAVID J. | WOODMANSEE KATE CHANDRA | 284 WEST PELHAM RD SHUTESBURY | D SHUTESBURY | MΑ | 01072 | WEST PELHAM RD |
| ď | | 69 WOODRUFF RICK BRYAN & LAUREN BROOKE | C/O GENDRON DEAN & SIMONSEN GARRETT | 294 WEST PELHAM RD SHUTESBURY | D SHUTESBURY | ΜA | 01072 | 294 WEST PELHAM RD |
| Ø | | 70 W. D. COWLS INC | | PO BOX 9677 | NORTH AMHERSI MA | IMA | 01059 | WEST PELHAM RD |
| ď | | 73 MARGLIN STEPHEN | | 102 LEONARD ROAD | SHUTESBURY | МА | 01072 | LEONARD RD |
| ď | | 74 LACY JEFFREY R | LACY ELIZABETHANN M | 7 BAKER RD | SHUTESBURY | MΑ | 01072 | BAKER RD |
| Ø | | 77 GRIFFIN, JENNY LOUISE & MICCOLI, T. | C/O KIRLEY, JENNY LOUISE | 353 FULLER ST UNIT 3¢ LUDLOW | 3€ LUDLOW | MΑ | 01056 | BAKER RD |
| 20 | | 6 W D COWLS INC | | P O BOX 9677 | NORTH AMHERS1 MA | 1MA | 01059 | PELHAM HILL RD |
| ZQ | | 30 SELETSKY ROBERT E | | 231 BAKER RD | SHUTESBURY | MΑ | 01072 | 231 BAKER RD |
| ZQ | | 33 JACOBSEN ROGER G | | 10310 LYNNHAVEN AV LUBBOCK | V LUBBOCK | ĭ | 79423 | WEST PELHAM RD |
| ZR | | 12 SIRIUS COMMUNITY INC | C/O WILSON DEBORAH | 72 BAKER RD | SHUTESBURY | MΑ | 01072 | 72 BAKER RD |
| | | | | | Lest | Q | Buch | udge |
| | | | | | Leslie Bracebridge, Assessors Clerk | ge, Asse | essors Cle | ir C |
| | | | | | | | | |

for Kevin Rudden, Administratve Assessor 11/13/2019

Notification to Abutters Under the Massachusetts Wetlands Protection Act

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, you are hereby notified of the following:

| A. | The name of the applicant is: <u>W.D. Cowls, Inc.</u> |
|-------|--|
| В. | The applicant has filed an Abbreviated Notice of Resource Area Delineation (ANRAD) with the Conservation Commission for the <u>Town of Shutesbury</u> seeking permission to remove, fill, dredge, or alter an area subject to protection under the Wetlands Protection Act (General Laws Chapter 131, Section 40). |
| C. | The address of the lot where the activity is proposed is: West Pelham Road, Shutesbury, MA (Parcel ID: ZQ-6) |
| | Project Description: Review of delineated wetland resources. |
| | |
| D. | Copies of the ANRAD may be examined at the Shutesbury Conservation Commission Office at <u>1</u> Cooleyville Road, Shutesbury, MA 01072 between the hours of <u>10:00 am</u> and <u>12:00 pm</u> on <u>Tuesday and Thursday</u> . Call the Conservation Commission Office at <u>413-259-3792</u> for an appointment to review the ANRAD. |
| E. | Copies of the ANRAD may be obtained from the Applicant's Representative, <u>TRC Companies</u> (650 Suffolk Street, Lowell, MA 01854), by calling this telephone number: 978-656-3662 between the hours of 8:30 am and 5 pm on the following days of the week: <u>Monday through Friday</u> . |
| F. | Information regarding the date, time, and place of the public hearing may be obtained from the applicant or the <u>Shutesbury Conservation Commission</u> by calling this number <u>413-259-3792</u> between the hours of <u>10:00 am</u> and <u>12:00 pm</u> on the following days of the week: <u>Tuesday and Thursday</u> . |
| Note: | Notice of the public hearing, including its date, time, and place, will be published at least 5 days in advance in the <u>Greenfield Recorder</u> or the <u>Hampshire Daily Gazette</u> . |
| Note: | Notice of the public hearing, including its date, time, and place, will be posted in the Town Hall |

Note: You may also contact the nearest Department of Environmental Protection (DEP) Regional Office for more information about this application or the Wetlands Protection Act. To contact DEP, call 413-784-1100.

no less than forty-eight (48) hours in advance.

