NOTICE OF INTENT

Project 8
Swanton Street Bridge
Aberjona River Flood Mitigation Program
Winchester, MA

PREPARED FOR
Town of Winchester
71 Mount Vernon Street
Winchester, MA 01890
781-721-7120

PREPARED BY
vhb
101 Walnut Street
PO Box 9151
Watertown, MA 02471
617-924-1770

September 2019
September 26, 2019

Ref: 13387.00

Mr. Zeke Nims, Chair
Winchester Conservation Commission
Winchester Town Hall
71 Mt. Vernon Street
Winchester, MA 01890

Re: Notice of Intent Filing – Project 8, Swanton Street Bridge Replacement

Dear Mr. Nims and Commissioners,

On behalf of the Applicant, the Town of Winchester Engineering Department, VHB is submitting the attached Notice of Intent (NOI) for work associated with the replacing the Swanton Street Bridge over the Aberjona River in Winchester, MA (the Project). The Project is part of the Aberjona River Flood Mitigation Program and will increase the existing flow capacity within this reach of the Aberjona River.

The Project includes work within Areas Subject to Protection under the Massachusetts Wetlands Protection Act, M.G.L. c.131, §40 (WPA) and its implementing regulations, 310 CMR 10.00, as well as the Winchester Wetlands Bylaw, Winchester Bylaws c.13 (the Bylaw). These areas include Bank, Land Under Water Bodies and Waterways, Bordering Land Subject to Flooding, and Riverfront Area associated with the Aberjona River. Work will also take place within the 100-foot buffer zone to the Bank of the Aberjona River. The work qualifies as a limited project under WPA regulations at 310 CMR 10.53(3)(I), “The construction, reconstruction, operation or maintenance of water dependent uses.”

In compliance with the WPA and the Bylaw, notification to abutters regarding this NOI has been made by certified return receipt mail. A copy of the abutter notification form and a certified list of abutters are enclosed as part of the NOI.

Because the proposed Project is a municipal project, it is exempted from any state or municipal filing fees.
If you have any questions or need any additional information, please feel free to contact me at (617) 924-1770 or via email at llaich@vhb.com.

Regards,

Laura Laich  
Environmental Scientist  
llaich@vhb.com

cc: Lisa Wong, Town of Winchester  
DEP Northeast Regional Office
NOTICE OF INTENT

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September 2019
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Notice of Intent Forms

- WPA Form 3
- Fee Transmittal Form (Fee Exempt)
A. General Information

1. Project Location:
   - a. Street Address: SWANTON STREET
   - b. City/Town: WINCHESTER
   - c. Zip Code: 01890
   - d. Latitude: 42.46098N
   - e. Longitude: 71.13705W
   - f. Map/Plat #: N/A
   - g. Parcel/Lot #: N/A

2. Applicant:
   - a. First Name: LISA
   - b. Last Name: WONG
   - c. Organization: TOWN OF WINCHESTER
   - d. Mailing Address: 71 MT. VERNON STREET
   - e. City/Town: WINCHESTER
   - f. State: MA
   - g. Zip Code: 01890
   - h. Phone Number: 781-721-7120
   - i. Fax: 781-721-7120
   - j. Email: lwong@winchester.us

3. Property Owner:
   - a. First Name: RYAN
   - b. Last Name: LIZEWSKI
   - c. Organization: VANASSE HANGEN BRUSTLIN, INC
   - d. Mailing Address: 101 WALNUT STREET P.O. BOX 9151
   - e. City/Town: WATERTOWN
   - f. State: MA
   - g. Zip Code: 02472
   - h. Phone Number: 617-924-1770
   - i. Fax: 617-924-1770
   - j. Email: rlizewski@vhb.com

4. Representative:
   - a. First Name: LISA
   - b. Last Name: WONG
   - c. Organization: TOWN OF WINCHESTER
   - d. Mailing Address: 71 MT. VERNON STREET
   - e. City/Town: WINCHESTER
   - f. State: MA
   - g. Zip Code: 01890
   - h. Phone Number: 781-721-7120
   - i. Fax: 781-721-7120
   - j. Email: lwong@winchester.us

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:
   REPLACE THE SWANTON STREET BRIDGE AS PART OF THE ABERJONA RIVER FLOOD MITIGATION PROGRAM.

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)?
**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

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1. [ ] Yes  [ ] No  If yes, describe which limited project applies to this project:

2. Limited  310 CMR 10.53(L) THE CONSTRUCTION, RECONSTRUCTION, OPERATION OR MAINTENANCE OF PROJECT WATER DEPENDENT USES.

8. Property recorded at the Registry of Deeds for:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SOUTHERN MIDDLESEX</td>
<td>15000</td>
<td>014</td>
<td></td>
</tr>
</tbody>
</table>

**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)

<table>
<thead>
<tr>
<th>Resource Area</th>
<th>Size of Proposed Alteration</th>
<th>Proposed Replacement (if any)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>a. [ ] Bank</th>
<th>235</th>
<th>2. linear feet</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1. linear feet</td>
<td>2. linear feet</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>b. [ ] Bordering Vegetated Wetland</th>
<th>1. square feet</th>
<th>2. square feet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. square feet</td>
<td>2. square feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>c. [ ] Land under Waterbodies and Waterways</th>
<th>3655</th>
<th>2. square feet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Square feet</td>
<td>2. square feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>60</th>
<th>3. cubic yards dredged</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60</td>
<td>3. cubic yards dredged</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>d. [ ] Bordering Land Subject to Flooding</th>
<th>15780</th>
<th>2. square feet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. square feet</td>
<td>2. square feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2859</th>
<th>3. cubic feet of flood storage lost</th>
<th>4. cubic feet replaced</th>
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</table>

<table>
<thead>
<tr>
<th>e. [ ] Isolated Land Subject to Flooding</th>
<th>1. square feet</th>
<th>2. cubic feet of flood storage lost</th>
<th>3. cubic feet replaced</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>f. [ ] Riverfront Area</th>
<th>Aberjona River</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Name of Waterway (if any)</td>
<td>1. Name of Waterway (if any)</td>
</tr>
</tbody>
</table>

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

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Proposed Alteration of the Riverfront Area:

- [ ] 18600

  a. total square feet

  b. square feet within 100 ft.

  c. square feet between 100 ft. and 200 ft.
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

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)

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

4. Restoration/Enhancement

uspend

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

Page 3 of 7 * ELECTRONIC COPY
If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossnings.

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

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)....

b. 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

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
   - 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

   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).
4. 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: ABERJONA RIVER FLOOD MITIGATION PROGRAM PROJECT
b. Plan Prepared By: VHB
   □
c. Plan Signed/Stamped By: RYAN LIZEWSKI
   ☑
   September 26, 2019 1:15
d. Revised Final Date:
   ☑
e. 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.
   ☑
   ☑
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

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.

1. Signature of Applicant

2. Date

3. Signature of Property Owner(if different)

4. Date

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.

Page 7 of 7 * ELECTRONIC COPY
A. Applicant Information

1. Applicant:
   a. First Name  LISA  
b. Last Name  WONG  
c. Organization  TOWN OF WINCHESTER  
d. Mailing Address  71 MT. VERNON STREET  
e. City/Town  WINCHESTER  
f. State  MA  
g. Zip Code  01890  
h. Phone Number  7817217120  
i. Fax  
j. Email  lwong@winchester.us  

2. Property Owner: (if different)
   a. First Name  
b. Last Name  
c. Organization  VILLAGE IN WINCHESTER CONDOMINUIM  
d. Mailing Address  171 SWANTON STREET  
e. City/Town  WINCHESTER  
f. State  MA  
g. Zip Code  01890  
h. Phone Number  
i. Fax  
j. Email  

3. Project Location:
   a. Street Address  SWANTON STREET  
b. City/Town  WINCHESTER  

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

<table>
<thead>
<tr>
<th>Activity Type</th>
<th>Activity Number</th>
<th>Activity Fee</th>
<th>RF Multiplier</th>
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<td>City/Town share of filing fee</td>
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<td>$0.00</td>
<td>$0.00</td>
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<tr>
<td>State share of filing fee</td>
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<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
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</table>
Notice of Intent Figures

- Figure 1 – Site Locus
- Figure 2 – Aerial Map
- Figure 3 – NHESP Map
- Figure 4 – FEMA Map
Swanton Street Bridge
Winchester, MA

Figure 1 - USGS Locus Map
Source Info: USGS, MassGIS, VHB
FIGURE 3

Figure 3 - NHESP Map

Source Info: USGS, MassGIS, VHB

NHESP Priority Habitats of Rare Species
NHESP Estimated Habitats of Rare Wildlife - None Present
NHESP Certified Vernal Pools
Attachment A
Notice of Intent Narrative
This Notice of Intent (NOI) is being filed pursuant to the Massachusetts Wetlands Protection Act (WPA) (MGL c.131, §40) and its implementing regulations, (310 CMR 10.00), as well as the Winchester Wetlands Bylaw, Winchester Bylaws c.13 (the Bylaw).

Introduction

The Town of Winchester (the Applicant) is proposing to reconstruct Bridge No. W-40-08 carrying Swanton Street over the Aberjona River in Winchester, MA including widening a short segment of the river both upstream and downstream of the bridge (the Project), as depicted on the accompanying Project Plans. The Project is referred to as Project 8 of a suite of flood control measures comprising the Aberjona River Flood Mitigation Program (FMP). The Project will increase the existing flow capacity within this reach of the Aberjona River. Refer to the figures and Project plans accompanying this NOI for the Project Site location and details.

Work will occur in Areas Subject to Protection under the WPA and the Bylaw; these areas include Bank, Land Under Water Bodies and Waterways, Bordering Land Subject to Flooding, and Riverfront Area associated with the Aberjona River. Work will also take place within the 100-foot buffer zone to the Bank of the Aberjona River. The work qualifies as a Limited Project under WPA regulations at 310 CMR 10.53(3)(l), “The construction, reconstruction, operation or maintenance of water dependent uses”.

Wetland resource areas will be protected from impacts during construction through the implementation of an erosion and sedimentation control program. This program includes provisions to minimize areas of disturbance through phasing and sequencing, limit erosion through stabilization, and prevent sediment from leaving the site by installing structural controls. The proposed Project meets stormwater management standards established by MassDEP, as described in detail in the Stormwater Memorandum provided as Attachment F.
The following is a description of the Project background and need, existing site conditions, planned work, best management procedures designed to mitigate resource area impacts, and regulatory compliance.

**Project Background and Overview**

Since 1996, the Town of Winchester has experienced numerous devastating floods along the Aberjona River corridor which have imperiled public safety, disrupted businesses and schools, and led to significant economic losses. These events (October 1996, June 1998, March 2001, April 2004, May 2006, and March 2010) have created economic losses totaling more than $25 million. One of the primary causes of severe flooding in Winchester is the Aberjona River’s inability to convey increased stormwater contributions during significant storm events. This lack of capacity in the Aberjona River causes the river to frequently overtop its banks. The frequency and severity of the flooding along the Aberjona River prompted the Town to investigate the causes of flooding and develop flood mitigation projects to reduce the problem.

In 1999, Winchester funded a flood study that resulted in a suite of recommended flood improvement projects, known collectively as the Aberjona River FMP. In June 2002, the Town submitted its first Massachusetts Environmental Policy Act (MEPA) filing. After a lengthy review process, the Secretary of Energy and Environmental Affairs (EEA) issued a certificate in April 2010 allowing the detailed design and permitting process for the respective projects of the Aberjona River FMP to begin. At the completion of the MEPA process, the Aberjona River FMP included six in-town and three out-of-town flood mitigation projects. The capital costs and construction-related disruptions required to implement the projects proposed in the Aberjona River FMP preclude simultaneous construction, so the projects were proposed and approved by the EEA Secretary in sequence to prevent increases in flood risk downstream.

The proposed Project, Project 8, is a component of the overall Aberjona River FMP and entails reconstructing the Swanton Street roadway bridge. The river channel upstream of the bridge is significantly wider than the opening beneath Swanton Street, making the bridge a restriction to flow during periods of high volume such as after rain events. The bridge reconstruction is proposed to widen the opening under the bridge by 9 feet to increase flow capacity and improve flow within the river channel during significant stormwater events. The new bridge will be installed with Accelerated Bridge Construction methodology using precast elements, which will require a complete road closure throughout the duration of construction. The existing superstructure will be removed, the abutments will be demolished, and the riverbank will be pulled back to install new abutments spaced for a 25-foot river opening before placing the new superstructure. The riverbank on the west side of the bridge, which is currently armored with riprap, will be reconstructed both upstream and downstream of the bridge, over a length of approximately 175 feet. Work zones will be created through
use of cofferdams to allow abutment demolition and reconstruction and bank restoration to take place in dry conditions.

Additional Regulatory Review

In addition to the permit application contained herein, the Project will be required to obtain several additional permits and/or authorizations. Table 1 shows a summary of the local, state, and federal permits and approvals required for the completion of the Project. Descriptions of the required permits and approvals are provided in the sections below.

Table 1: Project Permitting Summary

<table>
<thead>
<tr>
<th>Agency</th>
<th>Permit/Approval</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. Army Corps of Engineers</td>
<td>Section 404 Clean Water Act, MA General Permit</td>
<td>Application to be submitted prior to beginning construction.</td>
</tr>
<tr>
<td>U.S. Environmental Protection Agency</td>
<td>Dewatering General Permit</td>
<td>Application to be submitted prior to beginning construction.</td>
</tr>
<tr>
<td>State</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Massachusetts Historical Commission</td>
<td>Memorandum of Agreement</td>
<td>Project Notification Form to be submitted prior to beginning of construction.</td>
</tr>
<tr>
<td>Massachusetts Department of Environmental Protection Wetlands and Waterways</td>
<td>Waterways (MGL Chapter 91) License and Dredging Permit</td>
<td>Application submitted December 2018</td>
</tr>
<tr>
<td>Local</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town of Winchester Conservation Commission</td>
<td>WPA Order of Conditions</td>
<td>Application included herein.</td>
</tr>
</tbody>
</table>

Army Corps of Engineers Massachusetts
Pre-Construction Notification

The Town of Winchester will apply for authorization from the Department of the Army to replace the Swanton Street bridge, pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), under Activity General Permit 1 – Maintenance of the Massachusetts General Permit, for the replacement of any previously authorized, currently serviceable structure including any stream channel modification necessary for the replacement.

US Environmental Protection Agency Dewatering General Permit Resource

The Town of Winchester will submit a Notice of Intent for temporary construction dewatering under the National Pollutant Discharge Elimination System (NPDES).
Massachusetts Historical Commission

As part of their review of the FMP's Final Environmental Impact Report (FEIR), MHC determined in their opinion that Project 8 is unlikely to affect significant historic or archaeological resources. These findings were presented in a letter to the U.S. Army Corps of Engineers dated March 4, 2010, a copy of which can be found in Attachment B.

Chapter 91

In accordance with the Public Waterfront Act (M.G.L. Chapter 91A) and its implementing Regulations (310 CMR 9.00), a Waterways Permit must be obtained for this Project because proposed dredging will occur below the high-water mark within waters of the Commonwealth of Massachusetts. The Project is water dependent as defined by CMR 9.12 and complies with applicable standards governing dredging and disposal of dredge materials, according to the provisions of 310 CMR 9.40, and complies with the other applicable standards and provisions listed at 310 CMR 9.31. An existing Chapter 91 license could not be located which allowed for the construction of the bridge; a new license will have to be obtained. As previously stated, this Project is intended to mitigate for flooding impacts and will retain public access along the walking path west of the bridge. The Project is water dependent and no permanent impacts to waterways or public access are anticipated.

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

Construction activities which will occur within a resource area or its buffer zone as defined in 310 CMR 10.00 must submit a Notice of Intent (NOI) to the local Conservation Commission for review. In order to fulfill local permitting requirements, the Town of Winchester is submitting this Notice of Intent with the Winchester Conservation Commission in accordance with 310 CMR 10.00.

Existing Conditions

The Swanton Street Bridge (the Site) is a two-lane roadway bridge located between Loring Avenue and Chapin Street in Winchester, Massachusetts (Figure 1 – USGS Map and Figure 2 – Aerial Map). The existing granite stone bridge crosses the Aberjona River through a densely developed area. The bridge superstructure was most recently reconstructed in 1995.

The bridge is bordered by residential properties to the north and east and by the Aberjona Nursing & Rehabilitation Center to the southwest. The east and west banks of the Aberjona on the upstream side are owned by adjacent condominiums at The
Village residential development. A town-owned paved access road, used primarily as a pedestrian walkway, is adjacent to the southwestern bank of the Aberjona River.

According to the most recently available data provided by the Massachusetts Natural Heritage and Endangered Species Program\(^1\) (NHESP), no portion of the Site is located within Priority Habitat of Rare Species or Estimated Habitat of Rare Wildlife, nor are there any Certified Vernal Pools on the Site (Figure 3). The Site does not lie within any Area of Critical Environmental Concern (ACEC). According to the Massachusetts Department of Environmental Protection (DEP), the Site is not located in an area designated as an Outstanding Resource Water\(^2\). No portion of the Site is located within a Zone II Interim Wellhead Protection Area\(^3\).

The Natural Resources Conservation Service\(^4\) soil survey has mapped the Site as Deerfield loamy fine sand, 3 to 8 percent slopes.

The most recently issued Flood Insurance Rate Map (FIRM)\(^5\) for the area, produced by the Federal Emergency Management Agency (FEMA), indicates that the entirety of the Site is within mapped floodplain for the 100-year storm event. Portions of the Site are within the designated floodway of the Aberjona River (Figure 4).

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**Wetland Resource Areas**

Wetland resource areas on or near the Site were identified in accordance with methods developed by the DEP\(^6\) and the U.S. Army Corps of Engineers\(^7\). The wetland resource areas identified on or near the Site include Bank, Land Under Waterbodies and Waterways (LUWW), Bordering Land Subject to Flooding (BLSF), and Riverfront Area (RA). All resource areas are associated with the Aberjona River. These resource areas are defined under the WPA Regulations as follows:

- **Bank:** As defined at 310 CMR 10.54 (2), a Bank is the portion of the land surface, which normally abuts and confines a water body. The upper boundary of Bank is the first observable break in slope.
- **Land Under Water Bodies and Waterways (LUWW):** As defined at 310 CMR 10.56 (2), LUWW is the land beneath any creek, river, stream, pond or lake. The boundary of LUWW is the mean annual low water level.
- **Bordering Land Subject to Flooding (BLSF):** As defined by 310 CMR 10.57(2)(a), BLSF is “an area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds or lakes.”

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\(^1\) NHESP, 2017. Massachusetts Natural Heritage Atlas. MassGIS.
\(^3\) DEP, 2012. Approved Wellhead Protection Areas (Zone II). MassGIS.
\(^4\) Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey.
It extends from the banks of these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetland.” The boundary of BLSF is the estimated maximum lateral extent of flood water which will theoretically result from the statistical 100-year frequency storm. Areas identified by FEMA to be within the 100-year floodplain are regulated as BLSF.

Riverfront Area (RA): As defined at 310 CMR 10.58 (a)(3), RA is “the area of land between a river’s mean annual high-water line measured horizontally outward from the river and a parallel line located 200 feet away.”

The following sections describe the wetland resource areas associated with the Site, as related to the WPA and the Bylaw.

Aberjona River (Bank, LUWW and RA)

The Aberjona River is a perennial waterway and a major tributary to the Mystic River. The river flows from Woburn in the north, south through the Town of Winchester, and empties into the Upper Mystic Lake at the south end of Town. The river flows directly though the densely-developed Winchester Town center and several heavily populated residential neighborhoods. Along its length, the river is the target of numerous remediation efforts to mitigate contamination from multiple sources.

The Aberjona River flows under Swanton Street at the Project Site, before entering culverts beneath Skillings Field approximately 450 feet south of the bridge. The Banks at Swanton Street are manmade and consist of steeply sloped riprap, except for a small portion of the southeastern bank adjacent to Swanton Street, which consists of a vertical concrete wall. The river substrate is primarily cobble.

The upstream reach of the river near the Site ranges from 30 to 65 feet wide. The downstream reach the river near the Site is approximately 20 feet wide at the bridge and expands to approximately 25 feet wide downstream from the bridge.

VHB wetland scientists field delineated the top of Bank with blue flagging numbered BF 1-100 through BF-104 and BF-B-1 through BF-B-4 on the eastern side of the river, and BF 2-100 through BF2-102 and BF3-100 through BF3-101 on the western side of the river.

The Aberjona River has a regulated 200-foot Riverfront Area. The undeveloped riparian zone along this reach is very narrow and sandwiched between the residential properties on the east and a pedestrian walkway on the west. The riparian vegetation is dominated by early succession and invasive plant species including tree of heaven (Ailanthus altissima), American elm (Ulmus americana) and red maple (Acer rubrum). Herbaceous vegetation includes Japanese knotweed (Fallopia japonica), various upland grasses, and vetch (Vicia, spp.). Poison ivy (Toxicodendron radicans) and Eurasian bittersweet (Celastrus orbiculatus) vines were also noted at the site, predominantly along the 45-degree upland slope on both sides of the river. There are
no vegetated wetlands present in this reach of the river. The delineation is shown on
the accompanying Project plans.

**Bordering Land Subject to Flooding**

The most recently issued Federal Emergency Management Agency (FEMA) Flood
Insurance Rate Map (FIRM) for Middlesex County (Community Panel# 25017C0409E)
dated June 4, 2010 (Figure 4) indicates that the entirety of the Site is within the
100-year floodplain. The FIRM identifies the floodplain elevation as 25 feet North
American Vertical Datum (NAVD 88) on the north side of the bridge and 24 feet on
the south side of the bridge.

**Buffer Zone**

The WPA regulations at 310 CMR 10.02(2)(b) and the Winchester Bylaw establish a
100-foot buffer zone from the limits of Bank. Buffer zone at the Site consists primarily
of previously developed areas of Winchester, including Swanton Street and a paved
walkway along the southwest bank. A footpath is present along the forested
northwest bank.

**Hydrologic and Hydraulics Evaluation**

During the MEPA process for the Aberjona River FMP, a hydraulic evaluation of
existing conditions and several alternative flood improvement projects and their
associated impacts was performed. This evaluation was performed using a
hydrologic/hydraulic model of the entire Mystic Basin. This model was originally
developed as part of a comprehensive Flood Insurance Study (FIS) of the Mystic River
Basin under contract to FEMA. During the MEPA process, the model developed for
FEMA was refined to include projects completed since the development of the original
model, and refined in areas where additional survey detail was available.

VHB used this model to confirm the size of the bridge opening chosen for Project 8
during the MEPA process. Model results support that a 10-foot by 25-foot opening
would provide the best overall improvement to peak water surface elevations both
upstream and downstream of the Project Site. Once completed, the bridge opening
will provide a comparable conveyance capacity to the combined four culverts
downstream under Skillings Field.

**Work Description**

This section provides an overview of the proposed construction activities for installing
the bridge and widening the Aberjona River within the Site, and reconstructing the
Bank both upstream and downstream of the Swanton Street bridge. The Project will be completed in multiple phases in order to allow the bridge to remain open to vehicular traffic during upstream and downstream phases. During replacement of the bridge structure, Swanton Street will be closed.

**River Widening**

The Project will replace the existing 10-foot by 16-foot bridge opening with a new 10-foot by 25-foot bridge opening on two new abutments. The river immediately upstream and downstream from the proposed bridge replacement will be widened by approximately 9-feet to accommodate the wider bridge opening. The existing manmade stone slope serving as the Bank along the west side of the river will be relocated further west to accommodate a new wider channel. The new downstream bank will be constructed along the western edge of the river and will run for a length of approximately 145 feet until tapering to meet the existing bank. The new upstream bank will run for a length of approximately 35 feet to meet the existing bank. The river bottom of the new channel will be graded to match the existing riverbed elevation. The existing stream bed elevations and profile will be maintained. Twenty-five cubic yards of river sediment will be dredged from the riverbed to match the new bank to the downstream segment. Fifteen cubic yards of river sediment will be dredged from the riverbed to meet the new bank on the upstream segment.

In addition to river sediment that will be dredged along the banks, an additional 20 cubic yards will be dredged to install a J-Hook within the upstream portion of the river. The J-Hook is a sloping stone structure designed to help stabilize the channel boundaries and dissipate energy as water flows underneath the bridge. Table 2 provides a summary of dredged material.

<table>
<thead>
<tr>
<th>Mean Dredging Depth (feet)</th>
<th>Maximum Dredging Depth (feet)</th>
<th>Dredging Area (square feet)</th>
<th>Volume of Dredged Materials (cubic yards)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
<td>3.0</td>
<td>2,300</td>
<td>60</td>
</tr>
</tbody>
</table>

**Construction Sequencing**

The following list includes the key design and operation procedures for Project 8 in the approximate order of their implementation. We estimate an active construction duration of approximately 3 to 4 months to replace the bridge abutments and super structure. A more detailed explanation of the major construction components can be found in the sections following the list.

**Stage 1 – Mobilization**

1. Construction mobilization;
2. Delineate and stakeout the limits of work;
3. Stage construction equipment; prepare site; construct material laydown area, and install temporary erosion and sedimentation controls.

**Stage 2 – Western Bridge Abutment Replacement and River Widening**

4. Install temporary traffic control devices as required;
5. Install lateral and vertical excavation support system;
6. Install temporary surface water diversion structures along the western side of the river (e.g., cofferdams, pumps, and turbidity curtain);
7. Dewater the Phase 1 excavation area of the river;
8. Maintain dry work area by collecting/discharging groundwater, surface water and stormwater that collects in the work area;
9. Relocate temporary traffic control devices and close Swanton Street to traffic;
10. Remove the existing bridge superstructure;
11. Perform limited site demolition within work zone required for bridge abutment removal;
12. Excavate riverbank soils, river sediments, as well as upland soils;
13. Transport off-site excess material and properly dispose;
14. Install new bridge abutment;
15. Install scour protection;
16. Reconstruct riverbanks; and
17. Remove temporary surface water diversion structures and energy dissipation structure.

**Stage 3 – J-Hook Installation and Eastern Bridge Abutment Replacement**

18. Relocate temporary traffic control devices as required;
19. Install temporary surface water diversion structures along the eastern side of the river (e.g., cofferdams, pumps, and turbidity curtain);
20. Dewater the Phase 2 excavation area of the river;
21. Maintain dry work area by collecting/discharging groundwater, surface water and stormwater that collects in the work area;
22. Perform limited site demolition within work zone required for bridge abutment removal;
23. Excavate river sediments;
24. Transport off-site excess material and properly dispose;
25. Install J-Hook;
26. Install new bridge abutment with existing concrete retaining wall to remain;
27. Install scour protection; and
28. Remove temporary surface water diversion structures.

**Stage 4 – Bridge Installation, Preparation of Final Roadway Surface, and Demobilization**

29. Install bridge superstructure;
30. Construct new sidewalks;
31. Resurface Swanton Street Bridge as well as disturbed portion of the roadway on both the east and west side of river, seed and landscape as shown on plans;
32. Install permanent roadway striping;
33. Remove temporary traffic control devices and reopen Swanton Street to traffic;
34. Remove sediment and erosion control measures;
35. Remove temporary construction staging areas; and
36. Demobilize.

**Cofferdam Installation and Site Dewatering**

Riverbank excavation and abutment installation will take place in dry conditions, both to facilitate construction and to minimize impacts to the environment. Therefore, prior to excavating the riverbank soils and demolishing the abutments, the individual excavation areas will be dewatered. River flows will be allowed to pass around the work area through the existing bridge opening. A system to divert river flows and dewater the excavation areas will be installed for each of the excavation areas and will include the following:

- Temporary cofferdams consisting of sheet piling and/or sandbags will be installed for both the work on the east and west sides of the project. For each phase, a cofferdam will be installed at the bridge and extend to the upstream and downstream limit of work. The proposed cofferdams will extend up each bank to a sufficient elevation to prevent flow from entering the work area under low-flow conditions. The locations of the cofferdams are depicted on the accompanying Project plans.

- A dewatering system consisting of pumps and wells will be installed to pump remaining water out of the excavation areas and will be operated throughout construction, as needed, to maintain a dry work area. The dewatering system will discharge to an area isolated with a turbidity curtain to allow for the settlement of any potential sediment prior to being discharged into the river. Water will be discharged back to the river as depicted on the accompanying Project plans.

**Bridge Replacement and Riverbank Reconstruction**

Once the bridge is closed to vehicular traffic, the existing structure and abutments will be removed and replaced. There will be no changes to the roadway or sidewalk dimensions.

Downstream and upstream of the bridge, the bank along the east side of the river will be replaced with a similar 2:1 (horizontal: vertical) engineered slope. Riprap will be placed along the toe of the slope, while the upper portion of the reconstructed bank will be loamed and seeded.
Transport Disposal of Excavated Materials

Excavated soil and sediment will be stockpiled either directly adjacent to the open excavation or in an upland area or within a soil stockpile area located in uplands depending on the space available and need for equipment access to the work area. Portions of the material will be reused onsite to replicate the western bank at its new location. Material that cannot be reused will be properly disposed of at a permitted receiving facility. While the exact offsite location of the final permitted receiving facility is not known, the dredging-derived waste material will eventually be shipped off-site under Bills of Lading (BOLs).

Impacts Assessment

The Project will involve work within Bank, LUWW, BLSF, and RA associated with the Aberjona River, as well as work within the 100-foot buffer zone to the Bank of the river. Direct impacts to wetland resources were calculated as being either permanent or temporary. Permanent impacts are any direct impact (fill or dredge), replacement of a natural substrate with non-natural substrate (for example, riprap), or removal of the resource area (i.e. excavation and removal of the existing western Bank). Permanent impacts were determined by calculating the areas of wetland resources which will be lost or converted due to the proposed work. Temporary impacts represent unavoidable temporary disturbance to resource areas associated with constructing the project. These impacts mainly occur where it is necessary to dewater for crews or machinery to work within the limit of disturbance in order to construct portions of the project. Temporarily impacted areas will be restored following construction. The following sections provide an overview of the impacts.

Work in Wetland Resource Areas

The bridge replacement will take place within the RA and will include work within the river channel, the banks of the river, and BLSF. A majority of the material to be excavated to accommodate the new river alignment is within RA but not within the channel of the Aberjona River. Minor temporary impacts to the stream bed will occur where portions of the bed are dredged to accommodate greater flow volume. Minor dredging will also occur when installing a J-Hook bank stabilization structure to prevent erosion of the Banks of the river. Where the channel is widened, the stream bottom will be lined with natural substrate and a net gain in LUWW will occur as part of the widening. Riprap will be installed as scour protection adjacent to the bridge abutments and at the toe-of-slope of the constructed banks. Temporary stream bed alterations will occur due to cofferdams and subsequent dewatering in the excavation areas. Cofferdams will be necessary to contain river flow within the existing channel while installing the bridge abutments and during realignment of the banks. The Project will convert some of the existing upland RA into Bank and LUWW. The RA boundary will be adjusted as a result of the new bank alignment. The following
sections provide an overview of the impacts. Table 3 below provides a summary of the anticipated impacts proposed in each resource area.

### Table 3: Summary of Resource Area Impacts

<table>
<thead>
<tr>
<th>Resource Area</th>
<th>Temporary Impacts</th>
<th>Permanent Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank</td>
<td>0</td>
<td>235 LF</td>
</tr>
<tr>
<td>Riverbed (LUWW)</td>
<td>3,000 SF</td>
<td>655 SF</td>
</tr>
<tr>
<td>Floodplain (BLSF)</td>
<td>15,780 SF; 2,859 CF</td>
<td>0</td>
</tr>
<tr>
<td>Riverfront Area</td>
<td>18,600 SF</td>
<td>0</td>
</tr>
</tbody>
</table>

**Riverbed (LUWW) Impacts**

Permanent impacts to LUWW will result from installing scour protection at the bridge abutments. Installing the J-Hook stabilization structure will also require minor dredging within the channel. Temporary impacts to LUWW will occur during construction due to cofferdams and subsequent dewatering. Dewatering the river channel within these areas would be temporary but may disrupt the lifecycle stages of some organisms inhabiting the area that are either buried in or on top of the substrate. The Project will result in a total of approximately 3,000 sf of temporary impacts to LUWW. Approximately 655 SF of permanent impacts to LUWW will result from installation of the J-Hook bank stabilization structure. In addition, the Project will create approximately 1,275 sf of LUWW in the areas where the riverbank is widened.

**Bank Impacts**

The realignment of the Bank in the upper and lower reaches of the river to accommodate the widened channel is anticipated to permanently impact approximately 235 linear feet of Bank. The Bank along this reach of the river is man-made, consisting of riprap, which has become vegetated over time as soils accumulated, likely due to river flooding. Vegetation alongside, overhanging, or adjacent to the upstream and downstream Banks will be removed within the construction area. Disturbance of vegetation along the Bank of the river will be avoided to the extent practicable. A wildlife habitat evaluation (included as Attachment E) determined no important habitat is present.

**Floodplain (BLSF) Impacts**

By necessity, construction activities for the Project will involve work in floodplain (BLSF). There will be no net loss of flood storage and no new fill in the floodplain due to the Project. Relocating the western riverbank will result in increased flood capacity within the channel. This work is proposed to provide mitigation for flood control and is intended to reduce storm damage caused by flooding.
Riverfront Area (RA) Impacts

Any conversion of RA into another resource area for the Project was considered as a temporary impact to RA. For example, relocating the western Bank requires the conversion of a strip of RA into Bank and LUWW. Relocating the Bank will result in an expansion of the outer edge of RA near this portion of the river. Upland areas within RA will be used for staging equipment and will be restored following construction.

Work in Buffer Zone

All associated work not conducted directly within the waterway will occur within the 100-foot buffer zone to Bank associated with the Aberjona River.

Mitigation Measures

The Applicant is proposing to implement a suite of mitigation measures to offset short- and long-term impacts to wetland resource areas. Proposed mitigation measures include a sediment and erosion control program, which will include structural and non-structural practices. Mitigation measures are described below.

The installation of a cofferdam is not anticipated to have any significant permanent impact to resource areas and the cofferdam is, in itself, a BMP designed to contain the work zone and serve as an erosion and sedimentation control measure. This proposed construction methodology will minimize additional temporary and permanent impacts to resource areas during the construction phase of the Project. Areas dewatered during construction will be restored naturally once the cofferdam is removed and hydrology is restored.

Erosion and Sedimentation Control

An erosion and sedimentation control program will be implemented to minimize temporary impacts to wetland resource areas prior to and during the construction phase of the Project. The program incorporates BMPs specified in guidelines developed by the DEP\(^8\) and the U.S. Environmental Protection Agency (EPA)\(^9\).

Proper implementation of the erosion and sedimentation control program will:

- Minimize exposed soil areas through sequencing and temporary stabilization;
- Place structures to manage stormwater runoff and erosion; and

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Establish a permanent vegetative cover or other forms of stabilization as soon as practicable.

The following sections describe the controls that will be used and practices that will be followed during construction. These practices comply with criteria contained in the NPDES General Permit for Discharges from Large and Small Construction Activities issued by the EPA.

Non-Structural Practices

Non-structural practices to be used during construction include temporary stabilization, permanent seeding, pavement sweeping and dust control. These practices will be initiated as soon as practicable in appropriate areas at the site.

Temporary Stabilization

Any areas of exposed soil or stockpiles that will remain inactive for more than 14 days will be covered with a layer of straw mulch applied at a rate of 90 pounds per 1,000 square feet.

Permanent Seeding

Upon completion of final grading, any areas not covered by pavement, other forms of stabilization, or other methods of landscaping will be seeded with a native upland grass seed. The mix will be applied either by hand at a rate of 35 pounds per acre and will be covered with straw mulch or hydroseeded.

Pavement Sweeping

The portion of the street that fronts the site shall be swept as needed during construction. The sweeping program will remove sediment and other contaminants directly from paved surfaces before their release into stormwater runoff. Pavement sweeping has been demonstrated to be an effective initial treatment for reducing pollutant loading into stormwater\textsuperscript{10}. A street sweeper shall be kept at the site or at a nearby location to facilitate this practice.

Dust Control

The erosion and sediment control program includes provisions to minimize the generation of dust during dry and windy conditions. When necessary, larger areas of exposed soil will be wetted to prevent wind-borne transport of fine grained sediment. Enough water shall be applied to wet the upper 0.5 inches of soil. The water will be

applied as a fine spray in order to prevent erosion. A water truck will be kept on the property (or at a nearby location) to facilitate this practice.

Structural Practices

Structural erosion and sedimentation controls to be used on the site include barriers, catch basin inlet protection, dewatering filters, and a soils stockpile area.

Erosion Control Barriers

Prior to any ground disturbance, an approved erosion control barrier, such as straw bales, will be installed at the down gradient limit of work as specified in the attached drawings. As construction progresses, additional barriers may be installed around the base of stockpiles and other erosion prone areas, as needed. The barriers will be entrenched into the substrate to prevent underflow. An erosion control blanket will be used on newly seeded slopes.

If sediment has accumulated to a depth which impairs proper functioning of the barrier, it will be removed by hand or by machinery operating upslope of the barriers. This material will be either reused in the Project area or disposed of at a suitable off-site location. Any damaged sections of the barrier will be repaired or replaced immediately upon discovery.

Catch Basin Inlet Protection

The inlets of existing and proposed catch basins will be protected from sediment inflow during the work period by surrounding them with a barrier of staked straw bales or by installing Silt Sacks®. If straw bales are used, a layer of non-woven filter fabric shall be placed beneath the grate of each basin. If sediment has collected behind the barrier or in the Silt Sack® to a point where it impairs proper functioning, it will be removed and will be either reused onsite or disposed of at a suitable offsite location.

Dewatering Filters

If necessary, sediment-laden water that collects in excavated areas will be pumped into areas within the river that have been isolated with flow through turbidity curtains. Dewatering discharge areas are depicted on the Project plans.

Soils Stockpile Area

The main soil stockpile will be bermed to protect loose material. Sediments and soils will be dewatered in the stockpile to the extent necessary for transport to off-Site permitted receiving facilities.
Regulatory Compliance

The Project involves work within and adjacent to WPA-regulated and locally regulated resources. The Project’s conformance with the WPA performance standards and the stormwater management standards cited in Section 310 CMR 10.05(6)(k) of the WPA Regulations and with the provisions of the Bylaw are demonstrated below.

Limited Project

The Project qualifies as a Limited Project under WPA regulations at 310 CMR 10.53(3)(l), “The construction, reconstruction, operation or maintenance of water dependent uses.” The WPA regulations define water dependent uses as “those uses and facilities which require direct access to, or location in, marine, tidal or inland waters and which therefore cannot be located away from said waters.” The regulations list “railroad and public roadway bridges” among applicable water dependent uses.

Alternatives Analysis

In determining whether to exercise its discretion to approve a Limited Project, the regulations direct the Issuing Authority to consider “the availability of reasonable alternatives to the proposed activity.”

Several comprehensive alternative analyses were completed as part of the MEPA process. The overall FMP was evaluated as part of the analysis, as all of the components of the FMP are linked. Once a Preferred Alternative was established the individual components of the FMP were investigated further and individual alternatives were evaluated. Following the MEPA process a preliminary structures report was prepared evaluating design options, a summary of the alternatives that were evaluated for the Project is provided below.

Specifically, to comply with EPA Section 404 of the Clean Water Act’s 404(b)(1) Guidelines (40 CFR Part 230), each alternative that meets the overall Project purpose was first evaluated based on practicability and environmental impacts to determine the Least Environmentally Damaging Practicable Alternative (LEDPA). Practicability is dependent on cost, technical and logistical factors. Environmental impacts include both adverse and beneficial effects on aquatic ecosystems and the overall environment. Environmental impacts evaluated are impacts due to the proposed action before any minimization or mitigation efforts are considered. Once the LEDPA was determined, minimization of impacts and mitigation efforts were evaluated for the LEDPA only.

To analyze possible flood mitigation alternatives, a general emphasis was placed on 1) evaluating avoidance of riverbed and riverbank impacts; 2) minimization of necessary impacts; and 3) mitigation of those impacts not able to be avoided or minimized. As
previously discussed, the avoidance of impacts is not possible because as there are no alternatives available that do not involve the minor widening of the river and subsequent alteration of the riverbank required to accommodate installing the fourth culvert that meets the overall project purpose to alleviate flooding. Thus, the focus of the alternative analysis was on determining which of the discussed alternatives that meet the overall project purpose contains the least amount of adverse impacts to the environment. As the Project’s primary purpose is to alleviate flooding in the area and restore the impacted riverbank, all impacts are temporary in nature.

The following sections summarize the differences between the alternatives analyzed and the LEDPA.

**Option 1 – Staged Bridge Construction:**
Staged construction is a method of building a bridge in a sequence of phases, often allowing a portion of the bridge to remain open throughout the duration of construction. Staged construction is primarily known to reduce traffic impacts.

A. The proposed bridge construction would be completed in two stages, with one pedestrian sidewalk and one lane of alternating roadway traffic open always. Staged construction would consist of demolishing the south portion of the existing bridge; maintaining pedestrian and vehicular traffic on the north portion of the existing bridge. The south portion of the new bridge would be constructed; maintaining pedestrian and vehicular traffic once completed. The north portion of the existing bridge would then be demolished and the new portion constructed.

Although this alternative does not require a complete road closure, there are several structural-related issues. Demolishing only a portion of the superstructure would require truncating the existing transverse tie strands. Per the provided existing drawings, the transverse ties are covered by a seamless polypropylene sheath with corrosion inhibiting grease between the strand and sheath. The grease between the strand and sheath leaves the strand with unbonded characteristics, eliminating a bond along its length with the concrete. If the strands are cut, the compressive stress in the concrete transferred primarily between the anchors at its ends is lost, jeopardizing the available capacity of the structure. Therefore, Alternative A is not recommended.

B. Like Alternative A, proposed bridge construction of the using Alternative B would be completed in two stages, each stage dedicated to constructing either the north or south portion of the bridge. A complete road closure would be required only for the time needed to demolish the existing bridge and install a temporary bridge.

Stage I of construction would consist of the following:
- Temporarily close Swanton Street at the required locations to detour traffic around the bridge construction area.
- Demolish the entire existing bridge superstructure and south portion of the existing bridge substructure.
- Install a temporary bridge utilizing the existing north portion of the substructure; maintain pedestrian and vehicular traffic on the temporary bridge.
- Construct the south portion of the new bridge.

Stage II of construction would consist of the following:
- Maintain pedestrian and vehicular traffic on the south portion of the new bridge.
- Remove the temporary bridge and demolish the remaining north portion of the existing substructure.
- Construct the north portion of the new bridge. Once complete, reopen the entire new bridge.

As described in Alternative A, truncating the existing tie strands jeopardizes the performance of the structure. Under Alternative B, the entire superstructure is demolished which eliminates the need to cut the existing strands and therefore, eradicates the possibility of structure failure. An existing structure of this size could be demolished over a short period, such as a weekend road closure; traffic impacts to the residents of Winchester would be minimal.

Although Alternative B requires only a temporary complete road closure, there are several construction disadvantages to be noted. Using conventional staged construction, total project time is significantly longer than that for Accelerated Bridge Construction (Option 2). Often, the cost of a conventional staged construction project is greater than that for other alternatives; more time is spent on-site which increases the risk of project complications and escalated costs.

**Option 2: (Preferred Alternative)**

Accelerated Bridge Construction (ABC) is bridge construction which utilizes prefabricated bridge elements to reduce the on-site construction time that occurs when building a new bridge. ABC is known to improve total project delivery time and reduce traffic impacts.

In addition to the precast deck beams, Alternative C implements the use of precast elements such as footings, abutments, wingwalls, and superstructure components. This type of rapid construction offers several construction advantages. For example, precast elements are manufactured and brought to the site ready for installation, reducing construction time and improving constructability. Additionally, prefabricated elements are manufactured under controlled conditions, increasing the quality of the product. The disadvantage of Alternative C is the need for a complete road closure throughout the duration of construction.
In addition to conventional precast bridge items (i.e. footings, wingwalls, abutments, deck beams, etc.), fully engineering modular systems, such as CON/SPAN Bridge Systems, are a viable option for rapid bridge construction. Since CON/SPAN type structures are pre-engineered, exploring this option would require additional hydraulic analysis to select an applicable system. Further details are not provided in this report but can be submitted separately should there be interest in pursuing these systems.

The following table details the estimated road closure duration, total construction duration, and cost for each Alternative. The cost estimates include structural backfill, new superstructure and substructure elements, and contingencies.

**Table 4: Alternatives Analysis**

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<th>Bridge Construction Alternative</th>
<th>Estimated Road Closure Duration</th>
<th>Estimated Total Construction Duration</th>
<th>Estimated Bridge Construction Cost</th>
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<td>-</td>
<td>-</td>
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<td>8 to 10 Months</td>
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<td>C</td>
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<td>2 to 3 Months</td>
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*Note: Alternative A dismissed due to inadequate structure capacity of existing bridge during construction.*

The Project is a critical component of the Aberjona River FMP. The Project will comply with all environmental protection standards, will meet all engineering and construction standards, will preserve water-related public rights, and will protect other water-dependent uses. The Project is presumed to serve a proper public purpose, as it is a flood mitigation project.

**Performance Standards**

The proposed Project includes work in Bank, LUWW, BLSF, and Riverfront Area. The project includes erosion and sedimentation controls and complies with the stormwater management policy. Compliance with each of the applicable performance standards is demonstrated below.

**Bank (310 CMR 10.54)**

The Project will widen the existing waterway channel and move the Bank outward to meet the expanded channel. This work will permanently impact approximately 235 linear feet of existing Bank, which will be replaced with a new Bank of the same length along the widened channel. The replacement Bank will be graded at a similar 2:1 slope and restored with loam and seed, serving as an improvement on the existing riprap condition.
Performance standards for Bank \([310\ CMR\ 10.54\ (4)(a)]\) require that work not impair the following:

(a) \textit{the physical stability of the Bank;}

The existing Bank will be removed and replaced with a new Bank along the widened channel. The new Bank will have a riprap toe to ensure the Bank is not undermined. The J-Hook structure will dissipate energy during high flows and help ensure long-term stability of the relocated Banks.

(b) \textit{the water carrying capacity of the existing channel within the Bank;}

The widened channel will provide increased carrying capacity for the river flows.

(c) \textit{ground water and surface water quality;}

The Project will not alter water chemistry or groundwater and surface water quality. The existing stormwater management system for the site will not be altered by the Project. Erosion and sedimentation controls will be installed prior to the start of work on the site to minimize sediment transport from the work area and to protect groundwater and surface water quality.

(d) \textit{the capacity of the Bank to provide breeding habitat, escape cover and food for fisheries;}

The new Bank will be restored to a vegetative state with loam and seed. Embedded riprap at the toe of slope for scour protection will potentially improve the quality of riverine habitat by providing velocity refuge and new cover for aquatic invertebrates and small fishes in the spaces between the riprap.

(e) \textit{the capacity of the Bank to provide important wildlife functions.}

The project will alter more than 50 linear feet of Bank. Accordingly, a Wildlife Habitat Assessment has been performed that demonstrates that the affected Banks do not provide important habitat value. The new relocated and restored Bank is anticipated to provide the same or better function as the currently existing riprap Banks. The improved carrying capacity of the river will allow for overall better health of the river, thereby improving the habitat quality for aquatic organisms.

\textbf{Land Under Water Bodies and Waterways (310\ CMR\ 10.56(4)(a))}

The proposed work will result in approximately 655 square feet of permanent impacts and 3,000 square feet of temporary impacts to LUWW. The Project will create 1,275 square feet of new LUWW within the widened channel.

Performance standards for LUWW \([310\ CMR\ 10.56\ (4)(a)]\) require that work not impair the following:
(a) The water carrying capacity within the defined channel, which is provided by said land in conjunction with the banks;

The Project will improve the overall carrying capacity of the river by creating a wider channel opening and widening the restriction that is currently in place at the Swanton Street Bridge. The new riprap for scour protection at the abutments will not affect the channel’s water carrying capacities. The final (post-construction) condition is designed to exceed the water carrying capacity of the existing channel.

(b) Groundwater and surface water quality;

The Project will not alter water chemistry or groundwater or surface water quality. Erosion and sedimentation controls will be in place during all construction activities to protect groundwater and surface water quality.

(c) The Capacity of said land to provide breeding habitat, escape cover and food for fisheries; and

The condition of the existing LUWW, consisting of a perennial stream channel with a cobble substrate, will change minimally with the additional riprap at the bridge abutments. The embedded riprap will potentially improve the quality of riverine habitat. The spaces between the new riprap will potentially provide velocity refuge and new cover for aquatic invertebrates and small fishes. Temporary impacts to LUWW will result from dewatering during construction for a duration of up to three months. These areas will be fully restored once the cofferdams are removed and river flow returns. The Project will create 1,275 square feet of new LUWW within the widened channel.

(d) The capacity of said land to provide important wildlife habitat functions.

The permanently impacted LUWW, which is limited to areas of riprap along the abutments and at the J-hook structure, does provide habitat value. However, the addition of new riprap at these locations and will likely provide additional habitat value. The riprap replacement will not degrade habitat function.

Bordering Land Subject to Flooding (310 CMR 10.57(4))

The Project will comply with all relevant performance standards for BLSF. The regulations for BLSF specify the requirement for compensatory flood storage.

1. Compensatory storage shall be provided for all flood storage volume that will be lost as the result of a proposed project within Bordering Land Subject to Flooding, when in the judgment of the issuing authority said loss will cause an increase or will contribute incrementally to an increase in the horizontal extent and level of flood waters during peak flows.
The purpose of the Project is to increase flood flow conveyance of the Aberjona River through the Swanton Street crossing. No flood storage will be lost as a result of the proposed Project.

2. Work within Bordering Land Subject to Flooding, including that work required to provide the above-specified compensatory storage, shall not restrict flows so as to cause an increase in flood stage or velocity.

By improving the width of the river and the flood capacity, the Project will avoid any flow restrictions that may cause greater flood stage or velocity.

3. Work in those portions of Bordering Land Subject to Flooding found to be significant to the protection of wildlife habitat shall not impair its capacity to provide important wildlife habitat functions. Except for work which would adversely affect vernal pool habitat, a project or projects on a single lot, for which Notice(s) of Intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10 Percent or 5,000 square feet (whichever is less) of land in this resource area found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. Additional alterations beyond the above threshold, or altering vernal pool habitat, may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures contained in 310 CMR 10.60.

The Project will temporarily alter BLSF in excess of 5,000 square feet. Altered BLSF within the project area contains vegetated slopes; however, all impacted BLSF will be restored once construction is complete. Work within BLSF is unavoidable since the purpose of the Project is for flood mitigation and widening of the river channel beneath the bridge.

Riverfront Area (310 CMR 10.58(4))

The performance standard for redevelopment within previously developed RA (310 CMR 10.58(5)) applies to the proposed Project.

‘Notwithstanding the provisions of 310 CMR 10.58(4)(c) and (d), the issuing authority may allow work to redevelop a previously developed riverfront area, provided the proposed work improves existing conditions. Redevelopment means replacement, rehabilitation or expansion of existing structures, improvement of existing roads, or reuse of degraded or previously developed areas. A previously developed riverfront area contains areas degraded prior to August 7, 1996 by impervious surfaces from existing structures or pavement, absence of topsoil, junkyards, or abandoned dumping grounds.’

The Project will replace the abutments and superstructure of an existing roadway bridge. The manmade Bank of the Aberjona River will be shifted west to accommodate...
a wider channel. The entire Project is within RA and approximately 18,600 square feet of RA will be temporarily impacted.

The performance standards within previously developed RA require that the applicant prove that the proposed project will result in an improvement over existing conditions and that the work, including proposed restoration or mitigation, will have no significant adverse impact on the RA. Work to redevelop previously developed riverfront areas shall conform to the following criteria:

(a) At a minimum, proposed work shall result in an improvement over existing conditions of the capacity of the riverfront area to protect the interests identified in M.G.L. c. 131 § 40.

The Project will improve the condition of the Bank of the Aberjona River. The existing Bank is riprap which has become vegetated over time. In order to support more natural vegetation growth on the slopes of the river, the replacement Bank will be restored with loam and seed and allowed to revegetate naturally.

(b) Stormwater management is provided according to standards established by the Department.

The proposed Project meets stormwater management standards established by MassDEP, as described in detail in the Stormwater Memorandum provided as Attachment F.

(c) Within 200-foot riverfront areas, proposed work shall not be located closer to the river than existing conditions or 100 feet, whichever is less, or not closer than existing conditions within 25-foot riverfront areas, except in accordance with 310 CMR 10.58(5)(f) or (g).

The Project work within previously degraded RA will remain within the existing footprint and will not impact undeveloped RA.

(d) Proposed work, including expansion of existing structures, shall be located outside the riverfront area or toward the riverfront area boundary and away from the river, except in accordance with 310 CMR 10.58(5)(f) or (g).

The Project is a flood mitigation project and, by nature, is located within the river and inner riparian zone. Aside from the bridge replacement, no additional structures are proposed within RA.

(e) The area of proposed work shall not exceed the amount of degraded area, provided that the proposed work may alter up to 10% if the degraded area is less than 10% of the riverfront area, except in accordance with 310 CMR 10.58(5)(f) or (g).
The Project work within previously degraded RA will not exceed the amount of currently degraded area.

(f) When an applicant proposes restoration on-site of degraded riverfront area, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), and (e) at a ratio in square feet of at least 1:1 of restored area to area of alteration not conforming to the criteria.

The Project will not propose restoration of on-site degraded RA.

(g) When an applicant proposes mitigation either on-site or in the riverfront area within the same general area of the river basin, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), or (e) at a ratio in square feet of at least 2:1 of mitigation area to area of alteration not conforming to the criteria or an equivalent level of environmental protection where square footage is not a relevant measure.

The Project will not propose mitigation in the RA.

(h) The issuing authority shall include a continuing condition in the Certificate of Compliance for projects under 310 CMR 10.58(5)(f) or (g) prohibiting further alteration within the restoration or mitigation area, except as may be required to maintain the area in its restored or mitigated condition. Prior to requesting the issuance of the Certificate of Compliance, the applicant shall demonstrate the restoration or mitigation has been successfully completed for at least two growing seasons.

The Project will not propose mitigation in the RA.

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**Stormwater Management Standards**

As stated, the purpose of the Project is to improve flood control in this reach of the Aberjona River. The Project will not increase impervious area and the proposed stormwater treatment system will remain consistent with the existing condition. Upon completion of the Project, no additional sediments or other typical roadway contaminants will be generated over and above current levels, and maintenance of existing roadways will not require any additional measures as a result of the Project. Compliance with the 10 stormwater management standards cited in Section 310 CMR 10.05(6)(k) of the WPA Regulations are evaluated in the attached Stormwater Memorandum (Attachment F).
Compliance with the Conservation Commission’s Policies on the 25-foot Buffer, Stormwater Management, and Tree Replacement

The Commission presumes that alterations in the 25-foot buffer zone to wetlands and waterways will have a negative impact on the interests protected by the WPA and the Bylaw and further presumes that restoration of a 25-foot buffer of native plants in a landscaped or developed area will contribute to the protection of interests of the WPA and Bylaw. The Commission allows that these presumptions may be overcome by creditable evidence.

The following sections describe how the Project satisfies the requirements of the Commission’s Policies. The applicable policies as defined by the Commission are provided in italics, while the details of compliance follow:

25-Foot Buffer Zone Policies

No alteration, including, but not limited to, removal of native vegetation, grading, operation of vehicles, paving, filling, excavating, and building of structures, shall be permitted in the 25’ buffer to freshwater wetlands, lakes, ponds, rivers and streams, except in the following situations.

a) Construction of stormwater management structures, if no other location is possible.

No new stormwater management structures are proposed within the 25-foot buffer zone.

b) Removal of trees or other vegetation if they are a threat to public health and safety. Removal of large trees shall require replacement under the Commission’s tree policy.

The proposed river widening will require minor tree removal along the western bank. While the trees in and of themselves are not a threat to public health and safety, the frequent flooding of this area has created that threat. The removal of the trees is necessary to complete the Project, which will reduce flooding in the Project area and eliminate the threat to public health and safety.

c) Other alterations necessary for public health and safety.

The bridge installation and subsequent river widening that is proposed within the 25-foot buffer zone is, as previously stated, a necessary component of the Aberjona FMP. Implementing the Project will result in a decrease in flooding at the Project site which is necessary for public health and safety.

d) Limited removal of native shrubs and other vegetation if they are replaced with other native species.
The limited removal of native shrubs and other vegetation within the Project Site will be required to accommodate the relocated river bank. All disturbed areas will be restored upon the completion of the Project. The western river bank will be planted to the extent practicable, as shown on the planting plan (Attachment G).

e) Control of non-native invasive species. Non-native invasive species are defined as those considered invasive, likely invasive and potentially invasive by the Massachusetts Invasive Plant Advisory Group and listed on the Massachusetts Prohibited Plant List.

The removal of non-native invasive species within the 25-foot buffer zone will occur during the Bank relocation.

f) Restoration or Mitigation

All disturbed areas of the Project site will be restored upon completion of construction as described above. The banks of the river will be loamed and seeded.

g) Construction of narrow paths of pervious material, footbridges, or observation platforms and docks (if allowed on the waterbody).

Not applicable.

**Drainage and Stormwater Management Policies**

The proposed work does not alter any existing drainage patterns or land cover types significantly, and no new structures are proposed as part of the Project. Existing BMPs will remain in place. In addition, no increased off-site flooding is expected. As stated above, the proposed project has been designed to comply with the ten standards listed in the DEP Stormwater Management Policy (2008).

**Tree Replacement Policy**

The river widening portion of the Project will require removing trees along a relatively thin vegetated swath located at the western bank of the river. The restoration of the Project area includes planting numerous native plant and shrub species as shown on the planting plan (Attachment G). The Tree Replacement Policy requires that ‘the total number of linear feet to be removed on all trees greater than 6” diameter shall be replaced by trees and shrubs of an equal number on linear feet.’ Given the limited scope and area of the Project, the Applicant is requesting relief from this Policy and will comply to the extent practicable.
Summary

The Applicant, the Town of Winchester, is proposing to replace the Swanton Street Bridge, as part of the Aberjona River Flood Mitigation Program. The Project will widen the river channel beneath the bridge to allow for increased flood capacity. The Project will include work within the wetland resource areas of Bank, LUWW, BLSF, and RA, as well as within the 100-foot buffer zone to Bank. Permanent impacts will occur to Bank and LUWW. Temporary impacts will occur to Bank, LUWW, BLSF and RA. The Project will result in a net gain in LUWW and will replace impacted bank with a naturalized slope above a riprap toe. The Project complies with all regulatory requirements of the Massachusetts WPA. The work qualifies as a Limited Project under 310 CMR 10.53(3)(l).

The Project includes provisions to limit adverse effects during construction via the implementation of an erosion and sedimentation control program, and runoff generated from the Project will be collected and treated in accordance with the WPA Regulations.

The Applicant respectfully requests that the Winchester Conservation Commission find these measures adequately protective of the interests identified in the WPA and the Bylaw, and issue an Order of Conditions approving the work described in this NOI and shown on the accompanying Project plans.
Attachment B
Abutters Information

- Affidavit of Service
- Notice to Abutters
- Certified Abutters List
AFFIDAVIT OF SERVICE

UNDER THE MASSACHUSETTS WETLANDS PROTECTION ACT
AND Winchester WETLAND BYLAW

I, Laura Laich, hereby certify under the pains and penalties of perjury that on September 26, 2019 I gave notification to abutters of the proposed project in compliance with the Winchester Wetland Bylaw (c.13) and with the second paragraph of the Massachusetts General Laws, Chapter 131, Section 40 and the DEP Guide to Abutter Notification dated April 8, 1994, in connection with the following matter:

A Notice of Intent application, filed under the Massachusetts Wetlands Protection Act and the Winchester Wetland Bylaw, by the Town of Winchester, was submitted to the Winchester Conservation Commission on September 26, 2019 for the replacement of the Swanton Street Bridge.

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

Signature

Date

9/26/19
Notification to Abutters under the Massachusetts Wetlands Protection Act and the Winchester Wetlands Protection Bylaw

Pursuant to the requirements of the Massachusetts Wetlands Protection Act, MGL Chapter 131, Section 40 (WPA), and the Winchester Wetlands Protection Bylaw, Town of Winchester Bylaws c.13 (the Bylaw), you are hereby notified of the following:

The Applicant, the Town of Winchester, has filed a Notice of Intent (NOI) with the Winchester Conservation Commission seeking approval to replace the Swanton Street Bridge (the Project), as part of the Aberjona River Flood Mitigation Program. Portions of the project will occur within Areas Subject to Protection under the WPA and the Bylaw.

Information regarding the NOI may be obtained by calling the Winchester Conservation Commission at (781) 721-7152. The NOI may be viewed at the Winchester Conservation Commission Office located at Winchester Town Hall, 71 Mt. Vernon Street, Winchester, Massachusetts. You may also call Laura Laich at (617) 924-1770, Monday through Thursday between 9:00am and 4:00pm with questions or to arrange to view the NOI.

Copies of the NOI may be obtained from the Winchester Conservation Commission by calling the number above or by calling Laura Laich at (617) 924-1770. You may be charged for a copy of the NOI.

The Winchester Conservation Commission will hold a public hearing on the NOI. Notice of the public hearing (including the date, time and place) will be published in a local newspaper at least 5 business days before and posted in Town Hall at least 48 hours in advance. You may also call the Winchester Conservation Commission (at the number identified above) to determine the date, time and place of the hearing.

Information on this NOI and the Wetlands Protection Act may also be obtained by calling the Northeast Regional of Office of the Massachusetts Department of Environmental Protection at (978) 694-3200.
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REIGOSA REALTY TRUST
THOMAS E. MORELLO, JR. TR
14 DINANNO RD
STONEHAM, MA 02180

200 U 216 SWANTON ST 10 314 0
LUC 102
ZHANG MIN + ZHISONG JI
4 ASARREE DRIVE
SOUTHBOROUGH, MA 01745

200 U 217 SWANTON ST 10 315 0
LUC 102
GIOIOSO ANTHONY
200 SWANTON ST UNIT 217
WINCHESTER, MA 01890

200 U 218 SWANTON ST 10 316 0
LUC 102
ROOKWOOD PKW PROPERTIES LLC
37 WALNUT ST #200
WELLESLEY, MA 02481

200 U 219 SWANTON ST 10 317 0
LUC 102
DALY JOHN J
200 SWANTON ST UNIT 219
WINCHESTER, MA 01890

200 U 220 SWANTON ST 10 318 0
LUC 102
KLEINEMIDER STEVEN R
200 SWANTON ST #220
WINCHESTER, MA 01890

200 U 221 SWANTON ST 10 319 0
LUC 102
VARDANYAN ANGIN
200 SWANTON ST #221
WINCHESTER, MA 01890

200 U 222 SWANTON ST 10 320 0
LUC 102
LAVEKAR SHAMIKA + ROHAN KHOPK
200 SWANTON ST #222
WINCHESTER, MA 01890

200 U 223 SWANTON ST 10 321 0
LUC 102
ANDREWS MICHELLE
200 SWANTON ST UNIT 223
WINCHESTER, MA 01890

200 U 224 SWANTON ST 10 322 0
LUC 102
MOHAPATRA SUSHIL K + J KAR
442 LEITCH STREET
WOBURN, MA 01801

200 U 225 SWANTON ST 10 323 0
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FLEMING THOMAS E
200 SWANTON ST UNIT 225
WINCHESTER, MA 01890

200 U 226 SWANTON ST 10 324 0
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FELIX CHRISTOPHER M
200 SWANTON ST #226
WINCHESTER, MA 01890

200 U 227 SWANTON ST 10 325 0
LUC 102
HASANOVA SEVIL
200 SWANTON ST #227
WINCHESTER, MA 01890

200 U 228 SWANTON ST 10 326 0
LUC 102
OBIEN GEORGE F + OLGA M
446 HIGHLAND AVE
WINCHESTER, MA 01890

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Attachment C
MEPA Certificate
March 4, 2010

The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

RE: Aberjona River Flood Improvements Project, Winchester, MA. MHC #RC.32555. EEA #13046.

Dear Ms. Adams:

Staff of the Massachusetts Historical Commission (MHC) have reviewed the Final Environmental Impact Report (FEIR), intensive architectural survey report, Intensive Historic Architectural Survey and Effects Assessment, Aberjona River Flood Mitigation Program, Winchester, Massachusetts, and the draft technical archaeological report, Intensive (Locational) Archaeological Survey Aberjona River Flood Control Project Project Elements #2, #4 and #8 Winchester, Massachusetts, submitted by the PAL, for project elements #2, #4 and #8 of the proposed project referenced above and have the following comments.

MHC understands that the Corps is no longer proposing to fund, design or construct project element #2. However, the project as a whole still requires permitting by the Corps. MHC will continue review of the project under Section 106 of the National Historic Preservation Act of 1966, as amended, and looks forward to continued consultation and a determination of effect by the Corps for the project.

The Winchester Historical Commission (WHC) has commented during the state environmental review. MHC encourages the Corps to review the WHC’s previous comments and to take their comments into account in assessing effects (36 CFR 800.5(a)).

As presented in the FEIR Alternative 8 (Section 1.3.1, 1.4, pp.1-8, 1-9) the proposed project consists of elements #2, #3, #4, #6, #8, #10 and the demolition of the Craddock Bridge tide lock structure. MHC has previously indicated in its 2006 comments on the ENF and DEIR for the project that project elements #3, #6 and the Craddock Bridge tide lock demolition are unlikely to affect significant historic or archaeological resources. Inventory forms have been prepared and submitted by the PAL for the Craddock Bridge and the Railroad bridge/culvert near Muraco School, both recommended as no longer retaining sufficient integrity to meet the Criteria of Eligibility (36 CFR 60) for listing in the National Register of Historic Places. As proposed, project element #10, including the installation of two seven-foot diameter culverts, is in MHC’s opinion, unlikely to affect significant historic resources. Within project element #8, the Swanton Street Bridge (MHC # WNT.913) has been previously determined by MADOT to not meet the Criteria of Eligibility for listing in the National Register of Historic Places. As proposed, project elements #8 and #10 are, in MHC’s opinion, unlikely to affect significant historic or archaeological resources.

Review of the FEIR section 4.7.3 and the PAL intensive architectural report determined that project elements #2, Waterfield Road to Bacon Street, and project element #4, the Mount Vernon Street Bridge rehabilitation, have the potential to adversely effect the Winchester Center Historic District, including the Mount Vernon Street Bridge, and the Mystic Valley Parkway, listed in the State and National Registers of Historic Places. The Bacon Street Bridge and Kellaway Landscape, for which Inventory Forms have been produced and submitted to MHC, in

220 Morrissey Boulevard, Boston, Massachusetts 02125
(617) 727-8470 • Fax: (617) 727-5128
www.sec.state.ma.us/mhc
MHC’s opinion, meet the Criteria of Eligibility for listing in the National Register of Historic Places. Project element #2 also includes partial demolition of the USGS gauging station concrete weir adjacent to the Mystic Valley Parkway, with the gauge house to be retained, for which an Inventory form has been produced and submitted to the MHC.

In MHC’s opinion, the use of wooden guard rails adjacent to the Mystic Valley Parkway and a vegetation management plan that is sensitive to the adjacent Kellaway Landscape, as shown in the FEIR figure, Aberjona River Widening Project #2 Illustrative Site Section January 15, 2010 by Pressley Associates, could allow the Corps to make a conditional determination of “no adverse effect” for project element #2 to the Mystic Valley Parkway and Winchester Center Historic District.

MHC notes that sensitive rehabilitation according to the Secretary of the Interior’s Standards for Rehabilitation (36 CFR 67) is proposed for construction of the bypass culvert at the Mount Vernon Street Bridge within the Winchester Center Historic District. Information provided in the FEIR does not include scaled project plans for the proposed rehabilitation. Therefore, a determination of adverse effect and development of a Memorandum of Agreement, as presented in FEIR Section 4.7.3, are in MHC’s opinion, premature without additional information to assist in consultation to consider proposed rehabilitation alternatives, which could allow the Corps to make a conditional “no adverse effect” determination for project element #4 to the Winchester Center Historic District and Mount Vernon Bridge. MHC looks forward to reviewing and commenting on scaled existing and proposed conditions plans and bridge elevations for project element #4.

Results of the archaeological survey conducted for project elements #2, #4 and #8 identified filled soils, with low densities of intermixed modern and historic cultural materials, evidence of multiple historic and modern period landscaping, grading, and earth moving episodes associated with channelization of the Aberjona river and construction of adjacent structures and roadways. MHC recommends no further archaeological investigations for project elements #2, #4 and #8, as proposed.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800), Massachusetts General Laws, Chapter 9, Sections 26-27C (950 CMR 70-71), and MEPA (301 CMR 11). If you have any questions or comments concerning this review, please contact Jonathan K. Patton, at this office.

Sincerely,

Brina Simon
State Historic Preservation Officer
Executive Director
State Archaeologist
Massachusetts Historical Commission

xc: Jacob San Antonio, AECOM, Inc.
    Mark Twogood, Town of Winchester
    Philip C. Kennedy, Camp Dresser & McKee, Inc.
    Kate Atwood, USACE-NE
    Secretary Ian A. Bowles, EEA, Attn.: Deirdre Buckley, MEPA Unit
    John Felix, DEP
    Nancy Baker, DEP-NERO
    Marianne Connolly, MWRA
    Andrew Brennan, MBTA
    Patrice Kish, DCR
    Winchester Historical Commission
    Deborah C. Cox, PAL
Attachment D
Site Photographs
### PHOTOGRAPHIC LOG

<table>
<thead>
<tr>
<th>Photo No.</th>
<th>Date</th>
<th>Direction Photo Taken</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2016</td>
<td>Facing East</td>
<td>Looking east at the Swanton Street roadway approach to the crossing.</td>
</tr>
<tr>
<td>2</td>
<td>2016</td>
<td>Facing West</td>
<td>Looking west at the Swanton Street roadway approach to the crossing.</td>
</tr>
</tbody>
</table>
### PHOTOGRAPHIC LOG

<table>
<thead>
<tr>
<th>Photo No.</th>
<th>Date</th>
<th>Direction Photo Taken</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>01/15/16</td>
<td>Facing South</td>
<td>Looking south at bridge crossing (upstream). Rip rap banks and Oriental bittersweet (<em>Celastrus orbiculatus</em>) vines are present.</td>
</tr>
<tr>
<td>4</td>
<td>01/15/16</td>
<td>Facing Southwest</td>
<td>Looking at the west abutment and rip rap bank (upstream).</td>
</tr>
<tr>
<td>Photo No.</td>
<td>Date</td>
<td>Direction Photo Taken</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>5</td>
<td>01/15/16</td>
<td>Facing South</td>
<td>Looking downstream from the bridge crossing.</td>
</tr>
<tr>
<td>6</td>
<td>01/15/16</td>
<td>Facing Northwest</td>
<td>Looking upstream from the bridge crossing.</td>
</tr>
<tr>
<td>Photo No.</td>
<td>Date</td>
<td>Direction Photo Taken</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>7</td>
<td>01/15/16</td>
<td>Facing Northeast</td>
<td>Downstream bridge opening showing steep bank to the southwest and concrete retaining wall to the southeast.</td>
</tr>
<tr>
<td>8</td>
<td>01/15/16</td>
<td>Facing Southwest</td>
<td>Looking at the upstream bridge opening with steep eastern bank.</td>
</tr>
</tbody>
</table>
Attachment E
Habitat Assessment
Swanton Street Bridge Replacement

Project Name

Winchester, MA

Location

220 LF

Size of Area Being Impacted

12/14/18

Date

Impact Areas (linear feet, square feet, or acres for each of the impact areas within the site)

<table>
<thead>
<tr>
<th>Name</th>
<th>Waterbody/Waterway</th>
<th>Wetland</th>
<th>Upland*</th>
<th>Total Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. BF-2 (Bank)</td>
<td>220 LF</td>
<td></td>
<td></td>
<td>220 LF</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Riverfront Area/BLSF

Attach Sketch map and/or photos of the Impact Areas

Narrative Description of Site (attach separate page if necessary)

The Aberjona River flows under Swanton Street at the Project Site, before entering culverts beneath Skillings Field approximately 450 feet south of the bridge. The Banks at Swanton Street are manmade and consist of steeply sloped riprap, with the exception of a small portion of the eastern bank adjacent to Swanton Street, which consists of a vertical concrete wall.

Certification

I hereby certify that this project has been designed to avoid, minimize, and mitigate adverse effects on wildlife habitat, and that it will not, following two growing seasons of project completion and thereafter, substantially reduce its capacity to provide important wildlife habitat functions.

Tess Paganelli, Environmental Scientist

Signature of Wildlife Specialist (per 310 CMR 10.60 (1) (b))

Typed or Printed Name
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (for each wetland or non-wetland resource area)

I. General Information

Swanton Street, Winchester MA
Project Location (from NOI page 1)
BF-2
Impact Area (number/name)
12/14/2018
Date(s) of Site Visit(s) and Data Collection
Sunny, Approximately 30 degrees F, no snow cover
Weather Conditions During Site Visit (if snow cover, include depth)
Tess Paganelli
Person completing form per 310 CMR 10.60(1)(b) 12/14/2018 Date this form was completed

The information on this data sheet is based on my observations unless otherwise indicated

Signature

II. Site Description (complete A or B under Classification - see instructions for full description)

A. Classification

1. For Wetland Resource Areas, complete the following:

   System: R- Riverine
   Subsystem: 3- Upper Perennial
   Class: US- Unconsolidated Shore
   Subclass: 5- Vegetated

   Hydrology/Water Regime
   ✔ Seasonally flooded
   □ Saturated
   □ Temporarily flooded
   □ Intermittently flooded
   □ Artificially flooded

2. For Riverfront or Bordering Land Subject to Flooding Resource Areas, complete the following.

   Use a terrestrial classification system such as one of the two listed below:
   a. "Classification of the Natural Communities of Massachusetts (Draft)" by Patricia C. Swain and Jennifer B. Kearsley, MA DFW NHESP, Westborough, MA. July 2000. (Department of Fish & Game Website)

Community Name

Vegetation Description

Physical Description
B. Inventory (Plant community)

<table>
<thead>
<tr>
<th>% Cover</th>
<th>40</th>
<th>0</th>
<th>10</th>
<th>0</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trees (&gt; 20')</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shrubs (&lt; 20')</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woody vines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mosses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herbaceous</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Plant Lists (species that comprise 10% or more of the vegetative cover in each strata; “**“ designates a dominant plant species for the strata):

<table>
<thead>
<tr>
<th>Strata</th>
<th>Plant Species</th>
<th>Strata</th>
<th>Plant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree</td>
<td>Ailanthus altissima</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tree</td>
<td>Ulmus americana</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tree</td>
<td>Acer rubrum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herbaceous</td>
<td>Fallopia japonica</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woody Vine</td>
<td>Toxicodendron raticans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woody Vine</td>
<td>Calastrus orbiculatus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C. Inventory (Soils)

<table>
<thead>
<tr>
<th>Deerfield loamy fine sand</th>
<th>Moderately well drained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil Survey Unit</td>
<td>Drainage Class</td>
</tr>
<tr>
<td>Rip Rap</td>
<td>N/A</td>
</tr>
<tr>
<td>Texture (upper part)</td>
<td>Depth</td>
</tr>
<tr>
<td>15-37 inches</td>
<td></td>
</tr>
<tr>
<td>Depth to Water Table</td>
<td></td>
</tr>
</tbody>
</table>

III. Important Habitat Features (complete for all resource areas)

If the following habitat characteristics are present, describe & quantify them on a separate sheet & attach.

Wildlife Food

Important Wetland/Aquatic Food Plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)

☐ Abundant ☐ Present ☒ Absent

Important Upland/Wetland Food Plants (hard mast and fruit/berry producers)

☐ Abundant ☐ Present ☒ Absent

Shrub thickets or streambeds with abundant earthworms (American woodcock)

☐ Present ☒ Absent

Shrub and/or herbaceous vegetation suitable for veery nesting

☐ Present ☒ Absent
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Wildlife Habitat Protection Guidance

Appendix B: Detailed Wildlife Habitat Evaluation

Part 2. Field Data Form (continued)

Number of trees (live or dead) > 30” DBH: 0

Number (or density) of Standing Dead Trees (potential for cavities and perches):

<table>
<thead>
<tr>
<th>DBH Range</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-12&quot;</td>
<td>0</td>
</tr>
<tr>
<td>12-18&quot;</td>
<td>0</td>
</tr>
<tr>
<td>18-24&quot;</td>
<td>0</td>
</tr>
<tr>
<td>&gt; 24&quot;</td>
<td>0</td>
</tr>
</tbody>
</table>

Number of Tree Cavities in trunks or limbs of:

<table>
<thead>
<tr>
<th>Diameter Range</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-12&quot;</td>
<td>0</td>
</tr>
<tr>
<td>12-18&quot;</td>
<td>0</td>
</tr>
<tr>
<td>&gt;18&quot;</td>
<td>0</td>
</tr>
</tbody>
</table>

Small mammal burrows

- [ ] Abundant
- [ ] Present
- [x] Absent

Cover/Perches/Basking/Denning/Nesting Habitat

- [ ] Dense herbaceous cover (voles, small mammals, amphibians & reptiles)
- [ ] Large woody debris on the ground (small mammals, mink, amphibians & reptiles)
- [ ] Rocks, crevices, logs, tree roots or hummocks under water’s surface (turtles, snakes, frogs)
- [ ] Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water’s surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon)
- [ ] Rock piles, crevices, or hollow logs suitable for:
  - [ ] otter
  - [ ] mink
  - [ ] porcupine
  - [ ] bear
  - [ ] bobcat
  - [ ] turkey vulture
- [ ] Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings)

Depressions that may serve as seasonal (vernal/autumnal) pools

- [ ] Present
- [x] Absent

Standing water present at least part of the growing season, suitable for use by

- [ ] Breeding amphibians
- [ ] Non-breeding amphibians (foraging, re-hydration)
- [ ] Turtles
- [ ] Foraging waterfowl

Sphagnum hummocks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)

- [ ] Present
- [x] Absent
Important habitat characteristics (if present, describe and quantify them on a separate sheet)

Medium to large (> 6"), flat rocks within a stream (cover for stream salamanders and nesting habitat for spring & two-lined salamanders)

☐ Present  ☒ Absent

Flat rocks and logs on banks or within exposed portions of streambeds (cover for stream salamanders and nesting habitat for dusky salamanders)

☐ Present  ☒ Absent

Underwater banks of fine silt and/or clay (beaver, muskrat, otter)

☐ Present  ☒ Absent

Undercut or overhanging banks (small mammals, mink, weasels)

☐ Present  ☒ Absent

Vertical sandy banks (bank swallow, kingfisher)

☐ Present  ☒ Absent

Areas of ice-free open water in winter

Note: Flowing River Water  ☒ Present  ☐ Absent

Mud flats

☐ Present  ☒ Absent

Exposed areas of well-drained, sandy soil suitable for turtle nesting

☐ Present  ☒ Absent

Wildlife dens/nests (if present, describe & quantify them on the back of this sheet)

Turtle nesting sites

☐ Present  ☒ Absent

Bank swallow colony

☐ Present  ☒ Absent

Nest(s) present of  
- Bald Eagle
- Osprey
- Great Blue Heron

Den(s) present of  
- Otter
- Mink
- Beaver
Project area is within:

- □ 100’ of beaver, mink or otter den, bank swallow colony or turtle nesting area
- □ 200’ of Great Blue Heron or osprey nest(s)
- □ 1400’ of a Bald Eagle nest

**Emergent Wetlands (if present, describe & quantify them on a separate sheet)**

Emergent wetland vegetation at least seasonally flooded during the growing season (wood duck, green heron, black-crowned night heron, king rail, Virginia rail, coot, etc.)

<table>
<thead>
<tr>
<th>Flooded &gt; 5 cm</th>
<th>Present</th>
<th>Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flooded &gt; 25 cm (pied-billed grebe)</td>
<td>Present</td>
<td>Absent</td>
</tr>
</tbody>
</table>

Persistent emergent wetland vegetation at least seasonally flooded during the growing season (mallard, American bittern, sora, common snipe, red-winged blackbird, swamp sparrow, marsh wren)

<table>
<thead>
<tr>
<th>Flooded &gt; 5 cm</th>
<th>Present</th>
<th>Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flooded &gt; 25 cm (least bittern, common moorhen)</td>
<td>Present</td>
<td>Absent</td>
</tr>
</tbody>
</table>

Cattail emergent wetland vegetation at least seasonally flooded during the growing season

<table>
<thead>
<tr>
<th>Flooded &gt; 5 cm (marsh wren)</th>
<th>Present</th>
<th>Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flooded &gt; 25 cm (least bittern, common moorhen)</td>
<td>Present</td>
<td>Absent</td>
</tr>
</tbody>
</table>

Fine-leafed emergent vegetation (grasses and sedges) at least seasonally flooded during the growing season (common snipe, spotted sandpiper, sedge wren)

<table>
<thead>
<tr>
<th>Flooded &gt; 5 cm</th>
<th>Present</th>
<th>Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flooded &gt; 25 cm (least bittern, common moorhen)</td>
<td>Present</td>
<td>Absent</td>
</tr>
</tbody>
</table>

**IV. Landscape Context**

**A. Habitat Continuity** (if present, describe the landscape context on a separate sheet and its importance for area-sensitive species)

<table>
<thead>
<tr>
<th>Is the impact area part of an emergent marsh at least 1.0 acre in size?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>(marsh and waterbirds)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.0 acres in size?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>5.0 acres in size?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>10.0 acres in size?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

---

1 1400 feet is the distance used by NHESP for evaluating potential disturbance impacts on eagle nests under MESA. Keep in mind, however, that this doesn't give jurisdiction within 1400’ of an eagle’s nest; it only identifies it on the checklist so that adverse effects can be avoided if work in a resource area is within 1400 feet.
Is the impact area part of a wetland complex at least
2.5 acres in size?  ☐ Yes  ☑ No
(turtles, frogs, waterfowl, mammals)
5.0 acres in size?  ☐ Yes  ☑ No
10.0 acres in size?  ☐ Yes  ☑ No
25.0 acres in size?  ☐ Yes  ☑ No

For upland resource areas is the impact area part of contiguous forested habitat at least
(forest interior nesting birds) 50 acres in size?  ☐ Yes  ☑ No
100 acres in size?  ☐ Yes  ☑ No
250 acres in size?  ☐ Yes  ☑ No
500 acres in size?  ☐ Yes  ☑ No
(grassland nesting birds) > 1.0 acre in size?  ☐ Yes  ☑ No
(special habitat such as gallery floodplain forest, alder thicket, etc.) > 1.0 acre in size?  ☐ Yes  ☑ No

B. Connectivity with adjoining natural habitats

☐ No direct connections to adjacent areas of wildlife habitat (little connectivity function)
☐ Connectors numerous or impact area is embedded in a large area of natural habitat (limited connectivity function)
☐ Impact area contributes to a limited number of connectors to adjacent areas of habitat (somewhat important for connectivity function)
☐ Impact area serves as part of a sole connector to adjacent areas of habitat (important for connectivity function)
☐ Impact area serves as only connector to adjacent areas of habitat (very important for connectivity function)

V. Habitat Degradation (describe degradation and wildlife impacts on the back of the sheet)

☐ Evidence of significant chemical contamination
☐ Evidence of significant levels of dumping
☐ Evidence of significant erosion or sedimentation problems
☐ Significant invasion of exotic plants (e.g., purple loosestrife, Phragmites, glossy buckthorn)
☐ Disturbance from roads or highways  ☐ Other human disturbance

☐ Is the site the only resource area in the vicinity of an otherwise developed area

Note: These are not the only important habitat features that may be observed on a site. If the wildlife specialist identifies other features they should be noted in the application.
VI. Quantification Table for Important Habitat Characteristics

<table>
<thead>
<tr>
<th>Habitat Characteristic</th>
<th>Amount Impacted in Impact Area</th>
<th>Current (entire site)</th>
<th>Post-Construction (entire site)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: standing dead trees 6-12” dbh</td>
<td>4</td>
<td>12</td>
<td>8</td>
</tr>
</tbody>
</table>

Introduction

The Town of Winchester (the Applicant) is proposing to reconstruct Bridge No. W-40-08 carrying Swanton Street over the Aberjona River in Winchester, Massachusetts, including widening a short segment of the western river bank upstream and downstream of the bridge (the Project). The proposed work includes widening the existing 16-foot wide opening to 25-feet to better convey stream flows and reduce flood elevations. The Project is referred to as Project 8 of a suite of flood control measures comprising the Aberjona River Flood Mitigation Program (FMP) and will increase the existing flow capacity within this reach of the Aberjona River.

As proposed, there are no major stormwater changes as part of the bridge replacement. Existing drainage patterns along Swanton Street will be maintained and no additional impervious area is proposed. Due to the bridge and bank widening, the proposed alternations to the existing stormwater system include the following:

- One (1) existing stormwater outfall located in the western bridge abutment will need to be pulled back to the new abutment location.
- One (1) existing stormwater outfall located in the western downstream bank will be pulled back to the proposed bank.
- One (1) stormwater discharge through the eastern bridge abutment will be rebuilt in the same location and invert as existing.

These modifications are required to accommodate the proposed bridge work. The proposed work is classified as a redevelopment project under the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards as defined by Standard 7. The project maintains the existing drainage system, results in no increase of impervious area, and does not propose any new stormwater discharges. As such, the project fully meets the MassDEP Stormwater Standards.

Compliance with MADEP Stormwater Management Standards

The following section documents how the Project complies with each the MassDEP Stormwater Management Standards. The stormwater checklist is also attached to this memorandum.

- **Standard 1: No New Untreated discharges (Fully Met):** No new stormwater discharges are created by the Project. All existing discharges will be maintained.
- **Standard 2: Peak Attenuation (Fully Met):** The project will not change the existing drainage patterns or result in an increase in impervious area. Post-development peak discharge rates will not exceed pre-development rates.
- **Standard 3: Recharge (Fully Met):** The project will not create any additional impervious area. As such, there will be no loss of annual groundwater recharge.
- **Standard 4: Water Quality (Fully Met):** The project will not create any additional impervious area. As such, there is no required water quality treatment volume.
• Standard 5: Land Uses with Higher Potential Pollutant Loads (Fully Met): A land use with higher potential pollutant loads does not exist on the site.
• Standard 6: Critical Areas (Fully Met): The Project is not located within a critical area.
• Standard 7: Redevelopments and other projects subject to the standards only to the maximum extent practicable (Fully Met): The proposed work will improve an existing roadway and waterway crossing which will not result in an increase in impervious area. The project meets the definition of a redevelopment in accordance with this standard.
• Standard 8: Erosion and sediment control (Fully Met): A Temporary Erosion and Sediment Control Plan has been prepared for the proposed temporary work and submitted with the Notice of Intent application.
• Standard 9: Operation and maintenance (Fully Met): There are no additional stormwater management features proposed by the Project. The existing stormwater system along Swanton Street will be maintained by the Town of Winchester under their existing Operation and Maintenance Plan.
• Standard 10: Illicit discharges (Fully Met): There are no known illicit connections or discharges at the existing site. The Project does not propose any non-stormwater connections or discharges from the Project site. If illicit connections are found during construction they will be addressed.
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.\(^1\) This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8\(^2\)
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHP\(^\perp\)L), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

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\(^1\) The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

\(^2\) For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.
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B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer’s Certification

I have reviewed the Stormwater Memorandum Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Memorandum Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature

Signature and Date

12/19/18

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment? N/A. No development is proposed.

☐ New development
☒ Redevelopment
☐ Mix of New Development and Redevelopment
LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

☐ No disturbance to any Wetland Resource Areas

☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)

☐ Reduced Impervious Area (Redevelopment Only)

☒ Minimizing disturbance to existing trees and shrubs

☐ LID Site Design Credit Requested:
  ☐ Credit 1
  ☐ Credit 2
  ☐ Credit 3

☐ Use of “country drainage” versus curb and gutter conveyance and pipe

☐ Bioretention Cells (includes Rain Gardens)

☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)

☐ Treebox Filter

☐ Water Quality Swale

☐ Grass Channel

☐ Green Roof

☐ Other (describe):

Standard 1: No New Untreated Discharges

☒ No new untreated discharges

☐ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth

☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.
Checklist (continued)

Standard 2: Peak Rate Attenuation – No change to existing drainage patterns.

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☐ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge – No additional impervious area.

☐ Soil Analysis provided.

☐ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☐ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☐ Static ☐ Simple Dynamic ☐ Dynamic Field¹

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☐ Runoff from all impervious areas at the site is not discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume only to the maximum extent practicable for the following reason:

☐ Site is comprised solely of C and D soils and/or bedrock at the land surface

☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000

☐ Solid Waste Landfill pursuant to 310 CMR 19.000

☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☐ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.
Checklist (continued)

Standard 3: Recharge (continued)

- The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality – No additional impervious area.

The Long-Term Pollution Prevention Plan typically includes the following:
- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

- A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

- Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
  - is within the Zone II or Interim Wellhead Protection Area
  - is near or to other critical areas
  - is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
  - involves runoff from land uses with higher potential pollutant loads.

- The Required Water Quality Volume is reduced through use of the LID site Design Credits.

- Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.
Standard 4: Water Quality (continued)

☐ The BMP is sized (and calculations provided) based on:
  ☐ The ½" or 1" Water Quality Volume or
  ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs) – N/A.

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted prior to the discharge of stormwater to the post-construction stormwater BMPs.

☐ The NPDES Multi-Sector General Permit does not cover the land use.

☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☐ All exposure has not been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas – N/A.

☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☐ Critical areas and BMPs are identified in the Stormwater Memorandum Report.
Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

☑ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

☐ Limited Project

☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.

☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area

☐ Marina and/or boating yard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff

☐ Bike Path and/or Foot Path

☑ Redevelopment Project

☐ Redevelopment portion of mix of new and redevelopment.

☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☐ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.
Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has not been included in the Stormwater Report but will be submitted before land disturbance begins.

☒ The project is not covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☐ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan – No additional stormwater management features.

☐ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

☐ Name of the stormwater management system owners;

☐ Party responsible for operation and maintenance;

☐ Schedule for implementation of routine and non-routine maintenance tasks;

☐ Plan showing the location of all stormwater BMPs maintenance access areas;

☐ Description and delineation of public safety features;

☐ Estimated operation and maintenance budget; and

☐ Operation and Maintenance Log Form.

☐ The responsible party is not the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

☐ A copy of the legal instrument (deed, homeowner’s association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;

☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges – No known, or proposed, illicit connections at project site.

☐ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☒ An Illicit Discharge Compliance Statement is attached;

☐ NO Illicit Discharge Compliance Statement is attached but will be submitted prior to the discharge of any stormwater to post-construction BMPs.
Attachment G
Project Plans (Bound Separately)