Wannalancit Mills
650 Suffolk St., Suite 200
Lowell, MA 01854

978.970.5600 PHONE
978.453.1995 FAX

www.trcsolutions.com

November 11, 2018

Ms. Amelia Croteau
Executive Secretary, Boston Conservation Commission
Floodplain Manager, City of Boston
Mayor's Office of Environment, Energy and Open Space
Boston City Hall – Room 709
Boston, MA 02201

Re: Boston Public Works Department-Dana Avenue Bridge Superstructure Replacement Project Notice of Intent

Dear Ms. Croteau:

On behalf of the Boston Public Works Department ("BPWD"), TRC Environmental ("TRC") hereby submits the subject Notice of Intent ("NOI") for Boston Conservation Commission ("BCC") consideration. BPWD would be grateful if this matter could be included on the BCC's agenda for the scheduled public hearing on November 21st, 2018. Please note that copy of this NOI is being simultaneously provided to the Massachusetts Department of Environmental Protection ("MassDEP").

If you have any questions about the Project, please don't hesitate to contact me at (978) 656-3647 or smoffett@trcsolutions.com.

Sincerely,

Samuel Moffett, AICP
Senior Principal
TRC Environmental

Cc: MassDEP, NERO
Para Jayasinghe, BPWD
Preston Huckabee, Gill Engineering

NOTICE OF INTENT

Filing Under the Massachusetts Wetlands Protection Act
M.G.L. Chapter 131, Section 40

Dana Avenue Bridge Superstructure Replacement Project

Boston, Massachusetts

Submitted to:

Boston Conservation Commission
1 City Hall Square, Room 709
Boston, MA 02201

Prepared for:

City of Boston Public Works Department
1 City Hall Square, Room 714
Boston, MA 02201

Prepared by:

TRC Environmental Corporation
650 Suffolk Street
Lowell, MA 01854

Gill Engineering
63 Kendrick Street
Needham, MA 02494

November 2018

TABLE OF CONTENTS

ACRONYM LIST

BCC	Boston Conservation Commission
BLSF	Bordering Land Subject to Flooding
BPWD	City of Boston Public Works Department
BVW	Bordering Vegetated Wetland
CMR	Code of Massachusetts Regulations
FEMA	Federal Emergency Management Agency
LEC	LEC Environmental Consultants, Inc.,
LUV	Land under Water Bodies and Waterways
MAHW	Mean Annual High Water
MassDEP	Massachusetts Department of Environmental Protection
MassGIS	Massachusetts Geographic Information System
NHESP	Natural Heritage and Endangered Species Program
NOI	Notice of Intent
Project	Dana Avenue Bridge Superstructure Replacement Project
TRC	TRC Environmental Corporation
WPA	Massachusetts Wetlands Protection Act

WPA FORM 3 - NOTICE OF INTENT

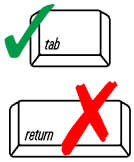
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Boston
City/Town

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



Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

Dana Avenue — a. Street Address
Hyde Park, Boston — b. City/Town
02136 — c. Zip Code

Latitude and Longitude:
42.25191N — d. Latitude
71.12290W — e. Longitude

N/A Public Right-of-Way — f. Assessors Map/Plat Number
N/A Public Right-of-Way — g. Parcel /Lot Number

2. Applicant:

Para — a. First Name
Jayasinghe — b. Last Name
City of Boston Public Works Department — c. Organization
One City Hall Plaza, Room 710 — d. Street Address
Boston — e. City/Town
MA — f. State
02201-2024 — g. Zip Code
617.635.4968 — h. Phone Number
i. Fax Number
para.jayasinghe@boston.gov — j. Email Address

3. Property owner (required if different from applicant): ☐ Check if more than one owner

a. First Name
b. Last Name
City of Boston — c. Organization
One City Hall Plaza — d. Street Address
Boston — e. City/Town
MA — f. State
02201 — g. Zip Code
h. Phone Number
i. Fax Number
j. Email address

4. Representative (if any):

Samuel — a. First Name
Moffett — b. Last Name
TRC Environmental — c. Company
650 Suffolk Street — d. Street Address
Lowell — e. City/Town
MA — f. State
01854 — g. Zip Code
978.656.3647 — h. Phone Number
i. Fax Number
smoffett@trcsolutions.com — j. Email address

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

Exempt — a. Total Fee Paid
Exempt — b. State Fee Paid
Exempt — c. City/Town Fee Paid

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Boston
City/Town

A. General Information (continued)

6. General Project Description:

The City of Boston Department of Public Works proposes to demolish and replace the existing superstructure of the Dana Avenue bridge over the Neponset River in Hyde Park, Boston, Massachusetts for public safety reasons. The replacement structure will be constructed in the same location and footprint as the existing bridge.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

1. ☐ Single Family Home
2. ☐ Residential Subdivision
3. ☐ Commercial/Industrial
4. ☐ Dock/Pier
5. ☐ Utilities
6. ☐ Coastal engineering Structure
7. ☐ Agriculture (e.g., cranberries, forestry)
8. ☒ Transportation
9. ☐ Other

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

1. ☒ Yes ☐ No

If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

10.53(3)(i) - "The maintenance, repair and improvement…of structures, including dams…towers, headwalls, bridges…which existed…date of 310 CMR 10.51 through 10.60 (April 1, 1983).

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

N/A Public Roadway
a. County

b. Certificate # (if registered land)

c. Book

d. Page Number

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

1. ☐ Buffer Zone Only – 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).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Boston
City/Town

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

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☒ Bank	39 temp 1. linear feet	2. linear feet
b. ☐ Bordering Vegetated Wetland	1. square feet	2. square feet
c. ☒ Land Under Waterbodies and Waterways	62 temp 1. square feet 3. cubic yards dredged	2. square feet

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. ☒ Bordering Land Subject to Flooding	111 temp 1. square feet 3. cubic feet of flood storage lost	2. square feet 4. cubic feet replaced
e. ☐ Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet replaced
f. ☒ Riverfront Area	Neponset River (inland) 1. Name of Waterway (if available) - **specify coastal or inland**	

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: 5,653 square feet

4. Proposed alteration of the Riverfront Area:

a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.
760 (87 perm, 673 temp)	760 within 25 ft.	0

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)

Note: for coastal riverfront areas, please complete **Section B.2.f**. above.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Boston
City/Town

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

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
f. ☐ Coastal Banks	1. linear feet	
g. ☐ Rocky Intertidal Shores	1. square feet	
h. ☐ Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. ☐ Land Under Salt Ponds	1. square feet 2. cubic yards dredged	
j. ☐ Land Containing Shellfish	1. square feet	
k. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above 1. cubic yards dredged	
l. ☐ Land Subject to Coastal Storm Flowage	1. square feet	

4. ☐ Restoration/Enhancement

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 enter the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5. ☒ Project Involves Stream Crossings

a. number of new stream crossings

1
b. number of replacement stream crossings

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

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Boston
City/Town

C. Other Applicable Standards and Requirements

☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

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 and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

   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

   If *yes*, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

   c. Submit Supplemental Information for Endangered Species Review*

      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

2. ☒ Project plans for entire project site, including wetland resource areas and areas outside of wetlands 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

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.

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

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Boston
City/Town

C. Other Applicable Standards and Requirements (cont'd)

(c) ☐ MESA filing fee (fee information available at http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_fee_schedule.htm). Make check payable to "Commonwealth of Massachusetts - NHESP" 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

(f) 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/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_exemptions.htm; 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 # 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.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

a. ☒ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

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

South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: DMF.EnvReview-South@state.ma.us

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: DMF.EnvReview-North@state.ma.us

Also if yes, the project 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.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Boston
City/Town

C. Other Applicable Standards and Requirements (cont'd)

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

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

   a. ☐ Yes ☒ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.

   b. ACEC

5. 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

6. 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

7. 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. Check why the project is exempt:

      1. ☐ Single-family house

      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

☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

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.

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.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

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Boston
City/Town

D. Additional Information (cont'd)

3. ☒ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. ☒ List the titles and dates for all plans and other materials submitted with this NOI.

Permit Plans
a. Plan Title

Gill Engineering Associates, Inc.
b. Prepared By

Joseph P. Gill, PE
c. Signed and Stamped by

November 2018
d. Final Revision Date

1" = 20 ft.
e. Scale

f. Additional Plan or Document Title

g. Date

5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.

6. ☐ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.

7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.

8. ☒ Attach NOI Wetland Fee Transmittal Form

9. ☒ Attach Stormwater Report, if needed.

E. Fees

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

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

2. Municipal Check Number

3. Check date

4. State Check Number

5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

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Document Transaction Number

Boston
City/Town

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 11/6/18
3. Signature of Property Owner (if different)	4. Date
5. Signature of Representative (if any)	6. Date 11/6/18

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 any part of Section C, Item 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.

FILING FEE DOCUMENTATION

[EXEMPT]

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

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

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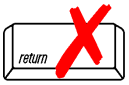


A. Applicant Information

1. Location of Project:

Dana Avenue Bridge over Neponset River	Hyde Park, Boston
a. Street Address	b. City/Town
Exempt	Exempt
c. Check number	d. Fee amount

2. Applicant Mailing Address:

Para		Jayasinghe
a. First Name		b. Last Name
City of Boston Public Works Department		
c. Organization		
One City Hall Plaza		
d. Mailing Address		
Boston	MA	02201
e. City/Town	f. State	g. Zip Code
617.635.4968		para.jayasinghe@boston.gov
h. Phone Number	i. Fax Number	j. Email Address

3. Property Owner (if different):

a. First Name		b. Last Name
City of Boston		
c. Organization		
One City Hall Plaza		
d. Mailing Address		
Boston	MA	02201
e. City/Town	f. State	g. Zip Code
h. Phone Number	i. Fax Number	j. Email Address

B. Fees

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

Fee should be calculated using the following process & worksheet. ***Please see Instructions before filling out worksheet.***

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract $12.50. To calculate the city/town share of the fee, divide the total fee in half and add $12.50.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

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

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee

Step 5/Total Project Fee: _____

Step 6/Fee Payments:

Total Project Fee:	Exempt a. Total Fee from Step 5
State share of filing Fee:	Exempt b. 1/2 Total Fee **less $**12.50
City/Town share of filling Fee:	Exempt c. 1/2 Total Fee **plus** $12.50

C. Submittal Requirements

a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

ABUTTER NOTIFICATION

- Notification Letter
- Signed Affidavit of Service
- Abutter List and Map

AFFIDAVIT OF SERVICE

Under the Massachusetts Wetlands Protection Act
M.G.L. Chapter 131, Section 40

I, **Kathleen A. Murphy**, herby certify under the pains and penalties of perjury that on **11/7/2018** I gave notification to abutters in compliance with the Massachusetts Wetlands Protection Act in connection with the following matter:

A Notice of Intent filed under the Massachusetts Wetlands Protection Act with the City of Boston Conservation Commission for the

Dana Avenue Bridge Superstructure Replacement Project located on Dana Ave, Hyde Park, Boston, Massachusetts

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

Kathleen A. Murphy
Signature

11/7/2018
Date

REVISED Notification to Abutters under the Massachusetts Wetlands Protection Act

Please note, you are being sent this revised notice since the date, time, and location has changed as noted below in red.

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, you are hereby notified of the following public hearing on the matter described below.

A. The name of the applicant is: **City of Boston Public Works Department**

B. The address of the lot where the activity is proposed is:

Dana Avenue Bridge over the Neponset River, Dana Avenue, Hyde Park, Boston, MA

C. The work proposed is in the jurisdiction of the Massachusetts Wetlands Protection Act and the Quincy Wetlands Protection Ordinance is as follows:

Boston Public Works Department proposes to rebuild the Dana Avenue Bridge for public safety reasons.

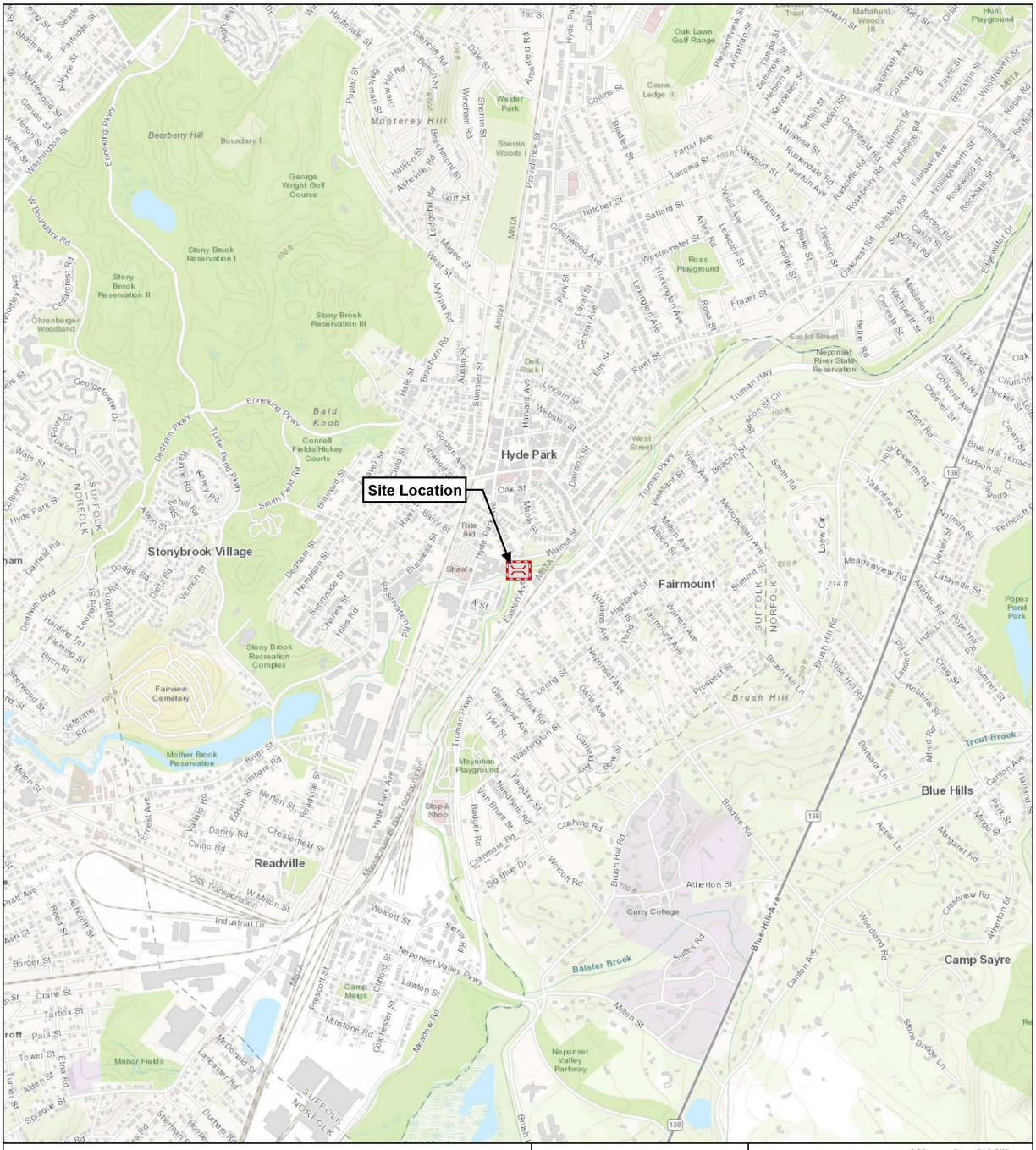
D. Copies of the Notice of Intents may be examined at: **Boston Conservation Commission at Boston City Hall/Room 709, Boston, MA 02201** between the hours of **8:30 AM and 5:00 PM** Monday through Friday.

E. Copies of the Notice of Intents may be obtained from the applicant's representative (TRC Environmental, by calling **Samuel Moffett at TRC Environmental (978) 970-5600** between the hours of **8:30 AM and 5:00 PM, Monday – Friday**.

F. The Public Hearing will be held on **Tuesday, November 20, 2018** at **6:00 PM in Room 801, 8th Floor, Boston City Hall, Boston, MA 02201 (call to confirm as this can be subject to change)**.

NOTES:

1. Notice of the public hearing, including its date, time, and place, will be published at least five (5) days in advance in the **Boston Herald**.
2. Notice of the public hearing, including its date, time, and place, will be posted **online** by the Boston Conservation Commission here: https://www.boston.gov/public-notices
3. Notice of the public hearing, including its date, time, and place, will be posted in the **Boston City Hall** not less than forty-eight (48) hours in advance.
4. You also may contact the **Boston Conservation Commission** or the Department of Environmental Protection Northeast Regional Office for more information about this application. To contact the Boston Conservation Commission, please call 617.635.3850 or email cc@boston.gov.



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LIST OF ABUTTERS WITHIN 100 FEET OF DANA AVENUE BRIDGE	
PARCEL	OWNER / MAILING ADDRESS
PID: 1809218000 **Address:** DANA AV, 02136 **Neighborhood:** HYDE PARK	**Owner:** CITY OF BOSTON **Address:** DANA AVE **City/State:** HYDE PARK MA **Zip Code:** 02136
PID: 1809270000 **Address:** DANA AV, 02136 **Neighborhood:** HYDE PARK	
PID: 1809219000 **Address:** WALNUT ST, 02136 **Neighborhood:** HYDE PARK	**Owner:** 2015 78 WALNUT STREET **Address:** 78 WALNUT ST **City/State:** HYDE PARK MA **Zip Code:** 02136
PID: 1809220000 **Address:** 78 WALNUT ST, 02136 **Neighborhood:** HYDE PARK	
PID: 1809221000 **Address:** WALNUT ST, 02136 **Neighborhood:** HYDE PARK	**Owner:** COMMWLTH OF MASS **Address:** WALNUT **City/State:** HYDE PARK MA **Zip Code:** 02136
PID: 1809223000 **Address:** DANA AV, 02136 **Neighborhood:** HYDE PARK	**Owner:** COMMWLTH OF MASS **Address:** DANA AVE **City/State:** HYDE PARK MA **Zip Code:** 02136
PID: 1809255010 **Address:** 1344 HYDE PARK AV, 02136 **Neighborhood:** HYDE PARK	**Owner:** BLAKE ESTATES ASSOCS II LPS **Address:** TWO CENTER PLAZA SUITE 700 **City/State:** BOSTON MA **Zip Code:** 02108
PID: 1809269000 **Address:** 57 DANA AV, 02136 **Neighborhood:** HYDE PARK	**Owner:** OSORIO EVA L **Address:** 224 SOUTH MAIN ST **City/State:** RANDOLPH MA **Zip Code:** 02368
PID: 1809271000 **Address:** NEPONSET RIVER, 02136 **Neighborhood:** HYDE PARK	**Owner:** COMMWLTH OF MASS **Address:** NEPONSET RIVER **City/State:** HYDE PARK MA **Zip Code:** 02136
PID: 1809245000 **Address:** NEPONSET RIVER, 02136 **Neighborhood:** HYDE PARK	**Owner:** COMMNWLTH OF MASS **Address:** NEPONSET RIVER **City/State:** HYDE PARK MA **Zip Code:** 02136
PID: 1809228000 **Address:** 61 DANA AV, 02136 **Neighborhood:** HYDE PARK	**Owner:** WILLIAMS DANA Y **Address:** 61 DANA AV **City/State:** HYDE PARK MA **Zip Code:** 02136

LIST OF ABUTTERS WITHIN 100 FEET OF DANA AVENUE BRIDGE	
PARCEL	OWNER / MAILING ADDRESS
PID: 1809224000 **Address:** 56 DANA AV, 02136 **Neighborhood:** HYDE PARK	**Owner:** CITY OF BOSTON **Address:** 56 DANA AVE **City/State:** HYDE PARK MA **Zip Code:** 02136
PID: 1809227000 **Address:** NEPONSET RIVER, 02136 **Neighborhood:** HYDE PARK	**Owner:** CITY OF BOSTON **Address:** NEPONSET RIVER **City/State:** HYDE PARK MA **Zip Code:** 02136

ATTACMENT A – PROJECT NARRATIVE

1.0 Introduction

The City of Boston is proposing to demolish and replace the existing superstructure on the Dana Avenue Bridge over the Neponset River in Hyde Park, Boston, Massachusetts (Project). This is necessary due to the existing superstructure's deteriorated condition. The replacement superstructure will be constructed in the same location and footprint as the existing bridge.

TRC Environmental Corporation (TRC) has prepared this Notice of Intent (NOI) for the Project on behalf of the City of Boston Public Works Department (BPWD). The Project will require limited work within jurisdictional resource areas that are protected under the Massachusetts Wetlands Protection Act (WPA). Therefore, this NOI is being filed by BPWD pursuant to the WPA and its implementing regulations (310 CMR 10.00).

With this submittal, BPWD is seeking authorization from the Boston Conservation Commission (BCC) and the Massachusetts Department of Environmental Protection (MassDEP) to replace the Dana Avenue Bridge superstructure. This NOI covers the demolition of the existing bridge superstructure and the replacement of the bridge superstructure on the existing bridge footings.

To rebuild the bridge on its existing piers, the BPWD must conduct work over the Neponset River. A total of approximately 1,519 square feet of temporary impacts will occur with approximately 1,346 square feet of it overlapping within the 100-foot buffer zone and the riverfront area. Approximately 39 linear feet of temporary alteration is also proposed in Bank. In addition, approximately 174 square feet of permanent impacts will occur with all of it overlapping within the 100-foot buffer zone and the riverfront area. Locations of impact areas are shown on Sheet 1 in Attachment C – Site Plans.

The following narrative discusses the existing conditions at the Project site, the wetland and waterbody resource areas present in the Project area, the Project description, and proposed mitigation measures. No adverse impacts to protected interests of wetland and waterbody resources are anticipated (see Section 7.0 for performance standards).

2.0 Project Description

2.1 Project Purpose and Need

The purpose of this Project is to support the City's goal of replacing the deteriorated bridge superstructure for public safety reasons. The new superstructure will be built on the existing footings from the original bridge, resulting in minimal impacts to any wetland and waterbody resources. The new superstructure will have generally the same vertical, lateral, and horizontal dimensions as the prior bridge superstructure.

2.2 Existing Site Conditions

The existing Dana Avenue Bridge extends in a northwest/southeast direction over the Neponset River within the central portion of Hyde Park in Boston, Massachusetts (Figure 1 – Site Locus Map). The bridge is owned by the City of Boston and encompasses a land area of approximately 0.15 acres (Figure 2 – Tax Map). Dana Avenue is an approximately 30 to 40-foot wide paved public roadway which extends northwest from Brush Hill Road and terminates at Hyde Park Avenue, approximately 800 feet north of the Project site. The Dana Avenue Bridge is an earth filled concrete arch bridge which includes the paved roadway and concrete sidewalks along each side (Attachment D – Site Photographs). The bridge length is approximately 100 feet.

Residential development associated with Hyde Park Avenue, Walnut Street, Fulton Street, and Easton Avenue surrounds the site to the north, west, and south. The Fairmount Massachusetts Bay Transportation Authority line extends in a northeast/southwest direction to the east and south of the bridge.

A perennial stream, Mother Brook, flows in an easterly direction immediately west of the bridge, and is a tributary to the perennial Neponset River which flows directly beneath the Dana Avenue Bridge through two 45-foot span arches with a central concrete pier. Topography is flat in the developed portions of the areas surrounding the site, sloping slightly downgradient towards the perennial streams.

3.0 Wetland and Waterbody Resource Areas Near the Project Site

LEC Environmental Consultants, Inc., (LEC) was engaged by BPWD to conduct a site evaluation and Wetland Resource Area Analysis in proximity to the Dana Avenue Bridge. The purpose of the evaluation was to determine Wetland Resource Area boundaries associated with Mother Brook and the Neponset River approximately 500 feet to the east and west of the Dana Avenue Bridge (Sheet 1, Attachment C – Site Plans).

LEC conducted the site evaluation on April 30, 2018 and identified and characterized existing protectable Wetland Resource Areas within 500 feet of the site. The presence/absence of Bordering Vegetated Wetland (BVW) was determined through observations of the existing plant communities, using the "fifty percent criteria" to determine dominance of wetland/upland vegetation, the interpretation of soil characteristics, and other indicators of wetland hydrology in accordance with the Massachusetts Department of Environmental Protection (MassDEP) handbook, *Delineating Bordering Vegetated Wetlands under the Massachusetts Wetlands Protection Act* (March 1995), the *Field Indicators for Identifying Hydric Soils in New England* (April, 2004), and the criteria set forth in 310 CMR 10.55.

Vegetation: Vegetation within the fringing uplands adjacent to the site and perennial streams contains scattered mature black locust (*Robinia pseudoacacia*), red maple (Acer rubrum), white oak (Quercus alba), crab apple (*Malus sp.*) and gray birch (*Betula populifolia*). The understory consists of saplings from the canopy layer; a shrub layer consisting of patches of tartarian honeysuckle (*Lonicera tatarica*), glossy buckthorn (*Rhamnus frangula*), multiflora rose (Rosa multiflora), and Japanese barberry (*Berberis thunbergii*); and a groundcover layer of garlic mustard (*Alliaria petiolata*) and seedlings from the overstory. Entanglements of poison ivy (*Toxicodendron radicans*) and Asiatic bittersweet (*Celastrus orbiculatus*) are common throughout.

Soils: According to the Natural Resource Conservation Service (NRCS) Soil Survey (Web Soil Survey: North and Suffolk Counties, Massachusetts, Version 13, October 6, 2017), the Project site is mapped as Woodbridge- Urban Land Complex, 3 to 15 percent slopes, and Urban Land, 0 to 15 percent slopes. NRCS describes the Woodbridge Series as moderately well drained, loamy soils formed in lodgement till. The Urban Land Series is described as nearly level to moderately steep areas where the soils have been altered or obscured by urban works and superstructures. The soil profile were generally consistent with the Urban Land Series description.

LEC's site evaluation confirmed that there is no BVW associated with the Neponset River and/or Mother Brook in proximity to the Project site.

The boundaries of Bank/Mean Annual High Water (MAHW) were delineated in the field with blue surveyor's flagging tape in accordance with the criteria set forth in 310 CMR 10.54. Bank/MAHW Line flags are numbered TOB A1 – A23, B1 – B20, and C1 – C9. These flags are shown on Sheet 1 in Appendix C – Site Plans.

3.1 Delineated Wetland Resource Areas

Wetland resource areas associated with the Project site include:

- 310 CMR 10.54 – Bank
- 310 CMR 10.56 – Land Under Waterbodies and Waterways;
- 310 CMR 10.57 – Bordering Land Subject to Flooding; and
- 310 CMR 10.58 – Riverfront Area.

Brief descriptions of the wetland resource areas are provided below. Potential wetland resource area impacts and performance standards are provided in Section 7.0.

3.1.1 Bank

As defined by 310 CMR 10.54(2), Bank is the portion of the land surface which normally abuts and confines a water body. It occurs between a water body and a vegetated bordering wetland and adjacent flood plain, or, in the absence of these, it occurs between a water body and an upland. A Bank may be partially or totally vegetated, or it may be comprised of exposed gravel or stone. The upper boundary of a Bank is the first observable break in the slope or the mean annual flood level, whichever is lower. The lower boundary of a Bank is the mean annual low flow level.

Bank is associated with the perennial streams, Mother Brook and the Neponset River. As previously noted, Mother Brook flows in an easterly direction and discharges into the Neponset River to the west of the site. The Neponset River continues to flow in an easterly direction beneath the Dana Avenue Bridge through double 450-foot wide arches. The separate stream channels are approximately 20 to 30 feet wide to the west of the site, and extend up to 60 feet wide as they converge into the Neponset River immediately west of the Bridge. The streams appear to be 3-4 feet deep and embankments are comprised of a combination of steep, partially vegetated, slopes and steep boulder embankments.

During LEC's site evaluation, the water elevation appeared to be approximately 1.5 feet below the Bank/MAHW boundary.

3.1.2 Land Under Waterbodies and Waterways

As defined by 310 CMR 10.56(2), Land under Water Bodies and Waterways (LUW) is the land beneath any creek, river, stream, pond or lake. Said land may be composed of organic muck or peat, fine sediments, rocks or bedrock. The boundary of Land under Water Bodies and Waterways is the mean annual low water level.

LUW is conservatively situated between the Bank/MAHW boundaries to Mother Brook and the Neponset River. Based on field observations, the substrate is comprised of a mix of muck, sands, rocks, and gravel.

3.1.3 Bordering Land Subject to Flooding

Bordering Land Subject to Flooding (BLSF) is an area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds or lakes. It extends from the banks of these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetland (310 CMR 10.57(2)).

BLSF is associated with the Zone AE (el. 39) and Floodway associated with Mother Brook and the Neponset River and is present only where it extends beyond the Bank boundary.

According to the September 25, 2009 FEMA Flood Insurance Rate Map (FEMA FIRM) for Suffolk County (*Community Panel 25025C0088G*), Mother Brook is mapped within a Zone AE (el. 39) – *Areas subject to inundation by the 1% annual chance flood (Base Flood Elevation Determined)* and a portion of Mother Brook immediately west of the Dana Avenue Bridge is mapped within the Floodway. The remainder of the site is mapped within a Zone X (unshaded) – *Areas outside the 1% annual chance flood* (Figure 3 – FEMA Mapping).

3.1.4 Riverfront Area

Riverfront Area is defined at 310 CMR 10.58 (2)(3) as the area of land between a river's mean annual high water line and a parallel line measured horizontally. The riverfront area may include or overlap other resource areas or their buffer zones. The riverfront area does not have a buffer zone. Furthermore, 310 CMR 10.58 (2)(2) defines Mean Annual High-water Line as *the line that is apparent from visible markings or changes in the character of soils or vegetation due to the prolonged presence of water and that distinguishes between predominantly aquatic and predominantly terrestrial land. Field indicators of bankfull conditions shall be used to determine the mean annual high-water line. Bankfull field indicators include but are not limited to: changes in slope, changes in vegetation, stain lines, top of pointbars, changes in bank materials, or bank undercuts.*

The 25-foot Riverfront Area extends from the Bank/MAHW boundary of the aforementioned perennial streams, Mother Brook, and the Neponset River. Riverfront Area consists of the steep slopes upgradient of the streams, and residential development including homes, paved parking lots, and roadways.

3.2 Other Resources

A review of available Massachusetts Geographic Information System (MassGIS) mapping indicates that there are no Outstanding Resource Waters or Areas of Critical Environmental Concern in the Project area (Attachment B, Figure 4 – Resource Map).

Based on review of the 2017 Massachusetts Natural Heritage & Endangered Species Program's (NHESP) MassGIS-based database, the site is not located within a Priority Habitat of Rare Species or Estimated Habitat of Rare Wildlife. No Certified Vernal Pools or Potential Vernal Pools are mapped on or within the immediate vicinity of the site (Attachment B, Figure 4 – Resource Map). Therefore, a copy of this NOI will not be submitted to NHESP for their review.

Based on a review of the Massachusetts Cultural Resource Information System, the existing bridge, historically known as the Bridge Street Bridge, is a reinforced-concrete, two-span, filled-spandrel, barrel arch bridge constructed in 1909 without a permit.

The Project, as currently designed, is not expected to adversely affect any previously identified cultural resources. The Dana Avenue Bridge itself is considered Not Eligible for listing on the National Register of Historic Places and is not a designated Boston Landmark, nor a property with a pending Landmark petition. Although the Project falls within the boundaries of the Readville Industrial Area and several previously identified Historic Districts are located within a 0.25-mile radius of the Project, significant visual impacts to the resources are not expected. Lastly, although the area has not been surveyed by professional archaeologists, no previously recorded archaeological sites are located within a 0.25-mile radius of the bridge and the current proposed limits of disturbance are not located in areas considered sensitive for archaeological resources. Should Project plans or designs change, including the addition of laydown areas, etc., this assessment should be revised. If state or federal permits or funding sources be required for the Project, the submission of PNF to the Massachusetts Historical Commission is recommended.

4.0 Proposed Work

The existing two arch structure will be demolished and replaced. The existing footings will remain to support the new bridge superstructure. The proposed arch geometry will maintain the existing low chord and hydraulic opening but will result in a slight change to the inner curve of the arch geometry. The proposed replacement parapets will reproduce the original geometry and the spandrel walls will be reduced to maintain a constant thickness through their height. The existing elevation of center of the arches will remain the same at 47.35 while the existing span widths of the arches will increase from 45 feet to 49 feet (Sheet 4, Attachment C – Site Plans).

Construction of the replacement Dana Avenue Bridge is anticipated to be performed in the following construction sequence (note that all demolition and similar debris that may be generated by the Contractor during completion of the below steps have been mitigated as described below; no debris will be allowed to enter the water or other areas subject to WPA jurisdiction):

4.1.1 Construction Staging and Schedule

The project approach will be for single stage construction, with an accelerated construction schedule using 60-hour work weeks and adjusting the construction sequence to allow the roadway to be reopened to two passable lanes and a single sidewalk as quickly as is feasible.

Prior to Dana Avenue Closure:

Preliminary Construction Work: Procure and approve all construction design submittals for the precast arches and wingwalls, the construction shielding, and support of earth for excavation. Fabricate the precast units, and install the construction shielding and earth support for demolition operations.

Pedestrian Bridge: Minimal interfering trees within the foundation areas will be limbed and removed as required to construct the foundations and set the pedestrian bridge. Riprap interfering with the proposed pile locations will also be removed. Foundations will be constructed by auger drilling the piles using open hole techniques and slurry as required to maintain the excavation. The pre-augured holes will be advanced to approximately 15 feet below grade. Spoil will be contained and removed the from the site. Once the holes are complete, steel piles will be set into the holes and stabilized in position. High strength grout will be pumped into the bottom of the holes and pumped off the slurry as it is displaced. Once the grout cures, the piles will be cut to the proper elevation and the precast abutment slabs will be set to receive the bridge. The bridge will then be assembled and erected with the timber ramps and placed onto the supports for construction (Sheets 9 and 10, Attachment C – Site Plans).

During Dana Avenue Closure:

Demolition: Once the roadway is closed, the existing pavement, sidewalks, and fill over the arches will be removed, and the arches and spandrel walls will be demolished (Sheets 5 and 6, Attachment C – Site Plans). The abutments and pier will be cut down (sawcut) and the new bridge seats will be cast.

Construction: The new precast arches and spandrel walls will be set and bolted into place (Sheets 7 and 8, Attachment C – Site Plans). A secondary layer of earth support at the interior four corners of the abutments will be installed to allow enough fill to be placed to construct two lanes of roadway and a sidewalk to permit traffic back onto the bridge. During this operation, the cast in place portions of the wingwalls at the abutments may be set and allowed to cure.

Project Completion under Traffic:

Completion: Finish backfilling operations and set reinforcement and concrete for Texas Railing on and off bridge. Finish the roadway pavement, set granite curb, and construct sidewalks to fully open the bridge.

Once the roadway is reopened, the temporary pedestrian bridge will be removed and the timber ramps will be disassembled. the concrete abutment slabs will be removed and disposed of offsite. The piles will be cut below grade and riprap will be restored to preexisting conditions. The earth support will be cut down and final work and cosmetic items will be applied to complete the Project.

4.1.2 Demolition and Shielding and Channel Protection

The use of "flexi-float" barges or similar floating means of shielding will be used across both channels to protect the waterway from demolition of the existing arches and spandrel walls (Sheet 7, Attachment C – Site Plans). Once the existing arches are removed and the replacement arches and bolted spandrel walls are set the barges will be removed. To set the bridge railings and to apply any finishes to the concrete surfaces, a scaffolding or work platform will be required to access the wall facade. Netting or similar protections (drapes) will be utilized on either end of the floats and independently supported from the bridge to ensure no flying debris enters the waterway. Once this work is complete all protection will be removed to finish the roadway work within the barriers.

4.1.3 Support of Earth

Temporary earth support such as steel sheeting or similar means will be necessary at each of the four corners of the bridge to excavate and expose the abutments. The limits of excavation longitudinally are set based upon a driven sheeting across the roadway (Sheet 7 Attachment C – Site Plans).

4.1.4 Stormwater Performance Improvements

Because the Project is a bridge replacement project and does not include the removal or renovation of any existing stormwater superstructures, nor is there any net change in impervious surfaces, stormwater management upgrades are not included in this project. See Attachment E – Stormwater Management for details.

The following mitigation measures and adaptive management are proposed as part of the Project.

5.0 Potential Impacts and Mitigation Measures

The work will occur in the same location and footprint as the existing bridge; therefore, potential impacts are minimal with no changes to the existing bank. No direct impacts to bordering vegetated wetlands are anticipated due to this work. There is no proposed work on the existing footings or the pier in the river.

As a result of this Project, there will be no volume of flood storage lost and all disturbed areas will be restored to their original condition.

Netting or similar protections, "flexi-float" barges or similar floating means of shielding, and proper containment will be used across both channels to protect the waterway and prevent any debris from reaching the water body during construction demolition of the existing arches and spandrel walls and installation of the new bridge superstructure components. Best management practices (BMPs) for sedimentation and erosion control will be implemented and maintained throughout construction. The construction documents will contain requirements for sediment and erosion controls including:

1. Filter tubes or straw bales will be used between all upland disturbances and the wetland and river resource areas.
2. Equipment refueling will not occur in areas where a spill might reach the river.
3. All areas disturbed during construction will be stabilized to minimize erosion. Plantings and other erosion control measures shall be checked and corrected, if necessary, following each rain event up to one full year following construction or until the vegetation has sufficiently stabilized.
4. All silt collected behind filter tubes or straw bales will be removed before they are removed.

6.0 Alternatives Analysis

The existing bridge is structurally deficient in its current condition, and is deteriorated to a point of concern with respect to public safety. Three scenarios have been considered: do nothing, replace the existing bridge structure, or replace the entire superstructure.

The "do nothing" alternative is not an option as permanent repair of the deficiencies are necessary to ensure continued public safety.

Replacing the entire structure would resolve the structural deficiencies and bring the bridge into compliance with statutory capacity requirements but would require removal of the existing bridge substructure and excavation in the river and along its banks.

Replacing the existing bridge superstructure will resolve the structural deficiencies and bring the bridge into compliance with statutory capacity requirements, but without direct impacts to bordering vegetated wetlands or waterways. This option maintains the existing footings. An accelerated construction schedule has been developed to minimize the duration of impacts to the residents and resource areas.

In consideration of all factors, the replacement of the bridge superstructure alternative is the best choice for this Project.

7.0 Resource Area Impacts and Performance Standards

By design and intention, the Dana Avenue Bridge superstructure replacement will require limited temporary and/or permanent impacts to inland wetland resource areas including Bank, Bordering Land Subject to Flooding, Land Under Water, and Riverfront. The Project will not impact any coastal wetlands. The remaining inland wetland resource areas of Bordering Vegetated Wetlands, Estimated Habitats of Rare Wildlife, and Wildlife Habitat Evaluations, will not be impacted.

The Project as designed meets the relevant wetland resource area performance standards articulated in the WPA as follows.

7.1 Limited Project Status

The proposed Project is a "limited project" under the WPA pursuant to 310 CMR 10.53(3)(i), which states:

> *The maintenance, repair and improvement (but not substantial enlargement except when necessary to meet the Massachusetts Stream Crossing Standards) of structures, including dams and reservoirs and appurtenant works to such dams and reservoirs, buildings, piers, towers, headwalls, bridges, and culverts which existed on the effective date of 310 CMR 10.51 through 10.60 (April 1, 1983). When water levels are drawn down for the maintenance, repair, or improvement of dams or reservoirs or appurtenant works to such dams or reservoirs under 310 CMR 10.53(3)(i), water levels that existed immediately prior to such projects being undertaken*

shall be restored upon completion of the work, and a new Notice of Intent need not be filed for such restoration…"

The Commission may issue an Order of Conditions for a "limited project" after considering the magnitude of the alteration and the significance of the Project to the interests identified in the WPA, the extent to which adverse impacts are minimized, and the extent to which mitigation measures are provided that contribute to the protection of identified interests. The BPWD has addressed the general conditions of the limited project regulation because:

- the existing Dana Avenue Bridge existed prior to April 1, 1983; and
- no impacts to water levels are proposed.

In addition to the above, the BPWD is also:

- providing an assessment of alternatives in Section 6.0 of this NOI filing;
- implementing BMPs to address adverse effects attributable to construction;
- limiting construction activities within resource areas to foot traffic and hand tools, and
- restoring surface vegetation and contours to the extent practicable in disturbed construction areas.

7.2 Bank

As per section 310 CMR 10.54(3), the performance standard for Bank is any proposed work on a Bank *shall not impair,…, 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% or 50 feet (whichever is less) of the length of the bank found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. In the case of a bank of a river or an intermittent stream, the impact shall be measured on each side of the stream or river. Additional alterations beyond,…"*

Approximately 39 total linear feet of bank will be temporarily impacted as a result of the construction and placement of the temporary pedestrian bridge which is less than the allowable 50 feet. Impacts to Bank are temporary and will be restored to preexisting conditions once work is complete. As a result, construction of the Project will not "alter" the bank nor will it "impair wildlife habitat functions" and thus the Project meets this performance standard.

7.3 Land Under Waterbodies and Waterways

As per section 310 CMR 10.56(3), the performance standard for Land under Water Bodies and Waterways (LUW) is *any proposed work within Land under Water Bodies and Waterways shall not impair the following,…, water carrying capacity within the defined channel,…, Ground and surface water quality,…,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% 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 Dana Avenue Bridge footings and central pier will be left in place when the bridge superstructure is demolished. These existing footings are embedded in the LUW substrate. The construction of the new Dana Avenue Bridge superstructure will use the existing footings and will temporarily impact 62 square feet of this resource area for the rip-rap work at the existing footings. Up to 5,000 square feet of alteration is allowed according to the WPA. Impacts to LUW are temporary and will be restored to preexisting conditions once work is complete. As a result, construction of the Project will not "impair" water carrying

within the defined channel, ground or surface water quality, nor will it "impair wildlife habitat functions" and thus the Project meets this performance standard.

7.4 Bordering Land Subject to Flooding

As per section 310 CMR 10.57(3) the performance standard for Bordering Land Subject to Flooding (BLSF) *shall not restrict flows so as to cause an increase in flood stage or velocity,…are found to be significant to the protection of wildlife habitat shall not impair its capacity to provide important wildlife habitat functions,… 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% 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.*

Approximately 111 square feet of BLSF will be temporarily impacted as a result of the construction and placement of the temporary pedestrian bridge resulting in about 2 percent of BLSF at the Project site which is considerably less than the allowable 10 percent. Impacts to BLSF are temporary and will be restored to preexisting conditions once work is complete. Therefore, construction of the Project will not "restrict flows" so as to cause an increase in flood storage or velocity, nor will it "impair wildlife habitat functions" and thus the Project meets this performance standard.

7.5 Riverfront Area

As per section 310 CMR 10.58 (3), the performance standard for Riverfront Area is *there are no practicable and substantially equivalent economic alternatives to the proposed project with less adverse effects on the interests identified,… will have no significant adverse impact on the riverfront area to protect the interests identified,…protection of other resource areas (310 CMR 10.30, (Coastal Bank), 10.32 (Salt Marsh), 10.55 (Bordering Vegetated Wetland), and 10.57 (Land Subject to Flooding), and buffer zone,… will have no adverse effect on specified habitat sites of rare wetland or upland, vertebrate or invertebrate species.*

In Boston, the Riverfront Area is 25-feet and can include or overlap other resource areas or their buffer zones. The Riverfront Area does not have a buffer zone. Portions of the Site are located within Riverfront Area associated with the Neponset River. Up to approximately 87 square feet of permanent impacts and 673 square feet of temporary impacts is within the Riverfront Area. The work involves the placement of the pilings and sheeting to support the temporary pedestrian bridge. The pilings and sheeting will be cut to grade upon removal of the temporary pedestrian bridge and any disturbance to this resource area will be restored to preexisting conditions once work is complete

The replacement Dana Avenue Bridge superstructure will be constructed on the existing bridge footings and will be in the same location as the existing. The BPWD has determined that there is no practicable and substantially equivalent economic alternatives to the proposed Project. The BPWD will avoid and minimize impacts to water quality by implementing BMPs and manage any potential run-off as (see Attachment E – Stormwater Management and the Stormwater Checklist). Construction of the Project will not "will have no significant adverse impact on the riverfront area or other resource areas" and thus the Project meets this performance standard.

7.6 100-foot Buffer Zone

Although not a resource area by definition, the Buffer Zone, as defined by the WPA is an area extending 100-feet from the edge of wetland resource area boundaries. Approximately 87 square feet of permanent impacts and 673 square feet of temporary impacts is within the 100-foot Buffer Zone. Most of the buffer area consists of Dana Avenue which is an impervious area with some upland vegetated area with Urban

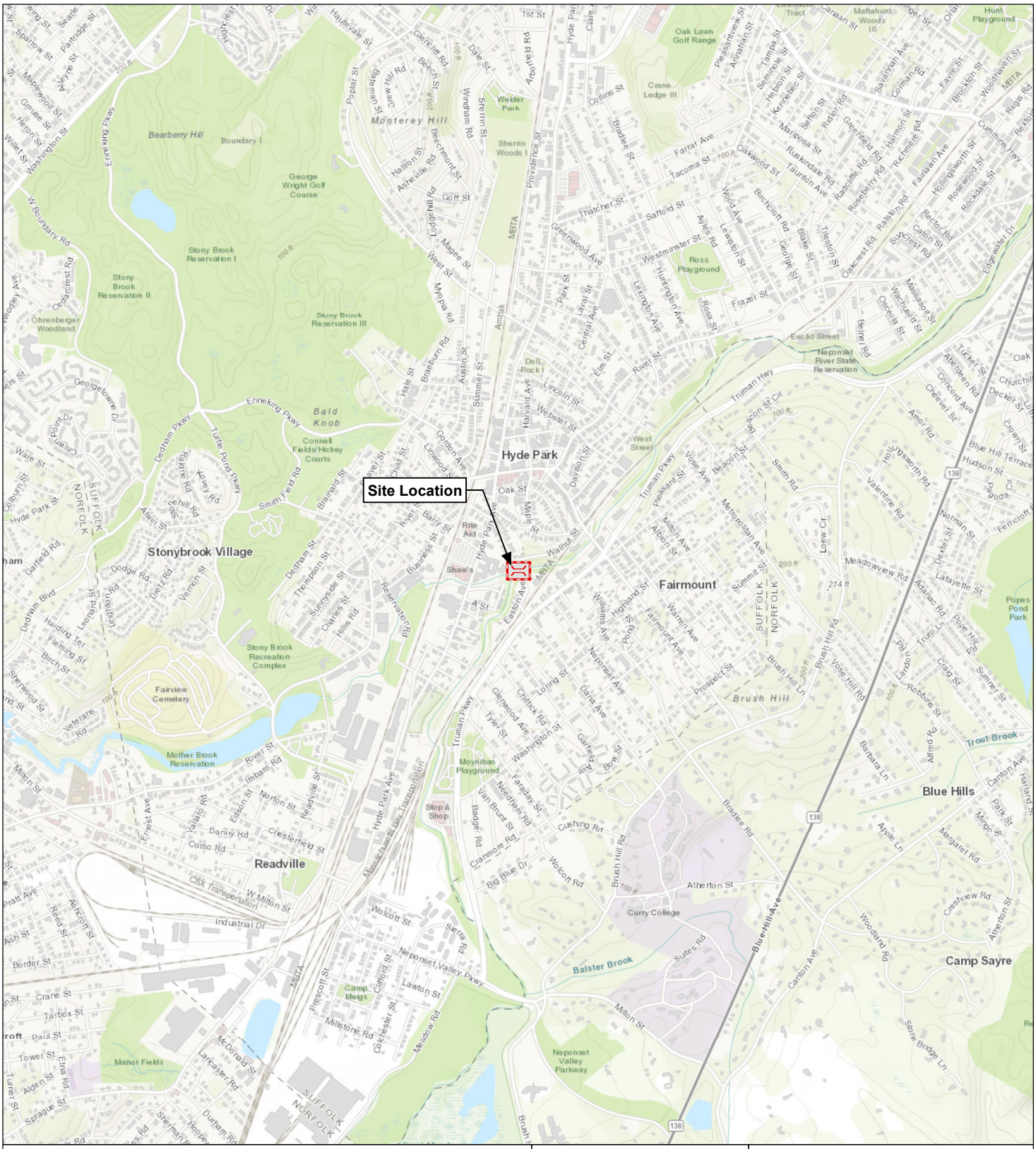
Land soils as described above. Impacts to Buffer Zone will be restored to preexisting conditions once work is completed.

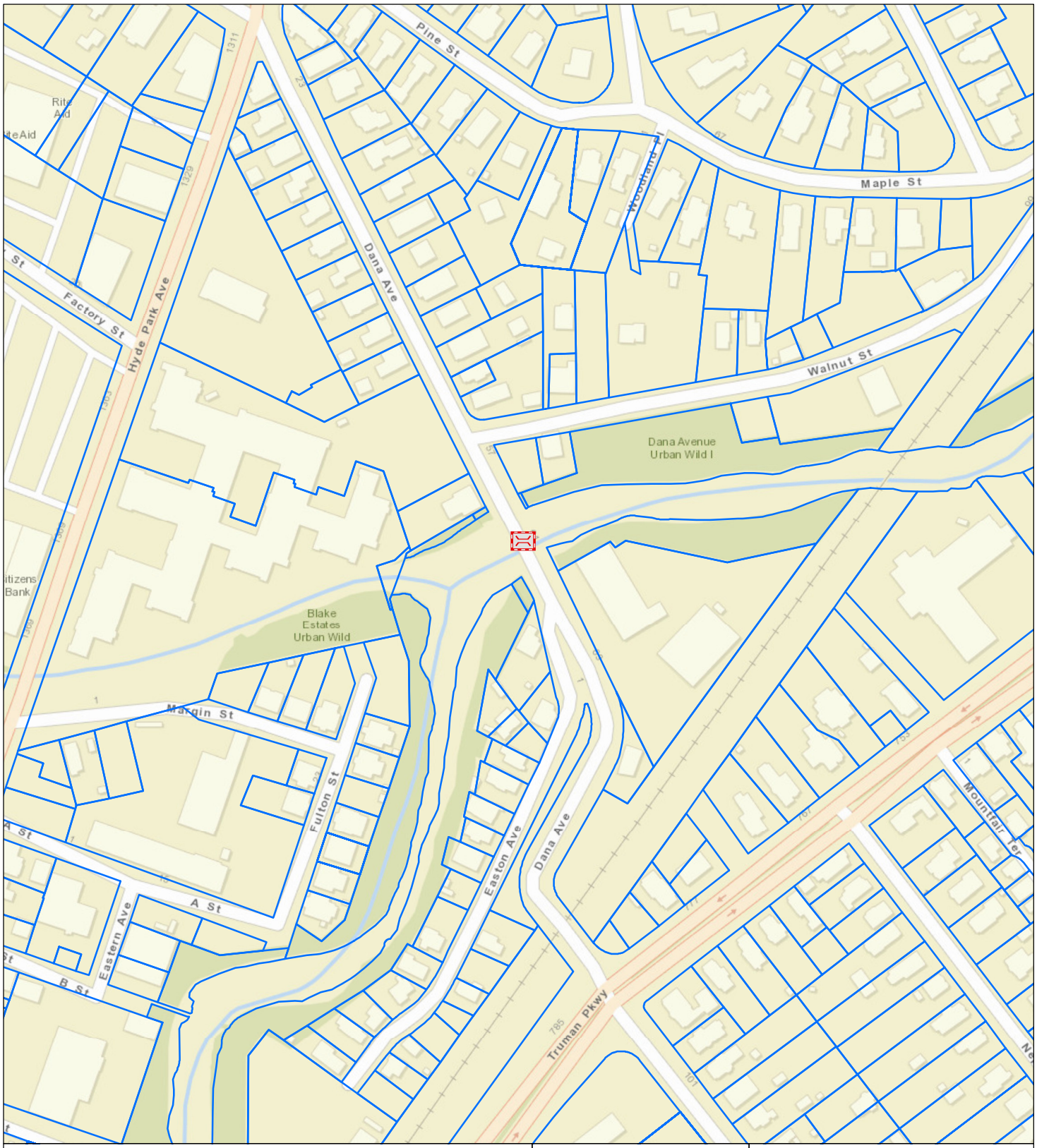
8.0 Summary

The purpose of this Project is to replace the deteriorating superstructure of the Dana Avenue Bridge for public safety reasons. Due to the nature of the proposed work, the temporary and negligible impacts, and the mitigation proposed herein, BPWD believes that the Project will uphold the performance standards for these resource areas as defined in the WPA.

ATTACHMENT B – FIGURES

FIGURE 1 – SITE LOCATION MAP
FIGURE 2 – TAX MAP
FIGURE 3 – FLOOD HAZARD MAP
FIGURE 4 – RESOURCE MAP


Site Location
Hyde Park
Stonybrook Village
Fairmount
Readville
Blue Hills
Brush Hill
Monterey Hill
Bearberry Hill
Bald Knob
Mother Brook Reservation
Stony Brook Reservation I
Stony Brook Reservation II
Stony Brook Reservation III
Stony Brook Recreation Complex
Fairview Cemetery
Neponset River State Reservation
Neponset Valley Parkway
Moynihan Playground
Curry College
Camp Sayre
Trout Brook
Balster Brook
Dana Avenue Bridge
0 1,000 2,000 Feet
N
Massachusetts
Map Location
Base Map: USGS/The National Map
TRC
Results you can rely on
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
978-970-5600
SITE LOCATION MAP
DANA AVENUE BRIDGE REPLACEMENT PROJECT
BOSTON, MA
FIGURE 1
NOVEMBER 2018
S:\1-PROJECTS\City_of_Boston\Dana Avenue Bridge\5-MXD\FIG_1_DanaAve_20181031.mxd



Dana Avenue Bridge
Tax Parcels
World Street Map

0 100 200 Feet

N

Massachusetts

Map Location

Data: City of Boston, 2018
Base Map: Esri and its contributors

TRC
Results you can rely on

Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
978-970-5600

TAX MAP

DANA AVENUE BRIDGE REPLACEMENT PROJECT

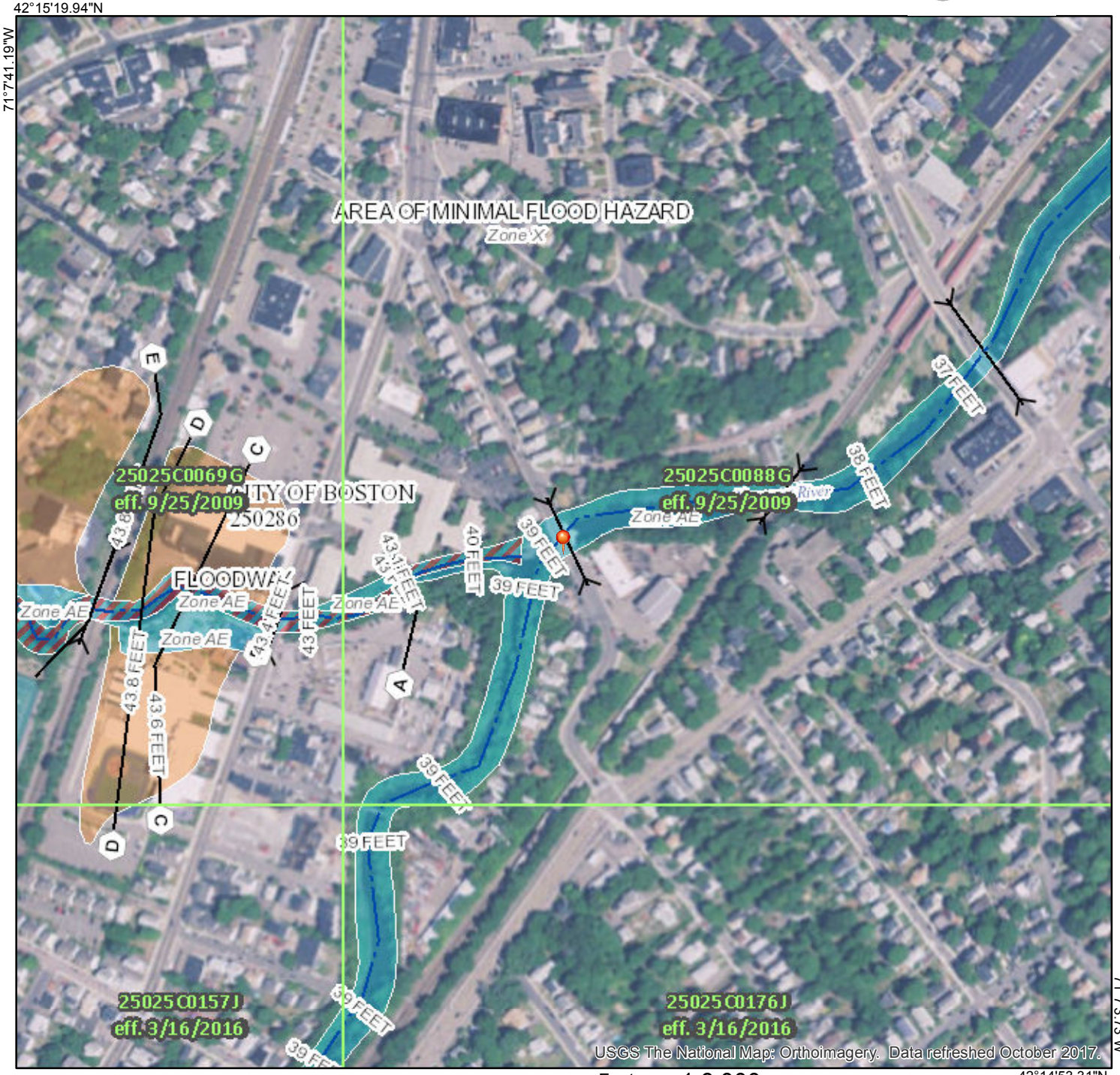
BOSTON, MA

FIGURE 2	NOVEMBER 2018

S:\1-PROJECTS\City_of_Boston\Dana Avenue Bridge\5-MXD\FIG_3_DanaAve_Parcels_20181101.mxd

National Flood Hazard Layer FIRMette

FEMA



Legend

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

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

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

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

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

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

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

N

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

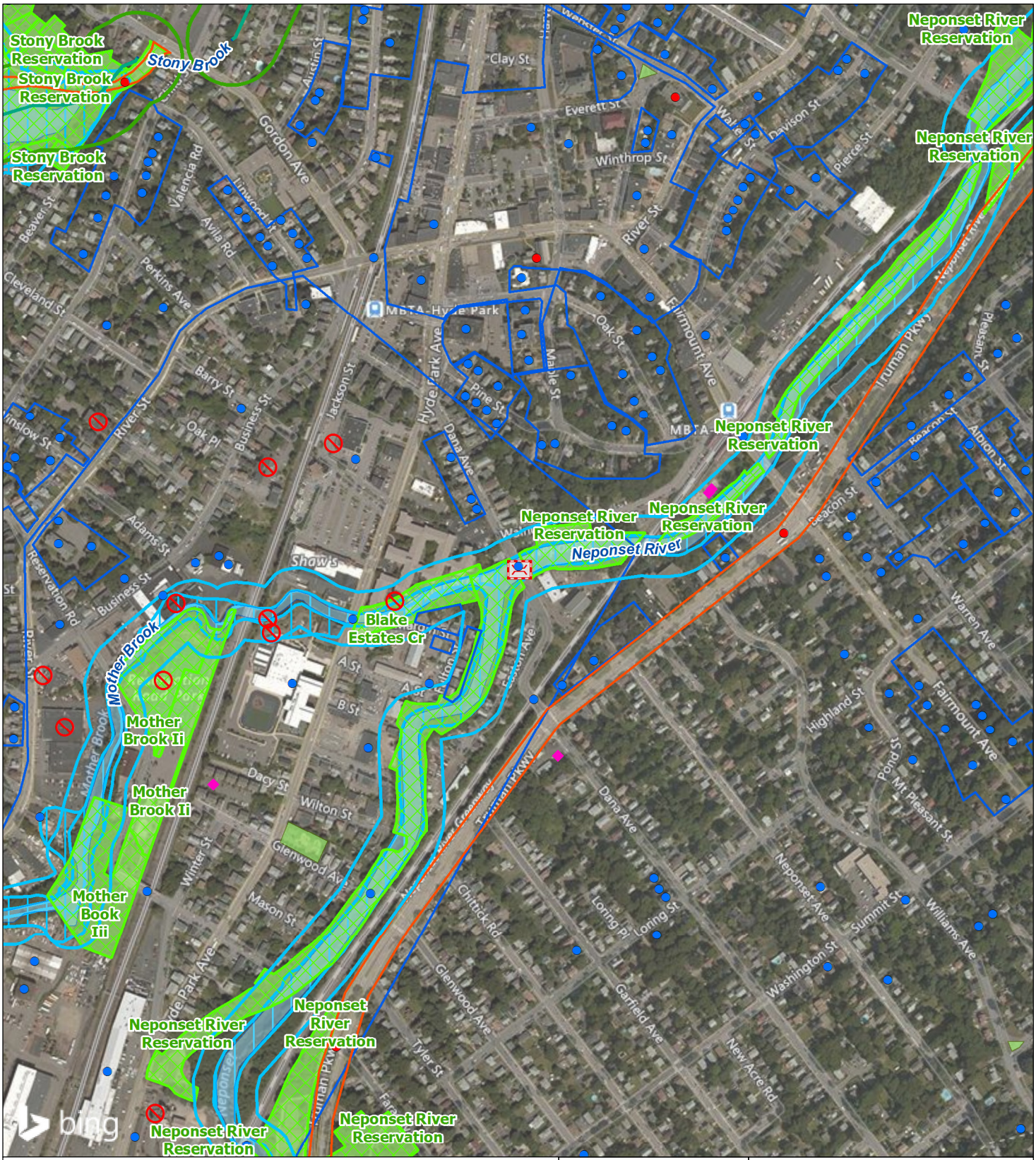
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/29/2018 at 11:14:53 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Figure 3 - Flood Hazard Map

TRC Results you can rely on



Dana Avenue Bridge
Perennial Stream
200-Foot Perennial Stream Buffer
DEP Wetland
100-Foot DEP Wetland Buffer
AUL Sites
Chapter 21E Classified Sites - Tier II

Article 97 Land
Open Space and Recreational Land
Special Flood Hazard Area
Nat'l Register of Historic Places
Inventoried Property
Nat'l Register of Historic Places
MHC Inventoried Area

Data: MassGIS, 2017, 2018
Base map: Bing, 2018

0 300 600 Feet

N

MASSACHUSETTS

Map Location

TRC
Results you can rely on
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970-5600

ENVIRONMENTAL RESOURCES

DANA AVENUE BRIDGE REPLACEMENT PROJECT

BOSTON, MA

FIGURE 4 | NOVEMBER 2018

S:\1-PROJECTS\City_of_Boston\Dana Avenue Bridge\5-MXD\FIG_2_DanaAve_Resources_20181101a.mxd

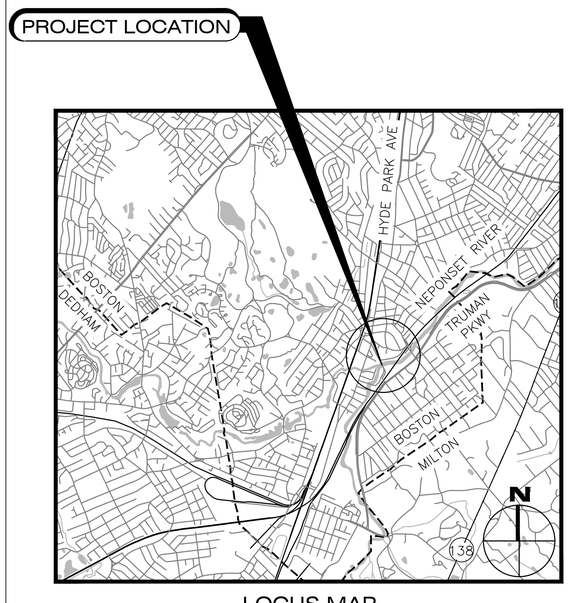
ATTACHMENT C – SITE PLANS

CITY OF BOSTON
PUBLIC WORKS DEPARTMENT

HON. MARTIN J. WALSH - MAYOR

PARA JAYASINGHE - CITY ENGINEER

BRIDGE REPLACEMENT
DANA AVENUE OVER NEPONSET RIVER
BRIDGE NO. B-16-026 (387)



LOCUS MAP
SCALE: 1" = $\frac{1}{2}$ MILE

SCALE : 1" = 1000'

PLAN INDEX

THE FOLLOWING STANDARDS GOVERN WORK ON THIS PROJECT

1. ALL WORK DONE UNDER THIS CONTRACT SHALL BE IN CONFORMANCE WITH THE CITY OF BOSTON STANDARD CONTRACT SPECIFICATIONS AND SPECIAL PROVISIONS.
2. THE MASSACHUSETTS HIGHWAY DEPARTMENT (NOW MASSDOT) 1988 ENGLISH EDITION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, THE SUPPLEMENTAL SPECIFICATIONS DATED JULY 1, 2015, THE STANDARD SPECIAL PROVISIONS AND LATEST AMENDMENTS
3. MASSDOT - THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 1996 CONSTRUCTION AND TRAFFIC STANDARD DETAILS (AS RELATED TO TRAFFIC STANDARD DETAILS ONLY)
4. MASSDOT - THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING
5. THE 2009 EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
6. THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS
7. THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS
8. THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS
9. THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK

PLANS PREPARED BY:
COMPANY NAME

GILL ENGINEERING
63 KENDRICK STREET, NEEDHAM, MA 02494

R—XXXX—X

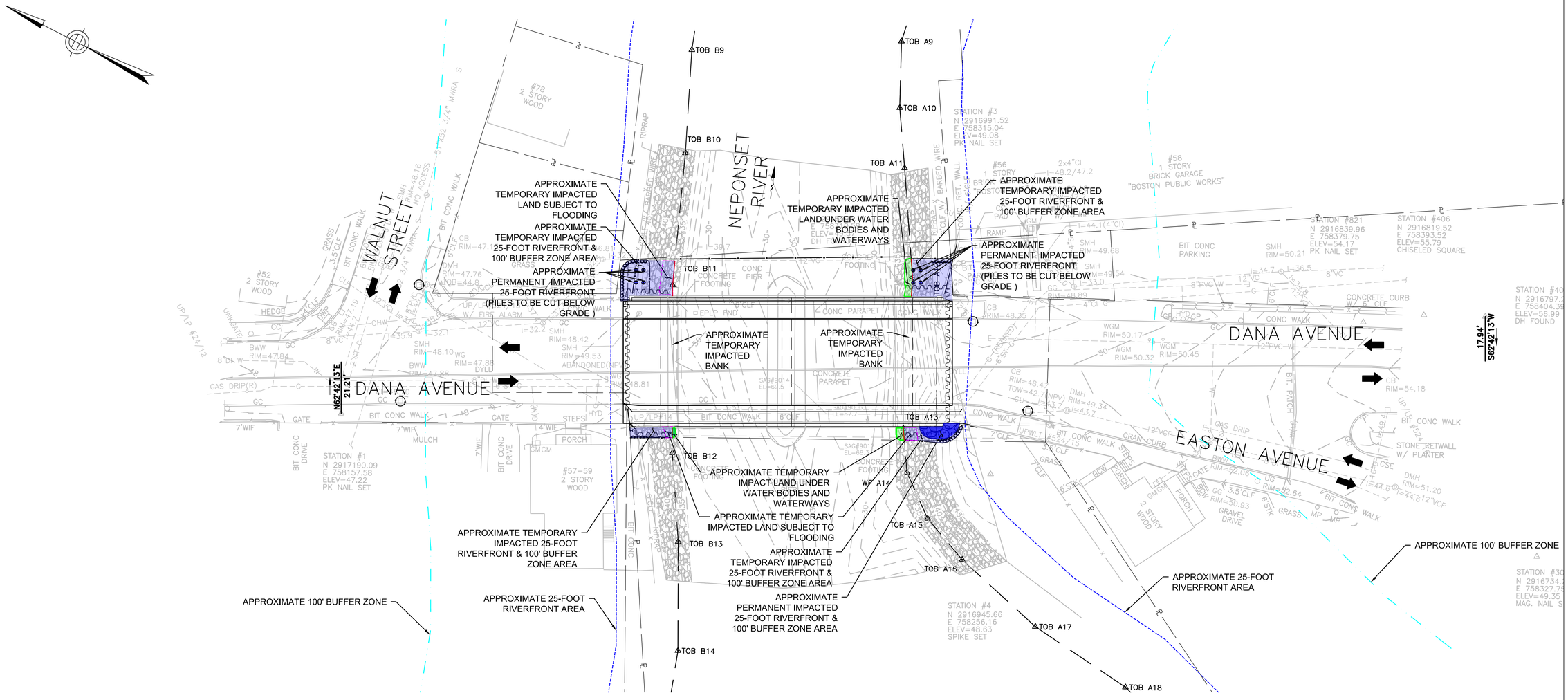
COMMONWEALTH OF MASSACHUSETTS
JOSEPH P GILL
CIVIL
NO. 35455
REGISTERED PROFESSIONAL ENGINEER
11/5/2018

PERMIT PLANS

APPROVED:

CITY ENGINEER

DATE



LEGEND (ALL SHEETS)

- PROPERTY LIMITS
- ABUTTERS PROPERTY BOUNDARY
- TOB XX — WETLAND FLAGGING
- EXISTING STRUCTURES
- EROSION CONTROLS
- APPROXIMATE BANK (39 LINEAR FT. OF TEMPORARY IMPACTS)
- APPROXIMATE LAND UNDER WATERBODIES AND WATERWAYS (62 SQ. FT. OF TEMPORARY IMPACTS)
- APPROXIMATE 25–FOOT RIVERFRONT AREA (87 SQ. FT. OF PERMANENT IMPACTS, 673 SQ. FT. OF TEMPORARY IMPACTS)
- APPROXIMATE LAND SUBJECT TO FLOODING (111 SQ. FT. OF TEMPORARY IMPACTS)
- APPROXIMATE 100' BUFFER ZONE (87 SQ. FT. OF PERMANENT IMPACTS, 673 SQ. FT. OF TEMPORARY IMPACTS)

R—XXXX—X

KEY PLAN WITH ENVIRONMENTAL RESOURCES

SCALE:
1" = 20'
20 10 0 20 40

NOTES:

1. WETLAND DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS, INC. (LEC) ON APRIL 30, 2018.
2. LEC's SITE EVALUATION CONFIRMED THAT THERE IS NO BVW ASSOCIATED WITH THE NEPONSET RIVER AND/OR MOTHER BROOK IN PROXIMITY TO THE THE SITE.
3. THE BOUNDARIES OF BANK/MEAN ANNUAL HIGH WATER (MAHW) WERE DEMARCATED IN THE FIELD WITH BLUESURVEYOR'S FLAGGING TAPE IN ACCORDANCE WITH THE CRITERIA SET FORTH IN 310 CMR 10.54. BANK/MAHW LINE FLAGS ARE NUMBERED TOB A1–A23, B1–B20, AND C1–C9.

COMMONWEALTH OF MASSACHUSETTS
JOSEPH P GILL
CIVIL
NO. 35455
REGISTERED PROFESSIONAL ENGINEER
11/21/2018

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

DRAWN BY	A. LEENHOUTS
CHECKED BY	P. HUCKABEE
APPROVED BY	P. HUCKABEE

PERMIT PLANS

SHEET 2 OF 10

CITY OF BOSTON PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
HIGHWAY RECONSTRUCTION

DANA AVENUE OVER THE NEPONSET RIVER
BRIDGE REPLACEMENT

KEY PLAN WITH ENVIRONMENTAL RESOURCES

SCALE: 1 IN. = 20 FT.
DISTRICT: 1A
AREA: X
DATE: NOVEMBER 2018

CITY ENGINEER

SURVEY

1. COORDINATES, IN U.S. SURVEY FEET ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83/CORS) BASED ON THE KeyNetGPS NETWORK VIRTUAL REFERENCE SYSTEM (VRS).
2. ELEVATIONS, IN U.S. SURVEY FEET, ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. THIS PLAN HAS BEEN PREPARED FROM ON-THE-GROUND SURVEYS ON OCTOBER 28, 2010, NOVEMBER 1, 20210, JANUARY 10, 2013, JANUARY 14, 2013, & APRIL 25 & APRIL 27, 2018.
4. SUBSURFACE UTILITY LINES, AS SHOWN HEREON, WERE COMPILED ACCORDING TO AVAILABLE RECORD INFORMATION FROM THE REFERENCED COMPANIES AND PUBLIC AGENCIES, AND THEIR LOCATIONS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD. SMC ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN.

   GENERALLY THE LINES IN THE PUBLIC AND PRIVATE WAYS ARE SHOWN AND THE LATERAL CONNECTIONS SERVICING INDIVIDUAL USERS ARE NOT SHOWN. BEFORE DESIGNING FUTURE CONNECTIONS, THE APPROPRIATE UTILITIES MUST BE CONSULTED.

   BEFORE CONSTRUCTION, ALL UTILITIES, PUBLIC AND PRIVATE MUST BE NOTIFIED (SEE MASSACHUSETTS GENERAL LAWS, CHAPTER 82 SECTION 40.) CALL "DIG SAFE" 1 (888) 344-7233 HTTP://WWW.DIGSAFE.COM

5. BANK BOUNDARIES WERE FLAGGED BY LEC ENVIRONMENTAL CONSULTANTS ON APRIL 30, 2018.

EXISTING PLANS:

PLANS FOR THE EXISTING BRIDGE ARE AVAILABLE THROUGH THE CITY OF BOSTON DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION SCHEDULE:

COORDINATE WITH THE CITY OF BOSTON. THE BRIDGE REPLACEMENT IS TO BE CARRIED OUT USING A ROADWAY CLOSURE WITH DETOUR AND ACCELERATED BRIDGE CONSTRUCTION TECHNIQUES DURING A SEVEN WEEK PERIOD IN JULY & AUGUST OF 2019. THE MAXIMUM ROADWAY CLOSURE DURATION SHALL BE SEVEN WEEKS (MONDAY, JULY 8TH AT 12:01 AM TO SUNDAY, AUGUST 25TH AT 11:59 PM). A DETAILED SCHEDULE OUTLINING THE TASKS AND TIMELINE TO PERFORM THE BRIDGE REPLACEMENT DURING THE SEVEN WEEK CLOSURE SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL. SHORT TERM LANE CLOSURES DURING NON-PEAK TRAFFIC TIMES SHALL BE UTILIZED TO PERFORM WORK PRIOR TO AND FOLLOWING THE SEVEN WEEK CLOSURE.

EXISTING CONDITION:

EXISTING DIMENSIONS ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE & VERIFY ALL PRESENT DIMENSIONS AND DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENT AND SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY & ACCURACY THEREOF, AND SHALL NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION UNTIL HE/SHE HAS MADE THE REQUIRED MEASUREMENTS, AND THE EXTENT OF THE PROPOSED WORK HAS BEEN APPROVED BY THE ENGINEER.

UTILITIES:

THE CONTRACTOR SHALL LOCATE AND PROTECT FROM DAMAGE ALL EXISTING UTILITIES. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE RESPECTIVE UTILITY OWNERS FOR ALL UTILITIES TO BE PERMANENTLY RELOCATED.

SCALES:

SCALES AS NOTED ON PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. FOR ½ SIZE PRINTS DIVIDE SCALE BY TWO.

DEMOLITION

1. SHIELDING SYSTEM SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF ANY DEMOLITION.
2. CONTRACTOR SHALL ENSURE THAT ALL DEMOLITION DEBRIS IS RECOVERED USING THE SHIELDING SYSTEM AND PREVENTED FROM FALLING INTO THE RIVER.
3. ALL DEMOLITION AND CONSTRUCTION SHALL BE ACCOMPLISHED FROM DRY LAND ABOVE AND/OR ADJACENT TO BRIDGE, WITH THE EXCEPTION OF THE INSTALLATION OF THE SHIELDING PLATFORM, WHICH WILL BE INSTALLED BY CONSTRUCTION PERSONNEL STANDING IN THE WATER. CONTRACTOR SHALL PREVENT CONSTRUCTION EQUIPMENT, CONSTRUCTION MATERIALS AND CONSTRUCTION DEBRIS FROM ENTERING THE WATER.

SCOPE OF PROJECT

THE EXISTING TWO ARCH SUPERSTRUCTURE WILL BE REPLACED. THE EXISTING SUBSTRUCTURE WILL REMAIN AND WILL SUPPORT THE NEW BRIDGE SUPERSTRUCTURE. THE PROPOSED ARCH GEOMETRY MAINTAINS THE EXISTING LOW CHORD AND HYDRAULIC OPENING BUT RESULTS IN A SLIGHT CHANGE TO THE INTRADOS GEOMETRY. THE PROPOSED REPLACEMENT PARAPETS WILL REPRODUCE THE ORIGINAL GEOMETRY AND THE SPANDREL WALLS ARE REDUCED TO MAINTAIN A CONSTANT THICKNESS THROUGH THEIR HEIGHT.

THE PROJECT APPROACH WILL BE FOR SINGLE STAGE CONSTRUCTION, WITH AN ACCELERATED CONSTRUCTION SCHEDULE USING 7 DAY WORK WEEKS AND ADJUSTING THE CONSTRUCTION SEQUENCE TO ALLOW THE ROADWAY TO BE REOPENED AS QUICKLY AS IS FEASIBLE.

DEMOLITION SHIELDING AND CHANNEL PROTECTION

THE USE OF "FLEXI-FLOAT" BARGES OR SIMILAR FLOATING MEANS OF SHIELDING WILL BE USED ACROSS BOTH CHANNELS TO PROTECT THE WATERWAY FROM DEMOLITION OF THE EXISTING ARCHES AND SPANDREL WALLS. EXISTING ARCHES ARE REMOVED AND THE REPLACEMENT ARCHES AND BOLTED SPANDREL WALLS ARE SET. TO SET THE BRIDGE RAILINGS AND TO APPLY ANY FINISHES TO THE CONCRETE SURFACES, A SCAFFOLDING OR WORK PLATFORM WILL BE REQUIRED TO ACCESS THE WALL FAÇADE. NETTING OR SIMILAR PROTECTIONS WILL BE UTILIZED TO CAPTURE ANY FALLING OBJECTS. ONCE THIS WORK IS COMPLETE ALL PROTECTION WILL BE REMOVED TO FINISH THE ROADWAY WORK WITHIN THE BARRIERS.

SUPPORT OF EARTH TEMPORARY EARTH SUPPORT SUCH AS STEEL SHEETING OR SIMILAR MEANS WILL BE NECESSARY AT EACH OF THE FOUR CORNERS OF THE BRIDGE TO EXCAVATE AND EXPOSE THE ABUTMENTS. THE LIMITS OF EXCAVATION LONGITUDINALLY ARE SET BASED UPON A 1.5 TO 1 EXCAVATION SLOPE.

WORK PRIOR TO DANA AVE. CLOSURE:

PRELIMINARY CONSTRUCTION WORK: PROCURE AND APPROVE ALL CONSTRUCTION DESIGN SUBMITTALS FOR THE PRECAST ARCHES AND WINGWALLS, THE CONSTRUCTION SHIELDING, AND SUPPORT OF EARTH FOR EXCAVATION. FABRICATE THE PRECAST UNITS, AND INSTALL THE CONSTRUCTION SHIELDING AND EARTH SUPPORT FOR DEMOLITION OPERATIONS.

PROCURE A TEMPORARY PEDESTRIAN BRIDGE. LIMB AND REMOVE INTERFEREING TREES WITHIN THE FOUNDATION AREAS AS REQUIRED TO CONSTRUCT THE FOUNDATIONS AND SET THE PEDESTRIAN BRIDGE. REMOVE RIPRAP INTERFOEING WITH PROPOSED PILE LOCATIONS. CONSTRUCT THE FOUNDATIONS BY AUGER DRILLING THE PILES USING OPEN HOLE TECHNIQUES AND SLURRY AS REQUIRED TO MAINTAIN THE EXCAVATION. THE PRE-AUGERED HOLES WILL BE ADVANCED TO APPROXIMATELY 15 FEET BELOW GRADE. CONTAIN AND REMOVE THE SPOIL FROM THE SITE. ONCE THE HOLES ARE COMPLETE SET STEEL PILES INTO THE HOLES AND STABILIZE IN POSITION. PUMP HIGH STRENGTH GROUT INTO THE BOTTOM OF THE HOLES AND PUMP OFF THE SLURRY AS IT IS DISPLACED. ONCE THE GROUT CURES CUT THE PILES TO THE PROPER ELEVATION AND SET THE PRECAST ABUTMENT SLABS TO RECEIVE THE BRIDGE. ASSEMBLE AND ERECT THE BRIDGE AND TIMBER RAMPS ONTO THE SUPPORTS FOR CONSTRUCTION.

WORK DURING DANA AVE. CLOSURE:

DEMOLITION: ONCE THE ROAWAY IS CLOSED, THE EXISTING PAVEMENT, SIDEWALKS, AND FILL OVER THE ARCHES WILL BE REMOVED, AND THE ARCHES AND SPANDREL WALLS WILL BE DEMOLISHED. THE ABUTMENTS AND PIER WILL BE CUT DOWN AND THE NEW BRIDGE SEATS WILL BE CAST. THE FLEXI-FLOATS WILL BE USED TO CATCH DEBRIS FROM THE ARCH DEMOLITION. DRAPES WIL BE PLACED ON EITHER END OF THE FLOATS AND INDEPENDANTLY SUPPORTED FROM THE BRIDGE TO ENSURE NO FLYING DEBRIS ENTERS THE WATERWAY.

CONSTRUCTION: THE NEW PRECAST ARCHES AND SPANDREL WALLS WILL BE SET AND BOLTED INTO PLACE. A SECONDARY LAYER OF EARTH SUPPORT AT THE INTERIOR FOUR CORNERS OF THE ABUTMENTS WILL BE INSTALLED TO ALLOW ENOUGH FILL TO BE PLACED TO CONSTRUCT 2 LANES OF ROADWAY AND A SIDEWALK AND PERMIT TRAFFIC BACK ONTO THE BRIDGE. DURING THIS OPERATION THE CAST IN PLACE PORTIONS OF THE WINGWALLS AT THE ABUTMENTS MAY BE SET AND ALLOWED TO CURE.

COMPLETION: FINISH BACKFILLING OPERATIONS SET REINFORCEMENT AND CONCRETE FOR TEXAS RAILING ON BRIDGE. FINISH ROADWAY PAVEMENT, SET GRANITE CURB, AND CONSTRUCT SIDEWALKS TO FULLY OPEN THE BRIDGE.

ONCE THE ROADWAY IS REOPENED REMOVE THE PEDESTRAIN BRIDGE AND TIMBER RAMPS AND DISASSEMBLE. REMOVE THE CONCRETE ABUTMENT SLABS AND DISPOSE OFF SITE. CUT THE PILES BELOW GRADE AND RESTORE RIP RAP. CUT DOWN THE EARTH SUPPORT, APPLY STRIPING TO PAVEMENT, AND COMPLETE ANY REMAINING ITEMS OF WORK INCLUDING APPLYING ANY STAINS TO THE SPANDREL WALL FAÇADES. COMPLETE THE PROJECT.

COMPOST FILTER NOTES:

1. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PLACED PRIOR TO STARTING CONSTRUCTION OPERATIONS AND SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETED OR AS DIRECTED BY THE ENGINEER.
2. PRIOR TO AND DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL COMPLY WITH ALL ADDITIONAL MEASURES DEEMED NECESSARY BY THE ENGINEER AND SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION AND SEDIMENT DEVICES.
3. APPROVED FILTER TUBES SHALL BE USED FOR EROSION CONTROL DURING CONSTRUCTION ACTIVITIES AS REQUIRED AND AS DIRECTED BY THE ENGINEER.
4. PERIODIC CLEANING OF TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL DEVICES MAY BE NECESSARY.
5. SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE USED FOR ALL ROADWAY INLETS ABUTTING THE SITE. CONTROLS SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETED.
6. TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL MEASURES AS INDICATED IN THE CONTRACT DOCUMENTS SHALL BE CONSIDERED AS THE MINIMUM REQUIRED.
7. THE CONTRACTOR SHALL TAKE STEPS TO PREVENT RUNOFF FROM CARRYING SILT, GRASS, SEDIMENT, ETC., INTO THE DRAINAGE SYSTEM, DITCHES, WATERCOURSES AND WETLANDS.
8. TEMPORARY DIVERSION DITCHES SHALL BE RESTORED AFTER CONSTRUCTION AS DIRECTED BY THE ENGINEER.
9. ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO PREVENT SILT, SEDIMENT, FUELS, SOLVENTS, LUBRICANTS, EPOXY COATINGS, CONCRETE LEACHATE, OR ANY OTHER POLLUTANT ASSOCIATED WITH CONSTRUCTION AND CONSTRUCTION PROCEDURES FROM ENTERING DRAINAGE INLETS.
10. DURING CONSTRUCTION, NO WET OR FRESH CONCRETE OR LEACHATE OR WASHINGS FROM CONCRETE TRUCKS, MIXERS, OR OTHER DEVICES SHALL BE ALLOWED TO ESCAPE INTO THE DRAINAGE SYSTEM OR THE WATERS OF THE COMMONWEALTH OF MASSACHUSETTS.

PERMIT PLANS

SHEET 3 OF 10

R-XXXX-X

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

COMMONWEALTH OF MASSACHUSETTS
JOSEPH P GILL
CIVIL
NO. 35455
REGISTERED PROFESSIONAL ENGINEER
11/5/2018

DRAWN BY	A. LEENHOUTS
CHECKED BY	P. HUCKABEE
APPROVED BY	P. HUCKABEE

CITY OF BOSTON PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
HIGHWAY RECONSTRUCTION

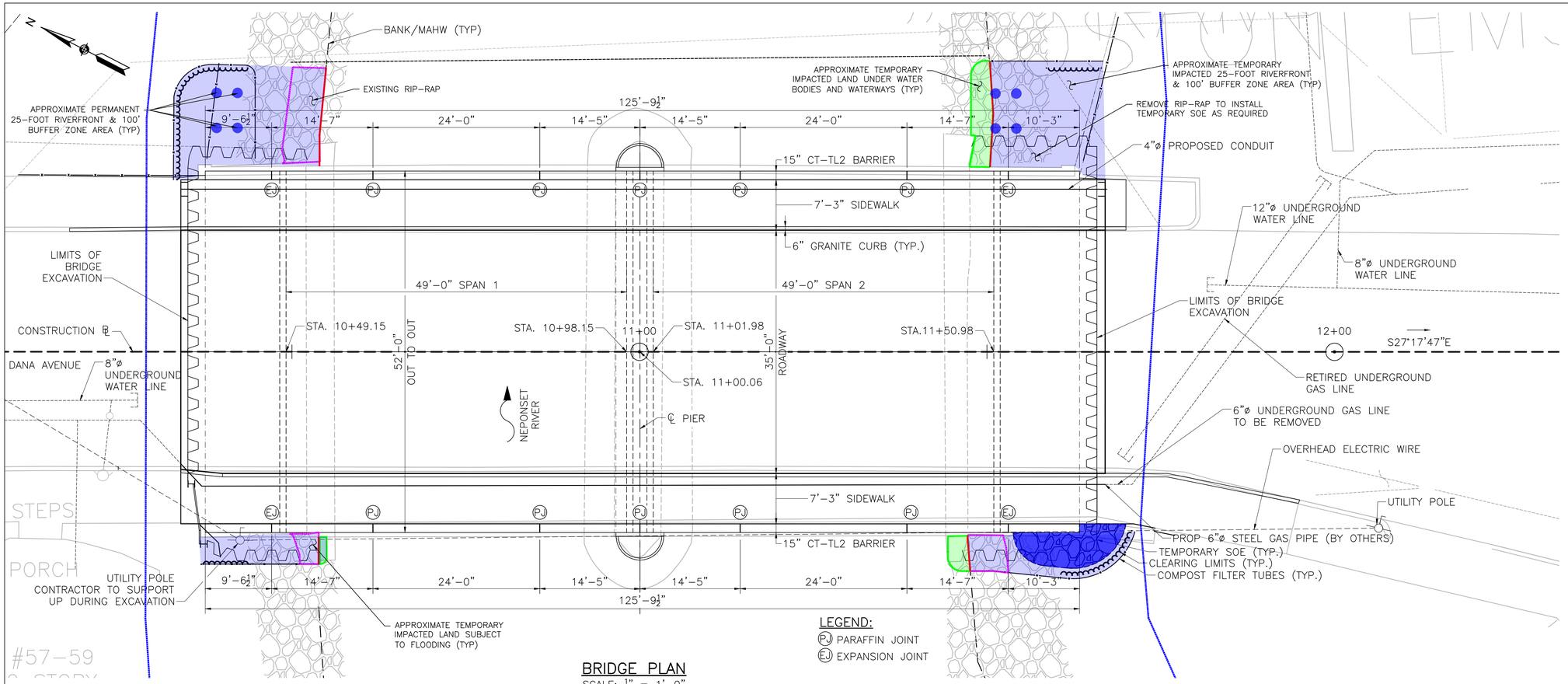
DANA AVENUE OVER THE NEPONSET RIVER
BRIDGE REPLACEMENT

NOTES

SCALE: 1 IN. = 20 FT.
DISTRICT: 1A

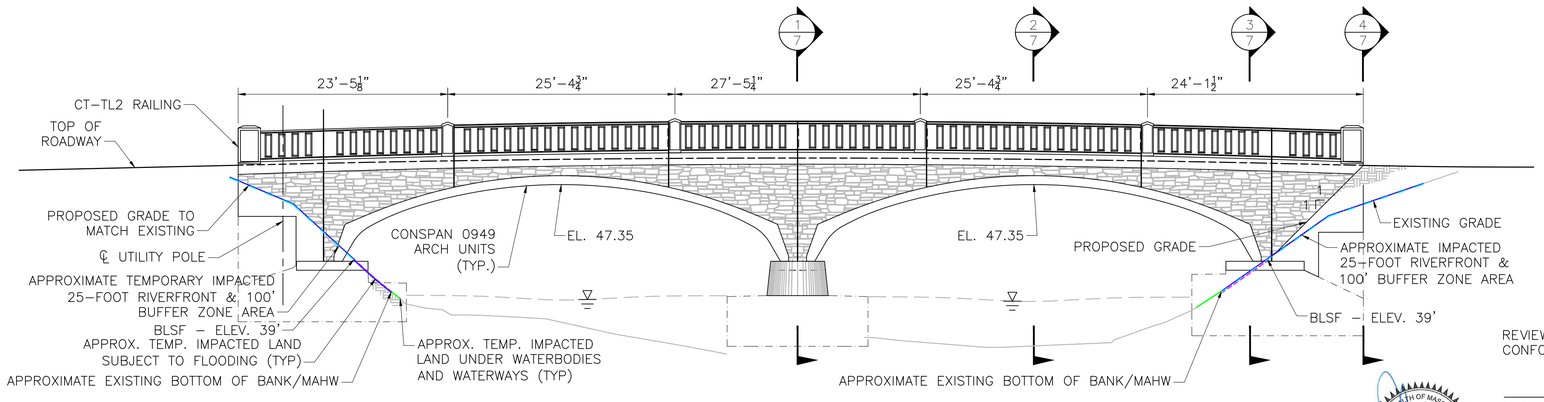
AREA: X
DATE: NOVEMBER 2018

CITY ENGINEER



BRIDGE PLAN

SCALE: ⅛" = 1'–0"



WEST ELEVATION

SCALE: ⅛" = 1'–0"

FOOTING NOTES:

R–XXXX–X

THE FACTORED BEARING PRESSURE = XXX KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION. FACTORED BEARING RESISTANCE = XXX KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.XX.

COMMONWEALTH OF MASSACHUSETTS
JOSEPH P GILL
CIVIL
NO. 35455
REGISTERED PROFESSIONAL ENGINEER
11/5/2018

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

DRAWN BY	J. VELEZ
CHECKED BY	P. HUCKABEE
APPROVED BY	J.GILL

PERMIT PLANS

SHEET 4 OF 10

CITY OF BOSTON PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
HIGHWAY RECONSTRUCTION

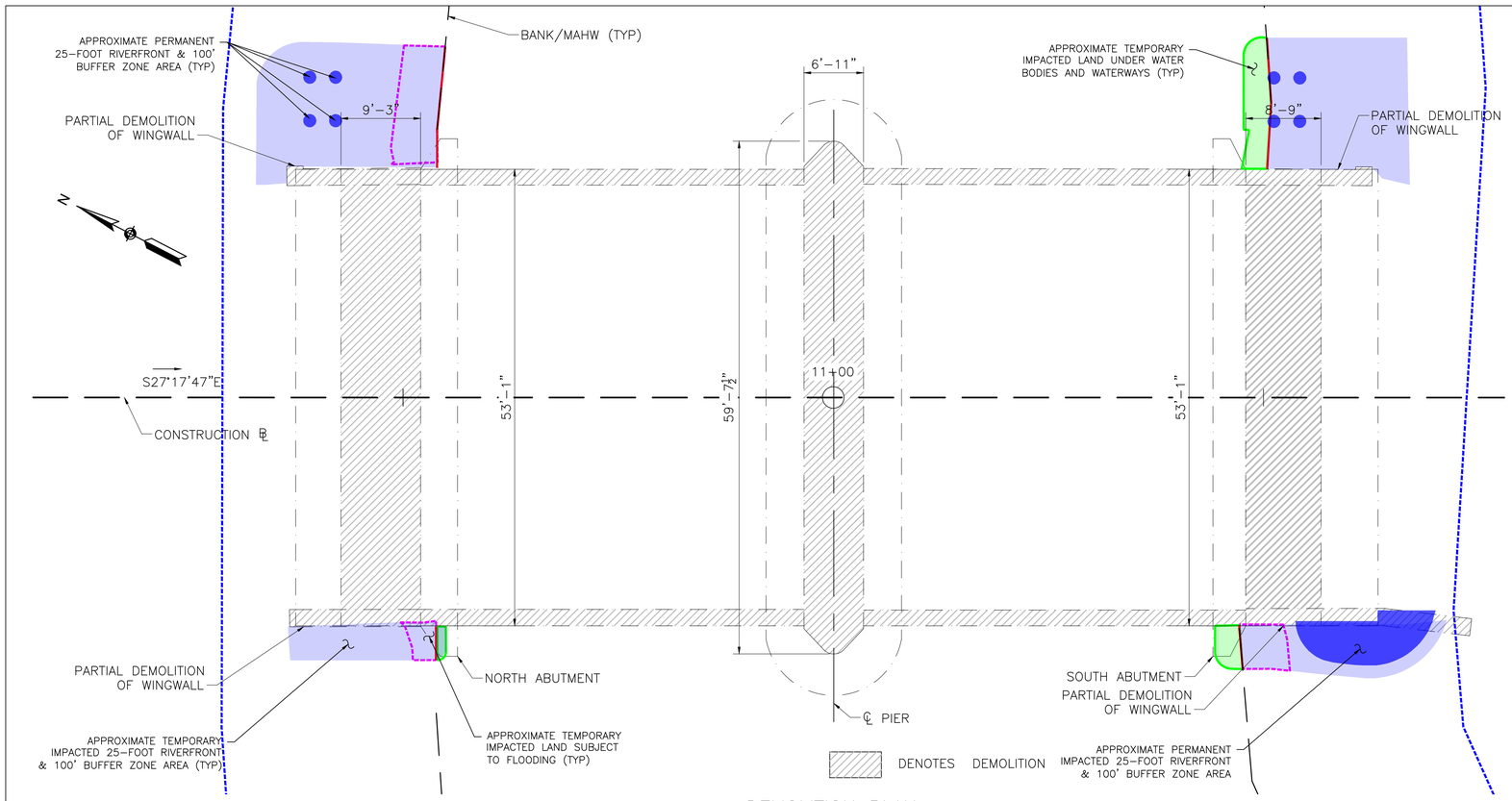
DANA AVENUE OVER THE NEPONSET RIVER
BRIDGE REPLACEMENT

PLAN AND ELEVATION

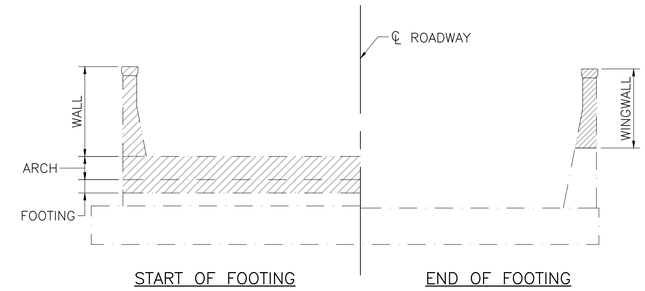
SCALE: N/A
DISTRICT: 1A

AREA: X
DATE: NOVEMBER 2018

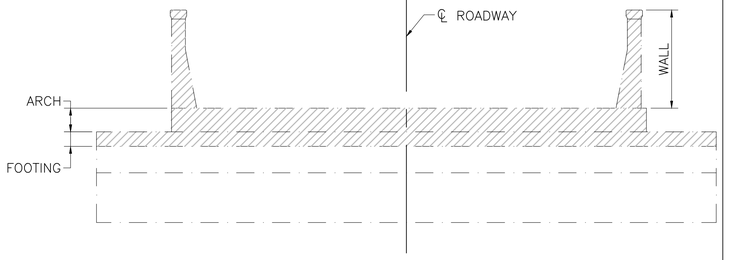
CITY ENGINEER



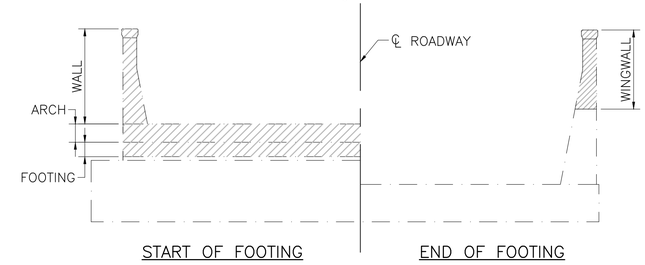
DEMOLITION PLAN
SCALE: 1/8" = 1'–0"



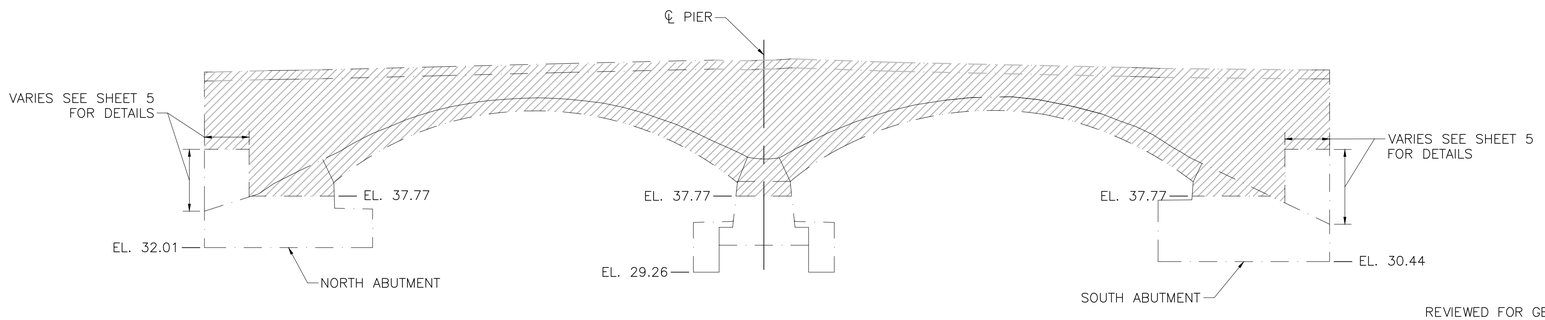
NORTH ABUTMENT DEMOLITION
SCALE: 1/8" = 1'–0"



PIER DEMOLITION
SCALE: 1/8" = 1'–0"



SOUTH ABUTMENT DEMOLITION
SCALE: 1/8" = 1'–0"



DEMOLITION LONGITUDINAL SECTION
SCALE: 1/8" = 1'–0"

PERMIT PLANS

SHEET 5 OF 10

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

COMMONWEALTH OF MASSACHUSETTS
JOSEPH P GILL
CIVIL
NO. 35455
REGISTERED PROFESSIONAL ENGINEER
11/9/2018

DRAWN BY	J. VELEZ
CHECKED BY	P. HUCKABEE
APPROVED BY	J.GILL

CITY OF BOSTON PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
HIGHWAY RECONSTRUCTION

DANA AVENUE OVER THE NEPONSET RIVER BRIDGE REPLACEMENT

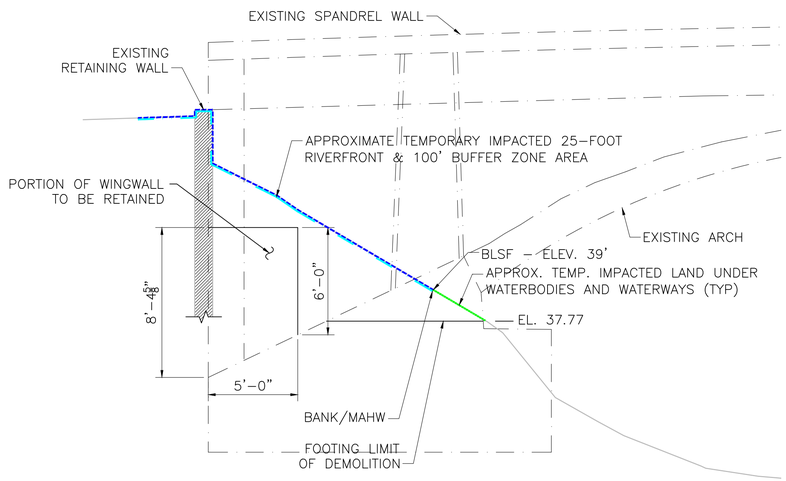
DEMOLITION

SCALE: N/A
DISTRICT: 1A

AREA: X
DATE: NOVEMBER 2018

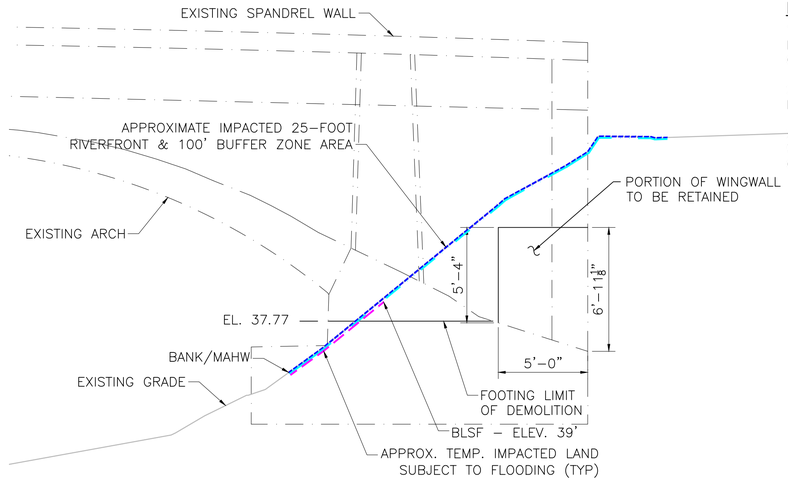
CITY ENGINEER

R–XXXX–X



SOUTHEAST WINGWALL

SCALE: 1" = 4'



NORTHEAST WINGWALL

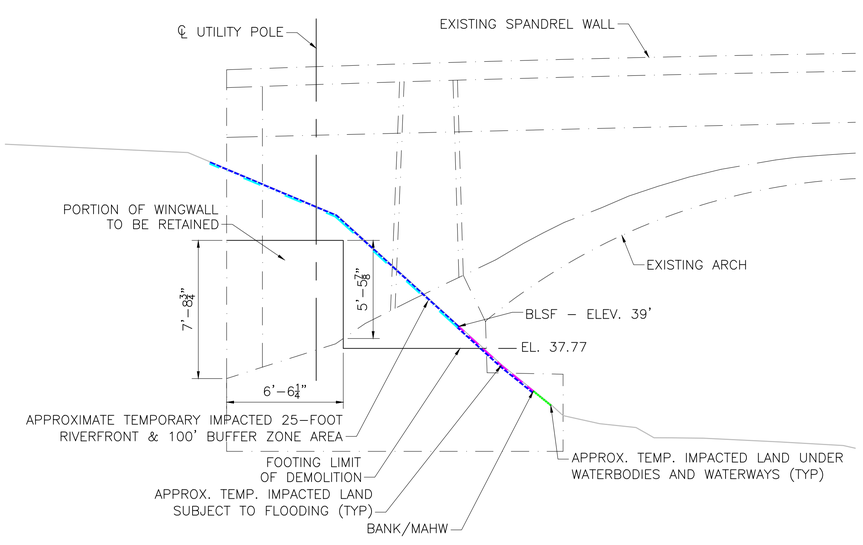
SCALE: 1" = 4'

DEMOLITION NOTES:

1. REMOVE EXISTING CONCRETE TO THE LIMITS SHOWN ON THE DRAWINGS. SAWCUT ALL LIMIT LINES TO ¾INCH DEPTH TO PRODUCE CLEAN EDGES.

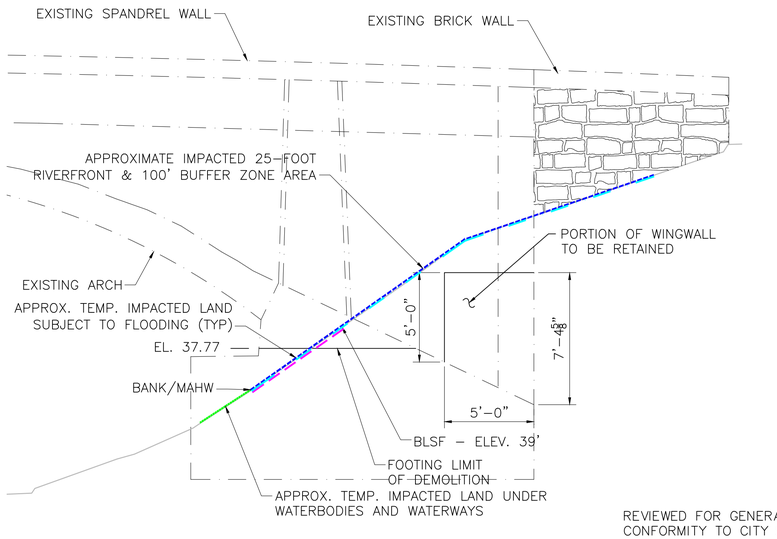
2. ALL EXISTING REINFORCING STEEL SHALL BE CUT ALONG DEMOLITION LIMITS.

3. NEWLY EXPOSED CONCRETE SURFACES SHALL BE BLOWN CLEAN WITH HIGH PRESSURE AIR PRIOR TO PROCEEDING WITH NEW CONCRETE PLACEMENT OPERATIONS.



NORTHWEST WINGWALL

SCALE: 1" = 4'



SOUTHWEST WINGWALL

SCALE: 1" = 4'

CONCRETE PLACEMENT NOTES:

1. EXISTING CONCRETE SURFACES THAT ARE TO BOND WITH NEW CONCRETE SHALL BE ABRASION BLAST CLEANED WITH WATER THAT CONTAINS NO DETERGENTS OR BOND INHIBITING CHEMICALS. AFTER CLEANING SURFACES SHALL BE CHECKED TO ENSURE NO CONCRETE DELAMINATIONS ARE PRESENT.

2. CONCRETE SUBSTRATE SHALL BE PRESOAKED WITH POTABLE WATER USING A HOSE FOR A REASONABLE PERIOD UNTIL THE CONCRETE IS SATURATED.

3. AFTER SOAKING SURFACES SHALL BE ALLOWED TO STAND UNTIL THEY ARE SATURATED SURFACE DRY THEN FRESH CONCRETE MAY BE PLACED.

PERMIT PLANS

SHEET 6 OF 10

R–XXXX–X

DEMOLITION LIMITS AT WINGWALLS

COMMONWEALTH OF MASSACHUSETTS
JOSEPH P GILL
CIVIL
NO. 35455
REGISTERED PROFESSIONAL ENGINEER
11/21/2018

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

DRAWN BY	J. VELEZ
CHECKED BY	P. HUCKABEE
APPROVED BY	J.GILL

CITY OF BOSTON PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
HIGHWAY RECONSTRUCTION

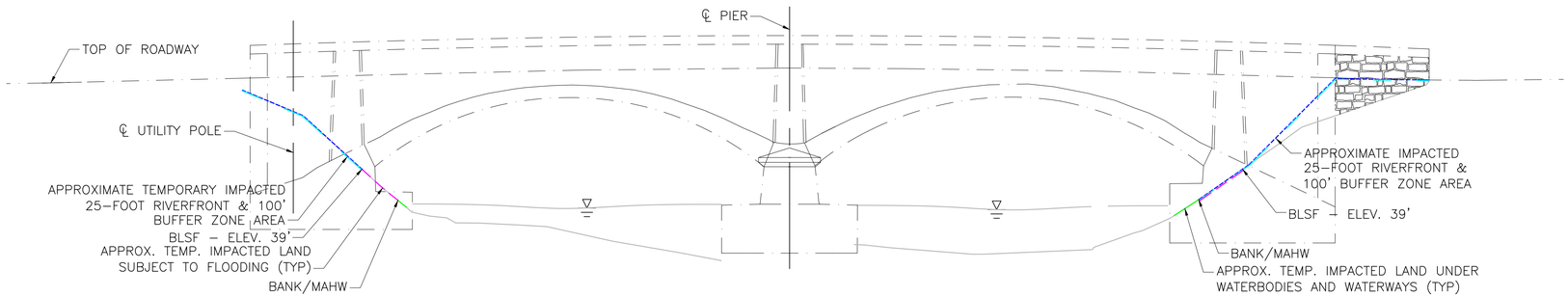
DANA AVENUE OVER THE NEPONSET RIVER
BRIDGE REPLACEMENT

SECTIONS A BRIDGE WALLS

SCALE: N/A
DISTRICT: 1A

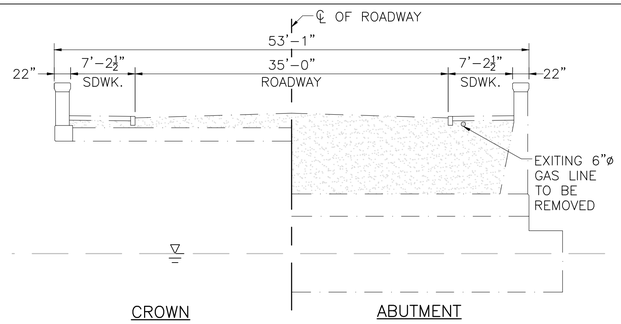
AREA: X
DATE: NOVEMBER 2018

CITY ENGINEER



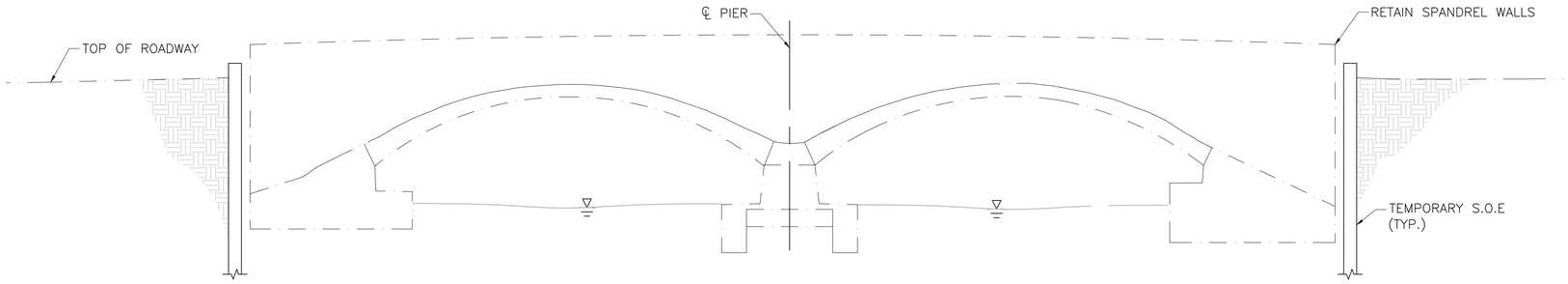
EXISTING WEST ELEVATION

SCALE: $\frac{1}{8}$" = 1'–0"



EXISTING CROSS SECTION

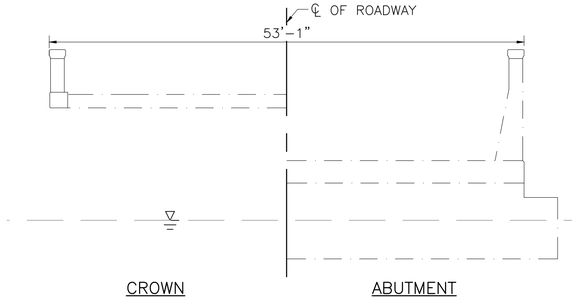
SCALE: $\frac{1}{8}$" = 1'–0"



PHASE 1 – LONGITUDINAL SECTION

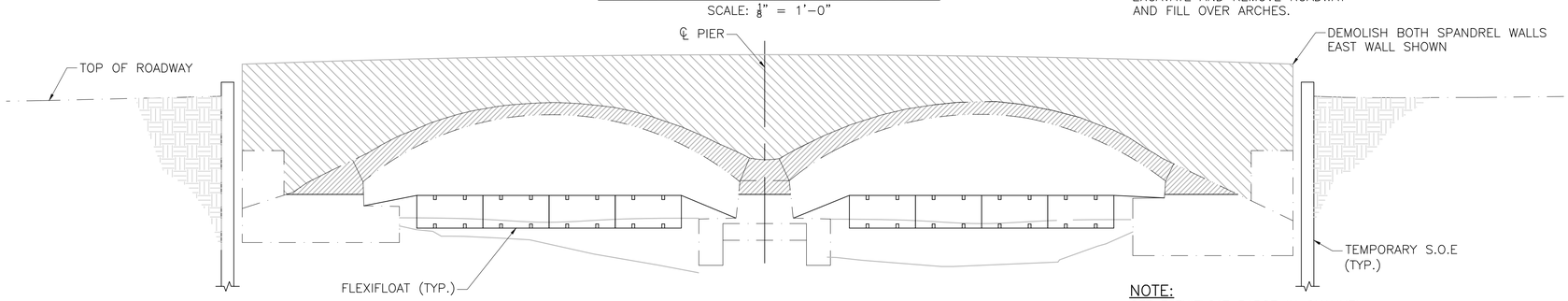
SCALE: $\frac{1}{8}$" = 1'–0"

NOTE:
EXCAVATE AND REMOVE ROADWAY AND FILL OVER ARCHES.



PHASE 1 – CROSS SECTION

SCALE: $\frac{1}{8}$" = 1'–0"

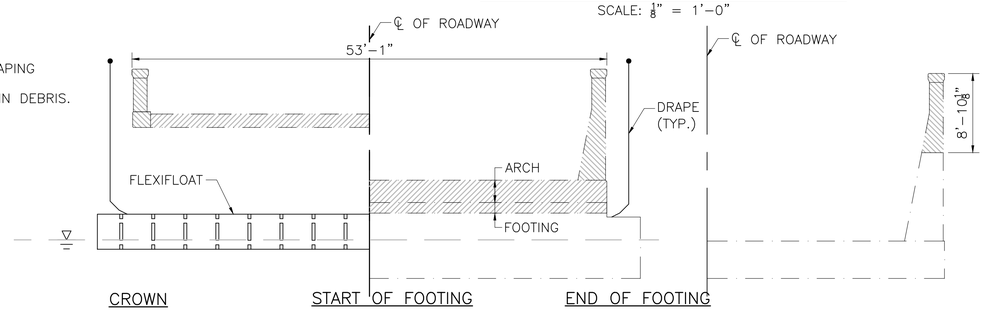


PHASE 2 – LONGITUDINAL SECTION

SCALE: $\frac{1}{8}$" = 1'–0"

NOTE:
SET FLEXIFLOAT BARGE IN CHANNEL TO CATCH DEBRIS AND DEMOLISH ARCHES AND PORTIONS OF ABUTMENTS AND PIER.

NOTE:
PROVIDE EXTERIOR DRAPING CABLE INDEPENDENTLY SUPPORTED TO CONTAIN DEBRIS.



PHASE 2 – CROSS SECTION

SCALE: $\frac{1}{8}$" = 1'–0"

CONSTRUCTION SEQUENCE 1 OF 2

R–XXXX–X

COMMONWEALTH OF MASSACHUSETTS
JOSEPH P GILL
CIVIL
NO. 35455
REGISTERED PROFESSIONAL ENGINEER
11/9/2018

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

DRAWN BY	J. VELEZ
CHECKED BY	P. HUCKABEE
APPROVED BY	J.GILL

PERMIT PLANS

SHEET 7 OF 10

CITY OF BOSTON PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
HIGHWAY RECONSTRUCTION

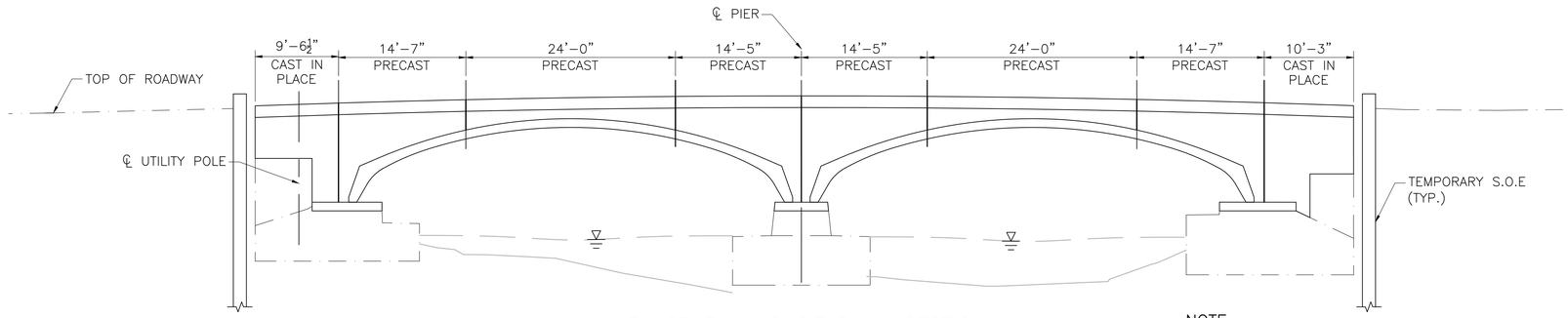
DANA AVENUE OVER THE NEPONSET RIVER
BRIDGE REPLACEMENT

STAGE CONSTRUCTION 1 OF 2

SCALE: N/A
DISTRICT: 1A

AREA: X
DATE: NOVEMBER 2018

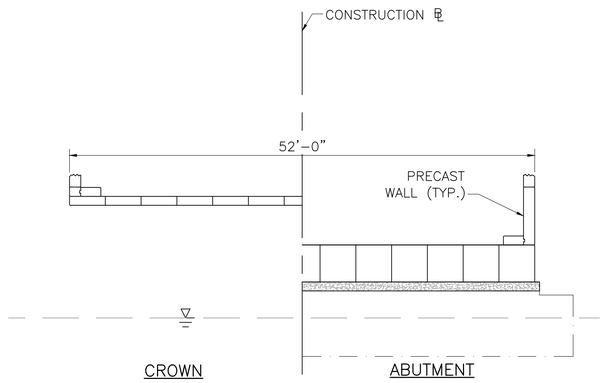
CITY ENGINEER



PHASE 3 – LONGITUDINAL SECTION

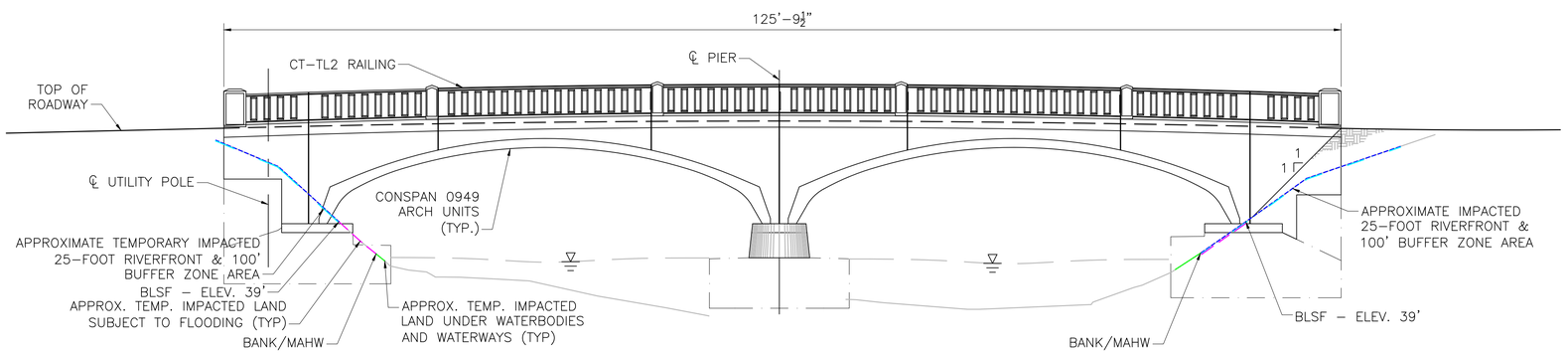
SCALE: ⅛" = 1'–0"

NOTE:
CAST ABUTMENT AND PIER RETROFITS TO RECEIVE CONSPAN ARCHES. ERECT ARCHES AND SPANDREL WALLS.



PHASE 3 – CROSS SECTION AT PRECAST SECTIONS

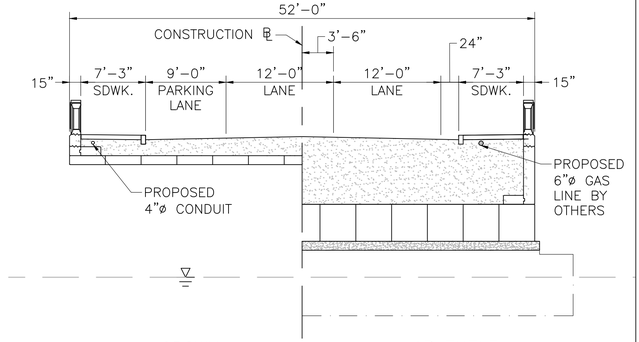
SCALE: ⅛" = 1'–0"



PROPOSED WEST ELEVATION

SCALE: ⅛" = 1'–0"

NOTE:
CAST CT–TL2 RAILS AND COMPLETE ROADWAY AND SIDEWALKS



PROPOSED CROSS SECTION

SCALE: ⅛" = 1'–0"

PERMIT PLANS

SHEET 8 OF 10

R–XXXX–X

CONSTRUCTION SEQUENCE 2 OF 2

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

COMMONWEALTH OF MASSACHUSETTS
JOSEPH P. GILL
CIVIL
NO. 35455
REGISTERED PROFESSIONAL ENGINEER
11/5/2018

DRAWN BY	J. VELEZ
CHECKED BY	P. HUCKABEE
APPROVED BY	J.GILL

CITY OF BOSTON PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
HIGHWAY RECONSTRUCTION

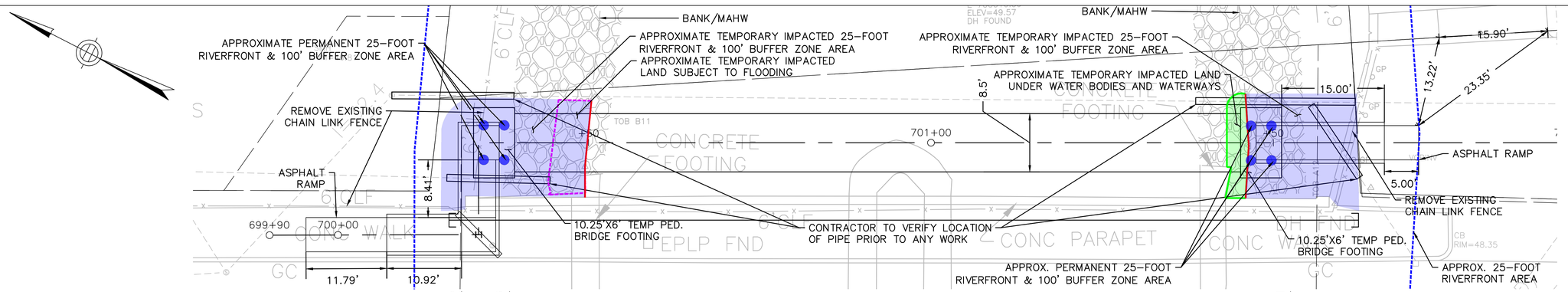
DANA AVENUE OVER THE NEPONSET RIVER
BRIDGE REPLACEMENT

STAGE CONSTRUCTION 2 OF 2

SCALE: N/A
DISTRICT: 1A

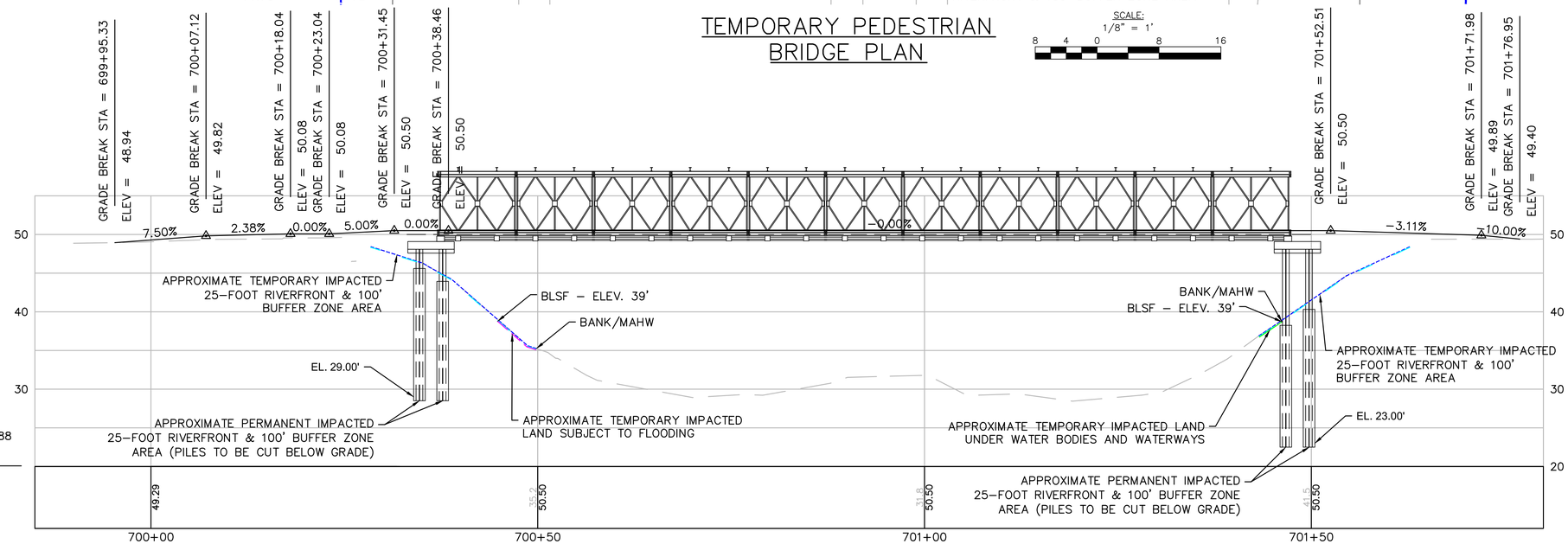
AREA: X
DATE: NOVEMBER 2018

CITY ENGINEER



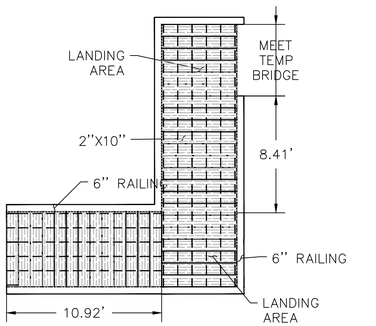
TEMPORARY PEDESTRIAN BRIDGE PLAN

SCALE: 1/8" = 1'



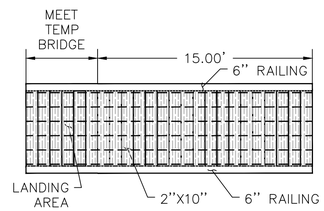
TEMPORARY PEDESTRIAN BRIDGE PROFILE

SCALE: 1/8" = 1'



NORTH TIMBER RAMP DETAIL

SCALE: 1" = 4'



SOUTH TIMBER RAMP DETAIL

SCALE: 1" = 4'

R–XXXX–X

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

DRAWN BY	P. O'REILLY
CHECKED BY	S. CARPENTER
APPROVED BY	P. HUCKABEE

COMMONWEALTH OF MASSACHUSETTS — JOSEPH P. GILL — CIVIL — NO. 39455 — REGISTERED PROFESSIONAL ENGINEER
11/5/2018

PERMIT PLANS

SHEET 9 OF 10

CITY OF BOSTON PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
HIGHWAY RECONSTRUCTION

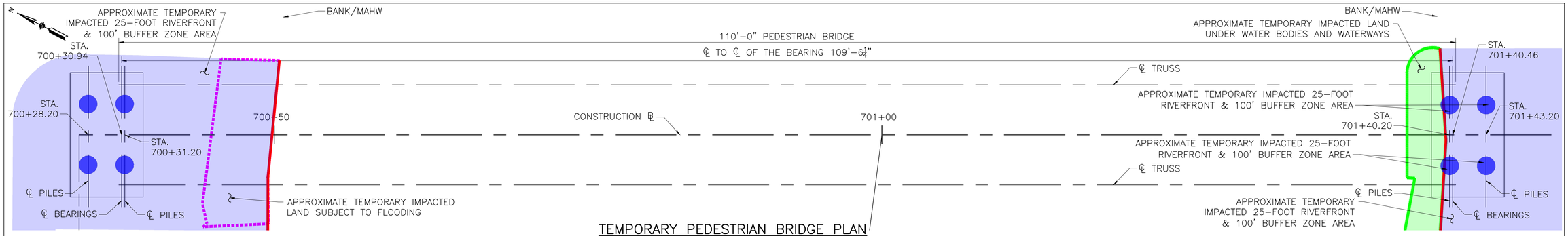
DANA AVENUE OVER THE NEPONSET RIVER
BRIDGE REPLACEMENT

TEMPORARY PEDESTRIAN BRIDGE

SCALE: 1/8 IN. = 1 FT.
DISTRICT: 1A

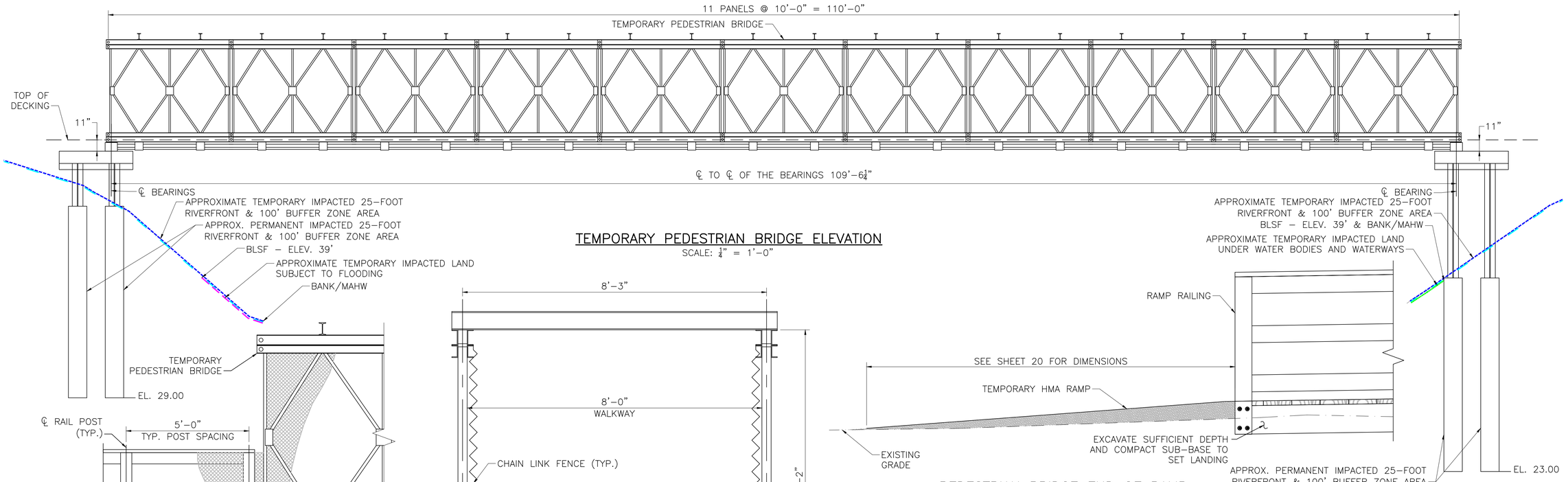
AREA: X
DATE: NOVEMBER 2018

CITY ENGINEER



TEMPORARY PEDESTRIAN BRIDGE PLAN

SCALE: ¼" = 1'–0"

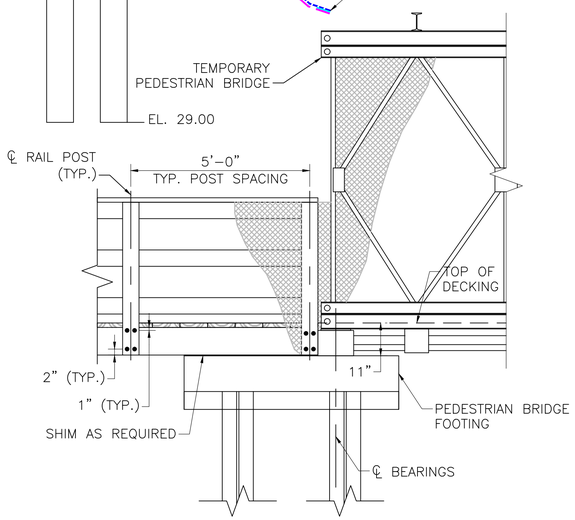


TEMPORARY PEDESTRIAN BRIDGE ELEVATION

SCALE: ¼" = 1'–0"

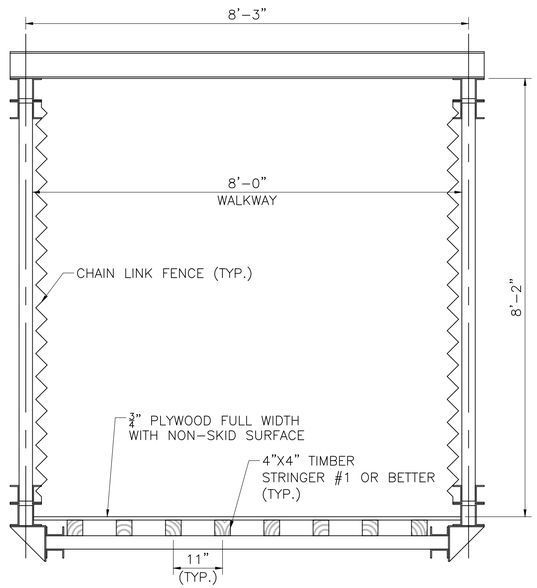
PEDESTRIAN BRIDGE END OF RAMP

SCALE: ¾" = 1'–0"



PEDESTRIAN BRIDGE–RAMP TRANSITION

SCALE: ½" = 1'–0"



TEMPORARY PEDESTRIAN BRIDGE CROSS SECTION

SCALE: ¾" = 1'–0"

R — XXXX — X

PERMIT PLANS

SHEET 10 OF 10

REVIEWED FOR GENERAL DESIGN AND CONFORMITY TO CITY STANDARDS

BOSTON PUBLIC WORKS DEPARTMENT

COMMONWEALTH OF MASSACHUSETTS JOSEPH P GILL CIVIL NO. 35455 REGISTERED PROFESSIONAL ENGINEER 11/5/2018

DRAWN BY	J. VELEZ
CHECKED BY	P. HUCKABEE
APPROVED BY	J.GILL

CITY OF BOSTON PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
HIGHWAY RECONSTRUCTION

DANA AVENUE OVER THE NEPONSET RIVER BRIDGE REPLACEMENT

PEDESTRIAN BRIDGE DETAILS

SCALE: N/A
DISTRICT: 1A
AREA: X
DATE: NOVEMBER 2018

CITY ENGINEER

ATTACHMENT D – SITE PHOTOGRAPHS

Photo 1: North approach looking south along Dana Avenue, Hyde Park, Boston, MA.
Photo 2: South approach looking north along Dana Avenue, Hyde Park, Boston, MA.
Photo 3: North approach looking at west sidewalk along Dana Avenue, Hyde Park, Boston, MA.
Photo 4: South approach looking at west sidewalk along Dana Avenue, Hyde Park, Boston, MA.
Photo 5: North approach looking at east sidewalk along Dana Avenue, Hyde Park, Boston, MA.
Photo 6: South approach looking at east sidewalk along Dana Avenue, Hyde Park, Boston, MA.
Photo 7: South end looking at upstream bank along Neponset River, Hyde Park, Boston, MA.
Photo 8: South end looking at downstream bank along Neponset River, Hyde Park, Boston, MA.
Photo 9: North end looking at upstream bank along Neponset River, Hyde Park, Boston, MA.
Photo 10: North end looking at downstream bank along Neponset River, Hyde Park, Boston, MA.
Photo 11: North approach looking at north along Dana Avenue, Hyde Park, Boston, MA.
Photo 12: South approach looking south along Dana Avenue, Hyde Park, Boston, MA.
Photo 13: Upstream looking downstream along Neponset River, Hyde Park, Boston, MA.
Photo 14: Upstream looking further upstream along Neponset River, Hyde Park, Boston, MA.
Photo 15: On Dana Avenue Bridge looking downstream at Neponset River, Hyde Park, Boston, MA.
Photo 16: On Dana Avenue Bridge looking upstream at Neponset River, Hyde Park, Boston, MA
Photo 17: Upstream looking at west facade on the Neponset River, Hyde Park, Boston, MA.
Photo 18: Downstream looking at east facade on the Neponset River, Hyde Park, Boston, MA.
Photo 19: South approach looking at top of Dana Avenue Bridge along Dana Avenue, Hyde Park, Boston, MA.
Photo 20: Looking west at Perennial Mother Brook, Hyde Park, Boston, MA.

Photo 1: North approach looking south along Dana Avenue, Hyde Park, Boston, MA.

Photo 2: South approach looking north along Dana Avenue, Hyde Park, Boston, MA.

Photo 3: North approach looking at west sidewalk along Dana Avenue, Hyde Park, Boston, MA.

Photo 4: South approach looking at west sidewalk along Dana Avenue, Hyde Park, Boston, MA.

Photo 5: North approach looking at east sidewalk along Dana Avenue, Hyde Park, Boston, MA.

Photo 6: South approach looking at east sidewalk along Dana Avenue, Hyde Park, Boston, MA.

Photo 7: South end looking at upstream bank along Neponset River, Hyde Park, Boston, MA.

Photo 8: South end looking at downstream bank along Neponset River, Hyde Park, Boston, MA.

Photo 9: North end looking at upstream bank along Neponset River, Hyde Park, Boston, MA.

Photo 10: North end looking at downstream bank along Neponset River, Hyde Park, Boston, MA.

Photo 11: North approach looking at north along Dana Avenue, Hyde Park, Boston, MA.

Photo 12: South approach looking south along Dana Avenue, Hyde Park, Boston, MA.

Photos Courtesy of Gill Engineering

Photo 13: Upstream looking downstream along Neponset River, Hyde Park, Boston, MA.

Photo 14: Upstream looking further upstream along Neponset River, Hyde Park, Boston, MA.

Photo 15: On Dana Avenue Bridge looking downstream at Neponset River, Hyde Park, Boston, MA.

Photo 16: On Dana Avenue Bridge looking upstream at Neponset River, Hyde Park, Boston, MA

Photo 17: Upstream looking at west facade on the Neponset River, Hyde Park, Boston, MA.

Photo 18: Downstream looking at east facade on the Neponset River, Hyde Park, Boston, MA.

Photo 19: South approach looking at top of Dana Avenue Bridge along Dana Avenue, Hyde Park, Boston, MA.

Photo 20: Looking west at Perennial Mother Brook, Hyde Park, Boston, MA.

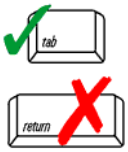
ATTACHMENT E – STORMWATER MANAGEMENT

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

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



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 (LUHPPL), 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.

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.

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.

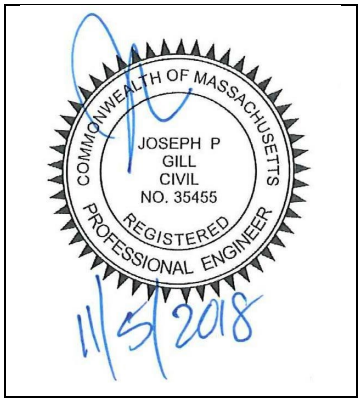
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the 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 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 Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

☐ New development

☒ Redevelopment

☐ Mix of New Development and Redevelopment

Checklist (continued)

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

☐ 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

☐ 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 Field[1]

☐ 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

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.

Checklist (continued)

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)

☐ 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

☐ 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 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 boatyard 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

☐ 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

☐ 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.

STORMWATER SUMMARY

The City of Boston Department of Public Works (BDPW) proposes to replace an existing Dana Avenue Bridge over Neponset River (Project), which will not alter drainage patterns and will mimic the pre-existing conditions. Dana Avenue utilizes a storm drainage system that receives roadway runoff from catch basin inlets and discharges to the Neponset River. There is no additional impervious surface proposed with this project.

The work proposed is within the jurisdiction of the Massachusetts Wetlands Protection Act (WPA) and as such a Notice of Intent (NOI) is being submitted. As part of the NOI submission, stormwater mitigation must be addressed. This summary is being submitted to address the project in relation to the ten standards outlined in the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Handbook (the Handbook), last revised January 2008.

The Project is being considered a redevelopment as it relates to compliance with the guidelines provided in the Handbook. As such, strict adherence with the Handbook is limited to Standards 1, 8, 9 and 10. A MassDEP Checklist for Stormwater Report is attached hereto.

With regard to Construction Period Pollution Prevention and Long-Term Operation and Maintenance, Standards 8 and 9 respectively, standard construction practices and elements of a typical erosion and sedimentation control plan will mitigate the runoff from the project. No new illicit discharges are proposed as part of this Project; therefore, it will comply with Standard 10 of the Handbook.

PROJECT COMPLIANCE WITH MASSACHUSETTS STORMWATER STANDARDS

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

   The proposed Project will result in no new discharges. The proposed Project will not alter drainage patterns or amount of impervious surface. Runoff under proposed conditions will continue to discharge the same way by closed drainage system to the Neponset River.

2. **Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.**

   Considering the no increase in impervious area, the post-development stormwater system is intended to function as currently constituted and further stormwater management mitigation is not proposed.

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

   This Project is a redevelopment project and needs to meet Standard 3 to the maximum extent practicable. This project results in no increase of impervious area. There will be no loss of annual recharge to groundwater.

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

   a) Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;

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

   c) Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.

   Long-term operation and maintenance activities will be performed by the City of Boston.

5. **For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable.**

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

   The Project site is not considered a Land Use with Higher Potential Pollutant Loads (LUHPPL) therefore, this Standard does apply.

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

   The Project site is not located within critical areas.

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

As stated previously, the proposed Project will maintain existing stormwater conditions. A Stormwater Checklist is provided at the end of this summary and documents which standards have been met to the maximum extent practicable.

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

   Erosion and Sediment Control Measures and Best Management Practices are included in the NOI Plan Set and addresses erosion and sediment controls for the site. As the site will not disturb more than one acre of land during the construction process, a National Pollutant Discharge Elimination System (NPDES) Stormwater Permit will not be required.

9. **A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.**

   Long-term operation and maintenance activities will be performed by the City of Boston.

10. **All illicit discharges to the stormwater management system are prohibited.**

    No new illicit discharges are proposed as part of this Project.