AFFIDAVIT OF SERVICE

I, <u>Jeff Brandt</u>, hereby certify under the pains and penalties of perjury that on <u>December 27, 2019</u>
I gave notification to abutters in compliance with the Shutesbury Wetlands Protection Bylaw and regulations as well as the second paragraph of the Massachusetts General Laws, Chapter 131,
Section 40 and the DEP Guide to Abutter Notification in connection with the following matter:

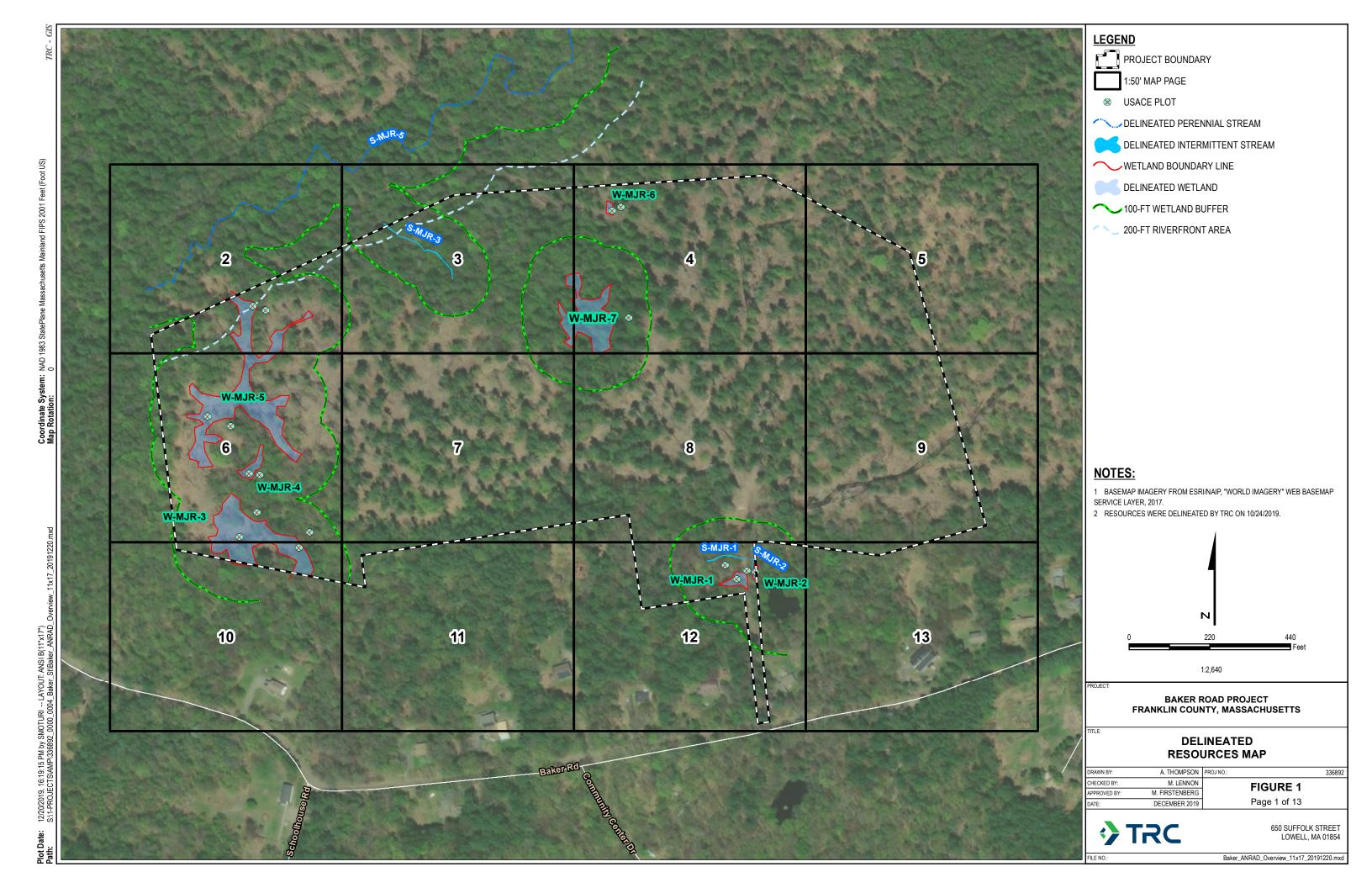
An Abbreviated Notice of Resource Area Delineation application was filed under the Massachusetts Wetlands Protection Act by <u>W.D. Cowls, Inc.</u> with the Shutesbury Conservation Commission on <u>December 27, 2019</u> for the property located <u>off West Pelham Road, Shutesbury, Massachusetts (Assessor's ID ZQ-6)</u>.

The form of the notification, and a list of the abutters to whom it was given and their addresses, are attached to this Affidavit of Service.

| Jeff Brandt | |
|-------------|-------------|
| 811 | _12/27/2019 |
| Signature | Date |

ATTACHMENT D Figure 1: Delineated Resources Map (December 2019)







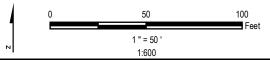






|) | 2 | 3 | 4 | 5 |
|---|----|----|----|------------|
| | 6 | 7 | 8 | 9 |
| | 10 | 11 | 12 | 13 = Baker |

- BASEMAP IMAGERY FROM ESRI/NAIP, "WORLD IMAGERY" WEB BASEMAP SERVICE LAYER, 2017.
- RESOURCES WERE DELINEATED BY TRC ON 10/24/2019.



BAKER ROAD PROJECT FRANKLIN COUNTY, MASSACHUSETTS

DELINEATED RESOURCES MAP

| | DRAWN BY: | A. THOMPSON | PROJ NO.: | _ |
|---|--------------|--------------------|--------------|---|
| 8 | CHECKED BY: | M. LENNON | FIGURE 1 | |
| | APPROVED BY: | BY: M. FIRSTENBERG | | |
| | DATE: | DECEMBER 2019 | Page 5 of 13 | |



650 SUFFOLK STREET LOWELL, MA 01854

336892

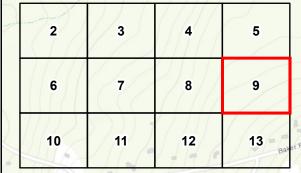
Baker_ANRAD_Series_11x17_20191220.mxd



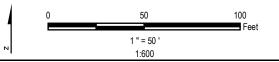




PROJECT BOUNDARY



- 1 BASEMAP IMAGERY FROM ESRI/NAIP, "WORLD IMAGERY" WEB BASEMAP SERVICE LAYER, 2017.
- RESOURCES WERE DELINEATED BY TRC ON 10/24/2019.



BAKER ROAD PROJECT FRANKLIN COUNTY, MASSACHUSETTS

DELINEATED RESOURCES MAP

| DRAWN BY: | A. THOMPSON | PROJ |
|--------------|----------------|------|
| CHECKED BY: | M. LENNON | |
| APPROVED BY: | M. FIRSTENBERG | |
| DATE: | DECEMBER 2019 | |

FIGURE 1

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650 SUFFOLK STREET LOWELL, MA 01854

Baker_ANRAD_Series_11x17_20191220.mxd





