

## Notice of Intent

March 2021

### Test Plot Implementation for the Charles River Basin Riverbank Vegetation Management Plan Boston, MA

PREPARED FOR:  
DEPARTMENT OF CONSERVATION AND RECREATION

SUBMITTED TO:  
BOSTON CONSERVATION COMMISSION



Boston – Charles River Vegetation Management Plan  
WSE Project No. 2180457

March 22, 2021

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

**Re: *NOI Filing***  
***Charles River Vegetation Management Plan***  
***Test Plot Implementation***

Dear Members of the Commission:

On behalf of the Department of Conservation and Recreation, Weston & Sampson Engineers, Inc. is hereby enclosing two (2) copies of the Notice of Intent submittal (including plans) and a digital copy has been emailed to [CC@boston.gov](mailto:CC@boston.gov) to fulfill the requirements of the Massachusetts Wetlands Protection Act, M.G.L. Chapter 131, Section 40 submittal requirements and the City of Boston submittal requirements. This submittal is a formal Notice of Intent for the test plot implementation as part of the Charles River Vegetation Management Plan.

As part of the filing, we have attached the following:

Appendix A: Project Description  
Appendix B: Alternatives Analysis  
Appendix C: Stormwater Report  
Appendix D: Maps  
Appendix E: Specifications  
Appendix F: Abutter Information  
Appendix G: Wetland Delineation Report  
Appendix H: Vegetation Management Plan (on attached CD)  
Plans

If you have any questions regarding this submittal, please contact me at (978) 532-1900 ext. 2117.

Very truly yours,

WESTON & SAMPSON



Devin Batchelder, CWS  
Environmental Scientist



Enter your transmittal number

X287542

Transmittal Number

Your unique Transmittal Number can be accessed online:

<http://www.mass.gov/eea/agencies/massdep/service/approvals/transmittal-form-for-payment.html>

Massachusetts Department of Environmental Protection

Transmittal Form for Permit Application and Payment

1. Please type or print. A separate Transmittal Form must be completed for each permit application.

2. Make your check payable to the Commonwealth of Massachusetts and mail it with a copy of this form to: MassDEP, P.O. Box 4062, Boston, MA 02211.

3. Three copies of this form will be needed.

Copy 1 - the original must accompany your permit application. Copy 2 must accompany your fee payment. Copy 3 should be retained for your records

4. Both fee-paying and exempt applicants must mail a copy of this transmittal form to:

MassDEP  
P.O. Box 4062  
Boston, MA  
02211

\* Note:  
For BWSC Permits,  
enter the LSP.

A. Permit Information

WPA Form 3

Notice of Intent

1. Permit Code: 4 to 7 character code from permit instructions

2. Name of Permit Category

Test plots associated with the new Charles River Vegetation Management Plan

3. Type of Project or Activity

B. Applicant Information – Firm or Individual

Department of Conservation & Recreation

1. Name of Firm - Or, if party needing this approval is an individual enter name below:

2. Last Name of Individual

3. First Name of Individual

4. MI

251 Causeway Street, Suite 600

5. Street Address

Boston

MA

02114

(857) 248-3598

6. City/Town

7. State

8. Zip Code

9. Telephone #

10. Ext. #

C/O Danielle Mellett

danielle.mellett@state.ma.us

11. Contact Person

12. e-mail address

C. Facility, Site or Individual Requiring Approval

Department of Conservation & Recreation

1. Name of Facility, Site Or Individual

The Charles River Reservation

2. Street Address

Boston

MA

02114

3. City/Town

4. State

5. Zip Code

6. Telephone #

7. Ext. #

8. DEP Facility Number (if Known)

9. Federal I.D. Number (if Known)

10. BWSC Tracking # (if Known)

D. Application Prepared by (if different from Section B)\*

Weston & Sampson Engineers

1. Name of Firm Or Individual

55 Walkers Brook Dr, Suite 100

2. Address

Reading

MA

01867

978-532-1900

2117

3. City/Town

4. State

5. Zip Code

6. Telephone #

7. Ext. #

Devin Batchelder

8. Contact Person

9. LSP Number (BWSC Permits only)

E. Permit - Project Coordination

1. Is this project subject to MEPA review?  yes  no  
If yes, enter the project's EOEA file number - assigned when an Environmental Notification Form is submitted to the MEPA unit:

EOEA File Number

F. Amount Due

Special Provisions:

- 1.  Fee Exempt (city, town or municipal housing authority)(state agency if fee is \$100 or less).  
*There are no fee exemptions for BWSC permits, regardless of applicant status.*
- 2.  Hardship Request - payment extensions according to 310 CMR 4.04(3)(c).
- 3.  Alternative Schedule Project (according to 310 CMR 4.05 and 4.10).
- 4.  Homeowner (according to 310 CMR 4.02).

DEP Use Only

Permit No:

Rec'd Date:

Reviewer:

139212

400.00

3/18/2021

Check Number

Dollar Amount

Date



**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

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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):

The Charles River Reservation \_\_\_\_\_ Boston \_\_\_\_\_ 02114  
a. Street Address b. City/Town c. Zip Code  
Latitude and Longitude: See Attached List  
d. Latitude e. Longitude  
See Attached List  
f. Assessors Map/Plat Number g. Parcel /Lot Number

2. Applicant:

C/O Danielle \_\_\_\_\_ Mellett \_\_\_\_\_  
a. First Name b. Last Name  
The Charles River Reservation - Department of Conservation & Recreation  
c. Organization  
251 Causeway Street, Suite 600  
d. Street Address  
Boston \_\_\_\_\_ MA \_\_\_\_\_ 02114  
e. City/Town f. State g. Zip Code  
(857) 248-3598 \_\_\_\_\_ danielle.mellett@state.ma.us  
h. Phone Number i. Fax Number j. Email Address

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

C/O Priscilla \_\_\_\_\_ Geigis \_\_\_\_\_  
a. First Name b. Last Name  
The Charles River Reservation - Department of Conservation & Recreation  
c. Organization  
251 Causeway Street, Suite 600  
d. Street Address  
Boston \_\_\_\_\_ MA \_\_\_\_\_ 02114  
e. City/Town f. State g. Zip Code  
(857) 248-3598 \_\_\_\_\_  
h. Phone Number i. Fax Number j. Email address

4. Representative (if any):

Devin \_\_\_\_\_ Batchelder \_\_\_\_\_  
a. First Name b. Last Name  
Weston & Sampson Engineers  
c. Company  
55 Walkers Brook Drive, Suite 100  
d. Street Address  
Reading \_\_\_\_\_ MA \_\_\_\_\_ 01867  
e. City/Town f. State g. Zip Code  
(978)-532-1900 \_\_\_\_\_ batchelder.devin@wseinc.com  
h. Phone Number i. Fax Number j. Email address

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

\$825 \_\_\_\_\_ \$400 \_\_\_\_\_ 225.00 Separate City Fee  
a. Total Fee Paid b. State Fee Paid See Project Description for Info



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

# WPA Form 3 – Notice of Intent

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

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## A. General Information (continued)

6. General Project Description:

Test plots associated with the new Charles River Vegetation Management Plan (See Appendix A for additional information)

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)

2. Limited Project Type

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:

Suffolk

a. County

41914

c. Book

b. Certificate # (if registered land)

322

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  
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 \_\_\_\_\_  
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 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. <input type="checkbox"/> Bank	1. linear feet	2. linear feet
b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet	2. square feet
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet	2. square feet
	3. cubic yards dredged	

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input checked="" type="checkbox"/> Bordering Land Subject to Flooding	2,115 (temporary)	2,115 (in situ)
	1. square feet	2. square feet
	0	0
e. <input type="checkbox"/> Isolated Land Subject to Flooding	3. cubic feet of flood storage lost	4. cubic feet replaced
	1. square feet	
f. <input checked="" type="checkbox"/> Riverfront Area	2. cubic feet of flood storage lost	3. cubic feet replaced
	Charles River	

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: 966,250 sq ft  
square feet

4. Proposed alteration of the Riverfront Area:

7,613 (temporary)      7,613 (temporary)      N/A  
 a. total square feet      b. square feet within 100 ft.      c. square feet between 100 ft. and 200 ft.

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

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

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

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



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**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.

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	_____	
	1. square feet	
	_____	
	2. cubic yards dredged	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	_____	_____
	1. square feet	2. cubic yards beach nourishment
e. <input type="checkbox"/> Coastal Dunes	_____	_____
	1. square feet	2. cubic yards dune nourishment
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	_____	
	1. linear feet	
g. <input type="checkbox"/> Rocky Intertidal Shores	_____	
	1. square feet	
h. <input type="checkbox"/> Salt Marshes	_____	_____
	1. square feet	2. sq ft restoration, rehab., creation
i. <input type="checkbox"/> Land Under Salt Ponds	_____	
	1. square feet	
	_____	
	2. cubic yards dredged	
j. <input type="checkbox"/> Land Containing Shellfish	_____	
	1. square feet	
k. <input type="checkbox"/> 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. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	_____	
	1. square feet	
4. <input type="checkbox"/> 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. <input type="checkbox"/> Project Involves Stream Crossings		
	_____	_____
	a. number of new stream crossings	b. number of replacement stream crossings



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## 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

- 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](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**

Aug 1 2017  
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\*

- Percentage/acreage of property to be altered:
  - (a) within wetland Resource Area \_\_\_\_\_ percentage/acreage
  - (b) outside Resource Area \_\_\_\_\_ percentage/acreage
- Assessor's Map or right-of-way plan of site

- 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

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

- (c)  MESA filing fee (fee information available at [http://www.mass.gov/dfwele/dfw/nhosp/regulatory\\_review/mesa/mesa\\_fee\\_schedule.htm](http://www.mass.gov/dfwele/dfw/nhosp/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/nhosp/regulatory\\_review/mesa/mesa\\_exemptions.htm](http://www.mass.gov/dfwele/dfw/nhosp/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](mailto: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](mailto: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

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

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

- 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

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- 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.



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## 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.

Charles River Basin Vegetation Management Plan

a. Plan Title

Weston & Sampson

Daniel Biggs

b. Prepared By

c. Signed and Stamped by

March 2021

1:10

d. Final Revision Date

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:

139211

3/18/2021

2. Municipal Check Number

3. Check date

139212

3/18/2021

4. State Check Number

5. Check date

Weston & Sampson Engineering INC.

6. Payor name on check: First Name

7. Payor name on check: Last Name



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

Provided by MassDEP:

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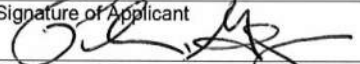
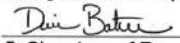
Boston

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.

	3/12/2021
1. Signature of Applicant	2. Date
	3-17-21
3. Signature of Property Owner (if different)	4. Date
	3/11/2021
5. Signature of Representative (if any)	6. Date

#### For Conservation Commission:

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

#### For MassDEP:

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

#### Other:

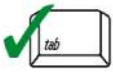
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

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.



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



**A. Applicant Information**

1. Location of Project:

The Charles River Reservation	Boston
a. Street Address	b. City/Town
139212	\$400
c. Check number	d. Fee amount

2. Applicant Mailing Address:

C/O Danielle	Mellett	
a. First Name	b. Last Name	
The Charles River Reservation - Department of Conservation & Recreation		
c. Organization		
251 Causeway Street, Suite 600		
d. Mailing Address		
Boston	MA	02114
e. City/Town	f. State	g. Zip Code
(857) 248-3598	danielle.mellett@state.ma.us	
h. Phone Number	i. Fax Number	j. Email Address

3. Property Owner (if different):

C/O Priscilla	Geigis	
a. First Name	b. Last Name	
The Charles River Reservation - Department of Conservation & Recreation		
c. Organization		
251 Causeway Street, Suite 600		
d. Mailing Address		
Boston	MA	02114
e. City/Town	f. State	g. Zip Code
(857) 248-3598		
h. Phone Number	i. Fax Number	j. Email Address

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

**B. Fees**

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
Control Vegetation	5 Test Plots	\$110	\$550 x 1.5 R.A.
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
<b>Step 5/Total Project Fee:</b>			\$825
<b>Step 6/Fee Payments:</b>			
Total Project Fee:			\$825
			a. Total Fee from Step 5
State share of filing Fee:			\$400
			b. 1/2 Total Fee less \$12.50
City/Town share of filing Fee:			\$225 Separate City Fee See Project Description

**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.)



## INSTRUCTIONS FOR COMPLETING APPLICATION NOTICE OF INTENT – BOSTON NOI FORM

The Boston Notice of Intent Form is intended to be a supplement to the WPA Form 3 detailing impacts to locally designated wetland resource areas and buffer zones. Please read these instructions for assistance in completing the Notice of Intent application form. These instructions cover certain items on the Notice of Intent form that are not self-explanatory.

### INSTRUCTIONS TO SECTION B: BUFFER ZONE AND RESOURCE AREA IMPACTS

Item 1. Buffer Zone Only. If you check the Buffer Zone Only box in this section you are indicating that the project is entirely in the Buffer Zone to a resource area **under both** the Wetlands Protection Act and Boston Wetlands Ordinance. If so, skip the remainder of Section B and go directly to Section C. Do not check this box if the project is within the Waterfront Area.

Item 2. The **boundaries of coastal resource areas** specific to the Ordinance can be found in Section II of the Boston Wetlands Regulations. You must also include the size of the proposed alterations (and proposed replacement areas) in each resource area.

Item 3. The **boundaries of inland resource areas** specific to the Ordinance can be found in Section II of the Boston Wetlands Regulations. You must also include the size of the proposed alterations (and proposed replacement areas) in each resource area.

### INSTRUCTIONS TO SECTION C: OTHER APPLICABLE STANDARDS AND REQUIREMENTS

Item 1. Rare Wetland Wildlife Habitat. Except for Designated Port Areas, no work (including work in the Buffer Zone) may be permitted in any resource area that would have adverse effects on the habitat of rare, “state-listed” vertebrate or invertebrate animal species.

The most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife is published by the Natural Heritage and Endangered Species Program (NHESP). See: [http://maps.massgis.state.ma.us/PRI\\_EST\\_HAB/viewer.htm](http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm) or the *Massachusetts Natural Heritage Atlas*.

If any portion of the proposed project is located within Estimated Habitat, the applicant must send the Natural Heritage Program, at the following address, a copy of the Notice of Intent by certified mail or priority mail (or otherwise sent in a manner that guarantees delivery within two days), no later than the date of the filing of the Notice of Intent with the Conservation Commission.

Evidence of mailing to the Natural Heritage Program (such as Certified Mail Receipt or Certificate of Mailing for Priority Mail) must be submitted to the Conservation Commission along with the Notice of Intent.

Natural Heritage and Endangered Species Program  
Division of Fisheries and Wildlife  
1 Rabbit Hill Road  
Westborough, MA 01581-3336  
508.792.7270



**A. GENERAL INFORMATION**

1. Project Location

<u>The Charles River Reservation</u>	<u>Boston</u>	<u>02114</u>
a. Street Address	b. City/Town	c. Zip Code
<u>See Attached List</u>		
<u>f. Assessors Map/Plat Number</u>	<u>g. Parcel /Lot Number</u>	

2. Applicant

<u>C/O Danielle</u>	<u>Mellett</u>	<u>The Charles River Reservation</u>
a. First Name	b. Last Name	c. Company
<u>Department of Conservation &amp; Recreation</u>		
<u>251 Causeway Street, Suite 600</u>		
d. Mailing Address		
<u>Boston</u>	<u>MA</u>	<u>02114</u>
e. City/Town	f. State	g. Zip Code
<u>(857) 248-3598</u>	<u>danielle.mellett@state.ma.us</u>	
h. Phone Number	i. Fax Number	j. Email address

3. Property Owner

<u>C/O Priscilla</u>	<u>Geigis</u>	<u>The Charles River Reservation</u>
a. First Name	b. Last Name	c. Company
<u>Department of Conservation &amp; Recreation</u>		
<u>251 Causeway Street, Suite 600</u>		
d. Mailing Address		
<u>Boston</u>	<u>MA</u>	<u>02114</u>
e. City/Town	f. State	g. Zip Code
<u>(857) 248-3598</u>		
h. Phone Number	i. Fax Number	j. Email address

Check if more than one owner

(If there is more than one property owner, please attach a list of these property owners to this form.)

4. Representative (if any)

<u>Devin</u>	<u>Batchelder</u>	<u>Weston &amp; Sampson Engineers</u>
a. First Name	b. Last Name	c. Company
<u>55 Walkers Brook Drive, Suite 100</u>		
d. Mailing Address		
<u>Reading</u>	<u>MA</u>	<u>01867</u>
e. City/Town	f. State	g. Zip Code
<u>978-532-1900 ext. 2117</u>	<u>batchelder.devin@wseinc.com</u>	
h. Phone Number	i. Fax Number	j. Email address





5. Is any portion of the proposed project jurisdictional under the Massachusetts Wetlands Protection Act M.G.L. c. 131 §40?

- Yes  No

If yes, please file the WPA Form 3 - Notice of Intent with this form

6. General Information

Test plots associated with the new Charles River Vegetation Management  
Plan (See Appendix A for additional information)

7. Project Type Checklist

- |   |   |
|---|---|
| a. <input type="checkbox"/> Single Family Home                | b. <input type="checkbox"/> Residential Subdivision             |
| c. <input type="checkbox"/> Limited Project Driveway Crossing | d. <input type="checkbox"/> Commercial/Industrial               |
| e. <input type="checkbox"/> Dock/Pier                         | f. <input type="checkbox"/> Utilities                           |
| g. <input type="checkbox"/> Coastal Engineering Structure     | h. <input type="checkbox"/> Agriculture – cranberries, forestry |
| i. <input type="checkbox"/> Transportation                    | j. <input checked="" type="checkbox"/> Other                    |

8. Property recorded at the Registry of Deeds

Suffolk

a. County

322

b. Page Number

41914

c. Book

d. Certificate # (if registered land)

9. Total Fee Paid

\$825

a. Total Fee Paid

\$400

b. State Fee Paid

\$225

c. City Fee Paid

**B. BUFFER ZONE & RESOURCE AREA IMPACTS**

Buffer Zone Only - Is the project located only in the Buffer Zone of a resource area protected by the Boston Wetlands Ordinance?

- Yes  No

1. Coastal Resource Areas



<u>Resource Area</u>	<u>Resource Area Size</u>	<u>Proposed Alteration*</u>	<u>Proposed Mitigation</u>
<input type="checkbox"/> Coastal Flood Resilience Zone	_____ Square feet	_____ Square feet	_____ Square feet
<input type="checkbox"/> 25-foot Waterfront Area	_____ Square feet	_____ Square feet	_____ Square feet
<input type="checkbox"/> 100-foot Salt Marsh Area	_____ Square feet	_____ Square feet	_____ Square feet
<input type="checkbox"/> Riverfront Area	_____ Square feet	_____ Square feet	_____ Square feet

2. Inland Resource Areas

<u>Resource Area</u>	<u>Resource Area Size</u>	<u>Proposed Alteration*</u>	<u>Proposed Mitigation</u>
<input type="checkbox"/> Inland Flood Resilience Zone	_____ Square feet	_____ Square feet	_____ Square feet
<input type="checkbox"/> Isolated Wetlands	_____ Square feet	_____ Square feet	_____ Square feet
<input type="checkbox"/> Vernal Pool	_____ Square feet	_____ Square feet	_____ Square feet
<input type="checkbox"/> Vernal Pool Habitat (vernal pool + 100 ft. upland area)	_____ Square feet	_____ Square feet	_____ Square feet
<input checked="" type="checkbox"/> 25-foot Waterfront Area	<u>120,781</u> Square feet	<u>1,780</u> (temporary) Square feet	<u>          </u> Square feet
<input checked="" type="checkbox"/> Riverfront Area	<u>966,250</u> Square feet	<u>7,613</u> (temporary) Square feet	<u>          </u> Square feet

**C. OTHER APPLICABLE STANDARDS & REQUIREMENTS**

1. What other permits, variances, or approvals are required for the proposed activity described herein and what is the status of such permits, variances, or approvals?

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2. 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://www.mass.gov/dfwele/dfw/nhosp/nhregmap.htm>.
- Yes  No

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

**A. Submit Supplemental Information for Endangered Species Review**

- Percentage/acreage of property to be altered:
- (1) within wetland Resource Area \_\_\_\_\_ percentage/acreage
- (2) outside Resource Area \_\_\_\_\_ percentage/acreage
- Assessor's Map or right-of-way plan of site

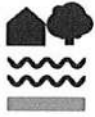
3. Is any portion of the proposed project within an Area of Critical Environmental Concern?
- Yes  No

If yes, provide the name of the ACEC: \_\_\_\_\_

4. Is the proposed project subject to provisions of the Massachusetts Stormwater Management Standards?

- Yes. Attach a copy of the Stormwater Checklist & Stormwater Report as required.
- Applying for a Low Impact Development (LID) site design credits
  - A portion of the site constitutes redevelopment
  - Proprietary BMPs are included in the Stormwater Management System
- No. Check below & include a narrative as to why the project is exempt
- Single-family house
  - Emergency road repair
  - Small Residential Subdivision (less than or equal to 4 single family houses or less than or equal to 4 units in a multifamily housing projects) with no discharge to Critical Areas

5. Is the proposed project subject to Boston Water and Sewer Commission Review?
- Yes  No



City of Boston  
Environment

**NOTICE OF INTENT APPLICATION FORM**  
Boston Wetlands Ordinance  
City of Boston Code, Ordinances, Chapter 7-1.4

\_\_\_\_\_  
Boston File Number

\_\_\_\_\_  
MassDEP File Number

**D. 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 Protection Ordinance.

*Daniel Mellitt*

\_\_\_\_\_  
Signature of Applicant

3/12/2021

\_\_\_\_\_  
Date

*J. H. [unclear]*

\_\_\_\_\_  
Signature of Property Owner (if different)

3-17-21

\_\_\_\_\_  
Date

*Dan Baker*

\_\_\_\_\_  
Signature of Representative (if any)

3/11/2021

\_\_\_\_\_  
Date

**Additional Lot Information:**

**Test Plot 1:**

Parcel ID: 0300943000

Address: Leverett Street, Boston MA, 02114

Latitude: 42°21'52.83"N

Longitude: 71° 4'18.83"W

**Test Plot 2:**

Parcel ID: 0502496000

Address: Cambridge Street, Boston MA, 02114

Latitude: 42°21'23.30"N

Longitude: 71° 4'33.23"W

**Test Plot 3:**

Parcel ID: 2100370000

Address: Technically No Address, Closest Parcel Is – University Road, Boston MA, 02215

Latitude: 42°21'5.10"N

Longitude: 71° 6'18.52"W

**Test Plot 5:**

Parcel ID: 2200470000

Address: Charles River, 02135

Latitude: 42°21'56.58"N

Longitude: 71° 7'3.47"W

**Test Plot 6:**

Parcel ID: 2200577000

Address: 525 Western Ave, Boston MA, 02135

Latitude: 42°22'21.33"N

Longitude: 71° 7'54.95"W

**Test Plot 7:**

Parcel ID: 2202748000

Address: N Beacon Street, Boston MA, 02135

Latitude: 42°21'38.51"N

Longitude: 71° 8'55.53"W

APPENDIX A  
PROJECT DESCRIPTION

## PROJECT DESCRIPTION

### Background

Currently, management of the Charles River riverfront area is conducted under expired orders of conditions (OOCs) with Boston, Cambridge, and Watertown Conservation Commissions. Recognizing the Massachusetts Department of Conservation and Recreation (DCR's) resource limitations and the importance of park maintenance, each of the Conservation Commissions has been willing to allow continued operation and maintenance under expired OOCs; however, this approach has only been intended as an interim solution. For example, in some areas maintenance practices have resulted in overcutting of vegetation and indiscriminate mowing right up to the edge of water. In addition to potential exposure and erosion, areas of cleared vegetation present easy access to the river for geese and swans, which are aggressive, territorial, and tend to foul both water and adjacent parklands with their droppings.

In an effort to provide these conservation commissions with an updated management plan for the riverfront area, the DCR has developed a Riverbank Vegetation Management Plan (RVMP) that includes best management practices (BMPs) and techniques for managing riverfront vegetation along the Charles River in the jurisdictions of the Conservation Commissions of Boston, Cambridge, Newton, and Watertown and the Massachusetts Department of Environmental Protection (MassDEP).

As part of this RVMP, DCR is proposing to implement six vegetative test plots within the City of Boston, five of these vegetative test plots requiring a notice of intent (NOI) submission. Located at strategic locations along the Charles River, these test plots will be used to determine the effectiveness of proposed vegetation management approaches and will provide valuable information to the DCR regarding planting strategies. The results will inform future long-term vegetation management planning within the RVMP. Implementation of these vegetative test plots will involve site preparation, including any invasive/nuisance species removal, loosening soil and installing any erosion control features, as well as planting of native vegetation, which is outlined in the attached plan set.

No wetlands within the City of Boston will be impacted as part of this test plot implementation; however, there will be minor impacts to the following resource areas identified under the Massachusetts Wetland Protection Act: Riverfront Area and Bordering Land Subject to Flooding (BLSF).

### Site Description

The management area subject to this RVMP extends from the New Charles River Dam at Boston Harbor to the Watertown Dam in Watertown, at a length of approximately 8 ½ miles. This area is also known as the Lower Charles River. Please see the Drawing Atlas: Section 1 – Existing Conditions Mapping of the RVMP in Appendix H for maps of areas of interest.

The Lower Charles River has four major sections—the Upper Basin from the Watertown Dam to Herter Park, the Middle Basin from Herter Park to the Boston University Bridge, the

Lower Basin from the Boston University Bridge to Science Park, and the New Charles River Basin from Science Park to the Charles River Locks. This RVMP covers land owned by the DCR, immediately adjacent to the resource areas where the adjacent parkland impacts the ecological function of the resource areas. Several highly valued recreational areas are located in the project corridor.

The Charles River shoreline is a manmade environment, both in terms of soils and the inhabiting vegetation. Formerly a tidal salt marsh, the current alignment of the Upper, Middle and Lower basins was influenced by the creation of the dam and constructed shoreline edges over 150 years ago. Almost immediately, volunteer species, both native and non-native, moved in and colonized the shore. The Upper, Middle and Lower Basins of the Charles are entirely manmade. Over time, ecological disturbance and anthropocentric management practices have altered plant communities and shoreline conditions.

The Lower Charles River shoreline along Boston, Cambridge, Newton, and Watertown offer mature shade trees that make a significant contribution to the urban forest. Volunteer plants have established themselves along most of the shoreline and include shrubby growth along the riverbanks; however, erosive flows and wave action from the river's active boating community have severely undercut parts of the shore. Some trees and shrubs lean toward the water; others have lost the battle with gravity and have toppled in. At the same time, invasive plants have knit themselves into the plant community. Purple loosestrife, Japanese knotweed, multiflora rose, and others expand their range from season to season, squeezing out native plants. Additionally, several non-invasive, but visually obstructive, species such as pokeweed and false indigo bush overgrow and fill vistas where maintenance staff struggle to keep views open for both daily passive use as well as highly anticipated annual events such as the Head of the Charles Regatta.

### **Riverbank Vegetation Management Plan**

The RVMP is provided for review in Appendix H. The RVMP for the Charles River Reservation is intended to be a plan of action to address the following goals:

- Steward parklands that reflect the cultural value and 100-plus-year history of the Charles River Reservation.
- Provide public access to outstanding opportunities for passive and active recreation along and adjacent to the riverbank.
- Restore a healthy riverbank ecology that provides for stable shorelines, beautiful vistas, climate resiliency, and a safe, healthy tree canopy.
- Engage a cooperative network of parkland stakeholders who both enjoy the many recreational opportunities and provide volunteer assistance in managing the RVMP area.



This RVMP includes the following major sections:

- Project overview, which discusses background and purpose of the RVMP, aspired conditions, regulatory context, public involvement and data used to develop the plan.
- Existing conditions, which discusses history of the Charles River Reservation, existing riverbank vegetation and other topics related to the condition of vegetation.
- Vegetation management strategy, which discusses preferred vegetation conditions, management of riparian biodiversity, tree health, ground stability, erosion control, soil management, and vistas.
- Management areas and management approaches, which discusses an ecological-services approach to managing the subject area.
- Management logistics, which discusses schedule, ongoing maintenance, monitoring and adaptive management.

As part of developing this RVMP, DCR has developed the following series of implementation goals for riverbank vegetation management.

#### Two-Year Goals

Two-year goals include the following:

- Initial implementation of the RVMP during fall 2020/spring 2021. This will include implementation of vistas and eight restoration test plots, five of which are in Boston, (see Table 1, below) as well as general operation and maintenance in accordance with the RVMP.
- Monitoring of the installed vistas and restoration areas to ensure planting/stabilization strategies are successful, and to provide ongoing public access.

#### Five-Year Goals

The principal five-year goal of this RVMP is to continue monitoring, operation and maintenance in accordance with the RVMP to support and promote biodiversity, shoreline resilience, and appropriate public use.

#### Goals Beyond Five Years

The principal goal beyond the five-year initial term of this RVMP is to adapt and update management strategies as needed to maintain diverse native plant associations, appropriate public use, and establish appropriate management standards for a five-year extension of regulatory approval.

### Test Plots Throughout Study Area, Including Boston

Before final implementation of the RVMP, the DCR is proposing to install eight vegetation “test plots” along the length of the project area. These experimental areas will serve to inform the vegetation planting and management strategies within the entire RVMP. A summary of these test plots can be found in Table 1. Of the eight test plots six, Test Plots 1, 2, 3, 5, 6, and 7, are in Boston. The remaining test plots are shown in Table 1 for overall project context.

**Table 1: Test Plot Summary Information.**

Test Plot	Management Area	City	Dimensions and Area
Test Plot 1 (P1)	Engineered Structures – Revetments and Rip Rap	Boston	~12' x 50' (595 SF)
Test Plot 2 (P2)	Low to Medium Herbaceous with Shrub or Overstory	Boston	~8' x 50' (470 SF)
Test Plot 3 (P3)	Roadway and Multi-Use Paths	Boston	~6' x 50' (301 SF)
Test Plot 4 (P4)	Undetermined	Undetermined	Undetermined
Test Plot 5 (P5)	Low to Medium Herbaceous with Shrub or Overstory	Boston	~12' x 50' (600 SF)
Test Plot 6 (P6 A&B)	Meadows	~Boston	~50' x 50' (2,522 SF)
Test Plot 7 (P7)	Medium to High Shrub and Overstory	Boston	~20' x 50' (1,032 SF)
Test Plot 8 (P8)	Riparian Wooded Banks with Understory	Watertown	An irregular shape of approx. 1,744 SF

### Boston-Specific Work

Six test plots will be installed along portions of the Charles River within Boston. Out of these six Boston test plots only five of the test plots fall within a resource area covered under the Mass Wetlands Protection Act requiring review from the Boston Conservation Commission. The proposed management strategies for each plot are listed below:

Test Plot P1—Teddy Ebersol's Red Sox Fields near Lederman Park, Southside- restore low herbaceous rip rap/scouring and ongoing care. Nuisance/invasive vegetation at this location includes *Amorpha fruticosa* (False Indigo), *Calystegia sepium* (bindweed), and *Celastrus orbiculatus* (Asiatic bittersweet). The existing riprap shoreline is compromised by a lack of adequate vegetative buffer at the slope crest. Water has scoured behind the riprap, collapsing the bank. Soil back-fill of degraded shore edge with erosion and sedimentation (E&S) control measures will be necessary. Subsequent revegetation of native species within and behind existing riprap is recommended to stabilize the shore.

Test Plot P2—Esplanade Dock, Southside—restore low herbaceous planting at west side of dock ramp. The vegetative buffer in this area is sparse, narrow and primarily composed of invasive/nuisance species, including *Phragmites australis* (common reed), *Cuscuta*

(dodder) and *Calystegia sepium* (bindweed). The management strategy includes revegetation with low-lying native shrubs and herbaceous perennials recommended to prevent degradation of the bank.

Test Plot P3—Between Esplanade Outdoor Gym and Boston University Bridge, Southside—restore/ revegetate eroded path along the shore. Joggers have created a footpath adjacent to an existing asphalt multi-use path close to the river edge. Erosion of exposed soils, minimal vegetative cover, and compacted tree roots are a result. The management strategy revegetation with low-lying shrubs and herbaceous perennial in the area between the asphalt path and river. Commonly found invasive/nuisance species in this test plot include false indigo bush (*Amorpha fruticosa*), yellow iris (*Iris pseudacorus*) and purple loostripe (*Lythrum salicaria*).

Test Plot P5 -Shoreline Restoration at Western Avenue – restore low herbaceous plantings. This area provides an example of the prevalence of a vegetative buffer comprised on mostly false indigo bush (*Amorpha fruticosa*) along the shoreline that obstructs the views of the river and during cultural events. The management strategy includes revegetation with low-lying native shrubs and herbaceous perennials recommended to prevent degradation of the bank and maintain views.

Test Plot P6—Eliot Bridge, Southside—convert passive lawn to meadow. A large expanse of lawn exists to the east of Eliot Bridge, with intermittent tree cover. The creation of sun and shade meadows/low-mow areas are recommended for this location. Meadows contribute to biodiversity and reduce the need for carbon-intensive maintenance. The establishment of meadows will increase infiltration rates of stormwater and will contribute to biodiversity across the landscape. This test plot does not fall within a Mass Wetland Protection Act resource area and consequently is not included in the Notice of Intent submission below.

Test Plot P7- Western side of Arsenal, Southside- Remove knotweed at shore, replant with medium to high species. *Polygonum cuspidatum* (Japanese knotweed) and intermittent stands of *Ailanthus altissima* (tree of heaven) dominate the shoreline at this location, blocking visual access and crowding out native species. Existing benches and proximity to the shared-use path make this an ideal viewshed location. Removal of invasive/nuisance species and subsequent replanting of native shrub and herbaceous materials is recommended. Intermittent plantings of trees at the slope crest is recommended to shade out invasive/nuisance species and enhance shoreline stabilization.

The entire plan set detailing all eight of the proposed vegetation test plots spaced along the Charles River Reservation has been attached to this submission in order to provide a comprehensive view of the project. The plan sheets that specifically refer to the Boston vegetation test plots include Sheets C101, C102, C103, C105, C106A, C106B, C107, C201, C202 and C203.

### Invasive/Nuisance Species Management

The Massachusetts Invasive Plant Advisory Group (MIPAG) is a collaborative group which evaluates plant species that are suspected to be invasive in the state. These species are

given designations based on historical and field data. Lists of species have been developed for Massachusetts based on the level of “invasiveness” shown by the species in question. MIPAG defines “invasive plants” as “non-native species that have spread into native or minimally managed plant systems in Massachusetts. These plants cause economic or environmental harm by developing self-sustaining populations and becoming dominant and/or disruptive to those systems.” Other designations include “likely invasive” meaning “non-native species that are naturalized in Massachusetts but do not meet the full criteria that would trigger an ‘invasive plant’ designation” as well as “potentially invasive” which are “non-native species not currently known to be naturalized in Massachusetts, but that can be expected to become invasive within minimally managed habitats within the Commonwealth.” The final designation that MIPAG offers is “not currently meeting criteria” which means the species was “evaluated for invasiveness by MIPAG. They did not meet the necessary criteria to list them as invasive, likely invasive or potentially invasive at the time of evaluation.” These MIPAG designations will be referenced throughout the RVMP.

This RVMP proposes management of invasive, noxious, and visually obstructive plant species with the intent to increase vegetation diversity and habitat creation while improving views. Based on a 2018 site investigation, present invasive and nuisance species currently exist in all proposed test plots within Boston, with the exception of Test Plot 6. A summary of the invasive/nuisance species found at each site can be found below in Table 2.

**Table 2: 2018 Summary of Invasive/Nuisance Species within Boston Test Plots**

Test Plot	City	Invasive/Nuisance Species Present
Test Plot 1 (P1)	Boston	false indigo bush ( <i>Amorpha fruticosa</i> )
		hedge bindweed ( <i>Calystegia sepium</i> )
		Asiatic bittersweet ( <i>Celastrus orbiculatus</i> )
		dodder ( <i>Cuscuta spp</i> )
		yellow iris ( <i>Iris pseudacorus</i> )
Test Plot 2 (P2)	Boston	false indigo bush ( <i>Amorpha fruticosa</i> )
		yellow iris ( <i>Iris pseudacorus</i> )
		hedge bindweed ( <i>Calystegia sepium</i> )
		phragmites ( <i>Phragmites australis</i> )
		dodder ( <i>Cuscuta spp</i> )
Test Plot 3 (P3)	Boston	false indigo bush ( <i>Amorpha fruticosa</i> )
		yellow iris ( <i>Iris pseudacorus</i> )
		purple loosestrife ( <i>Lythrum salicaria</i> )
Test Plot 5 (P5)	Boston	false indigo bush ( <i>Amorpha fruticosa</i> )
		hedge bindweed ( <i>Calystegia sepium</i> )
		purple loosestrife ( <i>Lythrum salicaria</i> )
Test Plot 6 (P6 A&B)	Boston	No Invasive/Nuisance Species Identified
Test Plot 7 (P7)	Boston	Japanese knotweed ( <i>Polygonum cuspidatum</i> )
		tree of heaven ( <i>Ailanthus altissima</i> )

As part of the proposed test plot implementation the DCR is proposing to treat/manage invasive/nuisance species present on site. Each species requires a unique set of management techniques which have been outlined in detail below.

***Ailanthus altissima* - Tree of Heaven (MIPAG – Invasive)** is a fast-growing deciduous tree originally introduced to North America in the late 1700s. Found across the country, Tree of Heaven is listed as invasive in at least 30 states. Due to prolific seed production and an aggressive root system, the tree will easily crowd out native vegetation and form dense thickets. The leaf resembles that of the native staghorn sumac, but the blades are smooth with a glandular tooth at the base. Sumac leaflets are serrated along the entire margin, with a single leaflet at the end of the leaf. Tree of Heaven can grow up to 80 feet tall.

#### Control Schedule and Methods

1. Manual – difficult to control manually/mechanically. Trees re-sprout vigorously, and massive root suckering occurs.
  - a. Hand-pulling: very young seedlings can be pulled or dug if soil conditions allow (moist soil is best). Remove the entire root system.
    - Proposed Date: Spring or early summer
2. Mechanical –
  - a. Grubbing: for young trees or saplings, hand grubbing may be effective. Usually not feasible for dense stands or mature trees. Remove the entire root system.
    - Proposed Date: Spring
  - b. Cutting: cut trees while small, in early summer when root reserves are at their lowest. Cut regrowth frequently and repeatedly and apply herbicide to cut surfaces. Provide shade from competitive native plants and trees after control efforts.
    - Proposed Date: Spring or early summer, repeat cutting monthly
3. Chemical – herbicides are generally the most effective way to control regrowth from cut trees and to kill root systems of mature Tree of Heaven. The DCR recognizes the potential negative ramifications associated with chemical treatments (e.g. herbicides pesticides) however, the DCR also recognizes that manual/mechanical treatments are not effective in certain situations. Therefore, the DCR prefers to implement manual approaches wherever practicable and chemical treatments may be utilized if deemed necessary based on site conditions.
  - a. Basal Bark Spraying: does not require cutting and has proven to be an effective control method. Best results when applied when Tree of Heaven is fully leafed but before it begins to show fall color. Most appropriate for treating small patches or isolated trees (especially trees with trunk diameters between 4 - 8 inches).
    - Proposed Date: Summer

***Amorpha fruticosa* - False Indigo Bush (MIPAG – Not Currently Meeting Criteria [as invasive])** is a deciduous, woody perennial that is native to eastern and central North America. It can grow up to 12 feet tall, with elliptical leaves that are 1 to 2 inches long and covered with glands and downy hairs. The lower stems of False Indigo Bush are capable of producing new stems when buried in sediment. Flowers are borne in clusters in late

summer and are blue-violet. False Indigo Bush is found in riparian areas, forest edges, rights-of-way, and meadows. It grows densely and can outcompete other species.

#### Control Schedule and Methods

##### 1. Manual –

a. Hand-pulling: appropriate for individual plants or small infestations. Seedlings can be easily pulled in damp/wet soil, while mature plants can be dug up. Remove entire rhizome, as leaving pieces can result in growth of more false indigo. Spread mulch in these areas as needed. Remove all parts of false indigo from the site, dispose of appropriately.

- Proposed Date: Spring-Summer

b. Cutting: Cutting the plant at the base repeatedly and consistently can result in lowered seed production and nutrient stores and less re-sprouting. This should be done prior to mature seed production in order to limit further spread.

- Proposed Date: Spring-Summer

c. Digging and Defoliation: Dig and sever the root 3 to 4 inches below the crown. Repeat as necessary to control growth as repeated defoliation limits regrowth.

- Proposed Date: Anytime

***Calystegia sepium* - Hedge Bindweed (MIPAG – Not Listed [as invasive])** is characterized as a perennial vine that can reach lengths of up to 10 feet. Bindweed stems twine tightly around surrounding vegetation and climbs aggressively, often killing off the species it grows on. Hedge Bindweed alternate leaves are triangular in shape, with squared-off basal lobes. Its buds produce 5-lobed white corollas. Hedge Bindweed is tolerant of a wide range of soils and can be found on roadsides and urban waste areas.

#### Control Schedule and Methods

##### 1. Manual –

a. Hand-pulling: young plants can be removed by hand (up to 3 - 4 weeks following seed germination). After this bindweed is harder to control manually.

- Proposed Date: Spring

b. Deep cultivation: using wide sweeps to cut roots and rhizomes 16 - 18 inches below the surface in dry soil.

- Proposed Date: Late Spring-Early Summer

***Celastrus orbiculatus* - Asiatic Bittersweet (MIPAG – Invasive)** is native to Japan, Korea, and China, but was introduced into the U.S. in the mid-1800s. It was introduced as an ornamental plant and has since turned into one of the most dominant invasive species and poses a significant threat to native species. Asiatic Bittersweet is fast growing, and commonly shades out the surrounding plants. It is also known to girdle trees. It has alternate, rounded glossy leaves that produce small greenish yellow flowers in May and June. In addition to flowers, Oriental bittersweet produces a bright yellow-orange fruit clustered in the leaf axils. While Asiatic Bittersweet prefers full sun, it has the ability to flourish in shaded conditions. It can be found in grasslands, open woods, roadsides, and fence rows.

## Control Schedule and Methods

1. Manual –
  - a. Minor infestations may be hand-pulled. Remove entire plant (including the root system). For climbing vines, cut near the ground to kill upper sections and relieve tree canopy. Rooted sections remain alive and must be pulled, repeatedly cut to the ground, or treated with herbicide. If left untended, cut plants will re-sprout from the base.
    - Proposed Date: Spring
  
2. Chemical – Systemic herbicides (e.g., Glyphosate and Triclopyr) will absorb into plant tissues and roots, killing whole plant within approximately 1 week. The DCR recognizes the potential negative ramifications associated with chemical treatments (e.g. herbicides pesticides) however, the DCR also recognizes that manual/mechanical treatments are not effective in certain situations. Therefore, the DCR prefers to implement manual approaches wherever practicable and chemical treatments may be utilized if deemed necessary based on site conditions.
  - a. Chemical control is most effective when stems are first cut by hand or mowed, and herbicide is applied immediately to the cut stem.
  - b. Repeated applications likely to be necessary. Fall and winter applications avoid or minimize impacts to native species. In areas with wildflowers or native plants, application should be conducted before their emergence, carefully targeted, or delayed until late summer or autumn. If native grasses present among the bittersweet, triclopyr should be used as it is selective for broad-leaved plants. Follow-up monitoring recommended.
  - c. For dense, low patches: option to cut entire patch to the ground early in growing season, apply chemical solution a month later. This method has been shown to produce complete rootkill and no off-target damage or root uptake by adjacent vegetation.

Employing a combination of the above methods has been seen to generally yield best results and may reduce potential impacts on native organisms.

Safety Requirements: When bittersweet grows high on trees, there is a danger of the increased weight leading to uprooting and blow-over during heavy snowfall/high winds. Upland meadows, young forests, thickets, and beaches are areas most vulnerable to invasion and dominance.

***Cuscuta epithymum* and *Cuscuta epilinum* - Dodder (MIPAG – Not Listed [as invasive])**, is an annual-sprouting parasitic plant. Dodder commonly infest crops, ornamentals, native plants, and weeds. If attached to more than one host, they can spread diseases between plants. Their stems are thread-like and yellowish in color. They have small white to pink flowers that grow in small dense clusters. They are easily recognized by their intertwining bright yellow growth.

### Control Schedule and Methods

#### 1. Manual –

- a. Hand-pulling: if you find Dodder seedlings before they attach to a host, remove immediately. Pruning: after Dodder has attached to a host, prune that part of the host plant 1/4 to 1/8 of an inch below the infected area, to prevent regeneration from the piece of Dodder left in host plant. (Pruning shrubs and trees is usually not advised as it is not effective unless the Dodder is confined to 1 - 2 branches that can be removed without compromising the health of the host plant). Remove all parts of Dodder from the site, dispose of appropriately.

- Proposed Date: Immediate Removal

***Iris pseudacorus* - Yellow Iris (MIPAG – Invasive)** is a 3-4-foot herbaceous perennial with leaves at 1.5 - 3 feet. It is known for its yellow showy flowers with flowers on each stem. Yellow Iris is native to most countries in Europe, as well as Western Asia and North Africa. It was brought to the United States in the mid-1800s. Yellow Iris has been found to displace native species. It can be found on the banks of lakes, ponds, rivers, streams, and even immersed in water. Yellow Iris flourishes in freshwater wetlands but can tolerate a number of different habitats

### Control Schedule and Methods

#### 1. Manual –

- a. Hand-pulling: appropriate for individual plants or small infestations. Skin protection is suggested as resins in iris leaves and rhizomes can irritate the skin. Seedlings can be easily pulled in damp/wet soil, while mature plants can be dug up. Remove entire rhizome, as leaving pieces can result in growth of more irises. Monitor location for new leaves and continue to remove rhizomes. Dispose of any rhizome away from wet sites. Composting is not recommended as rhizomes can continue growing after 3 months without water.

- Proposed Date: Spring-Summer

***Lythrum salicaria* - Purple Loosestrife (MIPAG – Invasive)** is an herbaceous wetland perennial that can grow 1.5 - 5 feet tall. The leaves are normally opposite and in pairs, however the leaves can be alternate and found in whorls of three. Leaves are lance-shaped and 1 - 4 inches long. The flowers are purple to pink. They are numerous and borne on spikes that are from 4 - 16 inches long. Each flower has 5 - 7 petals. The flowers are in bloom from July to September. The fruits are capsules, each containing numerous reddish-brown seeds. Purple Loosestrife was first reported in North America in the early 1800s.

Purple Loosestrife invades and destroys habitat along rivers, streams, and wetlands. It grows in dense patches that choke out native plants and deter wildlife. Purple Loosestrife is a prolific seed producer and its light seeds are carried by wind and often take hold in nearby wetlands.

### Control Schedule and Methods

#### 1. Manual –

- a. Hand-pulling: recommended for isolated stems and small populations. Pull out entire root to prevent regeneration from root pieces. Broken stems can resprout, so



care must be taken to minimize disturbance to the soil and native vegetation in the area.

- Proposed Date: Spring-Early Summer (before flowering)

2. Chemical – The DCR recognizes the potential negative ramifications associated with chemical treatments (e.g. herbicides pesticides) however, the DCR also recognizes that manual/mechanical treatments are not effective in certain situations. Therefore, the DCR prefers to implement manual approaches wherever practicable and chemical treatments may be utilized if deemed necessary based on site conditions.

a. Glyphosate is commonly used to control Purple Loosestrife, but as some trade names (e.g., 1% to 2% solutions of Rodeo) are non-specific systemics, care should be taken to avoid damage to other plants in the area and adjacent waterways and/or wetlands when spraying. Use a targeted spraying method - spraying may increase loosestrife density if other vegetation is killed off. Spraying should be done in late August, or after the peak bloom period.

- Proposed Date: Late August

***Phragmites australis* - Phragmites (MIPAG – Invasive)** is one of the most widely distributed flowering plants. It occurs on every continent except Antarctica and is cosmopolitan in temperate zones. Phragmites is widely distributed in North America and occurs in all US states except Alaska. This robust perennial grass that may reach 20 feet, and produces stout, erect, hollow aerial stems. Stems are usually leafy, persistent, and without branches. Leaves are aligned on one side of the stem, flat at maturity.

#### Control Schedule and Methods

1. Manual –

a. Pulling/cutting: this method is only effective in small stands. Treatments must be repeated yearly. Cut stems below the lowest leaf, leaving a 6 inches or shorter stump in July only – other times may increase stand density. Remove material from the site and compost or allow to decay on upland areas.

- Proposed Date: July

b. Cutting the perimeter of a stand can prevent expansion.

2. Chemical – The DCR recognizes the potential negative ramifications associated with chemical treatments (e.g. herbicides pesticides) however, the DCR also recognizes that manual/mechanical treatments are not effective in certain situations. Therefore, the DCR prefers to implement manual approaches wherever practicable and chemical treatments may be utilized if deemed necessary based on site conditions.

a. Glyphosate and Imazapyr are known to control common reed effectively when properly used. These chemicals are nonselective. Care should be taken to avoid a dosage that is too concentrated, or breaking the stems during treatment, as these both will prevent the herbicide from reaching the rhizomes. The DCR recognizes the potential negative ramifications associated with chemical treatments (e.g. herbicides pesticides) however, the DCR also recognizes that manual/mechanical treatments are not effective in certain situations. Therefore, the DCR prefers to implement manual approaches wherever practicable and chemical treatments may be utilized if deemed necessary based on site conditions.

- Proposed Date: Late summer or early fall
- b. Cut stem treatment: use for isolated or scattered stands, where impacts to native species must be avoided. Cut plants to waist height and add one drop of herbicide to hollow stems. Remove seed heads from the site after cutting.
- Proposed Date: Late summer or early fall
- c. Disposal: be sure the plant is dead before placing in compost/mulch pile.

***Polygonum cuspidatum* - Japanese Knotweed (MIPAG – Invasive)** is an herbaceous perennial that appears woody and reaches 3-10 feet in height. The round stems are hollow and covered with scales. The shoots grow from spreading rhizomes that can reach 65 feet in length. The leaves are broadly oblong-ovate or ovate-lanceolate, 3-6 inches long and 2 - 4.75 inches wide. Japanese Knotweed is native to China, Japan and Korea. In the United States it is found from Maine to Georgia and west from South Dakota to Oklahoma. This plant has been reported from all the states of New England, being introduced sometime after 1830. It forms dense, persistent thickets that exclude other vegetation. Its vegetative reproduction has proved quite successful. Established populations are difficult to eradicate.

#### Control Schedule and Methods

##### 1. Mechanical –

- a. Cutting alone is not effective. Stems cut easily, and knotweed can be mowed. Cutting too early in the season can result in regrowth. June is the most effective time for cutting. Note that cutting later than June reduces the window to chemically treat the Knotweed, which should ideally occur a minimum of six weeks after cutting.
- Proposed Date: June
- b. Prevent the spread of rhizome pieces in soil.
- c. Encourage or establish native groundcover to provide competition.

2. Chemical - The DCR recognizes the potential negative ramifications associated with chemical treatments (e.g. herbicides pesticides) however, the DCR also recognizes that manual/mechanical treatments are not effective in certain situations. Therefore, the DCR prefers to implement manual approaches wherever practicable and chemical treatments may be utilized if deemed necessary based on site conditions.

- a. Herbicides can be applied to the plant via spot foliar spray or stem injection.
- Proposed Date: Late summer (six weeks after cutting)

#### Removal/Management Methodologies

Within each test plot, invasive and nuisance species management will include either mechanical and/or chemical controls. The control methodology will be determined based onsite conditions present at the time of treatment including, but not limited to, extent of species presence, density of vegetative growth, and proximity to the water/other resources. As emphasized above, chemical treatments options are not the preferred methodology for invasive and nuisance species management due to the negative environmental concerns associated with such chemicals. However, in situations where manual/mechanical

treatments are not effective or practicable chemical treatments may be utilized if deemed necessary based on site conditions.

**Mechanical methods** are commonly the go-to approach to manage invasive/nuisance plant species and can be used with no special licensing. Most of the work can be done with the assistance of either volunteers or maintenance staff. However, mechanical removal methods can require long-term commitment and continued maintenance of the invasive/nuisance species zones to ensure that the plants removed do not grow back. Depending on the breadth and extent of the population, mechanical management may also require large areas of disturbance, especially when digging is required. These disturbed areas may be susceptible to erosion and can become prime breeding grounds for regrowth or encroachment of other invasive/nuisance species. Proper erosion and sediment control measures should be put into place to mitigate disturbances and cleared areas should be replanted with appropriate native species as soon as possible. Methods of mechanical control that have proven effective are highlighted below.

Pull or Dig: Large herbaceous and woody plant species can often be pulled out and have their roots dug up, if found in limited quantities. When this method is used, it is important to remove as much of the plant material as possible including root mass, stolons, and rhizomes. Some species can re-infest an area if remnant roots are left behind. Instead of using a shovel, digging with a fork or similar tool may be preferred. Shovels can often cut through a root, leaving a portion behind, where as a fork will tend to pull the entire root system. Weed wrenches can be useful tools for removing woody plant species. Steel prongs attached to a long rod are used to lever under the roots of a plant and uproot it from the soil. Any excavated soils will be utilized on site as part of the test plot implementation.

**Chemical Controls** (Herbicides). Herbicides can be quite effective but pose a significant environmental risk. All applications should comply with local laws, licensing requirements, and manufacturer recommendations. The contractor doing the herbicide application will be responsible for submitting any paperwork required for herbicide use.

Due to the proximity of target species to adjacent waterways, chemical control via large-scale spraying is not recommended. Instead, chemical treatments should be conducted through localized applications where less risky manual methods would be ineffective or impractical. Herbicides that are least impactful to waterbodies should be used. Localized applications could and should be performed in conjunction with mechanical methods such as cutting. Timing is paramount to any successful chemical treatment to interrupt the lifecycle of the plant. Precautions should be taken to avoid chemical runoff or drift and impacts to pollinators and other nontarget species. Herbicides should only be applied on dry days with minimal to no wind to prevent impacting other species in the area. Two chemical treatment methods that have proven effective are highlighted below.

Foliar Applications: Foliar applications are not proposed as part of this project due to the environmental risk they pose.

Cut and Wipe: The cut-and-wipe method combines mechanical and chemical treatments. The goal is to avoid large ground disturbances caused by digging up roots. Instead, a chemical treatment is applied to cut stems and/or roots, which require a higher concentration of the active ingredient than is used in small scale spray applications. A 25 - 35% solution of the active ingredient should be used. Stems should be cut as close to the ground as possible and herbicide should be applied directly to the cut surface. This application should be done as soon as possible after the plant is cut to ensure effectiveness of the herbicide. The herbicide should be applied manually with a rag or sponge. The idea is to thoroughly wet the cut surface so that the herbicide absorbs into the plant tissues. Treatment timing will depend on each individual species present, for further details see the Control Schedule and Methods Section. Apply chemicals during dry conditions to reduce the chance of point-source pollution.

**Environmental Considerations - NOI**

As part of this proposed project, two resource areas identified by the Massachusetts Wetlands Protection Act will be impacted: Riverfront Area and Bordering Land Subject to Flooding. All of the proposed test plot areas are located outside the designated “Coastal Zone” and as such all impacts are to inland resource areas.

**Riverfront Area**

Since the Charles River is a perennial river, five of the proposed vegetative test plots fall within the “riverfront area” that is regulated by the WPA per 310 CMR 10.58. The City of Boston is a municipality that is identified in 310 CMR 10.58(2)(a)3.a. as having a 25-foot riverfront area due to development. The riverfront area applies to the portion of land located between a perennial river's mean annual highwater line and a parallel line measured horizontally 25 feet out from the mean annual highwater line. This area is considered to be significant because it provides important functions and values such as flood control, nutrient filtration, groundwater recharge, and wildlife habitat. This project proposes a total of 7,613 SF of temporary impact within the riverfront area (See Table 3).

**Table 3: Vegetation Test Plot Impact Summary within Riverfront Area<sup>a</sup>**

Test Plot	Plot Size (SF)	Limit of Disturbance (SF)	Total Temporary Impacts Within Riverfront Area (SF)
Plot 1 (P1)	~12' x 50' = 595	1,667	1,268
Plot 2 (P2)	~8' x 50' = 470	2,141	2,141
Plot 3 (P3)	~6' x 50' = 301	1,320	1,320
Plot 5 (P5)	12' x 50' = 600	1,867	1,405
Plot 7 (P7)	~20' x 50' = 1,032	2,797	1,479
<b>Totals</b>	<b>2,998</b>	<b>9,792</b>	<b>7,613</b>

Note:

- a. Only five of six test plots in Boston are in the jurisdictional riverfront area.

These impacts will be temporary and site conditions will be improved upon completion of the proposed work. We are considering the impacts for these test plots “temporary”

because the areas of the proposed test plots are currently vegetative in nature and after final conditions the test plots will remain vegetative in nature. The other temporary impacts located outside the data plots are for construction access and stockpiling purposes.

The location of the proposed work within the riverfront area is considered already altered area. The work area is composed of managed park space adjacent to walking trails and roadways. Each standard for work in the riverfront area (per 310 CMR 10.58 (4)) are provided below, followed by an explanation on how the project meets each standard.

**(a) Protection of Other Resource Areas.** The work shall meet the performance standards for all other resource areas within the riverfront area, as identified in 310 CMR 10.30 (Coastal Bank), 10.32 (Salt Marsh), 10.55 (Bordering Vegetated Wetland), and 10.57 (Land Subject to Flooding). When work in the riverfront area is also within the buffer zone to another resource area, the performance standards for the riverfront area shall contribute to the protection of the interests of M.G.L. c. 131, § 40 in lieu of any additional requirements that might otherwise be imposed on work in the buffer zone within the riverfront area.

Portions of vegetative Test Plots 1, 2, 3, 5, and 7 fall within the 100-year floodplain, which is an area identified as bordering land subject to flooding (CMR 10.57). This proposed project seeks to maintain the topography of the test plot locations within the 100-year floodplain and will not result in any change in flood storage. The performance standards for this resource area have been taken into consideration and are addressed below.

**(b) Protection of Rare Species.** No project may be permitted within the riverfront area which will have any adverse effect on specified habitat sites of rare wetland or upland, vertebrate or invertebrate species, as identified by the procedures established under 310 CMR 10.59 or 10.37, or which will have any adverse effect on vernal pool habitat certified prior to the filing of the Notice of Intent.

This proposed project is not within any of the habitat areas identified by the MassWildlife's Natural Heritage & Endangered Species Program (NHESP) on MassGIS data layers including NHESP Estimated Habitats of Rare Wildlife, NHESP Priority Habitats of Rare Species, NHESP Certified Vernal Pools, and NHESP Potential Vernal Pools. Environmental resources maps outlining these areas can be seen in Appendix D.

**(c) Practicable and Substantially Equivalent Economic Alternatives.** There must be no practicable and substantially equivalent economic alternative to the proposed project with less adverse effects on the interests identified in M.G.L. c. 131 § 40.

There is no practicable or equivalent alternative that would achieve the goals of the proposed vegetation test plots. A complete Alternatives Analysis can be found in Appendix B.

#### **Bordering Land Subject to Flooding**

Portions of vegetative Test Plots 2, 3, 5, and 7 fall within the 100-year floodplain (FEMA Zone AE), which is a resource area identified as bordering land subject to flooding ,

regulated by the Massachusetts Wetland Protection Act, (WPA) and can be seen in Appendix D. BLSF is defined in 310 CMR 10.57(2)(a)(1) as

*An area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds or lakes. It extends from the banks of these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetland.*

The boundary of this wetland resource area is identified as the 100-year floodplain, as determined by the current FEMA Map of the area or by credible evidence from a registered professional engineer, per 310 CMR 10.57(2)(a)(3). This project proposes a total of 2,115 SF of temporary impact within BLSF (See Table 4).

**Table 4: Vegetation Test Plot Impact Summary within Bordering Land Subject to Flooding <sup>a</sup>**

Test Plot	Total Temporary Impact Within BLSF (SF)
Plot 2 (P2)	551
Plot 3 (P3)	674
Plot 5 (P5)	529
Plot 7 (P7)	361
<b>Totals</b>	<b>2,115</b>

Note:

- a. Only four of six test plots in Boston are in the jurisdictional BLSF.

The proposed project will return each test plot to a vegetated state upon completion, as a result the impacts are considered temporary. Since there is no proposed change in topography there will be no loss of flood storage area as a result of this project.

There are four general performance standards associated with this resource area per 310 CMR 10.57(4)). These performance standards have been taken into consideration and are addressed here:

**(a) Bordering Land Subject to Flooding.**

**1. Compensatory storage shall be provided for all flood storage volume that will be lost as the result of a proposed project within Bordering Land Subject to Flooding, ...**

This proposed project seeks to maintain the topography of the test plot locations within the 100-year floodplain and will not result in any change in flood storage. As a result, no compensatory storage shall be provided.

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

This proposed project will not restrict flows or cause an increase in flood stage or velocity. All proposed work will occur outside wetland areas.

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

The proposed test plots are small areas (~50 feet in length) spread out along the length of the Charles River Reservation within Boston. Implementation of these vegetative test plots will involve site preparation, including invasive/nuisance species removal, loosening soil and installing any erosion control features, as well as planting of native vegetation, which is outlined in the attached plan set. This project will allow for increased native plant diversity and will work to restore a healthy riverbank ecology. Given that this project proposes to take an existing vegetated area and replace it with a proposed vegetated area there will be de minimis impact and we do not expect significant adverse impacts to the functions and values currently provided along the river. As a result, the proposed test plot implementation within bordering land subject to flooding shall not impair its capacity to provide important wildlife habitat functions. The proposed test plot implementation within Boston will occur on multiple lots and the total amount of impact is 2,115 square feet. Per the requirements listed under 10.57(4)(a)(3) and the Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands document developed by the DEP, this project does not require a Habitat Evaluation including the procedures contained in 310 CMR 10.60 because the project is on multiple lots and the impacts cumulatively alter less than 5,000 square feet. It should also be noted there is no vernal pool habitat located within the proposed test plot locations.

**(c) Protection of Rare Wildlife Species.** Notwithstanding the provisions of 310 CMR 10.57(4)(a) or (b), no project may be permitted which will have any adverse effect on specified wildlife habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59.

As stated above, this proposed project is not within any of the habitat areas identified by the NHESP on MassGIS data layers including NHESP Estimated Habitats of Rare Wildlife, NHESP Priority Habitats of Rare Species, NHESP Certified Vernal Pools, and NHESP Potential Vernal Pools. Environmental resources maps outlining these areas can be seen in Appendix D.

#### **Bank**

Bank is a resource area regulated by the Massachusetts Wetland Protection Act, (WPA). Bank is defined in 310 CMR 10.54(2)(a) as:

*The portion of land surface which normally abuts and confined a waterbody. It occurs between a water body and a vegetated bordering wetland and adjacent floodplain, or, in absence of these, it occurs between a waterbody and an upland.*

The upper boundary of this wetland resource area is considered the mean annual high water level (MAHW), as identified in the field. The lower boundary of this wetland resource area is the mean annual low flow level. Impacts associated with this project will occur above mean annual high water level. As a result, there is no bank resource area impacts associated with this project.

### **100ft Wetland Buffer Zone**

The work areas associated with proposed Test Plots 1, 2, 3, 5, and 7 fall within 100ft of the Bank, which is an Area Subject to Protection and recognized by the WPA as the 100ft Wetland Buffer Zone (Buffer Zone) per 310 CMR 10.02(2)(b). The Buffer Zone is defined as any area within 100ft of any area subject to the protection of M.G.L chapter 131, section 40 and identified per 310 CMR 10.02(1)(a).

Work within the Buffer Zone will include implementation of the vegetative test plots. This test plot implementation will involve site preparation, including invasive/nuisance species removal, loosening soil and installing any erosion control features, as well as planting of native vegetation, which is outlined in the attached plan set. This project will allow for increased native plant diversity and will work to restore a healthy riverbank ecology. Given that this project proposes to take an existing vegetated area and replace it with a proposed vegetated area there will be de minimis impact and we do not expect significant adverse impacts to the functions and values currently provided along the river. The 100ft Wetland Buffer Zone is shown on the attached plan set where the scale allows. In some cases the scale is such that the 100ft Wetland Buffer line is outside the frame of the drawing and a note has been made on the sheet.

### **Environmental Considerations – City of Boston**

#### **City of Boston 25 Foot Waterfront Area**

The City of Boston, through its Wetlands Ordinance, has placed additional restrictions on land within 25 feet of the Riverfront Area as follows:

*Waterfront Area is the portion of the buffer zone which extends twenty-five (25) feet horizontally from the edge of the following wetland resource areas: Any coastal beach, dune, bank, tidal flats, rocky intertidal shores, salt marshes or land containing shellfish; or Any inland bank, lake, pond, intermittent stream, brook, creek or riverfront area.*

As described above, work within the Waterfront Area will include implementation of the vegetative test plots. This test plot implementation will involve site preparation, including invasive/nuisance species removal, loosening soil and installing any erosion control features, as well as planting of native vegetation, which is outlined in the attached plan set. This project proposes a total of 1,780 SF of temporary impact within the Waterfront Area (See Table 5).



**Table 5: Vegetation Test Plot Impact Summary within Waterfront Area <sup>a</sup>**

Test Plot	Total Temporary Impact Within Waterfront Area (SF)
Plot 5 (P5)	462
Plot 7 (P7)	1,318
<b>Totals</b>	<b>1,780</b>

Note:

- a. Only two of six test plots in Boston are in the jurisdictional Waterfront Area.

**City of Boston Consideration of Climate Change**

Per the City of Boston Wetlands Ordinance *“Impacts of Climate Change. Include without limitation: extreme heat; the timing, frequency, intensity, and amount of precipitation, storm surges, and rising water levels; increased intensity or frequency of storm events or extreme weather events; and frequency, intensity, and duration of droughts.”* As indicated in the RVMP Climate change has the potential to create significant adverse effects in the Charles River Reservation Basin, which could have major implications for DCR’s management of the parklands. A flood control structure, the New Boston Dam, provides a level of protection against sea level rise and coastal surge to the parklands along the Charles River Basin. Unless the dam is flanked or overtopped by extreme conditions in the Boston Harbor, sea level rise and coastal surge are not expected to be an immediate threat to the vegetation along the river. However, an increased precipitation frequency could increase peak stream flows and cause riverine flooding, destabilizing the river’s banks, causing scouring along bridge embankments, and causing the vegetation to be lost or compromised. Extended drought conditions and increased rainfall could also negatively impact the park’s plant life and/or change the plant community species composition. Warmer temperatures are expected to increase the vegetation’s growing season. While a longer growing season could be beneficial, it may also result in a production of allergens, including pollen and poison ivy. Warmer temperatures and changes in precipitation patterns could also increase the presence of pests that are harmful to the park’s vegetation as well as vector-borne diseases (such as Lyme disease) affecting the park’s visitors. The proposed plant selection took into consideration those plants that are drought resistant, pest resistant, are less likely to produce allergens and can compete with other invasive species that might be more adapted to climate change. This proposed test plot implementation is on a small scale but the results from these test plots will aid in informing the larger RVMP.

**City of Boston NOI Filing Fee**

The City of Boston has established their own system for collecting a filing fee associated with the NOI submission. Per the Conservation Commission Guidance Document “the commission does not accept the municipal portion of the state fee and has its own fee structure requirements”. Based on the City fee structure, projects with a fair cost of more than \$100,000 pay 0.075% of the fair cost as a fee (not to exceed \$1,500). The fair cost of this proposed project is \$300,000. As a result, the calculated municipal fee for the City of Boston is \$225. This is not considered an additional by-law fee but the actual municipal fee associated with the NOI submission.



APPENDIX B  
ALTERNATIVES ANALYSIS

## Alternatives Analysis

### *Basis for Alternatives Analysis*

The following is a presentation of alternatives for managing riverfront vegetation along the Charles River Reservation in the jurisdiction of the Conservation Commissions of Boston, Cambridge, Newton, and Watertown, and the Massachusetts Wetlands Protection Act. The primary objective is to update management practices of the riverfront and refocus operations by implementing a Charles River Vegetation Management Plan (RVMP) in these communities.

### *Management Approach Alternative Analysis*

Volunteer plants have established themselves along most of the shoreline and include shrubby growth along the riverbanks; however, erosive flows and wave action from the river's active boating community have severely undercut parts of the shore. Some trees and shrubs lean toward the water; others have lost the battle with gravity and have toppled in. At the same time, invasive plants have knit themselves into the plant community. Purple loosestrife, Japanese knotweed, multiflora rose, and others expand their range from season to season, squeezing out native plants. Additionally, several non-invasive, but visually obstructive, species such as pokeweed and false indigo bush overgrow and fill vistas where maintenance staff struggle to keep views open for both daily passive use as well as highly anticipated annual events such as the Head of the Charles Regatta. The following is a discussion of alternative proposals to manage riverfront vegetation.

The goals of this project are as follows:

1. Improve viewsheds along the Charles River while minimizing environmental impacts by altering management practices
2. Increase the vegetative diversity along the shore
3. Stabilize the riverbank and reduce geese access to the river.

### *Management Approach Alternative 1 – Maintain the Current RVMP Approach*

Currently, management is conducted under expired orders of conditions (OOCs) with the four previously mentioned municipal Conservation Commissions. Recognizing DCR's resource limitations and the importance of park maintenance, each of the Conservation Commissions has been willing to allow continued operation and maintenance under expired OOCs, but this approach has only been intended as a short-term solution.

#### Advantages

The current approach addresses the goal of maintaining public views of the River. There would be no temporary impact within resource areas identified by the Massachusetts Wetland Protection Act.

#### Disadvantages

In some areas, maintenance practices have resulted in overcutting of vegetation and indiscriminate mowing right up to the edge of water. Several invasive and non-native species grow more robustly and propagate when cut; current management practices are

contributing to the proliferation of invasive populations along the shore. This alternative is also not sustainable in terms of the amount of labor needed for continued cutting. In addition to potential exposure and erosion, areas of cleared vegetation present easy access to the river for geese and swans, which are aggressive, territorial, and tend to foul both water and walkways. Inadequate vegetative buffers contribute to drainage and nutrient introductions to the river. Current management does not contribute to overall species diversity; rather, monocultures of undesirable species have become the norm. This plan does not address erosion control problem areas on the banks of the Charles River.

### ***Management Approach Alternative 2 – Selective Intensive Management***

This alternative would involve selecting a few areas along the Charles River Reservation for intensive ecosystem management implemented by the DCR. The remaining portions of the Charles River Reservation would continue to be maintained according to the current RVMP as described in Alternative 1.

#### Advantages

The DCR maintenance efforts could be focused on a few intensive restoration areas, while maintaining the current limited maintenance plan for the remaining portions of the Charles River Reservation. These areas would benefit from greater species diversity while not requiring intensive management of larger swaths of the shore.

#### Disadvantages

Invasive and nuisance species will travel from the unmanaged/limited maintenance portions of the Reservation to the intensive restoration areas. This alternative is not suitable for long term management and does not address larger goals of improving public viewing, providing bank stabilization and reducing geese access along the length of the river.

### ***Management Approach Alternative 3 – Implement Proposed RVMP Test Plots***

This alternative addresses the need for maintenance and upkeep of the vegetation bordering the Charles River in a more forward-thinking manner. An RVMP has been developed that would allow for natural yet maintained vegetation growth in the form of restoration areas. In allowing this regrowth, there would be fewer open areas allowing for geese access, and healthier vegetation along the entire river. Shorelines will be stabilized, viewing vistas will be created, stable tree canopy will be created, and the area will consider management options to make the riverfront area more adaptive to climate change. Rather than implementing this entire RVMP at one time, the DCR is proposing the installation of eight (8) test plots, each in a different types of management area. This will allow for a certain level of experimentation to ensure the highest level of possible success when it comes time to implement larger scale vegetation management options.

#### Advantages

These test plots will serve to inform the DCR about what techniques and plantings are effective before implementing management on a larger scale along larger portions of the Charles River Reservation. The current management plan has caused overcutting in many areas along the riverbank. The updated RVMP would promote sustainable landscape management. The goal with these proposed test plots is to create a diverse, ample native vegetative buffer. The plantings would provide fewer open areas that contribute to nutrient loading and erosional issues, as well as restricting the access of geese. Shorelines will be

stabilized, views will be provided, and the enhanced vegetative species diversity will hopefully create a more climate resilient landscape.

#### Disadvantages

This alternative will require some temporary impact within resource areas identified by the Massachusetts Wetland Protection Act as outlined in the project description. These areas will need to be intensively maintained and protected during the establishment period.

#### **Conclusion**

Based on the alternatives analysis provided above, Weston and Sampson's project team recommends Alternative 3 be the option the local conservation commissions pursue to maintaining and enhancing the vegetative buffer in the Charles River Reservation. Alternative 1, or maintain the current RVMP, would prevent all wetland resource impacts. On the other hand, the current management techniques have resulted in overcutting of vegetation and indiscriminate mowing right up to the edge of water and is not sustainable in terms of labor or vegetative diversity. Alternative 2 would provide limited intensive restoration, however; invasive/nuisance species from the adjacent unmanaged sites would spread to these intensive restoration areas, which is not sustainable in the long term. Alternative 3 will provide an opportunity to try different management techniques in order to better inform the DCR about what practices will be most effective prior to a larger scale implementation. The ultimate goal of the RVMP is to provide sustainable landscape management, enhanced species diversity, and protection of this cherished parkland resource.

#### ***Vegetation Treatment Alternative Analysis***

There are several options available for treatment of invasive and nuisance vegetation. The four treatment options outlined below are the most commonly utilized options. Specific treatments for individual species at each test plot will vary based on unique considerations such as the plot location, species density, morphology, and other environmental factors.

The DCR recognizes the potential negative ramifications associated with chemical treatments (e.g. herbicides pesticides) however, the DCR also recognizes that manual/mechanical treatments are not effective in certain situations. Therefore, the DCR prefers to implement manual approaches wherever practicable and chemical treatments may be utilized if deemed necessary based on site conditions.

#### ***Vegetation Treatment Alternative 1 – Mechanical Treatment/ Hand Removal***

This mechanical alternative utilizes hand removal as a treatment measure. Options for hand/mechanical removal may include utilizing hand pulling, hand tools, and depending on the species size and root development may include targeted removal utilizing construction equipment.

#### Advantages

This alternative is targeted and can be used in small or difficult to access areas. Potential damage associated with vegetation removal is lessened due to the targeted nature of this alternative. Certain species respond well to hand pulling removal.

#### Disadvantages

This alternative can be time consuming and may require repeated efforts in a single growing season, which is impractical given the scarcity of DCR's labor and financial resources. In many instances if careful removal of the entire rhizome system is not completed then the vegetation can return, in some cases presenting more robust growth.

#### ***Vegetation Treatment Alternative 2 – Mechanical Treatment/ Solar Treatment***

This mechanical alternative utilizes opaque tarps to stop solar exposure to plant species. Depending on site conditions the tarps may be left in place for an extended period of time to ensure full die off of the targeted species.

#### Advantages

Solar treatments can be installed with reasonably low effort and with minimal soil disturbance.

#### Disadvantages

This alternative requires monitoring to ensure that the tarp remains intact. Utilizing tarps also indiscriminately kills any plant species present, soil organisms, and the soil seed bank in the upper portion of the soil profile.

#### ***Vegetation Treatment Alternative 3 – Chemical Treatment/ Cut and Dab***

This chemical alternative involves cutting the targeted vegetation and then applying the appropriate herbicide directly to the cut stems. This allows the herbicide to be absorbed into the root system, ultimately killing the targeted vegetation.

Cut and dab reduces and targets the chemical application, preserving adjacent plant species and protecting soil organisms. DCR recommends proposes cut and dab for control of species that cannot be controlled by mechanical means.

#### Advantages

Many invasive and nuisance species do not respond to mechanical removal options. Cut and dab reduces and targets the chemical application, preserving adjacent plant species and protecting soil organisms. Herbicides have a high success rate of killing treated vegetation.

#### Disadvantages

Repeated applications may be necessary. This alternative utilizes chemicals which can have potential negative ramifications to nearby vegetation and wildlife.

#### ***Vegetation Treatment Alternative 4 – Chemical Treatment/ Foliar Treatment***

This chemical treatment does not require prior cutting of the targeted plant species. A hand sprayer, backpack sprayer, or mounted sprayer containing the appropriate herbicide is utilized on a targeted area.

Although herbicides are effective means of plant control, foliar spray can spread with wind and indiscriminately impact adjacent plant and water resources as well as create a public health risk. DCR recommends against foliar application of herbicide at this time.

#### Advantages

Many invasive and nuisance species do not respond to mechanical removal options. This alternative is good for dense monoculture stands of a given species. Foliar treatment requires low effort and no ground disturbance. Herbicides have a high success rate of killing treated vegetation.

#### Disadvantages

Foliar spray can spread with wind and indiscriminately impact adjacent plant and water resources as well as create a public health risk. This alternative is only appropriate in very limited situations. In most instances DCR recommends against foliar application and is not proposing foliar spraying for this project.



APPENDIX C  
STORMWATER REPORT



# 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.<sup>1</sup> 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<sup>2</sup>
- 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.

<sup>1</sup> 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.

<sup>2</sup> 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.



# Checklist for Stormwater Report

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## B. Stormwater Checklist and Certification

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

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

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

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### 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

2/5/2020

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## 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 for Stormwater Report

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## 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):           This project is limited to small test plots for vegetation restoration.

### 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 for Stormwater Report

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## 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<sup>1</sup>
- 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.

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<sup>1</sup> 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



# Checklist for Stormwater Report

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## 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 for Stormwater Report

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## 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 for Stormwater Report

## Checklist (continued)

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

- The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
  - Limited Project
  - Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
  - Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
  - Marina and/or 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 for Stormwater Report

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## 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 Report

To Be Submitted with the Notice of Intent

Applicant/Project Name: Massachusetts Department of Conservation and Recreation  
Charles River Vegetation Management Plan—Test Plots

Project Address: Various locations along the Charles River  
Boston, MA  
Cambridge, MA  
Watertown, MA

Firm: Weston & Sampson, Inc.  
Registered PE James Pearson, P.E.

Below is an explanation concerning Standards 1-10 as they apply to the Massachusetts Department of Conservation and Recreation (DCR) Charles River Vegetation Management Plan (CRVMP) test plots:

### **General:**

Currently, management of the Charles River Riverfront Area is conducted under expired orders of conditions (OOC) with Boston, Cambridge, and Watertown Conservation Commissions. Recognizing the DCR's resource limitations and the importance of park maintenance, each of the Conservation Commissions has been willing to allow continued operation and maintenance under expired OOCs; however, this approach has only been intended as a short-term solution. For example, in some areas maintenance practices have resulted in overcutting of vegetation and indiscriminate mowing right up to the edge of water. In addition to potential exposure and erosion, areas of cleared vegetation present easy access to the river for geese and swans, which are aggressive, territorial, and tend to foul both water and adjacent parklands with their droppings.

In an effort to provide these conservation commissions with an updated management plan for the riverfront area, the DCR has developed the CRVMP that includes best management practices (BMPs) and techniques for managing riverfront vegetation along the Charles River in the jurisdictions of the Conservation Commissions of Boston, Cambridge, Newton, and Watertown and the Massachusetts Department of Environmental Protection (MassDEP).

As part of this CRVMP, DCR is proposing to implement five vegetative test plots within the City of Boston requiring a Notice of Intent (NOI) submission. Located at strategic locations along the Charles River, these experimental data plots will provide valuable information to the DCR regarding planting strategies which will inform future long-term vegetation management planning within the CRVMP. Implementation of these vegetative test plots will involve site preparation, including any invasive species removal, loosening soil and installing any erosion control features, as well as planting of native vegetation, which is outlined in the attached plan set. Sediment and erosion control measures will be utilized to prevent any unwanted sediment from entering the adjacent wetland resource areas and storm drains.

### **Standard 1: No New Untreated Discharges**

The proposed project will create no new untreated discharges. No new impervious area will be created during this project.

### **Standard 2: Peak Rate Attenuation**

Since there will be no increase in impervious area, post-development (post-improvement) peak discharge rates will not exceed pre-development (pre-improvement) peak discharge rates.

To ensure that the work incorporates the performance standards recommended in the DEP's Stormwater Management Policy, necessary erosion and sedimentation control measures will be utilized during construction. These measures will include silt fence, fiber roll, and slope stabilization matt.

### **Standard 3: Recharge**

As noted in the **Standard 2** explanation, the impervious area in the work area will not be increased at the completion of the project; therefore, recharge rates will not decline in the work area at the end of the project. Infiltration may actually improve somewhat as a result of installing planting soils that may be less compacted than existing onsite soils.

### **Standard 4: Water Quality**

No new impervious area is being added to any of the project areas, therefore the proposed work will not change water quality at the site. There will be no increase in stormwater flow, and the design for test plots will not increase soil erosion. During the project, silt fence, fiber roll, and slope stabilization matt, will be used to minimize sedimentation and soil erosion.

### **Standard 5: Land Uses with Higher Potential Pollutant Loads (LUHPPLs)**

Not Applicable. There are no LUHPPLs in the work area.

### **Standard 6: Critical Areas**

There will be no new discharge to critical areas.

### **Standard 7: Redevelopments and Other Projects Subject to the Standards Only to the Maximum Extent Practicable**

Not applicable. Strictly speaking, the proposed test plots do not meet the definition of "redevelopment," nor do they meet the definition of "development" since the work involves vegetation management.

### **Standard 8: Construction Period Pollution Prevention and Erosion and Sediment Control**

A detailed Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan is included. To ensure that the work incorporates the performance standards recommended in the DEP's Stormwater Management Policy, necessary erosion and sedimentation control measures will be utilized during construction. These measures will include silt fence, fiber roll, and slope stabilization matt as depicted on the site plans.

### **Standard 9: Operation and Maintenance Plan**

An stormwater operations and maintenance plan is not needed since there will not be any new stormwater management systems put in place in the project work area.

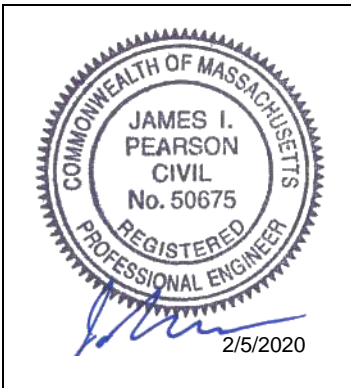
### **Standard 10: Prohibition of Illicit Discharges**

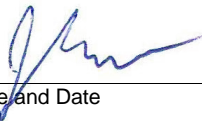
By the nature of the proposed work, there will be no illicit discharges. The project areas consist of vegetated areas that are not connected to a MS4 system.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including any relevant soil evaluations, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan, the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement 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



 2/5/2020  
\_\_\_\_\_  
Signature and Date

## Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan

### SECTION 1: Introduction

Currently, management of the Charles River Riverfront Area is conducted under expired orders of conditions (OOC) with Boston, Cambridge, and Watertown Conservation Commissions. Recognizing the DCR's resource limitations and the importance of park maintenance, each of the Conservation Commissions has been willing to allow continued operation and maintenance under expired OOCs; however, this approach has only been intended as a short-term solution. For example, in some areas maintenance practices have resulted in overcutting of vegetation and indiscriminate mowing right up to the edge of water. In addition to potential exposure and erosion, areas of cleared vegetation present easy access to the river for geese and swans, which are aggressive, territorial, and tend to foul both water and adjacent parklands with their droppings.

In an effort to provide these conservation commissions with an updated management plan for the riverfront area, the DCR has developed the CRVMP that includes best management practices (BMPs) and techniques for managing riverfront vegetation along the Charles River in the jurisdictions of the Conservation Commissions of Boston, Cambridge, Newton, and Watertown and the Massachusetts Department of Environmental Protection (MassDEP).

As part of this CRVMP, DCR is proposing to implement five vegetative test plots within the City of Boston requiring a Notice of Intent (NOI) submission. Located at strategic locations along the Charles River, these experimental data plots will provide valuable information to the DCR regarding planting strategies which will inform future long-term vegetation management planning within the CRVMP. Implementation of these vegetative test plots will involve site preparation, including any invasive species removal, loosening soil and installing any erosion control features, as well as planting of native vegetation, which is outlined in the attached plan set. Sediment and erosion control measures will be utilized to prevent any unwanted sediment from entering the adjacent wetland resource areas and storm drains.

Soil excavated from each test plot will be stockpiled adjacent to the test plot until installation of new plantings is completed. Immediately after installation of the vegetation, the test plot will be backfilled with suitable soil. Each test plot from groundbreaking through installation/backfill is anticipated to take one to two days.

Sediment and erosion control measures will be utilized to prevent any unwanted sediment from entering the adjacent wetland resource areas and storm drains.

As part of this project, this "Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan" has been created to ensure that no further disturbance to the wetland resource is created during the project.

### SECTION 2: Construction Period Pollution Prevention Measures

Best management practices (BMPs) will be utilized as Construction Period Pollution Prevention Measures to reduce potential pollutants and prevent any off-site discharge. The objectives of the BMPs for construction activity are to minimize the disturbed areas, stabilize any disturbed areas, control the site perimeter and retain sediment. Both erosion and sedimentation controls and non-

stormwater best management measures will be used to minimize site disturbance and ensure compliance with the performance standards of the WPA and Stormwater Standards. Measures will be taken to minimize the area disturbed by construction activities to reduce the potential for soil erosion and stormwater pollution problems. In addition, good housekeeping measures will be followed for the day-to-day operation of the construction site under the control of the contractor to minimize the impact of construction. This section describes the control practices that will be in place during construction activities. Recommended control practices will comply with the standards set in the MA DEP Stormwater Policy Handbook.

## **2.1 Minimize Disturbed Area and Protect Natural Features and Soil**

In order to minimize disturbed areas, work will be completed within well-defined work limits. These work limits are shown on the test plot plans. The Contractor shall not disturb wetland area without prior approval from the Engineer. The Contractor will be responsible to make sure that all of their workers and any subcontractors know the proper work limits and do not extend their work into the undisturbed areas. The protective measures are described in more detail in the following sections.

## **2.2 Control Stormwater Flowing onto and through the project**

Construction areas adjacent to wetland resources will be lined with appropriate sediment and erosion control measures. These measures will include silt fence or compost tube as conditions allow and as depicted on the site plans.

## **2.3 Stabilize Soils**

Soil excavated from the proposed test plots will be stockpiled adjacent to the trench until the new plantings are installed. Immediately after installation of the test plots, the test plots will be backfilled with suitable soil.

## **2.4 Proper Storage and Cover of Any Stockpiles**

The location of the Contractor's storage areas for equipment and/or materials shall require written approval of the Engineer.

Adequate measures for erosion and sediment control such as silt fence shall be placed around the downstream perimeter of stockpiles and shall be employed to protect any downstream areas from siltation.

There shall be no storage of equipment or materials in areas designated as wetlands.

The Engineer may designate a particular area or areas where the Contractor may store materials used in his operations.

## **2.5 Perimeter Controls and Sediment Barriers**

Erosion control lines as described in Section 5 will be utilized to ensure that sedimentation does not occur outside the perimeter of the work area.

## **2.6 Storm Drain Inlet Protection**

Not applicable. There are not storm drain inlets in the vicinity of the proposed test plots.

## **2.7 Retain Sediment on Site**

The Contractor will be responsible to monitor erosion control measures. Whenever necessary the Contractor will clear sediment from the erosion protection measures that may have been silted up during construction. Daily monitoring should be conducted using the attached Monitoring Form. The following good housekeeping practices will be followed on-site during the construction project:

## **2.8 Material Handling and Waste Management**

Materials stored on-site will be stored in a neat, orderly manner in appropriate containers. Materials will be kept in their original containers with the original manufacturer's label. Substances will not be mixed with one another unless recommended by the manufacturer.

Waste materials will be collected and stored in a securely lidded metal container from a licensed management company. The waste and any construction debris from the site will be hauled off-site daily and disposed of properly. The contractor will be responsible for waste removal. Manufacturer's recommendations for proper use and disposal will be followed for materials. Sanitary waste will be collected from the portable units a minimum of once a week, by a licensed sanitary waste management contractor.

## **2.9 Designated Washout Areas**

The Contractor shall use washout facilities at their own facilities, unless otherwise directed by the Engineer.

## **2.10 Proper Equipment/Vehicle Fueling and Maintenance Practices**

On-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the risk of leakage. To ensure that leaks on stored equipment do not contaminate the site, oil-absorbing mats will be placed under oil-containing equipment during storage. Regular fueling and service of the equipment may be performed using approved methods and with care taken to minimize chance of spills. Repair of equipment or machinery within the 100' water resources area shall not be allowed without the prior approval of the Engineer. Any petroleum products will be stored in tightly sealed containers that are clearly labeled with spill control pads/socks placed under/around their perimeters.

## **2.11 Equipment/Vehicle Washing**

The Contractor will be responsible to ensure that no equipment is washed on site.

## **SECTION 3: Spill Prevention and Control Plan**

The Contractor will be responsible for preventing spills in accordance with the project specifications and applicable federal, state and local regulations. The Contractor will identify a properly trained site employee, involved with the day-to-day site operations to be the spill



prevention and cleanup coordinator. The name(s) of the responsible spill personnel will be posted on-site. Each employee will be instructed that all spills are to be reported to the spill prevention and cleanup coordinator.

### **3.1 Spill Control Equipment**

Spill control/containment equipment will be kept in the Work Area. Materials and equipment necessary for spill cleanup will be kept either in the Work Area or in an otherwise accessible on-site location. Equipment and materials will include, but not be limited to, absorbent booms/mats, brooms, dust pans, mops, rags, gloves, goggles, sand, plastic and metal containers specifically for this purpose. It is the responsibility of the Contractor to ensure the inventory will be readily accessible and maintained.

### **3.2 Notification**

Workers will be directed to inform the on-site supervisor of a spill event. The supervisor will assess the incident and initiate proper containment and response procedures immediately upon notification. Workers should avoid direct contact with spilled materials during the containment procedures. Primary notification of a spill should be made to the local Fire Department and Police Departments. Secondary Notification will be to the certified cleanup contractor if deemed necessary by Fire and/or Police personnel. The third level of notification (within 1 hour) is to the DEP or municipality's Licensed Site Professional (LSP). The specific cleanup contractor to be used will be identified by the Contractor prior to commencement of construction activities.

### **3.3 Spill Containment and Clean-Up Measures**

Spills will be contained with granular sorbent material, sand, sorbent pads, booms or all of the above to prevent spreading. Certified cleanup contractors should complete spill cleanup. The material manufacturer's recommended methods for spill cleanup will be clearly posted and on-site personnel will be made aware of the procedures and the location of the information and cleanup supplies.

### **3.4 Hazardous Materials Spill Report**

The Contractor will report and record any spill. The spill report will present a description of the release, including the quantity and type of material, date of the spill, circumstances leading to the release, location of spill, response actions and personnel, documentation of notifications and corrective measures implemented to prevent reoccurrence.

This document does not relieve the Contractor of the Federal reporting requirements of 40 CFR Part 110, 40 CFR Part 117, 40 CFR Part 302 and the State requirements specified under the Massachusetts Contingency Plan (M.C.P) relating to spills or other releases of oils or hazardous substances. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302, occurs during a twenty-four (24) hour period, the Contractor is required to comply with the response requirements of the above mentioned regulations. Spills of oil or hazardous material in excess of the reportable quantity will be reported to the National Response Center (NRC).

#### SECTION 4: Contact Information/Responsible Parties

**Owner/Operator:**

Priscilla Geigis  
Department of Conservation and Recreation  
Bureau of Design and Project Management  
251 Causeway Street, Suite 600  
Boston, MA 02114  
Cell: (617) 626-1250

**Engineer:**

James Pearson, P.E.  
Weston & Sampson Engineers, Inc.  
55 Walkers Brook Dr, Suite 100  
Reading, MA 01867  
978-532-1900 ex. 2346

**Site Inspector:**

TBD

**Contractor:**

TBD

#### SECTION 5: Erosion and Sedimentation Control

Erosion and Sedimentation Control Drawings can be found in the attached project plans. In addition, a technical specification (***Section 01570 Environmental Protection***) has been included as part of Appendix E, which details all Erosion and Sedimentation controls.

#### SECTION 6: Site Development Plan

The Site Development Plan is included in the attached plans.

#### SECTION 7: Operation and Maintenance of Erosion Control

The erosion control measures will be installed as detailed in the technical specification ***01570 Environmental Protection***. If there is a failure to the controls the Contractor, under the supervision of the Engineer, will be required to stop work until the failure is repaired.

Periodically throughout the work, whenever the Engineer deems it necessary, the sediment that has been deposited against the controls will be removed to ensure that the controls are working properly.

#### SECTION 8: Inspection Schedule

During construction, the erosion and sedimentation controls will be inspected daily. Once the Contractor is selected, an onsite inspector will be selected to work closely with the Engineer to ensure that erosion and sedimentation controls are in place and working properly. An Inspection Form is included.

**Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan**

Charles River Vegetation Management Plan—Test Plots

Inspection Form

Inspected By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

YES	NO	DOES NOT APPLY	ITEM
			Do any erosion/siltation control measures require repair or clean out to maintain adequate function?
			Is there any evidence that sediment is leaving the site and entering the wetlands?
			Are any temporary soil stockpiles or construction materials located in non-approved areas?
			Are on-site construction traffic routes, parking, and storage of equipment and supplies located in areas not specifically designed for them?

Specific location, current weather conditions, and action to be taken:

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Other Comments:

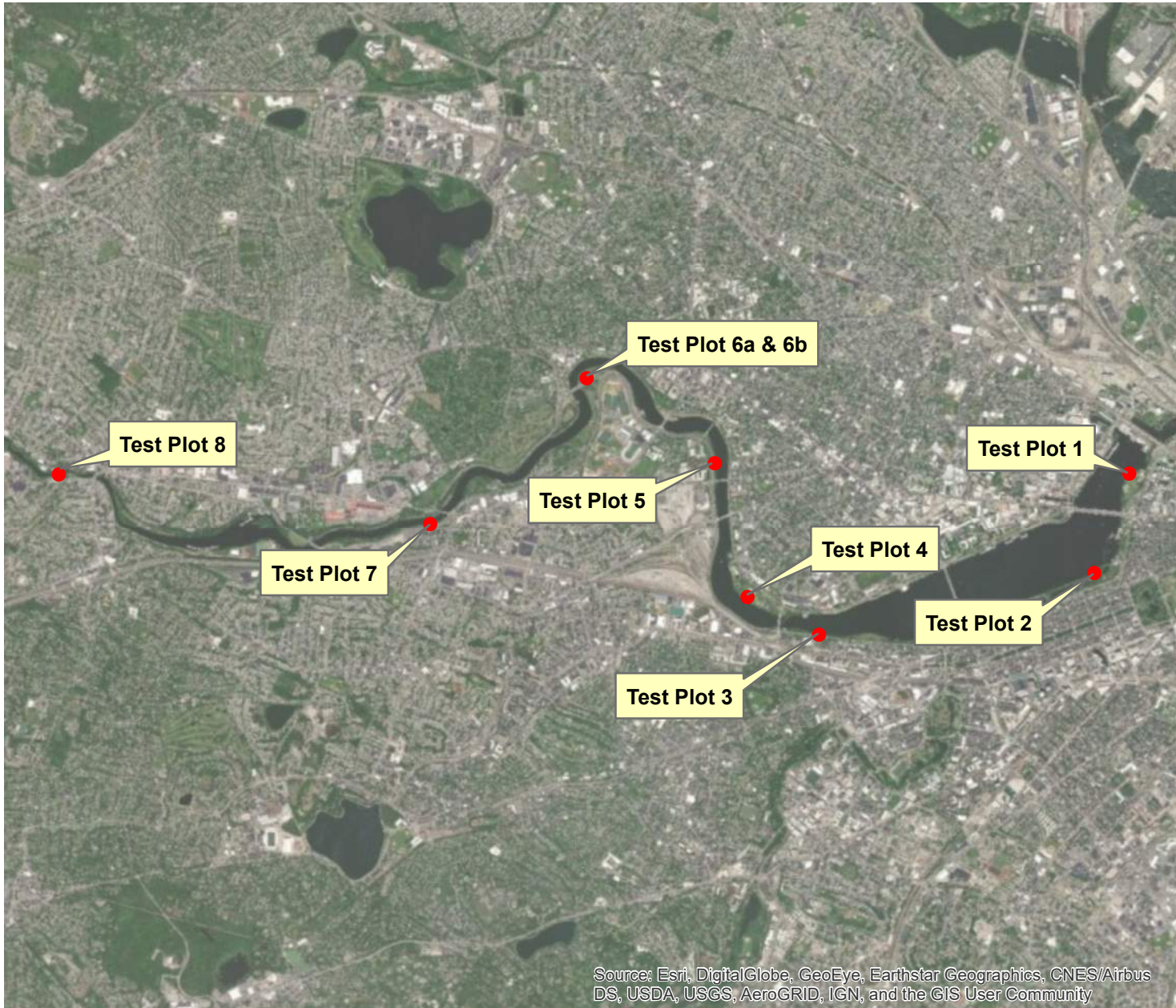
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Pending the actions noted above I certify that the site is in compliance with the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

APPENDIX D  
MAPS

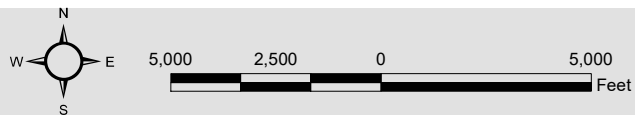


**Legend**

- Test Plot Locations

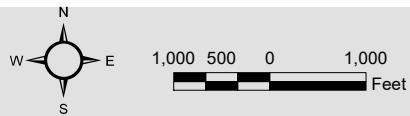
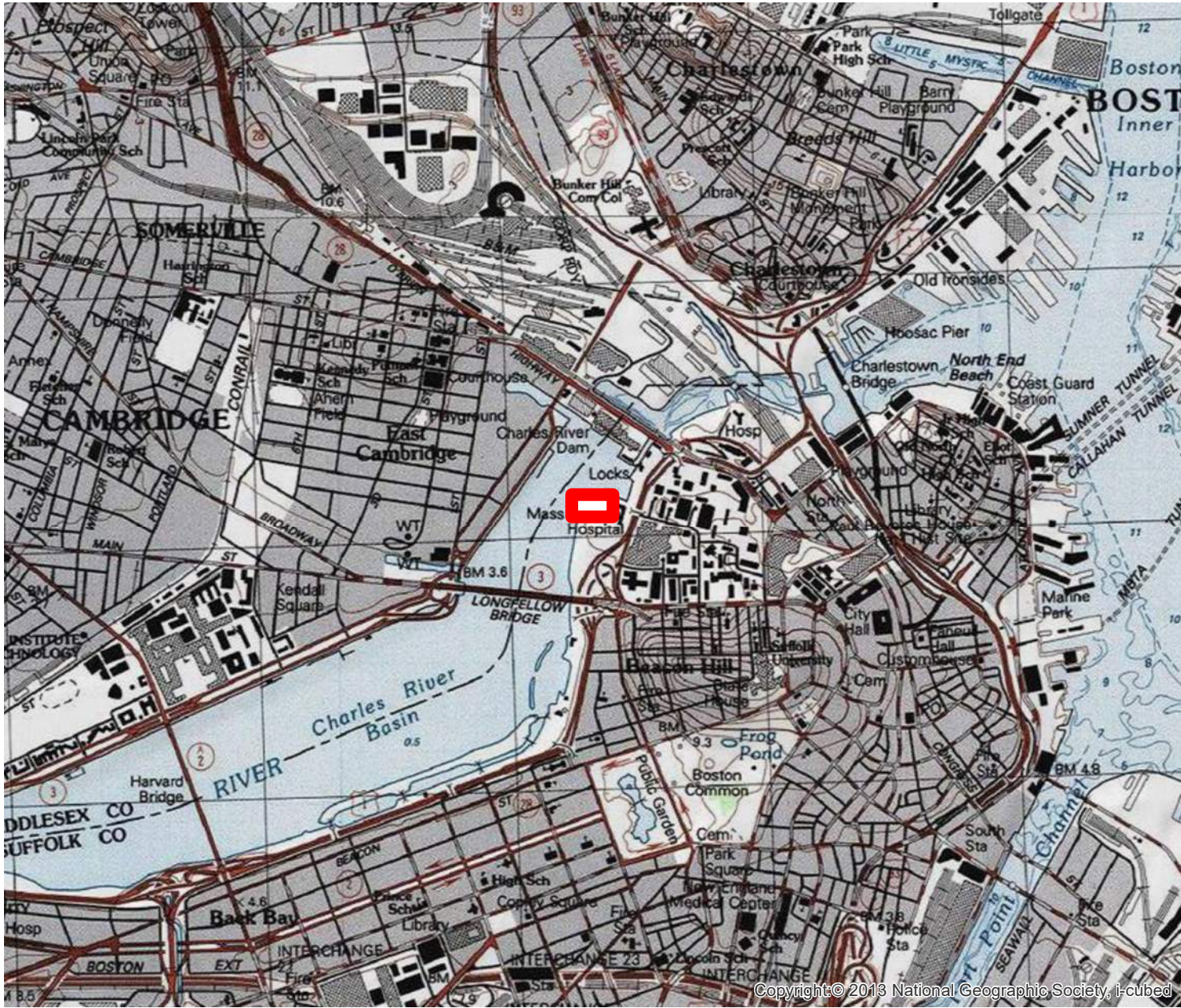
**REFERNCE FIGURE**

Charles River Vegetation  
Management Project  
Test Plots  
Boston, Cambridge and  
Watertown MA



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs





Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs

**Legend**

 Plot 1

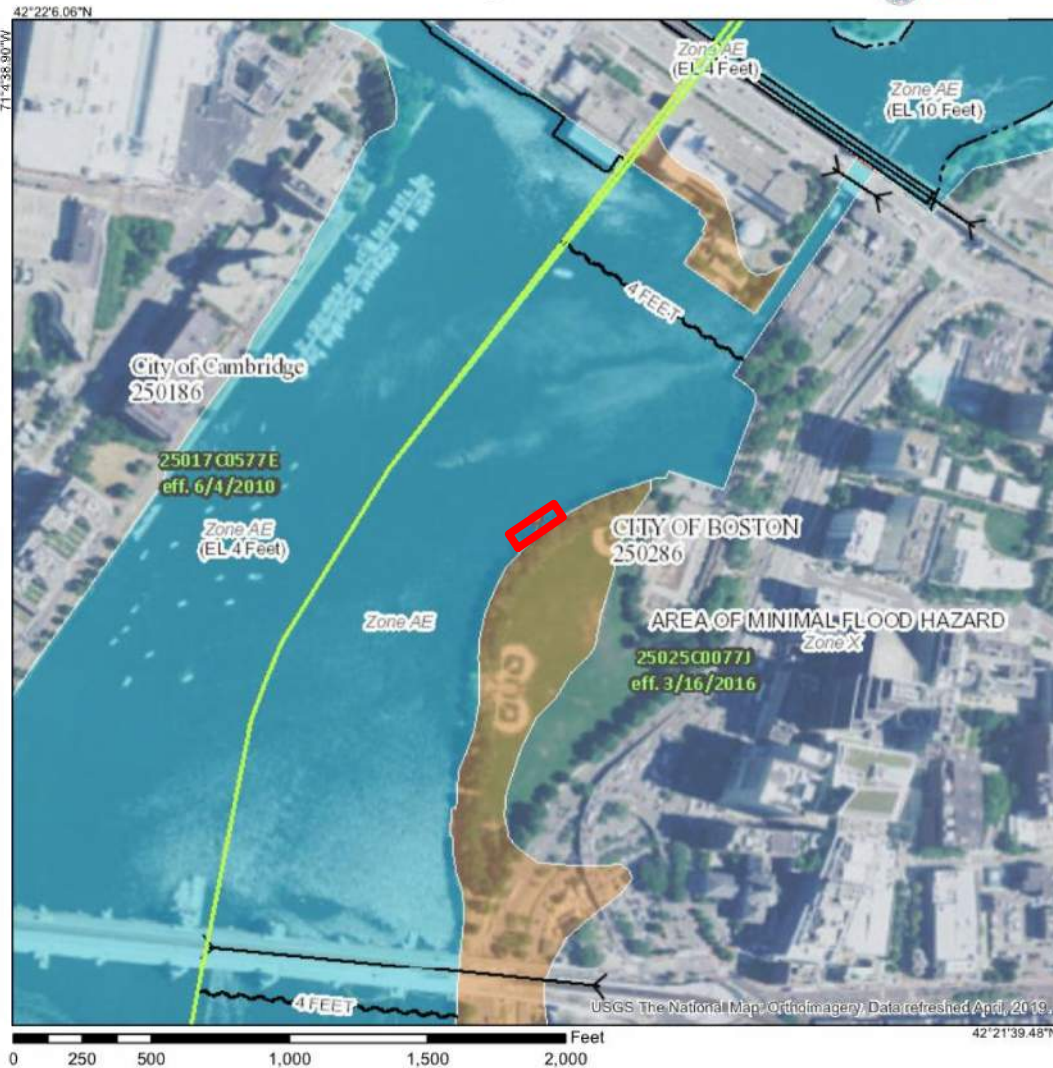
**FIGURE 1**

Charles River Vegetation  
Management Project  
Test Plot 1  
Boston MA

USGS Topographic Map



# National Flood Hazard Layer FIRMette



## Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A10</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		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 <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		Cross Sections with 1% Annual Chance Water Surface Elevation
		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transsect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
OTHER FEATURES		Coastal Transsect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
MAP PANELS		No Digital Data Available
		Unmapped
		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 2/3/2020 at 2:20:34 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.

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## Legend

Plot 1

## FIGURE 2










Charles River Vegetation Management Project  
Test Plot 1  
Boston MA

FEMA Map





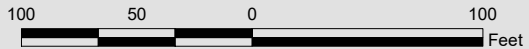
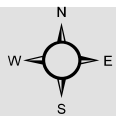
**Legend**

-  Plot 1
-  ACECs
-  NHESP Estimated Habitats of Rare Wildlife
-  NHESP Priority Habitats of Rare Species
-  NHESP Certified Vernal Pools
-  NHESP Potential Vernal Pools
-  Public Water Supply Contributor
-  ORW for ACEC
-  ORW for both Water Supply and Other

**FIGURE 3**

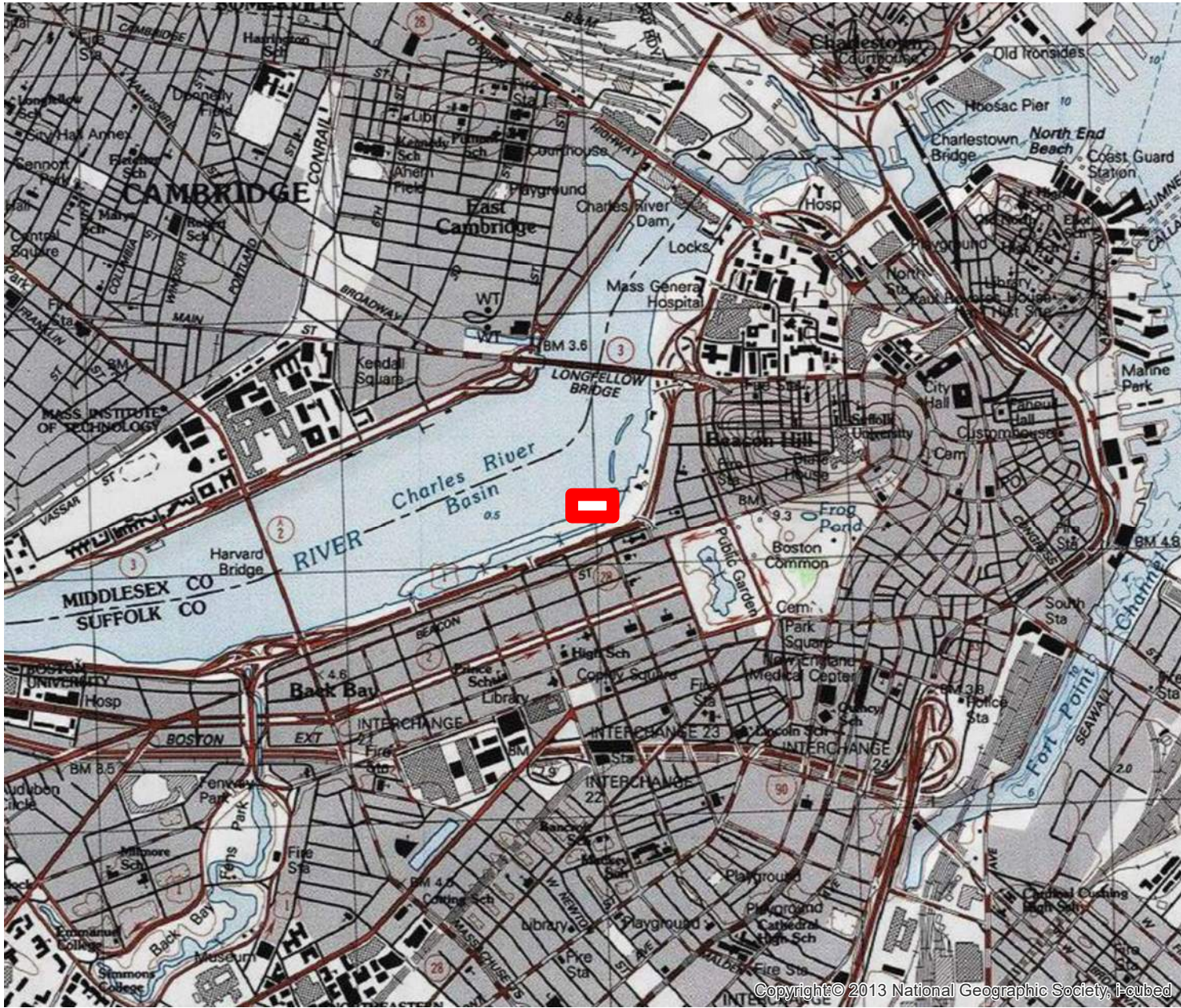
Charles River Vegetation  
Management Project  
Test Plot 1  
Boston MA

Environmental  
Resource Map



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs





**Legend**

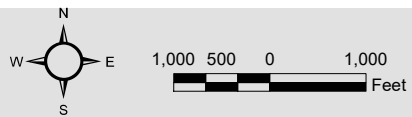
 Plot 2

**FIGURE 4**

Charles River Vegetation  
Management Project  
Test Plot 2  
Boston MA

USGS Topographic Map





Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs

# National Flood Hazard Layer FIRMette



### Legend

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

<b>SPECIAL FLOOD HAZARD AREAS</b>	
	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
<b>OTHER AREAS OF FLOOD HAZARD</b>	
	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
	Area of Minimal Flood Hazard Zone X
	Effective LOMRs
<b>OTHER AREAS</b>	
	Area of Undetermined Flood Hazard Zone D
<b>GENERAL STRUCTURES</b>	
	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
<b>OTHER FEATURES</b>	
	Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
<b>MAP PANELS</b>	
	Digital Data Available
	No Digital Data Available
	Unmapped

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.

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**Legend**  
 Plot 2

**FIGURE 5**  
 Charles River Vegetation Management Project  
 Test Plot 2  
 Boston MA












Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs

**Legend**

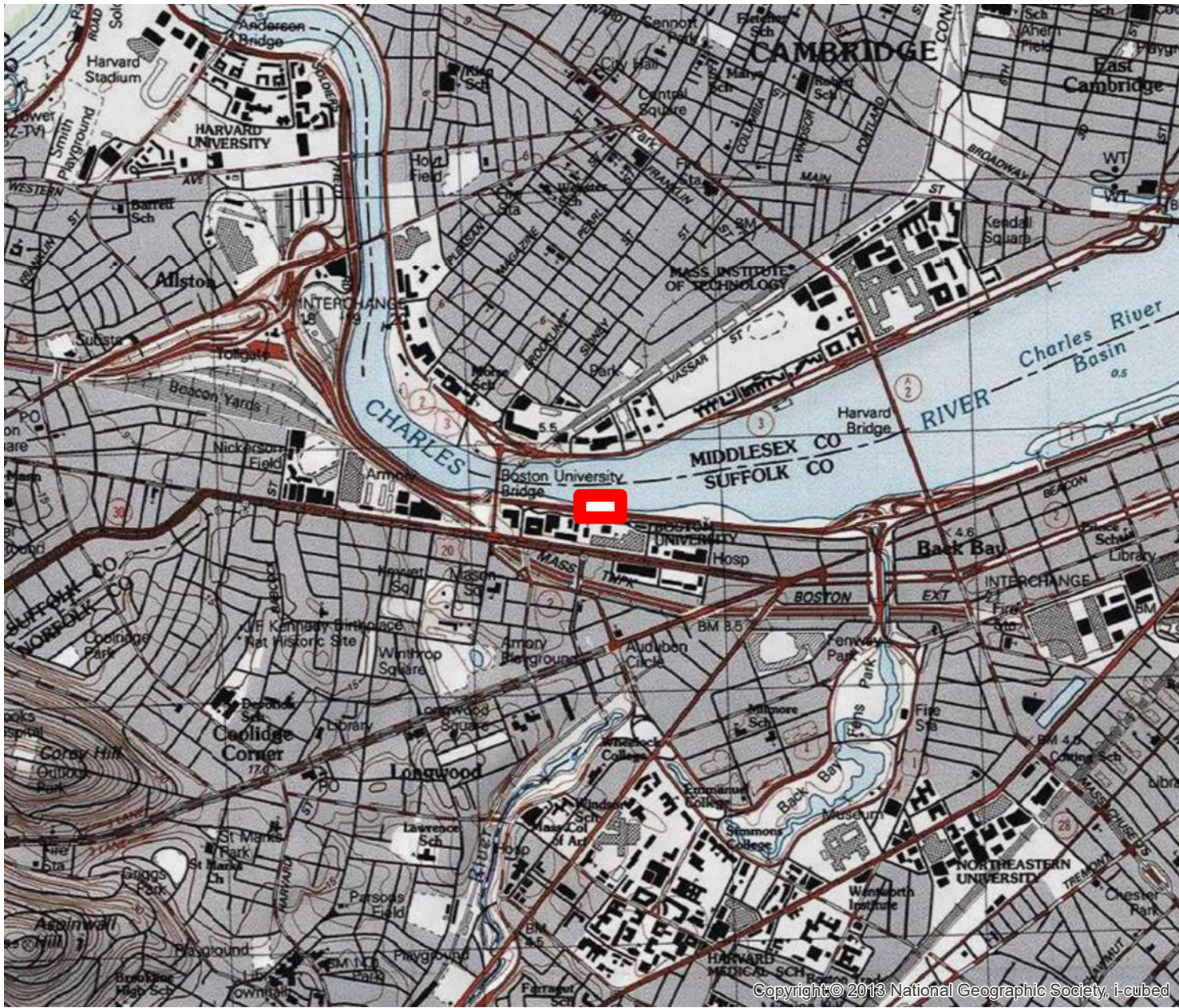
-  Plot 2
-  ACECs
-  NHESP Estimated Habitats of Rare Wildlife
-  NHESP Priority Habitats of Rare Species
-  NHESP Certified Vernal Pools
-  NHESP Potential Vernal Pools
-  Public Water Supply Contributor
-  ORW for ACEC
-  ORW for both Water Supply and Other

**FIGURE 6**

Charles River Vegetation  
Management Project  
Test Plot 2  
Boston MA

Environmental  
Resource Map





**Legend**

 Plot 3

**FIGURE 7**

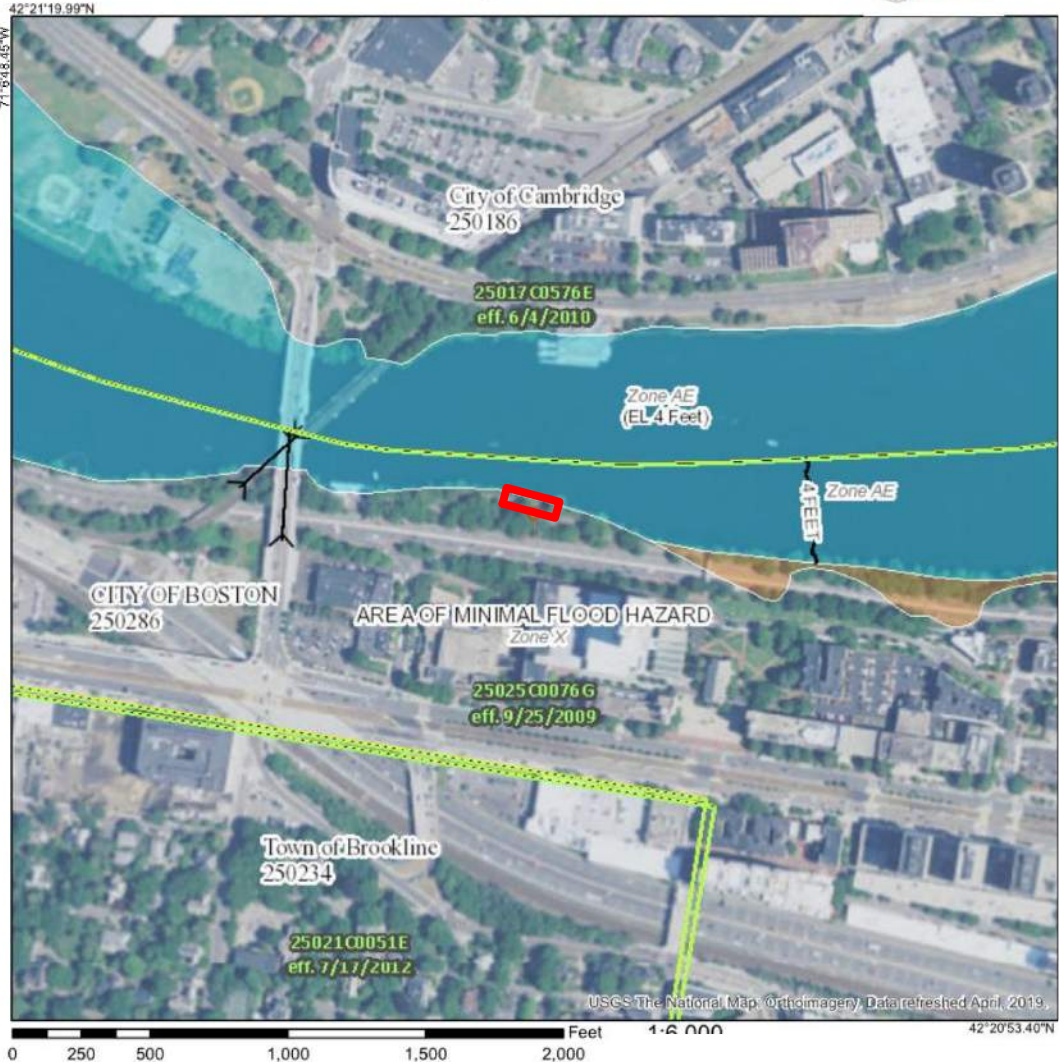
Charles River Vegetation  
Management Project  
Test Plot 3  
Boston MA

USGS Topographic Map



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs

# National Flood Hazard Layer FIRMette



### Legend

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

<b>SPECIAL FLOOD HAZARD AREAS</b>	Without Base Flood Elevation (BFE) <i>Zone A, V, A19</i>
	With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
	Regulatory Floodway

<b>OTHER AREAS OF FLOOD HAZARD</b>	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 <i>Zone X</i>
	Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
	Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
	Area with Flood Risk due to Levee <i>Zone D</i>

<b>OTHER AREAS</b>	Area of Minimal Flood Hazard <i>Zone X</i>
	Effective LOMFs
	Area of Undetermined Flood Hazard <i>Zone B</i>

<b>GENERAL STRUCTURES</b>	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall

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

<b>MAP PANELS</b>	Digital Data Available
	No Digital Data Available
	Unmapped

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.

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### Legend



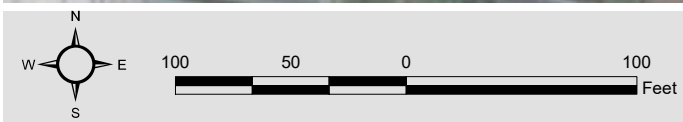
Plot 3

## FIGURE 8

Charles River Vegetation Management Project  
Test Plot 3  
Boston MA










FEMA Map





Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs

**Legend**

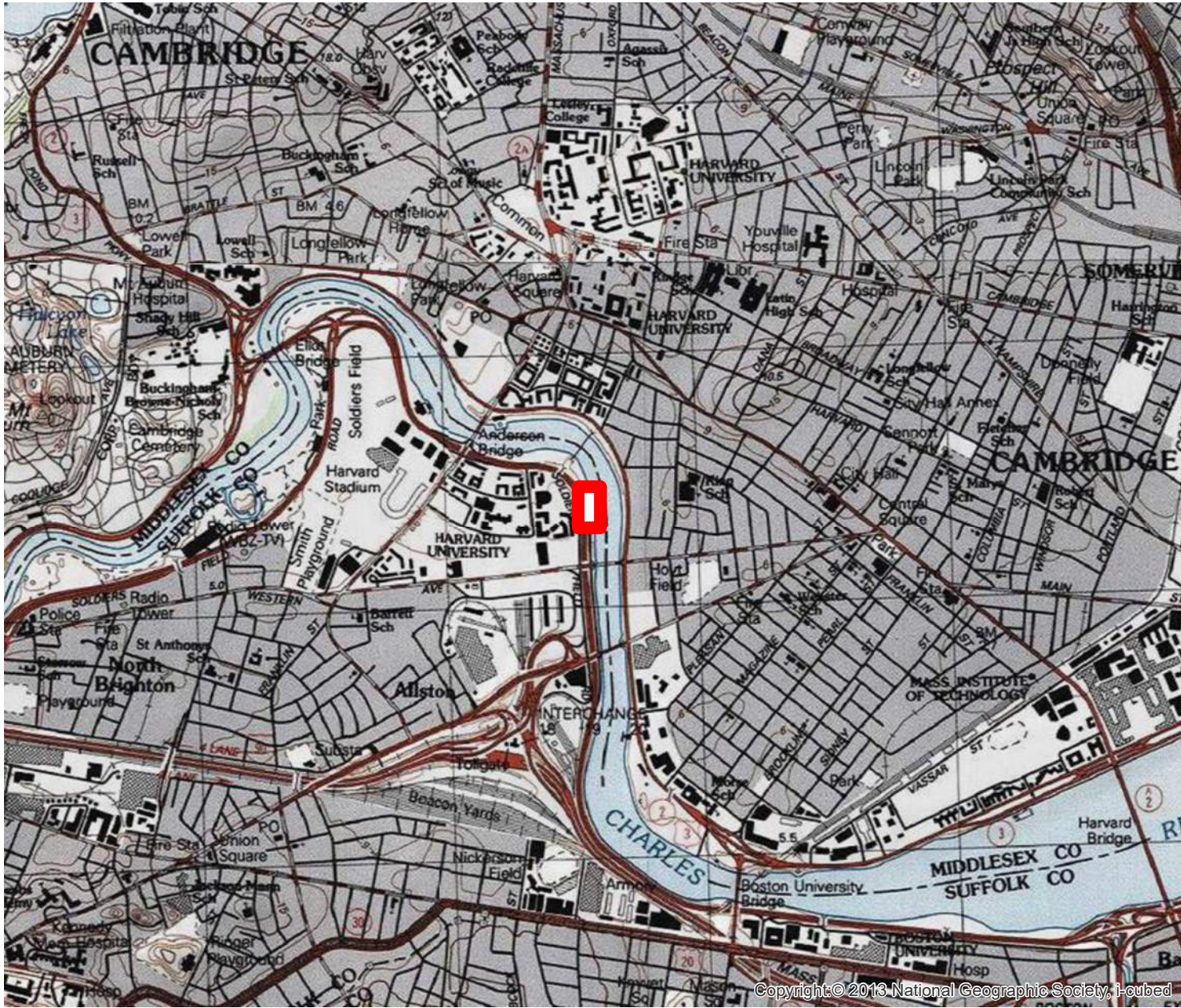
-  Plot 3
-  ACECs
-  NHESP Estimated Habitats of Rare Wildlife
-  NHESP Priority Habitats of Rare Species
-  NHESP Certified Vernal Pools
-  NHESP Potential Vernal Pools
-  Public Water Supply Contributor
-  ORW for ACEC
-  ORW for both Water Supply and Other

**FIGURE 9**

Charles River Vegetation  
Management Project  
Test Plot 3  
Boston MA

Environmental  
Resource Map





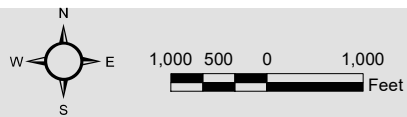
Legend  
Plot 5

FIGURE 10

Charles River Vegetation  
Management Project  
Test Plot 5  
Boston MA

USGS Topographic Map

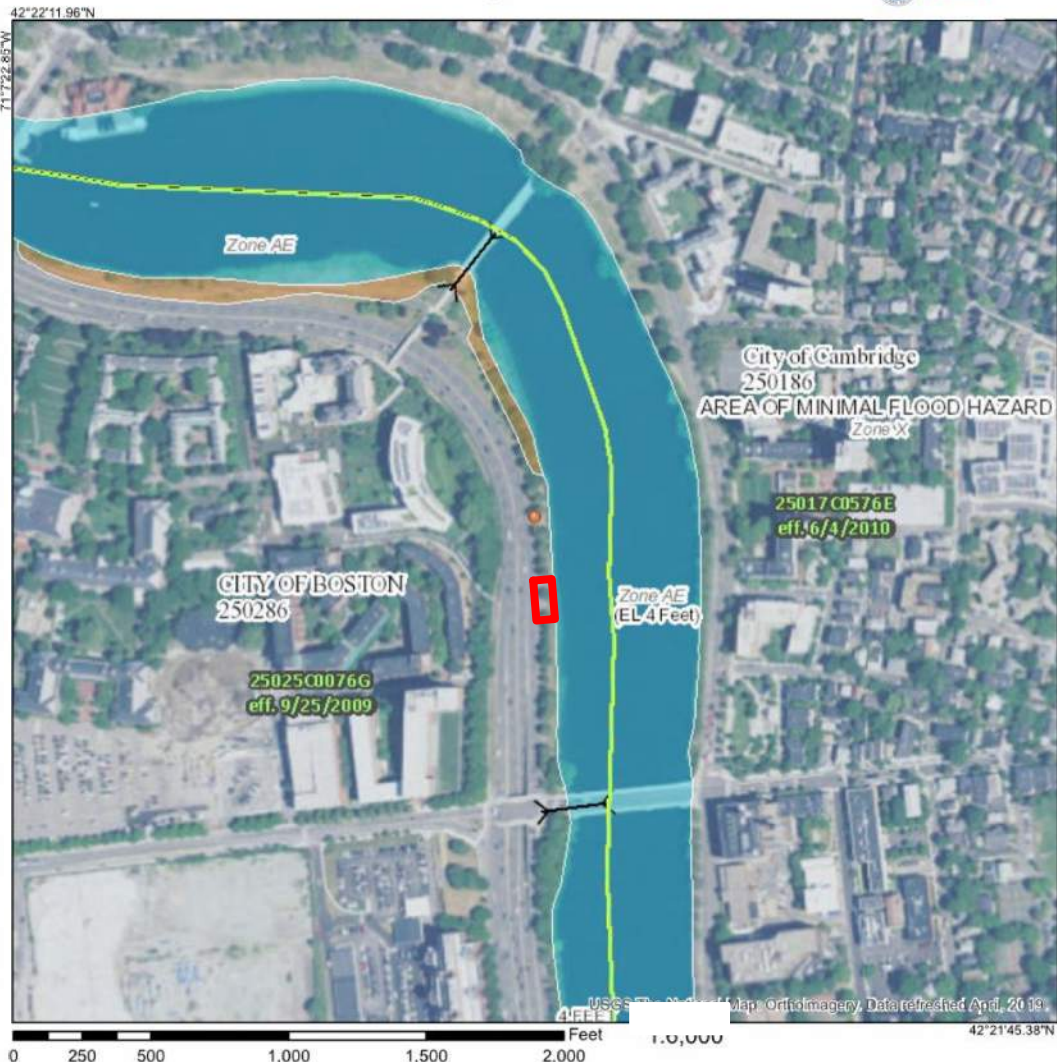
Weston & Sampson



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs

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# National Flood Hazard Layer FIRMette



## Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, APF</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		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. <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard. <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		Area of Minimal Flood Hazard. <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
OTHER FEATURES		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

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.

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**Legend**  
 Plot 5










**FIGURE 11**  
Charles River Vegetation Management Project  
Test Plot 5  
Boston MA





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

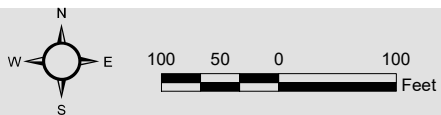
**Legend**

-  Plot 5
-  ACECs
-  NHESP Estimated Habitats of Rare Wildlife
-  NHESP Priority Habitats of Rare Species
-  NHESP Certified Vernal Pools
-  NHESP Potential Vernal Pools
-  Public Water Supply Contributor
-  ORW for ACEC
-  ORW for both Water Supply and Other

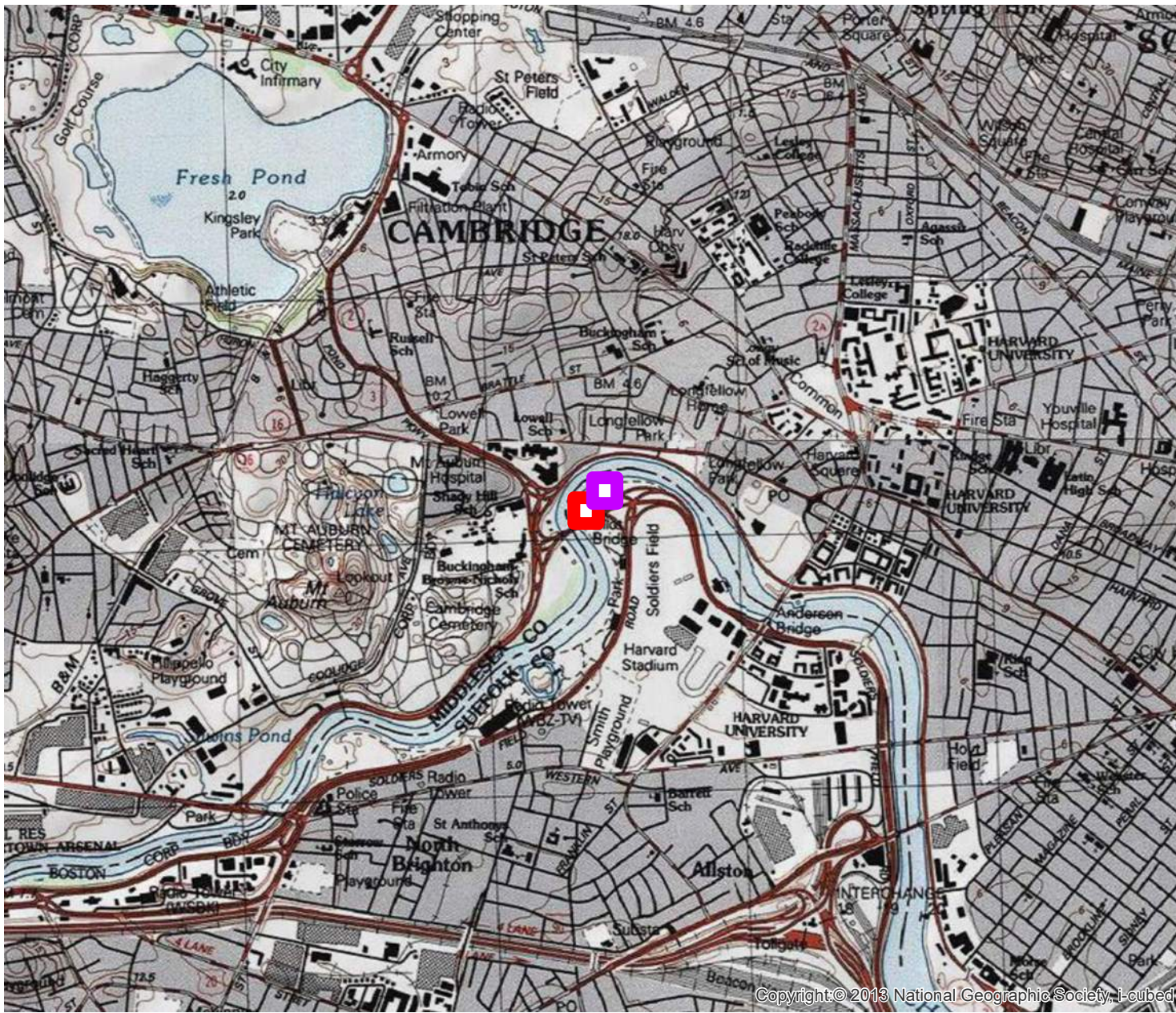
**FIGURE 12**

Charles River Vegetation  
Management Project  
Test Plot 5  
Boston MA



Environmental  
Resource Map



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs



**Legend**

-  Plot 6A Shade
-  Plot 6B Sun

**FIGURE 13**

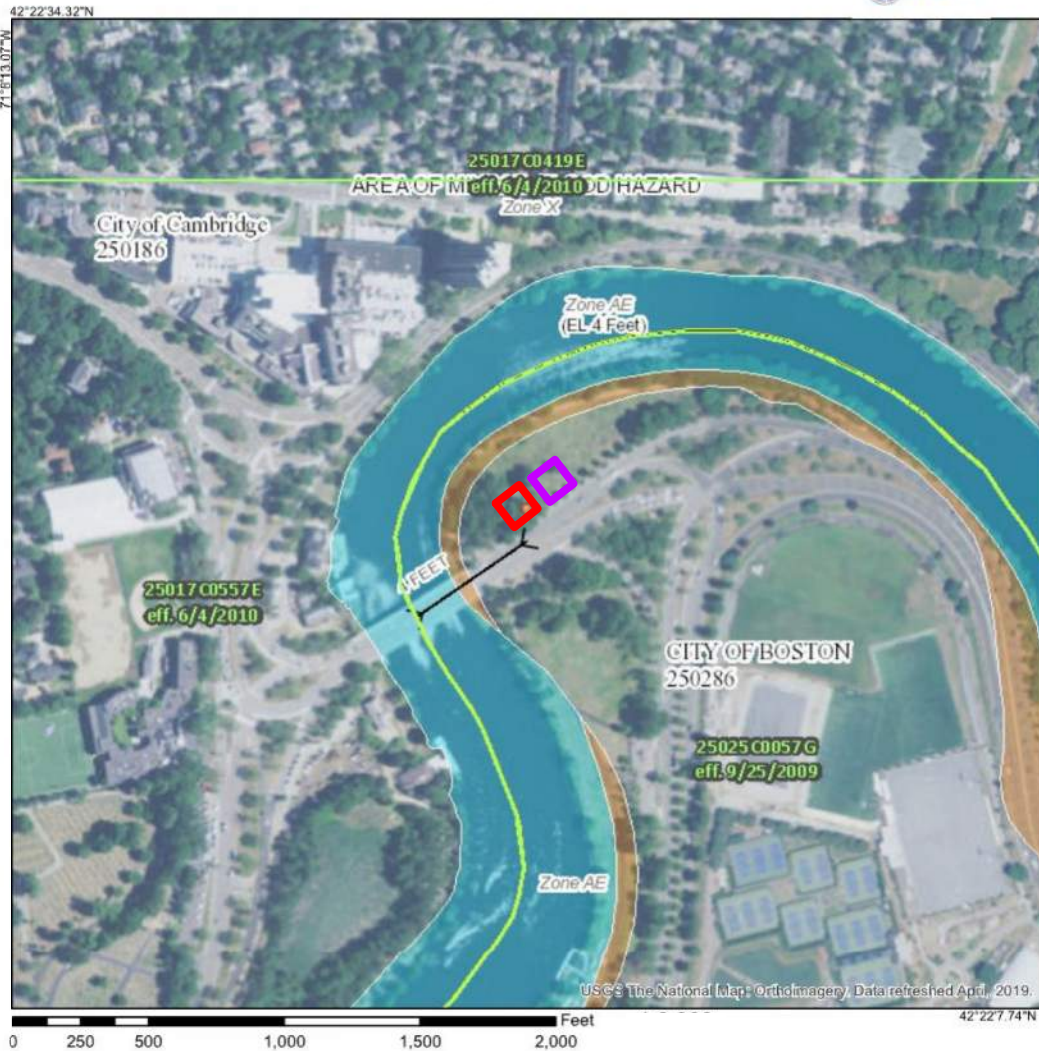
Charles River Vegetation  
Management Project  
Test Plot 6A & 6B  
Boston MA

USGS Topographic Map



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs

# National Flood Hazard Layer FIRMette



### Legend

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

<b>SPECIAL FLOOD HAZARD AREAS</b>	Without Base Flood Elevation (BFE) Zone A, V, ABS With BFE or Depth Zone AE, AO, AN, VE, AR
	Regulatory Floodway
<b>OTHER AREAS OF FLOOD HAZARD</b>	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
<b>OTHER AREAS</b>	NO SCREEN Area of Minimal Flood Hazard Zone X
	Effective LOMRs
	Area of Undetermined Flood Hazard Zone D
<b>GENERAL STRUCTURES</b>	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
<b>OTHER FEATURES</b>	Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
<b>MAP PANELS</b>	Digital Data Available
	No Digital Data Available
	Unmapped

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### Legend

- Plot 6A Shade
- Plot 6B Sun

**FIGURE 14**











Charles River Vegetation Management Project  
Test Plot 6A & 6B  
Boston MA

FEMA Map





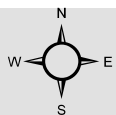
**Legend**

-  Plot 6A Sun
-  Plot 6B Shade
-  ACECs
-  NHESP Estimated Habitats of Rare Wildlife
-  NHESP Priority Habitats of Rare Species
-  NHESP Certified Vernal Pools
-  NHESP Potential Vernal Pools
-  Public Water Supply Contributor
-  ORW for ACEC
-  ORW for both Water Supply and Other

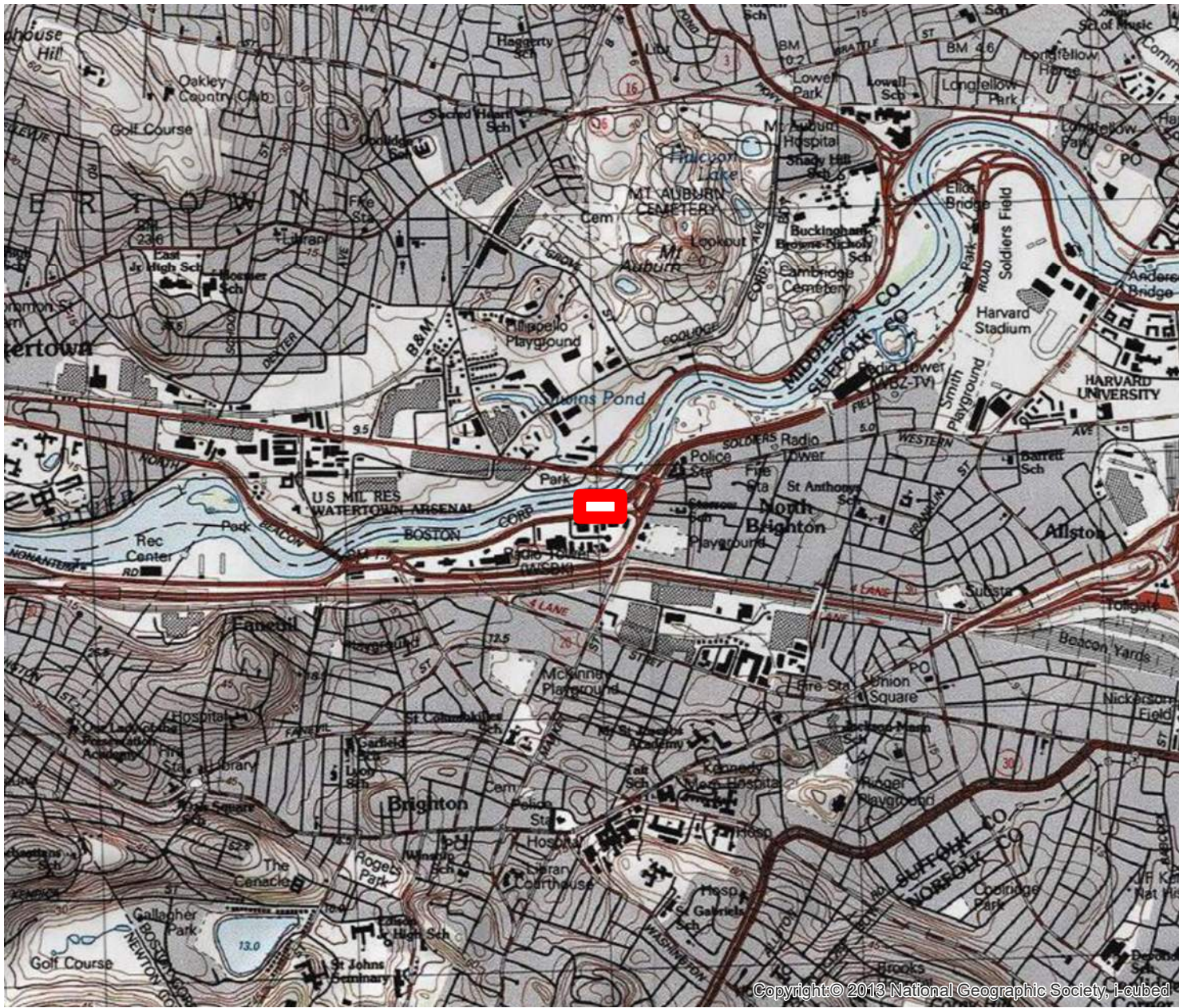
**FIGURE 15**

Charles River Vegetation  
Management Project  
Test Plot 6A & 6B  
Boston MA

Environmental  
Resource Map



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs



**Legend**

 Plot 7

**FIGURE 16**

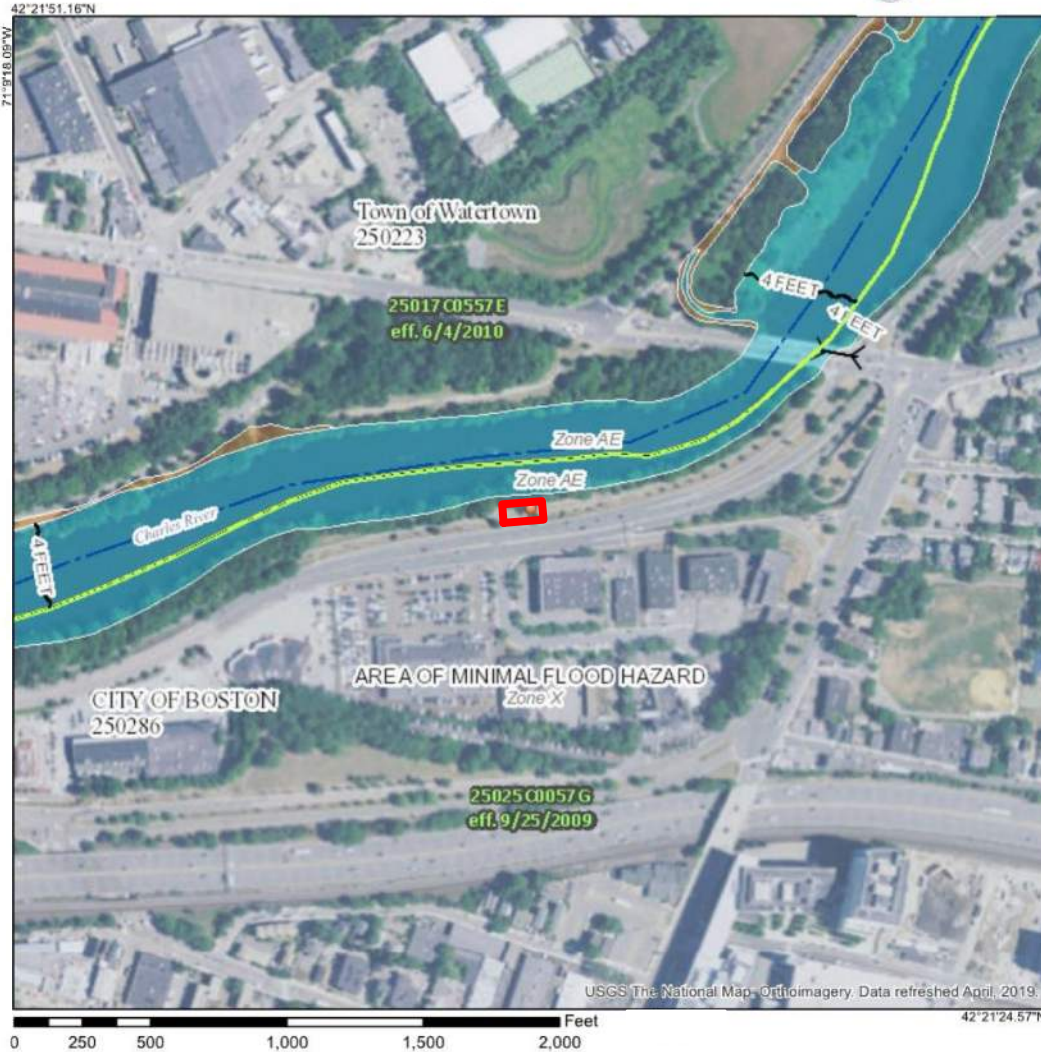
Charles River Vegetation  
Management Project  
Test Plot 7  
Boston MA

USGS Topographic Map



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs

# National Flood Hazard Layer FIRMette



### Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, AE9</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		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 <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transsect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transsect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

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.

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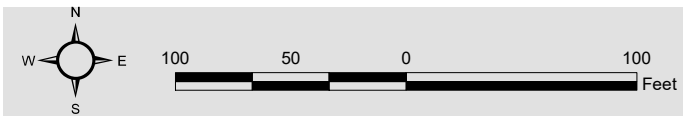
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**Legend**  
 Plot 7

**FIGURE 17**  
 Charles River Vegetation Management Project  
 Test Plot 7  
 Boston MA












Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs

**Legend**

-  Plot 7
-  ACECs
-  NHESP Estimated Habitats of Rare Wildlife
-  NHESP Priority Habitats of Rare Species
-  NHESP Certified Vernal Pools
-  NHESP Potential Vernal Pools
-  Public Water Supply Contributor
-  ORW for ACEC
-  ORW for both Water Supply and Other

**FIGURE 18**

Charles River Vegetation  
Management Project  
Test Plot 7  
Boston MA

Environmental  
Resource Map

APPENDIX E  
CONTRACT SPECIFICATIONS



## SECTION 015710

### ENVIRONMENTAL PROTECTION

#### PART 1 GENERAL

##### 1.01 DESCRIPTION

- A. The work covered by this section of the specifications consists of furnishing all labor, materials, tools and equipment and performing all work required for the prevention of environmental pollution during and as a result of construction operations under this contract.
- B. The requirements set forth in this section of the specifications apply to areas adjacent to rivers, streams, and other water bodies, and construction in and adjacent to wetlands, unless otherwise specifically stated.
- C. All work under this Contract shall be in accordance with applicable local, state, and federal regulations.
- D. Prior to commencement of work, the Contractor shall meet with representatives of the Owner's Representative to develop mutual understandings relative to compliance of the environmental protection program.

##### 1.02 RELATED WORK

- A. Section 310101: Site Restoration.
- B. Section 320190: Tree and Shrub Protection.

##### 1.03 SUBMITTALS

- A. The Contractor shall submit for approval details and literature fully describing environmental protection methods to be employed in carrying out construction activities within 100 feet of wetlands or across areas designated as wetlands and in areas adjacent to rivers, streams, and other water bodies.

#### PART 2 PRODUCTS

##### 2.01 SILT FENCE

- A. The silt fence shall consist of a 3-foot wide continuous length sediment control fabric, stitched to a mesh backing and stapled to preweathered oak posts installed as shown on the drawings. The oak posts shall be 2-inches by 2-inches (Minimum Dimension) by 48-inches and shall be tapered. The bottom edge of the silt fence shall be buried as shown on the drawings.
- B. The silt fence shall be DOT Silt Fence PPDM3611, as manufactured by U.S. Silt & Site Supply/Getsco, Concord, New Hampshire or approved equal.

C. Silt fence properties:

<u>Physical Properties</u>	<u>Test Method</u>	<u>Minimum Value</u>
Grab Strength, lbs.	ASTM-D-4632	124
Grab Elongation, %	ASTM-D-4632	15
Mullen burst, psi	ASTM-D-3786	300
Puncture, lbs.	ASTM-D-4833	65
Trapezoidal Tear, lbs.	ASTM-D-4533	65
UV Resistance <sup>2</sup> , % 3	ASTM-D-4355	80@500 hrs.
AOS, US Sieve No.	ASTM-D-4751	30
Flow Rate, gal/min/sq. ft.	ASTM-D-4491	10
Permittivity (1/sec) gal/min/sf.	ASTM-D-4491	0.05 sec <sup>-1</sup>

2.02 STRAW BALES:

- A. Straw bales shall consist of certified seed free stems of agricultural grain and cereal crops and shall be free of grasses and legumes. Standard bales shall be 14-inches high, 18- inches wide and 36- to 40-inches long tied with polypropylene twine and weigh within 5 percent of 7 lbs. per cubic ft.

2.03 WETLAND PROTECTION

- A. Contractor is responsible for verifying location of wetlands prior to beginning work. Any wetlands encountered are to remain in place and be protected as shown in the project drawings.

2.04 FIBER ROLL/COIR LOG

- A. Coconut fiber encased in a biodegradable netting of jute or burlap as manufactured by the following, or approved equal:
- East Coast Erosion Control, Bernville Pennsylvania
  - GEI Works, Sebastian, Florida

Fiber Rolls are used to dissipate water energy and provide a medium for introduction of herbaceous vegetation. Anchor into a bank and provide suitable backfill behind the roll where vegetation can be planted.

2.05 EROSION CONTROL/SLOPE STABILIZATION MATTING

- A. Erosion Control Matting to be Single Net Straw Blanket with Biodegradable Jute Netting as manufactured by the following, or approved equal:
- East Coast Erosion Control, Bernville Pennsylvania
  - GEI Works, Sebastian, Florida

Matting fiber to be comprised of 100% Wheat Straw. Netting to be organic jute fiber. Threads to be biodegradable jute yarn.

PART 3 EXECUTION

3.01 NOTIFICATION AND STOPPAGE OF WORK

- A. The Owner's Representative will notify the Contractor in writing of any non-compliance with the requirements of the project documents. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails to act promptly, the Owner may order stoppage of all or part of the work through the Owner's Representative until satisfactory corrective action has been taken. No claim for an extension of time or for excess costs or damage incurred by the Contractor as a result of time lost due to any stop work orders shall be made unless it was later determined that the Contractor was in compliance.

### 3.02 AREA OF CONSTRUCTION ACTIVITY

- A. Insofar as possible, the Contractor shall confine his construction activities to those areas defined by the plans and specifications. All land resources within the project boundaries and outside the limits of permanent work performed under this contract shall be preserved in their present condition or be restored to a condition after completion of construction at least equal to that which existed prior to work under this contract.

### 3.03 PROTECTION OF WATER RESOURCES

- A. The Contractor shall not pollute streams, lakes or reservoirs with fuels, oils, bitumens, calcium chloride, acids, herbicides or other harmful materials. It is the Contractor's responsibility to comply with all applicable Federal, State, County and Municipal laws regarding pollution of rivers and streams.
- B. Special measures shall be taken to insure against spillage of any pollutants into public waters.

### 3.04 CONSTRUCTION IN AREAS DESIGNATED AS WETLANDS

- A. Insofar as possible, the Contractor shall make every effort to minimize disturbance within areas designated as wetlands.
- B. The Contractor shall perform his work in such a way that these areas to remain are left in the condition existing prior to construction.
- C. The elevations of areas designated as wetlands to remain shall not be unduly disturbed by the Contractor's operations. If such disturbance does occur, the Contractor shall take all measures necessary to return these areas to the elevations which existed prior to construction.
- D. Excavated materials shall not be permanently placed or temporarily stored in areas designated as wetlands or in areas outside of contract limits. Temporary storage areas for excavated material shall be as required by the Owner's Representative.
- E. During construction, easements within wetlands shall be lined with a continuous straw bale/siltation fence barrier.

### 3.05 PROTECTING AND MINIMIZING EXPOSED AREAS

- A. The Contractor shall limit the area of land which is exposed and free from vegetation during construction. In areas where the period of exposure will be greater than one (1) week, temporary vegetation, erosion control matting, tarping, mulching or other protective measures shall be provided as specified.
- B. The Contractor shall take account of the conditions of the soil where temporary cover crop will be used to ensure that materials used for temporary vegetation are adaptive to the sediment control. Materials to be used for temporary vegetation shall be approved by the Owner's Representative.

### 3.06 LOCATION OF STORAGE AREAS

- A. The location of the Contractor's storage areas for equipment and/or materials shall be upon cleared portions of the job site or areas to be cleared as a part of this project and shall require written approval of the Owner's Representative. Plans showing storage facilities for equipment and materials shall be submitted for approval of the Owner's Representative.
- B. No excavated materials or materials used in backfill operations shall be deposited outside of the contract limits or within any water course or drainage facility. Adequate measures for erosion and sediment control such as the placement of baled straw around the downstream perimeter of stockpiles shall be employed to protect any downstream areas from siltation.
- C. There shall be no storage of equipment or materials in areas outside of areas in contract limits or designated as wetlands.
- D. The Owner's Representative may designate a particular area or areas where the Contractor may store materials used in his operations.
- E. Storage areas shall be restored to pre-construction conditions with the planting of native species of trees and shrubs.

### 3.07 PROTECTION OF LANDSCAPE

- A. The Contractor shall not deface, injure, or destroy trees or shrubs nor remove or cut them without written authority from the Owner's Representative. No ropes, cables, or guys shall be fastened to or attached to any existing nearby trees for anchorages unless specifically authorized by the Owner's Representative. Excavating machinery and cranes shall be of suitable type and be operated with care to prevent injury to trees which are not to be removed, particularly overhanging branches and limbs. The Contractor shall, in any event, be responsible for any damage resulting from such use.
- B. Branches, limbs, and roots shall not be cut or modified by the Contractor. Hazardous limbs, diseased trees, or otherwise compromised plantings shall be reported to the Owner's Representative. Any damage to branches, limbs, roots, and trunks during construction shall be reported to the Owner's Representative, who will thereby coordinate corrective trimming and restoration of plant materials.
- C. Where, in the opinion of the Owner's Representative, trees may possibly be defaced, bruised, injured, or otherwise damaged by the Contractor's equipment or other operations,

the Owner's Representative may require the Contractor to adequately protect such trees by placing boards, planks, poles or fencing around them. Any trees or landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the expense of the Contractor. The Owner's Representative will decide what method of restoration shall be used, and whether damaged trees shall be treated and healed or removed and disposed of under the provisions of Section 320190: Tree and Shrub Protection.

- D. No construction equipment shall be permitted within tree critical root area.
- E. Native/cultivated hedges, shrubs, and plants which could be injured by the Contractor's operations shall be protected by suitable means or shall be dug up, balled and temporarily replanted and maintained. After construction operations have been substantially completed, they shall be replanted in their original positions and cared for until growth is re-established. If native/cultivated hedges, shrubs, and plants are injured to such a degree as to affect their growth or diminish their beauty or usefulness, they shall be replaced by items of a kind and quality at least equal to that existing at the start of the work.

### 3.08 CLEARING AND GRUBBING

- A. The Contractor shall clear and grub only in areas designated within contract limits, and only the area required for construction operations, as approved by the Owner's Representative. Removal of mature trees (4 inches or greater DBH) will not be allowed without approval from the Owner's Representative.
- B. The Contractor shall not remove trees in the Owner's temporary easements without permission of the Owner's Representative.

### 3.09 DISCHARGE OF DEWATERING OPERATIONS

- A. Any water that is pumped and discharged from the trench and/or excavation as part of the Contractor's water handling shall be filtered by an approved method prior to its discharge into a receiving water or drainage system.
- B. Under no circumstances shall the Contractor discharge water to the areas designated as wetlands or watercourses. When constructing in a wetlands area, the Contractor shall discharge water from dewatering operations directly to the nearest drainage system, stream, or waterway after filtering by an approved method.
- C. The pumped water shall be filtered through filter fabric and baled straw, a vegetative filter strip or a vegetated channel to trap sediment occurring as a result of the construction operations. The vegetated channel shall be constructed such that the discharge flow rate shall not exceed a velocity of more than 1 foot per second. Accumulated sediment shall be cleared from the channel periodically.

### 3.10 DUST CONTROL

- A. During the progress of the work, the Contractor shall conduct his operations and maintain the area of his activities, including sweeping and sprinkling of streets as necessary, to minimize creation and dispersion of dust. If the Owner's Representative decides it is necessary to use calcium chloride for more effective dust control, the Contractor shall furnish and spread the material, as directed by the Owner's Representative.

B. Calcium Chloride shall not be used for dust control within a drainage basin or in the vicinity of any source of potable water.

### 3.11 SEPARATION AND REPLACEMENT OF TOPSOIL

A. Topsoil shall be carefully removed from areas where excavations are to be made, and separately stored to be used again as required. The topsoil shall be stored in an area acceptable to the Owner's Representative and adequate measures shall be employed to prevent erosion of said material.

### 3.12 BALED STRAW

A. To trap sediment and to prevent sediment from clogging drainage systems, baled straw shall be used where shown on the drawings. Care shall be taken to keep the bales from breaking apart. The bales shall be securely staked to prevent overturning, flotation, or displacement. All deposited sediment shall be removed periodically.

### 3.13 ERECTION AND MAINTENANCE OF SILT FENCE

A. Where indicated on the drawings or where required by the Owner's Representative, the Contractor shall erect and maintain a temporary silt fence. The silt fence shall be used specifically to contain sediment from runoff water and to minimize environmental damage caused by construction.

### 3.14 CATCH BASIN PROTECTION

A. Catch basin protection shall be used for every catch basin, shown on the plans or as required by the Owner's Representative, to trap sediment and prevent it from clogging drainage systems and entering wetlands. Siltation fabric shall be securely installed under the catch basin grate. Care shall be taken to keep the siltation fabric from breaking apart or clogging. All deposited sediment shall be removed periodically and at times prior to predicted precipitation to allow free drainage flow. Prior to working in areas where catch basins are to be protected, each catch basin sump shall be cleaned of all debris and protected. The Contractor shall properly dispose of all debris at no additional cost to the Owner.

END OF SECTION

APPENDIX F  
ABUTTERS LIST / NOTICE TO ABUTTERS



**NOTIFICATION TO ABUTTERS  
BOSTON CONSERVATION COMMISSION**

In accordance with the Massachusetts Wetlands Protection Act, Massachusetts General Laws Chapter 131, Section 40, and the Boston Wetlands Ordinance, you are hereby notified as an abutter to a project filed with the Boston Conservation Commission.

- A. **The Department of Conservation & Recreation** has filed a Notice of Intent with the Boston Conservation Commission seeking permission to alter an Area Subject to Protection under the Wetlands Protection Act (General Laws Chapter 131, section 40) and Boston Wetlands Ordinance.
- B. The address of the lot where the activity is proposed is the **Charles River Reservation**.
- C. The project involves **the implementation of vegetation test plots as part of the Charles River Vegetation Management Plan**.
- D. Copies of the Notice of Intent may be obtained by contacting the Boston Conservation Commission at [CC@boston.gov](mailto:CC@boston.gov).
- E. Copies of the Notice of Intent may be obtained from **Weston & Sampson Engineers, by contacting Devin Batchelder at 978-532-1900 ext. 2117 between the hours of 8 am and 5 pm, Monday through Friday**.
- F. In accordance with the Commonwealth of Massachusetts Executive Order Suspending Certain Provisions of the Open Meeting Law, the public hearing will take place **virtually** at <https://zoom.us/j/6864582044>. If you are unable to access the internet, you can call 1-929-205-6099, enter Meeting ID 686 458 2044 # and use # as your participant ID.
- G. Information regarding the date and time of the public hearing may be obtained from the **Boston Conservation Commission** by emailing [CC@boston.gov](mailto:CC@boston.gov) or calling (617) 635-3850 between the hours of 9 AM to 5 PM, **Monday through Friday**.

NOTE: 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**.

NOTE: Notice of the public hearing, including its date, time, and place, will be posted on [www.boston.gov/public-notices](http://www.boston.gov/public-notices) and in Boston City Hall not less than forty-eight (48) hours in advance.

NOTE: If you would like to provide comments, you may attend the public hearing or send written comments to [CC@boston.gov](mailto:CC@boston.gov) or Boston City Hall, Environment Department, Room 709, 1 City Hall Square, Boston, MA 02201

NOTE: You also may contact the Boston Conservation Commission or the Department of Environmental Protection Northeast Regional Office for more information about this application or the Wetlands Protection Act. To contact DEP, call: the Northeast Region: (978) 694-3200.





## BABEL NOTICE

English:

**IMPORTANT!** This document or application contains **important information** about your rights, responsibilities and/or benefits. It is crucial that you understand the information in this document and/or application, and we will provide the information in your preferred language at no cost to you. If you need them, please contact us at [cc@boston.gov](mailto:cc@boston.gov) or 617-635-3850.

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Traditional Chinese:

**非常重要！**這份文件或是申請表格包含關於您的權利，責任，和／或福利的重要信息。請您務必完全理解這份文件或申請表格的全部信息，這對我們來說十分重要。我們會免費給您提供翻譯服務。如果您有需要請聯系我們的郵箱 [cc@boston.gov](mailto:cc@boston.gov) 電話# 617-635-3850..

Vietnamese:

**QUAN TRỌNG!** Tài liệu hoặc đơn yêu cầu này chứa **thông tin quan trọng** về các quyền, trách nhiệm và/hoặc lợi ích của bạn. Việc bạn hiểu rõ thông tin trong tài liệu và/hoặc đơn yêu cầu này rất quan trọng, và chúng tôi sẽ cung cấp thông tin bằng ngôn ngữ bạn muốn mà không tính phí. Nếu quý vị cần những dịch vụ này, vui lòng liên lạc với chúng tôi theo địa chỉ [cc@boston.gov](mailto:cc@boston.gov) hoặc số điện thoại 617-635-3850.

Simplified Chinese:

**非常重要！**这份文件或是申请表格包含关于您的权利，责任，和／或福利的重要信息。请您务必完全理解这份文件或申请表格的全部信息，这对我们来说十分重要。我们会免费给您提供翻译服务。如果您有需要请联联系我们的邮箱 [cc@boston.gov](mailto:cc@boston.gov) 电话# 617-635-3850.

Cape Verdean Creole:

**INPURTANTI!** Es dukumentu ó aplikason ten **informason inpurtanti** sobri bu direitus, rasponsabilidadi i/ó benefisius. Ê krusial ki bu intendi informason na es dukumentu i/ó aplikason ó nu ta da informason na língua di bu preferênsia sen ninhun kustu pa bó. Si bu prisiza del, kontata-nu na [cc@boston.gov](mailto:cc@boston.gov) ó 617-635-3850.

Arabic:

**مهم!** يحتوي هذا المستند أو التطبيق على معلومات مهمة حول حقوقك ومسؤولياتك أو فوائده. من الأهمية أن تفهم المعلومات الواردة في هذا المستند أو التطبيق. سوف نقدم المعلومات بلغتك المفضلة دون أي تكلفة عليك. إذا كنت في حاجة إليها، يرجى الاتصال بنا على [cc@boston.gov](mailto:cc@boston.gov) أو 617-635-3850.

Russian:

**ВАЖНО!** В этом документе или заявлении содержится **важная информация** о ваших правах, обязанностях и/или льготах. Для нас очень важно, чтобы вы понимали приведенную в этом документе и/или заявлении информацию, и мы готовы бесплатно предоставить вам информацию на предпочитаемом вами языке. Если Вам они нужны, просьба связаться с нами по адресу электронной почты [cc@boston.gov](mailto:cc@boston.gov), либо по телефону 617-635-3850.

Portuguese:

**IMPORTANTE!** Este documento ou aplicativo contém **Informações importantes** sobre os seus direitos, responsabilidades e/ou benefícios. É importante que você compreenda as informações contidas neste documento e/ou aplicativo, e nós iremos fornecer as informações em seu idioma de preferência sem nenhum custo para você. Se precisar deles, fale conosco: [cc@boston.gov](mailto:cc@boston.gov) ou 617-635-3850.

French:

**IMPORTANT !** Ce document ou cette demande contient des **informations importantes** concernant vos droits, responsabilités et/ou avantages. Il est essentiel que vous compreniez les informations contenues dans ce document et/ou cette demande, que nous pouvons vous communiquer gratuitement dans la langue de votre choix. Si vous en avez besoin, veuillez nous contacter à [cc@boston.gov](mailto:cc@boston.gov) ou au 617-635-3850.





## 波士顿湿地保护委员会 项目邻近住户通知

根据《马萨诸塞州湿地保护法》、《马萨诸塞州普通法》第 131 章第 40 节以及《波士顿湿地条例》的规定，我们特此向您，即向波士顿湿地保护委员会提出申请的项目的邻近住户，发出以下通知。

- A. 湿地保护与娱乐部已向波士顿湿地保护委员会提出申请，请求批准改建一块受《湿地保护法》（《普通法》第 131 章第 40 节）和《波士顿湿地条例》保护的地块。
- B. 拟开展改建活动的地块地址为**查尔斯河保护地**。
- C. 该项目涉及**植被测试地块的实施**，此为查尔斯河植被管理计划的一部分。
- D. 可通过联系波士顿湿地保护委员会取得意向通知副本，电子邮件 [CC@boston.gov](mailto:CC@boston.gov)。
- E. 您可于**周一至周五上午 8 点至下午 5 点之间**与 **Devin Batchelder** 联系（电话：**978-532-1900 分机 2117**），从 **Weston & Sampson Engineers** 获取意向通知副本。
- F. 根据《马萨诸塞州行政命令》（暂缓执行《公开会议法》某些条款）的规定，公众听证会将以**虚拟形式**在网上进行（网址：<https://zoom.us/j/6864582044>）。如果您无法上网，请致电 1-929-205- 6099，输入会议代码 686 458 2044 #，然后使用 # 作为您的参加者身份代码。
- G. 您可于**周一至周五上午 9 点至下午 5 点**联系**波士顿湿地保护委员会**，咨询公开听证会举行的日期和时间，电子邮件：[CC@boston.gov](mailto:CC@boston.gov)，电话：**(617) 635-4416**。

注释：公开听证会通知（包括举行日期、时间和地点）将提前至少五天在《**波士顿先驱报**》上予以公布。

注释：公开听证会通知（包括举行日期、时间和地点）将提前至少四十八（48）小时发布在 [www.boston.gov/public-notices](http://www.boston.gov/public-notices) 网页中，并在波士顿市政厅内张贴。

注释：如果您想提出意见，您可以参加该公开听证会或将书面意见发送至 [CC@boston.gov](mailto:CC@boston.gov)，或邮寄至以下地址：Boston City Hall, Environment Department, Room 709, 1 City Hall Square, Boston, MA 02201。

注释：您也可以联系波士顿湿地保护委员会或环境保护部东北地区办公室，了解有关此项申请或《湿地保护法》的更多信息。如需联系环境保护部，请致电东北地区办公室，电话号码 (978) 694-3200。



**NOTIFICACIÓN PARA PROPIETARIOS Y/O VECINOS COLINDANTES  
COMISIÓN DE CONSERVACIÓN DE BOSTON**

De conformidad con la Ley de protección de los humedales de Massachusetts, el Capítulo 131, Sección 40 de las Leyes Generales de Massachusetts y la Ordenanza sobre los humedales de Boston, por la presente queda usted notificado como propietario o vecino colindante de un proyecto presentado ante la Comisión de Conservación de Boston.

- A. **El Departamento de Conservación y Recreación** ha solicitado permiso a la Comisión de Conservación de Boston para modificar una zona sujeta a protección en virtud de la Ley de protección de los humedales (Leyes generales, capítulo 131, sección 40) y la Ordenanza sobre los humedales de Boston.
- B. La dirección del lote donde se propone la actividad es la **reserva del río Charles**.
- C. El proyecto consiste en **la implementación de parcelas de prueba de vegetación como parte del Plan de Manejo de Vegetación del Río Charles**.
- D. Se pueden obtener copias del Aviso de Intención comunicándose con la Comisión de Conservación de Boston en [CC@boston.gov](mailto:CC@boston.gov).
- E. Las copias de la notificación de intención pueden obtenerse en **Weston & Sampson Engineers, llamando a Devin Batchelder al 978-532-1900 ext. 2117, de lunes a viernes de 8:00am a 5:00 pm**.
- F. De acuerdo con el Decreto Ejecutivo de la Mancomunidad de Massachusetts que suspende ciertas disposiciones de la Ley de reuniones abiertas, la audiencia pública se llevará a cabo **virtualmente** en <https://zoom.us/j/6864582044>. Si no puede acceder a Internet, puede llamar al 1-929-205-6099, ingresar el ID de la reunión 686 458 2044# y usar # como su ID de participante.
- G. La información relativa a la fecha y hora de la audiencia pública puede solicitarse a la **Comisión de Conservación de Boston** por correo electrónico a [CC@boston.gov](mailto:CC@boston.gov) o llamando al **(617) 635-3850** entre las **9 AM y las 5 PM, de lunes a viernes**.

NOTA: La notificación de la audiencia pública, incluida la fecha, hora y lugar, se publicará en el periódico **Boston Herald** con al menos cinco (5) días de antelación.

NOTA: La notificación de la audiencia pública, incluida su fecha, hora y lugar, se publicará en [www.boston.gov/public-notices](http://www.boston.gov/public-notices) y en la Alcaldía de Boston con no menos de cuarenta y ocho (48) horas de anticipación.

NOTA: Si desea hacer comentarios, puede asistir a la audiencia pública o enviarlos por escrito a [CC@boston.gov](mailto:CC@boston.gov) o al Ayuntamiento de Boston, Departamento de Medio Ambiente, Sala 709, 1 City Hall Square, Boston, MA 02201.

NOTA: También puede comunicarse con la Comisión de Conservación de Boston o con la Oficina Regional del Noreste del Departamento de Protección Ambiental para obtener más información sobre esta solicitud o la Ley de Protección de Humedales. Para comunicarse con el DEP, llame a la Región Noreste: (978) 694-3200.



City of Boston  
Environment



City of Boston  
Mayor Martin J. Walsh

NOTA: si tiene previsto asistir a la audiencia pública y necesita servicios de interpretación, sírvase informar al personal en [CC@boston.gov](mailto:CC@boston.gov) antes de las 12 PM del día anterior a la audiencia.



March 18, 2021

Cross Cultural Communication Systems, Inc., hereby certify that this is a true translation from English into Spanish and Traditional Chinese of the following document:

1 Updated Boston Abutter Form English

It was prepared to the best of the company's ability, this 18 day, March 2021.

**Alejandra Lloveras**

*Cross Cultural Communication Systems, Inc.™*

*Embracing linguistic and cultural connections!*

*Providing 24/7 language solutions.*

Translation Services Project Manager

CCCS, Inc.™

PO Box 2308

Woburn, MA 01888

P: (781) 729-3736 X 112 F: (781) 729-1217

P: (888) 678-CCCS X 112 (out of state)

<u>PID</u>	<u>OWNER</u>	<u>ADDRESSEE</u>	<u>MLG ADDRESS</u>	<u>MLG CITYSTATE</u>	<u>MLG ZIP</u>	<u>LOC ADDRESS</u>	<u>LOC CITY</u>	<u>LOC ZIP</u>
300370000	GENERAL HOSPITAL CORP	GENERAL HOSPITAL CORP	32 FRUIT	BOSTON MA	02114	255 265 CHARLES ST	BOSTON	02114
300370001	GENERAL HOSPITAL CORP	GENERAL HOSPITAL CORP	PO BOX 6240	BOSTON MA	02114	255 265 CHARLES ST	BOSTON	02114
300381001	MASS GEN EYE * EAR INF	MASS GEN EYE * EAR INF	243 CHARLES	BOSTON MA	02114	243 245 CHARLES ST	BOSTON	02114
300441000	MASSACHUSETTS EYE & EAR	MASSACHUSETTS EYE & EAR	243 CHARLES ST	BOSTON MA	02114	317 325 CAMBRIDGE ST	BOSTON	02114
300441001	MASS EYE & EAR INFIRMARY	MASS EYE & EAR INFIRMARY	317 CAMBRIDGE ST	BOSTON MA	02114	317 325 CAMBRIDGE ST	BOSTON	02114
300445000	THE GENERAL HOSPITAL CORP	THE GENERAL HOSPITAL CORP	55 FRUIT ST	BOSTON MA	02114	32 239 FRUIT ST	BOSTON	02114
300445010	DONT LOOK BACK LLC	DONT LOOK BACK LLC	7550 WISCONSIN 10TH FLOOR	BETHESDA MD	20814	215 - 239 CHARLES ST	BOSTON	02114
300448000	COMMWLTH OF MASS MDC THE	COMMWLTH OF MASS MDC THE	BLOSSOM	BOSTON MA	02114	BLOSSOM ST	BOSTON	02114
300449000	ERP OPERATING LP	ERP OPERATING LP	PO BOX A-87407	CHICAGO IL	60680	1 25 EMERSON PL	BOSTON	02114
300450000	WHITTIER PLACE CONDOMINIUM	WHITTIER PLACE CONDOMINIUM	6-8 WHITTIER PL	BOSTON MA	02114	6 - 8 WHITTIER PL	BOSTON	02114
300450004	HIGGINS PAUL TS	HIGGINS PAUL TS	6 WHITTIER PLACE MGR OFFICE	BOSTON MA	02114	6 WHITTIER PL #B-102	BOSTON	02114
300450018	ROGUE ENDEAVOURS LLC	ROGUE ENDEAVOURS LLC	149 HIGHLAND AVENUE	WINCHESTER MA	01890	6 WHITTIER PL #105S-6	BOSTON	02114
300450020	GREINER CYNTHIA A	GREINER CYNTHIA A	149 HIGHLAND AV	WINCHESTER MA	02167	6 WHITTIER PL #106S-6	BOSTON	02114
300450022	TURNER IVY A	TURNER IVY A	7 WHITTIER PL #107-S	BOSTON MA	02114	6 WHITTIER PL #107S-6	BOSTON	02114
300450024	BIOSPA LLC	BIOSPA LLC	21 WEST ST	WORCESTER MA	01609	6 WHITTIER PL #108S-6	BOSTON	02114
300450026	ORTHODONTIST INC	ORTHODONTIST INC	7 WHITTIER PL STE 110	BOSTON MA	02114	6 WHITTIER PL #110S-6	BOSTON	02114
300450028	ZHANG QUNHAO	ZHANG QUNHAO	70 PARKINSON ST	NEEDHAM MA	02492	6 WHITTIER PL #111S-6	BOSTON	02114
300450030	7 WHITTIER PLACE REALTY LLC	7 WHITTIER PLACE REALTY LLC	500 CHAPMAN ST STE 201	CANTON MA	02021	6 WHITTIER PL #112S-6	BOSTON	02114
300450034	SPRAGUE MICHAEL W	SPRAGUE MICHAEL W	6 WHITTIER PL #2A-6	BOSTON MA	02114	6 WHITTIER PL #2A-6	BOSTON	02114
300450038	THADHANI REENA I TS	THADHANI REENA I TS	6 WHITTIER PL #2C-6	BOSTON MA	02114	6 WHITTIER PL #2C-6	BOSTON	02114
300450040	WIERZBICKI ALEKSANDER	WIERZBICKI ALEKSANDER	6 WHITTIER PL #2D	BOSTON MA	02114	6 WHITTIER PL #2D-6	BOSTON	02114
300450042	RAMU SENTHIL KUMAR	RAMU SENTHIL KUMAR	6 WHITTIER PLACE UNIT 2E-6	BOSTON MA	02114	6 WHITTIER PL #2E-6	BOSTON	02114
300450044	DENG HAO	DENG HAO	6 WHITTIER PL #2F	BOSTON MA	02114	6 WHITTIER PL #2F-6	BOSTON	02114
300450046	DEBYE PHILIP	DEBYE PHILIP	6 WHITTIER PL #2G-6	BOSTON MA	02114	6 WHITTIER PL #2G-6	BOSTON	02114
300450048	HOLT ELLEN	HOLT ELLEN	6 WHITTIER PLACE #2H	BOSTON MA	02114	6 WHITTIER PL #2H-6	BOSTON	02114
300450050	RHEIN PETER V	RHEIN PETER V	6 WHITTIER PL #2J	BOSTON MA	02114	6 WHITTIER PL #2J-6	BOSTON	02114
300450052	CLIVEDEN J PAUL B	CLIVEDEN J PAUL B	6 WHITTIER PL #2K-6	BOSTON MA	02114	6 WHITTIER PL #2K-6	BOSTON	02114
300450054	KEHOE CYNTHIA TS	KEHOE CYNTHIA TS	1022 WASHINGTON ST	KEY WEST FL	33040	6 WHITTIER PL #2L-6	BOSTON	02114
300450056	LIN YU-YUAN	LIN YU-YUAN	6 WHITTIER PL #2-M	BOSTON MA	02114	6 WHITTIER PL #6-2M	BOSTON	02114
300450058	ZANELLI ANDREA	ZANELLI ANDREA	6WHITTIER PL #2N-6	BOSTON MA	02114	6 WHITTIER PL #2N-6	BOSTON	02114
300450060	YANG FAN	YANG FAN	6 WHITTIER PL #2O-6	BOSTON MA	02114	6 WHITTIER PL #2O-6	BOSTON	02114
300450062	LAVELLE TERRENCE M	LAVELLE TERRENCE M	30 PEARL ST	MARBLEHEAD MA	01945	6 WHITTIER PL #2P-6	BOSTON	02114
300450064	DEFOREST STUART S JR	DEFOREST STUART S JR	6 WHITTIER PL #2R-6	BOSTON MA	02114	6 WHITTIER PL #2R-6	BOSTON	02114

300450066	ANWAR SALMA BATOOL	ANWAR SALMA BATOOL	6 WHITTIER PL # 3-D	BOSTON MA	02114 6	WHITTIER PL #3A-6	BOSTON	02114
300450068	TANNOUS ZEINA S	TANNOUS ZEINA S	6 WHITTIER PL #3B-6	BOSTON MA	02114 6	WHITTIER PL #3B-6	BOSTON	02114
300450070	MARBERBLATT ERIC TS	MARBERBLATT ERIC TS	6 WHITTIER PL #3C	BOSTON MA	02114 6	WHITTIER PL #3C-6	BOSTON	02114
300450072	BATOOL-ANWAR SALMA	BATOOL-ANWAR SALMA	6 WHITTIER PL #3D	BOSTON MA	02114 6	WHITTIER PL #3D-6	BOSTON	02114
300450074	FITZGERALD ANNE S	FITZGERALD ANNE S	6 WHITTIER PL #3-E	BOSTON MA	02114 6	WHITTIER PL #3E-6	BOSTON	02114
300450076	TANPOCO STEVEN	TANPOCO STEVEN	6 WHITTIER PL 3F	BOSTON MA	02114 6	WHITTIER PL #3F-6	BOSTON	02114
300450078	JBS CAM LLC	JBS CAM LLC	1707 OSPREY DR	AUDUBON PA	19403 6	WHITTIER PL #3G-6	BOSTON	02114
300450080	ZHANG JING	ZHANG JING	6 WHITTIER PL #3-H	BOSTON MA	02114 6	WHITTIER PL #3H-6	BOSTON	02114
300450082	ROLLINSON-SASSOWER DENISE C	ROLLINSON-SASSOWER DENISE C	6 WHITTIER PL #3J-6	BOSTON MA	02114 6	WHITTIER PL #3J-6	BOSTON	02114
300450084	RASO ALFRED J	RASO ALFRED J	6 WHITTIER PL #3K-6	BOSTON MA	02114 6	WHITTIER PL #3K-6	BOSTON	02114
300450086	REGAN JULIE	REGAN JULIE	6 WHITTIER PL #3L-6	BOSTON MA	02114 6	WHITTIER PL #3L-6	BOSTON	02114
300450088	REHANI REALTY TRUST	REHANI REALTY TRUST	6 WHITTIER PL #3M-6	BOSTON MA	02114 6	WHITTIER PL #3M-6	BOSTON	02114
300450090	ESPINOSA-LOUISSAINT ANGELICA	ESPINOSA-LOUISSAINT ANGELICA	6 WHITTIER PL #3N-6	BOSTON MA	02114 6	WHITTIER PL #3N-6	BOSTON	02114
300450092	ANWAR-SALMA BATOOL	ANWAR-SALMA BATOOL	6 WHITTIER PL PL #3-D	BOSTON MA	02114 6	WHITTIER PL #3O-6	BOSTON	02114
300450094	TADDEI ELIZABETH	TADDEI ELIZABETH	6 WHITTIER PL #3P	BOSTON MA	02114 6	WHITTIER PL #3P-6	BOSTON	02114
300450096	GABEL PETER E	GABEL PETER E	6 WHITTIER PL #3R-6	BOSTON MA	02114 6	WHITTIER PL #3R-6	BOSTON	02114
300450098	LIEBERMAN MEG C	LIEBERMAN MEG C	6 WHITTIER PL # 4A-6	BOSTON MA	02114 6	WHITTIER PL #4A-6	BOSTON	02114
300450100	LEWANDROWSKI ELIZABETH L TS	LEWANDROWSKI ELIZABETH L TS	8 WHITTIER PLACE 3K	BOSTON MA	02114 6	WHITTIER PL #4B-6	BOSTON	02114
300450102	WU VINCENT	WU VINCENT	6 WHITTIER PL #4C-6	BOSTON MA	02114 6	WHITTIER PL #4C-6	BOSTON	02114
300450104	WOERNER HERMAN F	WOERNER HERMAN F	6 WHITTIER PL #4D6	BOSTON MA	02114 6	WHITTIER PL #4D-6	BOSTON	02114
300450106	HU WANGQI	HU WANGQI	6 WHITTIER PL #4E-6	BOSTON MA	02114 6	WHITTIER PL #4E-6	BOSTON	02114
300450108	WENNERSTEN CHRISTINE	WENNERSTEN CHRISTINE	6 WHITTIER PL #4F-6	BOSTON MA	02114 6	WHITTIER PL #4F-6	BOSTON	02114
300450110	KANE PATRICIA A TS	KANE PATRICIA A TS	45 INDEPENDENCE WAY	MARBLEHEAD MA	01945 6	WHITTIER PL #4G-6	BOSTON	02114
300450112	TURRA MARLENE E	TURRA MARLENE E	6 WHITTIER PL #4H-6	BOSTON MA	02114 6	WHITTIER PL #4H-6	BOSTON	02114
300450114	AYAD WIDAD	AYAD WIDAD	6 WHITTIER PL #4J-6	BOSTON MA	02114 6	WHITTIER PL #4J-6	BOSTON	02114
300450116	POLI MARCANTONIO	POLI MARCANTONIO	6 WHITTIER PL UNIT 4K-6	BOSTON MA	02114 6	WHITTIER PL #4K-6	BOSTON	02114
300450118	KARTHIGESAN JOTHIE	KARTHIGESAN JOTHIE	6 WHITTIER PL #4L	BOSTON MA	02114 6	WHITTIER PL #4L-6	BOSTON	02114
300450120	DEBOER GEORGE E	DEBOER GEORGE E	4501 CONNECTICUT AVE NW #61	WASHINGTON DC	20008 6	WHITTIER PL #4M-6	BOSTON	02114
300450122	ALACHI CLAUDETTE J	ALACHI CLAUDETTE J	6 WHITTIER PL #4N-6	BOSTON MA	02114 6	WHITTIER PL #4N-6	BOSTON	02114
300450124	EDGAR A KELLEY REVOCABLE	EDGAR A KELLEY REVOCABLE	25 COUNTRY CLUB ROAD #503	GILFORD NH	03249 6	WHITTIER PL #4O-6	BOSTON	02114
300450126	GABRIEL SUZANNE B	GABRIEL SUZANNE B	6 WHITTIER PL #4P-6	BOSTON MA	02114 6	WHITTIER PL #4P-6	BOSTON	02114
300450128	DIB PETER	DIB PETER	6 WHITTIER PLACE UNIT 4R	BOSTON MA	02114 6	WHITTIER PL #4R-6	BOSTON	02114
300450130	VLADUTIU MIHAELA	VLADUTIU MIHAELA	6 WHITTIER PL #5A	BOSTON MA	02114 6	WHITTIER PL #5A-6	BOSTON	02114
300450132	JOYNER FRANCES	JOYNER FRANCES	6 WHITTIER PL #5B-6	BOSTON MA	02114 6	WHITTIER PL #5B-6	BOSTON	02114



300450134	SHERMAN MARY	SHERMAN MARY	6 WHITTIER PL #5C-6	BOSTON MA	02114 6	WHITTIER PL #5C-6	BOSTON	02114
300450136	NEWBERRY INTERNATIONAL	NEWBERRY INTERNATIONAL	6 WHITTIER PL #5D	BOSTON MA	02114 6	WHITTIER PL #5D-6	BOSTON	02114
300450138	AUSTIN THOMAS M	AUSTIN THOMAS M	6 WHITTIER PL #5E	BOSTON MA	02114 6	WHITTIER PL #5E-6	BOSTON	02114
300450140	LONERGAN LOUISE C	LONERGAN LOUISE C	6 WHITTIER PL #5F-6	BOSTON MA	02114 6	WHITTIER PL #5F-6	BOSTON	02114
300450142	ZHANG DUAN-SUN	ZHANG DUAN-SUN	9 HAWTHORNE PL #5P	BOSTON MA	02114 6	WHITTIER PL #5G-6	BOSTON	02114
300450144	ABUJUDEH HANI	ABUJUDEH HANI	6 WHITTIER PLACE 5H-6	BOSTON MA	02114 6	WHITTIER PL #5H-6	BOSTON	02114
300450146	MOORADD TONI A	MOORADD TONI A	106 CENTRAL ST	IPSWICH MA	01938 6	WHITTIER PL #5J-6	BOSTON	02114
300450148	LAMPROPOULOS CONSTANCE E	LAMPROPOULOS CONSTANCE E	8 RIVERSIDE DR	IPSWICH MA	01938 6	WHITTIER PL #5K-6	BOSTON	02114
300450150	MOODY PATRICIA A	MOODY PATRICIA A	6 WHITTIER PL #5L-6	BOSTON MA	02114 6	WHITTIER PL #5L-6	BOSTON	02114
300450152	LEEF DOROTHY M	LEEF DOROTHY M	6 WHITTIER PL #5M	BOSTON MA	02114 6	WHITTIER PL #5M-6	BOSTON	02114
300450154	GEORGAQUI VIRGINIA ETAL	GEORGAQUI VIRGINIA ETAL	6 WHITTIER PL #5N-6	BOSTON MA	02114 6	WHITTIER PL #5N-6	BOSTON	02114
300450156	LAMONICA JOSEPH R	LAMONICA JOSEPH R	6 WHITTIER PL #5O-6	BOSTON MA	02114 6	WHITTIER PL #5O-6	BOSTON	02114
300450158	CALLENDER MONICA O	CALLENDER MONICA O	6 WHITTIER PL	BOSTON MA	02114 6	WHITTIER PL #5P-6	BOSTON	02114
300450160	CANAVAN SEAN M	CANAVAN SEAN M	6 WHITTIER PL #5R-6	BOSTON MA	02114 6	WHITTIER PL #5R-6	BOSTON	02114
300450162	AZIZ KUSAI S	AZIZ KUSAI S	6 WHITTIER PL #6A	BOSTON MA	02114 6	WHITTIER PL #6A-6	BOSTON	02114
300450164	VANMARCKE ALBERTO PIERETTI	VANMARCKE ALBERTO PIERETTI	8 WHITTIER PL APT 7H	BOSTON MA	02114 6	WHITTIER PL #6B-6	BOSTON	02114
300450166	BURTON LESLIE	BURTON LESLIE	6 WHITTIER PL #6C-6	BOSTON MA	02114 6	WHITTIER PL #6C-6	BOSTON	02114
300450168	PAPADIMITRIOU GEORGIOS	PAPADIMITRIOU GEORGIOS	6 WHITTIER PL #6D-6	BOSTON MA	02114 6	WHITTIER PL #6D-6	BOSTON	02114
300450170	EACMEN ROSEMARY V	EACMEN ROSEMARY V	6 WHITTIER PL #6E	BOSTON MA	02114 6	WHITTIER PL #6E-6	BOSTON	02114
300450172	KUPERWASSER BERNARD	KUPERWASSER BERNARD	2 HAWTHORNE PL # 7D	BOSTON MA	02114 6	WHITTIER PL #6F-6	BOSTON	02114
300450174	BOIVIN CYNTHIA A	BOIVIN CYNTHIA A	190 NORTH SHORE RD #403	REVERE MA	02151 6	WHITTIER PL #6G-6	BOSTON	02114
300450176	KENNEDY PAUL K	KENNEDY PAUL K	6 WHITTIER PL #6H	BOSTON MA	02114 6	WHITTIER PL #6H-6	BOSTON	02114
300450178	KHOURY PETRA	KHOURY PETRA	6 WHITTIER PL #6J-6	BOSTON MA	02114 6	WHITTIER PL #6J-6	BOSTON	02114
300450180	BUFF STEPHEN O	BUFF STEPHEN O	15 BIRCH ROAD	MEDFIELD MA	02052 6	WHITTIER PL #6K-6	BOSTON	02114
300450182	COPELAND DAVID M	COPELAND DAVID M	6 WHITTIER PL #6L	BOSTON MA	02114 6	WHITTIER PL #6L-6	BOSTON	02114
300450184	XIE ZHONGCONG	XIE ZHONGCONG	7 APACHE AV	ANDOVER MA	01810 6	WHITTIER PL #6M-6	BOSTON	02114
300450186	RASO VINCENT F	RASO VINCENT F	6 WHITTIER PL - 6N	BOSTON MA	02114 6	WHITTIER PL #6N-6	BOSTON	02114
300450188	NOONAN THOMAS F	NOONAN THOMAS F	6 WHITTIER PL #6O-6	BOSTON MA	02114 6	WHITTIER PL #6O-6	BOSTON	02114
300450190	STONE MARY L	STONE MARY L	6 WHITTIER PL #6P-6	BOSTON MA	02114 6	WHITTIER PL #6P-6	BOSTON	02114
300450192	PASSACANTILLI FAMILY 2017	PASSACANTILLI FAMILY 2017	6 WHITTIER PL #6R-6	BOSTON MA	02114 6	WHITTIER PL #6R-6	BOSTON	02114
300450198	GRABOWSKI KATHLEEN S	GRABOWSKI KATHLEEN S	6 WHITTIER PL #7C	BOSTON MA	02114 6	WHITTIER PL #7C-6	BOSTON	02114
300450200	KARAGIANNIS OLGA	KARAGIANNIS OLGA	6 WHITTIER PL #7D	BOSTON MA	02114 6	WHITTIER PL #7D-6	BOSTON	02114
300450204	ARTOLA EDUARDO	ARTOLA EDUARDO	100 ST MARYS STREET	BOSTON MA	02215 6	WHITTIER PL #7F-6	BOSTON	02114
300450206	LIDOV HART G W	LIDOV HART G W	6 WHITTIER PL #7G-6	BOSTON MA	02114 6	WHITTIER PL #7G-6	BOSTON	02114

300450208	GARNEAU ELAINE F	GARNEAU ELAINE F	6 WHITTIER PL #7H-6	BOSTON MA	02114 6	WHITTIER PL #7H-6	BOSTON	02114
300450210	ELIAS HIAM	ELIAS HIAM	6 WHITTIER PL #7J-6	BOSTON MA	02114 6	WHITTIER PL #7J-6	BOSTON	02114
300450212	DAVIS HOWARD E JR	DAVIS HOWARD E JR	23 OSBORNE PATH	NEWTON MA	02459 6	WHITTIER PL #7K-6	BOSTON	02114
300450214	DALY JAMES	DALY JAMES	389 COMMONWEALTH AV	BOSTON MA	02116 6	WHITTIER PL #7L-6	BOSTON	02114
300450216	GUNAWAN DAVID	GUNAWAN DAVID	6 WHITTIER PL	BOSTON MA	02114 6	WHITTIER PL #7M-6	BOSTON	02114
300450218	SHERMAN ROY A	SHERMAN ROY A	6 WHITTIER PL #7N-6	BOSTON MA	02114 6	WHITTIER PL #7N-6	BOSTON	02114
300450220	HEILIG DAVID	HEILIG DAVID	6 WHITTIER PL #7O-6	BOSTON MA	02114 6	WHITTIER PL #7O-6	BOSTON	02114
300450224	CHEN SHAN-HSIN	CHEN SHAN-HSIN	27 STONEYBROOK CI	ANDOVER MA	01810 6	WHITTIER PL #7R-6	BOSTON	02114
300450226	WONG DONNA	WONG DONNA	6 WHITTIER PL #8A-6	BOSTON MA	02114 6	WHITTIER PL #8A-6	BOSTON	02114
300450228	LEWANDROWSKI ELIZABETH L TS	LEWANDROWSKI ELIZABETH L TS	8 WHITTIER PL #3K	BOSTON MA	02114 6	WHITTIER PL #8B-6	BOSTON	02114
300450230	YOGMAN JUDITH S	YOGMAN JUDITH S	6 WHITTIER PL 8C-6	BOSTON MA	02114 6	WHITTIER PL #8C-6	BOSTON	02114
300450232	CHIAPPA VICTOR	CHIAPPA VICTOR	6 WHITTIER PL #8D	BOSTON MA	02114 6	WHITTIER PL #8D-6	BOSTON	02114
300450234	FEELEY KELLY A	FEELEY KELLY A	6 WHITTIER PL #8E	BOSTON MA	02114 6	WHITTIER PL #8E-6	BOSTON	02114
300450238	LEE REALTY TRUST	LEE REALTY TRUST	8 WHITTIER PL #3K-8	BOSTON MA	02114 6	WHITTIER PL #8G-6	BOSTON	02114
300450240	RAUSEO ROBERT J	RAUSEO ROBERT J	6 WHITTIER PL	BOSTON MA	02114 6	WHITTIER PL #8H-6	BOSTON	02114
300450242	VANAHARAM VISHNU V	VANAHARAM VISHNU V	6 WHITTIER PL #8J	BOSTON MA	02114 6	WHITTIER PL #8J-6	BOSTON	02114
300450244	CONNOR SANDRA S	CONNOR SANDRA S	6 WHITTIER PL #8K-6	BOSTON MA	02114 6	WHITTIER PL #8K-6	BOSTON	02114
300450246	CHEN HUI JIE JENNY	CHEN HUI JIE JENNY	6 WHITTIER PL #8L-6	BOSTON MA	02114 6	WHITTIER PL #8L-6	BOSTON	02114
300450248	ZAMAN TAUHID	ZAMAN TAUHID	6 WHITTIER PL # 8M-6	BOSTON MA	02114 6	WHITTIER PL #8M-6	BOSTON	02114
300450250	WILSON JOHN	WILSON JOHN	6 WHITTIER PL #8N	BOSTON MA	02114 6	WHITTIER PL #8N-6	BOSTON	02114
300450252	CAMERON LINDA S	CAMERON LINDA S	6 WHITTIER PL #8O-6	BOSTON MA	02114 6	WHITTIER PL #8O-6	BOSTON	02114
300450254	YUE YUN LUE	YUE YUN LUE	40 GREENLEAF ST #406	QUINCY MA	02169 6	WHITTIER PL #8P-6	BOSTON	02114
300450256	THADHANI REENA I	THADHANI REENA I	6 WHITTIER PLACE UNIT 11M	BOSTON MA	02114 6	WHITTIER PL #8R-6	BOSTON	02114
300450258	SOROKO JACQUELINE	SOROKO JACQUELINE	6 WHITTIER PL # 9A-6	BOSTON MA	02114 6	WHITTIER PL #9A-6	BOSTON	02114
300450260	LIPSHUTZ TALA M	LIPSHUTZ TALA M	6 WHITTIER PL #9B-6	BOSTON MA	02114 6	WHITTIER PL #9B-6	BOSTON	02114
300450262	SHURMAN ROBERT	SHURMAN ROBERT	300 SOUTHSTAR DRIVE	FT PIERCE FL	34949 6	WHITTIER PL #9C-6	BOSTON	02114
300450264	KARAA FADI A	KARAA FADI A	488 HIGHLAND AV	NEWARK NJ	07104 6	WHITTIER PL #9D-6	BOSTON	02114
300450266	CHEN TERESA C	CHEN TERESA C	6 WHITTIER PL #9E-6	BOSTON MA	02114 6	WHITTIER PL #9E-6	BOSTON	02114
300450268	MA LI JT	MA LI JT	6 WHITTIER PL #9F-6	BOSTON MA	02114 6	WHITTIER PL #9F-6	BOSTON	02114
300450270	KURUPPU KUMUDU	KURUPPU KUMUDU	6 WHITTIER PL UNIT 9G-6	BOSTON MA	02114 6	WHITTIER PL #9G-6	BOSTON	02114
300450272	LEE GRACE C	LEE GRACE C	6 WHITTIER PL #9H-6	BOSTON MA	02114 6	WHITTIER PL #9H-6	BOSTON	02114
300450274	ROSWELL CONTINENTAL HOLDINGS	ROSWELL CONTINENTAL HOLDINGS	11795 KING RD	ROSWELL GA	30075 6	WHITTIER PL #9J-6	BOSTON	02114
300450276	MANE PARESH	MANE PARESH	6 WHITTIER PL #9K-6	BOSTON MA	02114 6	WHITTIER PL #9K-6	BOSTON	02114
300450278	BARLOW MYRNA	BARLOW MYRNA	6 WHITTIER PL #9L	BOSTON MA	02114 6	WHITTIER PL #9L-6	BOSTON	02114

300450280	ASHFORD RONALD	ASHFORD RONALD	6 WHITTIER PL #9M	BOSTON MA	02114 6	WHITTIER PL #9M-6	BOSTON	02114
300450282	CAICEDO CARLOS A	CAICEDO CARLOS A	6 WHITTIER PL #9N-6	BOSTON MA	02114 6	WHITTIER PL #9N-6	BOSTON	02114
300450284	BERENJIAN AZITA	BERENJIAN AZITA	6 WHITTIER PL #90-6	BOSTON MA	02114 6	WHITTIER PL #90-6	BOSTON	02114
300450286	WEE SIEWLIN TS	WEE SIEWLIN TS	55 CLAY ST	MIDDLEBORO MA	02346 6	WHITTIER PL #9P-6	BOSTON	02114
300450288	LAPUS CARLOS	LAPUS CARLOS	317 16TH STREET UNIT #2-D	BROOKLYN NY	11215 6	WHITTIER PL #9R-6	BOSTON	02114
300450290	CHEN CHRISTOPHER TSUNG-JER	CHEN CHRISTOPHER TSUNG-JER	6 WHITTIER PL # 10A	BOSTON MA	02114 6	WHITTIER PL #10A-6	BOSTON	02114
300450292	TOOF ROBERT J III	TOOF ROBERT J III	6 WHITTIER PL # 10B-6	BOSTON MA	02114 6	WHITTIER PL #10B-6	BOSTON	02114
300450294	CHACE HENRY B	CHACE HENRY B	6 WHITTIER PL #10C #	BOSTON MA	02114 6	WHITTIER PL #10C-6	BOSTON	02114
300450296	HILLS JOHN M	HILLS JOHN M	6 WHITTIER PL #10D	BOSTON MA	02114 6	WHITTIER PL #10D-6	BOSTON	02114
300450298	MILL MARGARET F	MILL MARGARET F	6 WHITTIER PL #10E-6	BOSTON MA	02114 6	WHITTIER PL #10E-6	BOSTON	02114
300450300	TURGEON CLAIRE F	TURGEON CLAIRE F	6 WHITTIER PL #10F-6	BOSTON MA	02114 6	WHITTIER PL #10F-6	BOSTON	02114
300450302	KANE PATRICIA	KANE PATRICIA	29C SKINNER'S PATH	MARBLEHEAD MA	01945 6	WHITTIER PL #10G-6	BOSTON	02114
300450304	MERRILL ROBERT D BE	MERRILL ROBERT D BE	6 WHITTIER PL #10H-6	BOSTON MA	02114 6	WHITTIER PL #10H-6	BOSTON	02114
300450306	CLARKE FLORENCE L	CLARKE FLORENCE L	6 WHITTIER PL #10J	BOSTON MA	02114 6	WHITTIER PL #10J-6	BOSTON	02114
300450308	BECKER JEFFREY BRANDT	BECKER JEFFREY BRANDT	6 WHITTIER PL #10K	BOSTON MA	02114 6	WHITTIER PL #10K-6	BOSTON	02114
300450310	QIN MICHAEL KAIGE	QIN MICHAEL KAIGE	51 COMMON ST	BELMONT MA	02478 6	WHITTIER PL #10L-6	BOSTON	02114
300450312	URDANG JANET S	URDANG JANET S	6 WHITTIER PL #10M-6	BOSTON MA	02114 6	WHITTIER PL #10M-6	BOSTON	02114
300450314	FLAHERTY ANNE HOLLYDAY	FLAHERTY ANNE HOLLYDAY	6 WHITTIER PL #10N-6	BOSTON MA	02114 6	WHITTIER PL #10N-6	BOSTON	02114
300450316	MCMANUS KEVIN R	MCMANUS KEVIN R	6 WHITTIER PL #100	BOSTON MA	02114 6	WHITTIER PL #10O-6	BOSTON	02114
300450320	RISSER NANCY A	RISSER NANCY A	6 WHITTIER PL #10R-6	BOSTON MA	02114 6	WHITTIER PL #10R-6	BOSTON	02114
300450322	GILLIS JOHN U	GILLIS JOHN U	6 WHITTIER PL #11A-6	BOSTON MA	02114 6	WHITTIER PL #11A-6	BOSTON	02114
300450324	CARRUBBA ANA PAULA	CARRUBBA ANA PAULA	6 WHITTIER PL #11B-6	BOSTON MA	02114 6	WHITTIER PL #11B-6	BOSTON	02114
300450328	VON TITTE PATRICIA S	VON TITTE PATRICIA S	6 WHITTIER PL #11D	BOSTON MA	02114 6	WHITTIER PL #11D-6	BOSTON	02114
300450332	BELTRAMI ALEXANDRA	BELTRAMI ALEXANDRA	10 COYNE RD	NEWTON MA	02468 6	WHITTIER PL #11F-6	BOSTON	02114
300450336	REYNOLDS PETER J	REYNOLDS PETER J	6 WHITTIER PLACE UNIT 11H	BOSTON MA	02114 6	WHITTIER PL #11H-6	BOSTON	02114
300450338	SCHWARTZ RICHARD J FR3/4	SCHWARTZ RICHARD J FR3/4	6 WHITTIER PL #11J-6	BOSTON MA	02114 6	WHITTIER PL #11J-6	BOSTON	02114
300450340	QUAZI REKHA	QUAZI REKHA	8 WESTMINSTER ROADWAY	ANDOVER MA	01810 6	WHITTIER PL #11K-6	BOSTON	02114
300450346	ELENKO AVRAHAM	ELENKO AVRAHAM	6 WHITTIER PL #11N-6	BOSTON MA	02114 6	WHITTIER PL #11N-6	BOSTON	02114
300450348	RAFEQ SAMIR	RAFEQ SAMIR	6 WHITTIER PL #11/O-6	BOSTON MA	02114 6	WHITTIER PL #11/O-6	BOSTON	02114
300450350	NORTON JAMES J JR	NORTON JAMES J JR	34 ELM STREET	COHASSET MA	02025 6	WHITTIER PL #11P-6	BOSTON	02114
300450352	SHARMA RAJEEV	SHARMA RAJEEV	6 WHITTIER PL # 11R-6	BOSTON MA	02114 6	WHITTIER PL #11R-6	BOSTON	02114
300450354	ASSAF ROBIN	ASSAF ROBIN	167 WARREN AVENUE #2	BOSTON MA	02116 6	WHITTIER PL #12A-6	BOSTON	02114
300450356	MILNE LESLIE W	MILNE LESLIE W	50 ROWLEY SHORE	GLOUCESTER MA	01930 6	WHITTIER PL #12B-6	BOSTON	02114
300450358	FEDERICO MARIA T	FEDERICO MARIA T	57 BROWN ST	ANDOVER MA	01810 6	WHITTIER PL #12C-6	BOSTON	02114

300450360	DEMARIA JAMES	DEMARIA JAMES	6 WHITTIER PL #12D-6	BOSTON MA	02114 6	WHITTIER PL #12D-6	BOSTON	02114
300450362	FLINK ALAN J	FLINK ALAN J	35 EAST 75TH STREET APT 4D	NEW YORK NY	10021 6	WHITTIER PL #12E-6	BOSTON	02114
300450364	FLINK TOBY L	FLINK TOBY L	35 EAST 75TH ST #4D	NEW YORK NY	10021 6	WHITTIER PL #12F-6	BOSTON	02114
300450366	KLEVENS R MONINA	KLEVENS R MONINA	1506 COLUMBIA ROAD UNIT 3	BOSTON MA	02127 6	WHITTIER PL #12G-6	BOSTON	02114
300450368	ISTFAN NAWFAL ETAL	ISTFAN NAWFAL ETAL	592 OAK STR	WESTWOOD MA	02090 6	WHITTIER PL #12H-6	BOSTON	02114
300450370	FDD REVOCABLE TRUST	FDD REVOCABLE TRUST	6 WHITTIER PL #12J-6	BOSTON MA	02114 6	WHITTIER PL #12J-6	BOSTON	02114
300450372	LOZADA RAFAEL V PIERETTI	LOZADA RAFAEL V PIERETTI	6 WHITTIER PL #12-K	BOSTON MA	02114 6	WHITTIER PL #12K-6	BOSTON	02114
300450374	RODRIGUEZ FELIX L	RODRIGUEZ FELIX L	74 E BOSCOBEL ST #	BRAINTREE MA	02184 6	WHITTIER PL #12L-6	BOSTON	02114
300450376	MAN PABLO J	MAN PABLO J	6 WHITTIER PL #12M-6	BOSTON MA	02114 6	WHITTIER PL #12M-6	BOSTON	02114
300450378	DEFOREST LILIAS S	DEFOREST LILIAS S	6 WHITTIER PL #12N	BOSTON MA	02114 6	WHITTIER PL #12N-6	BOSTON	02114
300450380	TWENTY JWAY LLC	TWENTY JWAY LLC	6 WHITTIER PL 12-O	BOSTON MA	02114 6	WHITTIER PL #12O-6	BOSTON	02114
300450382	JOHNSON JULIE A	JOHNSON JULIE A	6 WHITTIER PL #12P-6	BOSTON MA	02114 6	WHITTIER PL #12P-6	BOSTON	02114
300450384	SWANSON WILLIAM R	SWANSON WILLIAM R	6 WHITTIER PL #12R-6	BOSTON MA	02114 6	WHITTIER PL #12R-6	BOSTON	02114
300450386	FOLEY MARGARET E	FOLEY MARGARET E	6 WHITTIER PL #14A-6	BOSTON MA	02114 6	WHITTIER PL #14A-6	BOSTON	02114
300450390	FARRELL MARY LIN	FARRELL MARY LIN	6 WHITTIER PL #14C-6	BOSTON MA	02114 6	WHITTIER PL #14C-6	BOSTON	02114
300450392	GOPINATHAN VENUGOPAL	GOPINATHAN VENUGOPAL	6 WHITTIER PL #14D-6	BOSTON MA	02114 6	WHITTIER PL #14D-6	BOSTON	02114
300450394	MAGUIRE THOMAS	MAGUIRE THOMAS	6 WHITTIER PL #14E	BOSTON MA	02114 6	WHITTIER PL #14E-6	BOSTON	02114
300450396	MAN ABRAHAM CLAUDIO	MAN ABRAHAM CLAUDIO	6 WHITTIER PL 14F-6	BOSTON MA	02114 6	WHITTIER PL #14F-6	BOSTON	02114
300450400	RICHARD L KRADIN REVOCABLE	RICHARD L KRADIN REVOCABLE	6 WHITTIER PL #14H-6	BOSTON MA	02114 6	WHITTIER PL #14H-6	BOSTON	02114
300450402	ANSARA ANGELA TS	ANSARA ANGELA TS	420 CHESTNUT ST	LYNNFIELD MA	01940 6	WHITTIER PL #14J-6	BOSTON	02114
300450404	SANFORD KATHERINE	SANFORD KATHERINE	6 WHITTIER PL # 14K-6	BOSTON MA	02114 6	WHITTIER PL #14K-6	BOSTON	02114
300450408	ZHI GANG	ZHI GANG	6 WHITTIER PL #14M-6	BOSTON MA	02114 6	WHITTIER PL #14M-6	BOSTON	02114
300450416	TROMBETTA ALESSANDRO	TROMBETTA ALESSANDRO	6 WHITTIER PL #15E	BOSTON MA	02114 6	WHITTIER PL #14R-6	BOSTON	02114
300450418	BARRETT RICHARD	BARRETT RICHARD	6 WHITTIER PL #15A-6	BOSTON MA	02114 6	WHITTIER PL #15A-6	BOSTON	02114
300450422	CHAN GLORIA	CHAN GLORIA	42-31 COLDEN ST APT#R3E BOX1	FLUSHING NY	11355 6	WHITTIER PL #15C-6	BOSTON	02114
300450424	NBMF LLC	NBMF LLC	142 HOBART ROAD	NEWTON MA	02467 6	WHITTIER PL #15D-6	BOSTON	02114
300450426	TROMBETTA ALESSANDRO	TROMBETTA ALESSANDRO	6 WHITTIER PL #15E-6	BOSTON MA	02114 6	WHITTIER PL #15E-6	BOSTON	02114
300450428	TROMBETTA ALESSANDRO	TROMBETTA ALESSANDRO	6 WHITTIER PL #15F-6	BOSTON MA	02114 6	WHITTIER PL #15F-6	BOSTON	02114
300450430	PIERETTI PATRICIA	PIERETTI PATRICIA	6 WHITTIER PL #15G-6	BOSTON MA	02114 6	WHITTIER PL #15G-6	BOSTON	02114
300450432	LESLIE ALICE M	LESLIE ALICE M	6 WHITTIER PL #15H-6	BOSTON MA	02114 6	WHITTIER PL #15H-6	BOSTON	02114
300450434	SUK-TAK CHAN REVOCABLE	SUK-TAK CHAN REVOCABLE	6 WHITTIER PL #15J-6	BOSTON MA	02114 6	WHITTIER PL #15J-6	BOSTON	02114
300450438	KOHARA NAOKO	KOHARA NAOKO	6 WHITTIER PL #15L-6	BOSTON MA	02114 6	WHITTIER PL #15L-6	BOSTON	02114
300450440	IGNE MARGARETH	IGNE MARGARETH	6 WHITTIER PL #15M	BOSTON MA	02114 6	WHITTIER PL #15M-6	BOSTON	02114
300450442	WENDY REALTY TRUST	WENDY REALTY TRUST	6 WHITTIER PL #15N-6	BOSTON MA	02114 6	WHITTIER PL #15N-6	BOSTON	02114

300450444	TWENTY JWAY LLC	TWENTY JWAY LLC	6 WHITTIER PL 12-O	BOSTON MA	02114	6	WHITTIER PL #150-6	BOSTON	02114
300450446	LAVELLE ALINE	LAVELLE ALINE	30 PEARL ST	MARBLEHEAD MA	01945	6	WHITTIER PL #15P-6	BOSTON	02114
300450448	ONEIL PATRICK K	ONEIL PATRICK K	6 WHITTIER PLACE #15R	BOSTON MA	02114	6	WHITTIER PL #6-15R	BOSTON	02114
300450450	BRANCA JILL MARIE	BRANCA JILL MARIE	103 CLUFF CROSSING ROAD #U6	SALEM NH	03079	6	WHITTIER PL #16A-6	BOSTON	02114
300450452	CONTEMPORARY HOMES LLC	CONTEMPORARY HOMES LLC	151 TREMONT ST APT 27E	BOSTON MA	02111	6	WHITTIER PL #16B-6	BOSTON	02114
300450454	DURSUN ERBIL	DURSUN ERBIL	6 WHITTIER PL 16C-6	BOSTON MA	02114	6	WHITTIER PL #16C-6	BOSTON	02114
300450456	MAQUIRE JAMES R TS	MAQUIRE JAMES R TS	6 WHITTIER PL 16D-6	BOSTON MA	02114	6	WHITTIER PL #16D-6	BOSTON	02114
300450458	AMACCI LLC	AMACCI LLC	9 WEST BANK LA	STAMFORD CT	06902	6	WHITTIER PL #16E-6	BOSTON	02114
300450460	LU MICHAEL	LU MICHAEL	41 BAKER PL	NEWTON MA	02462	6	WHITTIER PL #16F-6	BOSTON	02114
300450462	GARGAS JOHN A	GARGAS JOHN A	19 CAMBRIA RD	WEST NEWTON MA	02465	6	WHITTIER PL #16G-6	BOSTON	02114
300450464	MAYO ROBERT	MAYO ROBERT	6 WHITTIER PL #16H-6	BOSTON MA	02114	6	WHITTIER PL #16H-6	BOSTON	02114
300450466	SUN YING	SUN YING	6 WHITTIER PL #16J-6	BOSTON MA	02114	6	WHITTIER PL #16J-6	BOSTON	02114
300450470	PERKINS-PERRIMON LIVING	PERKINS-PERRIMON LIVING	62 HUTCHINSON RD	ARLINGTON MA	02474	6	WHITTIER PL #16L-6	BOSTON	02114
300450474	FONG GERARD TS	FONG GERARD TS	319 COMMONWEALTH AVE #10	BOSTON MA	02115	6	WHITTIER PL #16N-6	BOSTON	02114
300450476	HALL JAMES	HALL JAMES	150 STANIFORD ST #922	BOSTON MA	02114	6	WHITTIER PL #16O-6	BOSTON	02114
300450478	KWOK PHILIP	KWOK PHILIP	6 WHITTIER PL #16P-6	BOSTON MA	02114	6	WHITTIER PL #16P-6	BOSTON	02114
300450480	MILLS SHIRLEY RAE	MILLS SHIRLEY RAE	6 WHITTIER PL #16R	BOSTON MA	02114	6	WHITTIER PL #16R-6	BOSTON	02114
300450482	BROWN DEBORAH B	BROWN DEBORAH B	6 WHITTIER PL #17A-6	BOSTON MA	02114	6	WHITTIER PL #17A-6	BOSTON	02114
300450484	GUADAGNO LAURA M	GUADAGNO LAURA M	6 WHITTIER PL #17B-6	BOSTON MA	02114	6	WHITTIER PL #17B-6	BOSTON	02114
300450486	CHEN PETER CT	CHEN PETER CT	37 CLOVERFIELD DRIVE	LOUDONVILLE NY	12211	6	WHITTIER PL #17C-6	BOSTON	02114
300450488	TOM MAY Y	TOM MAY Y	6 WHITTIER PL UNIT 17D	BOSTON MA	02114	6	WHITTIER PL #17D-6	BOSTON	02114
300450490	WEINSTEIN CHARLES E	WEINSTEIN CHARLES E	6 WHITTIER PL #17E-6	BOSTON MA	02114	6	WHITTIER PL #17E-6	BOSTON	02114
300450492	BROWN MARIANNE G	BROWN MARIANNE G	6 WHITTIER PL #17-F	BOSTON MA	02114	6	WHITTIER PL #17F-6	BOSTON	02114
300450494	BEDE HILARY A	BEDE HILARY A	6 WHITTIER PL #17G-6	BOSTON MA	02114	6	WHITTIER PL #17G-6	BOSTON	02114
300450496	DAVIS HOWARD E JR	DAVIS HOWARD E JR	6 WHITTIER PL #17H	BOSTON MA	02114	6	WHITTIER PL #17H-6	BOSTON	02114
300450498	FAMA JEANNE M	FAMA JEANNE M	6 WHITTIER PL #17-J	BOSTON MA	02114	6	WHITTIER PL #17J-6	BOSTON	02114
300450500	GUADANGO STEPHANIE M	GUADANGO STEPHANIE M	6 WHITTIER PL # 17K-6	BOSTON MA	02114	6	WHITTIER PL #17K-6	BOSTON	02114
300450502	ZHAO LIPING	ZHAO LIPING	6 WHITTIER PL #14-M	BOSTON MA	02114	6	WHITTIER PL #17L-6	BOSTON	02114
300450506	WITKIE SUSAN	WITKIE SUSAN	6 WHITTIER PL #17N-6	BOSTON MA	02114	6	WHITTIER PL #17N-6	BOSTON	02114
300450508	ROSEN GLADYS	ROSEN GLADYS	100 HAVEN AV #8A	NEW YORK NY	10032	6	WHITTIER PL #17O-6	BOSTON	02114
300450510	WU JEFF	WU JEFF	1010 RACE ST APT 5B	PHILADELPHIA PA	19107	6	WHITTIER PL #17P-6	BOSTON	02114
300450512	BHAN ANGELA	BHAN ANGELA	6 WHITTIER PL #17R-6	BOSTON MA	02114	6	WHITTIER PL #17R-6	BOSTON	02114
300450514	HIGGINS PAUL TS	HIGGINS PAUL TS	6 WHITTIER PL MGMT OFFICE	BOSTON MA	02114	8	WHITTIER PL #B101-8	BOSTON	02114
300450518	THE BOSTON CHILDRENS SCHOOL	THE BOSTON CHILDRENS SCHOOL	8 WHITTIER PL #1E	BOSTON MA	02114	8	WHITTIER PL	BOSTON	02114

300450522	THE BOSTON CHILDRENS SCHOOL	THE BOSTON CHILDRENS SCHOOL	8 WHITTIER PL 1E	BOSTON MA	02114	8	WHITTIER PL	BOSTON	02114
300450524	NOTOSOEHARDJO TINA C	NOTOSOEHARDJO TINA C	8 WHITTIER PL #2A-8	BOSTON MA	02114	8	WHITTIER PL #2A-8	BOSTON	02114
300450526	SP WHITTIER PLACE REALTY	SP WHITTIER PLACE REALTY	8 WHITTIER PL #2K	BOSTON MA	02114	8	WHITTIER PL #2B-8	BOSTON	02114
300450528	HARRIS STEVEN	HARRIS STEVEN	8 WHITTIER PL UNIT 2C	BOSTON MA	02114	8	WHITTIER PL #2C-8	BOSTON	02114
300450530	BATES LINDA I	BATES LINDA I	120 SOUTH OCEAN BLVD UNIT E1	DELRAY BEACH FL	33483	8	WHITTIER PL #2D-8	BOSTON	02114
300450532	PHILOMENA JAY	PHILOMENA JAY	8 WHITTIER PL #2E-8	BOSTON MA	02114	8	WHITTIER PL #2E-8	BOSTON	02114
300450534	KATZ PAUL H	KATZ PAUL H	8 WHITTIER PL #2F-8	BOSTON MA	02114	8	WHITTIER PL #2F-8	BOSTON	02114
300450540	SP WHITTIER PLACE REALTY	SP WHITTIER PLACE REALTY	8 WHITTIER PL#2J-8	BOSTON MA	02114	8	WHITTIER PL #2J-8	BOSTON	02114
300450542	SP WHITTIER PLACE REALTY	SP WHITTIER PLACE REALTY	8 WHITTIER PL #2K-8	BOSTON MA	02114	8	WHITTIER PL #2K-8	BOSTON	02114
300450548	FERNANDEZ MAGADAN SILVIA S	FERNANDEZ MAGADAN SILVIA S	8 WHITTIER PL #3C	BOSTON MA	02114	8	WHITTIER PL #3C-8	BOSTON	02114
300450550	FAZZANO WILLIAM H	FAZZANO WILLIAM H	8 WHITTIER PL #3D-8	BOSTON MA	02114	8	WHITTIER PL #3D-8	BOSTON	02114
300450552	JONES WALTER B ETAL	JONES WALTER B ETAL	8 WHITTIER PL #3E-8	BOSTON MA	02114	8	WHITTIER PL #3E-8	BOSTON	02114
300450554	WAGER JANET D	WAGER JANET D	8 WHITTIER PL #3F	BOSTON MA	02114	8	WHITTIER PL #3F-8	BOSTON	02114
300450558	SULLIVAN JOHN F	SULLIVAN JOHN F	8 WHITTIER PL #3H-8	BOSTON MA	02114	8	WHITTIER PL #3H-8	BOSTON	02114
300450560	LEWANDROWSKI NOMINEE TRUST	LEWANDROWSKI NOMINEE TRUST	8 WHITTIER PL #3J-8	BOSTON MA	02114	8	WHITTIER PL #3J-8	BOSTON	02114
300450562	LEWANDROWSKI ELIZABETH L TS	LEWANDROWSKI ELIZABETH L TS	8 WHITTIER PL # 3K-8	BOSTON MA	02114	8	WHITTIER PL #3K-8	BOSTON	02114
300450564	WAN SUJING	WAN SUJING	8 WHITTIER PL #4-A	BOSTON MA	02114	8	WHITTIER PL #4A-8	BOSTON	02114
300450566	MAHBOOBI KAUSAR TRUST	MAHBOOBI KAUSAR TRUST	8 WHITTIER PL #4B-8	BOSTON MA	02114	8	WHITTIER PL #4B-8	BOSTON	02114
300450570	HARNLY JAMES M	HARNLY JAMES M	6617 LONE OAK DR	BETHESDA MD	20817	8	WHITTIER PL #4D-8	BOSTON	02114
300450572	MALHOTRA RAJEEV	MALHOTRA RAJEEV	8 WHITTIER PL #4E-8	BOSTON MA	02114	8	WHITTIER PL #4E-8	BOSTON	02114
300450574	CUI YAN	CUI YAN	8 WHITTIER PL #4F-8	BOSTON MA	02114	8	WHITTIER PL #4F-8	BOSTON	02114
300450576	ERBAY NAZLI	ERBAY NAZLI	8 WHITTIER PL #4G-8	BOSTON MA	02114	8	WHITTIER PL #4G-8	BOSTON	02114
300450578	KOPACZ KAROL	KOPACZ KAROL	8 WHITTIER PL #4H-8	BOSTON MA	02114	8	WHITTIER PL #4H-8	BOSTON	02114
300450580	LEWANDROWSKI KENT B TS	LEWANDROWSKI KENT B TS	8 WHITTIER PL # 3K	BOSTON MA	02114	8	WHITTIER PL #4J-8	BOSTON	02114
300450582	LEWANDROWSKI KENT B TS	LEWANDROWSKI KENT B TS	8 WHITTIER PL #3K	BOSTON MA	02114	8	WHITTIER PL #4K-8	BOSTON	02114
300450584	ABUJUDEH HANI	ABUJUDEH HANI	8 WHITTIER PL #5A-8	BOSTON MA	02114	8	WHITTIER PL #5A-8	BOSTON	02114
300450586	BLYTHE ALLISON B	BLYTHE ALLISON B	8 WHITTIER PL #5B-8	BOSTON MA	02114	8	WHITTIER PL #5B-8	BOSTON	02114
300450588	WOOD DIANE E TS	WOOD DIANE E TS	8 WHITTIER PL #5C	BOSTON MA	02114	8	WHITTIER PL #5C-8	BOSTON	02114
300450590	MEAGHER DERMOT	MEAGHER DERMOT	8 WHITTIER PL #5D-8	BOSTON MA	02114	8	WHITTIER PL #5D-8	BOSTON	02114
300450592	TAVARES RAYMOND	TAVARES RAYMOND	8 WHITTIER PL #5E	BOSTON MA	02114	8	WHITTIER PL #5E-8	BOSTON	02114
300450594	KASARJIAN IAN	KASARJIAN IAN	44 RAY AV	BELLINGHAM MA	02019	8	WHITTIER PL #5F-8	BOSTON	02114
300450596	LEWANDROWSKI ELIZABETH L	LEWANDROWSKI ELIZABETH L	8 WHITTIER PL #3K	BOSTON MA	02114	8	WHITTIER PL #5G-8	BOSTON	02114
300450598	ALBERT S AXELRAD 2005 TRUST	ALBERT S AXELRAD 2005 TRUST	8 WHITTIER PL #5H-8	BOSTON MA	02114	8	WHITTIER PL #5H-8	BOSTON	02114
300450602	PARKER STACEY	PARKER STACEY	8 WHITTIER PL #5K-8	BOSTON MA	02114	8	WHITTIER PL #5K-8	BOSTON	02114

300450604	DALY VIANA	DALY VIANA	8 WHITTIER PL #6A	BOSTON MA	02114 8	WHITTIER PL #6A-8	BOSTON	02114
300450606	YEE T JEANNE	YEE T JEANNE	8 WHITTIER PL #6B	BOSTON MA	02114 8	WHITTIER PL #6B-8	BOSTON	02114
300450608	KALUSKI KAMIL	KALUSKI KAMIL	8 WHITTIER PL #6C-8	BOSTON MA	02114 8	WHITTIER PL #6C-8	BOSTON	02114
300450610	GALATAS WILLIAM A	GALATAS WILLIAM A	8 WHITTIER PL UNIT 6D	BOSTON MA	02114 8	WHITTIER PL #6D-8	BOSTON	02114
300450612	MCCAFFERTY KEVIN M	MCCAFFERTY KEVIN M	8 WHITTIER PL #6E	BOSTON MA	02114 8	WHITTIER PL #6E-8	BOSTON	02114
300450616	ALAN AND SON INVESTMENTS LLC	ALAN AND SON INVESTMENTS LLC	8 WHITTIER PLACE UNIT 6G-8	BOSTON MA	02114 8	WHITTIER PL #6G-8	BOSTON	02114
300450618	SITT MORAD	SITT MORAD	8 WHITTIER PL #6H-8	BOSTON MA	02114 8	WHITTIER PL #6H-8	BOSTON	02114
300450620	RUTH G WALSH LIVING TRUST	RUTH G WALSH LIVING TRUST	8 WHITTIER PL #6J-8	BOSTON MA	02114 8	WHITTIER PL #6J-8	BOSTON	02114
300450622	ZHOU FAMILY REALTY TRUST	ZHOU FAMILY REALTY TRUST	8 WHITTIER PL 6K-8	BOSTON MA	02114 8	WHITTIER PL #6K-8	BOSTON	02114
300450624	PRICE MICHAEL L	PRICE MICHAEL L	318 BEAR HILL RD SUITE #6	WALTHAM MA	02451 8	WHITTIER PL #7A-8	BOSTON	02114
300450626	KENNETH KIN MAN KWONG	KENNETH KIN MAN KWONG	8 WHITTIER PL #7B	BOSTON MA	02114 8	WHITTIER PL #7B-8	BOSTON	02114
300450628	ABUJUDEH HANI	ABUJUDEH HANI	8 WHITTIER PL #7C-8	BOSTON MA	02114 8	WHITTIER PL #7C-8	BOSTON	02114
300450630	GOLDENTHAL LEAH	GOLDENTHAL LEAH	8 WHITTIER PL #7D-8	BOSTON MA	02114 8	WHITTIER PL #7D-8	BOSTON	02114
300450632	GALLAGHER DANIEL T	GALLAGHER DANIEL T	8 WHITTIER PL #7E	BOSTON MA	02114 8	WHITTIER PL #7E-8	BOSTON	02114
300450634	CALLAHAN RONALD J	CALLAHAN RONALD J	8 WHITTIER PL #7F-8	BOSTON MA	02114 8	WHITTIER PL #7F-8	BOSTON	02114
300450636	REDMOND JOSEPHINE L BE	REDMOND JOSEPHINE L BE	23 RUSSELL DRIVE	HARWICH MA	02446 8	WHITTIER PL #7G-8	BOSTON	02114
300450638	GUPTA PIYUSH	GUPTA PIYUSH	8 WHITTIER PL #7H-8	BOSTON MA	02114 8	WHITTIER PL #7H-8	BOSTON	02114
300450640	SVEC PAMELA S	SVEC PAMELA S	8 WHITTIER PL #7J-8	BOSTON MA	02114 8	WHITTIER PL #7J-8	BOSTON	02114
300450642	APPEL NORMAN L	APPEL NORMAN L	8 WHITTIER PL #7K	BOSTON MA	02114 8	WHITTIER PL #7K-8	BOSTON	02114
300450644	XIONG LING	XIONG LING	8 WHITTIER PL #8A-8	BOSTON MA	02114 8	WHITTIER PL #8A-8	BOSTON	02114
300450646	ABENDROTH ROBERT W	ABENDROTH ROBERT W	8 WHITTIER PL #8B-8	BOSTON MA	02114 8	WHITTIER PL #8B-8	BOSTON	02114
300450648	COLLAS MARIA MOREIRA	COLLAS MARIA MOREIRA	393 BELL ST	GLASTONBURY CT	06033 8	WHITTIER PL #8C-8	BOSTON	02114
300450654	LAVALLEE WENDY J	LAVALLEE WENDY J	8 WHITTIER PL UNIT 8E	BOSTON MA	02114 8	WHITTIER PL #8F-8	BOSTON	02114
300450656	SUKPRAPRUT SUPORN	SUKPRAPRUT SUPORN	8 WHITTIER PL #8G-8	BOSTON MA	02114 8	WHITTIER PL #8G-8	BOSTON	02114
300450658	SINCLAIR FRANK	SINCLAIR FRANK	8 WHITTIER PL # 8H	BOSTON MA	02114 8	WHITTIER PL #8H-8	BOSTON	02114
300450660	ALHADDAD ADEL AL	ALHADDAD ADEL AL	59 CAUSEWAY ST	BOSTON MA	02114 8	WHITTIER PL #8J-8	BOSTON	02114
300450662	MEYER MARLENE R	MEYER MARLENE R	8 WHITTIER PL #8K-8	BOSTON MA	02114 8	WHITTIER PL #8K-8	BOSTON	02114
300450664	BLUMENTHAL SYLVIA A TS	BLUMENTHAL SYLVIA A TS	224 SALEM ST APT #214	SWAMPSCOTT MA	01907 8	WHITTIER PL #9A-8	BOSTON	02114
300450666	CHEEVER PETER	CHEEVER PETER	18 GREENS POINT RD	IPSWICH MA	01938 8	WHITTIER PL #9B-8	BOSTON	02114
300450668	DVININ SERGEY O	DVININ SERGEY O	8 WHITTIER PL #9C-8	BOSTON MA	02114 8	WHITTIER PL #9C-8	BOSTON	02114
300450670	HALL JAMES C	HALL JAMES C	150 STANIFORD ST APT 922	BOSTON MA	02114 8	WHITTIER PL #9D-8	BOSTON	02114
300450672	LU MICHAEL	LU MICHAEL	8 WHITTIER PL #9E-8	BOSTON MA	02114 8	WHITTIER PL #9E-8	BOSTON	02114
300450674	MCPHERSON HEATHER ANNE	MCPHERSON HEATHER ANNE	704 15TH ST #350	DURHAM NC	27705 8	WHITTIER PL #9F-8	BOSTON	02114
300450676	MCPHERSON MALINDA J	MCPHERSON MALINDA J	8 WHITTIER PL #9G-8	BOSTON MA	02114 8	WHITTIER PL #9G-8	BOSTON	02114

300450678	ANDERSON PAMELA J TS	ANDERSON PAMELA J TS	867 BOYLSTON ST 3RD FL	BOSTON MA	02116	8	WHITTIER PL #9H-8	BOSTON	02114
300450680	CHINYO SAMEER	CHINYO SAMEER	8 WHITTIER PL # 9J-8	BOSTON MA	02114	8	WHITTIER PL #9J-8	BOSTON	02114
300450682	KURBAN ANDREW F TS	KURBAN ANDREW F TS	8 WHITTIER PL #9K-8	BOSTON MA	02114	8	WHITTIER PL #9K-8	BOSTON	02114
300450684	MERRY KARAN A	MERRY KARAN A	590 FLATBUSH AVE #1H	BROOKLYN NY	11225	8	WHITTIER PL #10A-8	BOSTON	02114
300450688	LATINO RAYMOND J	LATINO RAYMOND J	8 WHITTIER PL #10C	BOSTON MA	02114	8	WHITTIER PL #10C-8	BOSTON	02114
300450690	SADOWSKI ROBERT A	SADOWSKI ROBERT A	550 MORELAND WAY #1406	SANTA CLARA CA	95054	8	WHITTIER PL #10D-8	BOSTON	02114
300450692	CELLI CARLA	CELLI CARLA	8 WHITTIER PL #10E	BOSTON MA	02114	8	WHITTIER PL #10E-8	BOSTON	02114
300450694	GUINDI FARIDA F	GUINDI FARIDA F	7 WHITTIER PL #107	BOSTON MA	02114	8	WHITTIER PL #10F-8	BOSTON	02114
300450696	PATEL-MATHEW SONALI R	PATEL-MATHEW SONALI R	192 BOSTON POST RD #12	SUDBURY MA	01776	8	WHITTIER PL #10G-8	BOSTON	02114
300450698	SEMIGRAN MARC J	SEMIGRAN MARC J	8 WHITTIER PL #10H-8	BOSTON MA	02114	8	WHITTIER PL #10H-8	BOSTON	02114
300450702	SAGAR PALLAVI TS	SAGAR PALLAVI TS	8 WHITTIER PL #10K	BOSTON MA	02114	8	WHITTIER PL #10K-8	BOSTON	02114
300450704	GAO HENG	GAO HENG	8 WHITTIER PL #11A	BOSTON MA	02114	8	WHITTIER PL #11A-8	BOSTON	02114
300450706	AL-SHARIKH SHAMAEL A	AL-SHARIKH SHAMAEL A	575 BOYLSTON ST #3R	BOSTON MA	02116	8	WHITTIER PL #11B-8	BOSTON	02114
300450708	HURLEY JOHN K	HURLEY JOHN K	8 WHITTIER PL #11C	BOSTON MA	02114	8	WHITTIER PL #11C-8	BOSTON	02114
300450710	GALLEE FAMILY REVOCABLE	GALLEE FAMILY REVOCABLE	521 11TH AVE W	KIRKLAND WA	98033	8	WHITTIER PL #11D-8	BOSTON	02114
300450712	MARTELO ERNESTO C JR	MARTELO ERNESTO C JR	8 WHITTIER PL #11E-8	BOSTON MA	02114	8	WHITTIER PL #11E-8	BOSTON	02114
300450714	DASILVA MARIA CECILIA VIEIRA	DASILVA MARIA CECILIA VIEIRA	8 WHITTIER PL #11F-8	BOSTON MA	02114	8	WHITTIER PL #11F-8	BOSTON	02114
300450716	DOPPELT SAMUEL H	DOPPELT SAMUEL H	18 WADSWORTH RD	SUDBURY MA	01776	8	WHITTIER PL #11G-8	BOSTON	02114
300450718	CHEUNG CHUNG WAI ARNOLD	CHEUNG CHUNG WAI ARNOLD	8 WHITTIER PL #11H-8	BOSTON MA	02114	8	WHITTIER PL #11H-8	BOSTON	02114
300450720	MCDONALD JOSEPH ANDREW	MCDONALD JOSEPH ANDREW	8 WHITTIER PL #11J-8	BOSTON MA	02114	8	WHITTIER PL #11J-8	BOSTON	02114
300450722	BROWN MARIANNE G TS	BROWN MARIANNE G TS	8 WHITTIER PL #11K-8	BOSTON MA	02114	8	WHITTIER PL #11K-8	BOSTON	02114
300450724	ACHARYA BIJAY	ACHARYA BIJAY	8 WHITTIER PL #12A-8	BOSTON MA	02114	8	WHITTIER PL #12A-8	BOSTON	02114
300450726	REVERE YULHADER C	REVERE YULHADER C	8 WHITTIER PL #12B	BOSTON MA	02114	8	WHITTIER PL #12B-8	BOSTON	02114
300450728	BURGUENO MANUEL	BURGUENO MANUEL	8 WHITTIER PL #12C-8	BOSTON MA	02114	8	WHITTIER PL #12C-8	BOSTON	02114
300450730	WOLFSON JOAN G	WOLFSON JOAN G	8 WHITTIER PL #12D-8	BOSTON MA	02114	8	WHITTIER PL #12D-8	BOSTON	02114
300450732	CHU TRACY	CHU TRACY	8 WHITTIER PL #12E-8	BOSTON MA	02114	8	WHITTIER PL #12E-8	BOSTON	02114
300450736	RAO APARNA	RAO APARNA	1010 MASSACHUSETTS AVE APT 4	CAMBRIDGE MA	02138	8	WHITTIER PL #12G-8	BOSTON	02114
300450738	CHERIN PATRICIA A	CHERIN PATRICIA A	8 WHITTIER PL #12H	BOSTON MA	02114	8	WHITTIER PL #12H-8	BOSTON	02114
300450740	CHERIN PATRICIA	CHERIN PATRICIA	8 WHITTIER PL UNIT 12J-8	BOSTON MA	02114	8	WHITTIER PL #12J-8	BOSTON	02114
300450742	FRENCH DONALD D	FRENCH DONALD D	8 WHITTIER PL #12K-8	BOSTON MA	02114	8	WHITTIER PL #12K-8	BOSTON	02114
300450744	BLAIR WESLEY K IIII	BLAIR WESLEY K IIII	8 WHITTIER PL UN #14A	BOSTON MA	02114	8	WHITTIER PL #14A-8	BOSTON	02114
300450746	BENDA MARYANN	BENDA MARYANN	8 WHITTIER PL UNIT 14B-8	BOSTON MA	02114	8	WHITTIER PL #14B-8	BOSTON	02114
300450748	HAMAD ANTHONY A	HAMAD ANTHONY A	128 N SWALL DR UNIT#PH-2	LOS ANGELES CA	90048	8	WHITTIER PL #14C-8	BOSTON	02114
300450750	SNYDER REALTY TRUST	SNYDER REALTY TRUST	8 WHITTIER PL #14D-8	BOSTON MA	02114	8	WHITTIER PL #14D-8	BOSTON	02114



300450752	MOUKHACHEN OUSSAYMA	MOUKHACHEN OUSSAYMA	8 WHITTIER PL #14E	BOSTON MA	02114 8	WHITTIER PL #14E-8	BOSTON	02114
300450754	ARNOLD STEVEN E	ARNOLD STEVEN E	8 WHITTIER PL #14F-8	BOSTON MA	02114 8	WHITTIER PL #14F-8	BOSTON	02114
300450756	EL-ASSI NIDAL	EL-ASSI NIDAL	8 WHITTIER PL #14G-8	BOSTON MA	02114 8	WHITTIER PL #14G-8	BOSTON	02114
300450758	KABAN BARBARA	KABAN BARBARA	8 WHITTIER PL #14H-8	BOSTON MA	02114 8	WHITTIER PL #14H-8	BOSTON	02114
300450760	SUSARLA SRINIVAS BE	SUSARLA SRINIVAS BE	8 WHITTIER PLACE # 14J-8	BOSTON MA	02114 8	WHITTIER PL #14J-8	BOSTON	02114
300450762	LITMAN BRADLEY C	LITMAN BRADLEY C	228 ATLANTIC AVE	SWAMPSCOTT MA	01907 8	WHITTIER PL #14K-8	BOSTON	02114
300450764	ROBBINS JONATHAN	ROBBINS JONATHAN	8 WHITTIER PL #15A-8	BOSTON MA	02114 8	WHITTIER PL #15A-8	BOSTON	02114
300450766	TISDALE BENJAMIN F III	TISDALE BENJAMIN F III	8 WHITTIER PL #15B-8	BOSTON MA	02114 8	WHITTIER PL #15B-8	BOSTON	02114
300450768	TISDALE ALEXANDRA C	TISDALE ALEXANDRA C	8 WHITTIER PL #15C-8	BOSTON MA	02114 8	WHITTIER PL #15C-8	BOSTON	02114
300450770	KAVALER RICHARD M	KAVALER RICHARD M	8 WHITTIER PL #15D	BOSTON MA	02114 8	WHITTIER PL #15D-8	BOSTON	02114
300450772	HUTCHINGS ROLAND	HUTCHINGS ROLAND	8 WHITTIER PL #15E-8	BOSTON MA	02114 8	WHITTIER PL #15E-8	BOSTON	02114
300450774	MCDONALD WILLIAM J	MCDONALD WILLIAM J	1351 HANOVER LANE	VENTURA CA	93001 8	WHITTIER PL #15F-8	BOSTON	02114
300450776	HERSKOVITS ADRIANNA Z	HERSKOVITS ADRIANNA Z	157 PLEASANT ST #201	CAMBRIDGE MA	02139 8	WHITTIER PL #15G-8	BOSTON	02114
300450778	CARLSON MARIE D	CARLSON MARIE D	8 WHITTIER PL #15H-8	BOSTON MA	02114 8	WHITTIER PL #15H-8	BOSTON	02114
300450780	ZANO MARIA E C	ZANO MARIA E C	400 BROOKLINE AV #7A	BOSTON MA	02215 8	WHITTIER PL #15J-8	BOSTON	02114
300450782	MARILL KEITH AUSTIN	MARILL KEITH AUSTIN	125 LORING RD	WESTON MA	02493 8	WHITTIER PL #15K-8	BOSTON	02114
300450784	WOOD RYAN C	WOOD RYAN C	226 MARLBOROUGH ST #2	BOSTON MA	02116 8	WHITTIER PL #16A-8	BOSTON	02114
300450786	MOVITZ MURRAY D	MOVITZ MURRAY D	2 WINDEMERE LANE	EXETER NH	03833 8	WHITTIER PL #16B-8	BOSTON	02114
300450788	ZANELLI ANDREA	ZANELLI ANDREA	6 WHITTIER PL #2N	BOSTON MA	02114 8	WHITTIER PL #16C-8	BOSTON	02114
300450790	STOCKBRIDGE MICHAEL	STOCKBRIDGE MICHAEL	40 CHESTNUT ST	SALEM MA	01970 8	WHITTIER PL #16D-8	BOSTON	02114
300450792	SIMPSON KIMBERLY A	SIMPSON KIMBERLY A	8 WHITTIER PL #16E	BOSTON MA	02114 8	WHITTIER PL #16E-8	BOSTON	02114
300450794	COLVARIO JOYCE	COLVARIO JOYCE	8 WHITTIER PL #16F	BOSTON MA	02114 8	WHITTIER PL #16F-8	BOSTON	02114
300450796	CVAP HOLDINGS LLC	CVAP HOLDINGS LLC	6315 GREATWATER DR	WINDERMERE FL	34786 8	WHITTIER PL #16G-8	BOSTON	02114
300450798	DONAHOE JOHN F	DONAHOE JOHN F	8 WHITTIER PL #16H-8	BOSTON MA	02114 8	WHITTIER PL #16H-8	BOSTON	02114
300450800	SHAH PARAG	SHAH PARAG	8 WHITTIER PL #16J&K	BOSTON MA	02114 8	WHITTIER PL #16J-8	BOSTON	02114
300450802	SHAH PARAG	SHAH PARAG	8 WHITTIER PL #16 J & K	BOSTON MA	02114 8	WHITTIER PL #16K-8	BOSTON	02114
300450804	JIRA CHONNIKARN	JIRA CHONNIKARN	1836 WOODS WAY	MT PLEASANT MI	48858 8	WHITTIER PL #17A-8	BOSTON	02114
300450808	SOLOMON NANCY Y	SOLOMON NANCY Y	8 WHITTIER PL #17C-8	BOSTON MA	02114 8	WHITTIER PL #17C-8	BOSTON	02114
300450810	YUAN QIAN	YUAN QIAN	4 FALCON RD	SHARON MA	02067 8	WHITTIER PL #17D-8	BOSTON	02114
300450812	ZAK ALEXANDER	ZAK ALEXANDER	8 WHITTIER PL #17E	BOSTON MA	02114 8	WHITTIER PL #17E-8	BOSTON	02114
300450814	PIERETTI RAFAEL	PIERETTI RAFAEL	255 DUDLEY ST	BROOKLINE MA	02445 8	WHITTIER PL #17F-8	BOSTON	02114
300450816	CIRACE LISA LYNNE	CIRACE LISA LYNNE	8 WHITTIER PL #17G-8	BOSTON MA	02114 8	WHITTIER PL #17G-8	BOSTON	02114
300450818	CIRACE LISA LYNNE	CIRACE LISA LYNNE	8 WHITTIER PL #17H-8	BOSTON MA	02114 8	WHITTIER PL #17H-8	BOSTON	02114
300450820	CIRACE LISA L	CIRACE LISA L	8 WHITTIER PL #17J-8	BOSTON MA	02114 8	WHITTIER PL #17J-8	BOSTON	02114

300450822	SADOWSKI CHARLES F	SADOWSKI CHARLES F	8 WHITTIER PL #17K-8	BOSTON MA	02114 8	WHITTIER PL #17K-8	BOSTON	02114
300450824	ALBERTS DAVID	ALBERTS DAVID	8 WHITTIER PL #18A-8	BOSTON MA	02114 8	WHITTIER PL #18A-8	BOSTON	02114
300450830	VAHABZADEGAN SOHAYLA	VAHABZADEGAN SOHAYLA	8 WHITTIER PL #18D-8	BOSTON MA	02114 8	WHITTIER PL #18D-8	BOSTON	02114
300450832	REFOJO SVETLANA B	REFOJO SVETLANA B	8 WHITTIER PL #18E-8	BOSTON MA	02114 8	WHITTIER PL #18E-8	BOSTON	02114
300450834	BENNETT ANITA E	BENNETT ANITA E	1193 MAIN ST #B1	HINGHAM MA	02043 8	WHITTIER PL #18F-8	BOSTON	02114
300450836	STARLIGHT HOLDINGS LLC	STARLIGHT HOLDINGS LLC	36 JFK STREET	CAMBRIDGE MA	02138 8	WHITTIER PL #18G-8	BOSTON	02114
300450838	MARILL KEITH A	MARILL KEITH A	14 MAPLE RD	WESTON MA	02493 8	WHITTIER PL #18H-8	BOSTON	02114
300450840	BERK WENDY G	BERK WENDY G	8 WHITTIER PL #18J-8	BOSTON MA	02114 8	WHITTIER PL #18J-8	BOSTON	02114
300450842	DONALD E MCCREADY 2017 TRUST	DONALD E MCCREADY 2017 TRUST	8 WHITTIER PL # 18K-8	BOSTON MA	02114 8	WHITTIER PL #18K-8	BOSTON	02114
300450844	LIBBY PATRICIA	LIBBY PATRICIA	8 WHITTIER PL #19-A	BOSTON MA	02114 8	WHITTIER PL #19A-8	BOSTON	02114
300450846	EDELSTEIN IRENE TS	EDELSTEIN IRENE TS	8 WHITTIER PL #19-B	BOSTON MA	02114 8	WHITTIER PL #19B-8	BOSTON	02114
300450848	NAESER MARGARET A	NAESER MARGARET A	8 WHITTIER PL	BOSTON MA	02114 8	WHITTIER PL #19C-8	BOSTON	02114
300450850	PATEL MARGI Y	PATEL MARGI Y	8 WHITTIER PL UNIT 19D-8	BOSTON MA	02114 8	WHITTIER PL #19D-8	BOSTON	02114
300450852	FREE JOHN U	FREE JOHN U	8 WHITTIER PLACE #19E-8	BOSTON MA	02114 8	WHITTIER PL #19E-8	BOSTON	02114
300450854	STEINFELD JEFFREY	STEINFELD JEFFREY	8 WHITTIER PL #19F-8	BOSTON MA	02114 8	WHITTIER PL #19F-8	BOSTON	02114
300450856	WHITTIER PLACE REALTY TRUST	WHITTIER PLACE REALTY TRUST	8 WHITTIER PL #19G-8	BOSTON MA	02114 8	WHITTIER PL #19G-8	BOSTON	02114
300450858	HENSEL JAMES A	HENSEL JAMES A	8 WHITTIER PL #19H-8	BOSTON MA	02114 8	WHITTIER PL #19H-8	BOSTON	02114
300450860	CHEEVER PETER J	CHEEVER PETER J	18 GREENS POINT RD	IPSWICH MA	01938 8	WHITTIER PL #19J-8	BOSTON	02114
300450862	BAZARI WENDY	BAZARI WENDY	8 WHITTIER PL #19K	BOSTON MA	02114 8	WHITTIER PL #19K-8	BOSTON	02114
300450864	ZHOU MING	ZHOU MING	148 NEWBURY AVE	QUINCY MA	02171 8	WHITTIER PL #20A-8	BOSTON	02114
300450866	KOENIG THOMAS H	KOENIG THOMAS H	8 WHITTIER PL #20B-8	BOSTON MA	02114 8	WHITTIER PL #20B-8	BOSTON	02114
300450868	YOUNG LYNNE B LEVINE	YOUNG LYNNE B LEVINE	8 WHITTIER PL #20C-8	BOSTON MA	02114 8	WHITTIER PL #20C-8	BOSTON	02114
300450870	YOUNG LYNNE B LEVINE	YOUNG LYNNE B LEVINE	8 WHITTIER PL #20D-8	BOSTON MA	02114 8	WHITTIER PL #20D-8	BOSTON	02114
300450872	SHAEVEL EILEEN M	SHAEVEL EILEEN M	8 WHITTIER PL #20E-8	BOSTON MA	02114 8	WHITTIER PL #20E-8	BOSTON	02114
300450874	FENNESSY JOHN P ETAL	FENNESSY JOHN P ETAL	8 WHITTIER PL #20F-8	BOSTON MA	02114 8	WHITTIER PL #20F-8	BOSTON	02114
300450876	LAXMI VIJAY	LAXMI VIJAY	80 FAWCETT ST #343	CAMBRIDGE MA	02138 8	WHITTIER PL #20G-8	BOSTON	02114
300450878	BERKMAN BARBARA J TS	BERKMAN BARBARA J TS	8 WHITTIER PL #20H-8	BOSTON MA	02114 8	WHITTIER PL #20H-8	BOSTON	02114
300450882	BARMAKIAN ADREENA	BARMAKIAN ADREENA	8 WHITTIER PL #20K-8	BOSTON MA	02114 8	WHITTIER PL #20K-8	BOSTON	02114
300450884	REDMOND KEVIN J	REDMOND KEVIN J	23 RUSSELL DRIVE	HARWICH MA	02446 8	WHITTIER PL #21A-8	BOSTON	02114
300450886	CABAN JAVIER	CABAN JAVIER	67 CHESTNUT ST	CHARLESTOWN MA	02129 8	WHITTIER PL #21B-8	BOSTON	02114
300450888	KLEIN MICHAEL T	KLEIN MICHAEL T	8 WHITTIER PLACE 21C-8	BOSTON MA	02114 8	WHITTIER PL #21C-8	BOSTON	02114
300450890	YOUNG PATRICE W L	YOUNG PATRICE W L	8 WHITTIER PL #21D-8	BOSTON MA	02114 8	WHITTIER PL #21D-8	BOSTON	02114
300450892	YOUNG PATRICE W	YOUNG PATRICE W	8 WHITTIER PL #21E-8	BOSTON MA	02114 8	WHITTIER PL #21E-8	BOSTON	02114
300450894	BENOIT SUSANN C	BENOIT SUSANN C	8 WHITTIER PL #21-F	BOSTON MA	02114 8	WHITTIER PL #21F-8	BOSTON	02114

300450896	ERBAY SAMI H	ERBAY SAMI H	8 WHITTIER PL #21G-8	BOSTON MA	02114	8	WHITTIER PL #21G-8	BOSTON	02114
300450898	TRENT ETHELANNE ETAL	TRENT ETHELANNE ETAL	8 WHITTIER PL #21H-8	BOSTON MA	02114	8	WHITTIER PL #21H-8	BOSTON	02114
300450900	ANDERSON PAMELA J	ANDERSON PAMELA J	867 BOYLSTON ST 3RD FL	BOSTON MA	02116	8	WHITTIER PL #21J-8	BOSTON	02114
300450902	ANDERSON PAMELA J TS	ANDERSON PAMELA J TS	867 BOYLSTON ST 3RD FL	BOSTON MA	02116	8	WHITTIER PL #21K-8	BOSTON	02114
300450904	CHAU FONG DAK	CHAU FONG DAK	135 PLEASANT ST #605	BROOKLINE MA	02446	8	WHITTIER PL #22A-8	BOSTON	02114
300450906	WEISHOLTZ DANIEL SCOTT	WEISHOLTZ DANIEL SCOTT	8 WHITTIER PL #22B-8	BOSTON MA	02114	8	WHITTIER PL #22B-8	BOSTON	02114
300450908	SHRIME MARK G	SHRIME MARK G	8 WHITTIER PL #22C-8	BOSTON MA	02114	8	WHITTIER PL #22C-8	BOSTON	02114
300450910	FORD EDWARD J LT	FORD EDWARD J LT	8 WHITTIER PL #22D-8	BOSTON MA	02114	8	WHITTIER PL #22D-8	BOSTON	02114
300450914	AGOSTINELLI DONALD C	AGOSTINELLI DONALD C	8 WHITTIER PL #22E	BOSTON MA	02114	8	WHITTIER PL #22F-8	BOSTON	02114
300450916	WOOD RYAN	WOOD RYAN	8 WHITTIER PLACE UNIT 22-G-8	BOSTON MA	02114	8	WHITTIER PL #22G-8	BOSTON	02114
300450920	LONGI CLEOFE	LONGI CLEOFE	8 WHITTIER PL #22J-8	BOSTON MA	02114	8	WHITTIER PL #22J-8	BOSTON	02114
300450922	OCONNELL BRIAN A	OCONNELL BRIAN A	8 WHITTIER PL #22K	BOSTON MA	02114	8	WHITTIER PL #22K-8	BOSTON	02114
300450924	FELT MARILYN CLAYTON	FELT MARILYN CLAYTON	8 WHITTIER PL #23A	BOSTON MA	02114	8	WHITTIER PL #23A-8	BOSTON	02114
300450926	MURPHY CAROL M	MURPHY CAROL M	8 WHITTIER PL #23B	BOSTON MA	02114	8	WHITTIER PL #23B-8	BOSTON	02114
300450928	FLAHERTY AND PICHULO	FLAHERTY AND PICHULO	8 WHITTIER PL #23C-8	BOSTON MA	02114	8	WHITTIER PL #23C-8	BOSTON	02114
300450930	MANNING KATHARINE	MANNING KATHARINE	8 WHITTIER PL #23D-8	BOSTON MA	02114	8	WHITTIER PL #23D-8	BOSTON	02114
300450932	FISH A1 REALTY TRUST	FISH A1 REALTY TRUST	8 WHITTIER PL #23E-8	BOSTON MA	02114	8	WHITTIER PL #23E-8	BOSTON	02114
300450934	LEE PIN-TSUN JUSTIN	LEE PIN-TSUN JUSTIN	8 WHITTIER PLACE #23F	BOSTON MA	02114	8	WHITTIER PL #23F-8	BOSTON	02114
300450936	STEIN HEATHER	STEIN HEATHER	8 WHITTIER PL #23G-8	BOSTON MA	02114	8	WHITTIER PL #23G-8	BOSTON	02114
300450940	CAPTAIN FARROKH K	CAPTAIN FARROKH K	867 BOYLSTON ST 3RD FL	BOSTON MA	02116	8	WHITTIER PL #23J-8	BOSTON	02114
300450942	MCDERMOTT DAVID H	MCDERMOTT DAVID H	8 WHITTIER PL #23K	BOSTON MA	02114	8	WHITTIER PL #23K-8	BOSTON	02114
300450946	BARSHAN EDAN	BARSHAN EDAN	10 MUSEUM WAY #624	CAMBRIDGE MA	02141	8	WHITTIER PL #24B-8	BOSTON	02114
300450950	KARR MARY E	KARR MARY E	8 WHITTIER PL # 24D-8	BOSTON MA	02114	8	WHITTIER PL #24D-8	BOSTON	02114
300450952	ABOU HAMAD ZOUHEIR E	ABOU HAMAD ZOUHEIR E	8 WHITTIER PL #24E	BOSTON MA	02114	8	WHITTIER PL #24E-8	BOSTON	02114
300450954	WHITTIER REALTY TRUST	WHITTIER REALTY TRUST	8 WHITTIER PL #24F- 8	BOSTON MA	02114	8	WHITTIER PL #24F-8	BOSTON	02114
300450956	BANDER KAY W	BANDER KAY W	8 WHITTIER PL #24G-8	BOSTON MA	02114	8	WHITTIER PL #24G-8	BOSTON	02114
300450958	MADLINE H CAVINESS 1997	MADLINE H CAVINESS 1997	8 WHITTIER PL #24H-8	BOSTON MA	02114	8	WHITTIER PL #24H-8	BOSTON	02114
300450960	PIRIS ADRIANO	PIRIS ADRIANO	8 WHITTIER PL #24J/8	BOSTON MA	02114	8	WHITTIER PL #24J-8	BOSTON	02114
300450962	KUMAR NILESH	KUMAR NILESH	8 WHITTIER PL #24K-8	BOSTON MA	02114	8	WHITTIER PL #24K-8	BOSTON	02114
300450964	SEAVER KEVIN	SEAVER KEVIN	8 WHITTIER PL #104-8	BOSTON MA	02114	8	WHITTIER PL #CC-104-8	BOSTON	02114
300450968	SEAMANS WARREN	SEAMANS WARREN	8 WHITTIER PLACE #106-8	BOSTON MA	02114	8	WHITTIER PL #CC-106-8	BOSTON	02114
300450972	MASS GENERAL HOSPITAL CORP	MASS GENERAL HOSPITAL CORP	PO BOX 6240	BOSTON MA	02114	10	WHITTIER PL	BOSTON	02114
300451010	COMM OF MA DEPT OF HIGHWAY	COMM OF MA DEPT OF HIGHWAY	CHARLES ST	BOSTON MA	02114		CHARLES ST	BOSTON	02114
300452002	ANSARA ANGELA	ANSARA ANGELA	420 CHESTNUT ST	LYNNFIELD MA	01940	6-8	WHITTIER PL	BOSTON	02114

300452004	RAFIQ SAMIR	RAFIQ SAMIR	6 WHITTIER PL #110-6	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452006	MAY Y TOM LIVING TRUST	MAY Y TOM LIVING TRUST	6 WHITTIER PL #17D-6	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452010	YUAN QUIAN	YUAN QUIAN	4 FALCON RD	SHARON MA	02067 6-8 WHITTIER PL	BOSTON	02114
300452014	BIOSPA LLC	BIOSPA LLC	21 WEST ST	WORCESTER MA	01609 6-8 WHITTIER PL	BOSTON	02114
300452016	TRENT ETHELANNE	TRENT ETHELANNE	8 WHITTIER PL #21H	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452018	SHAH PARAG I	SHAH PARAG I	8 WHITTIER PL#16J-K	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452022	SIMCHA FAMILY TRUST	SIMCHA FAMILY TRUST	8 WHITTIER PL #19-B	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452024	MARSHALL REALTY TRUST	MARSHALL REALTY TRUST	6 WHITTIER PL #3C	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452026	VAZQUEZ RAFAEL	VAZQUEZ RAFAEL	9 HAWTHORNE PL #9-3H	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452028	LEE PIN-TSUN JUSTIN	LEE PIN-TSUN JUSTIN	8 WHITTIER PL #23-F-8	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452032	LU MICHAEL	LU MICHAEL	8 WHITTIER PL#9E-8	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452038	ASHFORD RONALD R	ASHFORD RONALD R	6 WHITTIER PL #9M-6	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452040	ZANO MARIA E C	ZANO MARIA E C	40 BROOKLINE AV #7-A	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452042	SIDEMAN TONI D	SIDEMAN TONI D	6 WHITTIER PL #11-C	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452044	MORRIS CHRISTINE E	MORRIS CHRISTINE E	141 TREMONT ST SUITE 500	BOSTON MA	02111 6-8 WHITTIER PL	BOSTON	02114
300452046	MAHONEY JAMES E	MAHONEY JAMES E	8 WHITTIER PL #21D	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452050	MCDERMOTT DAVID	MCDERMOTT DAVID	8 WHITTIER PL #23K	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452054	DONAHOE PATRICIA K	DONAHOE PATRICIA K	8 WHITTIER PL #16H-8	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452056	MF WHITTIER REALTY TRUST	MF WHITTIER REALTY TRUST	319 COMMONWEALTH AV	BOSTON MA	02115 6-8 WHITTIER PL	BOSTON	02114
300452058	LIU HUEI-MIN	LIU HUEI-MIN	93 RIVER ST	WELLESLEY MA	02481 6-8 WHITTIER PL	BOSTON	02114
300452060	RHEIN PETER V	RHEIN PETER V	6 WHITTIER PL#2K	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452064	BIANCHI CESARIO	BIANCHI CESARIO	6 WHITTIER PL#15M-6	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452066	BARMAKIAN ADREENA	BARMAKIAN ADREENA	8 WHITTIER PL #20K	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452068	MALHOTRA RAJEEV	MALHOTRA RAJEEV	8 WHITTIER PL #4E	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452074	WOOD ASHLEY	WOOD ASHLEY	6 WHITTIER PL #14G-6	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452076	BOTOMAN VLAICU ALIN	BOTOMAN VLAICU ALIN	6 WHITTIER PL #7E-6	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452078	ZHI GANG	ZHI GANG	6 WHITTIER PL #14M-6	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452082	VAZQUEZ RAFAEL	VAZQUEZ RAFAEL	6 WHITTIER PL #5E-6	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452084	LAMONICA JOSEPH R	LAMONICA JOSEPH R	6 WHITTIER PL #5O-6	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452086	BERNSTINE MARGARITA K	BERNSTINE MARGARITA K	6 WHITTIER PL #5A	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452090	HOMSY FADI N	HOMSY FADI N	114 GAY ST	WESTWOOD MA	02090 6-8 WHITTIER PL	BOSTON	02114
300452092	TURNAY ASHER A	TURNAY ASHER A	9 HAWTHORNE PL #3-H	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452094	YUE YUN LAN	YUE YUN LAN	40 GREENLEAF ST #406	QUINCY MA	02169 6-8 WHITTIER PL	BOSTON	02114
300452096	VANINA ALIONA	VANINA ALIONA	8 WHITTIER PL #14F	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114

300452098	HARRIS STEVEN	HARRIS STEVEN	8 WHITTIER PL #2C-8	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452106	HAMAD ZOUHEIR E ABOU	HAMAD ZOUHEIR E ABOU	8 WHITTIER PL #24-E	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452108	FELDMAN JOY	FELDMAN JOY	183 OAK ST #G4-C	NEWTON MA	02464 6-8 WHITTIER PL	BOSTON	02114
300452110	MCDERMOTT FRANCIS P	MCDERMOTT FRANCIS P	460 FOX HAVEN DR #1207	NAPLES FL	34104 6-8 WHITTIER PL	BOSTON	02114
300452112	MARTENS GEORGE	MARTENS GEORGE	8 WHITTIER PL #24-A	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452114	ZANO MARIA ELENA	ZANO MARIA ELENA	400 BROOKLINE AV #7	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452116	KAMAT YOGISH	KAMAT YOGISH	6 WHITTIER PL STE 3C	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452120	COSIMI A BENEDICT	COSIMI A BENEDICT	33 TRAILSIDE RD	WESTON MA	02493 6-8 WHITTIER PL	BOSTON	02114
300452122	TOOF ROBERT J III	TOOF ROBERT J III	6 WHITTIER PL #10-B	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452124	MANE PARESH	MANE PARESH	6 WHITTIER PL #9K-6	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452128	YEE T JEANNE	YEE T JEANNE	8 WHITTIER PL #6B-8	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452142	BANKS ANNE E	BANKS ANNE E	582 CALIFORNIA ST	NEWTONVILLE MA	02469 6-8 WHITTIER PL	BOSTON	02114
300452144	DIBLASI EDWARD	DIBLASI EDWARD	8 WHITTIER PL #19D-8	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452150	AL-KHATIB MALEK	AL-KHATIB MALEK	8 WHITTIER PL #12-F	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452154	FLINK ALAN	FLINK ALAN	6 WHITTIER PL STE 3-C	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452156	ISHERWOOD PHILIP TODD	ISHERWOOD PHILIP TODD	59 FLEET ST #5	BOSTON MA	02109 6-8 WHITTIER PL	BOSTON	02114
300452158	DEBOER GEORGE E	DEBOER GEORGE E	6 WHITTIER PL UNIT 4M-6	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452162	YOUNG PATRICE W L	YOUNG PATRICE W L	8 WHITTIER PL #21E	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452166	DONAHOE JOHN F	DONAHOE JOHN F	8 WHITTIER PL #16-H	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452168	CHRISTINE E MORRIS TRUST	CHRISTINE E MORRIS TRUST	PO BOX 1419	NEWBURYPORT MA	01950 6-8 WHITTIER PL	BOSTON	02114
300452172	WITKIE SUSAN	WITKIE SUSAN	6 WHITTIER PL #17M-6	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452174	WAGER JANET	WAGER JANET	8 WHITTIER PL#3F-8	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452176	KNAPP DOUGLAS	KNAPP DOUGLAS	6 WHITTIER PL #11E-6	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452178	KLEIN MICHAEL	KLEIN MICHAEL	8 WHITTIER PL #21C	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452180	FOLEY MARGARET E	FOLEY MARGARET E	6 WHITTIER PL # 14-A	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452182	SEAMANS WARREN	SEAMANS WARREN	8 WHITTIER PL #106	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452184	HUTCHINGS ROLAND	HUTCHINGS ROLAND	8 WHITTIER PL #15E-8	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452186	BROWN DEBORAH B	BROWN DEBORAH B	6 WHITTIER PL #17A	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452188	CHEN PETER C T	CHEN PETER C T	27 CLOVERFIELD DR	LOUDONVILLE NY	12211 6-8 WHITTIER PL	BOSTON	02114
300452190	PIZZUTI FAMILY INC	PIZZUTI FAMILY INC	197 PORTLAND ST	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452192	SOLOMON NANCY Y	SOLOMON NANCY Y	8 WHITTIER PL #17C-8	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452194	CLIVEDEN J PAUL B	CLIVEDEN J PAUL B	6 WHITTIER PL #2-K	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452196	WENNERSTEN CHRISTINE	WENNERSTEN CHRISTINE	6 WHITTIER PL #4F	BOSTON MA	02114 6-8 WHITTIER PL	BOSTON	02114
300452202	MARIA T FEDERICO REVOCABLE	MARIA T FEDERICO REVOCABLE	57 BROWN ST	ANDOVER MA	01810 6-8 WHITTIER PL	BOSTON	02114

300452204	MANA LLC	MANA LLC	210 LINCOLN ST #503	BOSTON MA	02111	6-8 WHITTIER PL	BOSTON	02114
300452206	VAZQUEZ RAFAEL	VAZQUEZ RAFAEL	9 HAWTHORNE PL APT 3H	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452208	DONALD E MCCREADY 2017 TRUST	DONALD E MCCREADY 2017 TRUST	8 WHITTIER PL #18K-8	BOSTON MA	02114	8 WHITTIER PL	BOSTON	02114
300452212	AUSTIN THOMAS M	AUSTIN THOMAS M	6 WHITTIER PL #5-E	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452214	CIRACE LISA LYNNE	CIRACE LISA LYNNE	8 WHITTIER PL #17-J	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452220	DAVIS CHERYL L	DAVIS CHERYL L	8 WHITTIER PL #5D	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452222	WENDY REALTY TRUST	WENDY REALTY TRUST	6 WHITTIER PL #14N-6	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452226	HUNNEWELL RICHARD G	HUNNEWELL RICHARD G	PO BOX 365	HARVARD MA	01451	6-8 WHITTIER PL	BOSTON	02114
300452228	HUNNEWELL RICHARD G	HUNNEWELL RICHARD G	PO BOX 365	HARVARD MA	01451	6-8 WHITTIER PL	BOSTON	02114
300452230	VASIL VIVIAN L	VASIL VIVIAN L	6 WHITTIER PL #11G-6	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452234	AL HADDAD ADEL	AL HADDAD ADEL	8 WHITTIER PL #19-K	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452236	HAMAD ANTHONY A	HAMAD ANTHONY A	128 N SWALL DR UNIT#PH-2	LOS ANGELES CA	90048	6-8 WHITTIER PL	BOSTON	02114
300452238	DIB PETER	DIB PETER	6 WHITTIER PL #4R	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452240	FISHER AMY	FISHER AMY	6 WHITTIER PL #15K-6	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452242	SADOWSKI ROBERT A	SADOWSKI ROBERT A	550 MORELAND WAY #1406	SANTA CLARA CA	95054	6-8 WHITTIER PL	BOSTON	02114
300452244	ABUJUDEH HANI	ABUJUDEH HANI	8 WHITTIER PL #7-C	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452246	MCPHERSON MALCOLM F	MCPHERSON MALCOLM F	29 ELM ST	BELMONT MA	02478	6-8 WHITTIER PL	BOSTON	02114
300452248	APPEL NORMAN L	APPEL NORMAN L	8 WHITTIER PL #7K-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452250	20H-8 WHITTIER PLACE REALTY	20H-8 WHITTIER PLACE REALTY	8 WHITTIER PL #20H-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452252	KRADIN RICHARD L	KRADIN RICHARD L	6 WHITTIER PL #14H-6	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452254	MCPHERSON MALCOLM F	MCPHERSON MALCOLM F	29 ELM ST	BELMONT MA	02478	6-8 WHITTIER PL	BOSTON	02114
300452256	CATANIA VINCENT J	CATANIA VINCENT J	8 WHITTIER PL #8-E	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452258	FLEISCHAKER EMIL B	FLEISCHAKER EMIL B	8 WHITTIER PL #23E-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452260	GALATAS WILLIAM A	GALATAS WILLIAM A	8 WHITTIER PL #6D-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452262	NAESER MARGARET	NAESER MARGARET	8 WHITTIER PL #19C	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452264	AGOSTINELLI DONALD	AGOSTINELLI DONALD	8 WHITTIER PL #22E-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452266	MCDERMOTT DAVID H	MCDERMOTT DAVID H	8 WHITTIER PL #23K-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452270	FLAHERTY PATRICIA	FLAHERTY PATRICIA	8 WHITTIER PL #23C	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452276	BINELLO EMANUELA	BINELLO EMANUELA	8 WHITTIER PL #22H	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452278	LEWIN SONIA	LEWIN SONIA	8 WHITTIER PL #2H-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452280	GALLAGHER DANIEL T	GALLAGHER DANIEL T	319 PARK ST	WESR ROXBURY MA	02132	6-8 WHITTIER PL	BOSTON	02114
300452282	LUKAS GEORGE	LUKAS GEORGE	8 WHITTIER PL #23A	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452284	LITMAN BRADLEY C	LITMAN BRADLEY C	8 WHITTIER PL #14K	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452288	LIVESEY RONALD V	LIVESEY RONALD V	350 W 50TH ST #PH4A	NEW YORK NY	10019	6-8 WHITTIER PL	BOSTON	02114

300452290	8 WHITTIER PLACE NOMINEE	8 WHITTIER PLACE NOMINEE	WHITTIER PL #11K	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452292	MERRY KARAN A	MERRY KARAN A	9 HAWTHORNE PL #9-9M	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452296	SCHUBACK DEBORAH E	SCHUBACK DEBORAH E	8 WHITTIER PL #3A-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452300	SEMIGRAN GAIL	SEMIGRAN GAIL	8 WHITTIER PL #10H	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452302	ALBERT S AXELRAD 2005 TRUST	ALBERT S AXELRAD 2005 TRUST	8 WHITTIER PL#5H-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452304	CONNELLY ADAM J	CONNELLY ADAM J	8 WHITTIER PL UNIT 2E-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452306	PARKER CHASE F	PARKER CHASE F	350 W 50TH ST #PH4A	NEW YORK NY	10019	6-8 WHITTIER PL	BOSTON	02114
300452308	PHILOMENA JAY	PHILOMENA JAY	8 WHITTIER PL #2E	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452310	KURBAN REALTY TRUST	KURBAN REALTY TRUST	8 WHITTIER PL #9-K	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452312	HARTER JOSEPH P	HARTER JOSEPH P	40 IRVING ST #3	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452314	STEIN HEATHER	STEIN HEATHER	8 WHITTIER PL #23H	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452316	JOHNSON JULIE A	JOHNSON JULIE A	6 WHITTIER PL #12-P	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452334	CALES MAUREEN	CALES MAUREEN	6653 NW 35TH DR	GAINSEVILLE FL	32653	6-8 WHITTIER PL	BOSTON	02114
300452338	BURGUENO MANUEL	BURGUENO MANUEL	8 WHITTIER PL #12-C	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452340	CLEOFE LONGI REALTY TRUST	CLEOFE LONGI REALTY TRUST	8 WHITTIER PLACE APT 22J	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452342	AGOSTINELLI DONALD C	AGOSTINELLI DONALD C	8 WHITTIER PL #22E-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452344	SEED BRIAN	SEED BRIAN	21 FAIRWAY DR #2121	DERRY NH	03038	6-8 WHITTIER PL	BOSTON	02114
300452346	CHERIN PATRICIA A	CHERIN PATRICIA A	8 WHITTIER PL #12-H	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452350	VANCE THOMAS R	VANCE THOMAS R	6 WHITTIER PL #3R	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452352	SADIE TRUST	SADIE TRUST	867 BOYLSTON ST 3RD FL	BOSTON MA	02116	6-8 WHITTIER PL	BOSTON	02114
300452354	WHITTIER PLACE CONDOMINIUM	WHITTIER PLACE CONDOMINIUM	6 WHITTIER PL	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452356	RODRIGUEZ MARIA B	RODRIGUEZ MARIA B	74 EAST BOSCOBEL ST	BRAINTREE MA	02184	6-8 WHITTIER PL	BOSTON	02114
300452358	BISSETTA MIRKO	BISSETTA MIRKO	125 LORING ROAD	WESTON MA	02493	6-8 WHITTIER PL	BOSTON	02114
300452360	GIAMBRO NINA	GIAMBRO NINA	7 WHITTIER PL STE 110	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452362	CAICEDO CARLOS ALBERTO	CAICEDO CARLOS ALBERTO	6 WHITTIER PL #9N	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452366	CHEN LI LI	CHEN LI LI	8 WHITTIER PL #105-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452370	16L NOMINEE TRUST	16L NOMINEE TRUST	8 WHITTIER PL #3K-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452374	SHAEVEL EILEEN M	SHAEVEL EILEEN M	8 WHITTIER PL #20-E	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452382	SINCLAIR FRANK	SINCLAIR FRANK	8 WHITTIER PL #8H-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452386	QIAN YI	QIAN YI	180 TELFORD ST #319	BRIGHTON MA	02135	6-8 WHITTIER PL	BOSTON	02114
300452388	MURPHY CAROL	MURPHY CAROL	8 WHITTIER PL #9J	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452390	FORD EDWARD J	FORD EDWARD J	8 WHITTIER PL #22D	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452392	MURPHY CAROL	MURPHY CAROL	8 WHITTIER PL #23-B	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452394	HIROSE TATSUO	HIROSE TATSUO	75-83 CAMBRIDGE PW PH1	CAMBRIDGE MA	02142	6-8 WHITTIER PL	BOSTON	02114

300452396	NOONAN THOMAS F	NOONAN THOMAS F	6 WHITTIER PL #60	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452398	CUSHING ASHLEE C	CUSHING ASHLEE C	65 EAST INDIA ROW #2E	BOSTON MA	02110	6-8 WHITTIER PL	BOSTON	02114
300452402	FREE JOHN U	FREE JOHN U	8 WHITTIER PLACE #19E-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452406	ROLLINSON-SASSOWER DENISE C	ROLLINSON-SASSOWER DENISE C	6 WHITTIER PL #3J	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452408	TRAVELERS TRUST	TRAVELERS TRUST	867 BOYLSTON ST 3RD FL	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452410	PIZZUTI FAMILY INC	PIZZUTI FAMILY INC	197 PORTLAND ST 6TH FLR	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452412	HARRIS STEVEN	HARRIS STEVEN	8 WHITTIER PL #2C	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452418	LIN POPING	LIN POPING	8 WHITTIER PL #3-B	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452420	MIHM MARTIN C JR	MIHM MARTIN C JR	BWH/HARVARD INSTITUTE #673I	BOSTON MA	02115	6-8 WHITTIER PL	BOSTON	02114
300452424	SINCLAIR FRANK	SINCLAIR FRANK	8 WHITTIER PL #8H-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452426	BHAN ANGELA	BHAN ANGELA	322 E 93RD ST #12-A	NEW YORK NY	10128	6-8 WHITTIER PL	BOSTON	02114
300452428	FLANNERY KEVIN	FLANNERY KEVIN	83 AGAWAM RD	WABAN MA	02468	6-8 WHITTIER PL	BOSTON	02114
300452430	PANDYA SONAL	PANDYA SONAL	8 WHITTIER PL #2-J	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452432	BISETTA MIRKO	BISETTA MIRKO	125 LORING ROAD	WESTON MA	02493	6-8 WHITTIER PL	BOSTON	02114
300452434	KARR MARY E	KARR MARY E	8 WHITTIER PL #24D-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452436	GALLUZZO DAVID J	GALLUZZO DAVID J	8 WHITTIER PL #24C-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452440	SPAULDING REHABILITATION	SPAULDING REHABILITATION	300 FIRST AV	CHARLESTOWN MA	02129	6-8 WHITTIER PL	BOSTON	02114
300452442	WEINSTEIN CHARLES E	WEINSTEIN CHARLES E	6 WHITTIER PL #17E	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452444	ELENKO AVRAHAM	ELENKO AVRAHAM	6 WHITTIER PL #11N	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452448	MOUKHACHEN OUSSAYMA	MOUKHACHEN OUSSAYMA	8 WHITTIER PL 14E-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452450	OCONELL BRIAN A	OCONELL BRIAN A	8 WHITTIER PLACE #22K	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452452	EDGAR A KELLEY REVOCABLE	EDGAR A KELLEY REVOCABLE	25 COUNTRY CLUB RD #503	GILFORD NH	03249	6-8 WHITTIER PL	BOSTON	02114
300452454	KOHISTANI GHULAM R	KOHISTANI GHULAM R	8 WHITTIER PL #4C	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452456	GATELY MICHAEL	GATELY MICHAEL	8 WHITTIER PL #10-B	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452460	MCCAFFERTY KEVIN M	MCCAFFERTY KEVIN M	8 WHITTIER PL #6E-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452462	CARUSO ANGELO A	CARUSO ANGELO A	8 WHITTIER PL #16-F	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452466	CHAN WAI FONG ANNIE	CHAN WAI FONG ANNIE	27 SHIPWAY PL	CHARLESTOWN MA	02129	6-8 WHITTIER PL	BOSTON	02114
300452468	YOGMAN JUDITH S	YOGMAN JUDITH S	6 WHITTIER PL #8C-6	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452472	VAZQUEZ RAFAEL	VAZQUEZ RAFAEL	170 CYPRESS ST	BROOKLINE MA	02445	6-8 WHITTIER PL	BOSTON	02114
300452474	CHEN CHRISTOPHER TSUNG-JER	CHEN CHRISTOPHER TSUNG-JER	6 WHITTIER PL #10A-6	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452476	GALICA GEORGE	GALICA GEORGE	37 BERWICK ST	WORCESTER MA	01602	6-8 WHITTIER PL	BOSTON	02114
300452480	WU JING LUN	WU JING LUN	3 KRISTEN LANE	MAYNARD MA	01754	6-8 WHITTIER PL	BOSTON	02114
300452482	ROBBINS JONATHAN	ROBBINS JONATHAN	8 WHITTIER PL #15A-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452490	MASSACHUSETTS GENERAL	MASSACHUSETTS GENERAL	55 FRUIT ST BULLFINCH 205	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114



300452492	CHARLES F SADOWSKI AND	CHARLES F SADOWSKI AND	8 WHITTIER PL #17K-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452494	KOPACZ KAROL	KOPACZ KAROL	8 WHITTIER PL #4H-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452498	FENNESSY JOHN P	FENNESSY JOHN P	8 WHITTIER PL #20F-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452500	MUSHROOM TRUST	MUSHROOM TRUST	867 BOYLSTON ST 3RD FL	BOSTON MA	02116	6-8 WHITTIER PL	BOSTON	02114
300452504	BATES LINDA I	BATES LINDA I	120 SOUTH OCEAN BLVD UNIT #E	DELRAY BEACH FL	33483	6-8 WHITTIER PL	BOSTON	02114
300452506	REFOJO SVETLANA B	REFOJO SVETLANA B	6 WHITTIER PL #3P-6	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452508	BLOOM RICHARD	BLOOM RICHARD	7 LEONARD LANE	HOLBROOK MA	02343	6-8 WHITTIER PL	BOSTON	02114
300452510	SACHDEVA RAJEEV	SACHDEVA RAJEEV	715 N ITHAN AVE	ROSEMONT PA	19010	6-8 WHITTIER PL	BOSTON	02114
300452512	KABAN BARBARA	KABAN BARBARA	5 MONUMENT SQ	CHARLESTOWN MA	02129	6-8 WHITTIER PL	BOSTON	02114
300452516	RECOVERY TRUST	RECOVERY TRUST	867 BOYLSTON ST 3RD FL	BOSTON MA	02116	6-8 WHITTIER PL	BOSTON	02114
300452518	JONES WALTER B	JONES WALTER B	8 WHITTIER PL #3E-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452520	MCLAUGHLIN PATRICIA	MCLAUGHLIN PATRICIA	8 WHITTIER PL #3H	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452522	BENNETT RENEE Z	BENNETT RENEE Z	6 NIRVANA RD	SALEM NH	03079	6-8 WHITTIER PL	BOSTON	02114
300452526	MILLER REBECCA	MILLER REBECCA	2-5 BATTERY WHARF #4309	BOSTON MA	02109	6-8 WHITTIER PL	BOSTON	02114
300452528	BOYLE MARY ANN	BOYLE MARY ANN	6 WHITTIER PLACE SUITE 3C	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452530	DASILVA MARIA CECIL V	DASILVA MARIA CECIL V	8 WHITTIER PL #11F-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452532	EACMEN ROSEMARY V	EACMEN ROSEMARY V	6 WHITTIER PL #6-E	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452534	RASO VINCENT	RASO VINCENT	6 WHITTIER PL #6N	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452536	MAGADAN SILVA S FERNANDEZ	MAGADAN SILVA S FERNANDEZ	4 CHARLESGATE EAST #604	BOSTON MA	02115	6-8 WHITTIER PL	BOSTON	02114
300452538	SHRIGLEY WILFRED R III	SHRIGLEY WILFRED R III	152 WARREN AV	BOSTON MA	02116	6-8 WHITTIER PL	BOSTON	02114
300452540	HURLEY JOHN	HURLEY JOHN	8 WHITTIER PL UNIT 11C	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452542	SCAPICCHIO SEBASTIAN P	SCAPICCHIO SEBASTIAN P	524 TREMONT ST	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452544	CONNELLY KAREN M	CONNELLY KAREN M	6 WHITTIER PL UNIT 14D-6	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452546	YOUNG LYNNE B LEVINE	YOUNG LYNNE B LEVINE	8 WHITTIER PL #20-C	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452548	YOUNG LYNNE B LEVINE	YOUNG LYNNE B LEVINE	8 WHITTIER PL #20-D	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452550	KARAA FADI A	KARAA FADI A	488 HIGHLAND AV	NEWARK NJ	07104	6-8 WHITTIER PL	BOSTON	02114
300452552	VANMARCKE ALBERTO PIERETTI	VANMARCKE ALBERTO PIERETTI	8 WHITTIER PL #7-H	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452554	DIANE E WOOD TRUST	DIANE E WOOD TRUST	8 WHITTIER PL #5C-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452558	THE BOSTON CHILDREN'S SCHOOL	THE BOSTON CHILDREN'S SCHOOL	8 WHITTIER PL #101	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452560	SPAULDING REHABILITATION	SPAULDING REHABILITATION	300 1ST AVE	BOSTON MA	02129	6-8 WHITTIER PL	BOSTON	02114
300452562	LANDING NOMINEE TRUST	LANDING NOMINEE TRUST	7 WHITTIER PL SUITE 107	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452564	AL-KHATIB MALEK	AL-KHATIB MALEK	6 WHITTIER PL #12-A	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452568	MURPHY CAROL M	MURPHY CAROL M	194 PORTLAND ST	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452572	SANFORD KATHERINE	SANFORD KATHERINE	6 WHITTIER PL #14K-6	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114

300452574	PRICE MICHAEL L	PRICE MICHAEL L	11 OXBOW RD	WAYLAND MA	01779	6-8 WHITTIER PL	BOSTON	02114
300452576	TSENG ELAINE	TSENG ELAINE	7 MONTE VISTA WAY	SAN FRANCISCO CA	94080	6-8 WHITTIER PL	BOSTON	02114
300452578	CLARKE FLORENCE L	CLARKE FLORENCE L	6 WHITTIER PL #10-J	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452588	URDANG DONALD	URDANG DONALD	6 WHITTIER PL #10M-6	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452598	TISDALE ALEXANDRA	TISDALE ALEXANDRA	8 WHITTIER PL #15C-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452600	THADHANI REENA	THADHANI REENA	6 WHITTIER PL #11M-6	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452604	COZ PAUL	COZ PAUL	27 MIDDLEBURY LANE	BEVERLY MA	01915	6-8 WHITTIER PL	BOSTON	02114
300452608	FEELEY JOAN	FEELEY JOAN	839 BIRDIE VIRE POINT	SANIBEL FL	33597	6-8 WHITTIER PL	BOSTON	02114
300452612	ASSAF ROBIN	ASSAF ROBIN	7 WHITTIER PL STE 110	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452614	LANDING NOMINEE TRUST	LANDING NOMINEE TRUST	7 WHITTIER PL #107-S	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452616	ALACHI CLAUDETTE	ALACHI CLAUDETTE	6 WHITTIER PL 4N-6	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452622	LEWIN SONIA	LEWIN SONIA	8 WHITTIER PL #2H	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452624	WOOD RYAN C	WOOD RYAN C	8 WHITTIER PL #16-A	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452632	ZEKRI REALTY T RUST	ZEKRI REALTY T RUST	8138 SARATOGA DR #2203	NAPLES FL	34113	6-8 WHITTIER PL	BOSTON	02114
300452634	LOVUOLO WILLIAM	LOVUOLO WILLIAM	357 COMMERCIAL ST #319	BOSTON MA	02109	6-8 WHITTIER PL	BOSTON	02114
300452636	NOTOSOEHARDJO TINA C	NOTOSOEHARDJO TINA C	269 HURLEY ST #1	CAMBRIDGE MA	02141	6-8 WHITTIER PL	BOSTON	02114
300452642	WHITTIER PLACE CONDOMINIUM	WHITTIER PLACE CONDOMINIUM	6 WHITTIER PLACE	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452652	LEONE JOSEPH	LEONE JOSEPH	PO BOX 24	MEDFORD MA	02155	6-8 WHITTIER PL	BOSTON	02114
300452654	BIANCHI CESARIO F	BIANCHI CESARIO F	6 WHITTIER PL #15-M	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452656	COMMERCIAL INSULATION	COMMERCIAL INSULATION	5 SCALTRITO DR	WILMINGTON MA	01887	6-8 WHITTIER PL	BOSTON	02114
300452658	CARLSON MARIE D	CARLSON MARIE D	6 WHITTIER PL # 15H-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452660	PATRICIA S VON TITTE	PATRICIA S VON TITTE	6 WHITTIER PL #11D	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452662	OCONELL BRIAN A	OCONELL BRIAN A	8 WHITTIER PL #22K-8	BOSTON MA	02114	6-8 WHITTIER PL	BOSTON	02114
300452664	DAVIS BRANT	DAVIS BRANT	454 WOLCOTT ST	AUBURNDALE MA	02466	6-8 WHITTIER PL	BOSTON	02114
300452686	ROGUE ENDEAVOURS LLC	ROGUE ENDEAVOURS LLC	PO BOX 66	WINCHESTER MA	01890	6-8 WHITTIER PL	BOSTON	02114
300455000	COMMWLTH OF MASS	COMMWLTH OF MASS	401 CHARLES	BOSTON MA	02114	401 CHARLES ST	BOSTON	02114
300455010	COMM OF MA DEPT OF HIGHWAY	COMM OF MA DEPT OF HIGHWAY	LEVERETT CI	BOSTON MA	02114	LEVERETT CI	BOSTON	02114
300520000	COMMONWEALTH OF MASS D P W	COMMONWEALTH OF MASS D P W	MARTHA RD	BOSTON MA	02114	MARTHA RD	BOSTON	02114
300942000	COMMWLTH OF MASS	COMMWLTH OF MASS	CHARLES RIVER DAM	BOSTON MA	02114	4 CHARLES RIVER DAM	BOSTON	02114
301290001	COMMWLTH OF MASS	COMMWLTH OF MASS	LEVERETT	BOSTON MA	02114	8 10 CHARLES RIVER DAM	BOSTON	02114
301290002	MUSEUM OF SCIENCE	MUSEUM OF SCIENCE	SCIENCE PARK	BOSTON MA	02114	8 10 CHARLES RIVER DAM	BOSTON	02114
301931000	COMMONWLTH OF MASS	COMMONWLTH OF MASS	NASHUA	BOSTON MA	02114	NASHUA ST	BOSTON	02114
301935003	COMMWLTH OF MASS	COMMWLTH OF MASS	CHARLES	BOSTON MA	02114	CHARLES ST	BOSTON	02114
501259000	CITY OF BOSTON	CITY OF BOSTON	ARLINGTON	BOSTON MA	02116	ARLINGTON ST	BOSTON	02116

501970000	LEE DAVID Y TS	LEE DAVID Y TS	98 W CEDAR ST	BOSTON MA	02114	W CEDAR ST	BOSTON	02114
501971000	LEE DAVID Y TS	LEE DAVID Y TS	98 W CEDAR ST	BOSTON MA	02114	98 A98 W CEDAR ST	BOSTON	02114
501972000	MAGUIRE ROBERT G	MAGUIRE ROBERT G	96 W CEDAR	BOSTON MA	02114	96 B96 W CEDAR ST	BOSTON	02114
501973000	RAO PASQUALE V	RAO PASQUALE V	PO BOX 540070	WALTHAM MA	02451	94 W CEDAR ST	BOSTON	02114
502003000	TOWNSEND THOMAS H	TOWNSEND THOMAS H	131 CHARLES ST	BOSTON MA	02114	131 CHARLES ST	BOSTON	02114
502004000	FORTUNATO JESSICA	FORTUNATO JESSICA	133 CHARLES ST	BOSTON MA	02114	135 133 CHARLES ST	BOSTON	02114
502005000	ONE 37 CHARLES ST CONDO TR	ONE 37 CHARLES ST CONDO TR	137 137A CHARLES ST	BOSTON MA	02114	137 137A CHARLES ST	BOSTON	02114
502005002	RAO WILLIAM M TS	RAO WILLIAM M TS	326 PROSPECT HILL ROAD	WALTHAM MA	02451	137 CHARLES ST #C	BOSTON	02114
502005004	RAO WILLIAM M	RAO WILLIAM M	326 PROSPECT HILL ROAD	WALTHAM MA	02451	137 CHARLES ST #1	BOSTON	02114
502007000	ONE 41-143 CHARLES STREET	ONE 41-143 CHARLES STREET	141 CHARLES	BOSTON MA	02114	141 143 CHARLES ST	BOSTON	02114
502007008	ZUROMSKIS J MICHAEL TS	ZUROMSKIS J MICHAEL TS	7 CHARLES RIVER SQ	BOSTON MA	02114	141 143 CHARLES ST #D	BOSTON	02114
502008000	ONE 45 CHARLES STREET	ONE 45 CHARLES STREET	145 CHARLES	BOSTON MA	02114	145 145H CHARLES ST	BOSTON	02114
502008002	LINEAR RETAIL BOSTON #14 LLC	LINEAR RETAIL BOSTON #14 LLC	ONE BURLINGTON WOODS DR	BURLINGTON MA	01803	145 CHARLES ST #1	BOSTON	02114
502008004	WETSTEIN JENNIFER	WETSTEIN JENNIFER	145 CHARLES ST #2	BOSTON MA	02114	145 CHARLES ST #2	BOSTON	02114
502008006	MCGUIRE MICHAELA	MCGUIRE MICHAELA	145 CHARLES ST #3	BOSTON MA	02114	145 CHARLES ST #3	BOSTON	02114
502008008	FUSARO NANCY LYNN	FUSARO NANCY LYNN	53 BEACON ST #1A	BOSTON MA	02108	145 CHARLES ST #4	BOSTON	02114
502009000	ONE-47-149 CHARLES ST LLC	ONE-47-149 CHARLES ST LLC	320 WASHINGTON ST SUITE 3FF	BROOKLINE MA	02445	147 149 CHARLES ST	BOSTON	02114
502011000	ONE51-153 CHARLES STREET LPS	ONE51-153 CHARLES STREET LPS	50 POND RD	DUXBURY MA	02332	151 A151 CHARLES ST	BOSTON	02114
502012000	ONE FIFTY ONE-153 CHARLES	ONE FIFTY ONE-153 CHARLES	ONE CVS DRIVE ATTN: ACCOUNTI	WOONSOCKET RI	02895	155 159 CHARLES ST	BOSTON	02114
502335000	KUMIN ELIZABETH	KUMIN ELIZABETH	87 CHESTNUT ST	BOSTON MA	02108	87 CHESTNUT ST	BOSTON	02108
502336000	KUMIN ELIZABETH	KUMIN ELIZABETH	58 BRIMMER ST	BOSTON MA	02108	58 BRIMMER ST	BOSTON	02108
502337000	HABERMANN RICHARD C	HABERMANN RICHARD C	56 BRIMMER ST	BOSTON MA	02108	56 BRIMMER ST	BOSTON	02108
502338000	DUFLO ESTHER	DUFLO ESTHER	16 BRIMMER STREET	BOSTON MA	02108	54 BRIMMER ST	BOSTON	02108
502339000	DUGGAN MARK J	DUGGAN MARK J	52 BRIMMER ST	BOSTON MA	02108	52 BRIMMER ST	BOSTON	02108
502340000	SAHIN ANDREA	SAHIN ANDREA	50 BRIMMER ST	BOSTON MA	02108	50 BRIMMER ST	BOSTON	02108
502341000	BURKE JOANNE	BURKE JOANNE	38 LIME ST	BOSTON MA	02108	38 LIME ST	BOSTON	02108
502342000	BASS MICHAEL A TS	BASS MICHAEL A TS	36 LIME	BOSTON MA	02108	36 LIME ST	BOSTON	02108
502366000	ENROTH KATE	ENROTH KATE	44 BRIMMER ST	BOSTON MA	02108	39 LIME ST	BOSTON	02108
502367000	CLAFLIN THOMAS M II	CLAFLIN THOMAS M II	160 MOUNT VERNON ST	BOSTON MA	02108	160 MT VERNON ST	BOSTON	02108
502368000	WHITE KATHRYN G	WHITE KATHRYN G	3 SPRUCE COURT	BOSTON MA	02108	158 MT VERNON ST	BOSTON	02108
502369000	CHAYES JENNIFER T	CHAYES JENNIFER T	156 MT VERNON ST	BOSTON MA	02108	156 MT VERNON ST	BOSTON	02108
502370000	LYDON CHRISTOPHER TS	LYDON CHRISTOPHER TS	1010 WALTHAM ST 15F	LEXINGTON MA	02421	152 MT VERNON ST	BOSTON	02108
502371000	RINGABELL REALTY LLC	RINGABELL REALTY LLC	204 PLEASANT STREET	NEWTON MA	02459	150 MT VERNON ST	BOSTON	02108
502372000	BEARDSLEY DAVID A	BEARDSLEY DAVID A	148 MT VERNON ST	BOSTON MA	02108	148 MT VERNON ST	BOSTON	02108

502386000	TWENTY-5 LIME ST CONDO TR	TWENTY-5 LIME ST CONDO TR	37 RAVINE RD	WELLESLEY MA	02482	25 LIME ST	BOSTON	02108
502386002	COLDREN MATTHEW F	COLDREN MATTHEW F	25 LIME ST UNIT 1	BOSTON MA	02108	25 LIME ST #1	BOSTON	02108
502386004	CALHOUN DAVID L	CALHOUN DAVID L	25 LIME ST #2	BOSTON MA	02108	25 LIME ST #2	BOSTON	02108
502387000	GLEESON RICHARD W	GLEESON RICHARD W	31 LIME ST	BOSTON MA	02108	31 LIME ST	BOSTON	02108
502388000	GPD BRIMMER 2 LLC	GPD BRIMMER 2 LLC	PO BOX 420	BROOKLINE MA	02446	2 BRIMMER ST	BOSTON	02108
502389000	BALDWIN CHRISTOPHER	BALDWIN CHRISTOPHER	100 PINCKNEY ST	BOSTON MA	02114	100 PINCKNEY ST	BOSTON	02114
502390000	HUGHES FRANCIS J JR	HUGHES FRANCIS J JR	98 PINCKNEY	BOSTON MA	02114	98 PINCKNEY ST	BOSTON	02114
502391000	KEMPAINEN HILARY SEWARD	KEMPAINEN HILARY SEWARD	96 PINCKNEY ST	BOSTON MA	02114	96 PINCKNEY ST	BOSTON	02114
502392000	SANJIV K PATEL REVOCBLE	SANJIV K PATEL REVOCBLE	94 PINCKNEY ST	BOSTON MA	02114	94 PINCKNEY ST	BOSTON	02114
502393000	VO TRAM H	VO TRAM H	84 PINCKNEY STREET	BOSTON MA	02114	PINCKNEY ST	BOSTON	02114
502393001	CUTTERY INC MASS CORP	CUTTERY INC MASS CORP	57 BEACHVIEW RD	E BOSTON MA	02128	PINCKNEY ST	BOSTON	02114
502394000	ONE HUNDRED CHARLES CONDO TR	ONE HUNDRED CHARLES CONDO TR	102 CHARLES	BOSTON MA	02114	102 100 CHARLES ST	BOSTON	02114
502394002	ONE-02 CHARLES STREET	ONE-02 CHARLES STREET	102 CHARLES ST	BOSTON MA	02114	102 CHARLES ST #102	BOSTON	02114
502394006	THE FARETRA FAMILY TRUST	FARETRA FAMILY TRUST THE	57 BEACHVIEW RD	E BOSTON MA	02128	100 CHARLES ST #100	BOSTON	02114
502394010	BANYAN INVESTMENTS LLC	BANYAN INVESTMENTS LLC	7 CHAPMAN AV	ANDOVER MA	01810	102 CHARLES ST #A	BOSTON	02114
502394012	ROWLAND MILTON C	ROWLAND MILTON C	15 DEER RUN ROAD	NANTUCKET MA	02554	100 CHARLES ST #1	BOSTON	02114
502394016	KRAIJESTEIJN JOHANNES	KRAIJESTEIJN JOHANNES	1 MYRTLE ST	WINCHESTER MA	01890	102 CHARLES ST #B	BOSTON	02114
502394018	LEWIS ALAN E TS	LEWIS ALAN E TS	347 CONGRESS ST	BOSTON MA	02210	100 CHARLES ST #3	BOSTON	02114
502394022	FUSAROS NANCY L	FUSAROS NANCY L	53 BEACON ST #1A	BOSTON MA	02108	102 CHARLES ST #C	BOSTON	02114
502394024	ALK FAMILY TRUST	ALK FAMILY TRUST	51 SHAFFER RD	BRIDGEWATER NJ	08807	100 CHARLES ST #5	BOSTON	02114
502394026	WARREN ELIZABETH K	WARREN ELIZABETH K	102 CHARLES ST	BOSTON MA	02114	102 CHARLES ST #D	BOSTON	02114
502394028	RANDAZZO DAVID JOHN	RANDAZZO DAVID JOHN	100 CHARLES ST #6	BOSTON MA	02114	100 CHARLES ST #6	BOSTON	02114
502395000	GANICK JOHN	GANICK JOHN	85 CHARLES ST	BOSTON MA	02114	96 98 CHARLES ST	BOSTON	02114
502410000	ADS PROPERTY MANAGEMENT LLC	ADS PROPERTY MANAGEMENT LLC	581 BOYLSTON ST STE 804A	BOSTON MA	02116	3 MT VERNON SQ	BOSTON	02108
502418000	PARISH OF THE ADVENT	PARISH OF THE ADVENT	135 MOUNT VERNON	BOSTON MA	02108	135 MT VERNON ST	BOSTON	02108
502419000	PARISH OF THE ADVENT	PARISH OF THE ADVENT	30 BRIMMER	BOSTON MA	02108	30 BRIMMER ST	BOSTON	02108
502420000	PARISH OF THE ADVENT	PARISH OF THE ADVENT	28 BRIMMER	BOSTON MA	02108	28 26 BRIMMER ST	BOSTON	02108
502422000	CARROLL HAROLD J	CARROLL HAROLD J	24 BRIMMER ST	BOSTON MA	02108	24 BRIMMER ST	BOSTON	02108
502423000	GEORGANTAS PETER E	GEORGANTAS PETER E	22 BRIMMER ST	BOSTON MA	02108	22 BRIMMER ST	BOSTON	02108
502424000	ABENDROTH WILLIAM W	ABENDROTH WILLIAM W	PO BOX 962049	BOSTON MA	02196	20 BRIMMER ST	BOSTON	02108
502425000	HASSAN RESIDENTIAL	HASSAN RESIDENTIAL	218 NEWBURY ST #3	BOSTON MA	02116	18 BRIMMER ST	BOSTON	02108
502426000	16 BRIMMER STREET CONDO	16 BRIMMER STREET CONDO	16 BRIMMER ST	BOSTON MA	02108	16 BRIMMER ST	BOSTON	02108
502426002	TONY SMITH REVOCABLE TRUST	TONY SMITH REVOCABLE TRUST	16 BRIMMER ST #A	BOSTON MA	02108	16 BRIMMER ST #A	BOSTON	02108
502426004	TONY SMITH REVOCABLE TRUST	TONY SMITH REVOCABLE TRUST	16 BRIMMER ST #1	BOSTON MA	02108	16 BRIMMER ST #1	BOSTON	02108

502426006	PIRZADA IVAN A	PIRZADA IVAN A	16 BRIMMER ST #2	BOSTON MA	02108	16 BRIMMER ST #2	BOSTON	02108
502427000	BARON JESSICA TS	BARON JESSICA TS	14 BRIMMER ST	BOSTON MA	02108	14 BRIMMER ST	BOSTON	02108
502428000	JEFFRIES STEPHEN B	JEFFRIES STEPHEN B	12 BRIMMER ST	BOSTON MA	02108	12 BRIMMER ST	BOSTON	02108
502429000	KORB DONALD R	KORB DONALD R	10 BRIMMER	BOSTON MA	02108	10 BRIMMER ST	BOSTON	02108
502430000	EIGHT BRIMMER ST CONDO TR	EIGHT BRIMMER ST CONDO TR	8 BRIMMER	BOSTON MA	02108	8 BRIMMER ST	BOSTON	02108
502430002	MERION JUDITH A	MERION JUDITH A	8 BRIMMER ST #G	BOSTON MA	02108	8 BRIMMER ST #G	BOSTON	02108
502430004	NASSAR JAMES J JR TS	NASSAR JAMES J JR TS	26 HUNTERS RUN PL	HAVERHILL MA	01832	8 BRIMMER ST #1-A	BOSTON	02108
502430006	NASSAR JAMES J JR TS	NASSAR JAMES J JR TS	26 HUNTERS RUN PL	HAVERHILL MA	01832	8 BRIMMER ST #1-B	BOSTON	02108
502430008	WHEELER WENDY R	WHEELER WENDY R	25 MORELAND AV	NEWTON MA	02459	8 BRIMMER ST #2	BOSTON	02108
502430010	EIGHT BRIMMER ST BOSTON LLC	EIGHT BRIMMER ST BOSTON LLC	871 WASHINGTON ST	HANOVER MA	02339	8 BRIMMER ST #3	BOSTON	02108
502430012	FLETCHER MARJORIE TS	FLETCHER MARJORIE TS	584 EUCLID AV	BERKELEY CA	94708	8 BRIMMER ST #4	BOSTON	02108
502430014	PARE MARC R	PARE MARC R	8 BRIMMER ST # 5-A	BOSTON MA	02108	8 BRIMMER ST #5-A	BOSTON	02108
502430016	LYON DANIEL R	LYON DANIEL R	8 BRIMMER ST #5	BOSTON MA	02108	8 BRIMMER ST #5-B	BOSTON	02108
502431000	GPD BRIMMER 6 LLC	GPD BRIMMER 6 LLC	PO BOX 420	BROOKLINE MA	02446	6 BRIMMER ST	BOSTON	02108
502432000	GPD BRIMMER 4 LLC	GPD BRIMMER 4 LLC	PO BOX 420	BROOKLINE MA	02446	4 BRIMMER ST	BOSTON	02108
502434000	KEATING DORIS J	KEATING DORIS J	78 CHARLES ST	BOSTON MA	02114	112 REVERE ST	BOSTON	02114
502435000	DICENTRA LLC	DICENTRA LLC	1188 CENTRE ST	NEWTON MA	02459	120 CHARLES ST	BOSTON	02114
502436000	ONE 18 CHARLES ST REALTY LLC	ONE 18 CHARLES ST REALTY LLC	118 CHARLES ST #1	BOSTON MA	02114	118 CHARLES ST	BOSTON	02114
502437000	ONE HUNDRED SIXTEEN CHARLES	ONE HUNDRED SIXTEEN CHARLES	116 CHARLES	BOSTON MA	02116	116 CHARLES ST	BOSTON	02114
502437002	COCHRAN CRAIG J	COCHRAN CRAIG J	116 CHARLES ST #1	BOSTON MA	02116	116 CHARLES ST #1	BOSTON	02114
502437004	DRISCOLL BRIAN R	DRISCOLL BRIAN R	116 CHARLES ST #2	BOSTON MA	02114	116 CHARLES ST #2	BOSTON	02114
502437006	MOONEY WARD K	MOONEY WARD K	116 CHARLES ST #3	BOSTON MA	02114	116 CHARLES ST #3	BOSTON	02114
502437008	DANNINO REALTY TRUST	DANNINO REALTY TRUST	116 CHARLES ST #4	BOSTON MA	02114	116 CHARLES ST #4	BOSTON	02114
502437010	HIGGINBOTHAM RICHARD A TS	HIGGINBOTHAM RICHARD A TS	315 SOUTH LAKE DR #1-B	PALM BEACH FL	33480	116 CHARLES ST #5	BOSTON	02114
502437012	CHAN EUGENE	CHAN EUGENE	116 CHARLES ST #6	BOSTON MA	02114	116 CHARLES ST #6	BOSTON	02114
502438000	CHENEY LIANA	CHENEY LIANA	112 CHARLES ST	BOSTON MA	02114	112 CHARLES ST	BOSTON	02114
502439000	ONE HUNDRED 10 CHARLES ST	ONE HUNDRED 10 CHARLES ST	110 CHARLES	BOSTON MA	02114	110 CHARLES ST	BOSTON	02114
502439002	BOURGEOIS HELEN M	BOURGEOIS HELEN M	110 CHARLES ST #1	BOSTON MA	02114	110 CHARLES ST #1	BOSTON	02114
502439004	HOLLAND JAMES TS	HOLLAND JAMES TS	5 BRIMMER ST	BOSTON MA	02108	110 CHARLES ST #2	BOSTON	02114
502439006	MORRIS MARTHA	MORRIS MARTHA	110 CHARLES ST #3	BOSTON MA	02114	110 CHARLES ST #3	BOSTON	02114
502439008	CRAFTS ROGER JR TS	CRAFTS ROGER JR TS	156 N MAIN ST	COHASSET MA	02025	110 CHARLES ST #4	BOSTON	02114
502440000	ONE 06-108 CHARLES ST CD TR	ONE 06-108 CHARLES ST CD TR	108 CHARLES ST	BOSTON MA	02114	108 CHARLES ST	BOSTON	02114
502440002	J W N CHARLES ST REALTY LLC	J W N CHARLES ST REALTY LLC	523 LEWIS WHARF	BOSTON MA	02110	106 108 CHARLES ST #1	BOSTON	02114
502440004	NORMAN JULIA	NORMAN JULIA	523 LEWIS WHARF	BOSTON MA	02110	106 108 CHARLES ST #2	BOSTON	02114

502440006	JWN CHARLES ST REALTY LLC	JWN CHARLES ST REALTY LLC	523 LEWIS WHARF	BOSTON MA	02110	106 108 CHARLES ST #3	BOSTON	02114
502440008	JWN CHARLES ST REALTY LLC	JWN CHARLES ST REALTY LLC	523 LEWIS WHARF	BOSTON MA	02110	106 108 CHARLES ST #4	BOSTON	02114
502441000	FRY JARED S	FRY JARED S	127 PINCKNEY ST	BOSTON MA	02114	127 PINCKNEY ST	BOSTON	02114
502442000	THURER ROBERT L	THURER ROBERT L	129 PINCKNEY ST	BOSTON MA	02114	129 PINCKNEY ST	BOSTON	02114
502442001	RIVER HOUSE CONDO TR	RIVER HOUSE CONDO TR	145 PINCKNEY	BOSTON MA	02114	145 PINCKNEY ST	BOSTON	02114
502442010	KEEZER ROBERT A TRSTS	KEEZER ROBERT A TRSTS	145 PINCKNEY ST	BOSTON MA	02114	145 PINCKNEY ST #1-B	BOSTON	02114
502442012	PINE CONE PROPERTIES LLC	PINE CONE PROPERTIES LLC	236 NAHANT RD	NAHANT MA	01908	145 PINCKNEY ST #102	BOSTON	02114
502442014	ARAK I LLC	ARAK I LLC	139 WEATHERBEE DRIVE	WESTWOOD MA	02090	145 PINCKNEY ST #103	BOSTON	02114
502442016	HAROON SANA	HAROON SANA	145 PINCKNEY ST #104	BOSTON MA	02114	145 PINCKNEY ST #104	BOSTON	02114
502442018	MARTIN LAWRENCE A JR	MARTIN LAWRENCE A JR	145 PINCKNEY ST #105	BOSTON MA	02114	145 PINCKNEY ST #105	BOSTON	02114
502442020	FOUR BROTHERS PROPERTIES	FOUR BROTHERS PROPERTIES	19 S SYDNEY ST	DORCHESTER MA	02125	145 PINCKNEY ST #106	BOSTON	02114
502442022	GOLDBERG LAWRENCE	GOLDBERG LAWRENCE	145 PINCKNEY ST #107	BOSTON MA	02114	145 PINCKNEY ST #107	BOSTON	02114
502442024	MCLOUGHLIN JANET TS	MCLOUGHLIN JANET TS	12 SHASTA DR	NO READING MA	01864	145 PINCKNEY ST #108	BOSTON	02114
502442026	DOYLE LAURIE F	DOYLE LAURIE F	145 PINCKNEY ST #235	BOSTON MA	02114	145 PINCKNEY ST #109	BOSTON	02114
502442028	TENBARGE STEPHEN W	TENBARGE STEPHEN W	145 PINCKNEY ST #110	BOSTON MA	02114	145 PINCKNEY ST #110	BOSTON	02114
502442030	GASPAR ZSUZSANNA	GASPAR ZSUZSANNA	9 WEST BROADWAY #325	BOSTON MA	02127	145 PINCKNEY ST #111	BOSTON	02114
502442032	ZACHARY E MUFSON REVOCABLE	ZACHARY E MUFSON REVOCABLE	2420 14TH ST NW APT 229	WASHINGTON DC	20009	145 PINCKNEY ST #112	BOSTON	02114
502442034	SUZUKI HARUE TS	SUZUKI HARUE TS	1223 WALNUT ST	NEWTON MA	02461	145 PINCKNEY ST #113	BOSTON	02114
502442036	CROSSMAN SUSAN	CROSSMAN SUSAN	145 PINCKNEY ST #501	BOSTON MA	02114	145 PINCKNEY ST #115	BOSTON	02114
502442038	WINER MARK L	WINER MARK L	783 MASSACHUSETTS AV	ARLINGTON MA	02476	145 PINCKNEY ST #116	BOSTON	02114
502442040	OZER BASAK	OZER BASAK	8 MUSUEM WAY UNIT 1106	CAMBRIDGE MA	02141	145 PINCKNEY ST #117	BOSTON	02114
502442042	VOGEL PHYLLIS	VOGEL PHYLLIS	1 HUNTINGTON AV #1603	BOSTON MA	02116	145 PINCKNEY ST #120	BOSTON	02114
502442044	SIXTY COMMONWEALTH AV-UN 1	SIXTY COMMONWEALTH AV-UN 1	37 THATCHER ST	WESTWOOD MA	02090	145 PINCKNEY ST #121	BOSTON	02114
502442046	MOTHERWAY MAVIS E	MOTHERWAY MAVIS E	1823 BELMONT RD NW #B	WASHINGTON DC	20009	145 PINCKNEY ST #122	BOSTON	02114
502442048	CLIFFORD TIMOTHY	CLIFFORD TIMOTHY	PO BOX 81261	WELLESLEY HILLS M	02481	145 PINCKNEY ST #123	BOSTON	02114
502442050	LEAF DORIS E	LEAF DORIS E	126 NUT MEADOW CROSSING	CONCORD MA	01742	145 PINCKNEY ST #124	BOSTON	02114
502442052	FAZIO JOSEPH	FAZIO JOSEPH	145 PINCKNEY ST #125	BOSTON MA	02114	145 PINCKNEY ST #125	BOSTON	02114
502442054	MABBS KENNETH	MABBS KENNETH	126 NUT MEADOW CROSSING	CONCORD MA	01742	145 PINCKNEY ST #126	BOSTON	02114
502442056	ONEILL JACQUELINE A	ONEILL JACQUELINE A	205 COMMONWEALTH AV #4	BOSTON MA	02116	145 PINCKNEY ST #127	BOSTON	02114
502442060	ONEILL JACQUELINE A	ONEILL JACQUELINE A	205 COMMONWEALTH AV #4	BOSTON MA	02116	145 PINCKNEY ST #129	BOSTON	02114
502442062	MARTIN LISA C	MARTIN LISA C	145 PINCKNEY ST #120	BOSTON MA	02114	145 PINCKNEY ST #130	BOSTON	02114
502442064	145 PINCKNEY STREET UNIT	145 PINCKNEY STREET UNIT	7 DOVER FARM ROAD	MEDFIELD MA	02052	145 PINCKNEY ST #132	BOSTON	02114
502442066	MUNDEL SAMUEL M	MUNDEL SAMUEL M	145 PINCKNEY ST # 134	BOSTON MA	02114	145 PINCKNEY ST #134	BOSTON	02114
502442068	MALHOTRA PRAVEEN	MALHOTRA PRAVEEN	10 UPLAND ROAD	SHARON MA	02067	145 PINCKNEY ST #135	BOSTON	02114

502442070	AUSTIN KATHRYN ELISE	AUSTIN KATHRYN ELISE	145 PINCKNEY ST #201	BOSTON MA	02114 145	PINCKNEY ST #201	BOSTON	02114
502442072	YURKOVSKY SAVELY	YURKOVSKY SAVELY	145 PINCKNEY ST # 202	BOSTON MA	02114 145	PINCKNEY ST #202	BOSTON	02114
502442074	GURNON CATHERINE P	GURNON CATHERINE P	54 CHARLES ST	BOSTON MA	02114 145	PINCKNEY ST #203	BOSTON	02114
502442076	MCINNIS LEO	MCINNIS LEO	145 PINCKNEY ST #204	BOSTON MA	02114 145	PINCKNEY ST #204	BOSTON	02114
502442078	MILOSEVIC BRANKA TS	MILOSEVIC BRANKA TS	145 PINCKNEY ST #625	BOSTON MA	02114 145	PINCKNEY ST #205	BOSTON	02114
502442080	KAIZZI JENNIE H	KAIZZI JENNIE H	66 MARSHALL ST	N QUINCY MA	02171 145	PINCKNEY ST #206	BOSTON	02114
502442082	TRUST CAROL J TS	TRUST CAROL J TS	63 CHANDLER ST	BOSTON MA	02116 145	PINCKNEY ST #207	BOSTON	02114
502442084	FREILICH PHYLLIS	FREILICH PHYLLIS	4 SHERBURNE TURNPIKE	NANTUCKET MA	02554 145	PINCKNEY ST #208	BOSTON	02114
502442086	DODGE MICHELLE	DODGE MICHELLE	311 RIVER ROAD	WORTHINGTON MA	01098 145	PINCKNEY ST #209	BOSTON	02114
502442088	ST CLAIR DAVID	ST CLAIR DAVID	47 MARSH ST	BELMONT MA	02478 145	PINCKNEY ST #210	BOSTON	02114
502442090	CARVALHO V LLC	CARVALHO V LLC	70 VARDON RD	WEST HARTFORD CT	06117 145	PINCKNEY ST #211	BOSTON	02114
502442092	HARRINGTON KRISTIN	HARRINGTON KRISTIN	145 PINCKNEY ST #212	BOSTON MA	02114 145	PINCKNEY ST #212	BOSTON	02114
502442096	CURTIS KRISTINA A	CURTIS KRISTINA A	145 PINCKNEY ST #215	BOSTON MA	02114 145	PINCKNEY ST #215	BOSTON	02114
502442098	NUSS CHRISTOPHER K	NUSS CHRISTOPHER K	145 PINCKNEY ST #216	BOSTON MA	02114 145	PINCKNEY ST #216	BOSTON	02114
502442102	CHENG MABEL MP	CHENG MABEL MP	145 PINCKNEY ST #218	BOSTON MA	02114 145	PINCKNEY ST #218	BOSTON	02114
502442104	SELIGER HUGH J	SELIGER HUGH J	PO BOX 110	HINGHAM MA	02043 145	PINCKNEY ST #219	BOSTON	02114
502442106	MILNER DANIEL M	MILNER DANIEL M	303 WEST 19TH ST #23	NEW YORK NY	10011 145	PINCKNEY ST #220	BOSTON	02114
502442108	BRUCE C LAKE LIVING TRUST	BRUCE C LAKE LIVING TRUST	145 PINCKNEY ST #221	BOSTON MA	02114 145	PINCKNEY ST #221	BOSTON	02114
502442110	KENNEDY MARY P	KENNEDY MARY P	145 PINCKNEY ST #222	BOSTON MA	02114 145	PINCKNEY ST #222	BOSTON	02114
502442112	ZHANG HAIYANG	ZHANG HAIYANG	145 PINCKNEY ST #223	BOSTON MA	02114 145	PINCKNEY ST #223	BOSTON	02114
502442114	PETERSON NANCY E	PETERSON NANCY E	145 PINCKNEY ST	BOSTON MA	02114 145	PINCKNEY ST #224	BOSTON	02114
502442116	TIERNEY ANN M	TIERNEY ANN M	145 PINCKNEY ST #225	BOSTON MA	02114 145	PINCKNEY ST #225	BOSTON	02114
502442118	145 PINCKNEY STREET 2015	145 PINCKNEY STREET 2015	9 BRIMMER ST	BOSTON MA	02108 145	PINCKNEY ST #226	BOSTON	02114
502442120	SCOTT KENNETH R	SCOTT KENNETH R	145 PINCKNEY ST #227	BOSTON MA	02114 145	PINCKNEY ST #227	BOSTON	02114
502442122	GABREK DANIEL	GABREK DANIEL	145 PINCKNEY ST #228	BOSTON MA	02114 145	PINCKNEY ST #228	BOSTON	02114
502442124	WEN WEN	WEN WEN	145 PINCKNEY ST #230	BOSTON MA	02114 145	PINCKNEY ST #230	BOSTON	02114
502442126	KAPUR NAMRITA	KAPUR NAMRITA	145 PINCKNEY ST # 232	BOSTON MA	02114 145	PINCKNEY ST #232	BOSTON	02114
502442132	FAZIO JOSEPH	FAZIO JOSEPH	145 PINCKNEY ST #301	BOSTON MA	02114 145	PINCKNEY ST #301	BOSTON	02114
502442134	MUCCI RICHARD L	MUCCI RICHARD L	4 BATTERY WHARF #4508	BOSTON MA	02109 145	PINCKNEY ST #302	BOSTON	02114
502442136	ELENA KINGSLAND TRUST	ELENA KINGSLAND TRUST	50 CONGRESS ST #900	BOSTON MA	02109 145	PINCKNEY ST #303	BOSTON	02114
502442138	TEITELBAUM JOYCE	TEITELBAUM JOYCE	145 PINCKNEY ST #304	BOSTON MA	02114 145	PINCKNEY ST #304	BOSTON	02114
502442140	ELENA KINGSLAND TRUST	ELENA KINGSLAND TRUST	50 CONGRESS ST #900	BOSTON MA	02109 145	PINCKNEY ST #305	BOSTON	02114
502442142	PRIEN EDWIN L JR	PRIEN EDWIN L JR	145 PINCKNEY ST #306	BOSTON MA	02114 145	PINCKNEY ST #306	BOSTON	02114
502442144	KREEK MARY JEANNE	KREEK MARY JEANNE	145 PINCKNEY STREET UNIT 307	BOSTON MA	02114 145	PINCKNEY ST #307	BOSTON	02114

502442146	PALLEIKO MARY ANNE	PALLEIKO MARY ANNE	145 PINCKNEY ST #308	BOSTON MA	02114	145	PINCKNEY ST #308	BOSTON	02114
502442148	309 AND 311 REAL ESTATE	309 AND 311 REAL ESTATE	145 PINCKNEY ST #311	BOSTON MA	02114	145	PINCKNEY ST #309	BOSTON	02114
502442150	RIVER HOUSE APARTMENTS	RIVER HOUSE APARTMENTS	115 BROADWAY UNIT 301	NEW YORK NY	10006	145	PINCKNEY ST #310	BOSTON	02114
502442154	UPSHAW NONA	UPSHAW NONA	145 PINCKNEY ST #312	BOSTON MA	02114	145	PINCKNEY ST #312	BOSTON	02114
502442156	PUOPOLO DAVID	PUOPOLO DAVID	145 PINCKNEY ST #313	BOSTON MA	02114	145	PINCKNEY ST #313	BOSTON	02114
502442158	YEZIERSKI EDWINA	YEZIERSKI EDWINA	145 PINCKNEY ST #315	BOSTON MA	02114	145	PINCKNEY ST #315	BOSTON	02114
502442160	CLIFFORD TIMOTHY	CLIFFORD TIMOTHY	145 PINCKNEY ST UNIT 528	BOSTON MA	02114	145	PINCKNEY ST #316	BOSTON	02114
502442162	GOLDBERG LARRY	GOLDBERG LARRY	145 PINCKNEY ST #317	BOSTON MA	02114	145	PINCKNEY ST #317	BOSTON	02114
502442164	NELIGAN LYNN R	NELIGAN LYNN R	145 PINCKNEY ST UNIT 318	BOSTON MA	02114	145	PINCKNEY ST #318	BOSTON	02114
502442166	PETERSON MICHAEL P	PETERSON MICHAEL P	145 PINCKNEY ST #319	BOSTON MA	02114	145	PINCKNEY ST #319	BOSTON	02114
502442168	ARAK II LLC	ARAK II LLC	139 WEATHERBEE DR	WESTWOOD MA	02090	145	PINCKNEY ST #320	BOSTON	02114
502442170	DE BINKER LAURA IRIS COSEN	DE BINKER LAURA IRIS COSEN	32 WORTHEN RD APT A1	LEXINGTON MA	02421	145	PINCKNEY ST #321	BOSTON	02114
502442172	QUILTY DAVID P	QUILTY DAVID P	145 PINCKNEY ST #322	BOSTON MA	02114	145	PINCKNEY ST #322	BOSTON	02114
502442174	MANACHER ADAM I	MANACHER ADAM I	145 PINCKNEY ST #323	BOSTON MA	02114	145	PINCKNEY ST #323	BOSTON	02114
502442176	WINER JERROLD L	WINER JERROLD L	783 MASSACHUSETTS AV	ARLINGTON MA	02476	145	PINCKNEY ST #324	BOSTON	02114
502442178	KOJIC ZORAN	KOJIC ZORAN	7 GOLDENROD LANE	LYNNFIELD MA	01940	145	PINCKNEY ST #325	BOSTON	02114
502442180	FAWCETT JOHN S	FAWCETT JOHN S	145 PINCKNEY ST #326	BOSTON MA	02114	145	PINCKNEY ST #326	BOSTON	02114
502442182	SCHRUENDER GEORGE H	SCHRUENDER GEORGE H	91 QUAIL RUN	N ANDOVER MA	01845	145	PINCKNEY ST #327	BOSTON	02114
502442184	LO ANDREW	LO ANDREW	145 PINCKNEY ST #328	BOSTON MA	02114	145	PINCKNEY ST #328	BOSTON	02114
502442186	SMITH JOAN E TS	SMITH JOAN E TS	145 PINCKNEY ST #329	BOSTON MA	02114	145	PINCKNEY ST #329	BOSTON	02114
502442188	SHUB MARK G	SHUB MARK G	ONE WASHINGTON MALL 7TH FL	BOSTON MA	02108	145	PINCKNEY ST #330	BOSTON	02114
502442190	ONEIL ANGEЛИQUE TS	ONEIL ANGEЛИQUE TS	145 PINCKNEY ST #332	BOSTON MA	02114	145	PINCKNEY ST #332	BOSTON	02114
502442192	WHITTEMORE ALLISON V	WHITTEMORE ALLISON V	145 PINCKNEY ST #334	BOSTON MA	02114	145	PINCKNEY ST #334	BOSTON	02114
502442194	DEPOTO MARY E	DEPOTO MARY E	145 PINCKNEY ST #335	BOSTON MA	02114	145	PINCKNEY ST #335	BOSTON	02114
502442196	FRAIVILLIG JAMES B	FRAIVILLIG JAMES B	145 PINCKNEY ST # 401	BOSTON MA	02114	145	PINCKNEY ST #401	BOSTON	02114
502442198	ROSENTHAL MARC	ROSENTHAL MARC	20 LOMBARD ST	NEWTON MA	02458	145	PINCKNEY ST #402	BOSTON	02114
502442200	POTTER CORNELIA V H	POTTER CORNELIA V H	145 PINCKNEY ST #405	BOSTON MA	02114	145	PINCKNEY ST #403	BOSTON	02114
502442202	THOMPSON HARRIS E	THOMPSON HARRIS E	10 PARK ST	EASTHAMPTON MA	01027	145	PINCKNEY ST #404	BOSTON	02114
502442206	LENIHAN MICHAEL W	LENIHAN MICHAEL W	145 PINCKNEY ST #406	BOSTON MA	02114	145	PINCKNEY ST #406	BOSTON	02114
502442210	CASPER SALLY A	CASPER SALLY A	145 PINCKNEY ST #408	BOSTON MA	02114	145	PINCKNEY ST #408	BOSTON	02114
502442212	LEE MARY	LEE MARY	145 PINCKNEY ST #409	BOSTON MA	02114	145	PINCKNEY ST #409	BOSTON	02114
502442214	FULGINITI JOHN P	FULGINITI JOHN P	145 PINCKNEY ST #410	BOSTON MA	02114	145	PINCKNEY ST #410	BOSTON	02114
502442216	FULGINITI JOHN P	FULGINITI JOHN P	145 PINCKNEY ST #411	BOSTON MA	02114	145	PINCKNEY ST #411	BOSTON	02114
502442218	MAI LEON	MAI LEON	145 PINCKNEY ST #412	BOSTON MA	02114	145	PINCKNEY ST #412	BOSTON	02114



502442220	KELLEHER JOHN J	KELLEHER JOHN J	145 PINCKNEY ST #413	BOSTON MA	02114	145	PINCKNEY ST #413	BOSTON	02114
502442222	BACK TO BEACON LLC	BACK TO BEACON LLC	16 CARVER ST #102	PLYMOUTH MA	02360	145	PINCKNEY ST #415	BOSTON	02114
502442224	TARABANIS KONSTANTINOS	TARABANIS KONSTANTINOS	145 PINCKNEY ST #416	BOSTON MA	02114	145	PINCKNEY ST #416	BOSTON	02114
502442226	GLEASON PAUL	GLEASON PAUL	7 WEDGEMERE AV	WINCHESTER MA	01890	145	PINCKNEY ST #417	BOSTON	02114
502442228	LEARY ELIZABETH R TS	LEARY ELIZABETH R TS	145 PINCKNEY ST #418	BOSTON MA	02114	145	PINCKNEY ST #418	BOSTON	02114
502442230	PIERCE CARROLL C	PIERCE CARROLL C	35 BRIMMER ST	BOSTON MA	02108	145	PINCKNEY ST #419	BOSTON	02114
502442232	TANSEY MELISSA	TANSEY MELISSA	145 PINCKNEY ST UNIT 420	BOSTON MA	02114	145	PINCKNEY ST #420	BOSTON	02114
502442234	DEWINTER THOMAS P	DEWINTER THOMAS P	145 PINCKNEY #421	BOSTON MA	02114	145	PINCKNEY ST #421	BOSTON	02114
502442236	JANET T BERRIER 2001 FAMILY	JANET T BERRIER 2001 FAMILY	4671 HALL ROAD	GROTON VT	05046	145	PINCKNEY ST #422	BOSTON	02114
502442238	DEWINTER THOMAS	DEWINTER THOMAS	145 PINCKNEY ST #421	BOSTON MA	02114	145	PINCKNEY ST #423	BOSTON	02114
502442240	VAN NOSTRAND ANNE LOUISE C	VAN NOSTRAND ANNE LOUISE C	145 PINCKNEY ST #424	BOSTON MA	02114	145	PINCKNEY ST #424	BOSTON	02114
502442242	DUFFIELD MARK	DUFFIELD MARK	145 PINCKNEY ST #425	BOSTON MA	02114	145	PINCKNEY ST #425	BOSTON	02114
502442244	VAN NOSTRAND ANNE LOUISE C	VAN NOSTRAND ANNE LOUISE C	145 PINCKNEY ST #426	BOSTON MA	02114	145	PINCKNEY ST #426	BOSTON	02114
502442246	FIELD MICHAEL S TRST	FIELD MICHAEL S TRST	74 LONGWOOD RD	CHESTNUT HILL MA	02467	145	PINCKNEY ST #427	BOSTON	02114
502442248	OCONNOR MARILYN	OCONNOR MARILYN	145 PINCKNEY ST #428	BOSTON MA	02114	145	PINCKNEY ST #428	BOSTON	02114
502442250	JACOBS NANCY A ETAL	JACOBS NANCY A ETAL	145 PINCKNEY ST #429	BOSTON MA	02114	145	PINCKNEY ST #429	BOSTON	02114
502442252	YOUSSEF NADINE A	YOUSSEF NADINE A	145 PINCKNEY ST #430	BOSTON MA	02114	145	PINCKNEY ST #430	BOSTON	02114
502442254	NAGY JEAN	NAGY JEAN	145 PINCKNEY ST #432	BOSTON MA	02114	145	PINCKNEY ST #432	BOSTON	02114
502442256	JENKINS ALAN P	JENKINS ALAN P	145 PINCKNEY ST #434	BOSTON MA	02114	145	PINCKNEY ST #434	BOSTON	02114
502442258	DOOLING ELIZABETH C	DOOLING ELIZABETH C	145 PINCKNEY ST #435	BOSTON MA	02114	145	PINCKNEY ST #435	BOSTON	02114
502442262	JOHNSON LINDA S	JOHNSON LINDA S	145 PINCKNEY ST UNIT 502	BOSTON MA	02114	145	PINCKNEY ST #502	BOSTON	02114
502442264	WHIPPLE JAMES F	WHIPPLE JAMES F	145 PINCKNEY ST #503	BOSTON MA	02114	145	PINCKNEY ST #503	BOSTON	02114
502442266	JOHNSON LINDA S	JOHNSON LINDA S	145 PINCKNEY ST UNIT 502	BOSTON MA	02114	145	PINCKNEY ST #504	BOSTON	02114
502442268	TREHU STEPHEN M	TREHU STEPHEN M	145 PINCKNEY ST #505	BOSTON MA	02114	145	PINCKNEY ST #505	BOSTON	02114
502442270	ONE-45 PINCKNEY ST LLC	ONE-45 PINCKNEY ST LLC	138 PIERREPONT ST #4C	BROOKLYN NY	11201	145	PINCKNEY ST #506	BOSTON	02114
502442272	SMITH SARAH	SMITH SARAH	145 PINCKNEY ST #507	BOSTON MA	02114	145	PINCKNEY ST #507	BOSTON	02114
502442274	KIBE JOSEPH	KIBE JOSEPH	145 PINCKNEY ST UNIT 508	BOSTON MA	02114	145	PINCKNEY ST #508	BOSTON	02114
502442276	PAPP MARIE LIANA	PAPP MARIE LIANA	145 PINCKNEY ST #509	BOSTON MA	02114	145	PINCKNEY ST #509	BOSTON	02114
502442278	FITZGERALD RICHARD	FITZGERALD RICHARD	145 PINKNEY ST #510	BOSTON MA	02114	145	PINCKNEY ST #510	BOSTON	02114
502442280	FITZGERALD RICHARD	FITZGERALD RICHARD	145 PINCKNEY ST #510	BOSTON MA	02114	145	PINCKNEY ST #511	BOSTON	02114
502442282	MCKENDRY EILEEN P	MCKENDRY EILEEN P	145 PINCKNEY ST #512	BOSTON MA	02114	145	PINCKNEY ST #512	BOSTON	02114
502442284	KAUSZ ANNAMARIA T	KAUSZ ANNAMARIA T	145 PINCKNEY ST #513 4	BOSTON MA	02114	145	PINCKNEY ST #513	BOSTON	02114
502442286	TANGNEY SUSAN K	TANGNEY SUSAN K	145 PINCKNEY ST	BOSTON MA	02114	145	PINCKNEY ST #515	BOSTON	02114
502442288	YURKOVSKY SAVELY	YURKOVSKY SAVELY	145 PINCKNEY ST #516	BOSTON MA	02114	145	PINCKNEY ST #516	BOSTON	02114

502442292	PRICE ROSEMARY	PRICE ROSEMARY	23 CUSACK RD #18	HAMPTON NH	03842 145	PINCKNEY ST #518	BOSTON	02114
502442294	SCHWARTZMAN JO ANN T	SCHWARTZMAN JO ANN T	145 PINCKNEY ST #519	BOSTON MA	02114 145	PINCKNEY ST #519	BOSTON	02114
502442296	NORMA BRIDWELL TRUST	NORMA BRIDWELL TRUST	PO BOX 2486	EDGARTOWN MA	02539 145	PINCKNEY ST #520	BOSTON	02114
502442298	GAUDREAU RUSSELL A JR	GAUDREAU RUSSELL A JR	30 CHESTNUT ST	BOSTON MA	02108 145	PINCKNEY ST #521	BOSTON	02114
502442300	LEVINE ALEXANDER TS	LEVINE ALEXANDER TS	100 BELVIDERE ST #5B	BOSTON MA	02199 145	PINCKNEY ST #522	BOSTON	02114
502442302	GAUDREAU RUSSELL A JR	GAUDREAU RUSSELL A JR	30 CHESTNUT ST	BOSTON MA	02108 145	PINCKNEY ST #523	BOSTON	02114
502442306	DRISCOLL JAMES J	DRISCOLL JAMES J	145 PINCKNEY ST # 525	BOSTON MA	02114 145	PINCKNEY ST #525	BOSTON	02114
502442310	DUNAY BARBARA J	DUNAY BARBARA J	145 PINCKNEY ST #527	BOSTON MA	02114 145	PINCKNEY ST #527	BOSTON	02114
502442312	BRIDGE JUDITH	BRIDGE JUDITH	145 PINCKNEY ST #528	BOSTON MA	02114 145	PINCKNEY ST #528	BOSTON	02114
502442314	PHELAN KEVIN C	PHELAN KEVIN C	145 PINCKNEY ST #529	BOSTON MA	02114 145	PINCKNEY ST #529	BOSTON	02114
502442316	BAKER NANCY LURIA	BAKER NANCY LURIA	PO BOX 647	LAKEVILLE CT	06039 145	PINCKNEY ST #530	BOSTON	02114
502442318	BEALE JEFFREY P	BEALE JEFFREY P	40 CHESTNUT ST	SALEM MA	01970 145	PINCKNEY ST #532	BOSTON	02114
502442320	LO SHIAO HUEI	LO SHIAO HUEI	145 PINCKNEY ST #534	BOSTON MA	02114 145	PINCKNEY ST #534	BOSTON	02114
502442322	REARDON MATTHEW	REARDON MATTHEW	145 PINCKNEY ST #535	BOSTON MA	02114 145	PINCKNEY ST #535	BOSTON	02114
502442324	EAGAN MARY ELLEN	EAGAN MARY ELLEN	145 PINCKNEY ST #601	BOSTON MA	02114 145	PINCKNEY ST #601	BOSTON	02114
502442326	SUZUKI HARUE	SUZUKI HARUE	1223 WALNUT ST	NEWTON MA	02461 145	PINCKNEY ST #602	BOSTON	02114
502442329	MERFELD EUGENE	MERFELD EUGENE	145 PINCKNEY ST #603-605	BOSTON MA	02114 145	PINCKNEY ST #603-605	BOSTON	02114
502442330	SUZUKI HARUE	SUZUKI HARUE	1223 WALNUT ST	NEWTON MA	02461 145	PINCKNEY ST #604	BOSTON	02114
502442334	WATERFALL EVE L R TS	WATERFALL EVE L R TS	42 WEST CEDAR ST	BOSTON MA	02114 145	PINCKNEY ST #606	BOSTON	02114
502442336	PALICA TRUST	PALICA TRUST	104 BAROUCHE DR	MARSHFIELD MA	02050 145	PINCKNEY ST #607	BOSTON	02114
502442338	LOVETT ANNE	LOVETT ANNE	BOX 449	HOLDERNESS NH	03245 145	PINCKNEY ST #608	BOSTON	02114
502442342	WOOD ELWOOD S ETAL	WOOD ELWOOD S ETAL	40 SPENCER BROOK RD	CONCORD MA	01742 145	PINCKNEY ST #610	BOSTON	02114
502442344	KATHERINE KOSARTES HASTINGS	KATHERINE KOSARTES HASTINGS	2859 E LAKE OF THE ISLES PKW	MINNEAPOLIS MN	55408 145	PINCKNEY ST #611	BOSTON	02114
502442346	TONDO LEONARDO	TONDO LEONARDO	145 PINCKNEY ST #612	BOSTON MA	02114 145	PINCKNEY ST #612	BOSTON	02114
502442348	BALLANTYNE JOAN HICKEY	BALLANTYNE JOAN HICKEY	145 PINCKNEY #613	BOSTON MA	02114 145	PINCKNEY ST #613	BOSTON	02114
502442352	MONAHAN THOMAS C	MONAHAN THOMAS C	37-16 223RD ST	BAYSIDE NY	11361 145	PINCKNEY ST #616	BOSTON	02114
502442354	HEUSER RENATE	HEUSER RENATE	3 BELLINGHAM PL	BOSTON MA	02114 145	PINCKNEY ST #617	BOSTON	02114
502442356	MAYER JOHN T	MAYER JOHN T	145 PINCKNEY ST #618	BOSTON MA	02114 145	PINCKNEY ST #618	BOSTON	02114
502442358	WEISSBACH LAWRENCE	WEISSBACH LAWRENCE	145 PINCKNEY ST #619	BOSTON MA	02114 145	PINCKNEY ST #619	BOSTON	02114
502442360	PIERCE ROBERT W JR	PIERCE ROBERT W JR	35 BRIMMER ST	BOSTON MA	02108 145	PINCKNEY ST #620	BOSTON	02114
502442362	SHANG JOHN	SHANG JOHN	17 OXBOW RD	WAYLAND MA	01778 145	PINCKNEY ST #621	BOSTON	02114
502442364	MANSON PALMINA G	MANSON PALMINA G	145 PINCKNEY ST #622	BOSTON MA	02114 145	PINCKNEY ST #622	BOSTON	02114
502442368	CARVALHO HELENA F	CARVALHO HELENA F	145 PINCKNEY ST #624	BOSTON MA	02114 145	PINCKNEY ST #624	BOSTON	02114
502442370	#625 REALTY TRUST	#625 REALTY TRUST	145 PINCKNEY ST #625	BOSTON MA	02114 145	PINCKNEY ST #625	BOSTON	02114

502442372	AMBROSE DIANA M	AMBROSE DIANA M	145 PINCKNEY ST #626	BOSTON MA	02114	145	PINCKNEY ST #626	BOSTON	02114
502442374	LEE ELIZABETH J	LEE ELIZABETH J	145 PICKNEY ST #627	BOSTON MA	02114	145	PINCKNEY ST #627	BOSTON	02114
502442376	MAHONEY MARY E	MAHONEY MARY E	145 PINCKNEY ST #628	BOSTON MA	02114	145	PINCKNEY ST #628	BOSTON	02114
502442380	HIGGINS SEAN R	HIGGINS SEAN R	145 PINCKNEY ST #630	BOSTON MA	02114	145	PINCKNEY ST #630	BOSTON	02114
502442382	HIGGINS SEAN R	HIGGINS SEAN R	145 PINCKNEY ST # 632	BOSTON MA	02114	145	PINCKNEY ST #632	BOSTON	02114
502442386	FITZSIMMONS DOUGLAS O	FITZSIMMONS DOUGLAS O	145 PINCKNEY ST #635	BOSTON MA	02114	145	PINCKNEY ST #635	BOSTON	02114
502442388	STROUT ARTHUR E	STROUT ARTHUR E	145 PINCKNEY ST #701	BOSTON MA	02115	145	PINCKNEY ST #701	BOSTON	02114
502442390	PAINTER REBECCA	PAINTER REBECCA	145 PINCKNEY ST #710	BOSTON MA	02114	145	PINCKNEY ST #702	BOSTON	02114
502442392	LUNDQUIST CAROL	LUNDQUIST CAROL	145 PINCKNEY ST #703	BOSTON MA	02114	145	PINCKNEY ST #703	BOSTON	02114
502442394	OUTERBRIDGE AMANDA M	OUTERBRIDGE AMANDA M	4 EMERSON PLACE TH7	BOSTON MA	02114	145	PINCKNEY ST #704	BOSTON	02114
502442396	705 RIVER HOUSE/SMITH	705 RIVER HOUSE/SMITH	145 PINCKNEY ST #705	BOSTON MA	02114	145	PINCKNEY ST #705	BOSTON	02114
502442398	RICE NEIL W	RICE NEIL W	145 PINCKNEY ST #706	BOSTON MA	02114	145	PINCKNEY ST #706	BOSTON	02114
502442400	BAKER GAVIN	BAKER GAVIN	145 PINCKNEY ST #707	BOSTON MA	02114	145	PINCKNEY ST #707	BOSTON	02114
502442402	BAKER GAVIN	BAKER GAVIN	145 PINCKNEY ST #708	BOSTON MA	02114	145	PINCKNEY ST #708	BOSTON	02114
502442404	BAKER GAVIN	BAKER GAVIN	145 PINCKNEY ST #709	BOSTON MA	02114	145	PINCKNEY ST #709	BOSTON	02114
502442406	BAKER GAVIN	BAKER GAVIN	145 PINCKNEY ST #710	BOSTON MA	02114	145	PINCKNEY ST #710	BOSTON	02114
502442408	BAKER GAVIN	BAKER GAVIN	145 PINCKNEY ST #711	BOSTON MA	02114	145	PINCKNEY ST #711	BOSTON	02114
502442410	KARLOUTSOS MARIA O	KARLOUTSOS MARIA O	145 PINCKNEY ST #712	BOSTON MA	02114	145	PINCKNEY ST #712	BOSTON	02114
502442412	SSH PINCKNEY LLC	SSH PINCKNEY LLC	29A CHESTNUT ST	BOSTON MA	02108	145	PINCKNEY ST #713	BOSTON	02114
502442414	MILOSEVIC BRANKA TS	MILOSEVIC BRANKA TS	145 PINCKNEY ST #625	BOSTON MA	02114	145	PINCKNEY ST #715	BOSTON	02114
502442416	LALLY SUSAN E	LALLY SUSAN E	145 PINCKNEY ST UNIT 716	BOSTON MA	02114	145	PINCKNEY ST #716	BOSTON	02114
502442418	COLLINS DANIEL P	COLLINS DANIEL P	145 PINCKNEY ST #717	BOSTON MA	02114	145	PINCKNEY ST #717	BOSTON	02114
502442420	CHESTER DAVID WILLIAM	CHESTER DAVID WILLIAM	6 PERRY ST	SHERBORN MA	01770	145	PINCKNEY ST #718	BOSTON	02114
502442422	HOUNSELL BRUCE	HOUNSELL BRUCE	10 BYRON ST	BOSTON MA	02108	145	PINCKNEY ST #719	BOSTON	02114
502442424	PITTARO FREDERICK J	PITTARO FREDERICK J	40 BATTERY ST #104	BOSTON MA	02109	145	PINCKNEY ST #720	BOSTON	02114
502442428	ROTHENBERG-SIMMONS JANE A	ROTHENBERG-SIMMONS JANE A	145 PINCKNEY ST #722	BOSTON MA	02114	145	PINCKNEY ST #722	BOSTON	02114
502442432	COLLIER JOYCE L TS	COLLIER JOYCE L TS	36 LONGWOOD AVE #5	BROOKLINE MA	02446	145	PINCKNEY ST #725	BOSTON	02114
502442434	NO 726 REALTY TRUST	NO 726 REALTY TRUST	145 PINCKNEY ST UNIT 625	BOSTON MA	02114	145	PINCKNEY ST #726	BOSTON	02114
502442436	WILLETT BERNARD L	WILLETT BERNARD L	4 POINT OROCKS LA	MARBLEHEAD MA	01945	145	PINCKNEY ST #727	BOSTON	02114
502442438	WOODBURY BRENDA	WOODBURY BRENDA	20 WARREN AV	READING MA	01867	145	PINCKNEY ST #728	BOSTON	02114
502442442	MALLARI JUAN JOSE	MALLARI JUAN JOSE	145 PINCKNEY ST #730	BOSTON MA	02114	145	PINCKNEY ST #730	BOSTON	02114
502442448	HANSON VELTA	HANSON VELTA	105 WILDERNESS DR #107	NAPLES FL	34105	145	PINCKNEY ST #735	BOSTON	02114
502443000	RREF II 170 CHARLES LLC	RREF II 170 CHARLES LLC	60 COLUMBUS CI 20TH FL	NEW YORK NY	10023	170	CHARLES ST	BOSTON	02114
502445000	RREF II BH GARAGE LLC	RREF II BH GARAGE LLC	60 COLUMBUS CIRCLE 20TH FL	NEW YORK NY	10023	142	CHARLES ST	BOSTON	02114

502446000	ONE HUNDRED 30-140 CHARLES	ONE HUNDRED 30-140 CHARLES	140 CHARLES	BOSTON MA	02114	140 CHARLES ST	BOSTON	02114
502446002	MARJOJO CORPORATION	MARJOJO CORPORATION	872 MASS AV STE 1-2	CAMBRIDGE MA	02139	140 CHARLES ST #140-1	BOSTON	02114
502446004	MARJOJO CORPORATION	MARJOJO CORPORATION	872 MASSACHUSETTS AV STE 1-2	CAMBRIDGE MA	02139	140 CHARLES ST #140-2	BOSTON	02114
502446008	MISHARA ELLIOTT I	MISHARA ELLIOTT I	872 MASS AV	CAMBRIDGE MA	02139	138 CHARLES ST #138	BOSTON	02114
502446010	POST POST OFFICE REALTY	POST POST OFFICE REALTY	142 MARLBOROUGH ST	BOSTON MA	02116	136 CHARLES ST #136	BOSTON	02114
502446012	POST LARRY	POST LARRY	142 MARLBOROUGH ST #134-1	BOSTON MA	02116	134 CHARLES ST #134-1	BOSTON	02114
502446014	POST JASON B BE	POST JASON B BE	142 MARLBOROUGH ST	BOSTON MA	02116	134 CHARLES ST #134-2	BOSTON	02114
502446018	LYNCH NED M	LYNCH NED M	1800 NORTH ANDREWS AVE #10-	FORT LAUDERDALE	33311	132 CHARLES ST #132-1	BOSTON	02114
502446020	MACPHEE ROBERT SCOTT	MACPHEE ROBERT SCOTT	132 CHARLES ST #132-2	BOSTON MA	02114	132 CHARLES ST #132-2	BOSTON	02114
502446022	MACPHEE ROBERT SCOTT	MACPHEE ROBERT SCOTT	132 CHARLES ST #132-3	BOSTON MA	02114	132 CHARLES ST #132-3	BOSTON	02114
502446024	MARIKAS ANTIQUE SHOP INC	MARIKAS ANTIQUE SHOP INC	130 CHARLES	BOSTON MA	02114	130 CHARLES ST #130	BOSTON	02114
502447000	VITAGLIANO FRANCIS	VITAGLIANO FRANCIS	117 REVERE	BOSTON MA	02114	117 REVERE ST	BOSTON	02114
502448000	LEWIS M LEONARD	LEWIS M LEONARD	141 REVERE ST	BOSTON MA	02114	141 REVERE ST	BOSTON	02114
502449000	MCCARTY PAULETTE A	MCCARTY PAULETTE A	23 CHARLES RIVER SQ	BOSTON MA	02114	23 CHARLES RIVER SQ	BOSTON	02114
502450000	MALONEY EDWARD M	MALONEY EDWARD M	22 CHARLES RIVER SQ	BOSTON MA	02114	22 CHARLES RIVER SQ	BOSTON	02114
502451000	DEGREGORIO BARBARA A	DEGREGORIO BARBARA A	21 CHARLES RIVER SQ	BOSTON MA	02114	21 CHARLES RIVER SQ	BOSTON	02114
502452000	DIONNE PHILIP J TS	DIONNE PHILIP J TS	PO BOX 5	CHELMSFORD MA	01824	20 CHARLES RIVER SQ	BOSTON	02114
502453000	BEATRICE WOLFNER NESSEN 2000	BEATRICE WOLFNER NESSEN 2000	19 CHARLES RIVER SQ	BOSTON MA	02114	19 CHARLES RIVER SQ	BOSTON	02114
502454000	STANLEY H RUTSTEIN 2004	STANLEY H RUTSTEIN 2004	1281 GULF OF MEXICO DR. #203	LONGBOAT KEY FL	34228	18 CHARLES RIVER SQ	BOSTON	02114
502455000	PREVOST PATRICK M	PREVOST PATRICK M	16 CHARLES RIVER SQ	BOSTON MA	02114	16 CHARLES RIVER SQ	BOSTON	02114
502456000	CURTIN NEAL J	CURTIN NEAL J	15 CHARLES RIVER SQ	BOSTON MA	02114	15 CHARLES RIVER SQ	BOSTON	02114
502457000	HASELWANDTER STEFAN	HASELWANDTER STEFAN	14 CHARLES RIVER SQ	BOSTON MA	02114	14 CHARLES RIVER SQ	BOSTON	02114
502458000	CHARLES ONE TWO LLC	CHARLES ONE TWO LLC	28 DAMRELL ST SUITE 300	BOSTON MA	02127	12 CHARLES RIVER SQ	BOSTON	02114
502459000	CLAPP EUGENE 3RD	CLAPP EUGENE 3RD	10 CHARLES RIVER SQ	BOSTON MA	02114	10 CHARLES RIVER SQ	BOSTON	02114
502461000	GREELEY MICHAEL A	GREELEY MICHAEL A	9 CHARLES RIVER SQ	BOSTON MA	02114	9 CHARLES RIVER SQ	BOSTON	02114
502462000	GREELEY MICHAEL A	GREELEY MICHAEL A	9 CHARLES RIVER SQ	BOSTON MA	02114	CHARLES RIVER SQ	BOSTON	02114
502463000	BIRKETT SUSAN T	BIRKETT SUSAN T	8 CHARLES RIVER SQ	BOSTON MA	02114	8 CHARLES RIVER SQ	BOSTON	02114
502464000	BIRKETT SUSAN T	BIRKETT SUSAN T	8 CHARLES RIVER SQ	BOSTON MA	02114	CHARLES RIVER SQ	BOSTON	02114
502467000	ZARINS BERTRAM	ZARINS BERTRAM	6 CHARLES RIVER SQ	BOSTON MA	02114	6 CHARLES RIVER SQ	BOSTON	02114
502469000	TWIST MATTHEW M	TWIST MATTHEW M	5 CHARLES RIVER SQ	BOSTON MA	02114	5 CHARLES RIVER SQ	BOSTON	02114
502470000	TWIST MATTHEW M	TWIST MATTHEW M	5 CHARLES RIVER SQ	BOSTON MA	02114	CHARLES RIVER SQ	BOSTON	02114
502471000	COLDREN MATTHEW F	COLDREN MATTHEW F	4 CHARLES RIVER SQ	BOSTON MA	02114	4 CHARLES RIVER SQ	BOSTON	02114
502472000	COLDREN MATTHEW F	COLDREN MATTHEW F	4 CHARLES RIVER SQ	BOSTON MA	02114	CHARLES RIVER SQ	BOSTON	02114
502473000	SOMMER MELANIE S TS	SOMMER MELANIE S TS	11 KEYWADIN DR SUITE #100	SALEM NH	03079	3 CHARLES RIVER SQ	BOSTON	02114

502475000	SOMMER MELANIE S	SOMMER MELANIE S	11 KEYWADIN DR SUITE #100	SALEM NH	03079	1 CHARLES RIVER SQ	BOSTON	02114
502476000	JOHNSON EDWARD C 111 ETAL	JOHNSON EDWARD C 111 ETAL	11 KEEWAYDIN DR STE 100	SALEM NH	30379	CHARLES RIVER SQ	BOSTON	02114
502478000	RAUSEO MICHAEL J III	RAUSEO MICHAEL J III	32 EMBANKMENT RD	BOSTON MA	02114	EMBANKMENT RD	BOSTON	02114
502479000	RAUSEO MICHAEL J	RAUSEO MICHAEL J	30 EMBANKMENT RD	BOSTON MA	02114	30 EMBANKMENT RD	BOSTON	02114
502480000	NOVAK G. MICHAEL	NOVAK G. MICHAEL	10 WEST HILL PL	BOSTON MA	02114	10 W HILL PL	BOSTON	02114
502481000	RAUSEO MICHAEL J	RAUSEO MICHAEL J	9 WEST HILL PLACE	BOSTON MA	02114	9 W HILL PL	BOSTON	02114
502483000	8 WEST HILL PLACE	8 WEST HILL PLACE	8 WEST HILL PL	BOSTON MA	02114	8 W HILL PL	BOSTON	02114
502483002	LOUISON LAUREN	LOUISON LAUREN	8 W HILL PL UNIT 1	BOSTON MA	02114	8 W HILL PL #1	BOSTON	02114
502483004	GUP THEODORE SAMUEL	GUP THEODORE SAMUEL	39 GROVE ST #3	BOSTON MA	02114	8 W HILL PL #2	BOSTON	02114
502483006	BOOKWALTER WILLIAM	BOOKWALTER WILLIAM	68 CHESTNUT STREET	BOSTON MA	02108	8 W HILL PL #3	BOSTON	02114
502483008	VOLWILER ADAM S	VOLWILER ADAM S	8 WEST HILL PL. UNIT 4	BOSTON MA	02114	8 W HILL PL #4	BOSTON	02114
502485000	7 WEST HILL PLACE LLC	7 WEST HILL PLACE LLC	7 W HILL PL	BOSTON MA	02114	7 W HILL PL	BOSTON	02114
502486000	7 WEST HILL PLACE LLC	7 WEST HILL PLACE LLC	7 W HILL PL	BOSTON MA	02114	W HILL PL	BOSTON	02114
502487000	GOLDIE KENNETH S	GOLDIE KENNETH S	6 WEST HILL PL	BOSTON MA	02114	6 W HILL PL	BOSTON	02114
502489000	5 WEST HILL PLACE	5 WEST HILL PLACE	5 WEST HILL PL	BOSTON MA	02114	5 W HILL PL	BOSTON	02114
502489002	OWENS WILLIAM W JR	OWENS WILLIAM W JR	5 WEST HILL PL #B	BOSTON MA	02114	5 W HILL PL #B	BOSTON	02114
502489004	POLK SQUARE LLC	POLK SQUARE LLC	2121 BROOKWOOD RD	MISSION HILLS KS	66208	5 W HILL PL #A	BOSTON	02114
502489006	OWENS WILLIAM W JR	OWENS WILLIAM W JR	5 WEST HILL PL #C	BOSTON MA	02114	5 W HILL PL #C	BOSTON	02114
502491000	3-4 WEST HILL PLACE CONDO	3-4 WEST HILL PLACE CONDO	3-4 W HILL PL	BOSTON MA	02114	3 -4 W HILL PL	BOSTON	02114
502491012	BESSER JAMES E	BESSER JAMES E	3 WEST HILL PL #3	BOSTON MA	02114	3 W HILL PL #3	BOSTON	02114
502491014	BLUE SKY REAL ESTATE TRUST	BLUE SKY REAL ESTATE TRUST	4 W HILL PL #4	BOSTON MA	02114	4 W HILL PL #4	BOSTON	02114
502492000	BAKER JEFFREY	BAKER JEFFREY	2 WEST HILL PL	BOSTON MA	02114	2 W HILL PL	BOSTON	02114
502493000	COLBURN OLIVER C	COLBURN OLIVER C	1 W HILL PL	BOSTON MA	02114	1 W HILL PL	BOSTON	02114
502494000	22 EMBANKMENT ROAD	22 EMBANKMENT ROAD	22 EMBANKMENT RD	BOSTON MA	02114	22 EMBANKMENT RD	BOSTON	02114
502494002	HAN XIAOZHE	HAN XIAOZHE	22 EMBANKMENT RD	BOSTON MA	02114	22 EMBANKMENT RD #1	BOSTON	02114
502494004	FOLLONI JAMES M	FOLLONI JAMES M	22 EMBANKMENT RD	BOSTON MA	02114	22 EMBANKMENT RD #2	BOSTON	02114
502494006	MONKS MEGHAN K	MONKS MEGHAN K	22 EMBANKMENT RD #3	BOSTON MA	02114	22 EMBANKMENT RD #3	BOSTON	02114
502494008	HOGAN JANICE A	HOGAN JANICE A	22 EMBANKMENT RD	BOSTON MA	02114	22 EMBANKMENT RD #4	BOSTON	02114
502494010	HAUSER KATRINA	HAUSER KATRINA	22 EMBANKMENT RD #5	BOSTON MA	02114	22 EMBANKMENT RD #5	BOSTON	02114
502494012	SHIN BO KYUNG	SHIN BO KYUNG	10 BURROUGHS RD	LEXINGTON MA	02420	22 EMBANKMENT RD #6	BOSTON	02114
502494014	NIGRO JOSEPH	NIGRO JOSEPH	22 EMBANKMENT RD # 7	BOSTON MA	02114	22 EMBANKMENT RD #7	BOSTON	02114
502494016	MATZEN NICOLAUS	MATZEN NICOLAUS	22 DAVID G MUGAR WAY UNIT 8	BOSTON MA	02114	22 DAVID G MUGAR WY #8	BOSTON	02114
502495000	JOSEPH FREDERICK	JOSEPH FREDERICK	20 EMBANKMENT RD	BOSTON MA	02114	20 EMBANKMENT RD	BOSTON	02114
502495001	COMM OF MASS	COMM OF MASS	EMBANKMENT RD	BOSTON MA	02114	EMBANKMENT RD	BOSTON	02114

502496000	COMMWLTH OF MASS	COMMWLTH OF MASS	CAMBRIDGE	BOSTON MA	02114	CAMBRIDGE ST	BOSTON	02114
502499000	BRIMMER CHAMBERS CONDOMINIUM	BRIMMER CHAMBERS CONDOMINIUM	112 PINCKNEY ST	BOSTON MA	02114	112 PINCKNEY ST	BOSTON	02114
502499002	KING KEVIN	KING KEVIN	112 PINCKNEY ST #1	BOSTON MA	02114	112 PINCKNEY ST #1	BOSTON	02114
502499004	FRETZ RAMSAY	FRETZ RAMSAY	112 PINCKNEY ST UNIT 2	BOSTON MA	02114	112 PINCKNEY ST #2	BOSTON	02114
502499006	BURMEISTER PAUL A	BURMEISTER PAUL A	112 PINCKNEY ST #3	BOSTON MA	02114	112 PINCKNEY ST #3	BOSTON	02114
502499008	MURRAY ALISON	MURRAY ALISON	112 PINCKNEY ST #4	BOSTON MA	02114	112 PINCKNEY ST #4	BOSTON	02114
502499010	HEARN KATHLEEN	HEARN KATHLEEN	112 PINCKNEY ST #5	BOSTON MA	02114	112 PINCKNEY ST #5	BOSTON	02114
502499012	SAOUR PAULA	SAOUR PAULA	112 PINCKNEY ST #11	BOSTON MA	02114	112 PINCKNEY ST #11	BOSTON	02114
502499014	BARRY MARIC M TRST	BARRY MARIC M TRST	112 PINCKNEY ST #12	BOSTON MA	02114	112 PINCKNEY ST #12	BOSTON	02114
502499016	VAN FAASEN ELLEN TS	VAN FAASEN ELLEN TS	112 PINCKNEY ST #13	BOSTON MA	02114	112 PINCKNEY ST #13	BOSTON	02114
502499018	LOOMES DAVID L	LOOMES DAVID L	112 PINCKNEY ST #14	BOSTON MA	02114	112 PINCKNEY ST #14	BOSTON	02114
502499020	SWEET M PEDRICK	SWEET M PEDRICK	PO BOX 111	CASTINE ME	04421	112 PINCKNEY ST #15	BOSTON	02114
502499022	LAMSON EDWARD F ETAL	LAMSON EDWARD F ETAL	112 PINCKNEY ST #16	BOSTON MA	02114	112 PINCKNEY ST #16	BOSTON	02114
502499024	KWAN EDDIE S	KWAN EDDIE S	884 SHORE RD	CAPE ELIZABETH ME	04107	112 PINCKNEY ST #21	BOSTON	02114
502499026	DIMAGGIO GELLESTRINA	DIMAGGIO GELLESTRINA	145 PINCKNEY ST #606	BOSTON MA	02114	112 PINCKNEY ST #22	BOSTON	02114
502499028	BRUNI MARY ANN	BRUNI MARY ANN	PO BOX 8	FARMINGTON CT	06034	112 PINCKNEY ST #23	BOSTON	02114
502499030	LOIZEAUX SONIA TS	LOIZEAUX SONIA TS	112 PINCKNEY ST #24	BOSTON MA	02114	112 PINCKNEY ST #24	BOSTON	02114
502499032	HOLLAND JAMES R ETAL	HOLLAND JAMES R ETAL	5 BRIMMER ST	BOSTON MA	02108	112 PINCKNEY ST #25	BOSTON	02114
502499034	WARD GERARD J	WARD GERARD J	112 PINCKNEY ST APT 26	BOSTON MA	02114	112 PINCKNEY ST #26	BOSTON	02114
502499036	ZIMMERMANN VIVECA E	ZIMMERMANN VIVECA E	112 PINCKNEY ST #31	BOSTON MA	02114	112 PINCKNEY ST #31	BOSTON	02114
502499038	ZIMMERMANN VIVECA E	ZIMMERMANN VIVECA E	112 PINCKNEY ST #32	BOSTON MA	02114	112 PINCKNEY ST #32	BOSTON	02114
502499040	ZIMMERMANN VIVECA	ZIMMERMANN VIVECA	112 PINCKNEY ST #33	BOSTON MA	02114	112 PINCKNEY ST #33	BOSTON	02114
502499042	MERTENS RICHARD B	MERTENS RICHARD B	112 PINCKNEY ST #34	BOSTON MA	02114	112 PINCKNEY ST #34	BOSTON	02114
502499044	BRUCK MICHAEL	BRUCK MICHAEL	112 PINCKNEY ST #35	BOSTON MA	02114	112 PINCKNEY ST #35	BOSTON	02114
502499046	ZIMMERMANN VIVECA E	ZIMMERMANN VIVECA E	112 PINCKNEY ST #36	BOSTON MA	02114	112 PINCKNEY ST #36	BOSTON	02114
502499048	VARGA GEORGE J	VARGA GEORGE J	7801 WOODWARD RD	WILLIAMSBURG MI	49690	112 PINCKNEY ST #41	BOSTON	02114
502499050	LAPERLE GEORGE M	LAPERLE GEORGE M	2135 RIDGE LN	SANTA BARBARA CA	93103	112 PINCKNEY ST #42	BOSTON	02114
502499052	GUIDA ROSS GREGORY	GUIDA ROSS GREGORY	112 PINCKNEY ST #43	BOSTON MA	02114	112 PINCKNEY ST #43	BOSTON	02114
502499054	BETA TWO REALTY TRUST	BETA TWO REALTY TRUST	9 APACHE AVENUE	ANDOVER MA	01810	112 PINCKNEY ST #44	BOSTON	02114
502499058	ROGER M MULFORD REVOCABLE	ROGER M MULFORD REVOCABLE	112 PINCKNEY ST #46	BOSTON MA	02114	112 PINCKNEY ST #46	BOSTON	02114
502499060	SWAIN RHODA F	SWAIN RHODA F	112 PINCKNEY ST #51	BOSTON MA	02114	112 PINCKNEY ST #51	BOSTON	02114
502499062	DOOLEY THOMAS J III TS	DOOLEY THOMAS J III TS	112 PINCKNEY ST #52	BOSTON MA	02114	112 PINCKNEY ST #52	BOSTON	02114
502499064	DOOLEY THOMAS J III TS	DOOLEY THOMAS J III TS	112 PINCKNEY ST #53	BOSTON MA	02114	112 PINCKNEY ST #53	BOSTON	02114
502499066	DANGELI ELIZABETH	DANGELI ELIZABETH	112 PINCKNEY ST # 54	BOSTON MA	02114	112 PINCKNEY ST #54	BOSTON	02114

502499068	HAFLER JASON	HAFLER JASON	112 PINCKNEY ST #56A	BOSTON MA	02114	112 PINCKNEY ST #56A	BOSTON	02114
502501000	KLEIN ERNEST V	KLEIN ERNEST V	7 BRIMMER ST	BOSTON MA	02108	7 BRIMMER ST	BOSTON	02108
502502000	COMSTOCK HENRY W JR	COMSTOCK HENRY W JR	9 BRIMMER ST	BOSTON MA	02108	9 BRIMMER ST	BOSTON	02108
502503000	PANGARO GERALDINE F	PANGARO GERALDINE F	11 BRIMMER ST	BOSTON MA	02108	11 BRIMMER ST	BOSTON	02108
502504000	ADVENT SCHOOL CONDO TR	ADVENT SCHOOL CONDO TR	1517 BRIMMER ST	BOSTON MA	02114	15 17 BRIMMER ST	BOSTON	02108
502504002	ADVENT SCHOOL CORP	ADVENT SCHOOL CORP	15 BRIMMER ST #B	BOSTON MA	02114	15 BRIMMER ST	BOSTON	02108
502504004	ADVENT SCHOOL CORP	ADVENT SCHOOL CORP	15 BRIMMER ST #E	BOSTON MA	02114	15 BRIMMER ST	BOSTON	02108
502504006	ADVENT SCHOOL CORP	ADVENT SCHOOL CORP	15 BRIMMER ST #G	BOSTON MA	02114	15 BRIMMER ST	BOSTON	02108
502504014	ADVENT SCHOOL CORP	ADVENT SCHOOL CORP	17 BRIMMER ST #A	BOSTON MA	02114	17 BRIMMER ST	BOSTON	02108
502504016	ADVENT SCHOOL CORP	ADVENT SCHOOL CORP	17 BRIMMER ST #C	BOSTON MA	02114	17 BRIMMER ST	BOSTON	02108
502504018	ADVENT SCHOOL CORP	ADVENT SCHOOL CORP	17 BRIMMER ST #D	BOSTON MA	02114	17 BRIMMER ST	BOSTON	02108
502504020	ADVENT SCHOOL CORP	ADVENT SCHOOL CORP	17 BRIMMER ST #F	BOSTON MA	02114	17 BRIMMER ST	BOSTON	02108
502504022	ADVENT SCHOOL CORP	ADVENT SCHOOL CORP	17 BRIMMER ST #H	BOSTON MA	02114	17 BRIMMER ST	BOSTON	02108
502504026	ADVENT SCHOOL CORP	ADVENT SCHOOL CORP	17 BRIMMER ST	BOSTON MA	02108	17 BRIMMER ST	BOSTON	02108
502506000	NINETEEN BRIMMER STREET	NINETEEN BRIMMER STREET	19 BRIMMER	BOSTON MA	02108	19 BRIMMER ST	BOSTON	02108
502506002	BLUM JEFFREY A ETAL	BLUM JEFFREY A ETAL	19 BRIMMER ST #1	BOSTON MA	02108	19 BRIMMER ST #1	BOSTON	02108
502506004	BLUM KAREN M	BLUM KAREN M	19 BRIMMER ST #2	BOSTON MA	02108	19 BRIMMER ST #2	BOSTON	02108
502506006	GERALDINE H GREY TRUST	GERALDINE H GREY TRUST	19 BRIMMER ST #3	BOSTON MA	02108	19 BRIMMER ST #3	BOSTON	02108
502506008	COCKERILL ANDREW J	COCKERILL ANDREW J	19 BRIMMER ST #4	BOSTON MA	02108	19 BRIMMER ST #4	BOSTON	02108
502506010	CONVERSE BARBARA TS	CONVERSE BARBARA TS	19 BRIMMER ST #5	BOSTON MA	02108	19 BRIMMER ST #5	BOSTON	02108
502507000	ROBERT L BEAL 2007 TRUST	ROBERT L BEAL 2007 TRUST	177 MILK ST	BOSTON MA	02109	21 BRIMMER ST	BOSTON	02108
502508000	TWENTY 3 BRIMMER ST CONDO TR	TWENTY 3 BRIMMER ST CONDO TR	23 BRIMMER	BOSTON MA	02108	23 BRIMMER ST	BOSTON	02108
502508002	TILLINGHAST JOEL C	TILLINGHAST JOEL C	23 BRIMMER ST #1	BOSTON MA	02108	23 BRIMMER ST #1	BOSTON	02108
502508004	PIERCE RICHARD T	PIERCE RICHARD T	23 BRIMMER ST #2	BOSTON MA	02108	23 BRIMMER ST #2	BOSTON	02108
502508006	HENSEY KAREN	HENSEY KAREN	23 BRIMMER ST #3	BOSTON MA	02108	23 BRIMMER ST #3	BOSTON	02108
502508008	JULIA ELISABETH KRUPA	JULIA ELISABETH KRUPA	40 VIA ARMILLA	SAN CLEMENTE CA	92673	23 BRIMMER ST #4	BOSTON	02108
502508010	FRANKE BRIGITTE	FRANKE BRIGITTE	GROSS STR 2G	GOEPPINGEN GERV	73033	23 BRIMMER ST #5	BOSTON	02108
502509000	TWENTY 5 BRIMMER STREET	TWENTY 5 BRIMMER STREET	25 BRIMMER	BOSTON MA	02108	25 BRIMMER ST	BOSTON	02108
502509002	FINICANE ANN M	FINICANE ANN M	87 E BRIMFIELD-HOLLAND RD	BRIMFIELD MA	01010	25 BRIMMER ST #1	BOSTON	02108
502509004	LEE THEODORE ALLEN	LEE THEODORE ALLEN	25 BRIMMER ST #2	BOSTON MA	02108	25 BRIMMER ST #2	BOSTON	02108
502509006	FORTIER LAWRENCE J	FORTIER LAWRENCE J	78 INGHAM HILL ROAD	ESSEX CT	06426	25 BRIMMER ST #3	BOSTON	02108
502509008	NOETHER MONICA G TS	NOETHER MONICA G TS	25 BRIMMER ST #4	BOSTON MA	02108	25 BRIMMER ST #4	BOSTON	02108
502510000	TWENTY-7 BRIMMER STREET	TWENTY-7 BRIMMER STREET	27 BRIMMER ST	BOSTON MA	02108	27 BRIMMER ST	BOSTON	02108
502510002	BUTTERWORTH SUSAN A TS	BUTTERWORTH SUSAN A TS	27 BRIMMER ST # 1	BOSTON MA	02108	27 BRIMMER ST #1	BOSTON	02108

502510004	BUTTERWORTH SUSAN A TS	BUTTERWORTH SUSAN A TS	27 BRIMMER ST # 2	BOSTON MA	02108	27 BRIMMER ST #2	BOSTON	02108
502510006	JABRO DONALD	JABRO DONALD	27 BRIMMER ST # 3	BOSTON MA	02108	27 BRIMMER ST #3	BOSTON	02108
502511000	TWENTY 9-31 BRIMMER STREET	TWENTY 9-31 BRIMMER STREET	29 BRIMMER ST	BOSTON MA	02108	29 31 BRIMMER ST	BOSTON	02108
502511002	SMYTH ROBERT E	SMYTH ROBERT E	29 BRIMMER ST	BOSTON MA	02108	29 BRIMMER ST #29-1	BOSTON	02108
502511004	GORMAN LISA R TS	GORMAN LISA R TS	44 OCEAN DRIVE	SACO ME	04072	29 BRIMMER ST #29-2	BOSTON	02108
502511006	VALDMANIS WARREN GUNDARS	VALDMANIS WARREN GUNDARS	29 BRIMMER ST #3	BOSTON MA	02108	29 BRIMMER ST #29-3	BOSTON	02108
502511008	WHITTEN SIMON	WHITTEN SIMON	29 BRIMMER ST UNIT 4 AND UNI	BOSTON MA	02108	29 BRIMMER ST #4 & 5	BOSTON	02108
502511012	SHAPLAND PETER M	SHAPLAND PETER M	566 STRAWBERRY HILL RD	CONCORD MA	01742	31 BRIMMER ST #31-1	BOSTON	02108
502511014	ATKINSON TRACY A	ATKINSON TRACY A	31 BRIMMER ST	BOSTON MA	02108	31 BRIMMER ST #31-2	BOSTON	02108
502511016	MONTESI JOHN J TS	MONTESI JOHN J TS	12 WRIGHT RD BX 277 &	HILLIS NH	03049	31 BRIMMER ST #31-3	BOSTON	02108
502511018	VASILIOS S HASEOTES II	VASILIOS S HASEOTES II	400 COMMONWEALTH AVE	BOSTON MA	02215	31 BRIMMER ST #31-4	BOSTON	02108
502513000	THIRTY 3 BRIMMER ST CONDO TR	THIRTY 3 BRIMMER ST CONDO TR	33 BRIMMER ST	BOSTON MA	02114	33 BRIMMER ST	BOSTON	02108
502513002	HILLS GEOFFREY O	HILLS GEOFFREY O	214 WIANNO CI	OSTERVILLE MA	02655	33 BRIMMER ST #A	BOSTON	02108
502513004	TALL CAROLINE	TALL CAROLINE	33 BRIMMER ST #B	BOSTON MA	02108	33 BRIMMER ST #B	BOSTON	02108
502513006	BAIOCCO DANA	BAIOCCO DANA	204 2ND AV	WALTHAM MA	02451	33 BRIMMER ST #C	BOSTON	02108
502514000	PIERCE ROBERT W JR TS	PIERCE ROBERT W JR TS	35 BRIMMER ST	BOSTON MA	02108	35 BRIMMER ST	BOSTON	02108
502515000	THIRTY SEVEN BRIMMER ST	THIRTY SEVEN BRIMMER ST	37 BRIMMER	BOSTON MA	02108	37 BRIMMER ST	BOSTON	02108
502515002	GAO HAI	GAO HAI	37 BRIMMER ST #1	BOSTON MA	02114	37 BRIMMER ST #1	BOSTON	02114
502515004	WEINSTEIN SUZANNE R	WEINSTEIN SUZANNE R	138 CONANT ST STE 105	BEVERLY MA	01915	37 BRIMMER ST #2	BOSTON	02108
502515006	SAINT-DONAT-DE-MONTCALM LLC	SAINT-DONAT-DE-MONTCALM LLC	233 WEST INDIES DRIVE	PALM BEACH FL	33480	37 BRIMMER ST #3	BOSTON	02108
502516000	ROSENBLUM DAVID L	ROSENBLUM DAVID L	39 BRIMMER	BOSTON MA	02108	39 BRIMMER ST	BOSTON	02108
502517000	ONE SIXTY FIVE MT VERNON	ONE SIXTY FIVE MT VERNON	165 MOUNT VERNON	BOSTON MA	02108	165 MT VERNON ST	BOSTON	02108
502517001	CARLSON CLAIR A TS	CARLSON CLAIR A TS	199 WELLS AV STE 210	NEWTON MA	02459	165 MT VERNON ST #1	BOSTON	02108
502517004	CARLSON CLAIR A JR	CARLSON CLAIR A JR	199 WELLS AV STE 210	NEWTON MA	02459	165 MT VERNON ST #2	BOSTON	02108
502517006	DRAKE JUDITH A	DRAKE JUDITH A	165 MOUNT VERNON ST #3	BOSTON MA	02108	165 MT VERNON ST #3	BOSTON	02108
502517008	PRIESTLEY LEAH D	PRIESTLEY LEAH D	165A MOUNT VERNON ST #4	BOSTON MA	02108	165 MT VERNON ST #4	BOSTON	02108
502518000	MULLIN DANIEL A	MULLIN DANIEL A	1 OTIS PLACE	BOSTON MA	02108	1 OTIS PL	BOSTON	02108
502519000	TWO OTIS PL CONDO TR	TWO OTIS PL CONDO TR	1955 COMMONWEALTH AV #1	BRIGHTON MA	02135	2 OTIS PL	BOSTON	02108
502519004	CHUTE JAMES A TS	CHUTE JAMES A TS	PO BOX 381992	CAMBRIDGE MA	02238	2 OTIS PL #2	BOSTON	02108
502519010	RETALS LLC	RETALS LLC	1963 COMMONWEALTH AV SUIT	BRIGHTON MA	02135	2 OTIS PL #5	BOSTON	02108
502520000	ALFOND WILLIAM L	ALFOND WILLIAM L	14 OTIS PL	BOSTON MA	02108	14 OTIS PL	BOSTON	02108
502521000	CONTOS ANASTASIA	CONTOS ANASTASIA	12 OTIS PL	BOSTON MA	02108	12 OTIS PL	BOSTON	02108
502522000	GANICK SAUL S TRSTS	GANICK SAUL S TRSTS	78 CHARLES ST	BOSTON MA	02114	10 OTIS PL	BOSTON	02108
502522004	BORDE DOMINIQUE	BORDE DOMINIQUE	45 SCHOOL ST	BOSTON MA	02108	10 OTIS PL #2-A	BOSTON	02108



502522005	SCHMITT SHARON CONWAY	SCHMITT SHARON CONWAY	10 OTIS PL #2B	BOSTON MA	02108 10	OTIS PL #2-B	BOSTON	02108
502522006	JORDAN VERONICA G	JORDAN VERONICA G	10 OTIS PL #3A	BOSTON MA	02108 10	OTIS PL #3-A	BOSTON	02108
502522008	PHYLLIS J DAS REVOCABLE	PHYLLIS J DAS REVOCABLE	10 OTIS PLACE #4A	BOSTON MA	02108 10	OTIS PL #4-A	BOSTON	02108
502522009	TINKHAM WILLIAM K	TINKHAM WILLIAM K	10 OTIS PL #4B	BOSTON MA	02108 10	OTIS PL #4-B	BOSTON	02108
502522010	ROSS WARREN K JR	ROSS WARREN K JR	10 OTIS PL #5A	BOSTON MA	02108 10	OTIS PL #5-A	BOSTON	02108
502522011	JOHNSTON ANNE E	JOHNSTON ANNE E	10 OTIS PL #5B	BOSTON MA	02108 10	OTIS PL #5-B	BOSTON	02108
502522012	JACKIW ROMAN ETAL	JACKIW ROMAN ETAL	10 OTIS PLACE #6A	BOSTON MA	02108 10	OTIS PL #6-A	BOSTON	02108
502522013	BLOTNICK JUDITH LUSCHER	BLOTNICK JUDITH LUSCHER	10 OTIS PL #6-B	BOSTON MA	02108 10	OTIS PL #6-B	BOSTON	02108
502523000	FLAHERTY TRACEY E TS	FLAHERTY TRACEY E TS	8 OTIS PL	BOSTON MA	02108 8	OTIS PL	BOSTON	02108
502524000	SEVEN OTIS PLACE CONDOMINIUM	SEVEN OTIS PLACE CONDOMINIUM	7 OTIS PL	BOSTON MA	02108 7	OTIS PL	BOSTON	02108
502524002	ATKINS CHARLES M	ATKINS CHARLES M	300 HOT SPRINGS RD #J199	MONTECITO CA	93108 7	OTIS PL #1	BOSTON	02108
502524004	ATKINS CHARLES M	ATKINS CHARLES M	7 OTIS PL #2	BOSTON MA	02108 7	OTIS PL #2	BOSTON	02108
502524010	MONTAG J LEE	MONTAG J LEE	7 OTIS PL #3	BOSTON MA	02108 7	OTIS PL #3	BOSTON	02108
502525000	DUNCAN EDGAR M TS	DUNCAN EDGAR M TS	6 OTIS PL #6	BOSTON MA	02108 6	OTIS PL	BOSTON	02108
502526000	FIVE OTIS PLACE CONDO TR	FIVE OTIS PLACE CONDO TR	52 BEACON ST	BOSTON MA	02108 5	OTIS PL	BOSTON	02108
502526002	BONNER KATHLEEN	BONNER KATHLEEN	5 OTIS PL #G	BOSTON MA	02108 5	OTIS PL #G	BOSTON	02108
502526004	CARROLL JOAN O'D TS	CARROLL JOAN O'D TS	5 OTIS PL #1	BOSTON MA	02108 5	OTIS PL #1	BOSTON	02108
502526006	KAPREILIAN SAMUEL III	KAPREILIAN SAMUEL III	5 OTIS PL #2	BOSTON MA	02108 5	OTIS PL #2	BOSTON	02108
502526008	MAYO-SMITH NANCY FOX	MAYO-SMITH NANCY FOX	50 CONGRESS ST SUITE 900	BOSTON MA	02109 5	OTIS PL #3	BOSTON	02108
502527000	CHODES FAMILY REALTY TRUST	CHODES FAMILY REALTY TRUST	267 COMMONWEALTH AV STE A	BOSTON MA	02116 4	OTIS PL	BOSTON	02108
502528000	DUMBAUGH CHARLES C TS	DUMBAUGH CHARLES C TS	5 ACORN ST	BOSTON MA	02108 49	BRIMMER ST	BOSTON	02108
502529000	55-57 BRIMMER STREET REAL	55-57 BRIMMER STREET REAL	30 ELM STREET #1	CHARLESTOWN MA	02129 55 57	BRIMMER ST	BOSTON	02108
502530000	BOGAN THOMAS R	BOGAN THOMAS R	95 CHESTNUT ST	BOSTON MA	02108 93 95	CHESTNUT ST	BOSTON	02108
502531000	CONDIT SEARS B	CONDIT SEARS B	3 CENTENNIAL DR	PEABODY MA	01960 97	CHESTNUT ST	BOSTON	02108
502532000	ONE HUNDRED ONE CHESTNUT	ONE HUNDRED ONE CHESTNUT	311 SUMMER ST SUITE #200	BOSTON MA	02210 101	CHESTNUT ST	BOSTON	02108
502532001	ONE 07 CHESTNUT CONDO TR	ONE 07 CHESTNUT CONDO TR	107 CHESTNUT	BOSTON MA	02108 107	CHESTNUT ST	BOSTON	02108
502532012	FABBRI GIAN	FABBRI GIAN	107 CHESTNUT ST #1	BOSTON MA	02108 107	CHESTNUT ST #1	BOSTON	02108
502532014	CHESTNUT NOMINEE TRUST	CHESTNUT NOMINEE TRUST	10 CHARLES RIVER SQ	BOSTON MA	02114 107	CHESTNUT ST #2	BOSTON	02108
502532016	SCUDDER DAVID W TS	SCUDDER DAVID W TS	107 CHESTNUT ST #3	BOSTON MA	02108 107	CHESTNUT ST #3	BOSTON	02108
502532018	STREET OSWALD C IV	STREET OSWALD C IV	107 CHESTNUT ST #4	BOSTON MA	02108 107	CHESTNUT ST #4	BOSTON	02108
502532020	ONE 07 CHESTNUT ST LLC	ONE 07 CHESTNUT ST LLC	109 CHESTNUT ST #5	BOSTON MA	02108 107	CHESTNUT ST #5	BOSTON	02108
502533000	ONE HUNDRED NINE CHESTNUT ST	ONE HUNDRED NINE CHESTNUT ST	109 CHESTNUT	BOSTON MA	02108 109	CHESTNUT ST	BOSTON	02108
502533003	HARRISS PAUL G	HARRISS PAUL G	247 ASHLAND RD	HUNT VLY MD	21030 109	CHESTNUT ST #1	BOSTON	02108
502533005	QUINT SCOTT B	QUINT SCOTT B	761 SO ARTERY	QUINCY MA	02169 109	CHESTNUT ST #2	BOSTON	02108

502533007	JACOBS JUDSON L	JACOBS JUDSON L	109 CHESTNUT ST #3	BOSTON MA	02108	109 CHESTNUT ST #3	BOSTON	02108
502533009	JOHN CHRISTIAN HESSLER	JOHN CHRISTIAN HESSLER	PO BOX 10485	JACKSON WY	83001	109 CHESTNUT ST #4	BOSTON	02108
502533011	ONE-07 CHESTNUT STREET LLC	ONE-07 CHESTNUT STREET LLC	109 CHESTNUT ST #5	BOSTON MA	02108	109 CHESTNUT ST #5	BOSTON	02108
502534000	COOLIDGE LAWRENCE TRSTS	COOLIDGE LAWRENCE TRSTS	144 CHESTNUT ST	BOSTON MA	02108	144 CHESTNUT ST	BOSTON	02108
502535000	CHESTNUT PLACE CONDO TR	CHESTNUT PLACE CONDO TR	142 CHESTNUT	BOSTON MA	02108	142 CHESTNUT ST	BOSTON	02108
502535002	SAX LAURENCE	SAX LAURENCE	142 CHESTNUT ST #1	BOSTON MA	02108	142 CHESTNUT ST #1	BOSTON	02108
502535004	KORTHALS CHARLES ALAN	KORTHALS CHARLES ALAN	142 CHESTNUT ST #2	BOSTON MA	02108	142 CHESTNUT ST #2	BOSTON	02108
502535006	LEE HENRY	LEE HENRY	230 CONGRESS ST	BOSTON MA	02110	142 CHESTNUT ST #3	BOSTON	02108
502535008	HALEY MICHAEL J	HALEY MICHAEL J	142 CHESTNUT ST #4	BOSTON MA	02108	142 CHESTNUT ST #4	BOSTON	02108
502535010	HALEY MICHAEL J	HALEY MICHAEL J	142 CHESTNUT ST #5	BOSTON MA	02108	142 CHESTNUT ST #5	BOSTON	02108
502535012	CHANG LIN-TI	CHANG LIN-TI	54 BOW RD	NEWTON MA	02459	142 CHESTNUT ST #6	BOSTON	02108
502535015	WHEELER D BRUCE TS	WHEELER D BRUCE TS	142 CHESTNUT ST #7/8/9	BOSTON MA	02108	142 CHESTNUT ST #7/8/9	BOSTON	02108
502535020	RAISH DAVID L	RAISH DAVID L	142 CHESTNUT ST #10	BOSTON MA	02108	142 CHESTNUT ST #10	BOSTON	02108
502535022	LADAKH REALTY LLC	LADAKH REALTY LLC	PO BOX 290756	CHARLESTOWN MA	02129	142 CHESTNUT ST #11	BOSTON	02108
502536000	WISNESKI FRANK V TS	WISNESKI FRANK V TS	134 CHESTNUT ST	BOSTON MA	02108	134 CHESTNUT ST	BOSTON	02108
502537000	132 CHESTNUT STREET REALTY	132 CHESTNUT STREET REALTY	132 CHESTNUT ST	BOSTON MA	02108	132 CHESTNUT ST	BOSTON	02108
502538000	SZKUTAK THOMAS J	SZKUTAK THOMAS J	130 CHESTNUT ST	BOSTON MA	02108	130 CHESTNUT ST	BOSTON	02108
502539000	GLASSER AIDA C	GLASSER AIDA C	151 TREMONT ST PH	BOSTON MA	02111	128 CHESTNUT ST	BOSTON	02108
502540000	STRATOULY DEAN F	STRATOULY DEAN F	33 ARCH ST STE #1100	BOSTON MA	02110	124 CHESTNUT ST	BOSTON	02108
502541000	PARK STREET KIDS INC	PARK STREET KIDS INC	ONE PARK ST	BOSTON MA	02108	122 118 CHESTNUT ST	BOSTON	02108
502542010	DAT RESIDENTIAL REALTY	DAT RESIDENTIAL REALTY	220 BOYLSTON ST #1110	BOSTON MA	02116	7 BEAVER PL	BOSTON	02108
502542050	SCOTT MARGARET ANN TS	SCOTT MARGARET ANN TS	11 BEAVER PL	BOSTON MA	02108	11 BEAVER PL	BOSTON	02108
502543010	MEWS ON BEAVER PL CONDO TR	MEWS ON BEAVER PL CONDO TR	15 BEAVER PL	BOSTON MA	02108	15 -25 BEAVER PL	BOSTON	02108
502543012	BROSTOWSKI MARIBETH P	BROSTOWSKI MARIBETH P	15 BEAVER PL # 15	BOSTON MA	02108	15 -25 BEAVER PL #15	BOSTON	02108
502543014	MEWS NOMINEE TRUST	MEWS NOMINEE TRUST	PO BOX 290756	CHARLESTOWN MA	02129	15 -25 BEAVER PL #21	BOSTON	02108
502543016	JONAS STEPHEN P	JONAS STEPHEN P	25 BEAVER PL # 23	BOSTON MA	02108	15 -25 BEAVER PL #25	BOSTON	02108
502544001	MICALI LISA K TS	MICALI LISA K TS	27 BEAVER PLACE	BOSTON MA	02108	27 29 BEAVER PL	BOSTON	02108
502546000	VERROCHI PAUL	VERROCHI PAUL	625 MAIN ST	MILLIS MA	02054	31 35 BEAVER PL	BOSTON	02108
502547000	NINETY-6 BEACON ST CONDO TR	NINETY-6 BEACON ST CONDO TR	6 WALNUT ST STE # 1	BOSTON MA	02108	37 41 BEAVER PL	BOSTON	02108
502547002	SPOONDRIFT CAPITAL TWO LLC	SPOONDRIFT CAPITAL TWO LLC	96 BEACON ST #2	BOSTON MA	02108	37 41 BEAVER PL #BP-1	BOSTON	02108
502547004	DOMOLKY GEORGE	DOMOLKY GEORGE	37 BEAVER PL BP-2	BOSTON MA	02108	37 41 BEAVER PL #BP-2	BOSTON	02108
502550000	EIGHTY 7 BEACON ST CONDO TR	EIGHTY 7 BEACON ST CONDO TR	87 BEACON	BOSTON MA	02108	87 BEACON ST	BOSTON	02108
502550002	CAHILL ELLEN M	CAHILL ELLEN M	87 BEACON ST #G-1	BOSTON MA	02108	87 BEACON ST #G-1	BOSTON	02108
502550004	STEEN JAMES F	STEEN JAMES F	87 BEACON ST #1	BOSTON MA	02108	87 BEACON ST #1	BOSTON	02108

502550008	MANIACE H RICHARD JR	MANIACE H RICHARD JR	87 BEACON ST #2F	BOSTON MA	02108	87 BEACON ST #2-F	BOSTON	02108
502550010	MANIACE H RICHARD JR	MANIACE H RICHARD JR	87 BEACON ST #2R	BOSTON MA	02108	87 BEACON ST #2-R	BOSTON	02108
502550012	GERRISH MERRILY S	GERRISH MERRILY S	87 BEACON ST #3-F	BOSTON MA	02108	87 BEACON ST #3-F	BOSTON	02108
502550014	MANIACE H RICHARD JR	MANIACE H RICHARD JR	348 CONGRESS PL	PASADENA CA	91105	87 BEACON ST #3-R	BOSTON	02108
502550016	BARRY JOHN P	BARRY JOHN P	87 BEACON ST	BOSTON MA	02108	87 BEACON ST #4	BOSTON	02108
502551000	EIGHTY 8 BEACON ST CONDO TR	EIGHTY 8 BEACON ST CONDO TR	88 BEACON	BOSTON MA	02108	88 BEACON ST	BOSTON	02108
502551002	CAMPBELL STEPHEN P	CAMPBELL STEPHEN P	60 SALISBURY ST 1	WINCHESTER MA	01890	88 BEACON ST #1	BOSTON	02108
502551004	88 BEACON STREET LLC	88 BEACON STREET LLC	320 SCANTIC RD	HAMPDEN MA	01036	88 BEACON ST #2	BOSTON	02108
502551006	BARBERICH TIMOTHY J	BARBERICH TIMOTHY J	88 BEACON ST #3	BOSTON MA	02108	88 BEACON ST #3	BOSTON	02108
502551008	DIVNEY KEVIN M	DIVNEY KEVIN M	139A CHARLES ST #295	BOSTON MA	02114	88 BEACON ST #4	BOSTON	02108
502551010	DIVNEY KEVIN M TS	DIVNEY KEVIN M TS	139A CHARLES ST	BOSTON MA	02114	88 BEACON ST #5	BOSTON	02108
502552000	89 BEACON STREET LLC	89 BEACON STREET LLC	ONE FEDERAL ST	BOSTON MA	02110	89 BEACON ST	BOSTON	02108
502553000	NINETY BEACON ST CONDO ASSN	NINETY BEACON ST CONDO ASSN	90 BEACON	BOSTON MA	02108	90 BEACON ST	BOSTON	02108
502553002	POPPLER MEREDITH	POPPLER MEREDITH	31 EDWARD DR	WINCHESTER MA	01890	90 BEACON ST #1	BOSTON	02108
502553004	MARSTON GARTH ETAL	MARSTON GARTH ETAL	90 BEACON ST #2	BOSTON MA	02108	90 BEACON ST #2	BOSTON	02108
502553006	GARVEY MARCIA S	GARVEY MARCIA S	90 BEACON ST # 3	BOSTON MA	02108	90 BEACON ST #3	BOSTON	02108
502553008	GARVEY MARCIA S	GARVEY MARCIA S	90 BEACON ST #4	BOSTON MA	02108	90 BEACON ST #4	BOSTON	02108
502553010	WARREN JAMES M	WARREN JAMES M	16530 VENTURA BLVD. SUITE 3	ENCINO CA	91436	90 BEACON ST #5	BOSTON	02108
502553012	RANKIN DEAN M	RANKIN DEAN M	90 BEACON ST #6	BOSTON MA	02108	90 BEACON ST #6	BOSTON	02108
502553014	NORMAN SUZANNE ELIZABETH	NORMAN SUZANNE ELIZABETH	90 BEACON ST #7	BOSTON MA	02108	90 BEACON ST #7	BOSTON	02108
502554000	NINTY ONE BEACON ST CONDO TR	NINTY ONE BEACON ST CONDO TR	267 COMMONWEALTH AVE STE /	BOSTON MA	02116	91 BEACON ST	BOSTON	02108
502554002	HARTWELL JOHN R	HARTWELL JOHN R	91 BEACON ST #1	BOSTON MA	02108	91 BEACON ST #1	BOSTON	02108
502554004	BENNETT ROBERT P	BENNETT ROBERT P	91 BEACON ST #2	BOSTON MA	02108	91 BEACON ST #2	BOSTON	02108
502554006	ALBRIGHT RICHARD C JR	ALBRIGHT RICHARD C JR	91 BEACON ST #3	BOSTON MA	02108	91 BEACON ST #3	BOSTON	02108
502555000	DEUTSCH MARGARET CARDWELL	DEUTSCH MARGARET CARDWELL	PO BOX 324	BOSTON MA	02114	2 BEAVER ST	BOSTON	02108
502556000	VINCENT CLUB THE	VINCENT CLUB THE	71 BRIMMER	BOSTON MA	02108	71 BRIMMER ST	BOSTON	02108
502557000	92 BEACON STREET CONDOMINIUM	92 BEACON STREET CONDOMINIUM	92 BEACON ST	BOSTON MA	02108	92 BEACON ST	BOSTON	02108
502557002	GLEESON RICHARD W ETAL	GLEESON RICHARD W ETAL	31 LIME ST	BOSTON MA	02108	92 BEACON ST #G-1	BOSTON	02108
502557006	PEDERCINI MATTEO	PEDERCINI MATTEO	78 CHARLES ST	BOSTON MA	02114	92 BEACON ST #1	BOSTON	02108
502557008	JEN PROPERTIES LTD	JEN PROPERTIES LTD	234 FISHER AV	BROOKLINE MA	02445	92 BEACON ST #2	BOSTON	02108
502557010	DODD MICHAEL J	DODD MICHAEL J	681 SOUTH ST	NEEDHAM MA	02492	92 BEACON ST #3	BOSTON	02108
502557012	DEMOS DANIELLE T	DEMOS DANIELLE T	92 BEACON ST #4	BOSTON MA	02108	92 BEACON ST #4	BOSTON	02108
502557014	JEN PROPERTIES LTD	JEN PROPERTIES LTD	234 FISHER AV	BROOKLINE MA	02445	92 BEACON ST #21	BOSTON	02108
502557016	DINEEN JOHN K TRSTS	DINEEN JOHN K TRSTS	92 BEACON ST #23	BOSTON MA	02108	92 BEACON ST #22	BOSTON	02108

502557018	GRIP LAURA	GRIP LAURA	92 BEACON ST #23	BOSTON MA	02108	92 BEACON ST #23	BOSTON	02108
502557020	HAUSER JOHN R	HAUSER JOHN R	24 PEACOCK FARM RD	LEXINGTON MA	02421	92 BEACON ST #24	BOSTON	02108
502557022	SS HOLDINGS LLC	SS HOLDINGS LLC	29A CHESTNUT ST	BOSTON MA	02108	92 BEACON ST #31	BOSTON	02108
502557024	92 BEACON STREET LLC	92 BEACON STREET LLC	5199 STABLEGATE LANE	HOLLYWOOD SC	29445	92 BEACON ST #32	BOSTON	02108
502557026	SAHLER AMY F	SAHLER AMY F	92 BEACON ST #33	BOSTON MA	02108	92 BEACON ST #33	BOSTON	02108
502557028	SHINA DANIEL	SHINA DANIEL	92 BEACON ST # 34	BOSTON MA	02108	92 BEACON ST #34	BOSTON	02108
502557032	CULHANE AMANDA	CULHANE AMANDA	2859 PACES FERRY RD SE STE 1	ATLANTA GEORGIA	30339	92 BEACON ST #42	BOSTON	02108
502557034	SHINA DANIEL E	SHINA DANIEL E	92 BEACON ST #43	BOSTON MA	02108	92 BEACON ST #43	BOSTON	02108
502557038	CURATOLO PAOLO	CURATOLO PAOLO	78 CHARLES ST	BOSTON MA	02114	92 BEACON ST #51	BOSTON	02108
502557042	BUTTERFIELD SUSAN	BUTTERFIELD SUSAN	92 BEACON ST #53	BOSTON MA	02108	92 BEACON ST #53	BOSTON	02108
502557044	HUBER THOMAS PATRICK	HUBER THOMAS PATRICK	1626 PIERCE ST #105	SAN FRANCISCO CA	94115	92 BEACON ST #54	BOSTON	02108
502558000	93 BEACON STREET LLC	93 BEACON STREET LLC	14 GREENWOOD ST	NEWTON MA	02459	93 BEACON ST	BOSTON	02108
502559000	NINTY FOUR BEACON STREET	NINTY FOUR BEACON STREET	94 BEACON	BOSTON MA	02108	94 BEACON ST	BOSTON	02108
502559002	BACON ADELAIDE S	BACON ADELAIDE S	94 BEACON ST #1	BOSTON MA	02108	94 BEACON ST #1	BOSTON	02108
502559004	LEIGHTON ILANA H	LEIGHTON ILANA H	94 BEACON ST #2	BOSTON MA	02108	94 BEACON ST #2	BOSTON	02108
502559006	DUFFY FRANCIS JAMES	DUFFY FRANCIS JAMES	94 BEACON ST #3	BOSTON MA	02108	94 BEACON ST #3	BOSTON	02108
502559008	RONTHAL BERENICE	RONTHAL BERENICE	94 BEACON ST #4	BOSTON MA	02108	94 BEACON ST #4	BOSTON	02108
502559010	LACK MARJORIE T	LACK MARJORIE T	45 SCHOOL ST	BOSTON MA	02108	94 BEACON ST #5	BOSTON	02108
502560000	NINTY FIVE BEACON	NINTY FIVE BEACON	95 BEACON	BOSTON MA	02108	95 BEACON ST	BOSTON	02108
502560002	COHEN JOSHUA P	COHEN JOSHUA P	95 BEACON ST #1	BOSTON MA	02108	95 BEACON ST #1	BOSTON	02108
502560004	ELLIOTT THOMAS E	ELLIOTT THOMAS E	95 BEACON ST #2	BOSTON MA	02114	95 BEACON ST #2	BOSTON	02108
502560006	ROCKWELL DONALD	ROCKWELL DONALD	PO BOX 1113	JACKSON WY	83001	95 BEACON ST #3	BOSTON	02108
502560008	PRICE IRENE TS	PRICE IRENE TS	PO BOX 990	WEST TISBURY MA	02575	95 BEACON ST #4	BOSTON	02108
502560010	LANNING RONALD D	LANNING RONALD D	95 BEACON ST UNIT 5	BOSTON MA	02108	95 BEACON ST #5	BOSTON	02108
502560012	CLIFFORD MAYLEE	CLIFFORD MAYLEE	95 BEACON ST #6	BOSTON MA	02108	95 BEACON ST #6	BOSTON	02108
502560016	BEACON 95 REALTY TRUST	BEACON 95 REALTY TRUST	95 BEACON ST #8	BOSTON MA	02108	95 BEACON ST #8	BOSTON	02108
502560018	SOOHOO LINDA	SOOHOO LINDA	95 BEACON ST #9	BOSTON MA	02108	95 BEACON ST #9	BOSTON	02108
502560020	LAURITO ERIKA	LAURITO ERIKA	95 BEACON ST #10	BOSTON MA	02108	95 BEACON ST #10	BOSTON	02108
502560022	NEWTON DAVID L	NEWTON DAVID L	PO BOX 922	FALMOUTH MA	02541	95 BEACON ST #11	BOSTON	02108
502560024	HUA HSIAOPING	HUA HSIAOPING	235 BELMONTE RD	WEST PALM BEACH	33405	95 BEACON ST #12	BOSTON	02108
502561002	REED CYNTHIA TS	REED CYNTHIA TS	PO BOX 1390	NEW YORK NY	10150	96 BEACON ST #1	BOSTON	02108
502561004	DOMOLKY GEORGE C	DOMOLKY GEORGE C	96 BEACON ST # 2	BOSTON MA	02108	96 BEACON ST #2	BOSTON	02108
502561006	REED CYNTHIA	REED CYNTHIA	PO BOX 1390	NEW YORK NY	10150	96 BEACON ST #3	BOSTON	02108
502561008	FREED JARED D ESQ	FREED JARED D ESQ	ONE INTERNATIONAL PL 18TH FL	BOSTON MA	02110	96 BEACON ST #PH	BOSTON	02108

502565000	COMMWLTH OF MASS	COMMWLTH OF MASS	EMBANKMENT RD	BOSTON MA	02108	BACK ST	BOSTON	02108
502566000	ONE HUNDRED BEACON ST CONDO	ONE HUNDRED BEACON ST CONDC	561 WESTCHESTER AVE	RYE BROOK NY	10573	100 BEACON ST	BOSTON	02116
502566002	LONGTAIL HOLDINGS LLC	LONGTAIL HOLDINGS LLC	PO BOX 601	WALDOBORO ME	04572	100 BEACON ST #1A	BOSTON	02116
502566004	ZUKER JUDI ROSS	ZUKER JUDI ROSS	PO BOX 600157	NEWTON MA	02460	100 BEACON ST #1B	BOSTON	02116
502566006	UNIT 1-C REALTY NOMINEE	UNIT 1-C REALTY NOMINEE	300 INDEPENDENCE DRIVE	CHESTNUT HILL MA	02467	100 BEACON ST #1C	BOSTON	02116
502566008	UNIT 2A BEACON STREET 100	UNIT 2A BEACON STREET 100	100 BEACON ST #2A	BOSTON MA	02116	100 BEACON ST #2A	BOSTON	02116
502566010	UNIT 2A BEACON STREET 100	UNIT 2A BEACON STREET 100	100 BEACON ST #2B	BOSTON MA	02116	100 BEACON ST #2B	BOSTON	02116
502566012	GLIMCHER LAURIE H	GLIMCHER LAURIE H	100 BEACON ST #3A	BOSTON MA	02116	100 BEACON ST #3A	BOSTON	02116
502566014	KLOCK BRIAN P	KLOCK BRIAN P	100 BEACON ST #3B	BOSTON MA	02116	100 BEACON ST #3B	BOSTON	02116
502566016	OON TIAN STAFFORD REVOCABLE	OON TIAN STAFFORD REVOCABLE	100 BEACON ST UNIT 4A	BOSTON MA	02116	100 BEACON ST #4A	BOSTON	02116
502566018	FAUSTMAN DENISE L	FAUSTMAN DENISE L	100 BEACON ST 4B	BOSTON MA	02116	100 BEACON ST #4B	BOSTON	02116
502566020	PATRONE MARY JANE	PATRONE MARY JANE	100 BEACON ST #5A	BOSTON MA	02116	100 BEACON ST #5A	BOSTON	02116
502566022	PLOUSSIOS GEORGE	PLOUSSIOS GEORGE	100 BEACON ST #5-B	BOSTON MA	02116	100 BEACON ST #5B	BOSTON	02116
502566024	REEVES DOUGLAS B	REEVES DOUGLAS B	100 BEACON ST #6	BOSTON MA	02116	100 BEACON ST #6	BOSTON	02116
502566028	ZUKER EDWARD E	ZUKER EDWARD E	100 BEACON ST #8	BOSTON MA	02116	100 BEACON ST #8	BOSTON	02116
502566032	MCCOY JACQUELINE R	MCCOY JACQUELINE R	100 BEACON ST #PH-B	BOSTON MA	02116	100 BEACON ST #PHB	BOSTON	02116
502566040	LONGTAIL HOLDINGS LLC	LONGTAIL HOLDINGS LLC	P O BOX 601	WALDOBORO ME	04572	100 BEACON ST	BOSTON	02116
502566044	MCCOY JACQUELINE R TS	MCCOY JACQUELINE R TS	100 BEACON ST #9B	BOSTON MA	02116	100 BEACON ST	BOSTON	02116
502566048	UNIT 1-C REALTY NOMINEE	UNIT 1-C REALTY NOMINEE	100 BEACON ST UNIT 8	BOSTON MA	02116	100 BEACON ST	BOSTON	02116
502566054	OON TIAN STAFFORD REVOCABLE	OON TIAN STAFFORD REVOCABLE	100 BEACON ST #4A	BOSTON MA	02116	100 BEACON ST	BOSTON	02116
502566064	MCCARTHY JEFFREY P	MCCARTHY JEFFREY P	12 CARLEON AV	LARCHMONT NY	10538	100 BEACON ST	BOSTON	02116
502566066	FAUSTMAN DENISE L	FAUSTMAN DENISE L	100 BEACON ST #4B	BOSTON MA	02116	100 BEACON ST	BOSTON	02116
502566068	PATRONE MARY JANE	PATRONE MARY JANE	100 BEACON STREET UNIT 5A	BOSTON MA	02116	100 BEACON ST	BOSTON	02116
502566070	100 BEACON STREET	100 BEACON STREET	4 BUNKER HILL INDUSTRIAL PK	BOSTON MA	02129	100 BEACON ST	BOSTON	02116
502567000	FISHER JUNIOR COLLEGE	FISHER JUNIOR COLLEGE	102 BEACON	BOSTON MA	02116	102 100 BEACON ST	BOSTON	02116
502568000	FISHER JUNIOR COLLEGE	FISHER JUNIOR COLLEGE	104 BEACON	BOSTON MA	02116	104 BEACON ST	BOSTON	02116
502569000	FISHER JUNIOR COLLEGE	FISHER JUNIOR COLLEGE	106 BEACON	BOSTON MA	02116	106 BEACON ST	BOSTON	02116
502570000	FISHER JUNIOR COLLEGE	FISHER JUNIOR COLLEGE	108 BEACON	BOSTON MA	02116	108 BEACON ST	BOSTON	02116
502571000	FISHER SCHOOL	FISHER SCHOOL	112 BEACON	BOSTON MA	02116	112 BEACON ST	BOSTON	02116
502572000	FISHER SCHOOL THE	FISHER SCHOOL THE	114 BEACON	BOSTON MA	02116	114 BEACON ST	BOSTON	02116
502573000	FISHER JUNIOR COLLEGE	FISHER JUNIOR COLLEGE	116 BEACON	BOSTON MA	02116	116 BEACON ST	BOSTON	02116
502574001	FISHER SCHOOL	FISHER SCHOOL	118 BEACON ST	BOSTON MA	02116	118 BEACON ST	BOSTON	02116
502575000	ONE-20 BEACON ST CONDO TR	ONE-20 BEACON ST CONDO TR	120 BEACON ST	BOSTON MA	02116	120 BEACON ST	BOSTON	02116
502575002	KILLEEN VINCENT B	KILLEEN VINCENT B	58 ROSE ST	SMITHTOWN NY	11787	120 BEACON ST #1A	BOSTON	02116

502575004	CICCHETTI CLAUDE TS	CICCHETTI CLAUDE TS	994 OLD RD	CONCORD MA	01742	120	BEACON ST #1B	BOSTON	02116
502575006	OHARA ANN	OHARA ANN	120 BEACON ST #2	BOSTON MA	02116	120	BEACON ST #2	BOSTON	02116
502575008	DIMONDA RAN KIM	DIMONDA RAN KIM	120 BEACON ST #3	BOSTON MA	02116	120	BEACON ST #3	BOSTON	02116
502575010	WEINGARTEN SUSAN SCHRINER	WEINGARTEN SUSAN SCHRINER	120 BEACON ST #4	BOSTON MA	02116	120	BEACON ST #4	BOSTON	02116
502575012	SHEPHERD JONATHAN C	SHEPHERD JONATHAN C	120 BEACON ST #5	BOSTON MA	02116	120	BEACON ST #5	BOSTON	02116
502575014	SMITH VICKI C TS	SMITH VICKI C TS	120 BEACON ST #6	BOSTON MA	02116	120	BEACON ST #6	BOSTON	02116
502575016	YOUNG STEPHEN S	YOUNG STEPHEN S	120 BEACON ST #7	BOSTON MA	02116	120	BEACON ST #7	BOSTON	02116
502575018	DIMONDA RAN K	DIMONDA RAN K	18 RICHIE ROAD	QUINCY MA	02169	120	BEACON ST	BOSTON	02116
502575020	YOUNG STEPHEN S	YOUNG STEPHEN S	120 BEACON ST #7	BOSTON MA	02116	120	BEACON ST	BOSTON	02116
502575022	SHEPHERD JONATHAN C	SHEPHERD JONATHAN C	120 BEACON ST #5	BOSTON MA	02116	120	BEACON ST	BOSTON	02116
502575024	SHEPHERD JONATHAN C	SHEPHERD JONATHAN C	120 BEACON ST #5	BOSTON MA	02116	120	BEACON ST	BOSTON	02116
502575026	SMITH VICKI C	SMITH VICKI C	120 BEACON ST #6	BOSTON MA	02116	120	BEACON ST	BOSTON	02116
502576000	ONE 22 BEACON ST CONDO TRUST	ONE 22 BEACON ST CONDO TRUST	122 BEACON	BOSTON MA	02116	122	BEACON ST	BOSTON	02116
502576002	SHERIN PETER M ETAL	SHERIN PETER M ETAL	122 BEACON ST #1	BOSTON MA	02116	122	BEACON ST #1	BOSTON	02116
502576004	KIM HYEWON	KIM HYEWON	122 BEACON ST UNIT 2	BOSTON MA	02116	122	BEACON ST #2	BOSTON	02116
502576006	SHERIN PETER M ETAL	SHERIN PETER M ETAL	122 BEACON ST #3	BOSTON MA	02116	122	BEACON ST #3	BOSTON	02116
502576008	SHERIN PETER M ETAL	SHERIN PETER M ETAL	122 BEACON ST #4	BOSTON MA	02116	122	BEACON ST #4	BOSTON	02116
502576010	REICHLER RALPH L	REICHLER RALPH L	122 BEACON ST #5	BOSTON MA	02116	122	BEACON ST #5	BOSTON	02116
502576012	MORGAN LINDA S TS	MORGAN LINDA S TS	122 BEACON ST #6	BOSTON MA	02116	122	BEACON ST #6	BOSTON	02116
502576014	PAMELA A LEES REVOCABLE	PAMELA A LEES REVOCABLE	19 NEDS POINT RD	MATTAPOISETT MA	02739	122	BEACON ST #7	BOSTON	02116
502577000	ONE 24 BEACON ST CONDO ASSOC	ONE 24 BEACON ST CONDO ASSOC	29 NEWBURY ST STE 301	BOSTON MA	02116	124	BEACON ST	BOSTON	02116
502577026	LOEB JASON	LOEB JASON	124 BEACON ST #GF	BOSTON MA	02116	124	BEACON ST #GF	BOSTON	02116
502577028	CHARLETON LAURIE ONEGLIA TS	CHARLETON LAURIE ONEGLIA TS	124 BEACON ST #GR	BOSTON MA	02116	124	BEACON ST #GR	BOSTON	02116
502577030	KEHOE ELIZABETH	KEHOE ELIZABETH	124 BEACON ST #1F	BOSTON MA	02116	124	BEACON ST #1F	BOSTON	02116
502577032	MAZER ALLISON	MAZER ALLISON	124 BEACON ST #1R	BOSTON MA	02116	124	BEACON ST #1R	BOSTON	02116
502577034	ALENA REALTY TRUST	ALENA REALTY TRUST	1 RICHARD RD	MARBLEHEAD MA	01945	124	BEACON ST #3F	BOSTON	02116
502577036	CATTINI MARK	CATTINI MARK	24 WARREN ST	BROOKLINE MA	02445	124	BEACON ST #3R	BOSTON	02116
502577038	CHARCHAFLIAN PAUL	CHARCHAFLIAN PAUL	124 BEACON ST #5F	BOSTON MA	02116	124	BEACON ST #5F	BOSTON	02116
502577040	AQUA PROPERTIES LLC	AQUA PROPERTIES LLC	124 BEACON ST #5-R	BOSTON MA	02116	124	BEACON ST #5R	BOSTON	02116
502577042	SHAPIRO JANICE	SHAPIRO JANICE	124 BEACON ST # 6F	BOSTON MA	02116	124	BEACON ST #6F	BOSTON	02116
502577044	THOMAS MELISSA	THOMAS MELISSA	124 BEACON ST #6R	BOSTON MA	02116	124	BEACON ST #6R	BOSTON	02116
502577046	BRIEGER HEIDI E	BRIEGER HEIDI E	1577 BEACON ST	BROOKLINE MA	02446	124	BEACON ST #PHF	BOSTON	02116
502577048	MASOUD MOHAMED I	MASOUD MOHAMED I	124 BEACON ST #PHR	BOSTON MA	02116	124	BEACON ST #PHR	BOSTON	02116
502577050	SIX ARLINGTON STREET NOMINEE	SIX ARLINGTON STREET NOMINEE	6 ARLINGTON ST #4	BOSTON MA	02116	124	BEACON ST	BOSTON	02116

502577052	OSHEA WILLIAM JAMES	OSHEA WILLIAM JAMES	6 ARLINGTON ST #6	BOSTON MA	02116 124 BEACON ST	BOSTON	02116
502577054	ABENDROTH WILLIAM W	ABENDROTH WILLIAM W	PO BOX 962049	BOSTON MA	02196 124 BEACON ST	BOSTON	02116
502577056	STAFFORD OON TIAN	STAFFORD OON TIAN	6 ARLINGTON ST #8	BOSTON MA	02116 124 BEACON ST	BOSTON	02116
502577058	FRISBIE RICHARD D	FRISBIE RICHARD D	1 MARINA PARK DR STE#1150	BOSTON MA	02110 124 BEACON ST	BOSTON	02116
502579010	ONE-28 BEACON ST CONDO TRUST	ONE-28 BEACON ST CONDO TRUST	126-130 BEACON ST	BOSTON MA	02116 126 -130 BEACON ST	BOSTON	02116
502579012	REED KRISTIN E TS	REED KRISTIN E TS	337 BELLEVUE AVE	NEWPORT RI	02840 128 BEACON ST #A	BOSTON	02116
502579014	CLARKE CYNTHIA M	CLARKE CYNTHIA M	128 BEACON ST # B	BOSTON MA	02116 128 BEACON ST #B	BOSTON	02116
502579016	REED KRISTIN E TS	REED KRISTIN E TS	337 BELLEVUE AVE	NEWPORT RI	02840 128 BEACON ST #C	BOSTON	02116
502579018	HAILER JOHN T	HAILER JOHN T	128 BEACON ST #D	BOSTON MA	02116 128 BEACON ST #D	BOSTON	02116
502579020	BURKE ROBERT E TS	BURKE ROBERT E TS	128 BEACON ST #E	BOSTON MA	02116 128 BEACON ST #E	BOSTON	02116
502579022	SU SHIN-SAN MICHAEL TS	SU SHIN-SAN MICHAEL TS	128 BEACON ST #F	BOSTON MA	02116 128 BEACON ST #F	BOSTON	02116
502579024	SU SHIN-SAN MICHAEL	SU SHIN-SAN MICHAEL	128 BEACON ST UNIT G	BOSTON MA	02116 128 BEACON ST #G	BOSTON	02116
502579026	ONE TWENTY EIGHT BEACON	ONE TWENTY EIGHT BEACON	1 MARINA PARK DR STE #1150	BOSTON MA	02210 128 BEACON ST #H	BOSTON	02116
502579028	CORRIGAN E GERALD	CORRIGAN E GERALD	PO BOX 7138	GARDEN CITY NY	11530 128 BEACON ST #J	BOSTON	02116
502579030	WHELAN ROBERT M JR	WHELAN ROBERT M JR	128 BEACON ST #K	BOSTON MA	02116 128 BEACON ST #K	BOSTON	02116
502579032	CONIGLIARO DOUGLAS A	CONIGLIARO DOUGLAS A	128 BEACON ST #L	BOSTON MA	02116 128 BEACON ST #L	BOSTON	02116
502581010	RIVERSIDE CONDO TRUST	RIVERSIDE CONDO TRUST	132-134 BEACON ST	BOSTON MA	02116 132 134 BEACON ST	BOSTON	02116
502581012	BARNS TIMOTHY M	BARNS TIMOTHY M	132-134 BEACON ST #101	BOSTON MA	02116 132 134 BEACON ST #101	BOSTON	02116
502581014	BLEY DANIEL J	BLEY DANIEL J	132-134 BEACON ST # 102	BOSTON MA	02116 132 134 BEACON ST #102	BOSTON	02116
502581016	COHONA BEACON LLC	COHONA BEACON LLC	132 BEACON ST # 2	BOSTON MA	02116 132 134 BEACON ST #2	BOSTON	02116
502581018	MICHAEL STONEBRAKER	MICHAEL STONEBRAKER	132-134 BEACON ST #3	BOSTON MA	02116 132 134 BEACON ST #3	BOSTON	02116
502581020	FOSTER JAMES C	FOSTER JAMES C	132-134 BEACON ST #PH	BOSTON MA	02116 132 134 BEACON ST #PH	BOSTON	02116
502583000	ONE 36-138 BEACON CONDO TR	ONE 36-138 BEACON CONDO TR	136 BEACON	BOSTON MA	02116 136 138 BEACON ST	BOSTON	02116
502583002	BOCK RICHARD	BOCK RICHARD	136 BEACON ST #1	BOSTON MA	02116 136 BEACON ST #1	BOSTON	02116
502583004	XIAOJING LI	XIAOJING LI	6 NASSAU DRIVE	WINCHESTER MA	01890 136 BEACON ST #3	BOSTON	02116
502583006	CHEN CATHERINE	CHEN CATHERINE	136 BEACON ST #5	BOSTON MA	02116 136 BEACON ST #5	BOSTON	02116
502583008	ZHANG QIANZHONG DAVID	ZHANG QIANZHONG DAVID	136 BEACON ST #7	BOSTON MA	02116 136 BEACON ST #7	BOSTON	02116
502583010	STAFFORD NICOLA	STAFFORD NICOLA	136 BEACON ST #9	BOSTON MA	02116 136 138 BEACON ST #9	BOSTON	02116
502583012	LEWIS GREGORY	LEWIS GREGORY	136-138 BEACON ST UNIT 10	BOSTON MA	02116 136 138 BEACON ST #10	BOSTON	02116
502583014	WALLACH LAURIE R	WALLACH LAURIE R	138 BEACON ST #2	BOSTON MA	02116 138 BEACON ST #2	BOSTON	02116
502583016	LIDSKY LOREN	LIDSKY LOREN	138 BEACON ST #4	BOSTON MA	02116 138 BEACON ST #4	BOSTON	02116
502583018	GIBB ADAM	GIBB ADAM	468 N PARKWAY	GOLDEN BEACH FL	33160 138 BEACON ST #6	BOSTON	02116
502583020	SCHWARTZBERG MILTON	SCHWARTZBERG MILTON	138 BEACON ST #8	BOSTON MA	02116 138 BEACON ST #8	BOSTON	02116
502585000	BEACON STREET FAMILY	BEACON STREET FAMILY	84 STATE STREET 8TH FLOOR	BOSTON MA	02109 140 BEACON ST	BOSTON	02116

502586000	BEACON MAINSAIL 4 LLC	BEACON MAINSAIL 4 LLC	251 NEWBURY ST	BOSTON MA	02116 142	BEACON ST	BOSTON	02116
502587000	TOWN HOUSE CONDOMINIUM	TOWN HOUSE CONDOMINIUM	144 BEACON	BOSTON MA	02116 144	BEACON ST	BOSTON	02116
502587002	CHEN STEPHANIE	CHEN STEPHANIE	144 BEACON STREET UNIT 1	BOSTON MA	02116 144	BEACON ST #1	BOSTON	02116
502587026	JEO BEACON STREET REALTY	JEO BEACON STREET REALTY	866 N E 20TH AVENUE	FORT LAUDERDALE	33304 144	BEACON ST #14	BOSTON	02116
502587028	GOTTLIEB WILLIAM A	GOTTLIEB WILLIAM A	144 BEACON ST #2-7	BOSTON MA	02116 144	BEACON ST #23	BOSTON	02116
502587030	DOELGER YOON KIM	DOELGER YOON KIM	144 BEACON ST #8	BOSTON MA	02116 144	BEACON ST #8-9-10-11	BOSTON	02116
502587032	ROETTER MARTYN F	ROETTER MARTYN F	144 BEACON ST #12	BOSTON MA	02116 144	BEACON ST #12	BOSTON	02116
502588000	ONE 46 BEACON CONDO ASSN	ONE 46 BEACON CONDO ASSN	146 BEACON	BOSTON MA	02116 146	BEACON ST	BOSTON	02116
502588004	WINTERS ROBERT C	WINTERS ROBERT C	146 BEACON ST #5	BOSTON MA	02116 146	BEACON ST #5	BOSTON	02116
502588006	WINTERS HERITAGE TRUST	WINTERS HERITAGE TRUST	119 WEST 71ST STREET 9A	NEW YORK NY	10023 146	BEACON ST #1	BOSTON	02116
502588008	EASTWIND TRUST AGREEMENT	EASTWIND TRUST AGREEMENT	146 BEACON ST #2	BOSTON MA	02116 146	BEACON ST #2	BOSTON	02116
502588010	PS BEACON LLC	PS BEACON LLC	PO BOX #69	BARRINGTON RI	02806 146	BEACON ST #3	BOSTON	02116
502589000	ONE48 BEACON ST CONDO TRUST	ONE48 BEACON ST CONDO TRUST	148 BEACON ST	BOSTON MA	02116 148	BEACON ST	BOSTON	02116
502589002	FALLON SEAN P	FALLON SEAN P	148 BEACON ST #1	BOSTON MA	02116 148	BEACON ST #1	BOSTON	02116
502589004	CORMIER PAUL	CORMIER PAUL	148 BEACON ST #2	BOSTON MA	02116 148	BEACON ST #2	BOSTON	02116
502589006	FALLON SEAN P TS	FALLON SEAN P TS	148 BEACON ST #2	BOSTON MA	02116 148	BEACON ST	BOSTON	02116
502590000	ONE HUNDRED-50 BEACON STREET	ONE HUNDRED-50 BEACON STREET	150 BEACON ST	BOSTON MA	02116 150	BEACON ST	BOSTON	02116
502590002	ENGLISH EDMOND J	ENGLISH EDMOND J	150 BEACON ST #G-1	BOSTON MA	02116 150	BEACON ST #G-1	BOSTON	02116
502590004	MAURER CHARLES F JR	MAURER CHARLES F JR	PO BOX 366069	BONITA SPRINGS FL	34136 150	BEACON ST #G-2	BOSTON	02116
502590006	KRYDER MARK H TS	KRYDER MARK H TS	150 BEACON ST #1	BOSTON MA	02116 150	BEACON ST #1	BOSTON	02116
502590008	ONE 50-2 BEACON STREET LLC	ONE 50-2 BEACON STREET LLC	150 NORTH RIVERSIDE PLAZA #3	CHICAGO IL	60606 150	BEACON ST #2	BOSTON	02116
502590010	LEITNER CHARLES B III	LEITNER CHARLES B III	150 BEACON ST #3	BOSTON MA	02116 150	BEACON ST #3	BOSTON	02116
502590012	ENGLISH EDMOND J	ENGLISH EDMOND J	150 BEACON ST - PH	BOSTON MA	02116 150	BEACON ST #PH	BOSTON	02116
502591000	ONE 54 BEACON STREET	ONE 54 BEACON STREET	154 BEACON	BOSTON MA	02116 154	BEACON ST	BOSTON	02116
502591002	GACCIONE PETER	GACCIONE PETER	PO BOX 979	EAST DENNIS MA	02641 154	BEACON ST #1	BOSTON	02116
502591004	HEGHINIAN JASMINE	HEGHINIAN JASMINE	154 BEACON ST #2	BOSTON MA	02116 154	BEACON ST #2	BOSTON	02116
502591006	SCHIFFMAN STEVEN F	SCHIFFMAN STEVEN F	154 BEACON ST #3	BOSTON MA	02116 154	BEACON ST #3	BOSTON	02116
502591008	SCHMAHMANN REALTY LLC	SCHMAHMANN REALTY LLC	1577 BEACON ST	BROOKLINE MA	02446 154	BEACON ST #4	BOSTON	02116
502591010	JACOBS ALBERT A	JACOBS ALBERT A	154 BEACON ST #5	BOSTON MA	02116 154	BEACON ST #5	BOSTON	02116
502592000	ONE HUNDRED SIXTY BEACON ST	ONE HUNDRED SIXTY BEACON ST	160 BEACON	BOSTON MA	02116 160	BEACON ST	BOSTON	02116
502592002	STEINBERG PENNY	STEINBERG PENNY	160 BEACON ST #1	BOSTON MA	02116 160	BEACON ST #1	BOSTON	02116
502592004	160 BEACON STREET REALTY	160 BEACON STREET REALTY	160 BEACON ST UNIT 2	BOSTON MA	02116 160	BEACON ST #2	BOSTON	02116
502592006	2016 ISAZA-FULLEN TRUST	2016 ISAZA-FULLEN TRUST	160 BEACON ST #3	BOSTON MA	02116 160	BEACON ST #3	BOSTON	02116
502592008	HESS WILLIAM DUANE TS	HESS WILLIAM DUANE TS	160 BEACON ST #4	BOSTON MA	02116 160	BEACON ST #4	BOSTON	02116



502592010	RAVEIS LAURIE K	RAVEIS LAURIE K	160 BEACON ST #5	BOSTON MA	02116	160 BEACON ST #5	BOSTON	02116
502592012	SISE LINCOLN	SISE LINCOLN	160 BEACON ST #6	BOSTON MA	02116	160 BEACON ST #6	BOSTON	02116
502592014	SAPIRSTEIN JOHN S	SAPIRSTEIN JOHN S	160 BEACON ST #7	BOSTON MA	02116	160 BEACON ST #7	BOSTON	02116
502592016	DETWEILER MICHAEL	DETWEILER MICHAEL	160 BEACON ST #8	BOSTON MA	02116	160 BEACON ST #8	BOSTON	02116
502593000	ONE 64 BEACON ST CONDO ASSN	ONE 64 BEACON ST CONDO ASSN	164 BEACON	BOSTON MA	02116	164 BEACON ST	BOSTON	02116
502593002	EGAN BRADFORD	EGAN BRADFORD	164 BEACON ST #B-A	BOSTON MA	02116	164 BEACON ST #B-A	BOSTON	02116
502593004	R B FAMILY LTD PARTNERSHIP	R B FAMILY LTD PARTNERSHIP	14A ELIOT ST	CAMBRIDGE MA	02138	164 BEACON ST #B-B	BOSTON	02116
502593006	MCRAE OLIVE M	MCRAE OLIVE M	1612 WORCESTER RD	FRAMINGHAM MA	01702	164 BEACON ST #1	BOSTON	02116
502593008	CAROLINE P KATES REVOCABLE	CAROLINE P KATES REVOCABLE	164 BEACON ST #2	BOSTON MA	02116	164 BEACON ST #2	BOSTON	02116
502593010	HOSHINO LUCILE	HOSHINO LUCILE	164 BEACON ST #3	BOSTON MA	02116	164 BEACON ST #3	BOSTON	02116
502593012	KATES CAROLINE	KATES CAROLINE	164 BEACON ST #4	BOSTON MA	02116	164 BEACON ST #4	BOSTON	02116
502593014	SULLIVAN HEIDI	SULLIVAN HEIDI	164 BEACON ST #5	BOSTON MA	02116	164 BEACON ST #5	BOSTON	02116
502593018	SCHWEITZER JANE G	SCHWEITZER JANE G	164 BEACON ST #7	BOSTON MA	02116	164 BEACON ST #7	BOSTON	02116
502593020	ASIAF LISA M	ASIAF LISA M	164 BEACON ST #8	BOSTON MA	02116	164 BEACON ST #8	BOSTON	02116
502593022	HAYDOCK CHARLES	HAYDOCK CHARLES	164 BEACON ST #9	BOSTON MA	02116	164 BEACON ST #9	BOSTON	02116
502593024	HAYDOCK CHARLES	HAYDOCK CHARLES	164 BEACON ST #10	BOSTON MA	02116	164 BEACON ST #10	BOSTON	02116
502594000	SMALL THOMAS TRSTS	SMALL THOMAS TRSTS	166 BEACON	BOSTON MA	02116	166 BEACON ST	BOSTON	02116
502594001	DINEEN CAROLYN	DINEEN CAROLYN	155 SEAPORT BL	BOSTON MA	02210	166 BEACON ST #1F	BOSTON	02116
502594002	FLECK PALMA	FLECK PALMA	PO BOX 108	RICHMOND MA	01254	166 BEACON ST #1R	BOSTON	02116
502594004	HACKNEY ALLAN T	HACKNEY ALLAN T	123 RICHMOND HILL RD #2	NEW CANAAN CT	06840	166 BEACON ST #2	BOSTON	02116
502594008	SMITH H KERNER	SMITH H KERNER	166 BEACON ST #4	BOSTON MA	02116	166 BEACON ST #4	BOSTON	02116
502594010	ENNIS DAVID	ENNIS DAVID	166 BEACON ST #5	BOSTON MA	02116	166 BEACON ST #5	BOSTON	02116
502594012	DUNFEY JOHN P TS	DUNFEY JOHN P TS	166 BEACON ST #6	BOSTON MA	02116	166 BEACON ST #6	BOSTON	02116
502595000	ONE 68 BEACON STREET	ONE 68 BEACON STREET	168 BEACON ST	BOSTON MA	02116	168 BEACON ST	BOSTON	02116
502595002	168 BEACON STREET REALTY	168 BEACON STREET REALTY	168 BEACON ST #1	BOSTON MA	02116	168 BEACON ST #1	BOSTON	02116
502595004	BLAKELEY GERALD W	BLAKELEY GERALD W	168 BEACON ST #2	BOSTON MA	02116	168 BEACON ST #2	BOSTON	02116
502595006	168 BEACON REALTY TRUST	168 BEACON REALTY TRUST	168 BEACON ST #3	BOSTON MA	02116	168 BEACON ST #3	BOSTON	02116
502596000	FEDERAL REPUBLIC OF GERMANY	FEDERAL REPUBLIC OF GERMANY	170 BEACON	BOSTON MA	02116	170 BEACON ST	BOSTON	02116
502597000	ONE SEVENTY TWO BEACON	ONE SEVENTY TWO BEACON	172 BEACON	BOSTON MA	02116	172 BEACON ST	BOSTON	02116
502597002	PLUM MATTHIAS JR TS	PLUM MATTHIAS JR TS	172 BEACON ST #1	BOSTON MA	02116	172 BEACON ST #1	BOSTON	02116
502597004	THOMAS E ATKINS REVOCABLE	THOMAS E ATKINS REVOCABLE	172 BEACON ST #2	BOSTON MA	02116	172 BEACON ST #2	BOSTON	02116
502597006	SNIDER JOANNE B	SNIDER JOANNE B	172 BEACON ST #3	BOSTON MA	02116	172 BEACON ST #3	BOSTON	02116
502597008	SCHMALENSEE RICHARD L	SCHMALENSEE RICHARD L	172 BEACON ST #4	BOSTON MA	02116	172 BEACON ST #4	BOSTON	02116
502597010	WALLACE JULIE K	WALLACE JULIE K	172 BEACON ST #5	BOSTON MA	02116	172 BEACON ST #5	BOSTON	02116

502597012	WEATHERBIE MATTHEW A	WEATHERBIE MATTHEW A	172 BEACON ST #16	BOSTON MA	02116	172 BEACON ST #6	BOSTON	02116
502597014	LAPPIN NANCY J	LAPPIN NANCY J	172 BEACON ST #7	BOSTON MA	02116	172 BEACON ST #7	BOSTON	02116
502597016	ROBBINS BRETT	ROBBINS BRETT	172 BEACON ST #8	BOSTON MA	02116	172 BEACON ST #8	BOSTON	02116
502597018	FREELAND RICHARD M	FREELAND RICHARD M	172 BEACON ST #9	BOSTON MA	02116	172 BEACON ST #9	BOSTON	02116
502597020	NORKUS HANS MICHAEL	NORKUS HANS MICHAEL	172 BEACON ST UNIT 10	BOSTON MA	02116	172 BEACON ST #10	BOSTON	02116
502598000	WASSERMAN MAX TRSTS	WASSERMAN MAX TRSTS	180 BEACON	BOSTON MA	02116	180 BEACON ST	BOSTON	02116
502598001	BEAL BRUCE A TS	BEAL BRUCE A TS	180 BEACON ST	BOSTON MA	02116	180 BEACON ST #LB OFC	BOSTON	02116
502598002	SMITH STEPHANIE DEE	SMITH STEPHANIE DEE	180 BEACON ST #1A	BOSTON MA	02116	180 BEACON ST #1A	BOSTON	02116
502598003	NAKACHE MARGARET A	NAKACHE MARGARET A	180 BEACON ST #1B	BOSTON MA	02116	180 BEACON ST #1B	BOSTON	02116
502598004	LOIZANCE JEAN-YVES	LOIZANCE JEAN-YVES	180 BEACON ST #1C	BOSTON MA	02116	180 BEACON ST #1C	BOSTON	02116
502598005	VEZNAIAN NANCY	VEZNAIAN NANCY	180 BEACON ST #1D	BOSTON MA	02116	180 BEACON ST #1D	BOSTON	02116
502598006	W INTERNATIONAL LLC	W INTERNATIONAL LLC	180 BEACON ST #1E	BOSTON MA	02116	180 BEACON ST #1E	BOSTON	02116
502598007	CAMPOS JEFFREY D	CAMPOS JEFFREY D	180 BEACON ST #1F	BOSTON MA	02116	180 BEACON ST #1F	BOSTON	02116
502598008	ROSENBERG MARVIN E ETAL	ROSENBERG MARVIN E ETAL	180 BEACON ST #1G	BOSTON MA	02116	180 BEACON ST #1G	BOSTON	02116
502598009	ALEXANDROFF-BREST NAOMI TS	ALEXANDROFF-BREST NAOMI TS	180 BEACON ST #2A	BOSTON MA	02116	180 BEACON ST #2A	BOSTON	02116
502598010	SINGER SUSAN J	SINGER SUSAN J	180 BEACON ST #2B	BOSTON MA	02116	180 BEACON ST #2B	BOSTON	02116
502598011	LUCAS JULIA ANN	LUCAS JULIA ANN	602 LEWIS ST	FREDERICKSBURG V	22401	180 BEACON ST #2C	BOSTON	02116
502598012	ONE 80 BEACON 2D TRUST	ONE 80 BEACON 2D TRUST	180 BEACON ST #2-D	BOSTON MA	02116	180 BEACON ST #2D	BOSTON	02116
502598013	STAHL PAULA A TS	STAHL PAULA A TS	180 BEACON ST #2E	BOSTON MA	02116	180 BEACON ST #2E	BOSTON	02116
502598015	PECK SHELDON	PECK SHELDON	180 BEACON ST #2G	BOSTON MA	02116	180 BEACON ST #2G	BOSTON	02116
502598016	MANSOUR GEORGE JR	MANSOUR GEORGE JR	180 BEACON ST #3A	BOSTON MA	02116	180 BEACON ST #3A	BOSTON	02116
502598017	SCHOLDER MATTHEW B	SCHOLDER MATTHEW B	180 BEACON ST #3B	BOSTON MA	02116	180 BEACON ST #3B	BOSTON	02116
502598018	PECK SHELDON	PECK SHELDON	180 BEACON ST #2-G	BOSTON MA	02116	180 BEACON ST #3C	BOSTON	02116
502598019	HATCH FRANCIS W	HATCH FRANCIS W	180 BEACON ST #3D	BOSTON MA	02116	180 BEACON ST #3D	BOSTON	02116
502598020	HATCH FRANCIS W	HATCH FRANCIS W	180 BEACON ST #3E	BOSTON MA	02116	180 BEACON ST #3E	BOSTON	02116
502598021	DUFFLY THOMAS C	DUFFLY THOMAS C	180 BEACON ST #3F	BOSTON MA	02116	180 BEACON ST #3F	BOSTON	02116
502598022	LIBBY JOYCE	LIBBY JOYCE	180 BEACON ST #3G	BOSTON MA	02116	180 BEACON ST #3G	BOSTON	02116
502598023	GORDON NAOMI	GORDON NAOMI	180 BEACON ST #4A	BOSTON MA	02116	180 BEACON ST #4A	BOSTON	02116
502598024	TARLOV EDWARD	TARLOV EDWARD	180 BEACON ST #4B	BOSTON MA	02116	180 BEACON ST #4B	BOSTON	02116
502598025	COLOT ROSEANN M	COLOT ROSEANN M	180 BEACON ST #4C	BOSTON MA	02116	180 BEACON ST #4C	BOSTON	02116
502598026	GORSKY BRUCE A TS	GORSKY BRUCE A TS	180 BEACON ST #4D	BOSTON MA	02116	180 BEACON ST #4D	BOSTON	02116
502598027	GORSKY BRUCE A TS	GORSKY BRUCE A TS	180 BEACON ST #4E	BOSTON MA	02116	180 BEACON ST #4E	BOSTON	02116
502598029	SOLAR BARRY L	SOLAR BARRY L	180 BEACON ST #4G	BOSTON MA	02116	180 BEACON ST #4G	BOSTON	02116
502598030	WATKINS WILLIAM R	WATKINS WILLIAM R	180 BEACON ST #5A	BOSTON MA	02116	180 BEACON ST #5A	BOSTON	02116

502598031	SHAPIRO ELI	SHAPIRO ELI	25 HARNESS LN	SUDBURY MA	01776	180	BEACON ST #5B	BOSTON	02116
502598032	HINES MARGARET J	HINES MARGARET J	180 BEACON ST #5C	BOSTON MA	02116	180	BEACON ST #5C	BOSTON	02116
502598033	BOWERS LAWRENCE R	BOWERS LAWRENCE R	180 BEACON ST #5D	BOSTON MA	02116	180	BEACON ST #5D	BOSTON	02116
502598034	BIRGER JORDAN	BIRGER JORDAN	180 BEACON ST #5E	BOSTON MA	02116	180	BEACON ST #5E	BOSTON	02116
502598035	LILLY COLUMBIA LP	LILLY COLUMBIA LP	230 JOHNSON ST	N ANDOVER MA	01845	180	BEACON ST #5F	BOSTON	02116
502598036	ALVERSON HARRY L III	ALVERSON HARRY L III	180 BEACON ST #5-G	BOSTON MA	02116	180	BEACON ST #5G	BOSTON	02116
502598037	AMES ESTHER D TS	AMES ESTHER D TS	180 BEACON ST #6A	BOSTON MA	02116	180	BEACON ST #6A	BOSTON	02116
502598038	AMES ESTHER D TS	AMES ESTHER D TS	180 BEACON ST # 6R	BOSTON MA	02116	180	BEACON ST #6B	BOSTON	02116
502598039	BERMAN JAMIE	BERMAN JAMIE	180 BEACON ST UNIT 6-C	BOSTON MA	02116	180	BEACON ST #6C	BOSTON	02116
502598040	BRAUDE STEPHEN E TS	BRAUDE STEPHEN E TS	180 BEACON ST	BOSTON MA	02116	180	BEACON ST #6D	BOSTON	02116
502598043	ALICE JELIN ISENBERG 2003	ALICE JELIN ISENBERG 2003	180 BEACON ST #6G	BOSTON MA	02116	180	BEACON ST #6G	BOSTON	02116
502598044	SIEGEL HOWARD D	SIEGEL HOWARD D	180 BEACON ST #7A	BOSTON MA	02116	180	BEACON ST #7A	BOSTON	02116
502598045	HIGGINS ANN S	HIGGINS ANN S	180 BEACON ST #7B	BOSTON MA	02116	180	BEACON ST #7B	BOSTON	02116
502598046	KHATCHATOURIAN EDWART	KHATCHATOURIAN EDWART	180 BEACON ST UNIT #7C	BOSTON MA	02116	180	BEACON ST #7C	BOSTON	02116
502598047	BURDEN NANCY L	BURDEN NANCY L	12 MALLWAY	NEW SEABURY MA	02649	180	BEACON ST #7D	BOSTON	02116
502598048	AMES ABBY A D	AMES ABBY A D	180 BEACON ST #7E	BOSTON MA	02116	180	BEACON ST #7E	BOSTON	02116
502598049	BROWN EILEEN M	BROWN EILEEN M	180 BEACON ST # 18-G	BOSTON MA	02116	180	BEACON ST #7F	BOSTON	02116
502598050	LEE J TWOMEY REVOCABLE TRUST	LEE J TWOMEY REVOCABLE TRUST	180 BEACON ST #7G	BOSTON MA	02116	180	BEACON ST #7G	BOSTON	02116
502598051	BERLIN MATTHEW A TS	BERLIN MATTHEW A TS	53 STATE ST 15TH FLR	BOSTON MA	02109	180	BEACON ST #8A	BOSTON	02116
502598052	WEIN SUSAN L	WEIN SUSAN L	180 BEACON ST #8B	BOSTON MA	02116	180	BEACON ST #8B	BOSTON	02116
502598053	HIGGINS MOLLY O	HIGGINS MOLLY O	180 BEACON ST #8C	BOSTON MA	02116	180	BEACON ST #8C	BOSTON	02116
502598054	BRAVERMAN LEWIS E TS	BRAVERMAN LEWIS E TS	180 BEACON ST #8D	BOSTON MA	02116	180	BEACON ST #8D	BOSTON	02116
502598055	BRAVERMAN LEWIS E TS	BRAVERMAN LEWIS E TS	180 BEACON ST #8E	BOSTON MA	02116	180	BEACON ST #8E	BOSTON	02116
502598057	ROBERT J MALLOY 2002 TRUST	ROBERT J MALLOY 2002 TRUST	180 BEACON ST #8G	BOSTON MA	02116	180	BEACON ST #8G	BOSTON	02116
502598058	SCHWARTZ MARCIA E	SCHWARTZ MARCIA E	180 BEACON ST #9A	BOSTON MA	02116	180	BEACON ST #9A	BOSTON	02116
502598059	SCHWARTZ MARCIA E	SCHWARTZ MARCIA E	180 BEACON ST #9A	BOSTON MA	02116	180	BEACON ST #9B	BOSTON	02116
502598060	JONES JASON	JONES JASON	180 BEACON ST #9C	BOSTON MA	02116	180	BEACON ST #9C	BOSTON	02116
502598061	KOHN SUSAN G	KOHN SUSAN G	180 BEACON ST #9D	BOSTON MA	02116	180	BEACON ST #9D	BOSTON	02116
502598062	KOHN SUSAN G	KOHN SUSAN G	180 BEACON ST #9E	BOSTON MA	02116	180	BEACON ST #9E	BOSTON	02116
502598063	COHEN SUSAN B TS	COHEN SUSAN B TS	180 BEACON ST #9F	BOSTON MA	02116	180	BEACON ST #9F	BOSTON	02116
502598064	JONES FAMILY REVOCABLE	JONES FAMILY REVOCABLE	500 GRANT ST	PITTSBURGH PA	15258	180	BEACON ST #9G	BOSTON	02116
502598065	TRILLING LEON BE	TRILLING LEON BE	180 BEACON ST #10A	BOSTON MA	02116	180	BEACON ST #10A	BOSTON	02116
502598066	ZOUIKIN TANIA	ZOUIKIN TANIA	180 BEACON ST #10B	BOSTON MA	02116	180	BEACON ST #10B	BOSTON	02116
502598067	ANCONA ENRICO I	ANCONA ENRICO I	180 BEACON ST #10C	BOSTON MA	02116	180	BEACON ST #10C	BOSTON	02116

502598068	ANCONA ENRICO I	ANCONA ENRICO I	180 BEACON ST #10D	BOSTON MA	02116 180	BEACON ST #10D	BOSTON	02116
502598069	ANCONA ENRICO I	ANCONA ENRICO I	180 BEACON ST 10E	BOSTON MA	02116 180	BEACON ST #10E	BOSTON	02116
502598071	COHEN SUSAN B TS	COHEN SUSAN B TS	180 BEACON ST #10G	BOSTON MA	02116 180	BEACON ST #10G	BOSTON	02116
502598072	BERK PHILIP J	BERK PHILIP J	180 BEACON ST #11A	BOSTON MA	02116 180	BEACON ST #11A	BOSTON	02116
502598073	LEE JACQUELINE V	LEE JACQUELINE V	7205 RUNNING ROPE CI	AUSTIN TX	78731 180	BEACON ST #11B	BOSTON	02116
502598074	TANZER LOIS B	TANZER LOIS B	64 HARVEST LN	WEST HARTFORD CT	06117 180	BEACON ST #11C	BOSTON	02116
502598075	LONDON PHYLLIS G TS	LONDON PHYLLIS G TS	180 BEACON ST #11D	BOSTON MA	02116 180	BEACON ST #11D	BOSTON	02116
502598076	LONDON PHYLLIS G	LONDON PHYLLIS G	180 BEACON ST #11E	BOSTON MA	02116 180	BEACON ST #11E	BOSTON	02116
502598077	COHEN MARC A TS	COHEN MARC A TS	151 TREMONT ST STE PH	BOSTON MA	02111 180	BEACON ST #11F	BOSTON	02116
502598078	KIM OKJIN	KIM OKJIN	180 BEACON ST #11G	BOSTON MA	02116 180	BEACON ST #11G	BOSTON	02116
502598079	LIM EVELYN CC	LIM EVELYN CC	36 FALMOUTH RD	WESTON MA	02493 180	BEACON ST #12A	BOSTON	02116
502598080	DEUTSCH SUSAN M	DEUTSCH SUSAN M	180 BEACON ST #12B	BOSTON MA	02116 180	BEACON ST #12B	BOSTON	02116
502598081	DEUTSCH SUSAN M	DEUTSCH SUSAN M	180 BEACON ST #12C	BOSTON MA	02116 180	BEACON ST #12C	BOSTON	02116
502598082	WALLER WENDY W TS	WALLER WENDY W TS	PO BOX 5600	BEVERLY MA	01915 180	BEACON ST #12D	BOSTON	02116
502598083	GOTTFRIED LILI A	GOTTFRIED LILI A	180 BEACON ST #12E	BOSTON MA	02116 180	BEACON ST #12E	BOSTON	02116
502598085	KRAKOFF ROGER TS	KRAKOFF ROGER TS	180 BEACON ST #12G	BOSTON MA	02116 180	BEACON ST #12G	BOSTON	02116
502598086	JACOBSON GEORGE TS	JACOBSON GEORGE TS	180 BEACON ST #14A	BOSTON MA	02116 180	BEACON ST #14A	BOSTON	02116
502598087	GSRN 2015 REVOCABLE TRUST	GSRN 2015 REVOCABLE TRUST	180 BEACON ST #14B	BOSTON MA	02116 180	BEACON ST #14B	BOSTON	02116
502598088	SODERBERG STEPHEN A	SODERBERG STEPHEN A	180 BEACON ST 14-C	BOSTON MA	02116 180	BEACON ST #14C	BOSTON	02116
502598089	HARRINGTON MARY E TS	HARRINGTON MARY E TS	180 BEACON ST #14D	BOSTON MA	02116 180	BEACON ST #14D	BOSTON	02116
502598090	SODERBERG STEPHEN A TS	SODERBERG STEPHEN A TS	180 BEACON ST #14E	BOSTON MA	02116 180	BEACON ST #14E	BOSTON	02116
502598091	STARBROWN LLC	STARBROWN LLC	222 ROYAL PALM WY	PALM BEACH FL	33480 180	BEACON ST #14F	BOSTON	02116
502598092	STARBROWN LLC	STARBROWN LLC	222 ROYAL PALM WY	PALM BEACH FL	33480 180	BEACON ST #14G	BOSTON	02116
502598093	FOX MICHAEL B	FOX MICHAEL B	13 ESTABROOK RD	CONCORD MA	01742 180	BEACON ST #15A	BOSTON	02116
502598094	BOWLEN RICHARD JAMES	BOWLEN RICHARD JAMES	180 BEACON ST #15B	BOSTON MA	02116 180	BEACON ST #15B	BOSTON	02116
502598095	ABRAMS RUTH I	ABRAMS RUTH I	180 BEACON ST #15C	BOSTON MA	02116 180	BEACON ST #15C	BOSTON	02116
502598096	LAIS ALBERTO	LAIS ALBERTO	180 BEACON ST #15D	BOSTON MA	02116 180	BEACON ST #15D	BOSTON	02116
502598097	MORRISSEY ROBERT F TS	MORRISSEY ROBERT F TS	1 INTERNATIONAL PL 32 FL	BOSTON MA	02110 180	BEACON ST #15E	BOSTON	02116
502598099	HODGES ARTHUR C TS	HODGES ARTHUR C TS	180 BEACON ST #15-G	BOSTON MA	02116 180	BEACON ST #15G	BOSTON	02116
502598100	180 BEACON 16A REALTY TRUST	180 BEACON 16A REALTY TRUST	180 BEACON ST #16A	BOSTON MA	02116 180	BEACON ST #16A	BOSTON	02116
502598101	GERLINGER CHARLES D TS	GERLINGER CHARLES D TS	180 BEACON ST #16B	BOSTON MA	02116 180	BEACON ST #16B	BOSTON	02116
502598102	GERLINGER CHARLES D TS	GERLINGER CHARLES D TS	180 BEACON ST #16C	BOSTON MA	02116 180	BEACON ST #16C	BOSTON	02116
502598103	PEGGY DAVIS LLC	PEGGY DAVIS LLC	1 INTERNATIONAL PL	BOSTON MA	02110 180	BEACON ST #16D	BOSTON	02116
502598104	TOUSTER SAUL	TOUSTER SAUL	180 BEACON ST #16E	BOSTON MA	02116 180	BEACON ST #16E	BOSTON	02116

502598105	CT - WELL RP LLC	CT - WELL RP LLC	1501 BEACON STREET	BROOKLINE MA	02446	180	BEACON ST #16F	BOSTON	02116
502598106	CANIFF CAROL CASEY	CANIFF CAROL CASEY	180 BEACON ST #16-G	BOSTON MA	02116	180	BEACON ST #16G	BOSTON	02116
502598107	MUSKET DAVID B	MUSKET DAVID B	180 BEACON ST # 17A	BOSTON MA	02116	180	BEACON ST #17A	BOSTON	02116
502598108	MUSKET DAVID B	MUSKET DAVID B	180 BEACON ST # 17B	BOSTON MA	02116	180	BEACON ST #17B	BOSTON	02116
502598109	MINTZ RICHARD G TS	MINTZ RICHARD G TS	193 ELM RD	PRINCETON NJ	08540	180	BEACON ST #17C	BOSTON	02116
502598110	WF BEANTOWN TRUST	WF BEANTOWN TRUST	180 BEACON ST #17D	BOSTON MA	02116	180	BEACON ST #17D	BOSTON	02116
502598111	WF BEANTOWN TRUST	WF BEANTOWN TRUST	180 BEACON ST #17D	BOSTON MA	02116	180	BEACON ST #17E	BOSTON	02116
502598113	KAMENSKY LOUIS A ETAL	KAMENSKY LOUIS A ETAL	180 BEACON ST #17G	BOSTON MA	02116	180	BEACON ST #17G	BOSTON	02116
502598114	KAMENSKY LOUIS A	KAMENSKY LOUIS A	180 BEACON ST #17H	BOSTON MA	02116	180	BEACON ST #17H	BOSTON	02116
502598115	FOSTER JOHN S TS	FOSTER JOHN S TS	180 BEACON ST #18A	BOSTON MA	02116	180	BEACON ST #18A	BOSTON	02116
502598116	FOSTER JOHN S TS	FOSTER JOHN S TS	180 BEACON ST #18B	BOSTON MA	02116	180	BEACON ST #18B	BOSTON	02116
502598117	BROWN JOHN S	BROWN JOHN S	1 FEDERAL ST	BOSTON MA	02110	180	BEACON ST #18C	BOSTON	02116
502598118	BEAL BRUCE A	BEAL BRUCE A	177 MILK ST	BOSTON MA	02109	180	BEACON ST #18D	BOSTON	02116
502598121	BROWN JOHN S ETAL	BROWN JOHN S ETAL	180 BEACON ST #18G	BOSTON MA	02116	180	BEACON ST #18G	BOSTON	02116
502598123	DRINKWATER CLOVER TS	DRINKWATER CLOVER TS	80 E MARKET ST STE 300	CORNING NY	14830	180	BEACON ST #PENTHS	BOSTON	02116
502601000	182 BEACON CONDOMINIUM	182 BEACON CONDOMINIUM	182 BEACON ST #5	BOSTON MA	02116	182	BEACON ST	BOSTON	02116
502601001	KAUFMAN REGIS F	KAUFMAN REGIS F	182 BEACON ST #1	BOSTON MA	02116	182	BEACON ST #1W COR	BOSTON	02116
502601002	TREIBER HEIDI B	TREIBER HEIDI B	182 BEACON ST #2	BOSTON MA	02116	182	BEACON ST #2W COR	BOSTON	02116
502601003	SCHMAHMANN DAVID R	SCHMAHMANN DAVID R	PO BOX 1094	BROOKLINE MA	02446	182	BEACON ST #3W COR	BOSTON	02116
502601004	SARAVO LILIANA	SARAVO LILIANA	182 BEACON ST #4	BOSTON MA	02116	182	BEACON ST #4 WCOR	BOSTON	02116
502601005	A & E 2016 TRUST	A & E 2016 TRUST	182 BEACON ST #5	BOSTON MA	02116	182	BEACON ST #5 WCOR	BOSTON	02116
502601006	HERRING DAVID E	HERRING DAVID E	3180 MATHIESON DR NE #1101	ATLANTA GA	30305	182	BEACON ST #6 WCOR	BOSTON	02116
502601007	GARBER ROBERT L JR TS	GARBER ROBERT L JR TS	182 BEACON ST #7-WCOR	BOSTON MA	02116	182	BEACON ST #7 WCOR	BOSTON	02116
502601008	SARAVO LILIANA	SARAVO LILIANA	182 BEACON ST #4	BOSTON MA	02116	182	BEACON ST #8 WCOR	BOSTON	02116
502601009	CHHENG SUNNUARITH	CHHENG SUNNUARITH	182 BEACON ST #9	BOSTON MA	02116	182	BEACON ST #9 WCOR	BOSTON	02116
502601010	GABBY ROBERT	GABBY ROBERT	182 BEACON ST #10	BOSTON MA	02116	182	BEACON ST #10	BOSTON	02116
502601011	LAPUS ROSARIO O TS	LAPUS ROSARIO O TS	317 16TH ST #2D	BROOKLYN NY	11215	182	BEACON ST #11	BOSTON	02116
502601012	VETTER DELIA	VETTER DELIA	182 BEACON ST #12	BOSTON MA	02116	182	BEACON ST #12	BOSTON	02116
502601014	BOYCE CRAIG H	BOYCE CRAIG H	182 BEACON ST #14	BOSTON MA	02116	182	BEACON ST #14	BOSTON	02116
502602000	ONE 84 BEACON ST CONDO	ONE 84 BEACON ST CONDO	184 BEACON ST	BOSTON MA	02116	184	BEACON ST	BOSTON	02116
502602002	CATRICKES FRANK	CATRICKES FRANK	184 BEACON ST #2	BOSTON MA	02116	184	BEACON ST #1	BOSTON	02116
502602011	SCANNELL PATRICK J JR	SCANNELL PATRICK J JR	184 BEACONSST #3	BOSTON MA	02116	184	BEACON ST	BOSTON	02116
502602012	SCANNELL PATRICK J JR	SCANNELL PATRICK J JR	184 BEACON ST #3	BOSTON MA	02116	184	BEACON ST	BOSTON	02116
502602015	ROMANO JOHN R	ROMANO JOHN R	184 BEACON ST #8	BOSTON MA	02116	184	BEACON ST	BOSTON	02116

502602016	ROMANO JOHN R	ROMANO JOHN R	184 BEACON ST #4	BOSTON MA	02116	184 BEACON ST	BOSTON	02116
502602017	ZHANG MAY	ZHANG MAY	38 GAMMONS RD	WABAN MA	02468	184 BEACON ST	BOSTON	02116
502603000	ROSEN ALBERT J TRSTS	ROSEN ALBERT J TRSTS	186 BEACON	BOSTON MA	02108	186 BEACON ST	BOSTON	02116
502603004	ZHANG YAN	ZHANG YAN	186 BEACON ST #2A	BOSTON MA	02116	186 BEACON ST #2A	BOSTON	02116
502603005	BAILEY MEREDITH	BAILEY MEREDITH	186 BEACON ST #2B	BOSTON MA	02116	186 BEACON ST #2B	BOSTON	02116
502603007	ELTWAL MUHAND	ELTWAL MUHAND	186 BEACON ST #3	BOSTON MA	02116	186 BEACON ST #3	BOSTON	02116
502603009	VAYDA ANDREA M	VAYDA ANDREA M	186 BEACON ST #4	BOSTON MA	02116	186 BEACON ST #4	BOSTON	02116
502603011	PHRUKSACHART PHATTAPONG	PHRUKSACHART PHATTAPONG	186 BEACON ST #5	BOSTON MA	02116	186 BEACON ST #5	BOSTON	02116
502603013	GANICK J DOROTHY	GANICK J DOROTHY	19 RAYMOND ST	MANCHESTER MA	01944	186 BEACON ST #6	BOSTON	02116
502604000	ONE 88 BEACON ST CONDO ASSN	ONE 88 BEACON ST CONDO ASSN	188 BEACON	BOSTON MA	02116	188 BEACON ST	BOSTON	02116
502604002	FITZPATRICK SARAH M TS	FITZPATRICK SARAH M TS	188 BEACON ST #1	BOSTON MA	02116	188 BEACON ST #1	BOSTON	02116
502604006	COPLIN STEVEN M	COPLIN STEVEN M	188 BEACON ST #3	BOSTON MA	02116	188 BEACON ST #3	BOSTON	02116
502604008	FINK PETER W	FINK PETER W	188 BEACON ST #4	BOSTON MA	02116	188 BEACON ST #4	BOSTON	02116
502604010	VIGREUX JOCELYN	VIGREUX JOCELYN	188 BEACON ST #5	BOSTON MA	02116	188 BEACON ST #5	BOSTON	02116
502604012	ACKER DAVID B	ACKER DAVID B	188 BEACON ST #6	BOSTON MA	02116	188 BEACON ST #6	BOSTON	02116
502605000	ONE 90 BEACON ST CONDO ASSN	ONE 90 BEACON ST CONDO ASSN	190 BEACON	BOSTON MA	02116	190 BEACON ST	BOSTON	02116
502605002	SOCKOLICH PAULA	SOCKOLICH PAULA	375 MOUNTAIN HOME RD	WOODSIDE CA	94062	190 BEACON ST #1A	BOSTON	02116
502605004	FLEMING LAURA L	FLEMING LAURA L	190 BEACON ST #2	BOSTON MA	02116	190 BEACON ST #2A	BOSTON	02116
502605006	PERREAULT MARSHA C	PERREAULT MARSHA C	190 BEACON ST #3	BOSTON MA	02116	190 BEACON ST #3	BOSTON	02116
502605008	PERREAULT MARSHA C	PERREAULT MARSHA C	190 BEACON ST #4	BOSTON MA	02116	190 BEACON ST #4	BOSTON	02116
502605010	EQUITY TRUST COMPANY	EQUITY TRUST COMPANY	190 BEACON ST #2	BOSTON MA	02116	190 BEACON ST #5	BOSTON	02116
502605014	LAPIDES MURRAY	LAPIDES MURRAY	16 BARBERRY RD	LEXINGTON MA	02421	190 BEACON ST #7	BOSTON	02116
502606000	ONE NINETY TWO BEACON ST TR	ONE NINETY TWO BEACON ST TR	192 BEACON	BOSTON MA	02116	192 BEACON ST	BOSTON	02116
502606002	OBYRNE ANTHONY TS	OBYRNE ANTHONY TS	267 COMMONWEALTH AV STE A	BOSTON MA	02116	192 BEACON ST #BSMT	BOSTON	02116
502606004	HUI JOHN C K	HUI JOHN C K	192 BEACON ST UNIT #1	BOSTON MA	02116	192 BEACON ST #1	BOSTON	02116
502606006	EL HASSAN DANIA A	EL HASSAN DANIA A	192 BEACON ST #2	BOSTON MA	02116	192 BEACON ST #2	BOSTON	02116
502606008	ALSPAUGH JAMES	ALSPAUGH JAMES	192 BEACON ST #3	BOSTON MA	02116	192 BEACON ST #3	BOSTON	02116
502606010	ALSPAUGH JAMES	ALSPAUGH JAMES	192 BEACON ST #4	BOSTON MA	02116	192 BEACON ST #4	BOSTON	02116
502607000	ONE NINETY FOUR BEACON ST	ONE NINETY FOUR BEACON ST	194 BEACON	BOSTON MA	02115	194 BEACON ST	BOSTON	02116
502607004	MARTIN JOHN	MARTIN JOHN	9 SOUTH FIELD DR	DOVER MA	02030	194 BEACON ST #2	BOSTON	02116
502607010	STEAMBOAT REALTY LLC	STEAMBOAT REALTY LLC	92 STATE ST	BOSTON MA	02109	194 BEACON ST #5	BOSTON	02116
502608000	RIVERSIDE BEACON CONDOMINIUM	RIVERSIDE BEACON CONDOMINIUM	196 BEACON ST	BOSTON MA	02116	196 BEACON ST	BOSTON	02116
502608002	IZEN RONALD L	IZEN RONALD L	196 BEACON ST #1	BOSTON MA	02116	196 BEACON ST #1	BOSTON	02116
502608006	LEERINK HANS H TS	LEERINK HANS H TS	196 BEACON ST #2	BOSTON MA	02116	196 BEACON ST #2	BOSTON	02116

502608008	BROWN DOUGLAS R	BROWN DOUGLAS R	1200 GULF BLVD APT #2005	CLEARWATER FL	33767	196 BEACON ST #3	BOSTON	02116
502609000	PERRONCELLO-GRIFFEL LISA	PERRONCELLO-GRIFFEL LISA	198 BEACON ST	BOSTON MA	02116	198 BEACON ST	BOSTON	02116
502610000	TWO HUNDRED -202 BEACON	TWO HUNDRED -202 BEACON	450 WINTER ST #1900	WALTHAM MA	02451	200 -202 BEACON ST	BOSTON	02116
502610002	CHAMPION ROBERT L	CHAMPION ROBERT L	200 BEACON ST #1	BOSTON MA	02116	200 -202 BEACON ST #1	BOSTON	02116
502610004	CHAMPION LAURIE SALVATORI	CHAMPION LAURIE SALVATORI	200 BEACON ST #2	BOSTON MA	02116	200 -202 BEACON ST #2	BOSTON	02116
502610006	CHAMPION LAURIE SALVATORI	CHAMPION LAURIE SALVATORI	200 BEACON ST #3	BOSTON MA	02116	200 -202 BEACON ST #3	BOSTON	02116
502610008	SIMON SHELDON N	SIMON SHELDON N	200 BEACON ST #4	BOSTON MA	02116	200 -202 BEACON ST #4	BOSTON	02116
502610010	KOSTER TERESA	KOSTER TERESA	200 BEACON ST #5	BOSTON MA	02116	200 -202 BEACON ST #5	BOSTON	02116
502612000	TWO 04 BEACON ST CONDO TR	TWO 04 BEACON ST CONDO TR	204 BEACON	BOSTON MA	02116	204 BEACON ST	BOSTON	02116
502612002	DOHERTY PAUL S	DOHERTY PAUL S	204 BEACON ST #B	BOSTON MA	02116	204 BEACON ST #B	BOSTON	02116
502612004	LOVATO DAVID R	LOVATO DAVID R	204 BEACON ST #1R	BOSTON MA	02116	204 BEACON ST #1-R	BOSTON	02116
502612006	KURLAND MARTHA J	KURLAND MARTHA J	201 WOOD STREET	LEXINGTON MA	02421	204 BEACON ST #2-F	BOSTON	02116
502612008	NANBERG REBECCA C	NANBERG REBECCA C	1600 BEACON STREET APT809	BROOKLINE MA	02446	204 BEACON ST #2-R	BOSTON	02116
502612010	OLIVERIO JOHN K	OLIVERIO JOHN K	206 BEACON ST #3	BOSTON MA	02116	204 BEACON ST #3	BOSTON	02116
502612012	OLIVERIO MICHAEL L	OLIVERIO MICHAEL L	9 HIGH MEADOW ROAD	WRENTHAM MA	02093	204 BEACON ST #4-R	BOSTON	02116
502612014	OLIVERIO M LAWRENCE	OLIVERIO M LAWRENCE	206 BEACON ST	BOSTON MA	02116	204 BEACON ST #5-F	BOSTON	02116
502612016	OLIVERIO MICHAEL L ETAL	OLIVERIO MICHAEL L ETAL	206 BEACON ST	BOSTON MA	02116	204 BEACON ST #5-R	BOSTON	02116
502701000	GLYNN REALTY ASSO II LLC	GLYNN REALTY ASSO II LLC	83 CENTRAL ST	BOSTON MA	02109	213 BEACON ST	BOSTON	02116
502702000	TWO 11 BEACON ST LP	TWO 11 BEACON ST LP	83 CENTRAL ST	BOSTON MA	02109	211 BEACON ST	BOSTON	02116
502703000	ANTEBLIAN GEORGE ETAL	ANTEBLIAN GEORGE ETAL	209 BEACON	BOSTON MA	02116	209 BEACON ST	BOSTON	02116
502704000	GEORGE P REALTY LPS	GEORGE P REALTY LPS	PO BOX 420	BROOKLINE MA	02446	205 BEACON ST	BOSTON	02116
502704001	TWO 78 CLARENDON CONDO TR	TWO 78 CLARENDON CONDO TR	131 PARK DR	BOSTON MA	02215	278 CLARENDON ST	BOSTON	02116
502704004	COHEN ANN M	COHEN ANN M	P O BOX 173859	DENVER CO	80217	278 CLARENDON ST #1	BOSTON	02116
502704006	ADLER GERALD TS	ADLER GERALD TS	278 CLARENDON ST #2	BOSTON MA	02116	278 CLARENDON ST #2	BOSTON	02116
502704008	GILMORE CURTIS	GILMORE CURTIS	278 CLARENDON ST #3	BOSTON MA	02116	278 CLARENDON ST #3	BOSTON	02116
502704010	BEACON & CLARENDON LLC	BEACON & CLARENDON LLC	28 REYNOLDS WAY	DUXBURY MA	02332	278 CLARENDON ST #4	BOSTON	02116
502704012	MACIAGA CYNTHIA A	MACIAGA CYNTHIA A	278 CLARENDON ST #5	BOSTON MA	02116	278 CLARENDON ST #5	BOSTON	02116
502704014	SIZER SANDRA	SIZER SANDRA	278 CLARENDON ST #6	BOSTON MA	02116	278 CLARENDON ST #6	BOSTON	02116
502704016	RIGHI GIULIA	RIGHI GIULIA	55 BRITTANY FARMS RD #310	NEW BRITAIN CT	06053	278 CLARENDON ST #7	BOSTON	02116
502704018	ECKEL RAYMOND D JR	ECKEL RAYMOND D JR	4 WHIG ST	DENNIS MA	02638	278 CLARENDON ST #8	BOSTON	02116
502704020	FEDAK MICHAEL TS	FEDAK MICHAEL TS	278 CLARENDON ST #9	BOSTON MA	02116	278 CLARENDON ST #9	BOSTON	02116
502704022	ANGLE JAMES	ANGLE JAMES	278 CLARENDON ST #10	BOSTON MA	02116	278 CLARENDON ST #10	BOSTON	02116
502726000	TWO 85 CLARENDON ST CONDO TR	TWO 85 CLARENDON ST CONDO TR	285 CLARENDON ST	BOSTON MA	02116	285 CLARENDON ST	BOSTON	02116
502726002	DEUTCHMAN LESLIE E	DEUTCHMAN LESLIE E	285 CLARENDON ST #1	BOSTON MA	02116	285 CLARENDON ST #1	BOSTON	02116

502726004	DORA VELL REVOCABLE TRUST	DORA VELL REVOCABLE TRUST	285 CLARENDON ST #2	BOSTON MA	02116 285 CLARENDON ST #2	BOSTON	02116
502726006	EPSTEIN BRIAN A	EPSTEIN BRIAN A	285 CLARENDON ST #3	BOSTON MA	02116 285 CLARENDON ST #3	BOSTON	02116
502726008	SAX FAMILY 2016 REVOCABLE	SAX FAMILY 2016 REVOCABLE	285 CLARENDON ST #4	BOSTON MA	02116 285 CLARENDON ST #4	BOSTON	02116
502726010	EHSAM FREDERICK E JR	EHSAM FREDERICK E JR	285 CLARENDON ST #5	BOSTON MA	02116 285 CLARENDON ST #5	BOSTON	02116
502727000	GLYNN REALTY ASSOCIATES III	GLYNN REALTY ASSOCIATES III	83 CENTRAL ST 2ND FLOOR	BOSTON MA	02109 199 BEACON ST	BOSTON	02116
502729000	ONE-95 BEACON ST CONDO TRUST	ONE-95 BEACON ST CONDO TRUST	251 NEWBURY ST	BOSTON MA	02116 195 BEACON ST	BOSTON	02116
502729002	GEORGE ALAINA C	GEORGE ALAINA C	195 BEACON ST #1	BOSTON MA	02116 195 BEACON ST #1	BOSTON	02116
502729004	LOW KATHERINE E TS	LOW KATHERINE E TS	195 BEACON ST #2	BOSTON MA	02116 195 BEACON ST #2	BOSTON	02116
502729006	GOLD MICKI	GOLD MICKI	195 BEACON ST #3	BOSTON MA	02116 195 BEACON ST #3	BOSTON	02116
502729008	BARBEE MARK D	BARBEE MARK D	195 BEACON ST #4	BOSTON MA	02116 195 BEACON ST #4	BOSTON	02116
502729010	KOVACS TIBERIU	KOVACS TIBERIU	195 BEACON ST #5	BOSTON MA	02116 195 BEACON ST #5	BOSTON	02116
502729012	KIM RHAN KATHLEEN	KIM RHAN KATHLEEN	195 BEACON ST UNIT 6	BOSTON MA	02116 195 BEACON ST #6	BOSTON	02116
502729014	ATKINSON TRACY A	ATKINSON TRACY A	195 BEACON ST #7	BOSTON MA	02116 195 BEACON ST #7	BOSTON	02116
502729016	KERN DANIEL	KERN DANIEL	195 BEACON ST #8	BOSTON MA	02116 195 BEACON ST #8	BOSTON	02116
502729018	FALCONIERI JOSEPH	FALCONIERI JOSEPH	195 BEACON ST #9	BOSTON MA	02116 195 BEACON ST #9	BOSTON	02116
502729020	DEVITO ANNE	DEVITO ANNE	195 BEACON ST #10	BOSTON MA	02116 195 BEACON ST #10	BOSTON	02116
502730000	ONE 93 BEACON ST CONDO TR	ONE 93 BEACON ST CONDO TR	193 BEACON	BOSTON MA	02116 193 BEACON ST	BOSTON	02116
502730002	BRIAN T CARTY REVOCABLE	BRIAN T CARTY REVOCABLE	301 BERKELEY ST #2A	BOSTON MA	02116 193 BEACON ST #1	BOSTON	02116
502730004	STEIN ROSANNE	STEIN ROSANNE	17 HANCOCK RD	BROOKLINE MA	02445 193 BEACON ST #2	BOSTON	02116
502730006	FELLER REALTY LLC	FELLER REALTY LLC	33 HERRING WEIR RD	DUXBURY MA	02332 193 BEACON ST #3	BOSTON	02116
502730008	SZCZUROWSKI ANDREW	SZCZUROWSKI ANDREW	193 BEACON ST #4	BOSTON MA	02116 193 BEACON ST #4	BOSTON	02116
502731000	ONE-91 BEACON ST CONDO TR	ONE-91 BEACON ST CONDO TR	28 DAMRELL ST	S BOSTON MA	02127 191 BEACON ST	BOSTON	02116
502731002	JOEL P GARDINER 2010 FAMILY	JOEL P GARDINER 2010 FAMILY	191 BEACON ST #1	BOSTON MA	02116 191 BEACON ST #1	BOSTON	02116
502731004	EUGENE F BARNES III 2008	EUGENE F BARNES III 2008	191 BEACON ST #2	BOSTON MA	02116 191 BEACON ST #2	BOSTON	02116
502731006	MOLTZ EVAN J	MOLTZ EVAN J	191 BEACON ST #3	BOSTON MA	02116 191 BEACON ST #3	BOSTON	02116
502731008	ZHOU XU	ZHOU XU	234 CAUSEWAY ST #701	BOSTON MA	02214 191 BEACON ST #4	BOSTON	02116
502731010	CAMUFFO MARIALUISA	CAMUFFO MARIALUISA	191 BACON ST #5	BOSTON MA	02116 191 BEACON ST #5	BOSTON	02116
502731012	CAMUFFO MARIALUISA	CAMUFFO MARIALUISA	191 BEACON ST #6	BOSTON MA	02116 191 BEACON ST #6	BOSTON	02116
502731014	ZUMBADO HECTOR E	ZUMBADO HECTOR E	61 BROWN RD	HAMPTON FALLS NI	03844 191 BEACON ST #7	BOSTON	02116
502732000	FRANKLIN RESIDENCES CONDO TR	FRANKLIN RESIDENCES CONDO TR	125 PEMBROKE ST	BOSTON MA	02118 189 BEACON ST	BOSTON	02116
502732002	OZALP AHMET	OZALP AHMET	7 COMANCHE PL	ANDOVER MA	01810 189 BEACON ST #1	BOSTON	02116
502732004	RICH BENJAMIN E	RICH BENJAMIN E	189 BEACON ST #2	BOSTON MA	02116 189 BEACON ST #2	BOSTON	02116
502732006	MEIER GROUP LLC	MEIER GROUP LLC	189 BEACON ST #3	BOSTON MA	02116 189 BEACON ST #3	BOSTON	02116
502732008	WU CHRISTOPHER	WU CHRISTOPHER	189 BEACON ST #4	BOSTON MA	02116 189 BEACON ST #4	BOSTON	02116



502732010	ANGUITA ANTONIO	ANGUITA ANTONIO	189 BEACON ST #7	BOSTON MA	02116	189 BEACON ST #5	BOSTON	02116
502732012	MOLTZ EVAN J	MOLTZ EVAN J	189 BEACON ST #6	BOSTON MA	02116	189 BEACON ST #6	BOSTON	02116
502732014	ANGUITA ANTONIO	ANGUITA ANTONIO	189 BEACON ST #7	BOSTON MA	02116	189 BEACON ST #7	BOSTON	02116
502733000	187 BEACON STREET	187 BEACON STREET	44 SCHOOL ST 9TH FL	BOSTON MA	02108	187 BEACON ST	BOSTON	02116
502733002	STOECKLE MARK E	STOECKLE MARK E	187 BEACON ST #1	BOSTON MA	02116	187 BEACON ST #1	BOSTON	02116
502733004	CLARK DONALD T	CLARK DONALD T	187 BEACON ST #2	BOSTON MA	02116	187 BEACON ST #2	BOSTON	02116
502733008	ADIRONDACK BEACON LLC	ADIRONDACK BEACON LLC	31 ST JAMES AVENUE SUITE 740	BOSTON MA	02116	187 BEACON ST	BOSTON	02116
502734000	FRANKLIN CAPITAL PARTNERS CO	FRANKLIN CAPITAL PARTNERS CO	213 NEWBURY ST	BOSTON MA	02116	185 BEACON ST	BOSTON	02116
502736000	LAWLESS JAMES C TS	LAWLESS JAMES C TS	190 DOWNEY ST	WESTWOOD MA	02090	181 BEACON ST	BOSTON	02116
502737000	ONE 79 BEACON ST CONDO TR	ONE 79 BEACON ST CONDO TR	179 BEACON	BOSTON MA	02116	179 BEACON ST	BOSTON	02116
502737002	SHAGOURY ANTOINE	SHAGOURY ANTOINE	179 BEACON ST #1	BOSTON MA	02116	179 BEACON ST #1	BOSTON	02116
502737004	MARSEL STEPHEN E	MARSEL STEPHEN E	179 BEACON ST #2	BOSTON MA	02116	179 BEACON ST #2	BOSTON	02116
502737006	DUNN JEFFREY TS	DUNN JEFFREY TS	65 COMMONWEALTH AV #3A	BOSTON MA	02116	179 BEACON ST #3	BOSTON	02116
502737008	KENNEDY SALLY A	KENNEDY SALLY A	179 BEACON ST #4	BOSTON MA	02116	179 BEACON ST #4	BOSTON	02116
502737010	LIPTROT CHRISTOPHER	LIPTROT CHRISTOPHER	179 BEACON ST #5	BOSTON MA	02116	179 BEACON ST #5	BOSTON	02116
502738000	ONE 77 BEACON ST CONDO TR	ONE 77 BEACON ST CONDO TR	177 BEACON	BOSTON MA	02116	177 BEACON ST	BOSTON	02116
502738002	BOYD FREDERICK C III	BOYD FREDERICK C III	177 BEACON ST #1	BOSTON MA	02116	177 BEACON ST #1	BOSTON	02116
502738004	GONYEA GARY	GONYEA GARY	177 BEACON ST #2	BOSTON MA	02116	177 BEACON ST #2	BOSTON	02116
502738006	CREAN DAVID M	CREAN DAVID M	14 CUSHING RD	WELLESLEY MA	02481	177 BEACON ST #3	BOSTON	02116
502738008	HAVILAND COURTNEY	HAVILAND COURTNEY	177 BEACON ST #4	BOSTON MA	02116	177 BEACON ST #4	BOSTON	02116
502739000	175 BEACON STREET LLC	175 BEACON STREET LLC	103 CLAYTON ST	DORCHESTER MA	02122	175 BEACON ST	BOSTON	02116
502740000	LA RESIDENCE CONDO TR	LA RESIDENCE CONDO TR	173 BEACON	BOSTON MA	02116	173 BEACON ST	BOSTON	02116
502740002	CHIOCCA AND CHIOCCA LLC	CHIOCCA AND CHIOCCA LLC	7 WHITEHOUSE LN	WESTON MA	02493	173 BEACON ST #1	BOSTON	02116
502740006	KRONFELD JUNE TS	KRONFELD JUNE TS	173 BEACON ST #3	BOSTON MA	02116	173 BEACON ST #3	BOSTON	02116
502740008	STULTS VAN J	STULTS VAN J	173 BEACON ST #4	BOSTON MA	02116	173 BEACON ST #4	BOSTON	02116
502740010	PETERSEN VENTURES LLC	PETERSEN VENTURES LLC	18 HEALD RD	ASHBURNHAM MA	01430	173 BEACON ST #5	BOSTON	02116
502740012	MOORE JAMES E	MOORE JAMES E	173 BEACON ST #6	BOSTON MA	02116	173 BEACON ST #6	BOSTON	02116
502741000	BEACON ASSOCIATES CONDO TR	BEACON ASSOCIATES CONDO TR	171 BEACON	BOSTON MA	02116	171 169 BEACON ST	BOSTON	02116
502741002	POULOS ANTHONY	POULOS ANTHONY	171 BEACON ST #B2	BOSTON MA	02116	171 BEACON ST #B-2	BOSTON	02116
502741004	SAVARA VIKRAM	SAVARA VIKRAM	772 SW BROADWAY DR #2	PORTLAND OR	97201	171 BEACON ST #B-3	BOSTON	02116
502741006	HARTMANN PETER	HARTMANN PETER	14 ANCHOR DR	FORESTDALE MA	02644	171 BEACON ST #1-2	BOSTON	02116
502741008	TOBIA ALLISON J	TOBIA ALLISON J	6 ACORN LA	WAYLAND MA	01778	171 BEACON ST #1-3	BOSTON	02116
502741010	HAMUTCU BURCU	HAMUTCU BURCU	171 BEACON ST #2-2	BOSTON MA	02116	171 BEACON ST #2-2	BOSTON	02116
502741012	CHIANG KOPHU	CHIANG KOPHU	171 BEACON STREET UNIT 2-3	BOSTON MA	02116	171 BEACON ST #2-3	BOSTON	02116

502741014	LDS BOSTON REALTY LLC	LDS BOSTON REALTY LLC	147 MAIN ST	MAYNARD MA	01754	171	BEACON ST #3-2	BOSTON	02116
502741016	DIMITRY JANE	DIMITRY JANE	171 BEACON ST #3-3	BOSTON MA	02116	171	BEACON ST #3-3	BOSTON	02116
502741018	KHEMLANI LISHA G	KHEMLANI LISHA G	171 BEACON ST #4-2	BOSTON MA	02115	171	BEACON ST #4-2	BOSTON	02116
502741020	CUGGINO KAREN	CUGGINO KAREN	171 BEACON ST #4-3	BOSTON MA	02116	171	BEACON ST #4-3	BOSTON	02116
502741022	HAROUTIOUNIAN GEORGE	HAROUTIOUNIAN GEORGE	171 BEACON ST #5	BOSTON MA	02116	171	BEACON ST #5-2	BOSTON	02116
502741024	HAROUTIOUNIAN GEORGE	HAROUTIOUNIAN GEORGE	36 UPLAND RD	WATERTOWN MA	02472	171	BEACON ST #5-3	BOSTON	02116
502741026	DEMBRO ARTHUR J III	DEMBRO ARTHUR J III	169 BEACON ST #B-1	BOSTON MA	02116	169	BEACON ST #B-1	BOSTON	02116
502741028	DRINGENBERG JESSICA	DRINGENBERG JESSICA	169 BEACON ST #B4	BOSTON MA	02116	169	BEACON ST #B-4	BOSTON	02116
502741030	MACFARLANE JOHN	MACFARLANE JOHN	P O BOX 883	YORK HARBOR ME	03911	169	BEACON ST #1-1	BOSTON	02116
502741032	YANG RIVER	YANG RIVER	169 BEACON ST #1-4	BOSTON MA	02116	169	BEACON ST #1-4	BOSTON	02116
502741034	WONG WING SUN	WONG WING SUN	6 WHITE ROCK RD	ASHLAND MA	01721	169	BEACON ST #2-1	BOSTON	02116
502741036	WEGNER LISA A	WEGNER LISA A	169 BEACON ST #2-4	BOSTON MA	02116	169	BEACON ST #2-4	BOSTON	02116
502741038	WALTERS MARY	WALTERS MARY	169 BEACON ST #3-1	BOSTON MA	02116	169	BEACON ST #3-1	BOSTON	02116
502741040	KELLEY JEAN M TS	KELLEY JEAN M TS	169 BEACON ST UNIT 3R	BOSTON MA	02116	169	BEACON ST #3-4	BOSTON	02116
502741042	MILLON CRAIG A	MILLON CRAIG A	141 WARREN AV #3	BOSTON MA	02116	169	BEACON ST #4-1	BOSTON	02116
502741044	PAN JENNA Y	PAN JENNA Y	169 BEACON ST #4-4	BOSTON MA	02116	169	BEACON ST #4-4	BOSTON	02116
502741046	MATOWIK DEENA	MATOWIK DEENA	169 BEACON ST #5-1	BOSTON MA	02116	169	BEACON ST #5-1	BOSTON	02116
502741048	FRANZ MARIE-JEANNE	FRANZ MARIE-JEANNE	169 BEACON ST #5-4	BOSTON MA	02116	169	BEACON ST #5-4	BOSTON	02116
502743000	ONE 67 BEACON ST REALTY TR	ONE 67 BEACON ST REALTY TR	167 BEACON ST	BOSTON MA	02116	167	BEACON ST	BOSTON	02116
502743002	XIANG YUN KONG	XIANG YUN KONG	167 BEACON ST	BOSTON MA	02116	167	BEACON ST #1	BOSTON	02116
502743004	USTAYEV DANIEL	USTAYEV DANIEL	167 BEACON ST UNIT 2	BOSTON MA	02116	167	BEACON ST #2	BOSTON	02116
502743006	TING LI	TING LI	167 BEACON ST #1	BOSTON MA	02116	167	BEACON ST #3	BOSTON	02116
502743008	DEFUSCO CHRISTINA M	DEFUSCO CHRISTINA M	167 BEACON ST #4	BOSTON MA	02116	167	BEACON ST #4	BOSTON	02116
502743010	PEROS LISA P	PEROS LISA P	167 BEACON ST #5	BOSTON MA	02116	167	BEACON ST #5	BOSTON	02116
502743012	FISCUS GLENN W	FISCUS GLENN W	3857 FOX RUN	DENVER NC	28037	167	BEACON ST #6	BOSTON	02116
502743014	TUCKER HARRY SEAN	TUCKER HARRY SEAN	180 BROAD ST	STAMFORD CT	06901	167	BEACON ST #7	BOSTON	02116
502743016	ZURITA MONTSERRAT	ZURITA MONTSERRAT	160 COMMONWEALTH AV STE U	BOSTON MA	02116	167	BEACON ST #8	BOSTON	02116
502743018	CARIN DORIS OAKLAND TS	CARIN DORIS OAKLAND TS	9915 SEACREST CI #202	BOYNTON BEACH FL	33437	167	BEACON ST #9	BOSTON	02116
502743020	MACLEOD MARJORIE C	MACLEOD MARJORIE C	18 MANOMET AV	HULL MA	02045	167	BEACON ST #10	BOSTON	02116
502743022	YORK LAURA A	YORK LAURA A	167 BEACON ST #11	BOSTON MA	02116	167	BEACON ST #11	BOSTON	02116
502743024	BOLAND MARY BETH	BOLAND MARY BETH	80 CHESTNUT STREET	ANDOVER MA	01810	167	BEACON ST #12	BOSTON	02116
502744000	ONE 65 BEACON ST CONDO TR	ONE 65 BEACON ST CONDO TR	165 BEACON	BOSTON MA	02116	165	BEACON ST	BOSTON	02116
502744004	FRIEDMAN JOEL	FRIEDMAN JOEL	165 BEACON ST #2	BOSTON MA	02116	165	BEACON ST #2	BOSTON	02116
502744006	GILMOUR SHANNON KELLY	GILMOUR SHANNON KELLY	165 BEACON ST #1-3	BOSTON MA	02116	165	BEACON ST #1-3	BOSTON	02116

502744010	KIRBY ELLA L	KIRBY ELLA L	165 BEACON ST #4	BOSTON MA	02116	165 BEACON ST #4-5	BOSTON	02116
502744012	STEPHEN J BOGGESS 2016	STEPHEN J BOGGESS 2016	165 BEACON ST #6	BOSTON MA	02116	165 BEACON ST #6	BOSTON	02116
502744014	PREZIOSI VICTORIA	PREZIOSI VICTORIA	165 BEACON ST #7	BOSTON MA	02116	165 BEACON ST #7	BOSTON	02116
502744016	XIAO DAVID	XIAO DAVID	165 BEACON ST #8	BOSTON MA	02116	165 BEACON ST #8	BOSTON	02116
502744018	SAN ANTONIO CHRISTINE E	SAN ANTONIO CHRISTINE E	165 BEACON ST #9	BOSTON MA	02116	165 BEACON ST #9	BOSTON	02116
502744020	VARVARES MARK A	VARVARES MARK A	165 BEACON ST #10	BOSTON MA	02116	165 BEACON ST #10	BOSTON	02116
502745000	ONE 63 BEACON CONDO TR	ONE 63 BEACON CONDO TR	163 BEACON	BOSTON MA	02116	163 BEACON ST	BOSTON	02116
502745002	WHITEHEAD CRAIG L	WHITEHEAD CRAIG L	163 BEACON ST UNIT B-1	BOSTON MA	02116	163 BEACON ST #B-1	BOSTON	02116
502745004	CHOO MICHELE P	CHOO MICHELE P	40 ISABELLA ST #2E	BOSTON MA	02116	163 BEACON ST #B-2	BOSTON	02116
502745006	STEAMBOAT REALTY LLC	STEAMBOAT REALTY LLC	92 STATE	BOSTON MA	02109	163 BEACON ST #1	BOSTON	02116
502745010	PHILIPPE SABINE L	PHILIPPE SABINE L	1487 DUNSTER LANE	POTOMAC MD	20854	163 BEACON ST #3	BOSTON	02116
502745012	NLA LLC	NLA LLC	2 TOOMEY CI	BURLINGTON MA	01803	163 BEACON ST #4	BOSTON	02116
502745014	KHOORY JUANN	KHOORY JUANN	163 BEACON ST #5	BOSTON MA	02116	163 BEACON ST #5	BOSTON	02116
502745016	MAURO JORDAN	MAURO JORDAN	163 BEACON ST #4	BOSTON MA	02116	163 BEACON ST #6	BOSTON	02116
502745018	BAKER ERIK	BAKER ERIK	163 BEACON ST #7	BOSTON MA	02116	163 BEACON ST #7	BOSTON	02116
502745020	MARKS SHELLY	MARKS SHELLY	163 BEACON ST #8	BOSTON MA	02116	163 BEACON ST #8	BOSTON	02116
502745022	PORCELLO DEAN	PORCELLO DEAN	163 BEACON STREET #9	BOSTON MA	02116	163 BEACON ST #9	BOSTON	02116
502745024	BAGLEY CRAIG	BAGLEY CRAIG	163 BEACON STREET UNIT 10	BOSTON MA	02116	163 BEACON ST #10	BOSTON	02116
502746000	GLYNN PASCAL	GLYNN PASCAL	83 CENTRAL ST 2ND FLOOR	BOSTON MA	02109	161 BEACON ST	BOSTON	02116
502747000	KWONG CHEE W TS	KWONG CHEE W TS	159 BEACON ST	BOSTON MA	02116	159 BEACON ST	BOSTON	02116
502748000	ONE 57 BEACON ST CONDO TR	ONE 57 BEACON ST CONDO TR	157 BEACON	BOSTON MA	02116	157 BEACON ST	BOSTON	02116
502748002	BIEBUYCK JEAN-MARIE	BIEBUYCK JEAN-MARIE	165 W CANTON ST	BOSTON MA	02118	157 BEACON ST #1	BOSTON	02116
502748006	BIEBUYCK JEAN-MARIE	BIEBUYCK JEAN-MARIE	157 BEACON ST #3	BOSTON MA	02116	157 BEACON ST #3	BOSTON	02116
502748008	SWANSON ANNE C	SWANSON ANNE C	157 BEACON ST #4	BOSTON MA	02116	157 BEACON ST #4	BOSTON	02116
502748010	MUIR YVONNE	MUIR YVONNE	157 BEACON ST #5	BOSTON MA	02116	157 BEACON ST #5	BOSTON	02116
502749000	ONE 55 BEACON ST CONDO TR	ONE 55 BEACON ST CONDO TR	155 BEACON	BOSTON MA	02116	155 BEACON ST	BOSTON	02116
502749002	MICHAELS LAURENCE	MICHAELS LAURENCE	155 BEACON ST #1	BOSTON MA	02116	155 BEACON ST #1	BOSTON	02116
502749004	LIU BING	LIU BING	155 BEACON STREET UNIT 2	BOSTON MA	02116	155 BEACON ST #2	BOSTON	02116
502749006	KULKARNI VIVEK J TS	KULKARNI VIVEK J TS	161 KIMBALL RD	CARLISLE MA	01741	155 BEACON ST #3	BOSTON	02116
502749008	GILLIS BRIAN A	GILLIS BRIAN A	155 BEACON ST #4	BOSTON MA	02116	155 BEACON ST #4	BOSTON	02116
502749010	CIOLINO JOSEPH	CIOLINO JOSEPH	155 BEACON ST #5	BOSTON MA	02116	155 BEACON ST #5	BOSTON	02116
502750010	MARRANO MARK C TRUSTEE	MARRANO MARK C TRUSTEE	151153 BEACON ST	BOSTON MA	02116	151 153 BEACON ST	BOSTON	02116
502750012	PRUCHER MICHAEL R	PRUCHER MICHAEL R	151 BEACON ST #1	BOSTON MA	02116	151 153 BEACON ST #1	BOSTON	02116
502750014	PROBOLUS SUSAN	PROBOLUS SUSAN	151 BEACON ST #2	BOSTON MA	02116	151 153 BEACON ST #2	BOSTON	02116

502750016	LOVEJOY FREDERICK H III	LOVEJOY FREDERICK H III	151 BEACON ST #3	BOSTON MA	02116	151 153 BEACON ST #3	BOSTON	02116
502750018	KORN DAVID TS	KORN DAVID TS	151 BEACON ST #4	BOSTON MA	02116	151 153 BEACON ST #4	BOSTON	02116
502750020	STEIN ERIC A	STEIN ERIC A	151 BEACON ST #5	BOSTON MA	02116	151 153 BEACON ST #5	BOSTON	02116
502750022	MOESSLANG ANGELO	MOESSLANG ANGELO	151 BEACON ST #6	BOSTON MA	02116	151 153 BEACON ST #6	BOSTON	02116
502752000	ONE 49 BEACON ST CONDO TR	ONE 49 BEACON ST CONDO TR	149 BEACON ST	BOSTON MA	02116	149 BEACON ST	BOSTON	02116
502752002	LETTS SAMUEL G	LETTS SAMUEL G	149 BEACON STREET #1	BOSTON MA	02116	149 BEACON ST #1	BOSTON	02116
502752004	149 BEACON STREET REALTY	149 BEACON STREET REALTY	149 BEACON ST #2	BOSTON MA	02116	149 BEACON ST #2	BOSTON	02116
502752006	ROGARIS PETER C	ROGARIS PETER C	3 HILLCREST RD	WESTON MA	02493	149 BEACON ST #3	BOSTON	02116
502752008	CHOI BYUNG W	CHOI BYUNG W	149 BEACON ST #4	BOSTON MA	02116	149 BEACON ST #4	BOSTON	02116
502752010	GRUSH ARTEM	GRUSH ARTEM	149 BEACON ST #5	BOSTON MA	02116	149 BEACON ST #5	BOSTON	02116
502752012	RIORDAN STEVEN	RIORDAN STEVEN	149 BEACON ST #6	BOSTON MA	02116	149 BEACON ST #6	BOSTON	02116
502797010	RESIDENCES AT 303 BERKELY	RESIDENCES AT 303 BERKELY	252 NEWBURY ST	BOSTON MA	02116	303 BERKELEY ST	BOSTON	02116
502797012	DAVID J CANEPARI IRREVOCABLE	DAVID J CANEPARI IRREVOCABLE	303 BERKELEY SY # 1/3	BOSTON MA	02116	303 BERKELEY ST #1/3	BOSTON	02116
502797014	JOANNE S GILL REVOCABLE	JOANNE S GILL REVOCABLE	303 BERKELEY ST #2	BOSTON MA	02116	303 BERKELEY ST #2	BOSTON	02116
502797016	DELPIDIO CYNTHIA TS	DELPIDIO CYNTHIA TS	303 BERKELEY ST # 4	BOSTON MA	02116	303 BERKELEY ST #4	BOSTON	02116
502797018	BOTSFORD ALAN C	BOTSFORD ALAN C	303 BERKELEY ST #5	BOSTON MA	02116	303 BERKELEY ST #5	BOSTON	02116
502797020	GAVELL STEFAN	GAVELL STEFAN	303 BERKELEY ST #6	BOSTON MA	02116	303 BERKELEY ST #6	BOSTON	02116
502797022	LACK MARJORIE T	LACK MARJORIE T	303 BERKELEY ST #7	BOSTON MA	02116	303 BERKELEY ST #7	BOSTON	02116
502797024	VAULE ROSAMOND B	VAULE ROSAMOND B	303 BERKELEY ST #8	BOSTON MA	02116	303 BERKELEY ST #8	BOSTON	02116
502797026	VOGELSANG INGO J	VOGELSANG INGO J	303 BERKELEY ST #9	BOSTON MA	02116	303 BERKELEY ST #9	BOSTON	02116
502802000	GIBSON SOCIETY INC	GIBSON SOCIETY INC	137 BEACON ST	BOSTON MA	02116	137 BEACON ST	BOSTON	02116
502803000	POLYMATH DEVELOPMENT LLC	POLYMATH DEVELOPMENT LLC	590 MAIN ST STE 500	WATERTOWN MA	02472	135 BEACON ST	BOSTON	02116
502804000	FISHER JUNIOR COLLEGE	FISHER JUNIOR COLLEGE	133 BEACON	BOSTON MA	02116	133 BEACON ST	BOSTON	02116
502805000	FISHER JUNIOR COLLEGE	FISHER JUNIOR COLLEGE	131 BEACON	BOSTON MA	02116	131 BEACON ST	BOSTON	02116
502806000	ONE-29 BEACON ST CONDO TR	ONE-29 BEACON ST CONDO TR	129 BEACON	BOSTON MA	02115	129 BEACON ST	BOSTON	02116
502806002	PEG/JWG REALTY TRUST	PEG/JWG REALTY TRUST	129 BEACON ST #1	BOSTON MA	02116	129 BEACON ST #1	BOSTON	02116
502806004	TSAI THEODORE F	TSAI THEODORE F	129 BEACON ST #2	BOSTON MA	02116	129 BEACON ST #2	BOSTON	02116
502806006	GEFFEN DONALD A	GEFFEN DONALD A	129 BEACON ST #3	BOSTON MA	02116	129 BEACON ST #3	BOSTON	02116
502806008	LISS AVI	LISS AVI	198 TREMONT ST. #440	BOSTON MA	02116	129 BEACON ST #4	BOSTON	02116
502806010	LISS AVI	LISS AVI	198 TREMONT ST. # 440	BOSTON MA	02116	129 BEACON ST	BOSTON	02116
502806012	GEE PETER E	GEE PETER E	129 BEACON ST #1	BOSTON MA	02116	129 BEACON ST	BOSTON	02116
502807000	ONE-27 BEACON ST CONDO TR	ONE-27 BEACON ST CONDO TR	127 BEACON ST	BOSTON MA	02116	127 BEACON ST	BOSTON	02116
502807030	DIXON MEREDITH	DIXON MEREDITH	127 BEACON ST #1	BOSTON MA	02116	127 BEACON ST #01	BOSTON	02116
502807032	PELLING KRISTEN L	PELLING KRISTEN L	127 BEACON ST #2	BOSTON MA	02116	127 BEACON ST #02	BOSTON	02116

502807034	BERTOLAMI STEPHEN	BERTOLAMI STEPHEN	127 BEACON ST #11	BOSTON MA	02116	127 BEACON ST #11	BOSTON	02116
502807036	KREYTAK JENNIFER K	KREYTAK JENNIFER K	127 BEACON ST # 12	BOSTON MA	02116	127 BEACON ST #12	BOSTON	02116
502807038	PRASHANT PRABHU REVOCABLE	PRASHANT PRABHU REVOCABLE	108 BRIGHTON ST	BELMONT MA	02478	127 BEACON ST #21	BOSTON	02116
502807042	JAMROG DANIEL M	JAMROG DANIEL M	580 WASHINGTON ST UNIT 305	BOSTON MA	02111	127 BEACON ST #31	BOSTON	02116
502807044	WALCOTT JUDITH W	WALCOTT JUDITH W	9 PAGE ST	GLOUCESTER MA	01930	127 BEACON ST #32	BOSTON	02116
502807046	BLANKSTEIN LARRY A	BLANKSTEIN LARRY A	41 BISHOP ST	SHARON MA	02067	127 BEACON ST #41	BOSTON	02116
502807048	TAMVAKOLOGOS JOHN TS	TAMVAKOLOGOS JOHN TS	2 BEECHWOOD LANE	MILTON MA	02186	127 BEACON ST #42	BOSTON	02116
502807050	WILSON PAUL C	WILSON PAUL C	127 BEACON ST #51	BOSTON MA	02116	127 BEACON ST #51	BOSTON	02116
502807052	PERRA GINA E	PERRA GINA E	127 BEACON ST #52	BOSTON MA	02116	127 BEACON ST #52	BOSTON	02116
502807054	TSAI THEODORE F	TSAI THEODORE F	129 BEACON ST #22	BOSTON MA	02116	127 BEACON ST	BOSTON	02116
502808000	BEACON PLACE CONDO TR	BEACON PLACE CONDO TR	125 BEACON	BOSTON MA	02116	125 BEACON ST	BOSTON	02116
502808002	FAUX MATHIAS	FAUX MATHIAS	125 BEACON ST #13	BOSTON MA	02116	125 BEACON ST #1	BOSTON	02116
502808004	BRADY ELLEN C	BRADY ELLEN C	125 BEACON ST #2	BOSTON MA	02116	125 BEACON ST #2	BOSTON	02116
502808006	CURIALE MATTEO TS	CURIALE MATTEO TS	29 SUMMIT RD	MEDFORD MA	02155	125 BEACON ST #3	BOSTON	02116
502808008	BUSTO SUMMER R	BUSTO SUMMER R	125 BEACON ST #4	BOSTON MA	02116	125 BEACON ST #4	BOSTON	02116
502808010	SMITH SARAH S	SMITH SARAH S	125 BEACON ST #5	BOSTON MA	02116	125 BEACON ST #5	BOSTON	02116
502808012	MACLEAN MARY ANN	MACLEAN MARY ANN	125 BEACON ST #6	BOSTON MA	02116	125 BEACON ST #6	BOSTON	02116
502808014	CAHILL SANDRA J	CAHILL SANDRA J	PO BOX 122	BALGOWLAH NSW /	2093	125 BEACON ST #7	BOSTON	02116
502808016	CARLOZZI MARY ELIZABETH	CARLOZZI MARY ELIZABETH	125 BEACON ST #8	BOSTON MA	02116	125 BEACON ST #8	BOSTON	02116
502808018	NORMAN JOHN C	NORMAN JOHN C	261 PONUS RIDGE RD	NEW CANAAN CT	06840	125 BEACON ST #9	BOSTON	02116
502808020	FIGLIUOLO LUCA TS	FIGLIUOLO LUCA TS	1256 COMMONWEALTH AV	W NEWTON MA	02465	125 BEACON ST #10	BOSTON	02116
502808022	GUSENOFF DANIEL C	GUSENOFF DANIEL C	269 DORSET RD	WABAN MA	02468	125 BEACON ST #11	BOSTON	02116
502808024	LANE DAVID M	LANE DAVID M	125 BEACON ST #13	BOSTON MA	02116	125 BEACON ST #12	BOSTON	02116
502808028	GUSENOFF DANIEL C	GUSENOFF DANIEL C	269 DORSET RD	WABAN MA	02468	125 BEACON ST	BOSTON	02116
502809000	ONE 21 BEACON ST CONDO TR	ONE 21 BEACON ST CONDO TR	121 BEACON	BOSTON MA	02116	121 BEACON ST	BOSTON	02116
502809002	121-1 BEACON STREET NOMINEE	121-1 BEACON STREET NOMINEE	11 REAR ARBETTER DR	FRAMINGHAM MA	01701	121 BEACON ST #1	BOSTON	02116
502809004	CHAPMAN LYDIA L	CHAPMAN LYDIA L	121 BEACON ST #2	BOSTON MA	02116	121 BEACON ST #2	BOSTON	02116
502809006	SZABO GYONGI	SZABO GYONGI	121 BEACON ST #3 4	BOSTON MA	02116	121 BEACON ST #3	BOSTON	02116
502809008	ROBBINS ROBERT	ROBBINS ROBERT	121 BEACON ST #4	BOSTON MA	02116	121 BEACON ST #4	BOSTON	02116
502809010	AGGARWAL SARIKA	AGGARWAL SARIKA	121 BEACON ST #5	BOSTON MA	02116	121 BEACON ST #5	BOSTON	02116
502809012	DYKEMA ERIK K BLACK	DYKEMA ERIK K BLACK	121 BEACON ST #6	BOSTON MA	02116	121 BEACON ST #6	BOSTON	02116
502810000	ONE NINETEEN BEACON STREET	ONE NINETEEN BEACON STREET	119 BEACON ST	BOSTON MA	02116	119 BEACON ST	BOSTON	02116
502810002	DOPHEIDE GRANT	DOPHEIDE GRANT	119 BEACON ST #1	BOSTON MA	02116	119 BEACON ST #1	BOSTON	02116
502810004	RYAN JAMES	RYAN JAMES	PO BOX 400	GREEN HARBOR MA	02041	119 BEACON ST #2	BOSTON	02116

502810006	SECHI LUCA	SECHI LUCA	119 BEACON ST #3	BOSTON MA	02116	119 BEACON ST #3	BOSTON	02116
502810008	MOUTZOUROGEORGOS ASIMINA	MOUTZOUROGEORGOS ASIMINA	119 BEACON ST #4	BOSTON MA	02116	119 BEACON ST #4	BOSTON	02116
502810010	KEYES COLLEEN M	KEYES COLLEEN M	119 BEACON ST #5	BOSTON MA	02116	119 BEACON ST #5	BOSTON	02116
502810012	YAZDI HASSAN	YAZDI HASSAN	119 BEACON ST #6	BOSTON MA	02116	119 BEACON ST #6	BOSTON	02116
502811000	117 BEACON STREET	117 BEACON STREET	117 BEACON ST	BOSTON MA	02116	117 BEACON ST	BOSTON	02116
502811002	COLLINS SCOTT C	COLLINS SCOTT C	117 BEACON ST #1	BOSTON MA	02116	117 BEACON ST #1	BOSTON	02116
502811004	GARAI GABOR	GARAI GABOR	117 BEACON ST #2	BOSTON MA	02116	117 BEACON ST #2	BOSTON	02116
502813000	EB PROPERTIES LLC	EB PROPERTIES LLC	74 CLARENDON ST SUITE A	BOSTON MA	02116	113 BEACON ST	BOSTON	02116
502814000	FISHER COLLEGE	FISHER COLLEGE	118 BEACON ST	BOSTON MA	02116	111 BEACON ST	BOSTON	02116
502815000	ONE 09 BEACON ST CONDO ASSN	ONE 09 BEACON ST CONDO ASSN	109 BEACON	BOSTON MA	02116	109 BEACON ST	BOSTON	02116
502815002	FITZPATRICK THOMAS	FITZPATRICK THOMAS	109 BEACON ST #1	BOSTON MA	02116	109 BEACON ST #1	BOSTON	02116
502815004	WEBSTER MARIE P	WEBSTER MARIE P	109 BEACON ST #2	BOSTON MA	02116	109 BEACON ST #2	BOSTON	02116
502815006	ZIEGEL ALEXANDRA	ZIEGEL ALEXANDRA	109 BEACON ST #3	BOSTON MA	02116	109 BEACON ST #3	BOSTON	02116
502815008	MOSES BRENDAN	MOSES BRENDAN	109 BEACON ST #4	BOSTON MA	02116	109 BEACON ST #4	BOSTON	02116
502815010	COSKREN NICHOLAS P	COSKREN NICHOLAS P	109 BEACON ST #5	BOSTON MA	02116	109 BEACON ST #5	BOSTON	02116
502815012	RYAN JOHN F TS	RYAN JOHN F TS	109 BEACON ST #6	BOSTON MA	02116	109 BEACON ST #6	BOSTON	02116
502815014	DEMARRAIS PAUL QUINN	DEMARRAIS PAUL QUINN	3 MARLBOROUGH ST #2	BOSTON MA	02116	109 BEACON ST	BOSTON	02116
502817000	HEAVEN ON BEACON CONDO TR	HEAVEN ON BEACON CONDO TR	100 SOUTH ST	BOSTON MA	02111	105 BEACON ST	BOSTON	02116
502817002	MCNABB MICHAEL	MCNABB MICHAEL	105 BEACON ST #1-A	BOSTON MA	02116	105 BEACON ST #1-A	BOSTON	02116
502817004	RUTH B CLARK REVOCABLE TRUST	RUTH B CLARK REVOCABLE TRUST	1705 OCEAN BOULEVARD	RYE NH	03870	105 BEACON ST #1	BOSTON	02116
502817006	YOUNG EILEEN	YOUNG EILEEN	105 BEACON ST #2	BOSTON MA	02116	105 BEACON ST #2	BOSTON	02116
502817008	KATZ JULIE	KATZ JULIE	105 BEACON ST #3	BOSTON MA	02116	105 BEACON ST #3	BOSTON	02116
502817010	HEDGER THOMAS A	HEDGER THOMAS A	131 SHORE RD	CAPE NEDDICK ME	03902	105 BEACON ST #4	BOSTON	02116
502817012	WHEELER SARAH	WHEELER SARAH	48 BROOK ROAD	WESTON MA	02493	105 BEACON ST #5	BOSTON	02116
502817014	KLEINMAN PAUL	KLEINMAN PAUL	19195 MYSTIC POINTE DR 2001	AVENTURA FL	33180	105 BEACON ST #6	BOSTON	02116
502817016	SCHAEFER JOHN	SCHAEFER JOHN	105 BEACON ST #7	BOSTON MA	02116	105 BEACON ST #7	BOSTON	02116
502817018	KIENLEN GERALYN	KIENLEN GERALYN	19 OAK RIDGE RD	BASKING RIDGE NJ	07920	105 BEACON ST #8	BOSTON	02116
502817020	105 BEACON ST LLC	105 BEACON ST LLC	7 RIVERVIEW RD	KILLINGWORTH CT	06419	105 BEACON ST #9	BOSTON	02116
502817022	JACKSON LUE DEE JR	JACKSON LUE DEE JR	386 A/B WARREN STREET	BOSTON MA	02119	105 BEACON ST #10	BOSTON	02116
502817026	CARBONNEAU DANIEL	CARBONNEAU DANIEL	6 ARLINGTON ST #PH	BOSTON MA	02116	105 BEACON ST	BOSTON	02116
502818000	ONE 03 BEACON ST CONDOMINIUM	ONE 03 BEACON ST CONDOMINIUM	103 BEACON	BOSTON MA	02116	103 BEACON ST	BOSTON	02116
502818002	HIER JENNIFER	HIER JENNIFER	103 BEACON ST #1	BOSTON MA	02116	103 BEACON ST #1	BOSTON	02116
502818004	BUCKLAND ARTHUR R	BUCKLAND ARTHUR R	343 COMMERCIAL ST #103	BOSTON MA	02109	103 BEACON ST #2	BOSTON	02116
502818006	PEDRAZA ROBERT	PEDRAZA ROBERT	14601 SOUTHWEST 82 COURT	PALMETTO BAY FL	33158	103 BEACON ST #3	BOSTON	02116

502818008	LOONIS CHARLES BE	LOONIS CHARLES BE	103 BEACON ST #4	BOSTON MA	02116	103 BEACON ST #4	BOSTON	02116
502818010	INDISI NV	INDISI NV	69 COLLEGE ST	BURLINGTON VT	05401	103 BEACON ST #5	BOSTON	02116
502818012	SULTAN AZIZ ALI MOHAMMED	SULTAN AZIZ ALI MOHAMMED	103 BEACON ST #6-7	BOSTON MA	02116	103 BEACON ST #6\7	BOSTON	02116
502818018	INDISI NV	INDISI NV	69 COLLEGE ST	BURLINGTON VT	05401	103 BEACON ST	BOSTON	02116
502819000	ONE-O-ONE BEACON LLC	ONE-O-ONE BEACON LLC	421 HANOVER ST	BOSTON MA	02113	101 BEACON ST	BOSTON	02116
502820000	FISHER COLLEGE	FISHER COLLEGE	1 ARLINGTON ST	BOSTON MA	02116	1 ARLINGTON ST	BOSTON	02116
503747000	COMMWLTH OF MASS	COMMWLTH OF MASS	BAY STATE RD	BOSTON MA	02215	BAY STATE RD	BOSTON	02215
504070000	BOSTON UNIVERSITY TRSTS	BOSTON UNIVERSITY TRSTS	195 BAY STATE RD	BOSTON MA	02215	195 BAY STATE RD	BOSTON	02215
504071000	BOSTON UNIVERSITY TRST OF	BOSTON UNIVERSITY TRST OF	197 BAY STATE RD	BOSTON MA	02215	197 BAY STATE RD	BOSTON	02215
504072000	BOSTON UNIVERSITY TRS OF	BOSTON UNIVERSITY TRS OF	199 BAY STATE RD	BOSTON MA	02215	199 BAY STATE RD	BOSTON	02215
504073000	BOSTON UNIVERSITY TRS OF	BOSTON UNIVERSITY TRS OF	201 BAY STATE RD	BOSTON MA	02215	201 BAY STATE RD	BOSTON	02215
504074000	BOSTON UNIVERSITY TRSTS	BOSTON UNIVERSITY TRSTS	203 BAY STATE RD	BOSTON MA	02215	203 BAY STATE RD	BOSTON	02215
504076000	BOSTON UNIVERSITY TRSTS OF	BOSTON UNIVERSITY TRSTS OF	207 BAY STATE RD	BOSTON MA	02215	207 BAY STATE RD	BOSTON	02215
504077000	BOSTON UNIVERSITY TRSTS OF	BOSTON UNIVERSITY TRSTS OF	209 BAY STATE RD	BOSTON MA	02215	209 BAY STATE RD	BOSTON	02215
504078000	ROMAN CATH ARCH OF BOS	ROMAN CATH ARCH OF BOS	211 BAY STATE RD	BOSTON MA	02215	211 BAY STATE RD	BOSTON	02215
504079000	TRSUTEES OF BOSTON UNIVERSIT	TRSUTEES OF BOSTON UNIVERSIT	213 BAY STATE RD	BOSTON MA	02215	213 -217 BAY STATE RD	BOSTON	02215
504100000	BOSTON UNIVERSITY TRSTS OF	BOSTON UNIVERSITY TRSTS OF	881 COMMONWEALTH AV &	BOSTON MA	02215	659 665 COMMONWEALTH /	BOSTON	02215
504102000	BOSTON UNIVERSITY TRST	BOSTON UNIVERSITY TRST	BAY STATE RD	BOSTON MA	02215	BAY STATE RD	BOSTON	02215
504104000	BOSTON UNIVERSITY TRSTS THE	BOSTON UNIVERSITY TRSTS THE	212 BAY STATE RD	BOSTON MA	02215	212 BAY STATE RD	BOSTON	02215
504105000	BOSTON UNIVERSITY TRSTS OF	BOSTON UNIVERSITY TRSTS OF	210 BAY STATE RD	BOSTON MA	02215	210 BAY STATE RD	BOSTON	02215
504106000	BOSTON UNIVERSITY TRS OF	BOSTON UNIVERSITY TRS OF	208 BAY STATE RD	BOSTON MA	02215	208 BAY STATE RD	BOSTON	02215
504107000	BOSTON UNIVERSITY TRS OF	BOSTON UNIVERSITY TRS OF	206 BAY STATE RD	BOSTON MA	02215	206 BAY STATE RD	BOSTON	02215
504109000	BOSTON UNIVERSITY TRS OF	BOSTON UNIVERSITY TRS OF	202 BAY STATE RD	BOSTON MA	02215	202 BAY STATE RD	BOSTON	02215
504110000	BOSTON UNIVERSITY TRS OF	BOSTON UNIVERSITY TRS OF	200 BAY STATE RD	BOSTON MA	02215	200 BAY STATE RD	BOSTON	02215
2100355000	TRUSTEES OF BOSTON	TRUSTEES OF BOSTON	225 BAY STATE RD	BOSTON MA	02215	225 BAY STATE RD	BOSTON	02215
2100356000	TRUSTEES OF BOSTON UNIVERSIT	TRUSTEES OF BOSTON UNIVERSIT	881 COMMONWEALTH AV	BOSTON MA	02215	231 233 BAY STATE RD	BOSTON	02215
2100357000	BOSTON UNIVERSITY TRSTS	BOSTON UNIVERSITY TRSTS	BAY STATE RD	BOSTON MA	02215	BAY STATE RD	BOSTON	02115
2100357001	CITY OF BOSTON	CITY OF BOSTON	GRANBY	BOSTON MA	02215	GRANBY ST	BOSTON	02215
2100358000	BOSTON UNIVERSITY TRS	BOSTON UNIVERSITY TRS	232 BAY STATE RD	BOSTON MA	02215	232 BAY STATE RD	BOSTON	02115
2100359000	BOSTON UNIVERSITY TRSTS OF	BOSTON UNIVERSITY TRSTS OF	226 BAY STATE RD	BOSTON MA	02215	226 BAY STATE RD	BOSTON	02215
2100360001	BOSTON UNIVERSITY TRSTS	BOSTON UNIVERSITY TRSTS	685 COMMONWEALTH AV	BOSTON MA	02115	685 777 COMMONWEALTH /	BOSTON	02115
2100361000	BOSTON UNIVERSITY TRS OF	BOSTON UNIVERSITY TRS OF	UNIVERSITY RD	BROOKLINE MA	02445	UNIVERSITY RD	BOSTON	02215
2100370000	COMMWLTH OF MASS	COMMWLTH OF MASS	UNIVERSITY RD	BOSTON MA	02215	UNIVERSITY RD	BOSTON	02215
2100392000	BOSTON UNIVERSITY TRSTS	BOSTON UNIVERSITY TRSTS	785 COMMONWEALTH AVE	BOSTON MA	02115	785 795 COMMONWEALTH /	BOSTON	02115

2100392001	BOSTON UNIVERSITY TRSTS	BOSTON UNIVERSITY TRSTS	881 COMMONWEALTH AVE 4TH	BOSTON MA	02215	785 -795 COMMONWEALTH	BOSTON	02115
2100394000	BOSTON UNIVERSITY TRSTS	BOSTON UNIVERSITY TRSTS	SOLDIERS FIELD RD	BOSTON MA	02215	SOLDIERS FIELD RD	ALLSTON	02134
2100395000	COMMWLTH OF MASS	COMMWLTH OF MASS	BOSTON UNI BRIDGE	BOSTON MA	02115	BOSTON UNI BRIDGE ZZ	ALLSTON	02134
2100396000	MASS TURNPIKE AUTH CL62	MASS TURNPIKE AUTH CL62	COMMONWEALTH AVE	BOSTON MA	02215	COMMONWEALTH AV	ALLSTON	02134
2200103000	COMMONWLTH OF MASS	COMMONWLTH OF MASS	CAMBRIDGE	ALLSTON MA	02134	CAMBRIDGE ST	ALLSTON	02134
2200301000	PRESIDENT & FELLOWS HARVARD	PRESIDENT & FELLOWS HARVARD	1350 MASS AVE #19	CAMBRIDGE MA	02138	WESTERN AV	ALLSTON	02134
2200301001	PRESIDENT & FELLOWS HARVARD	PRESIDENT & FELLOWS HARVARD	1350 MASSACHUSETTS AVE	CAMBRIDGE MA	02138	WESTERN AV	ALLSTON	02134
2200301100	PRESIDENT AND FELLOWS OF	PRESIDENT AND FELLOWS OF	1350 MASSACHUSETTS AV	CAMBRIDGE MA	02138	1 SOLDIERS FIELD RD	ALLSTON	02134
2200302000	COMMWLTH OF MASS	COMMWLTH OF MASS	WESTERN AVE	ALLSTON MA	02134	WESTERN AV	ALLSTON	02134
2200470000	COMMONWLTH OF MASS M D C	COMMONWLTH OF MASS M D C	CHARLES RIVER	ALLSTON MA	02134	CHARLES RIVER	BRIGHTON	02135
2200480000	HARVARD COLLEGE	HARVARD COLLEGE	610 SOLDIERS FIELD RD	ALLSTON MA	02163	610 640 SOLDIERS FIELD RD	BRIGHTON	02135
2200481000	HARVARD COLLEGE	HARVARD COLLEGE	1350 MASS AV #836	CAMBRIDGE MA	02138	1 WESTERN AV	BRIGHTON	02135
2200530000	HARVARD COLLEGE	HARVARD COLLEGE	60 NO HARVARD	ALLSTON MA	02134	60 16 N HARVARD ST	BRIGHTON	02135
2200533000	HARVARD COLLEGE	HARVARD COLLEGE	69 NO HARVARD	ALLSTON MA	02134	69 79 N HARVARD ST	BRIGHTON	02135
2200533001	HARVARD COLLEGE	HARVARD COLLEGE	1350 MASSACHUSETTS AV	CAMBRIDGE MA	02138	69- 79 N HARVARD ST	BRIGHTON	02135
2200542000	CITY OF BOSTON	CITY OF BOSTON	WESTERN AVE	ALLSTON MA	02134	WESTERN AV	ALLSTON	02134
2200550000	1200 SFR LLC	1200 SFR LLC	1200 SOLDIERS FIELD RD STE #	ALLSTON MA	02134	1200 SOLDIERS FIELD RD	ALLSTON	02134
2200551000	WESTNGHSE BRDCSTNG CO	WESTNGHSE BRDCSTNG CO	2800 POST OAK BLVD STE 4200	HOUSTON TX	77056	1170 SOLDIERS FIELD RD	ALLSTON	02134
2200551001	SGT HOLDING CORP	SGT HOLDING CORP	1350 MASSACHUSETTS AVE	CAMBRIDGE MA	02138	1120 1150 SOLDIERS FIELD R	ALLSTON	02134
2200554000	HARVARD RE/ALLSTON INC	HARVARD RE/ALLSTON INC	1350 MASSACHUSETTS AVE	CAMBRIDGE MA	02138	285 291 WESTERN AV	ALLSTON	02134
2200558001	WESTERN AVENUE JOINT	WESTERN AVENUE JOINT	222 BERKELEY ST	BOSTON MA	02116	EVERETT ST	ALLSTON	02134
2200561000	CITY OF BOSTON	CITY OF BOSTON	315 WESTERN AVE	ALLSTON MA	02134	315 WESTERN AV	ALLSTON	02134
2200562000	THE SKATING CLUB OF BOSTON	THE SKATING CLUB OF BOSTON	125 HIGH ST 21ST FLOOR	BOSTON MA	02110	1240 SOLDIERS FIELD RD	ALLSTON	02134
2200562001	COMM OF MASS M D C	COMM OF MASS M D C	SOLDIERS FIELD RD	ALLSTON MA	02134	SOLDIERS FIELD RD	ALLSTON	02134
2200562002	TDC 1234 OWNER LLC	TDC 1234 OWNER LLC	1234 SOLDIERS FIELD RD	BOSTON MA	02135	1234 SOLDIERS FIELD RD	ALLSTON	02134
2200563010	DIV TELFORD LLC	DIV TELFORD LLC	125 HIGH ST 21ST FL	BOSTON MA	02110	180 TELFORD ST	BRIGHTON	02135
2200563020	TERRA ASSOCIATES PARTNERSHIP	TERRA ASSOCIATES PARTNERSHIP	20 WHITE OAKS LANE	READING MA	01867	365 WESTERN AV	BRIGHTON	02135
2200563050	SOLDIERS FIELD ENTERPRISES	SOLDIERS FIELD ENTERPRISES	1270 SOLDIERS FIELD RD	BRIGHTON MA	02135	367 -381 WESTERN AV	BRIGHTON	02135
2200565000	STARR SHERMAN H	STARR SHERMAN H	1280 SOLDIERS FIELD RD	BRIGHTON MA	02135	385 WESTERN AV	BRIGHTON	02135
2200566000	KENNEY GREG A TS	KENNEY GREG A TS	1350 MASSACHUSETTS AV #1027	CAMBRIDGE MA	02138	395 WESTERN AV	BRIGHTON	02135
2200569000	HARVARD REAL ESTATE	HARVARD REAL ESTATE	1350 MASSACHUSETTS AV #980	CAMBRIDGE MA	02138	1330 SOLDIERS FIELD RD	BRIGHTON	02135
2200569001	FOUR 41 LLC	FOUR 41 LLC	5 WASHINGTON ST # D6	READING MA	01867	441 443 WESTERN AV	BRIGHTON	02135
2200570000	HARVARD REAL ESTATE-ALLSTON	HARVARD REAL ESTATE-ALLSTON	1350 MASSACHUSETTS AV	CAMBRIDGE MA	02138	445 WESTERN AV	BRIGHTON	02135
2200572000	JOSEPH M SMITH COMMUNITY	JOSEPH M SMITH COMMUNITY	287 WESTERN AV	ALLSTON MA	02134	495 WESTERN AV	BRIGHTON	02135



2200573000	JOSEPH M SMITH COMMUNITY	JOSEPH M SMITH COMMUNITY	287 WESTERN AV	ALLSTON MA	02134	WESTERN AV	BRIGHTON	02135
2200574000	JOSEPH M SMITH COMMUNITY	JOSEPH M SMITH COMMUNITY	287 WESTERN AV	ALLSTON MA	02134	487 489 WESTERN AV	BRIGHTON	02135
2200576000	HARVARD REAL ESTATE-ALLSTON	HARVARD REAL ESTATE-ALLSTON	OLD CITY HALL 45 SCHOOL ST	BOSTON MA	02108	501 507 WESTERN AV	BRIGHTON	02135
2200577000	COMMONWEALTH OF MASSCHUSET	COMMONWEALTH OF MASSCHUSE	525 WESTERN AVE	ALLSTON MA	02134	525 WESTERN AV	BRIGHTON	02135
2200577001	COMMWLTH OF MASS	COMMWLTH OF MASS	SOLDIERS FIELD RD	ALLSTON MA	02134	1410 SOLDIERS FIELD RD	BRIGHTON	02135
2200577010	PRESIDENT & FELLOWS OF	PRESIDENT & FELLOWS OF	1350 MASSACHUSETTS AV #980	CAMBRIDGE MA	02138	1345 SOLDIERS FIELD RD	BRIGHTON	02135
2200578000	HARVARD REAL ESTATE	HARVARD REAL ESTATE	1350 MASSACHUSETTS AV #980	CAMBRIDGE MA	02138	1380 SOLDIERS FIELD RD	BRIGHTON	02135
2200579000	HARVARD RE/ ALLSTON INC	HARVARD RE/ ALLSTON INC	1350 MASSACHUSETTS AVE #912	CAMBRIDGE MA	02138	1360 1350 SOLDIERS FIELD R	BRIGHTON	02135
2200579002	HARVARD REAL ESTATE	HARVARD REAL ESTATE	1350 MASSACHUSETTS AV STE 9E	CAMBRIDGE MA	02138	1300 SOLDIERS FIELD RD	BRIGHTON	02135
2200585000	WU QI LONG	WU QI LONG	13 MACKIN ST	BRIGHTON MA	02135	11 13 MACKIN ST	BRIGHTON	02135
2200586000	MALINKOVICH YULIYA	MALINKOVICH YULIYA	15-17 MACKIN ST	BRIGHTON MA	02135	15 17 MACKIN ST	BRIGHTON	02135
2200587000	VISCO BRUNO	VISCO BRUNO	176 OAKLEIGH RD	NEWTON MA	02458	19 21 MACKIN ST	BRIGHTON	02135
2200588000	FRIAR AARON W	FRIAR AARON W	16 WAVERLY ST	BRIGHTON MA	02135	16 WAVERLY ST	BRIGHTON	02135
2200589000	LIU TONG	LIU TONG	16 R WAVERLY ST	BRIGHTON MA	02135	16 R WAVERLY ST	BRIGHTON	02135
2200590000	GALVIN THOMAS J	GALVIN THOMAS J	14 CHESTER RD	BELMONT MA	02478	14 WAVERLY ST	BRIGHTON	02135
2200590000	GALVIN THOMAS J	GALVIN THOMAS J	14 CHESTER RD	BELMONT MA	02478	14 WAVERLY ST	BRIGHTON	02135
2200591000	CHAN SIMON SEW	CHAN SIMON SEW	14 WAVERLY ST	BRIGHTON MA	02135	14 WAVERLY ST	BRIGHTON	02135
2200591000	CHAN SIMON SEW	CHAN SIMON SEW	14 WAVERLY ST	BRIGHTON MA	02135	14 WAVERLY ST	BRIGHTON	02135
2200592000	LIU LEI	LIU LEI	60 ENDICOTT ST	WESTWOOD MA	02090	12 WAVERLY ST	BRIGHTON	02135
2200594000	MVC WESTERN AVE REALTY LLC	MVC WESTERN AVE REALTY LLC	1200 SOLDIERS FIELD RD STE 1	BOSTON MA	02134	8 WAVERLY ST	BRIGHTON	02135
2200595000	500 WESTERN AVENUE LLC	500 WESTERN AVENUE LLC	500 WESTERN AV	BRIGHTON MA	02135	WESTERN AV	BRIGHTON	02135
2200598000	GARABEDIAN ROSINE L	GARABEDIAN ROSINE L	79 RICHARDSON ST	BRIGHTON MA	02135	7 9 RICHARDSON ST	BRIGHTON	02135
2200599000	NG PAK-YI	NG PAK-YI	15 RICHARDSON ST	BRIGHTON MA	02135	15 RICHARDSON ST	BRIGHTON	02135
2200603000	PIRES AMARO L	PIRES AMARO L	30 RICHARDSON ST	BRIGHTON MA	02135	32 30 RICHARDSON ST	BRIGHTON	02135
2200650000	WAVERLY ARMS CONDO TR	WAVERLY ARMS CONDO TR	26 WAVERLY	BRIGHTON MA	02135	26 WAVERLY ST	BRIGHTON	02135
2200650002	WINOTO BASUKI	WINOTO BASUKI	26 WAVERLY ST UNIT 101	BRIGHTON MA	02135	26 WAVERLY ST #101	BRIGHTON	02135
2200650004	NAGY LESLIE L	NAGY LESLIE L	26 WAVERLY ST #102	BRIGHTON MA	02135	26 WAVERLY ST #102	BRIGHTON	02135
2200650006	ROCHE CHRIS R	ROCHE CHRIS R	26 WAVERLY ST #103	BRIGHTON MA	02135	26 WAVERLY ST #103	BRIGHTON	02135
2200650008	DIAZ ELIZABETH PALMA	DIAZ ELIZABETH PALMA	5 PALMER AV	SAUGUS MA	01906	26 WAVERLY ST #104	BRIGHTON	02135
2200650010	TESFALEDET FREWEINI	TESFALEDET FREWEINI	26 WAVERLY ST # 105	BRIGHTON MA	02135	26 WAVERLY ST #105	BRIGHTON	02135
2200650012	GUGINO JEANNE E	GUGINO JEANNE E	26 WAVERLY ST #106	BRIGHTON MA	02135	26 WAVERLY ST #106	BRIGHTON	02135
2200650014	ATTERSTROM JUDY	ATTERSTROM JUDY	10 WAVENEY RD	FRAMINGHAM MA	01701	26 WAVERLY ST #107	BRIGHTON	02135
2200650016	MULLER JAMES G	MULLER JAMES G	26 WAVERLY ST #109	BRIGHTON MA	02135	26 WAVERLY ST #109	BRIGHTON	02135
2200650018	SHUM TISHA	SHUM TISHA	145 HMS STAYNER DRIVE	HINGHAM MA	02043	26 WAVERLY ST #110	BRIGHTON	02135

2200650020	HUANG XU	HUANG XU	26 WAVERLY ST # 201	BRIGHTON MA	02135 26	WAVERLY ST #201	BRIGHTON	02135
2200650022	MACDOUGALL BRUCE	MACDOUGALL BRUCE	22 OCEAN VIEW TER	LYNN MA	01902 26	WAVERLY ST #202	BRIGHTON	02135
2200650024	KELLY GAIL	KELLY GAIL	26 WAVERLY ST #203	BRIGHTON MA	02135 26	WAVERLY ST #203	BRIGHTON	02135
2200650026	PERILLA ALEJANDRINA	PERILLA ALEJANDRINA	26 WAVERLY ST #204	BRIGHTON MA	02135 26	WAVERLY ST #204	BRIGHTON	02135
2200650028	FALES CAROL	FALES CAROL	26 WAVERLY ST #205	BRIGHTON MA	02135 26	WAVERLY ST #205	BRIGHTON	02135
2200650030	GUARINO SILVERIO	GUARINO SILVERIO	26 WAVERLY ST #206	BRIGHTON MA	02135 26	WAVERLY ST #206	BRIGHTON	02135
2200650032	FELDMAN BARBARA L	FELDMAN BARBARA L	199 AUBURN ST	CAMBRIDGE MA	02139 26	WAVERLY ST #207	BRIGHTON	02135
2200650034	LIM MINTA	LIM MINTA	26 WAVERLY ST #208	BRIGHTON MA	02135 26	WAVERLY ST #208	BRIGHTON	02135
2200650036	CORREIA AIDA	CORREIA AIDA	14 EVERGREEN DR	ACHSHNET MA	02743 26	WAVERLY ST #209	BRIGHTON	02135
2200650038	GROGER MARIS P	GROGER MARIS P	26 WAVERLY ST #210	BRIGHTON MA	02135 26	WAVERLY ST #210	BRIGHTON	02135
2200650040	DEPINA ANTONIO T	DEPINA ANTONIO T	26 WAVERLY ST #301	BRIGHTON MA	02135 26	WAVERLY ST #301	BRIGHTON	02135
2200650042	KANE PRISCILLA E	KANE PRISCILLA E	26 WAVERLY ST #302	BRIGHTON MA	02135 26	WAVERLY ST #302	BRIGHTON	02135
2200650044	ESTRIN ALEX	ESTRIN ALEX	26 WAVERLY ST #303	BRIGHTON MA	02135 26	WAVERLY ST #303	BRIGHTON	02135
2200650046	XIONG ZHECHAO	XIONG ZHECHAO	204 LONGHOUSE LANE	SLINGERLANDS NY	12159 26	WAVERLY ST #304	BRIGHTON	02135
2200650048	LEE LINA L	LEE LINA L	26 WAVERLY ST #305 #	BRIGHTON MA	02135 26	WAVERLY ST #305	BRIGHTON	02135
2200650050	LIM-WONG SIN YIN	LIM-WONG SIN YIN	26 WAVERLY ST #306	BRIGHTON MA	02135 26	WAVERLY ST #306	BRIGHTON	02135
2200650052	JOZWICKI KATIE M	JOZWICKI KATIE M	26 WAVERLY ST #307	BRIGHTON MA	02135 26	WAVERLY ST #307	BRIGHTON	02135
2200650054	CAMPENELLA ANDREA	CAMPENELLA ANDREA	66 LOWELL ST #3	SOMERVILLE MA	02143 26	WAVERLY ST #308	BRIGHTON	02135
2200650056	MAYER MARIE	MAYER MARIE	26 WAVERLY ST #309	BRIGHTON MA	02135 26	WAVERLY ST #309	BRIGHTON	02135
2200650058	LE AMANDA ANH-THU	LE AMANDA ANH-THU	26 WAVERLY ST #310	BRIGHTON MA	02135 26	WAVERLY ST #310	BRIGHTON	02135
2200650060	DOUGLAS GAIL A TS	DOUGLAS GAIL A TS	26 WAVERLY ST #401	BRIGHTON MA	02135 26	WAVERLY ST #401	BRIGHTON	02135
2200650062	DITULLIO ROCCO C III	DITULLIO ROCCO C III	26 WAVERLY ST #402	BRIGHTON MA	02135 26	WAVERLY ST #402	BRIGHTON	02135
2200650064	ALPERT KENNETH	ALPERT KENNETH	26 WAVERLY ST #403	BRIGHTON MA	02135 26	WAVERLY ST #403	BRIGHTON	02135
2200650066	THOMPSON LINDA C	THOMPSON LINDA C	26 WAVERLY ST #404	BRIGHTON MA	02135 26	WAVERLY ST #404	BRIGHTON	02135
2200650068	PANG JIAN	PANG JIAN	26 WAVERLY ST #405	BRIGHTON MA	02135 26	WAVERLY ST #405	BRIGHTON	02135
2200650070	FOK PHILIA S	FOK PHILIA S	26 WAVERLY ST #406	BRIGHTON MA	02135 26	WAVERLY ST #406	BRIGHTON	02135
2200650072	TAHA MOE M	TAHA MOE M	26 WAVERLY ST #407	BRIGHTON MA	02135 26	WAVERLY ST #407	BRIGHTON	02135
2200650074	PANUCCIO THERESA TS	PANUCCIO THERESA TS	3011 FALCON HILL DR	AOPKA FL	32712 26	WAVERLY ST #408	BRIGHTON	02135
2200650076	CARROLL MARTHA C	CARROLL MARTHA C	26 WAVERLY ST #409	BRIGHTON MA	02135 26	WAVERLY ST #409	BRIGHTON	02135
2200650078	MACDOUGALL ROBERT I	MACDOUGALL ROBERT I	26 WAVERLY ST #410	BRIGHTON MA	02135 26	WAVERLY ST #410	BRIGHTON	02135
2200651000	S-BNK BRIGHTON BIRMINGHM	S-BNK BRIGHTON BIRMINGHM	PO BOX 841001	BOSTON MA	02284 30	LEO M BIRMINGHAM PV	BRIGHTON	02135
2200664000	CITY OF BOSTON	CITY OF BOSTON	PORTSMOUTH	ALLSTON MA	02134	PORTSMOUTH ST	BRIGHTON	02135
2200677000	STOIA EVELYN M TRSTS	STOIA EVELYN M TRSTS	30 LINCOLN	BRIGHTON MA	02135 16	LINCOLN ST	BRIGHTON	02135
2200677001	BALINSKA EWA	BALINSKA EWA	14R LINCOLN ST REAR	BRIGHTON MA	02135 14	LINCOLN ST	BRIGHTON	02135

2200677002	BARONE SALVATORE ETAL	BARONE SALVATORE ETAL	14 LINCOLN ST	BRIGHTON MA	02135	14 LINCOLN ST	BRIGHTON	02135
2200678000	BAPTISTE JEAN	BAPTISTE JEAN	10 LINCOLN	BRIGHTON MA	02135	10 LINCOLN ST	BRIGHTON	02135
2200678010	LBG REALTY INC	LBG REALTY INC	1028 SOUTH ST	ROSLINDALE MA	02131	8 LINCOLN ST	BRIGHTON	02135
2200681000	BERACHA VEHAZKLAHA	BERACHA VEHAZKLAHA	70 LEO M BIRMINGHAM PKWY	BRIGHTON MA	02135	CENTOLA ST	BRIGHTON	02135
2200683000	BIRMINGHAM PARKWAY LJS LLC	BIRMINGHAM PARKWAY LJS LLC	58A LEO M BIRMINGHAM PKWY	BRIGHTON MA	02135	60 A LEO M BIRMINGHAM P	BRIGHTON	02135
2200684000	SAMIA ASSOCIATES I LLC	SAMIA ASSOCIATES I LLC	60 LEO M BIRMINGHAM PKWY	BRIGHTON MA	02135	58 LEO M BIRMINGHAM PV	BRIGHTON	02135
2200686000	BREEN LINDA P TS	BREEN LINDA P TS	320 WASHINGTON ST STE 3FF	BROOKLINE MA	02446	56 50 LEO M BIRMINGHAM F	BRIGHTON	02135
2200687000	BIRMINGHAM PW RLTY LLC	BIRMINGHAM PW RLTY LLC	46 BIRMINGHAM PKWY	BRIGHTON MA	02135	46 48 LEO M BIRMINGHAM F	BRIGHTON	02135
2200690000	ADAMS FRANCES D	ADAMS FRANCES D	7A LOTHROP ST	BRIGHTON MA	02135	7 7A LOTHROP ST	BRIGHTON	02135
2201906075	ONE HUNDRED LEO BIRMINGHAM	ONE HUNDRED LEO BIRMINGHAM	100 LEO M BIRMINGHAM PKWY	BRIGHTON MA	02135	100 LEO M BIRMINGHAM P	BRIGHTON	02135
2201906100	MASS TURNPIKE AUTHORITY	MASS TURNPIKE AUTHORITY	LINCOLN ST	BRIGHTON MA	02135	LINCOLN ST	BRIGHTON	02135
2202727000	MASS TURNPIKE AUTHORITY	MASS TURNPIKE AUTHORITY	MARKET	BRIGHTON MA	02135	MARKET ST	ALLSTON	02134
2202747000	LMC CICCOLO REALTY LLC	LMC CICCOLO REALTY LLC	75 N BEACON ST	BOSTON MA	02134	372 N BEACON ST	BRIGHTON	02135
2202749000	4725 COMPANY LLC	4725 COMPANY LLC	25060 AVENUE STANFORD SUITE	VALENCIA CA	91355	1850 SOLDIERS FIELD RD	BRIGHTON	02135
2202750000	JHM RIVER LLC	JHM RIVER LLC	440 BEDFORD ST	LEXINGTON MA	02420	1800 SOLDIERS FIELD RD	BRIGHTON	02135
2202751000	MCDONALDS CORPORATION	MCDONALDS CORPORATION	110 N CARPENTER ST	CHICAGO IL	60607	SOLDIERS FIELD RD	BRIGHTON	02135
2202752000	TARA 1660 LLC	TARA 1660 LLC	1660 SOLDIERS FIELD RD	BRIGHTON MA	02135	1660 SOLDIERS FIELD RD	BRIGHTON	02135
2202753000	FCA REALTY LLC	FCA REALTY LLC	1000 CHRYSLER DR CIMS 485-03	AUBURN HILLS MI	48326	1650 SOLDIERS FIELD RD	BRIGHTON	02135
2202754000	CARNEY JAMES P TS	CARNEY JAMES P TS	910 WORCESTER ST	NATICK MA	01760	1616 SOLDIERS FIELD RD	BRIGHTON	02135
2202755000	CARNEY JAMES P TS	CARNEY JAMES P TS	910 WORCESTER ST	NATICK MA	01760	1600 SOLDIERS FIELD RD	BRIGHTON	02135
2202756000	SEGUIN VENTURES LLC	SEGUIN VENTURES LLC	31 CHICORY RD	WESTFORD MA	01886	15 SOLDIERS FIELD PL	BRIGHTON	02135
2202757000	1550 SOLDIERS FIELD ROAD	1550 SOLDIERS FIELD ROAD	100 HIGH ST SUITE 2400	BOSTON MA	02110	21 SOLDIERS FIELD PL	BRIGHTON	02135
2202758000	CRIMMINGS CATHERINE C TR	CRIMMINGS CATHERINE C TR	PO BOX 35310	BRIGHTON MA	02135	35 SOLDIERS FIELD PL	BRIGHTON	02135
2202759000	BASS GILBERT S	BASS GILBERT S	40 SOLDIERS FIELD PL	BRIGHTON MA	02135	40 SOLDIERS FIELD PL	BRIGHTON	02135
2202761000	FIFTEEN HUNDERED SOLDIERS	FIFTEEN HUNDERED SOLDIERS	1500 SOLDIERS FIELD RD EXT	BRIGHTON MA	02135	1500 SOLDIERS FIELD RD	BRIGHTON	02135
2202762000	FARINA JOHN A TRSTS	FARINA JOHN A TRSTS	1480 SOLDIERS FIELD RD	BRIGHTON MA	02135	1480 SOLDIERS FIELD RD	BRIGHTON	02135
2202762001	VINFEN CORPORATION	VINFEN CORPORATION	950 CAMBRIDGE ST	CAMBRIDGE MA	02138	55 LEO M BIRMINGHAM PV	BRIGHTON	02135
2202762002	INFINITY BROADCASTING	INFINITY BROADCASTING	51 WEST 52ND ST	NEW YORK NY	10019	83 LEO M BIRMINGHAM PV	BRIGHTON	02135
2202762003	COMMONWLTH OF MASS	COMMONWLTH OF MASS	LEO M BIRMINGHAM PKWY	BRIGHTON MA	02135	LEO M BIRMINGHAM PW	BRIGHTON	02135
2202762004	SEGUIN VENTURES LLC	SEGUIN VENTURES LLC	31 CHICORY RD	WESTFORD MA	01886	LEO M BIRMINGHAM PW	BRIGHTON	02135
2202762010	CITY OF BOSTON	CITY OF BOSTON	LEO M BIRMINGHAM PKWY	BRIGHTON MA	02135	LEO M BIRMINGHAM PW	BRIGHTON	02135
2202763000	COMMWLTH OF MASS	COMMWLTH OF MASS	460 NO BEACON	BRIGHTON MA	02135	460 440 N BEACON ST	BRIGHTON	02135
2202765000	A FRED WASHINGTON NOMINEE	A FRED WASHINGTON NOMINEE	320 WASHINGTON ST #3FF	BROOKLINE MA	02445	270 PARSONS ST	BRIGHTON	02135
2202770000	MASSACHUSETTS TURNPIKE AUTH	MASSACHUSETTS TURNPIKE AUTH	PARSONS	BRIGHTON MA	02135	PARSONS ST	BRIGHTON	02135

2203416000 COMMONWLTH OF MASS

COMMONWLTH OF MASS

NO BEACON

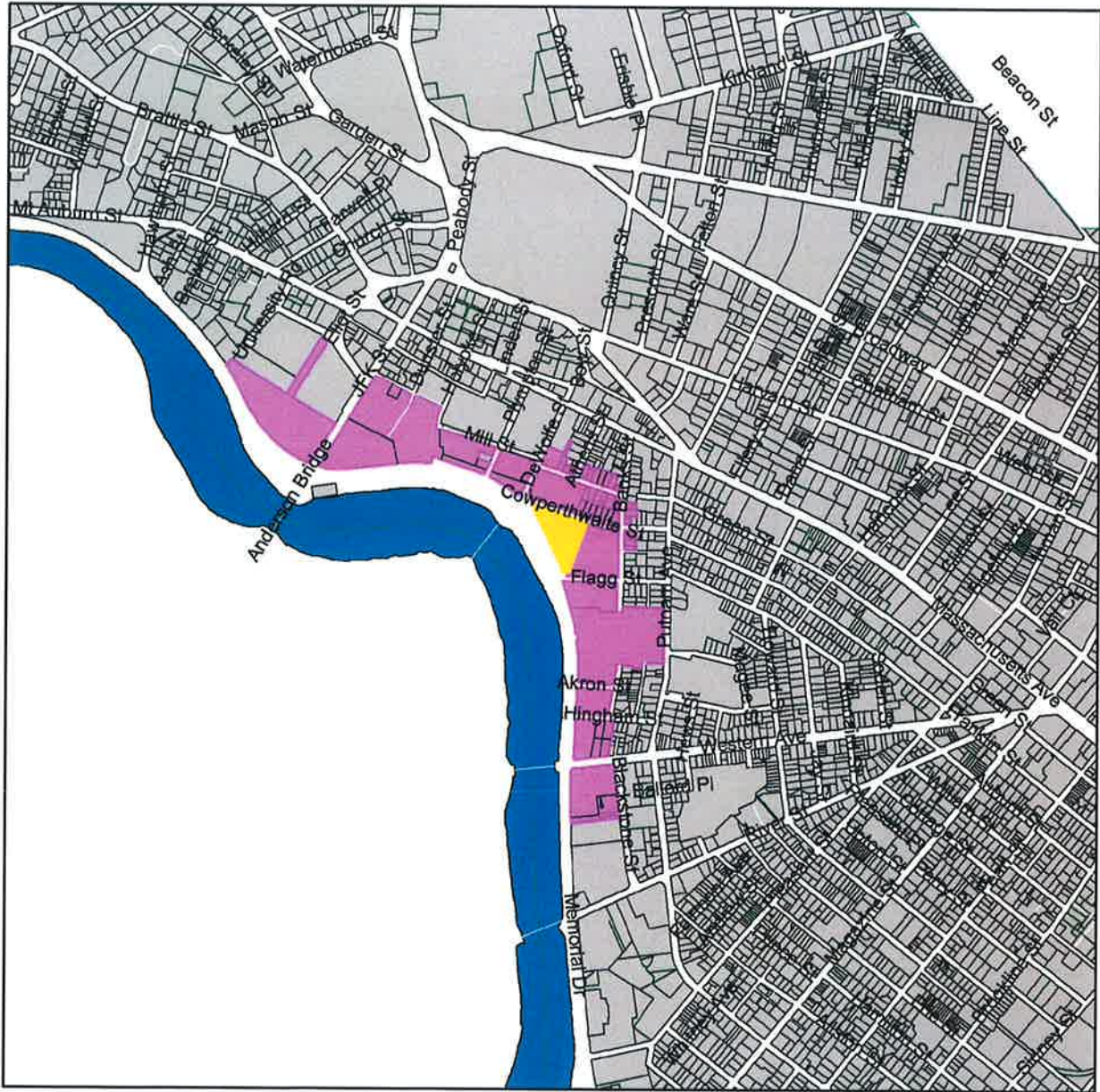
BRIGHTON MA

02135 N BEACON ST

BRIGHTON

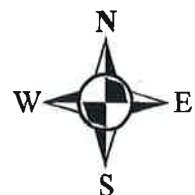
02135

# MAP TITLE



Cambridge, MA Assessing Department

Gayle Willett, Director



129-47  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O GENERAL COUNSEL HOLYOKE CENTER RM 98  
1390 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138

130-121  
CAMBRIDGE CITY OF  
795 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02139

130-144  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE, INC.  
HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-3895

130-168  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE INC.  
HOLYOKE CENTER - ROOM #1000  
1350 MASS AVE  
CAMBRIDGE, MA 02138-3895

131-33-1  
JARUDI, IZZAT  
26-28 SURREY ST., #1  
CAMBRIDGE, MA 02138

131-33-2  
MARIA-LUISA, INC,  
13 WARE ST 10  
CAMBRIDGE, MA 02139

131-33-3  
LUGUS, EMMY R. & MICHAEL JEFFREY COHEN  
26-28 SURREY ST, UNIT #3  
CAMBRIDGE, MA 02138

131-33-4  
IBANEZ, MARIANA  
26-28 SURREY ST., #4  
CAMBRIDGE, MA 02138

131-33-5  
CHEN, CHENG-SAN  
17 SUFFOLK RD  
WELLESLEY, MA 02181

131-51-1  
HEMOND, HAROLD F. & CAROL A. THOMSON  
104 VINE ST  
LEXINGTON, MA 02420

131-51-2  
DIDONNA, DENNIS, J  
96 BANKS ST #3  
CAMBRIDGE, MA 02138

131-51-3  
DIDONNA, DENNIS  
80 SCENIC DR  
GILFORD, NH 03249

131-52-90  
WEINER, NANCY L.  
90-92 BANKS ST., #90  
CAMBRIDGE, MA 02138

131-52-92  
BEIZER, WILLIAM L.  
90-92 BANKS ST., #92  
CAMBRIDGE, MA 02138

131-65  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE, INC.  
HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-3895

131-68  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE, INC.  
HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-3895

131-70  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE, INC.  
HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-3895

132-109  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE, INC.  
HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-3895

132-111  
THORGERSON, ERIC J. & ELIZABETH FOOTE  
29 SURREY ST  
CAMBRIDGE, MA 02138

132-113  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE INC.  
HOLYOKE CENTER - ROOM #1000  
1350 MASS AVE  
CAMBRIDGE, MA 02138-3895

132-124  
LAMB, ALBERT R., III &  
NANCY S. LAMB  
21 GRANT STREET  
CAMBRIDGE, MA 02138-6019

132-137  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE, INC.  
HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-3895

132-148  
HARDER, LAUREN, TRUSTEE  
25 GRANT 2013 REALTY TRUST  
P.O. BOX 381092  
CAMBRIDGE, MA 02238

132-152  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE, INC.  
HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-3895

132-156  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE, INC.  
HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-3895

132-157  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE, INC.  
HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-3895

132-28  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE, INC.  
HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-3895

132-33  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE INC.  
HOLYOKE CENTER - ROOM #1000  
1350 MASS AVE  
CAMBRIDGE, MA 02138-3895

132-37-27  
DORIS, ROBERT J. & MARY C. SAUER, TRS  
THE DORIS-SAUER REV TRUST  
10 MADRONA AVE  
BELVEDERE, CA 94920

132-37-29  
HERNSTADT, ORI & MARIANNE OGLO  
TRUSTEES  
28030 NATOMA RD  
LOS ALTOS HILLS, CA 94022

132-59  
HAWKINSON, JAQUELYN A., TRUSTEES  
THE PARADIS-ALMER INVESTMENT TRS  
91 GRANT ST  
LEXINGTON, MA 02420

132-60  
DIERCKS, GILLIAN R., TRUSTEE  
CHARLES NOMINEE REALTY TRUST  
64 BANKS ST  
CAMBRIDGE, MA 02138

132-73  
KELLER, SUSAN, SARA OSEASOHN &  
C/O HARVARD REAL ESTATE SERVICES  
1350 MASS AVE  
HOLYOKE CTR RM 1017  
CAMBRIDGE, MA 02138

132-74  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE INC.  
HOLYOKE CENTER - ROOM #1000  
1350 MASS AVE  
CAMBRIDGE, MA 02138-3895

132-75  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE INC.  
HOLYOKE CENTER - ROOM #1000  
1350 MASS AVE  
CAMBRIDGE, MA 02138-3895

132-76  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE INC.  
HOLYOKE CENTER - ROOM #1000  
1350 MASS AVE  
CAMBRIDGE, MA 02138-3895

132-77  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE INC.  
HOLYOKE CENTER - ROOM #1000  
1350 MASS AVE  
CAMBRIDGE, MA 02138-3895

132-78  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE INC.  
HOLYOKE CENTER - ROOM #1000  
1350 MASS AVE  
CAMBRIDGE, MA 02138-3895

132-79  
PRESIDENT AND FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE SERVICES  
HOLYOKE CENTER, RM 1017  
1350 MASS AVE  
CAMBRIDGE, MA 02138

132-80  
ANNIS, MARTIN  
65-67 BANKS ST.  
CAMBRIDGE, MA 02138

161-58  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE, INC.  
HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-3895

161-73  
PRESIDENT & FELLOWS OF HARVARD COLLEGE  
C/O HARVARD REAL ESTATE, INC.  
HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-3895

164-7  
MASSACHUSETTS COMMONWEALTH OF  
STATE HOUSE  
BOSTON, MA 02133

**Abutters List**

Date: March 19, 2021

Subject Property Address: OFF ARSENAL ST Watertown, MA  
Subject Property ID: 1401 17 0

Search Distance: 0 Feet

-----  
Prop ID: 1401 17 0  
Prop Location: OFF ARSENAL ST Watertown, MA  
Owner: COMMONWEALTH OF MASSACHUSETTS  
Co-Owner: DEPT OF CONSER. & RECREATION  
-----



APPENDIX G  
WETLAND DELINEATION REPORT

# Wetland Delineation Report

March 2020

## Boston, Massachusetts Charles River Vegetation Management - Test Plots

Department of Conservation & Recreation  
Boston, MA



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Figure 3.....	FEMA FIRM Map
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## 1.0 SITE DESCRIPTION

On February 20<sup>th</sup>, 2020 Weston and Sampson delineated wetland resources adjacent to the Charles River in Boston, MA. As noted in the photographs in Appendix A, there was no snow cover on the ground and conditions were optimal for this time of year to conduct a wetland delineation. The delineation was conducted under the direction of a Certified Wetlands Scientist (CWS). The site under consideration is part of the Charles River Reservation located in Boston and surrounding communities. Please see Figures 1-6 (Wetlands Field Maps) and Figure 7 (USGS Map) of this report for the investigation area.

Wetland resource areas were identified and flagged in the field using pink flagging by a Weston & Sampson wetland scientist who is trained in the wetland delineation process using the Massachusetts Department of Environmental Protection (MassDEP) and the US Army Corps of Engineers (ACOE) methodology.

## 2.0 DELINEATION OF WETLAND RESOURCES

### 2.1 Site Observations

The Weston & Sampson wetland scientist, trained in the ACOE Wetland Delineation Manual and Massachusetts Department of Environmental Protection (MassDEP) Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetland Protection Act guidance document, observed the following protected wetland resources in the general area of the proposed test plot implementation sites:

- Bank – Perennial Stream

See Appendix A for site photographs.

### 2.2 Wetland Delineation Methodology

Wetland delineation assessment was conducted in accordance to the Massachusetts Wetland Protection Act Regulations (310 CMR 10.55(2)(c)), Massachusetts Department of Environmental Protection (MassDEP) Delineating Bordering Vegetated Wetlands Under the Massachusetts Protection Act (March 1995), and ACOE Wetland Manual (Technical Report Y-87-1).

### 2.3 Bank – Perennial Stream

The proposed test plot implementation sites are located adjacent to the Charles River, Water bodies, including perennial streams, have banks which are protected by the Massachusetts Wetland Protection Act. Bank is a wetland resource area defined by 310 CMR 10.54(2)(a) as “the portion of land surface which normally abuts and confines a water body. It occurs between a waterbody and a vegetated bordering wetland and adjacent floodplain, or, in absence of these, it occurs between a waterbody and an upland.” Vegetated banks provide valuable functions such as flood control, stormwater prevention, fisheries protection, and water quality protection.

The limit of the bank resource area is identified by Top of Bank (TOB) which is located at the first observable break in slope or the Mean Annual Flood Level (MAFL), whichever is lower. MAFL is based on an elevation which is not easily identifiable in the field. As a result, the Mean Annual High Water line (MAHW) was utilized to locate the limit of jurisdiction based on “visible markings or changes in the character of soils or vegetation due to the prolonged presence of water” per 310 CMR 10.58(2). The

specific visible markings used to determine MAHW at this site included water staining on adjacent rocks and drift deposits. Wetland flags left in the field included:

- Plot 1 MAHW-A1 through MAHW-A4
- Plot 2 MAHW-A1 through MAHW-A4
- Plot 3 MAHW-A1 through MAHW-A4
- Plot 5 MAHW-A1 through MAHW-A4
- Plot 6 MAHW-A1 through MAHW-A8
- Plot 7 MAHW-A1 through MAHW-A5

Banks are subject to a 100-foot buffer under the Massachusetts Wetland Protection Act per 301 CMR 10.02(2)(b).

Perennial streams are subject to a 200ft Riverfront Area under the Massachusetts Wetland Protection Act per 301 CMR 10.58(2)(a)(2)(c).

## 2.4 Other Protected Areas

Weston & Sampson created an environmental resources map (see Figure 4) of the site to determine the presence of other protected areas. The data source of these map layers was the Massachusetts Geographic Information System (MassGIS). These areas included:

- NHESP Priority Habitats of Rare Species
- NHESP Estimated Habitats of Rare Wildlife
- NHESP Certified and Potential Vernal Pools
- Areas of Critical Environmental Concern (ACEC)
- Outstanding Resource Waters (ORW)

Wetland resources identified in the field were also added to this map. Based on the MassGIS information, there are no additional protected resource areas beyond what was identified in the field located within the investigation areas.

# Wetland Delineation Report

A FEMA FIRM map (see Figure 8) was created online based on the FEMA information available through MassGIS to determine if there is a 100-year flood zone at the site. Based on the information provided by MassGIS, the portions of the proposed test plot implementation sites are located within a 100-year flood zone.

### 3.0 SUMMARY

On February 20<sup>th</sup>, 2020 Weston and Sampson delineated wetland resources adjacent to the Charles River in Boston, MA. Perennial stream bank was identified and flagged in the field at each of the proposed test plot implementation sites. Additional MassGIS and FEMA FIRM mapping indicated that the only additional protected resource area within the investigation area, beyond what was delineated, is the 100-year floodplain.

This Wetlands Delineation Report has been reviewed and approved by a Professional Wetland Scientist PWS.





#### 4.0 REFERENCES

- Jackson, Scott. 1995. "Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act." