Town of Franklin, MA

Beaver Street Interceptor (BSI) Replacement & Pump Station Design

Notice of Intent Application

July 5, 2022

Prepared By:
Arcadis U.S., Inc.
500 Edgewater Drive, Suite 511
Wakefield
Massachusetts 01880
Phone: 781 224 4488

Prepared For:
Doug Martin
Water and Sewer Superintendent
Town of Franklin
257 Fisher St
Franklin, Massachusetts 02038

Contents

B. Notice of Intent Application Forms

Town of Franklin Conservation Commission

APPLICATION PROCESS SIGNATURE FORM

There are three different applications that can be submitted to undertake work in a jurisdictional area: a Notice of Intent (NOI), a Request for Determination (RDA) and a Minor Buffer Zone Activity (MBZA). All three applications have different criteria for submission and approval and the NOI and RDA are governed by both the state law and the local bylaw. The MBZA is issued under the local bylaw only.

When a potential applicant requests advice from the Conservation Agent on which application to file, the opinion of the Agent is based on the information given by the potential applicant and any other information available to the Agent, e.g. the town's GIS system. The Agent has no legal right to go onto private property at any time until after an application is filed or permission of the property owner is given.

It is important that all applicants understand that after an application is filed, additional information may come to light e.g. via a field inspection or a review of the application, that may impact the scope of the submitted application and the approval process. **Therefore, it is the ultimate responsibility of the applicant to decide which application to file.**

In light of the above, please sign below indicating an understanding of this policy and submit it with the application.

Signature of Property Owner

07/01/2022

Date

Town of Franklin Conservation Commission

PROPERTY ACCESS SIGNATURE FORM

I hereby request that the Franklin Conservation Commission review this NOI/RDA/ANRAD application. I (we) grant authority to the Franklin Conservation Commission members and agents to go onto my (our) property solely for purposes directly related to the inspection and approval of this application and for follow-up compliance with the permit conditions.

Signature of Property Owner

07/01/2022

Date

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**DOMARTIN21**
Transaction ID:	**1386170**
Document:	**WPA Form 3 - NOI**
Size of File:	**250.35K**
Status of Transaction:	**Submitted**
Date and Time Created:	**7/5/2022:11:24:21 AM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 3 - Notice of Intent
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:
eDEP Transaction #:1386170
City/Town:FRANKLIN

A.General Information

1. Project Location:

a. Street Address	275 BEAVER STREET		
b. City/Town	FRANKLIN	c. Zip Code	02038
d. Latitude	42.08531N	e. Longitude	71.41283W
f. Map/Plat #	10941-646	g.Parcel/Lot #	277-009-000-000

2. Applicant:

☐ Individual ☑ Organization

a. First Name	DOUG		b.Last Name	MARTIN	
c. Organization	TOWN OF FRANKLIN				
d. Mailing Address	257 FISHER STREET				
e. City/Town	FRANKLIN	f. State	MA	g. Zip Code	02038
h. Phone Number	508-520-4910	i. Fax		j. Email	domartin@franklinma.gov

3.Property Owner:

☐ more than one owner

a. First Name		b. Last Name	
c. Organization			
d. Mailing Address			
e. City/Town	f.State		g. Zip Code
h. Phone Number	i. Fax		j.Email

4.Representative:

a. First Name	AMY		b. Last Name	ANDERSON	
c. Organization	ARCADIS				
d. Mailing Address	500 EDGEWATER DRIVE				
e. City/Town	WAKEFIELD	f. State	MA	g. Zip Code	01880
h.Phone Number	781-213-4901	i.Fax		j.Email	amy.anderson@arcadis.com

5.Total WPA Fee Paid (Automatically inserted from NOI Wetland Fee Transmittal Form):

a.Total Fee Paid	0.00	b.State Fee Paid	0.00	c.City/Town Fee Paid	0.00

6.General Project Description:

THE PROJECT INCLUDES REHABILITATION AND REPLACEMENT OF THE BEAVER STREET INTERCEPTOR IN FRANKLIN MA. WORK INCLUDES REROUTING THE EXISTING SEWER INTERCEPTOR OUT OF THE MINE BROOK, CONSTRUCTION A NEW SANITARY SEWER PUMP STATION AND FORCE MAIN.

7a.Project Type:

1. ☐ Single Family Home
2. ☐ Residential Subdivision
3. ☐ Limited Project Driveway Crossing
4. ☐ Commercial/Industrial
5. ☐ Dock/Pier
6. ☑ Utilities
7. ☐ Coastal Engineering Structure
8. ☐ Agriculture (eg., cranberries, forestry)
9. ☐ Transportation
10. ☐ Other

7b.Is any portion of the proposed activity eligible to be treated as a limited project subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1. ☑ Yes ☐ No	If yes, describe which limited project applies to this project:	
2. Limited Project	CONSTRUCTION, RECONSTRUCTION, OPERATION AND MAINTENANCE OF UNDERGROUND PUBLIC UTILITIES	

8.Property recorded at the Registry of Deeds for:

a.County:	b.Certificate:	c.Book:	d.Page:
NORFOLK	35163	33351	429

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

1.Buffer Zone & Resource Area Impacts (temporary & permanent):

☐ This is a Buffer Zone only project - Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.

2.Inland Resource Areas: (See 310 CMR 10.54 - 10.58, if not applicable, go to Section B.3. Coastal Resource Areas)

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a.☐ Bank	1. linear feet	2. linear feet
b.☑ Bordering Vegetated Wetland	5022 1. square feet	4950 2. square feet
c.☐ Land under Waterbodies and Waterways	1. Square feet	2. square feet
	3. cubic yards dredged	
d.☑ Bordering Land Subject to Flooding	1338 1. square feet 964 3. cubic feet of flood storage lost	1320 2. square feet 880 4. cubic feet replaced
e.☐ Isolated Land Subject to Flooding	1. square feet	
	2. cubic feet of flood storage lost	3. cubic feet replaced
f.☑ Riverfront Area	Mine Brook - inland 1. Name of Waterway (if any)	
2. Width of Riverfront Area (check one)	☐ 25 ft. - Designated Densely Developed Areas only ☐ 100 ft. - New agricultural projects only ☑ 200 ft. - All other projects	
3. Total area of Riverfront Area on the site of the proposed project		10559 square feet
4. Proposed Alteration of the Riverfront Area:		

10559	5244	5165
a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.

5. Has an alternatives analysis been done and is it attached to this NOI? ☑ Yes ☐ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☑ Yes ☐ No

3.Coastal Resource Areas: (See 310 CMR 10.25 - 10.35)

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under	Land under the ocean below,
b. ☐ Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coatstal Dunes, below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment
f. ☐ Coastal Banks	1. linear feet	
g. ☐ Rocky Intertidal Shores	1. square feet	
h. ☐ Salt Marshes	1. square feet	2. sq ft restoration, rehab, crea.
i. ☐ Land Under Salt Ponds	1. square feet	
	2. cubic yards dredged	
j. ☐ Land Containing Shellfish	1. square feet	
k. ☐ Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	
	1. cubic yards dredged	
l. ☐ Land Subject to Coastal Storm Flowage	1. square feet	

4.Restoration/Enhancement

☐ Restoration/Replacement

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please entered the additional amount here.

a. square feet of BVW | b. square feet of Salt Marsh

5.Projects Involves Stream Crossings

☐ Project Involves Streams Crossings

If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

a. number of new stream crossings | b. number of replacement stream crossings

C. Other Applicable Standards and Requirements

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage of Endangered Species program (NHESP)?

a. ☐ Yes ☑ No

If yes, include proof of mailing or hand delivery of NOI to:
Natural Heritage and Endangered Species
Program
Division of Fisheries and Wildlife
1 Rabbit Hill Road
Westborough, MA 01581

b. Date of map:FROM MAP VIEWER

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18)....

c. Submit Supplemental Information for Endangered Species Review * (Check boxes as they apply)

1.☐ Percentage/acreage of property to be altered:

(a) within Wetland Resource Area — percentage/acreage

(b) outside Resource Area — percentage/acreage

2.☐ Assessor's Map or right-of-way plan of site

3.☐ Project plans for entire project site, including wetland resource areas and areas outside of wetland jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **

a.☐ Project description (including description of impacts outside of wetland resource area & buffer zone)

b.☐ Photographs representative of the site

c.☐ MESA filing fee (fee information available at: http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/mass-endangered-species-act-mesa/mesa-fee-schedule.html)
Make check payable to "Natural Heritage & Endangered Species Fund" and **mail to NHESP** at above address

*Projects altering **10 or more acres** of land, also submit:*

d.☐ Vegetation cover type map of site

e.☐ Project plans showing Priority & Estimated Habitat boundaries

d. OR Check One of the following

1.☐ Project is exempt from MESA review. Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, http://www.mass.gov/eea/agencies/dfg/dfw/laws-regulations/cmr/321-cmr-1000-massachusetts-endangered-species-act.html#10.14; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2. ☐ Separate MESA review ongoing.
   a. NHESP Tracking Number
   b. Date submitted to NHESP
3. ☐ Separate MESA review completed.
   Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review...

2. For coastal projects only, is any portion of the proposed project located below the mean high waterline or in a fish run?
   a. ☑ Not applicable - project is in inland resource area only
   b. ☐ Yes ☐ No

   If yes, include proof of mailing or hand delivery of NOI to either:

South Shore - Cohasset to Rhode Island, and the Cape & Islands:	North Shore - Hull to New Hampshire:
Division of Marine Fisheries - Southeast Marine Fisheries Station Attn: Environmental Reviewer 836 S. Rodney French Blvd New Bedford, MA 02744	Division of Marine Fisheries - North Shore Office Attn: Environmental Reviewer 30 Emerson Avenue Gloucester, MA 01930

   If yes, it may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional office.

3. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

   a. ☐ Yes ☑ No

   If yes, provide name of ACEC (see instructions to WPA Form 3 or DEP Website for ACEC locations). **Note:** electronic filers click on Website.

   b. ACEC Name

4. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
   a. ☐ Yes ☑ No

5. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L.c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L.c. 130, § 105)?
   a. ☐ Yes ☑ No

6. Is this project subject to provisions of the MassDEP Stormwater Management Standards?
   a. ☑ Yes, Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:
      1. ☑ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol.2, Chapter 3)
      2. ☑ A portion of the site constitutes redevelopment
      3. ☑ Proprietary BMPs are included in the Stormwater Management System

b. ☐ No, Explain why the project is exempt:

1. ☐ Single Family Home

2. ☐ Emergency Road Repair

3. ☐ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

Applicants must include the following with this Notice of Intent (NOI). 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 by regular mail delivery.

1. USGS or other map 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.)
2. Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland ☑ [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.
3. Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s). ☑ Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.
4. List the titles and dates for all plans and other materials submitted with this NOI. ☑

a. Plan Title:	b. Plan Prepared By:	c. Plan Signed/Stamped By:	c. Revised Final Date:	e. Scale:
BSI REPLACEMENT AND PUMP STATION DESIGN -90% DESIGN	SEAN MITCHELL	SCOTT HAYNES	June 2022	1"=20'; 1"=10'; NOT TO SCALE

5. If there is more than one property owner, please attach a list of these property owners not listed on this form. ☐
6. Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed. ☐
7. Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed. ☐
8. Attach NOI Wetland Fee Transmittal Form. ☑
9. Attach Stormwater Report, if needed. ☑

E. Fees

1. Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

2. Municipal Check Number	3. Check date
4. State Check Number	5. Check date
6. Payer name on check: First Name	7. Payer name on check: Last Name

F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent 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 by Certificate of Mailing or 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.

Doug Martin	7/5/2022
1. Signature of Applicant	2. Date
Doug Martin	7/5/2022
3. Signature of Property Owner(if different)	4. Date
Amy Anderson	7/5/2022
5. Signature of Representative (if any)	6. Date

For Conservation Commission:

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:

If the applicant has checked the "yes" box in Section C, Items 1-3, above, refer to that section and the Instructions for additional submittal requirements.

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.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 3 - Notice of Wetland FeeTransmittal Form
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:
eDEP Transaction #:1386170
City/Town:FRANKLIN

A. Applicant Information

1. Applicant:

a. First Name	DOUG	b.Last Name	MARTIN		
c. Organization	TOWN OF FRANKLIN				
d. Mailing Address	257 FISHER STREET				
e. City/Town	FRANKLIN	f. State	MA	g. Zip Code	02038
h. Phone Number	5085204910	i. Fax		j. Email	domartin@franklinma.gov

2.Property Owner:(if different)

a. First Name		b. Last Name			
c. Organization					
d. Mailing Address					
e. City/Town		f.State		g. Zip Code	
h. Phone Number		i. Fax		j.Email	

3. Project Location:

a. Street Address	275 BEAVER STREET	b. City/Town	FRANKLIN

Are you exempted from Fee? ☐ (YOU HAVE SELECTED 'YES')

Note: Fee will be exempted if you are one of the following:

- City/Town/County/District
- Municipal Housing Authority
- Indian Tribe Housing Authority
- MBTA

State agencies are only exempt if the fee is less than $100

B. Fees

Activity Type	Activity Number	Activity Fee	RF Multiplier	Sub Total

City/Town share of filling fee	State share of filing fee	Total Project Fee
$0.00	$0.00	$0.00

NOI Representative Site Photos
Photo 1: Beaver Street Pump Station construction location. Photo taken within footprint of proposed building, facing northwest.

NOI Representative Site Photos
Photo 2: Beaver Street Pump Station construction location. Proposed building to be within existing paved parking lot. Photo taken facing southeast.

NOI Representative Site Photos
Photo 3: Beaver Street Pump Station construction location. Proposed building to be within existing paved parking lot. Photo taken facing east.

NOI Representative Site Photos
Photo 4: Beaver Street Pump Station construction location. Photo taken within footprint of proposed building, facing south.

NOI Representative Site Photos
Photo 5: Exposed sanitary sewer pipe within wetland buffer to be replaced.

NOI Representative Site Photos
Photo 6: Sanitary sewer manhole within parking area

NOI Representative Site Photos
Photo 7: Exposed sanitary sewer pipe within wetland buffer.

NOI Representative Site Photos
Photo 8: Exposed sanitary sewer pipe within wetland buffer.

NOI Representative Site Photos
Photo 9: Sanitary sewer manhole within paved roadway.

NOI Representative Site Photos
Photo 10: Sanitary sewer manhole within wooded area.

NOI Representative Site Photos
Photo 11: Sanitary sewer manhole within grass area.

Town of Franklin Conservation Commission

RESOURCE AREA IMPACT SUMMARY FORM

The Franklin Wetlands Protection Bylaw
Franklin Town Code Section 181

Resource Area	Alteration Proposed	Mitigation Proposed
Bordering Vegetated Wetland (SF)	5,022	4,950
Bank (LF)	0	0
Land Under Water Bodies (SF)	0	0
Isolated Wetland (SF)	0	0
Vernal Pool (SF)	0	0
Buffer Zone (SF)	17,456	17,294
Riverfront (SF)	156	150
100-Year Floodplain (CF)	964	880
(SF) = Square Feet (LF) = Linear Feet (CF) = Cubic Feet Flood Storage		

Town of Franklin, MA

Beaver Street Interceptor (BSI) Replacement & Pump Station Design

Stormwater Report and Supplemental Information for Notice of Intent

JULY 5, 2022

Contents

Figures

Appendices

1 Introduction

1.1 Purpose

The purpose of this stormwater report is to document the stormwater evaluation completed by Arcadis U.S., Inc on behalf of the Town of Franklin to support the Beaver Street Interceptor (BSI) Rehabilitation/Replacement and Pump Station project (Project) and to provide supplemental information to support the Notice of Intent.

1.2 Project Scope of Work

The Project is located in the Town of Franklin, MA in Norfolk County and is identified in Figure 1. The current interceptor is in need of replacement. Therefore, the Town proposes rehabilitation, replacement, and general improvements to the interceptor as well as a new pump station on the property at 275 Beaver Street, Franklin, MA. The proposed project provides the most cost-effective, long-term solution to the BSI's capacity and structural deficiencies, human health and environmental risks, accessibility and operation and maintenance challenges, by abandoning and rerouting sewers in the most risk-prone and problematic, inaccessible areas. The work of the Project to reroute sewers is being undertaken, in part, to move sewers out of wetland resource areas at the same time as making other improvements.

The Project includes the following key components:

- New 6 MGD Beaver Street Pump Station and 4,000 LF of 18-inch Force Main from the pump station to discharge at Pond Street.
- Rehabilitation of 6,100 LF of BSI using Cured in Place Pipe Lining (CIPPL)
- Installation of 6,000 LF of new gravity sewers
- The work will take place at 5 MBTA/Keolis Railroad Crossings including 3 pipe replacements using jack and bore technique and 2 pipe rehabilitation locations using CIPPL.
- Abandonment of BSI from Panther Way to Franklin Village Plaza and Route 495 crossing

This report documents compliance of the proposed Project with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Policy and Stormwater Management Standards.

The proposed Project is considered a redevelopment project for the purposes of compliance with the Stormwater Management Standards because it is being constructed on previously developed sites and results in no net increase in impervious area. As such, the project is required to meet certain Stormwater Management Standards only to the maximum extent practicable. See excerpts below from the Massachusetts Stormwater Handbook (Volume 1, Chapter 1).

For purposes of the Stormwater Management Standards, redevelopment projects are defined to include the following:

1. *Maintenance and improvement of existing roadways, including widening less than a single lane, adding shoulders, correcting substandard intersections, improving existing drainage systems, and repaving;*
2. ***Development, rehabilitation, expansion and phased projects on previously developed sites, provided the redevelopment results in no net increase in impervious area; and***

3. *Remedial projects specifically designed to provide improved stormwater management, such as projects to separate storm drains and sanitary sewers and stormwater retrofit projects.*

A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

2 Resource Areas and Impacts

2.1 Resource Areas

The resource areas impacted by the Project include the Riverfront Area, Bordering Vegetated Wetlands (BVW), 200-ft Riverfront Area Buffer, and 100-ft BVW Buffer. These resource areas shall be protected for the duration of construction through the means described in Appendix A, 01 57 05 – Temporary Controls, and shown on the BSI Replacement and Pump Station Design plans and details. The controls include but are not limited to;

- Erosion and sediment controls,
- Noise controls,
- Dust controls,
- Pest and rodent controls,
- Control of water, including storm water runoff,
- Pollution controls, and
- Invasive species control.

2.1.1 Wetland Delineation

Wetland delineation was performed by Environmental Consulting & Restoration, LLC (ECR) on April 15 and 30, 2021. The Wetland Delineation Report – Sewer Extension Project, Franklin, Massachusetts developed by ECR describes the methodology utilized and is included as Appendix B.

2.2 Temporary Impacts

During construction, there will be temporary impacts to these resource areas. Wetland mats are placed as a technique to reach project areas within wetlands while causing minimal disturbance. They are laid on top of existing vegetation for the duration of construction and lifted out of place once construction is complete. Although the exact amount of the wetland mats used will be determined by the Contractor, the area of mitigation is proposed to be within the same footprint of impact. As another temporary impact, selective cutting will be

performed at Project locations specified in the BSI Replacement and Pump Station Design Plans. This may involve removal of debris, brush, and trees along sanitary sewer easements. Trench excavation during construction is proposed to aid with the jack and bore technique of sanitary sewer rehabilitation off Fischer St. The trench excavation is proposed to occur within the BVW and to be restored to existing grade once construction is complete.

Based on estimated locations of wetland mats and proposed areas of clearing and trench excavation, the temporary impacts to the Riverfront Area, BVW, and Buffer Zones will be 150 SF, 4,950 SF, and 17,294 SF, respectively.

Temporary Pumping

Temporary Pumping of the collection system (sanitary sewer) will be conducted during construction. Temporary pumping plans are included in Appendix C. The contractor will be required to adhere to the requirements of a Temporary Pumping Specification, including the following requirements:

1. Secondary containment for fuel tanks shall be in accordance with Laws and Regulations. Include temporary fuel tanks in spill prevention control and countermeasures evaluation and plan required in Section 013544, Spill Prevention Control and Countermeasures Plan.
2. Leakage from temporary pumping system or improper discharge is not allowed.
3. Quality of exhaust emissions from internal-combustion engines associated with temporary pumping systems shall comply with Laws and Regulations, including applicable air permits. Before furnishing temporary pumping system, verify compliance with air quality standards and provide temporary emissions controls to comply with such standards when required.

2.3 Permanent Impacts

Approximately 2,700 LF of new 18" PVC gravity sewer will be constructed starting from the existing upstream manhole of the siphon on Grove Street to the Charles River Pollution Control District Interceptor on Corporate Drive. The existing gravity sewer from West Central Street to Corporate Drive will be replaced, including the existing culvert crossing. A portion of this gravity sewer runs elevated on posts through BVW, a riverfront area, and associated buffer zones. New piles will be installed to support the sewer piping.

Based on estimated spacing and sizing of the new piles, the permanent impacts to the Riverfront Area, BVW, and Buffer Zones will be 6 SF, 72 SF, and 162 SF, respectively.

2.3.1 Alternatives Analysis

The existing 8-inch sanitary sewer pipes located within the Riverfront Area adjacent to Grove St are elevated above grade, supported by I-beam posts embedded in concrete footings. This sewer will be experiencing a higher load due to the upstream installation of gravity sewers. To continue to meet capacity requirements, the sewer needed to be redesigned and upsized to an 18-inch pipe. Methods considered for completing this work include replacing the existing support posts in kind with larger concrete footings; or abandoning the existing posts in place and utilizing helical piles as new support posts. No action was not an option The method of replacing with larger concrete footings would involve more extensive excavation within the 100-year floodplain, Riverfront Area, and Bordering Vegetated Wetland with the use of cofferdams and dewatering methods. The helical piles are screwed

into place, therefore involving minimal excavation. This was the preferred method to limit impacts to the surrounding environment.

3 Stormwater Management Standards

The MassDEP stormwater policy includes 11 stormwater management standards which are described below. The proposed Project complies with the eleven standards to the maximum extent possible.

Standard 1 – Must Meet Standard

No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

The proposed design does not include a new outfall.

Standard 2 – Must Meet Standard to the Maximum Extent Practicable

Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.

The proposed Project does not include any increase in impervious area, nor does it include significant development or redevelopment of any property. The interceptor will be replaced in certain locations and rehabilitated in other locations with CIPPL. The new pump station will be constructed in the corner of an existing parking lot with an existing structural stormwater treatment best management practice (BMP). No additional impervious area will be created, rather the impervious area will be converted from pavement to rooftop.

Standard 3 – Must Meet Standard to the Maximum Extent Practicable

Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

The proposed Project does not include any increase in impervious area, nor does it include significant development or redevelopment of any property. The interceptor will be replaced in certain locations and rehabilitated in other locations. The new pump station will be constructed in the corner of an existing parking lot with an existing structural stormwater treatment best management practice (BMP). No additional impervious area will be created, rather the impervious area will be converted from pavement to rooftop.

Standard 4 – Must Meet Standard to the Maximum Extent Practicable

Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:

- *Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained. As part of the long-term pollution prevention plan an emergency shut-off gate will be installed on the stormwater conveyance network to isolate the BMP in the event of an emergency spill or unexpected event.*

- *Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and*

- *Pre-treatment is provided in accordance with the Massachusetts Stormwater Handbook.*

The proposed Project does not include any increase in impervious area, nor does it include significant development or redevelopment of any property. The interceptor will be replaced in certain locations and rehabilitated in other locations. The project improves existing conditions by moving critical sewer infrastructure out of wetland resource areas. The new pump station will be constructed in the corner of an existing parking lot with stormwater runoff directed to an existing and previously permitted structural stormwater treatment best management practice (BMP). No additional impervious area will be created, rather the impervious area will be converted from pavement to rooftop. The proposed design meets the Stormwater Management Standards to the maximum extent practicable.

Standard 5 - Must Meet Standard to the Maximum Extent Practicable

For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

The Project is not considered a land use with higher potential pollutant loading.

Standard 6 - Must Meet Standard to the Maximum Extent Practicable

Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

The proposed design does not discharge stormwater within a Zone II or Interim Wellhead Protection Area of a public water supply or any other critical areas.

Standard 7

A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

The project is replacing existing sewer infrastructure, improving the aging infrastructure, and moving critical sewer infrastructure out of wetland resource areas. The project is also constructing a pump station on a previously disturbed area by converting parking spaces to a building and utilizing/restoring an existing and previously permitted stormwater infiltration BMP on site for stormwater management. The proposed design meets the Stormwater Management Standards to the maximum extent practicable.

Standard 8

A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

The attached Plan set shows the control measures planned for installation at the Site to prevent erosion, sedimentation and other pollutant sources during construction and land disturbance activities. The initial Stormwater Pollution Prevention Plan (SWPPP) has been prepared and is included in Appendix D. The SWPPP includes Erosion Control measures, required inspection schedules, and pollution prevention information. Additionally, the Stormwater Pollution Prevention Plan and Permit specification in the contract documents requires the Contractor to implement, make revisions to, and maintain the SWPPP throughout the construction of the Project.

Types of erosion controls planned for implementation throughout the Project include:

A. Erosion control blanket.

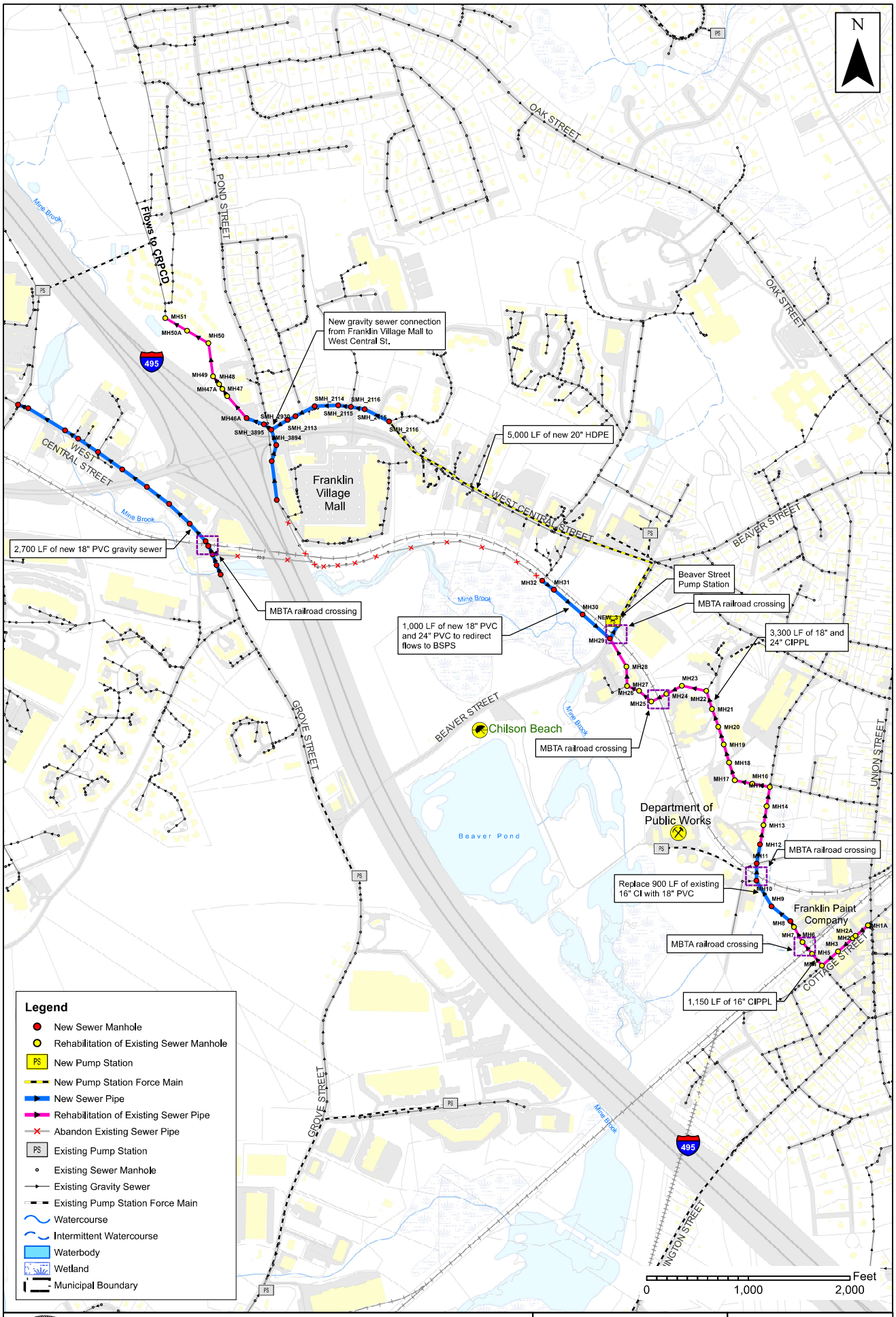
- The stormwater management structures, including the sediment forebays, infiltration basins, and detention basins shall be inspected quarterly and after any storm event exceeding 2.5 inches in a 24-hour period (the one-year frequency storm).
- Sediment shall be removed from the basins before exceeding a depth of six inches or before completely covering the stone surfaces.
- Disposal of sediment and other materials from cleaning the drainage facilities shall be conducted according to local, state, and federal regulations.
- The embankments of the drainage basins and the containment berms shall be inspected at least annually. Any woody vegetation shall be removed, animal burrows shall be carefully filled with compacted soil material, and other conditions that could affect the integrity of the embankment or berm shall be addressed as needed.
- During the Project construction phase, the sedimentation basin will be cleaned out and restored to design condition after construction of the pump station.

Standard 10

All illicit discharges to the stormwater management system are prohibited.

There will not be any illicit discharges to the stormwater management system.

Figures



Town of Franklin, Massachusetts
Beaver Street Sewer Interceptor Rehabilitation/Replacement and Pump Station Design
Basis of Design Report

FIGURE 1
Beaver Street Interceptor Rehabilitation and Replacement

ARCADIS
Wakefield, Massachusetts
Project No: 30065216
October 2021

Appendix A

SECTION 01 57 05

TEMPORARY CONTROLS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. CONTRACTOR shall provide and maintain methods, materials, equipment, and temporary construction as required for controlling environmental conditions at the Site and adjacent areas during construction.
   2. Maintain controls until no longer required. Provide temporary controls at all times when CONTRACTOR is working at the Site.
   3. Temporary controls include, but are not limited to, the following:
      a. Erosion and sediment controls.
      b. Noise controls.
      c. Dust controls.
      d. Pest and rodent controls.
      e. Control of water, including storm water runoff.
      f. Pollution controls
      g. Invasive species control

B. Related Sections:
   1. Section 01 35 43.13, Environmental Procedures for Hazardous Materials.
   2. Section 01 35 44, Spill Prevention Control and Countermeasures Plan.
   3. Section 01 41 26, Storm Water Pollution Prevention Plan and Permit.
   4. Section 01 41 27, Earthmoving Permit and Dust Control.
   5. Section 31 23 04, Excavation and Fill.
   6. Section 31 23 16.13, Trenching.
   7. Section 31 37 00, Riprap.

1.2 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with applicable provisions and recommendations of the following:
   1. Massachusetts Department of Environmental Protection.
   2. Massachusetts Bay Transportation Authority
   3. Town of Franklin Conservation Commission
   4. Army Corps. Of Engineers

1.3 SUBMITTALS

A. Action Submittals: Submit the following:
   1. Shop Drawings:

a. Plan for construction staging and maintenance of the Site relative to erosion and sediment controls. Indicate on a site plan approximate areas of planned disturbance of soils and soil cove over time during the Project. For areas not indicated in the Contract Documents as being disturbed and that CONTRACTOR proposes to disturb, Shop Drawing shall include proposed erosion and sediment control measures for the additional area.
b. Location and details of temporary settlement basin(s).

2. Product Data:
a. Silt fencing.
b. Hay bale.
c. Erosion control blanket.
d. Catch basin inserts.
e. Coir fiber logs.
f. Compost filter socks.

B. Informational Submittals: Submit the following:
1. Procedural Submittals:
a. Proposed dust control measures, when submittal is requested by ENGINEER.

PART 2 – PRODUCTS

2.1 MATERIALS FOR TEMPORARY EROSION AND SEDIMENT CONTROLS

A. Materials for temporary erosion and sediment controls shall be as shown or indicated on the Drawings.

PART 3 – EXECUTION

3.1 NOISE CONTROL

A. Noise Control – General:
1. CONTRACTOR's vehicles and equipment shall minimize noise emissions to greatest degree practicable. When necessary, provide mufflers and silencers on construction equipment, and provide temporary sound barriers onsite when necessary.
2. Noise levels shall comply with Laws and Regulations, including OSHA requirements and local ordinances.
3. Noise emissions shall not interfere with the work of OWNER, facility manager, or others.

3.2 DUST CONTROL

A. Dust Control – General:

1. Control objectionable dust caused by CONTRACTOR's operation of vehicles and equipment, clearing, demolition, cleaning, and other actions. To minimize airborne dust, apply water or use other methods subject to acceptance of ENGINEER and approval of authorities having jurisdiction.
2. CONTRACTOR shall prevent blowing and movement of dust from exposed soil surfaces and access roads to reduce onsite and off-Site damage, nuisances, and health hazards associated with dust emissions.

B. Dust Control Methods:
1. Dust control may be achieved by irrigation in which the dust-prone area of the Site shall be sprinkled with water until the surface is moist.
2. Apply dust controls as frequently as required without creating nuisances such as excessive mud and ponding of water at the Site. Do not use water for dust control when water will cause hazardous or objectionable conditions such as ice, mud, ponds, and pollution.
3. Provide dust control that is non-polluting and does not contribute to tracking-out of dirt and dust onto pavement.

C. Removal of Dust and Dirt from Travelled Surfaces:
1. Remove dust and dirt from roadways, drives, parking areas, and other travelled surfaces daily.
2. Perform dust and dirt removals from travelled surfaces by mechanical sweeping or other method acceptable to ENGINEER.

3.3 PEST AND RODENT CONTROL

A. Pest and Rodent Control – General:
1. Provide pest and rodent controls as required to prevent infestation of the Site and storage areas.
2. Employ methods and use materials that do not adversely affect conditions at the Site or on adjoining properties.
3. In accordance with Laws and Regulations, promptly and properly dispose of pests and rodents trapped or otherwise controlled.

3.4 WATER CONTROL

A. Water Control – General:
1. Provide methods to control surface water and water from excavations and structures to prevent damage to the Work, the Site, and adjoining properties.
2. Control fill, grading, and ditching to direct water away from excavations, pits, tunnels and other construction areas and to direct drainage to proper runoff courses to prevent erosion, damage, or nuisance. Avoid directing to adjoining properties runoff from the Site and construction operations.

B. Equipment and Facilities for Water Control:
1. Provide, operate, and maintain equipment and facilities of adequate size to control surface water.

C. Discharge and Disposal:
   1. Dispose of storm water and ground water in manner to prevent flooding, erosion, and other damage to any and all parts of the Site and adjoining areas, and that complies with Laws and Regulations.

3.5 POLLUTION CONTROL

A. Pollution Control – General:
   1. Provide means, methods, and facilities required to prevent contamination of soil, water, and atmosphere caused by discharge of noxious substances from or caused by construction operations.
   2. Equipment used during construction shall comply with Laws and Regulations.
   3. Comply with Section 01 35 43.13, Environmental Procedures for Hazardous Materials.

B. Spills and Contamination:
   1. Provide equipment and personnel to perform emergency measures required to contain spills and to remove contaminated soils and liquids.
   2. Excavate contaminated material and properly dispose of off-Site, and replace with suitable compacted fill and topsoil.
   3. Comply with Section 01 35 44, Spill Prevention Control and Countermeasures Plan, and OWNER's and facility manager's hazard control procedures as indicated in Section 01 35 23, Safety Requirements.

C. Protection of Surface Waters and Ground Water:
   1. Provide and maintain special measures to prevent harmful substances from entering surface waters and ground water. Prevent disposal of wastes, effluents, chemicals, and other such substances in or adjacent to surface waters and open drainage routes, in sanitary sewers, or in storm sewers, and in ground water.

D. Atmospheric Pollutants:
   1. Provide and maintain systems for controlling atmospheric pollutants related to the Work.
   2. Prevent toxic concentrations of chemicals and vapors.
   3. Prevent harmful dispersal of pollutants into atmosphere.

E. Solid Waste:
   1. Provide and maintain systems for controlling and managing solid waste related to the Work.
   2. Prevent solid waste from becoming airborne, and from discharging to surface waters and drainage routes.
   3. Properly handle and dispose of solid waste.
   4. Comply with requirements for cleaning and disposal of debris in the General Conditions, as may be modified by the Supplementary Conditions, and Section 01 74 05, Cleaning.

3.6 EROSION AND SEDIMENT CONTROLS

A. Installation and Maintenance of Erosion and Sediment Controls – General:
   1. General:
      a. Provide temporary erosion and sediment controls as shown and indicated on the Drawings and as indicated elsewhere in the Contract Documents. Provide erosion and sediment controls as the Work progresses into previously-undisturbed areas.
      b. Installation of erosion and sediment controls shall be in accordance with the applicable regulatory requirements indicated in Article 1.2 of this Section, unless more-stringent methods are otherwise shown or indicated in the Contract Documents.
      c. Use necessary methods to successfully control erosion and sedimentation, including ecology-oriented construction practices, vegetative measures, and mechanical controls. Use best management practices (BMP) in accordance with Laws and Regulations, and regulatory requirements indicated in Article 1.2 of this Section, to control erosion and sedimentation during the Project.
      d. Plan and execute construction, disturbances of soils and soil cover, and earthwork by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation. Provide temporary measures for controlling erosion and sedimentation, as indicated in the Contract Documents and as required for the Project.
      e. Where areas must be cleared for storage of materials or equipment, or for temporary facilities, provide measures for regulating drainage and controlling erosion and sedimentation, subject to the ENGINEER'S approval.
      f. Provide erosion and sediment controls, including stabilization of soils, at the end of each workday.
   2. Coordination:
      a. Coordinate erosion and sediment controls with this Section's requirements on water control, and with Section 01 41 26, Storm Water Pollution Prevention Plan and Permit.
      b. Coordinate temporary erosion and sediment controls with construction of permanent drainage facilities and other Work to the extent necessary for economical, effective, and continuous erosion and sediment controls.
   3. Before commencing activities that will disturb soil or soil cover at the Site, provide all erosion and sediment control measures required by the Contract Documents for the areas where soil or soil cover will be disturbed.
   4. In general, implement construction procedures associated with, or that may affect, erosion and sediment control to ensure minimum damage to the environment during construction. CONTRACTOR shall implement any and all additional measures required to comply with Laws and Regulations, and Section 01 41 26, Storm Water Pollution Prevention Plan and Permit.

5. Vegetation Removal: Remove only those shrubs, grasses, and other vegetation that must be removed for construction. Protect remaining vegetation.
6. Access Roads and Parking Areas: When possible, access roads and temporary roads and parking shall be located and constructed to avoid adverse effects on the environment. Provide measures to regulate drainage, avoid erosion and sedimentation, and minimize damage to vegetation.
7. Earthwork and Temporary Controls:
    a. Perform excavation, fill, and related operations in accordance with Section 31 23 05 Excavation and Fill and Section 31 23 16.13.
    b. Control erosion to minimize transport of silt from the Site into existing waterways and surface waters. Such measures shall include, but are not limited to, using berms, silt fencing, baled straw silt barriers, gravel or crushed stone, mulching and soil stabilization, slope drains, and other methods. Apply such temporary measures to erodible materials exposed by activities associated with the construction of the Project.
    c. Hold to a minimum the areas of bare soil exposed at one time.
    d. Construct fills and waste areas by selectively placing fill and waste materials to eliminate surface silts and clays that will erode.
    e. In performing earthwork, eliminate depressions that could serve as mosquito breeding pools.
    f. CONTRACTOR shall provide special care in areas with steep slopes, where disturbance of vegetation shall be minimized to maintain soil stability.
8. Inspection and Maintenance:
    a. Periodically inspect areas of earthwork and areas where soil or soil cover are disturbed to detect evidence of the start of erosion and sedimentation; promptly implement corrective measures as required to control erosion and sedimentation. Continue inspections and corrective measures until soils are permanently stabilized and permanent vegetation has been established
    b. Inspect not less often than the frequency indicated in Section 01 41 26, Storm Water Pollution Prevention Plan and Permit.
    c. Repair or replace damaged erosion and sediment controls within 24 hours of CONTRACTOR becoming aware of such damage.
    d. Periodically remove silt and sediment that has accumulated in or behind sediment and erosion controls. Properly dispose of silt and sediment.
9. Duration of Erosion and Sediment Controls:
    a. Maintain erosion and sediment controls in effective working condition until the associated drainage area has been permanently stabilized.
    b. Maintain erosion and sediment controls until the Site is restored and site improvements including landscaping, if any, are complete with underlying soils permanently stabilized.
10. Work Stoppage:
    a. If the Work is temporarily stopped or suspended for any reason, CONTRACTOR shall provide additional temporary controls necessary to prevent environmental damage to the Site and adjacent areas while the Work is stopped or suspended.

11. Failure to Provide Adequate Controls:
    a. In the event CONTRACTOR repeatedly fails to satisfactorily control erosion and sedimentation, OWNER reserves the right to employ outside assistance or to use OWNER's own forces for erosion and sediment control.
    b. Cost of such work by OWNER, plus engineering and inspection costs, will be deducted from amounts due CONTRACTOR, as set-offs in accordance with the Contract Documents.

B. Erosion and Sediment Control Permits:
    1. Comply with permit requirements indicated in Section 01 41 24, Permit Requirements.

C. Silt Fencing:
    1. Install and maintain silt fencing in a vertical plane, at the location(s) shown or indicated in the Contract Documents and where required.
    2. Locations of Silt Fencing:
        a. Where possible, install silt fencing along contour lines so that each given run of silt fencing is at the same elevation.
        b. On slopes, install silt fencing at intervals that do not exceed the maximum intervals indicated in the following table:

Slope (percent)	Maximum Length of Slope Above Each Silt Fence (feet)
2 and less	150
2.1 to 5	100
5.1 to 10	50
10.1 to 20	25
20.1 to 25	20
25.1 to 40	15
40.1 to 50	10

        c. Provide silt fencing around perimeter of each stockpile of topsoil, general fill material, and excavated material. Install silt fencing before expected precipitation and maintain until stockpile is removed.
        d. Do not install silt fencing at the following types of locations:
            1) Area of concentrated storm water flows such as ditches, swales, or channels.
            2) Where rock or rocky soils prevent full and uniform anchoring of silt fencing.
            3) Across upstream or discharge ends of storm water piping or culverts.
    3. Installation:
        a. Securely fasten wire mesh to posts, and securely fasten filter cloth to wire mesh.
        b. When two sections of filter cloth abut each other, fold over edges and overlap by not less than six inches and securely fasten to wire mesh.

c. Embed posts in the ground to the depth necessary for proper controls; embed posts to not less than 16 inches below ground.
d. Filter cloth and wire mesh shall extend not less than eight inches below ground and not less than 16 inches above ground.
e. Remove sediment accumulated at silt fencing as required. Repair and reinstall silt fencing as required.

4. Maintenance:
a. Do not allow formation of concentrated storm water flows on slopes above silt fencing unless so shown or indicated in the Contract Documents. If unauthorized concentrated storm water flows occur, stabilize the slope via earthmoving and other stabilization measures as required to prevent flow of concentrated storm water flows toward silt fencing.

D. Straw Bale Dike.
1. Install straw bale dikes where shown or indicated, including in swales, along contours, and along toe of slopes.
2. Install straw bales in shallow excavation as wide as the bale and approximately four to six inches below surrounding grade.
3. Ends of straw bales shall tightly abut ends of adjacent straw bales.
4. Securely install straw bales using two support posts per straw bale, driven into the ground not less than 1.5 to two feet below bottom of straw bale. Top of post shall be flush with top of straw bale. Angle first post for each straw bale toward the previously-installed straw bale.
5. Frequently inspect straw bales and repair or replace as required. Remove accumulated silt and debris from behind straw bales.

E. Mulching and Soil Stabilization:
1. Use mulching to temporarily stabilize exposed soil and fill material.
a. Immediately following final grading, provide mulch and stabilize with mats or netting, or sprayed soil stabilization emulsion with fiber additive.
b. Application of mulching for soil stabilization shall be as follows.
1) Unrotted Straw or Salt Hay: 1.5 to two tons per acre.
2) Soil stabilization emulsions, when used, shall be applied in accordance with manufacturer's instructions, and shall be applied with mulch or stabilization fibers.
3) Wood-fiber or Paper-fiber Application: 1,500 lbs. per acre, installed by hydroseeding.
c. Where mats or netting are used:
1) Cover entire area to be stabilized with mats or netting.
2) Provide anchoring trenches at the top and bottom of slopes to receive mats or netting. Bury at least the top and bottom ends of mat or netting, four inches or more wide, at top and bottom of slope. Tamp trench full of soil. Four inches from trench, secure mat or netting with appropriate staples spaced at intervals of 10 inches.
3) Overlap adjacent strips of mat or netting by not less than four inches.

F. Protection of Storm Water Drainage Inlets and Catch Basins:
   1. Protect each drainage inlet and catch basin that has the potential to receive storm water runoff from exposed soils, and does not discharge into a storm water settlement basin.
   2. Install inlet filter bags inside of drainage inlet or catch basin in accordance with manufacturer's instructions. Secure inlet filter bag with the structure's grate or by other acceptable means.
   3. Inlet filter bags shall not pose any obstruction above the pre-construction elevation of the drainage inlet or catch basin grate requiring barricades or flashers.
   4. When removing silt and sediment from inlet filter bag, do not dump filter bag's contents into the drainage inlet or catch basin.
   5. Remove silt and sediment from inlet filter bag, or replace inlet filter bag, when inlet filter bag is not more than half full.

G. Temporary Settlement Basin:
   1. For constructing embankments comply with requirements in Division 31 Sections on earthwork, embankments, excavation, and fill.
   2. Overflow Weir and Discharge Pipe:
      a. Install piping in accordance with manufacturer's instructions.
      b. Install overflow weirs at elevations shown or indicated on the Drawings or approved Shop Drawings, as applicable, to avoid overtopping and overfilling of settlement basin without short-circuiting the settlement basin's hydraulic performance.
      c. Wrap and secure geotextile material specified for silt fencing around discharge structures of temporary settlement basins
   3. Crushed Stone and Riprap: Install in accordance with Division 31 Sections on earthwork, fill, and riprap. Provide in areas of temporary settlement basin subject to erosion, and at upstream and downstream ends of discharge piping.
   4. Remove sediment when required based on accumulation of material.
   5. When temporary settlement basin is no longer required, remove the temporary settlement basin discharge weir, discharge piping, and spillway, fill the temporary settlement basin to required grade in accordance with requirements of Division 31 Section on excavation and fill, and provide landscaping in accordance with Division 32 Sections on landscaping.

H. Filter Bag on Dewatering Pump Discharge:
   1. Provide dewatering of excavations in compliance with Division 31 Sections on earthmoving, excavation, and fill.
   2. Locate filter bags and temporary pump discharge lines to avoid interfering with the public, use of private property, and OWNER's and facility manager’s operations. Relocate filter bags and appurtenances when required.
   3. Filter bag discharge shall be directed to appropriate storm water drainage route. Do not discharge into roadways, driveways, access roads, parking areas, or overland. When temporary settlement basin is used, locate filter bags to discharge to temporary settlement basin when practicable.

4. Provide filter bag on discharge of each dewatering pump drawing from an excavation.
5. Securely attach filter bag to pump discharge pipe or hose.
6. Maintain, clean out, and replace filter bags as required.

I. Temporary Stone Construction Entrance:
   1. Where shown on the Drawings, and where construction vehicles will regularly transit to paved surfaces from unstabilized surfaces, provide temporary stone construction entrance. CONTRACTOR vehicles shall use temporary stone construction entrances.
   2. Provide temporary stone construction entrances of the width, length, and thickness shown or indicated on the Drawings. When not shown or indicated on the Drawings, temporary stone construction entrance shall be not less than 50 feet long, by 20 feet wide, by eight inches deep.
   3. Installation:
      a. Ensure that subgrade under each temporary stone construction entrance is suitably dense for the intended purpose. Suitably prepare subgrade as required for temporary stone construction entrance.
      b. Provide on subgrade a layer of geotextile separation fabric, installed in accordance with geotextile separation fabric manufacturer's recommendations for separation.
      c. Provide stone on installed geotextile separation fabric. Grade the stone for passage of vehicles.
   4. Maintenance:
      a. Maintain temporary stone construction entrance at not less than the minimum required thickness. Add stone as required to maintain thickness.
      b. When upper layer of temporary stone construction entrance becomes contaminated with soil, remove the contaminated material and replace with clean stone.
      c. Using water to wash down temporary construction entrance or paved areas onto which soil material has been tracked is unacceptable.

3.7 INVASIVE SPECIES CONTROLS

A. Invasive Species Controls – General:
   1. The introduction or spread of invasive or other unacceptable plant or animal species on the project site or areas adjacent to the project site caused by the site work shall be prevented.
   2. Construction mats and equipment shall be thoroughly cleaned and free of vegetation and soil before and after use.
   3. No cultivars, invasive species or other unacceptable plant species may be used for any mitigation, bioengineering, vegetative bank stabilization or any other work authorized by these GPs.
   4. Seed mixes and vegetation shall include only plant species native to New England and the project site.
B. Monitoring:

1. The CONTRACTOR shall source a Soil Scientist through the duration of the project and 1 year after Final Completion to monitor the areas of temporarily altered wetlands.
2. Monitoring of the project area shall take place in the spring and fall of each year during construction to assess the presence of invasive species.
3. A fact sheet that includes photographs and descriptions of each species shall be prepared for use by the Soil Scientist to assist in identification of invasive species.
4. Estimates of the percent cover of invasive species shall be based on qualitatively ocular estimates and reported to the contractor and regulatory agencies as part of the regularly scheduled monitoring reports.

C. Invasive Species Management:
1. If invasive species are observed, the Contractor shall address them immediately. Contractor shall submit for approval, and immediately implement upon approval, an Invasive Species Mitigation Plan.
2. Invasive Species Mitigation Plan shall clearly define the species of plant(s) observed at the site, the extent of the species, and the method of mitigation. Mitigation shall be in accordance with recommendations of the Massachusetts Invasive Plant Advisory Group.

3.8 REMOVAL OF TEMPORARY CONTROLS

A. Removals – General:
1. Upon completion of the Work, remove temporary controls and restore Site to specified condition; if condition is not specified, restore Site to pre-construction condition.
2. After soils are permanently stabilized, remove from the Site temporary erosion and sediment controls.

+ + END OF SECTION + +

Appendix B

ECR
Environmental Consulting & Restoration, LLC

August 26, 2021

Wetland Delineation Report – Sewer Extension Project, Franklin, Massachusetts

Wetland Report Narrative

On April 15 & 30, 2021 and August 17, 2021 Environmental Consulting & Restoration, LLC (ECR) delineated the landward limits of the wetland resource areas located on and near the proposed sewer extension project route in Franklin (the route). The route consists of several areas including areas along Beaver Street, Grove Street, West Central Street, Fisher Street, Hayward Street and Pond Street. The weather on April 15th and 30th were favorable for field review with sunny, warm (approximately 50-55 degrees), and dry site conditions. As a result of ECR's field work and review of available environmental databases, ECR is able to confirm that the site contains the following wetland resource areas and areas of Conservation Commission jurisdiction:

- Bordering Vegetated Wetlands (BVW)
- Isolated Vegetated Wetlands (IVW)
- 100-foot buffer zone to BVW & IVW
- Inland Bank to a perennial stream
- 200-foot Riverfront Area
- Bordering Land Subject to Flooding (FEMA Flood Zone AE)

Notes:

1. A portion of the route is located within Estimated/Priority Habitat for Rare Species according to the Massachusetts Natural Heritage & Endangered Species Program (MaNHESP).
2. The route does not contain Certified Vernal Pools according to the MaNHESP.
3. The route does contain U.S.G.S. mapped streams.
4. The route does contain areas mapped as Bordering Land Subject to Flooding (FEMA Flood Zone AE).
5. The route is not located within an Area of Critical Environmental Concern.

Wetland Delineation

Wetland systems are located throughout and near portions of the proposed sewer extension project route to include Bordering Vegetated Wetlands and Isolated Vegetated Wetlands. These vegetated wetlands were delineated following the methodology established by the Massachusetts Department of Environmental Protection (DEP) regulations found at 310 CMR 10.55 pertaining to the delineation of Bordering Vegetated Wetlands. The delineation was performed by analyzing vegetation, hydrology within 12 inches of the surface, and soil conditions within 20 inches of the surface. The vegetated wetlands contain hydric soils, saturated soils, and dominant wetland indicator plants. Wetland flags (pink & black striped ribbons were placed along and near the route as follows:

Along Grove Street

- BVW #A1 to #A12 – limit of wetland located to the east of Grove Street
- BVW #A100 to #A105 – limit of wetland located to the west of Grove Street
- BVW #X1 to #X17 – south of Grove Street
- BVW #W1 to #W5 – wetland associated with a stormwater basin

West Central Street/Beaver Street

- BVW #B1 to #B20 – wetland to the south of Beaver Street (include the concrete culvert between #B3 and #B4 in the survey)
- BVW #C1 to #C60 – large wetland to the north of Beaver and Street and south of the MBTA (please note the "C" series also marks the limit of the mean annual high-water line to the perennial stream located within the wetland)
- BVW #D1 to #D12 – small wetland area between the MBTA track and the sewer line
- BVW #E1 to #E8 – small wetland area between the MBTA track and the sewer line
- IVW #F1 to #F7 – isolated wetland pocket between the MBTA track and the sewer line
- IVW #G1 to #G5 – isolated wetland pocket between the MBTA track and the sewer line

West Central Street/Forge Parkway

- BVW #A1 to #A9 – south of West Central Street and east of Forge Parkway
- BVW #B1 to #B3 – west of Forge Parkway
- BVW #C1 to #C16 – north of West Central Street
- BVW #D1 to #D5 – wetland fringed to perennial stream to the south of West Central Street

Fisher Street

- BVW #H1 to #H28 – wetland to the east of Fisher Street
- BVW #I1 to #I14 – wetland to the east of Fisher Street and north of MBTA track
- BVW #J1 to #J19 – wetland to the south of the MBTA track
- BVW #K1 to #K4 – eastern limit of the "J" series wetland

Off Master Drive & Hayward Street

- BVW #T1 to #T15 – to the south of Master Drive
- BVW #V1 to #V26 – north of Mosley Mill
- BVW #U1 to #U5 – across the street from Mosley Mill

Off Pond Street

- BVW #Z1 to #Z24 – south of condos
- BVW #Y1 to #Y5 – wetland associated with an outflow culvert

Inland Bank Delineation

The USGS topographic map identifies perennial streams (dark blue line) located along and near portions of the route. Delineation of the Inland Bank of the streams within 200 feet of the route was necessary in order to identify the limit of the 200-foot Riverfront Area, which extends over portions of the route. The delineation of the inland bank and/or mean annual high water to the streams was conducted in accordance with the Riverfront Area Regulations (310 CMR 10.58) found in Massachusetts Department of Environmental Protection Regulations. The delineation was conducted by locating the first observable break in slope, meaning, where the bank of the stream was obvious. Where the stream did not contain an obvious first observable break in slope, the mean annual high-water line was delineated by analyzing bankfull conditions. Please note, the Inland Banks flagged #200 to #203 and #300 to #303 mark the limit of an intermittent stream for reference (no RFA). Inland Bank flags (blue plastic ribbons) were placed to mark the top of the Inland Bank and/or Mean Annual High Water of the perennial streams within 200 feet as follows.

ECR
Environmental Consulting & Restoration, LLC

Grove Street

- IB/MAHW #1 to #16 – limit of stream associated with the "A" series wetland that flows under Grove Street
- IB/MAHW #100 to #102 – limit of stream that flows to the west of Old Forge Hill Road
- Inland Bank #900 to #910 – inland bank to a perennial stream located within the "X" series wetland

West Central Street/Beaver Street

- BVW/MAHW #C1 to #C60 – large wetland to the north of Beaver and Street and south of the MBTA (please note the "C" series also marks the limit of the mean annual high-water line to the perennial stream located within the wetland)
- NOTE – the banks of the stream that flow onto the site from the northeast near wetland flag #C43 should be located via survey as this is a perennial stream

West Central Street/Forge Parkway

- Inland Bank #1 to #3 and #100 to #104 – limit of perennial stream to the north of West Central Street
- Inland Bank #200 to #202 and #300 to #304 – limit of perennial stream to the south of West Central Street

Fisher Street

- Inland Bank #200 to #203 – limit of **intermittent** stream within the "J" wetland
- Inland Bank #300 to #303 – limit of **intermittent** stream within the "J" wetland

Attachments

Attached for your review are the following attachments:

1. USGS Site Locus Map
2. FEMA Map
3. NHESP Estimated & Priority Habitat Map

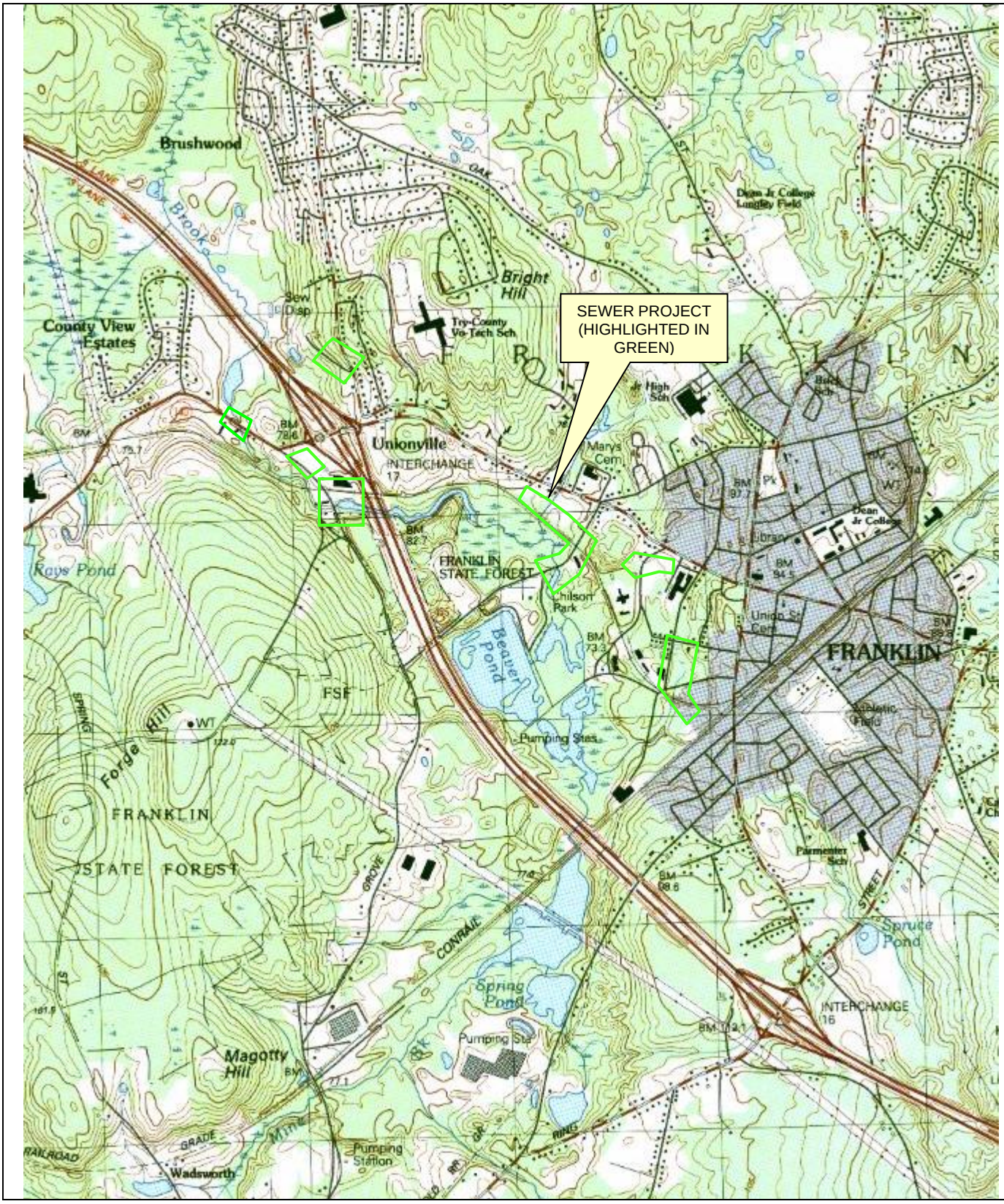
Upon review of this wetland delineation report, please contact me at (617) 529 – 3792 or brad@ecrwetlands.com with any questions or requests for additional information.

Sincerely yours,
Environmental Consulting & Restoration, LLC

BRAD HOLMES
00001464
PWS
PCP
PROFESSIONAL WETLAND SCIENTIST

Brad Holmes

Brad Holmes, PWS, MCA
Manager



USGS SITE LOCUS MAP
Sewer Extension Project
Franklin, Massachusetts

Source: MassGIS Oliver Viewer

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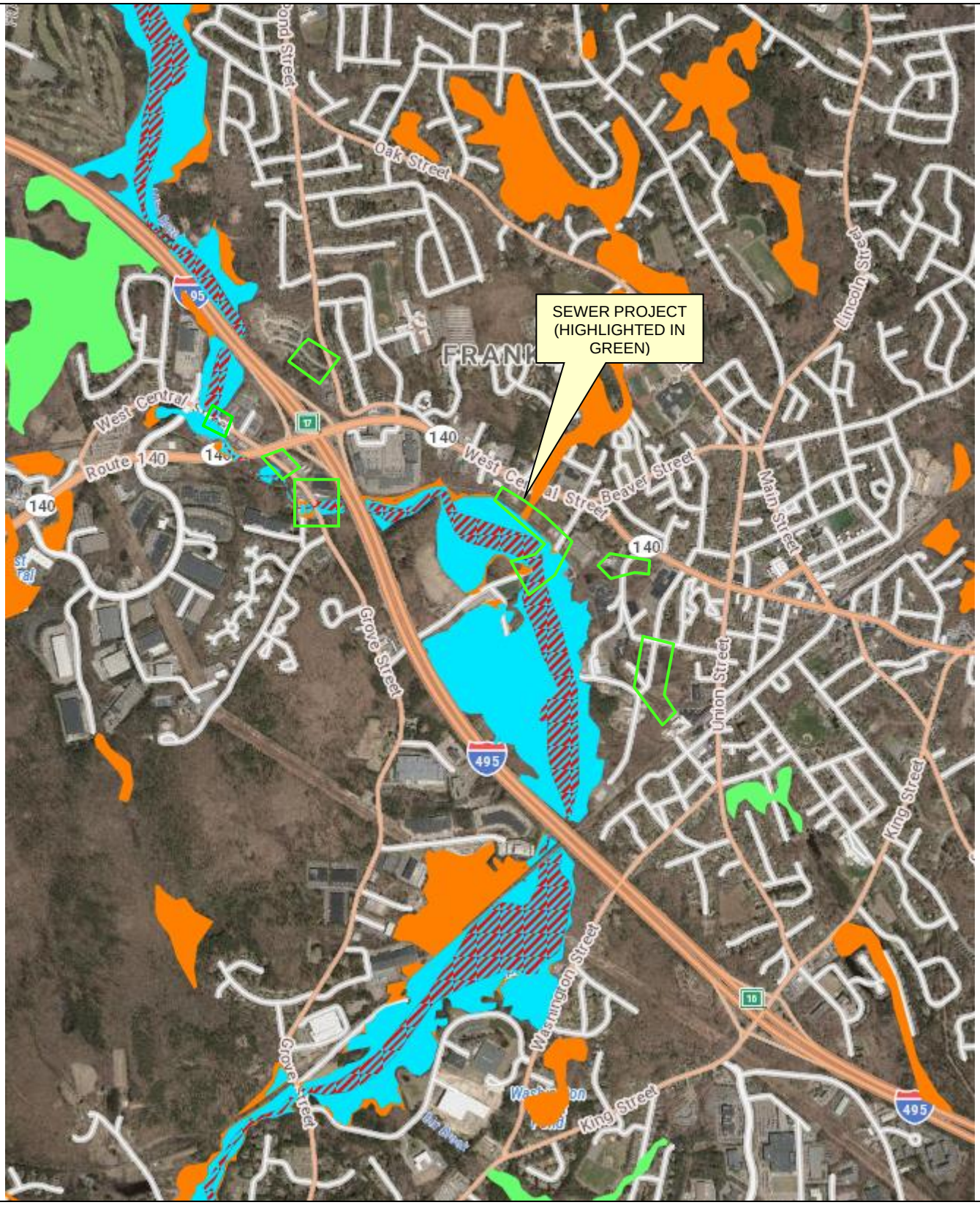

FEMA Map
Sewer Extension Project
Franklin, Massachusetts

Source: MassGIS Oliver Viewer

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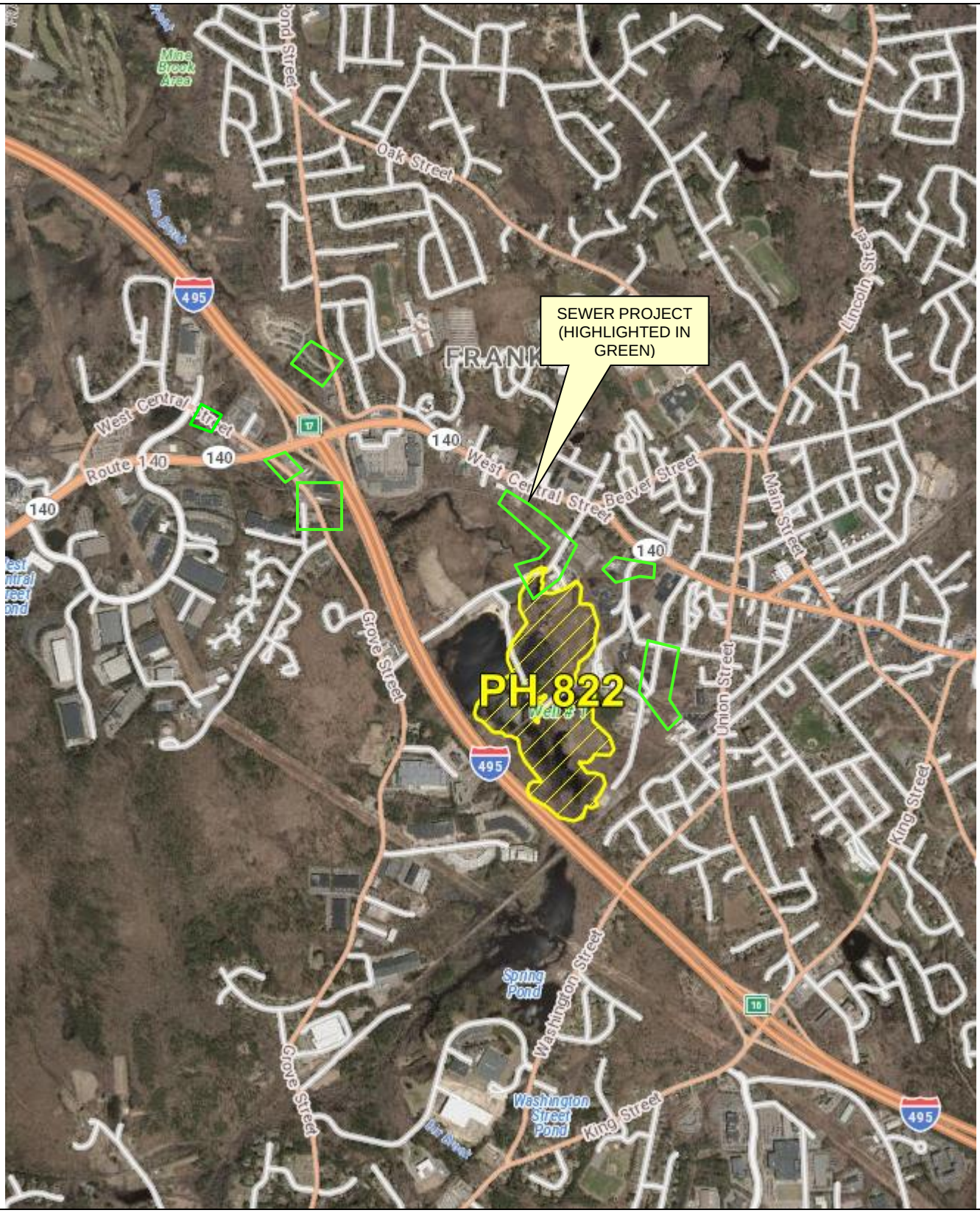

Priority Habitats of Rare Species, Estimated Habitat of Rare Wildlife & Certified Vernal Pools Map
Sewer Extension Project
Franklin, Massachusetts

Source: MassGIS Oliver Viewer

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Appendix C

SECTION 01 51 41

TEMPORARY PUMPING

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section includes requirements for temporary pumping in collection systems, such as sanitary sewers, combined sewers, and storm sewers.
   2. CONTRACTOR shall provide all labor, materials, tools, equipment, and incidentals shown, specified, and required for temporary pumping and handling of fluids during the Project.
   3. Design and provide temporary pumping systems, including plugs, bulkheads, and line stops as required; pumps; piping, supports, and valves; temporary instrumentation and control systems; fuel and electricity as required; personnel; and appurtenances. Comply with Laws and Regulations and requirements of authorities having jurisdiction. System shall be suitable for its service and operating environment.
   3. Capacity – General:
      a. Provide temporary pumping system of necessary capacity with not less than one of the largest pumps out of service.
      b. Pay costs associated with repairing damage to property, including cleaning, caused by undersized or inadequate temporary pumping systems.
      c. ENGINEER's acceptance of temporary pumping submittals does not relieve or mitigate CONTRACTOR from responsibility for the temporary pumping system in accordance with the Contract Documents.
   4. Temporary Pumping Capacity for Collector Sewers and Larger Sewers:
      a. Required capacity of each temporary pumping system shall be determined by CONTRACTOR.
      b. Each temporary pumping system shall be adequate to convey the discharge rate conveyed through the associated permanent conduits. Temporary pumping systems shall not result in: flow back-ups into buildings or structures; overflows to storm sewers or receiving waters; or adverse effects on system of OWNER, utility owners, or owners of transportation systems (including streets and roads).
      c. Basis of capacity of each temporary pumping system shall consider flow metering data (if available), results of system hydraulic modeling (if available), sewer inspection video and associated data (if available), capacity of the pipe or conduit temporarily removed from service, whether system experiences surcharges during high-flow events, nature of drainage area tributary to the pipe or conduit temporary removed from service, weather, and other factors.

5. Temporary Pumping Capacity for Service Laterals:
    a. Maintain flow through service laterals for buildings or structures that discharge to permanent pipe or conduit that has been temporarily removed from service.
    b. Required capacity of temporary pumping systems for certain service laterals is specified in Table 01 51 41-A in this Section.
    c. Capacity for temporary pumping for service laterals not listed in Table 01 51 41-A in this Section shall be determined by CONTRACTOR.
    d. Temporary pumping systems for service laterals shall be adequate to pump the discharge rate conveyed through the service lateral. Temporary pumping systems shall not result in: flow back-ups into buildings or structures; overflows to storm sewers or receiving waters; and adverse effects on property owner's systems, utility owners, or owners of transportation systems (including streets and roads).
6. Location of temporary pumping systems shall not affect OWNER's operations, utility owners, public access to streets and drives, or access to private property, unless approved by authorities having jurisdiction.
7. Obtain ENGINEER's acceptance of each temporary pumping system submittal. Temporary pumping systems for which ENGINEER's acceptance is not obtained in advance will not be eligible for payment.

B. Coordination:
1. Review installation procedures under other Sections and coordinate Work that must be performed with or before Work specified in this Section.
3. Written Notice to Property Owners and Occupants:
    a. Provide written notice delivered to property owners and occupants of each building and structure that will be affected by temporary pumping.
    b. Deliver written notices thirty days, seven days, and one day prior to starting temporary pumping.
    c. Each such written notice shall include: estimated start and end days and times that permanent pipe or conduit will be temporarily out of service; and instructions for building or structure occupants during the outage.

1.2 QUALITYASSURANCE

A. Qualifications:
1. Temporary Pumping System Supplier:
    a. Supplier shall have not less than five years of experience providing temporary pumping systems similar in size or larger than those required for the Project.
    b. Upon request, submit evidence of providing not less than five temporary pumping systems on other projects similar in size (or larger) and similar in service to temporary pumping systems required for the Project.

B. Component Supply and Compatibility:
   1. Obtain each temporary pumping system from a single Supplier who shall be responsible for providing a complete system.

C. Regulatory Requirements:
   1. Secondary containment for fuel tanks shall be in accordance with Laws and Regulations. Include temporary fuel tanks in spill prevention control and countermeasures evaluation and plan required in Section 01 35 44, Spill Prevention Control and Countermeasures Plan.
   2. Leakage from temporary pumping system or improper discharge is not allowed.
   3. Quality of exhaust emissions from internal-combustion engines associated with temporary pumping systems shall comply with Laws and Regulations, including applicable air permits. Before furnishing temporary pumping system, verify compliance with air quality standards and provide temporary emissions controls to comply with such standards when required.

1.3 SUBMITTALS

A. Timing: Furnish to ENGINEER submittals for temporary pumping system not less than 30 days prior to delivery of temporary pumping system to the Site.

B. Informational Submittals: Submit the following:
   1. Draft Notification Letter: Draft of typical notice letters for property owners and occupants of buildings and structures.
   2. Schedule for Temporary Pumping in Collection System:
      a. Schedule for temporary pumping for each work area. Include dates of mobilizing each temporary pumping system, testing, starting and ending dates of temporary pumping, and demobilizing each temporary pumping system in each work area.
      b. At CONTRACTOR's option, such information may be included on the Progress Schedule prepared and maintained in accordance with Section 01 32 16, Progress Schedule. When such option is exercised, however, upon request of ENGINEER break out as separate sub-schedule the schedule of temporary pumping in collection system and furnish to ENGINEER.
      c. Maintain and update schedule for temporary pumping for collection system, and submit updated schedules in accordance with requirements for updating the Progress Schedule as indicated in Section 01 32 16, Progress Schedule.

   3. Temporary Pumping Submittal: Submit the following for each temporary pumping system:
      a. Basis for capacity of the system proposed.
      b. System curve of flow plotted against total dynamic head, and calculations that substantiate the proposed temporary pumping system,

including comparison of net positive suction head required and net positive suction head available.

c. Manufacturer's data and specifications on each type and size of pump proposed and its capacity, including pump curves.

d. Manufacturer's data and specifications for engines and other equipment required for temporary pumping system, including expected exhaust emissions data.

e. Technical information and specifications on noise controls for noise-emitting equipment.

f. Technical data on temporary piping, pipe joints, valves, pipe supports, controls, flow meter, secondary containment for fuel tanks, emissions controls when required, and other information pertinent to the temporary pumping system.

g. Layout Drawings:

1) Sketches showing proposed layout of temporary pumping system, including locations of temporary plugs, bulkheads, and line stops, suction and discharge locations, location of the pumps and associated piping and valves, and source of power and fuel (as applicable) for temporary pumping system. Sketches shall be scale drawings acceptable to ENGINEER, and shall include site plans similar to those in the Contract Documents.

2) Details of system suction and discharge locations. Discharge details shall include measures to protect the receiving structure and dissipate energy of the pumped fluid.

3) Where it is necessary to bury temporary piping, submit trench details for buried temporary piping, including temporary surfacing proposed for traveled areas. Submit sketches and information on other types of protection proposed for temporary piping. Obtain approvals of owners of surfaces that will be disturbed by burying temporary pumping.

h. Temporary Plugs, Bulkheads, and Line Stops: Manufacturer's literature and fabrication drawings showing type of plug, bulkhead or line stop as applicable, materials, and hydrostatic head the plug, bulkhead, or line stop is designed to withstand. Submit complete technical information for CONTRACTOR-proposed line stops, installation procedures, name of proposed line stop installer, and documentation of experience on at least five similar projects.

i. Narrative describing proposed operation of temporary pumping system, including who will operate system, staffing, planned frequency of fueling, contingency plan in event of pump failure, and statement of existing systems that may be affected during operation of temporary pumping system.

4. Qualifications Statements:

a. Submit qualifications of temporary pumping system Supplier.

PART 2 – PRODUCTS

2.1 TEMPORARY PUMPING SYSTEM

A. General:
   1. System components shall be suitable for continuous operation with the fluid pumped.
   2. Noise Controls: Provide noise controls for temporary pumping system. Noise emitted from temporary pumping system shall comply with Laws and Regulations and shall not exceed 70 db at a distance of thirty feet from noise source.

   3. Exhaust Emissions Controls:
      a. Provide controls to limit emissions from internal-combustion engines associated with temporary pumping systems.

   4 Fuel-consuming temporary pumping system components intended for use when CONTRACTOR is not present shall include fuel tanks sized for not less than 24 hours of uninterrupted operation at system's operating capacity, and means to automatically notify CONTRACTOR upon high and low suction water level and low fuel level.

B. Instrumentation and Controls:
   1. Provide temporary pumping system with flow meter acceptable to ENGINEER and suitable for pumped fluid, pipe material, and hydraulic conditions. Flow meter shall provide accurate flow measurement and include local display of flow rate in gallons per minute or million gallons per day as required, and be capable of providing 4 to 20 mA dc output signal for flow rate.
   2. Controls: Provide controls for temporary pumping system to maintain suction structure liquid level that does not result in flow backups and that does not adversely affect OWNER's system and private property.

C. Temporary Piping System:
   1. Piping shall be steel, ductile iron, high density polyethylene, or other material accepted by ENGINEER and suitable for system operating pressures. Aluminum piping and PVC piping not mechanically restrained are not allowed. Durable hoses can be used only for short sections upon acceptance by ENGINEER.
   2. Piping system shall have watertight joints of the following types: fused joints, restrained couplings, flanged coupling adapters, quick-connects by Camlok or equal, flanged joints, grooved and shouldered end-type couplings, and other watertight joints accepted by ENGINEER.
   3. Size discharge piping for flow velocity of not greater than 10 feet per second.
   4. Provide check valves or pump control valves as required.

5. Provide air valves on discharge piping as required. Air valves shall expel air upon pipe filling and admit air upon pipe dewatering, and release small quantities of entrained air during operation. Air valves shall be suitable for service with the pumped fluid.
6. Discharge from temporary pumping system shall not adversely affect collection system structures, pipe or conduits, OWNER's operations, private property, and shall not result in flow backups, flooding, or damage. Provide energy-dissipating measures at discharge point as necessary.

D. Temporary Plugs, Bulkheads, and Line Stops:
1. Acceptable temporary plugs and bulkheads include inflatable dams specifically designed for such service, brick bulkheads, timber bulkheads, sandbags, and other bulkhead methods suitable for the service and conduit conditions. Line stops, when required, are specified in Division 40 of the Contract Documents.
2. Each plug, temporary bulkhead, and line stop shall be suitable for the maximum pressure encountered.
3. Where temporary plugs and bulkheads are under pressure or surcharged, provide either two plugs or a plug and temporary bulkhead.

PART 3 – EXECUTION

3.1 PREPARATION

A. General:
1. Provide written notice delivered to owners and occupants of each building and structure affected by temporary pumping.
2. Temporary piping shall be located off of roads, driveways, and sidewalks. Piping shall not be located in environmentally-sensitive areas such as wetlands.
3. Where shown or indicated in the Contract Documents, bury temporary piping that would otherwise inhibit access to buildings, structures, streets, and driveways. In paved areas, provide temporary surfacing, sufficient for AASHTO H-20 wheel loads over buried temporary piping.
4. Hydrostatic Testing of Temporary Piping System:
   a. Perform successful hydrostatic testing of temporary piping system using clean water at pressure equal to 1.2 times highest expected system operating pressure, for one hour while maintaining test pressure within 3.0 psig of required test pressure.
   b. ENGINEER will witness hydrostatic test.
   c. Hydrostatic test criteria for acceptance: No leakage.
5. Verify that entire temporary pumping system is ready for operation before commencing temporary pumping. Verify that controls and flow meter are properly connected and functional.

3.2 TEMPORARY PUMPING

A. During Operation of the Temporary Pumping System:
   1. Temporary pumping system shall operate continuously. In the event of equipment failure, immediately make repairs or replace equipment. Provide spare parts and redundant units as necessary for continuous operation.
   2. Provide personnel to monitor, operate, and maintain temporary pumping system 24 hours per day when system is in service.

3.3 DEMOBILIZATION

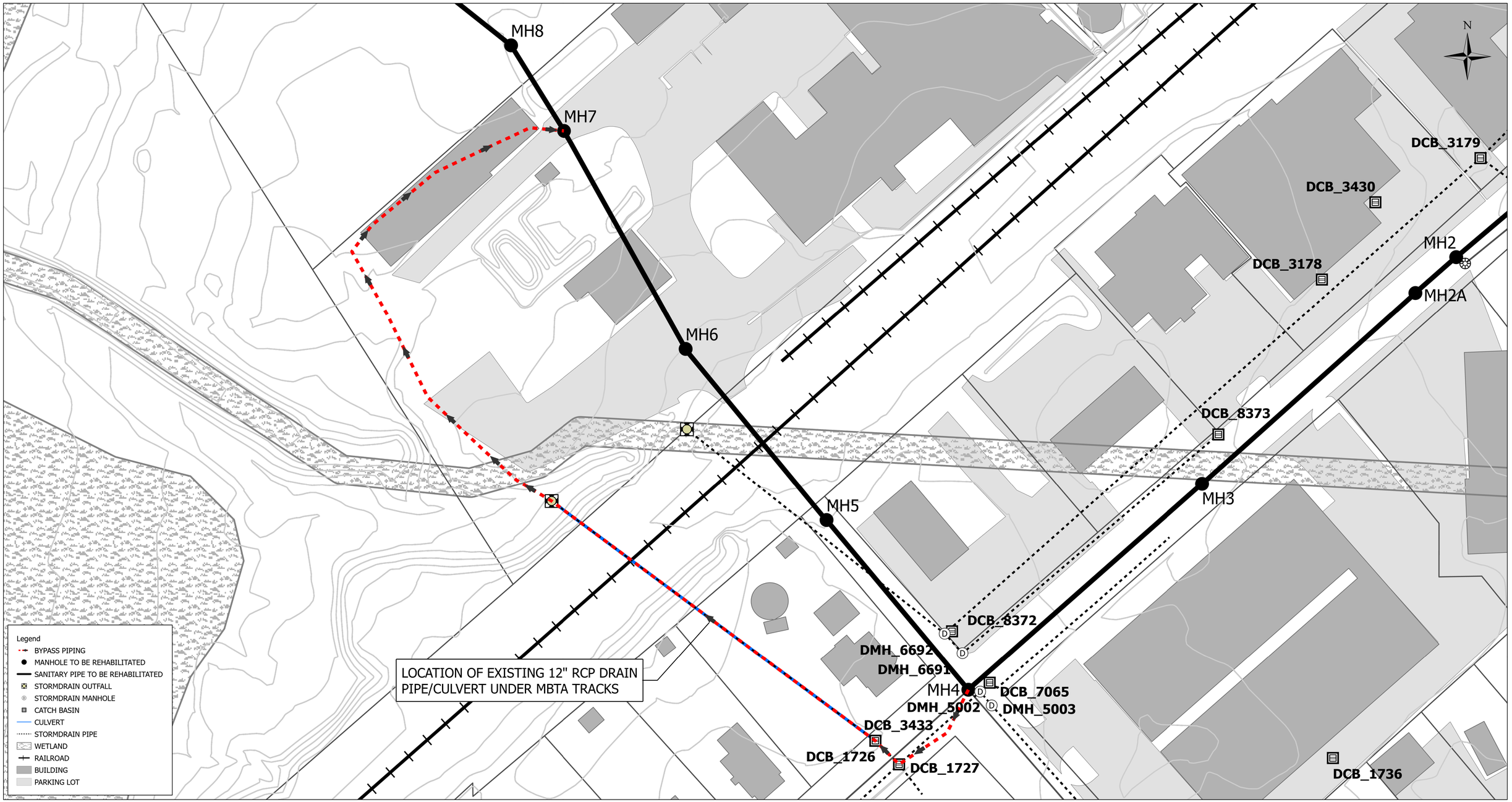
A. Upon Conclusion of Temporary Pumping:
   1. Remove plugs, bulkheads, and line stops in manner that allows flow to slowly return to normal, without surging, surcharging, and adverse effects on existing system.
   2. Flush out temporary pumping system with clean water discharged to an appropriate location.
   3. Remove temporary pumping system and appurtenances from the Site.
   4. When CONTRACTOR has obtained permit(s) for temporary pumping from authorities having jurisdiction, furnish written notice to such authorities that temporary pumping has been completed.

3.4 ATTACHMENTS

A. The attachments listed below, following the "End of Section" designation, are part of this Section. Site Specific Bypass Plans attached herein have been developed for various locations for permitting purposes only and are shown schematically. All other bypass setups are considered means and methods and will be the responsibility to Contractor to design and submit for approval.

   1. Attachment A – Site Specific Bypass Plan SMH4 – SMH7
   2. Attachment B – Site Specific Bypass Plan SMH22 – SMH26
   3. Attachment C – 2017 Flow Monitoring Meter Locations
   4. Attachment D – 2017 Flow Monitoring Meter Data
   5. Site Specific Bypass Plan SMH10 – SMH11: shown on Contract Drawings (not included as an attachment)

+ + END OF SECTION + +



NOTES:

1. CONTRACTOR SHALL PROVIDE FOR THE HANDLING OF EXISTING FLOW IN ACCORDANCE WITH THE SPECIFICATIONS. THE EXISTING SEWERS, DRAINS, AND CULVERTS HAVE ACTIVE FLOW THAT MAY VARY. CONTRACTOR SHALL MAINTAIN CONTINUOUS FLOW WITHOUT RESTRICTIONS.

2. FLOW MONITORING AT MANHOLE SMH16, COLLECTED IN 2017, INDICATED AN AVERAGE DAILY FLOW OF 1.20 MGD AND A PEAK HOURLY FLOW OF 2.16 MGD. THE CONTRACTOR IS ADVISED THAT THIS DATA REPRESENTS AN ISOLATED PERIOD OF TIME AND WILL VARY DEPENDING ON THE TIME OF YEAR, TIME OF DAY, DAY OF WEEK, AND PRECIPITATION EVENTS. CONTRACTOR SHALL PLAN FOR FLOW BYPASS ACCORDINGLY.

3. CONTRACTOR SHALL COMPLY WITH ALL PERMIT AND LICENSE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION, INCLUDING, BUT NOT LIMITED TO, MBTA, CSX TRANSPORTATION, COMMUTER RAIL OPERATOR, AND TOWN OF FRANKLIN CONSERVATION COMMISSION.

ATTACHMENT A

ARCADIS

REVISIONS			
NO.	BY	DATE	REMARKS

DES SPM
DWN CLJ
CKD SPM

TOWN OF FRANKLIN, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
BSI REPLACEMENT AND PUMP STATION DESIGN

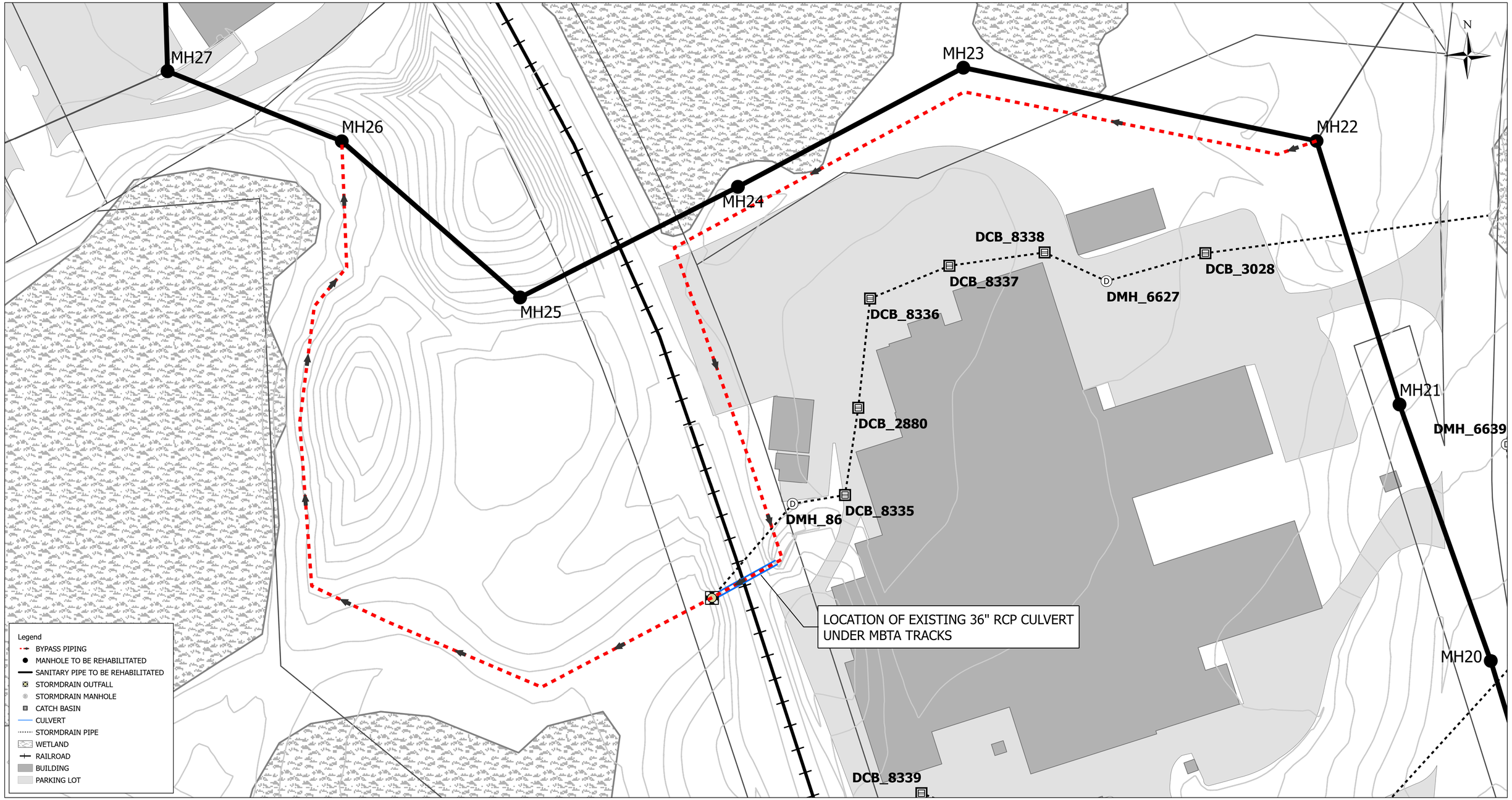
BYPASS PUMPING PLAN FROM MH4 TO MH7

0 100 ft

DATE: MAY, 2022

SHEET 2 OF 2

PROJECT NO: 30065216



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ATTACHMENT B

ARCADIS

REVISIONS				
NO.	BY	DATE	REMARKS	
				DES SPM
				DWN CLJ
				CKD SPM

TOWN OF FRANKLIN, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
BSI REPLACEMENT AND PUMP STATION DESIGN

BYPASS PUMPING PLAN FROM MH22 TO MH26

0 100 ft

DATE: MAY, 2022

SHEET 1 OF 2

PROJECT NO: 30065216

Appendix D

SECTION 01 41 26

STORM WATER POLLUTION PREVENTION PLAN AND PERMIT

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This Section includes requirements for compliance with storm water pollution prevention plans (SWPPP) and permit(s) applicable to the Project.
   2. CONTRACTOR shall comply with the Project's National Pollutant Discharge Elimination System (NPDES) requirements under the USEPA General Permit issued jointly by USEPA and MassDEP. Regarding this permit, CONTRACTOR shall be a co-permittee with OWNER and shall be responsible for providing necessary materials and taking appropriate measures to comply with requirements of the permit and minimize discharge of pollutants in storm water runoff from the Site.
   3. Controls – General:
      a. Prevent discharge of sediment to and erosion from the Site to surface waters, drainage routes, public streets and rights-of-way, and private property, including dewatering operations.
      b. Prevent trash and demolition and construction debris from leaving the Site via storm water runoff.
      c. Provide berms, dikes, and other acceptable methods of directing storm water around work areas to drainage routes.
      d. Prior to starting the Work associated with such discharge, construction-related discharges to publicly owned conveyance or treatment systems shall be approved by owner of system to which the discharge will be directed.
   4. Water Quality:
      a. Do not cause or contribute to a violation of water quality standards, Laws, or Regulations.
      b. Notify ENGINEER of revisions to the SWPPP necessary to protect receiving water quality and comply with applicable permits. Provide and implement measures to control pollutants in storm water runoff from the Site to prevent:
         1) Turbidity increases that will cause a substantial visible contrast to natural conditions.
         2) Increase in suspended, colloidal, and settleable solids that would cause sediment deposition or impair receiving water quality and use.
         3) Presence of residue from oil and floating substances, visible oil, and globules of grease.
   5. CONTRACTOR shall pay civil penalties and other costs incurred by OWNER, including additional engineering, RPR, and inspection services, associated with non-compliance with applicable permits related to storm water discharges associated with construction activity and sediment and erosion controls

associated with the Work. OWNER may deduct as set-offs such amounts from payments due CONTRACTOR.

6. Contract Price includes all material, labor, and other permits and incidental costs related to:
    a. Preparing SWPPP Revisions and other documents that are CONTRACTOR's responsibility, in accordance with this Section.
    b. Installing and maintaining structural and non-structural items used in complying with the SWPPP and its revisions.
    c. Clean-up, disposal, and repairs following wet weather events or spills caused by CONTRACTOR.
    d. Implementing and maintaining "best management practices", as defined in applicable permits and Laws or Regulations, to comply with requirements that govern storm water discharges at the Site.
5. Inspections of storm water, sediment, and erosion controls as specified.

B. Documents: The following are part of the Work included under this Section:
1. Storm Water Pollution Prevention Plan (SWPPP):
    a. Prepared by OWNER and filed with authorities having jurisdiction over storm water discharges during construction. The SWPPP is part of the Contract Documents.
2. Sediment and Erosion Control Permit:
    a. Prepared by OWNER and filed with the authority having jurisdiction over sediment and erosion control during construction. Sediment and erosion control permit is part of the Contract Documents.
3. SWPPP Revisions:
    a. Prepared by CONTRACTOR and submitted to ENGINEER.
    b. CONTRACTOR shall file a SWPPP Revision prior to starting Work at the Site, and as required by authorities having jurisdiction.
    c. SWPPP Revision shall include CONTRACTOR's proposed temporary means for storm water control during all phases of the Work and include plans for storm water conveyance and retention, as applicable. Coordinate with excavation plan submittals required in Division 31 of the Specifications.
    d. Should CONTRACTOR-propose deviations to the SWPPP included in the Contract Documents, or if Project-specific modifications of the SWPPP are required because of field conditions, CONTRACTOR shall prepare and submit additional SWPPP Revisions as necessary, in accordance with requirements of authorities having jurisdiction and applicable permits.
    e. Comply with Article 1.4 of this Section.
    f. SWPPP Revisions shall use the SWPPP Revision form included in this Section, with supporting documents attached as required, or forms provided by authorities having jurisdiction.
    g. SWPPP Revisions that do not comply with the Contract Documents and are not required by authorities having jurisdiction will be regarded as substitutions, in accordance with the General Conditions and substitution procedures in the Specifications.

4. Storm Water Certification Statement:
    a. To be prepared by CONTRACTOR and submitted to ENGINEER on the form included with this Section, or on a form provided by authority having jurisdiction.
    b. Do not perform Work at the Site until the Storm Water Certification has been submitted to and accepted by ENGINEER.
5. Notice of Intent (NOI):
    a. Prepared by OWNER or ENGINEER and submitted to authorities having jurisdiction following ENGINEER's receipt and acceptance of CONTRACTOR's SWPPP Revision and preliminary Progress Schedule.
    b. NOI will be filed with authorities having jurisdiction by ENGINEER within ten days of ENGINEER's acceptance of CONTRACTOR's SWPPP Revision and preliminary Progress Schedule.
    c. Do not perform Work at Site until NOI is submitted to authorities having jurisdiction.
6. Co-permittee Agreement:
    a. Prepared by CONTRACTOR using forms included with the SWPPP, and submitted to ENGINEER within five days of the date the Contract Times commence running, for signature by OWNER.
    b. ENGINEER will file co-permittee agreement with authorities having jurisdiction.
    c. Do not perform Work at the Site until co-permittee agreement is submitted to authorities having jurisdiction.
7. Storm Water Inspection Report:
    a. Prepared by ENGINEER's Resident Project Representative (RPR) using the form included with this Section, or a form provided by authority having jurisdiction.
    b. Storm water inspection reports will be filed in a log book kept at the Site by RPR. Copy of each report will be furnished to CONTRACTOR upon request.
    c. Storm water inspection report will be completed for each of the following:
        1) Pre-construction: After placement of storm water management measures, including sediment and erosion controls, and temporary field offices and other temporary facilities, prior to starting other Work at the Site.
        2) During the Work: Every seven days until Notice of Termination is completed. When the Site is stabilized relative to storm water, erosion, and discharge of sediment, inspection frequency during temporary shutdowns and seasonal shutdowns is once per month until Notice of Termination is completed.
        3) Final: Final inspection report will be prepared prior to completion of Notice of Termination.
8. Notice of Termination (NOT):
    a. Prepared by CONTRACTOR on the form included with storm water permit and submitted to ENGINEER for review and signature by OWNER.

b. ENGINEER will submit the NOT to authority having jurisdiction.
c. CONTRACTOR shall submit the NOT following completion of all Work that may result in pollution in storm water discharges, including landscaping Work.
d. Final Payment will not be made until the NOT is filed with authority having jurisdiction.

C. Coordination:
1. Coordinate requirements of this Section with requirements for earthwork, erosion control, and landscaping in the Contract Documents, applicable permit requirements, and Laws and Regulations.
2. Implement SWPPP controls and practices prior to starting other Work at the Site. Each prime contractor and Subcontractor identified in the SWPPP and SWPPP Revisions shall sign a copy of the storm water certification statement.

1.2 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with Laws and Regulations relative to environmental protection and restoration, including:
1. Storm water permit applicable to the Work and Site.
2. State and local erosion and sediment control guidelines and requirements,
3. State and local storm water regulations and guidance.

1.3 SUBMITTALS

A. Informational Submittals: Submit the following:
1. Submit the following, in accordance with Paragraph 1.1.C and Article 1.4 of this Section. When the Project involves Work at multiple sites, submit each of the following for each Site, as applicable:
a. SWPPP Revisions.
b. Co-permittee Agreement.
c. Storm Water Certification Statement.
d. Notice of Termination
2. Approval to Discharge to Publicly-owned Treatment Works:
a. For storm water discharges associated with construction activity that are discharged to a publicly owned conveyance or treatment system, prior to commencing discharges, submit system owner's written approval for such discharges.
3. Storm Water Site Plan Updates:
a. Within three days after each storm water inspection, submit updated storm water site plan.

1.4 SWPPP REVISIONS

A. CONTRACTOR shall prepare a SWPPP Revision in accordance with the Project's storm water permit when:

1. There is a significant change in design, construction, operation, or maintenance of the Project that significantly affects the potential of discharging pollutants to Waters of the United States, and has not otherwise been addressed in the SWPPP.
2. SWPPP proves to be ineffective relative to:
    a. eliminating or significantly minimizing pollutants from sources identified in the SWPPP required by the Project's storm water permit, or
    b. achieving general objectives of controlling pollutants in storm water discharges from permitted construction activity.
3. Prepare and submit SWPPP Revision identifying prime contractors and Subcontractor responsible for implementing part of the SWPPP.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 INSPECTIONS AND REPAIRS

A. Perform Site inspections and assessments as required in applicable storm water permit and this Section. Inspections and assessments shall be done by CONTRACTOR's site superintendent or project manager, together with ENGINEER's RPR.

B. Inspections:
    1. During the Work, relative to the storm water permit, inspections of the Site shall be performed:
        a. Pre-Construction: After SWPPP controls are provided and prior to starting other Work at the Site.
        b. During the Work: Every seven days until Notice of Termination is completed and submitted to authority having jurisdiction. When the Site is stabilized relative to storm water, erosion, and discharge of sediment, inspection required frequency during temporary shutdowns and seasonal shutdowns is not less than once per month until Notice of Termination is completed.
        c. Prior to CONTRACTOR submitting the Notice of Termination.
    2. During each inspection, verify sediment control practices and record the approximate degree of sediment accumulation as percentage of acceptable sediment storage volume; inspect erosion and sediment control practices and record maintenance performed; observe and record deficiencies relative to implementation of the SWPPP. RPR or ENGINEER will complete Storm Water Inspection Reports and CONTRACTOR shall record and submit the following.
        a. Storm Water Site Plan: On a copy of the Site plan included in the Contract Documents or other map of the Site acceptable to ENGINEER, indicate extent of all disturbed areas and drainage pathways. Indicate

areas expected to undergo initial disturbance or significant site work within the next fourteen days.

b. Indicate on storm water site plan areas of Site that have undergone temporary or permanent stabilization.

c. Indicate on storm water site plan all disturbed areas that have not undergone active site Work during the previous 14 days.

C. Maintain at the Site a copy of storm water site plans from each storm water inspection and submit each storm water site plan to ENGINEER and RPR. RPR will maintain at the Site a log book with a copy of each Storm Water Inspection Report.

D. Cooperate with representatives of authorities having jurisdiction during their periodic visits to the Site, and promptly furnish information requested by authorities having jurisdiction.

E. Perform repairs to SWPPP controls, in accordance with applicable requirements and to satisfaction of ENGINEER, within two days of each inspection.

3.2 ATTACHMENTS

A. The documents listed below, following this Section's "End of Section" designation, are part of this Specifications Section. Notice of Intent (NOI) form, Co-permittee Agreement form, and Notice of Termination (NOT) form are included with storm water permit.

1. Storm Water Inspection Report form (two pages).
2. Storm Water Permit Certification form (one page).
3. SWPPP Revision Form (one page).
4. Storm Water Permit ((--1--) pages).
5. Sediment and Erosion Control Permit ((--2--) pages).

+ + END OF SECTION + +

STORM WATER INSPECTION REPORT

Owner:
Site:
Project:
Contractor:

Date of Inspection:_____
Day of Week:

S	M	T	W	T	F	S

Sheet No. _____ of _____ Sheets

If pertinent to the Operation	
Weather	
Temperature	

This inspection and maintenance form is to be used when the Work is subject to a Storm Water General Permit for Construction Activity. Inspections shall be performed not less than once every seven calendar days; for sites that are stabilized and temporarily shut down inspections may be reduced to once per month. Each erosion and sediment control measure installed on the Site is to be inspected and the Contractor must complete all required maintenance within two calendar days from the date of inspection.

Reason for this inspection:
- ☐ Pre-construction Site assessment
- ☐ Seven calendar day inspection
- ☐ Monthly inspection (when Site is stabilized and shut down)
- ☐ Post-construction inspection prior to Notice of Termination

Key for erosion and sediment control measures to be inspected: [Use the following designations in the table below] (1) mulch, (2) seed and mulch, (3) check dams, (4) hay bale/straw bales, (5) silt fence, (6) sediment trap, (7) turbidity curtains, (8) pipe slope drains, (9) drainage structure inlet protection, (10) rolled erosion control products, (11) soil stabilizers, (12) construction entrances, (13) pipe inlet/outlet protection, (14) water diversion structures, (15) sedimentation basins, (16) cofferdams, (17) Other _____.

ID	Location	Disturbance		Measure		Remarks (Evaluate integrity of measure, describe evidence of erosion)	Approximate Sediment Accumulation (% of Depth)	Maintenance Required? (Y or N) (If Yes, Describe Below)
		Existing? (Y or N)	Next 14 Days? (Y or N)	Code #	Temp or Perm? (T, P or NA)			
1								
2								
3								
4								
5								
6								
7								
8								

ID	Location	Disturbance		Measure		Remarks (Evaluate integrity of measure, describe evidence of erosion	Approximate Sediment Accumulation (% of Depth)	Maintenance Required? (Y or N) (If Yes, Describe Below)
		Existing? (Y or N)	**Next 14 Days?** (Y or N)	**Code #**	**Temp/Perm or N/A?** (T, P or NA)			
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

DESCRIPTION OF REQUIRED MAINTENANCE AND ANY EXISTING DEFICIENCIES IN THE SWPPP: Specify for each location using row ID number.

I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system to ensure that qualified personnel property gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein may be punishable by Law.

Signature: _____ Prepared: _____ Copy to Contractor: _____
Resident Project Representative (Date) (Date)

Qualified Professional Name _____
(w/Firm Name, if Consultant)

STORM WATER PERMIT CERTIFICATION

Contract Number:_____ Project:_____

Owner:_____

Each Contractor and Subcontractor identified in the Storm Water Pollution Prevention Plan (SWPPP) must certify that they understand the permit conditions and their responsibilities. Every Contractor and Subcontractor performing an activity that involves soil disturbance shall sign this certification and submit it to the Engineer prior to performing the Work. This certification shall be signed by an owner, principal, president, secretary, or treasurer of the firm.

> I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction Site identified in such SWPPP as a condition of authorization to discharge storm water. I also understand that my firm and its employees and Subcontractors shall comply with the terms and conditions of Owner's general permit for storm water discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards, Laws, or Regulations.

Firm: _____

Address: _____

City:_____ State_____ Zip_____

_____ _____ _____

Name (Print) Signature Date

_____

Title

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REVISION

Date of Inspection: _____

Sheet No. _____ of _____ Sheets

Owner:
Site:
Project:
Contractor:

This form shall be used when revisions to the current Storm Water Pollution Prevention Plan (SWPPP) are required by the Storm Water General Permit for Construction Activity or the Contract Documents.

Reason for the Revision(s): Revisions were requested by State: ☐ Yes ☐ No

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Describe the Revision(s) to the SWPPP: _____

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

I certify under penalty of Law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein may be punishable by Law.

Signature: _____ Prepared: _____ (Date) Submitted: _____ (Date)

Copy to: ☐ Engineer ☐ Contractor _____

Arcadis U.S., Inc.
500 Edgewater Drive, Suite 511
Wakefield
Massachusetts 01880
Phone: 781 224 4488
Fax:
www.arcadis.com

C. Project Description

- **Included in Stormwater Report**

D. Functions and Characteristics Statement

- Included in Stormwater Report

E. Vernal Pool Statement

There are no potential and/or certified vernal pools onsite on or abutter parcels. See maps in Section G.

F. Abutter Notification

This is in progress. A certified abutters list has been requested. Once obtained, updated documents will be provided.

Notification to Abutters

By Hand Delivery, Certified Mail (return receipt requested), or Certificates of Mailing

This is a notification required by law. You are receiving this notification because you have been identified as the owner of land abutting another parcel of land for which certain activities are proposed. Those activities require a permit under the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40).

In accordance with the second paragraph of the Massachusetts Wetlands Protection Act, and 310 CMR 10.05(4)(a) of the Wetlands Regulations, you are hereby notified that:

A. A Notice of Intent was filed with the Town of Franklin Conservation Commission on July 5, 2022 seeking permission to remove, fill, dredge, or alter an area subject to protection under M.G.L. c. 131 §40. The following is a description of the proposed activity/activities:

The project consists of rehabilitation, replacement, and general improvements to the Beaver Street Interceptor and sanitary sewer system. The Beaver Street Interceptor is approximately 2.3 miles long, extending from Cottage Street and Union Street, along Mine Brook, to the easement behind Pond Street, near the I-495/Route 140 interchange. The project also includes constructing a new sewer pumping station on Beaver Street and a new sewer force main running from the pump station, down Beaver Street to West Central Street, discharging at the existing Beaver Street Interceptor on Pond Street.

B. The name of the applicant is: Town of Franklin.

C. The address of the land where the activity is proposed is: See Certified Abutters list attached.

D. Copies of the Notice of Intent may be examined or obtained at the office of the Town of Franklin Conservation Commission, located at 355 E. Central Street, Franklin, MA 02038. The regular business hours of the Commission are Monday – Thursday 8 AM to 4 PM and Friday 8 AM to 1 PM., and the Commission may be reached at (508) 520-4929.

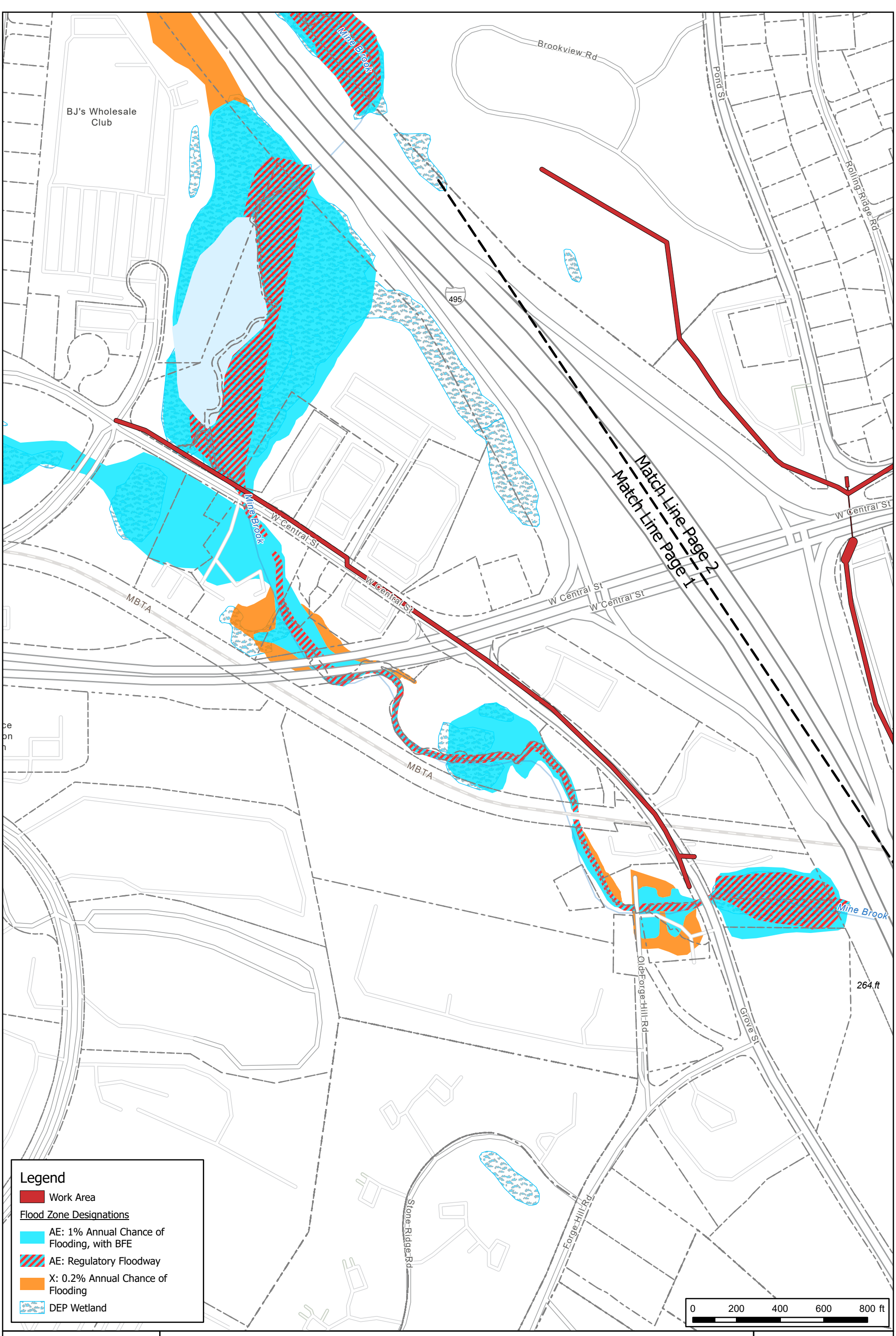
E. Copies of the Notice of Intent may be obtained from the applicant or their representative by calling Doug Martin, applicant at (508) 520-4910. An administrative fee may be applied for providing copies of the NOI and plans.

F. Information regarding the date, time, and location of the public hearing regarding the Notice of Intent may be obtained from the Town of Franklin Conservation Commission. Notice of the public hearing will be published at least five business days in advance, in the Milford Daily News.

Notification provided pursuant to the above requirement does not automatically confer standing to the recipient to request Departmental Action for the underlying matter. See 310 CMR 10.05(7)(a)4.

G. Maps

- USGS Topographic Map
- Natural Heritage and Endangered Species Habitat Maps
- FEMA Flood Plain Map



FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD HAZARD AREAS
TOWN OF FRANKLIN, MASSACHUSETTS
BSI REPLACEMENT AND NEW PUMP STATION DESIGN

JUNE, 2022

ARCADIS

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FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD HAZARD AREAS
TOWN OF FRANKLIN, MASSACHUSETTS
BSI REPLACEMENT AND NEW PUMP STATION DESIGN

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JUNE, 2022

ARCADIS

Legend

- Work Area

Flood Zone Designations

- AE: 1% Annual Chance of Flooding, with BFE
- AE: Regulatory Floodway
- X: 0.2% Annual Chance of Flooding
- DEP Wetland

0 200 400 600 800 ft

Match Line Page 1
Match Line Page 2
Match Line Page 2
Match Line Page 3

Tri County Regional Voc-Tech School

Unionville

On the Run

Daddario Hardware & Supply

SHERWIN

395 ft

297 ft

264 ft

Walker Rd
Brookview Rd
Pond St
Hilltop Rd
Rolling Ridge Rd
Tri County School Dr
Arthur Rd
Mucciarone
W Central St
Old West Central St
Franklin Crossing Rd
Franklin Village Dr
Grove St
Mine Brook
MB
495

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Franklin Crossing Rd
Highwood Dr
Panther Way
Match Line Page 2
Match Line Page 3
Daddario Hardware & Supply
SHERWIN-WILLIAMS
Anne's Country Market
Panther Way
Edwards St
Raymond St
W Central St
Village Ski & Snowboard
Elizabeth's Bagels & More
MBTA
Honey Dew Donuts
Edwins Gifts Collectables Home Deco
Mine Brook
MBTA
Beaver St
Match Line Page 3
Match Line Page 4
Chilson Park
MBTA

Legend

- Work Area

Flood Zone Designations

- AE: 1% Annual Chance of Flooding, with BFE
- AE: Regulatory Floodway
- X: 0.2% Annual Chance of Flooding
- DEP Wetland

0 200 400 600 800 ft

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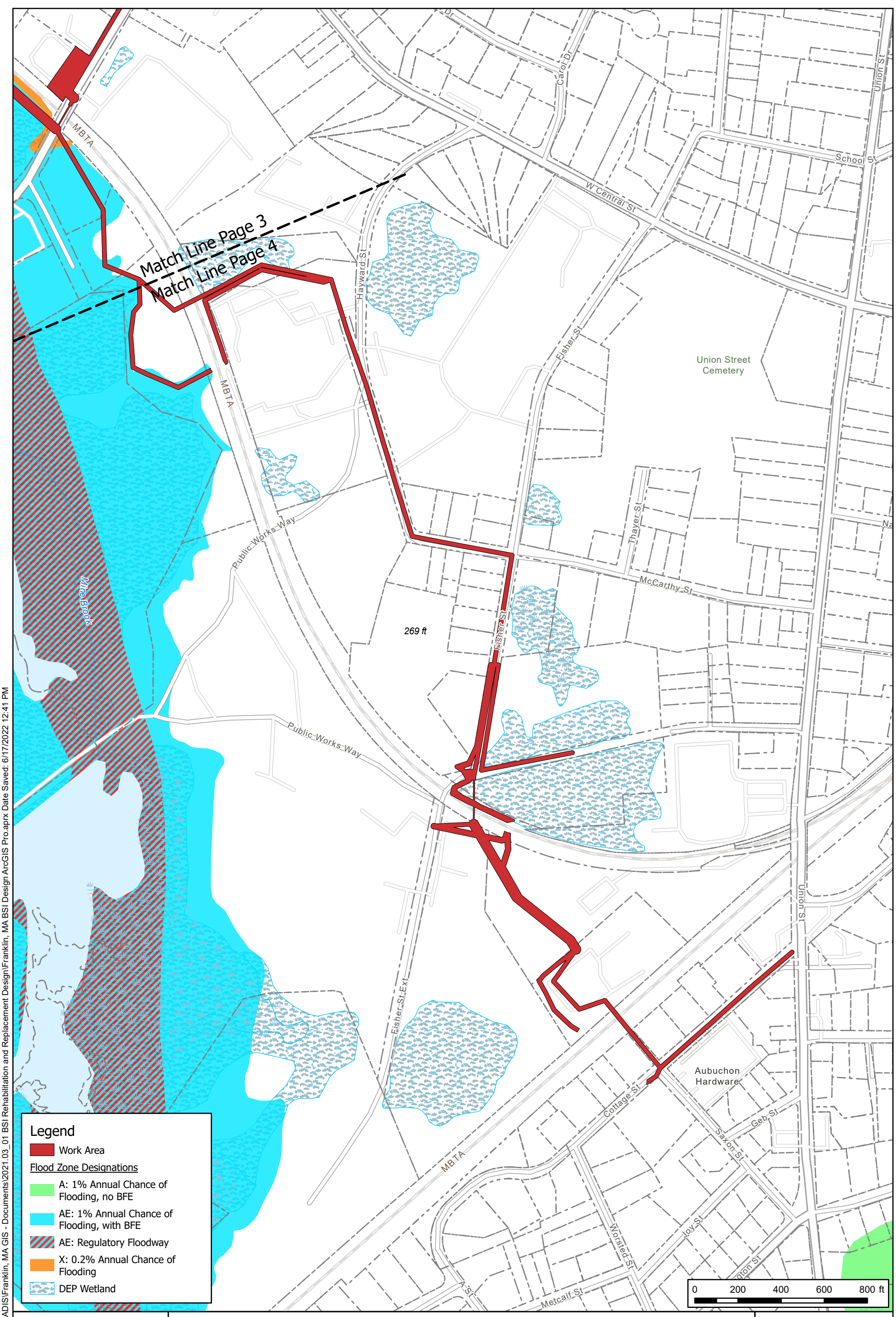

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NATIONAL FLOOD HAZARD AREAS
TOWN OF FRANKLIN, MASSACHUSETTS
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JUNE, 2022

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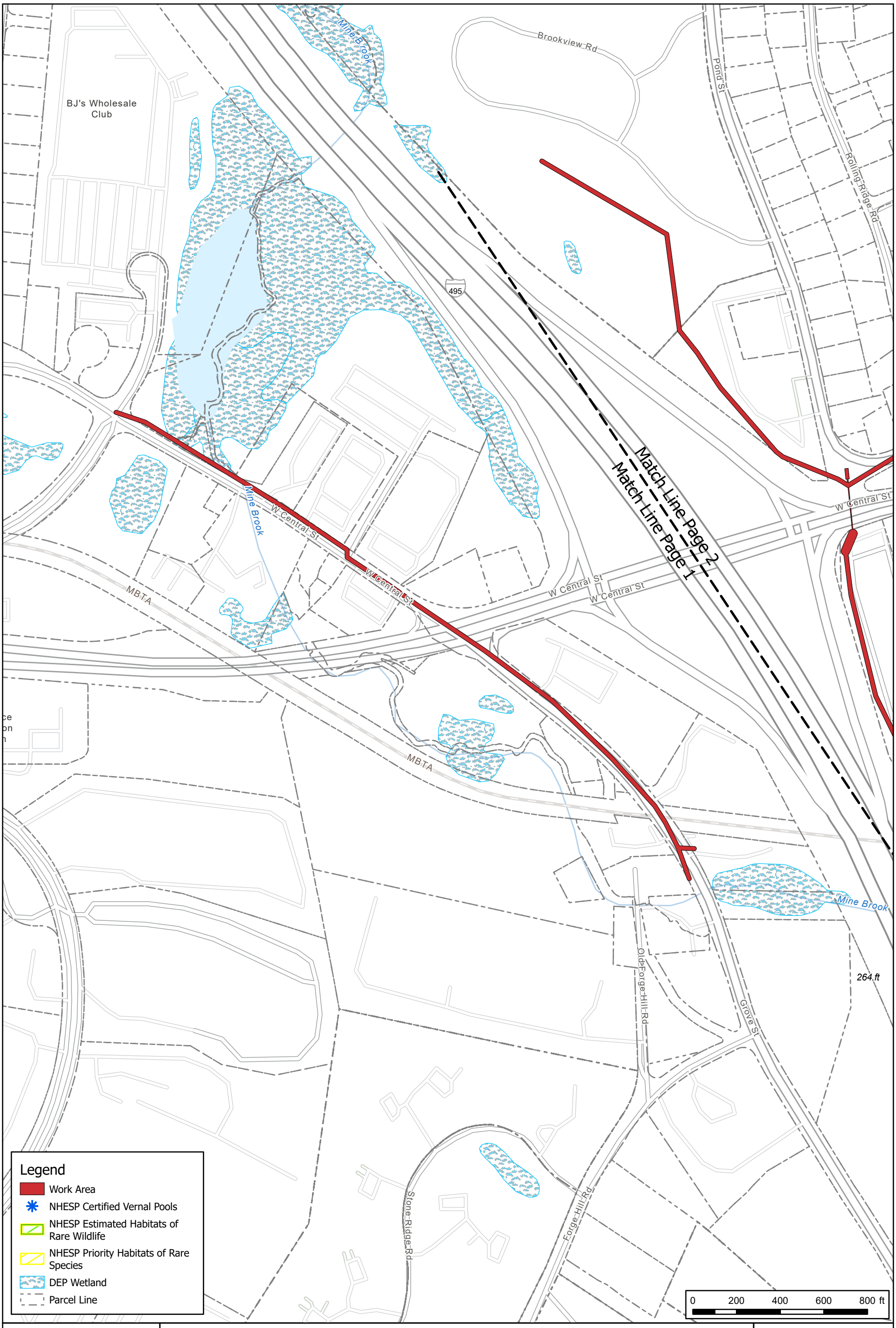

NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM

TOWN OF FRANKLIN, MASSACHUSETTS

BSI REPLACEMENT AND NEW PUMP STATION DESIGN

JUNE, 2022

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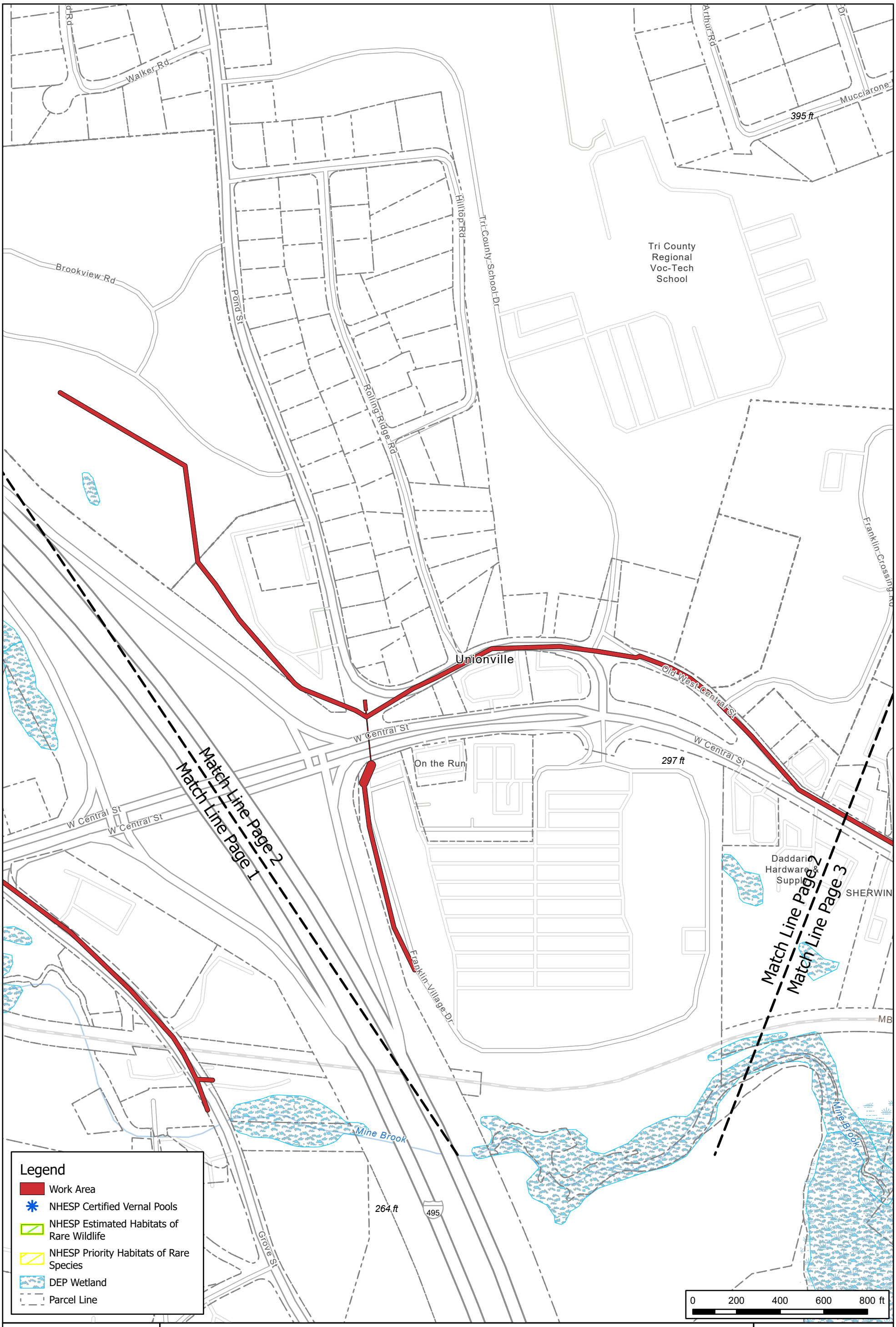

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NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM

TOWN OF FRANKLIN, MASSACHUSETTS

BSI REPLACEMENT AND NEW PUMP STATION DESIGN

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Franklin Crossing Rd
Highwood Dr
Panther Way
Match Line Page 2
Match Line Page 3
Daddario Hardware & Supply
SHERWIN-WILLIAMS
Anne's Country Market
Panther Way
Edwards St
Raymond St
W Central St
Village Ski & Snowboard
Elizabeth's Bagels & More
MBTA
Honey Dew Donuts
Edwins Gifts Collectables Home Deco
Mine Brook
MBTA
Beaver St
Match Line Page 3
Match Line Page 4
MBTA
Chilson Park
0 200 400 600 800 ft

Legend
- Work Area
- NHESP Certified Vernal Pools
- NHESP Estimated Habitats of Rare Wildlife
- NHESP Priority Habitats of Rare Species
- DEP Wetland
- Parcel Line

NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM
TOWN OF FRANKLIN, MASSACHUSETTS
BSI REPLACEMENT AND NEW PUMP STATION DESIGN

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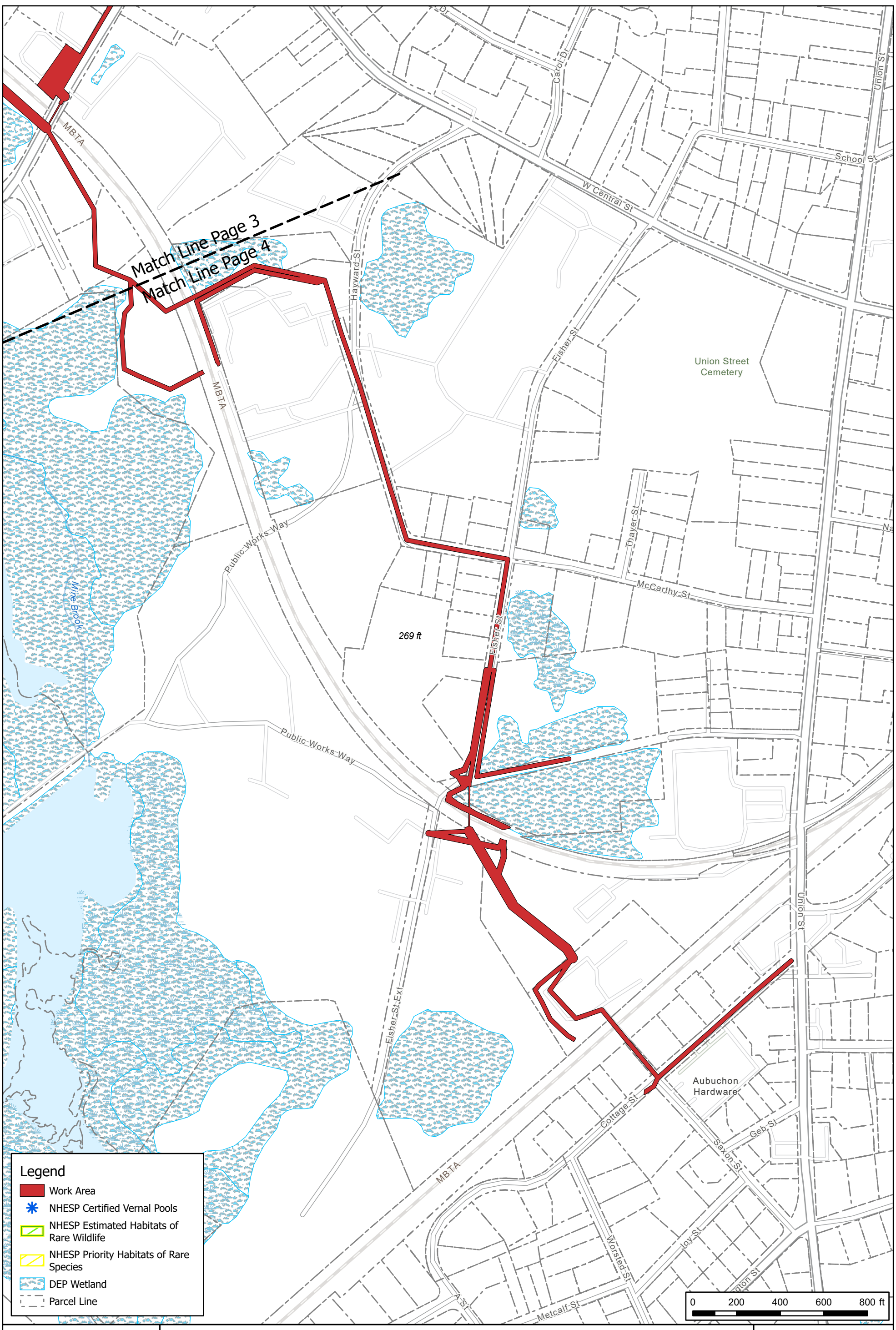

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NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM

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JUNE, 2022

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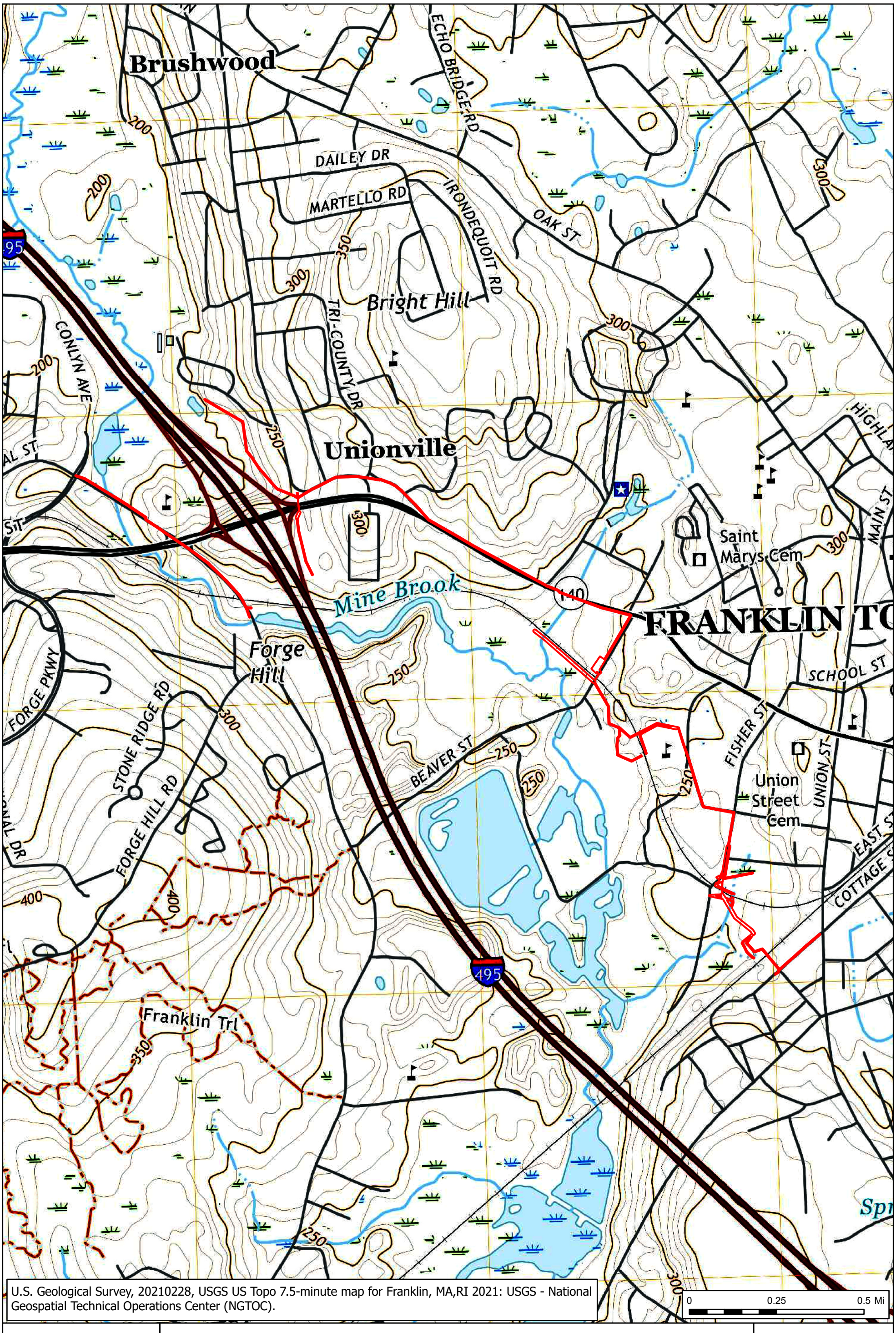

U.S. Geological Survey, 20210228, USGS US Topo 7.5-minute map for Franklin, MA,RI 2021: USGS - National Geospatial Technical Operations Center (NGTOC).

Legend

Work Area

Project Area = 8.0 acres

UNITED STATES GEOLOGICAL SURVEY TOPOGRAPHY MAP

TOWN OF FRANKLIN, MASSACHUSETTS

BSI REPLACEMENT AND NEW PUMP STATION DESIGN

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JUNE, 2022

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H. DEP Field Data Forms

- **Wetlands Delineation Report completed by ECR, Included as Appendix B of the Stormwater Report**

I. Erosion & Sediment Control Narrative

J. Alternatives Analysis

K. Mitigation Narrative

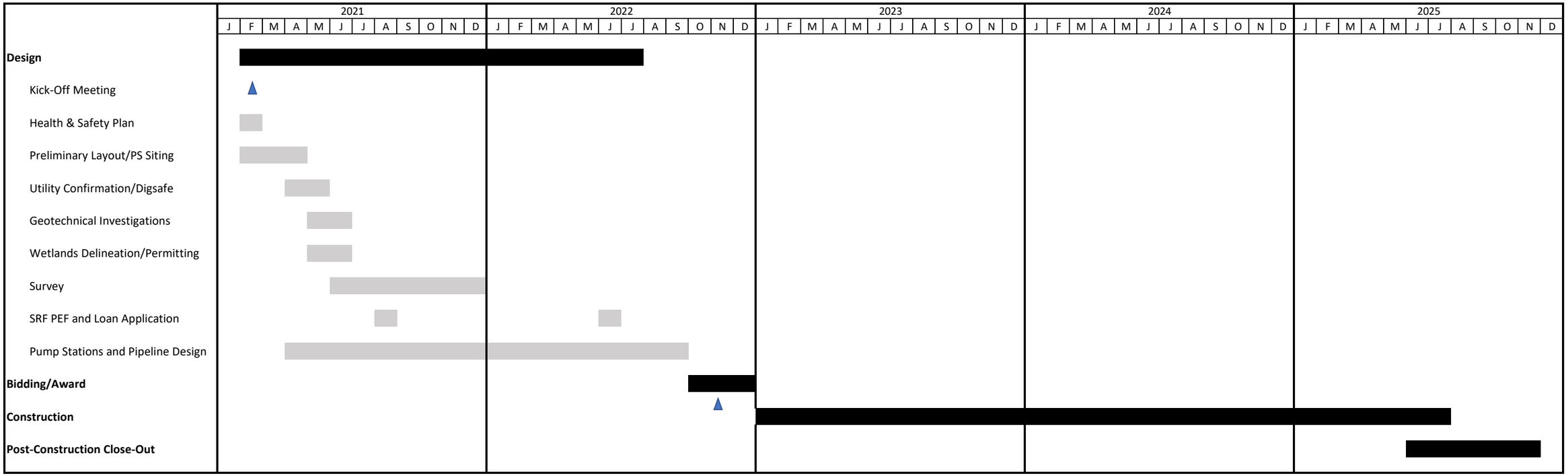
L. Replication Narrative & Protocol

All included in Stormwater Report

M. Construction Sequence and Schedule

Town of Franklin, MA
Beaver Street Interceptor Rehabilitation and Replacement

Projected Schedule



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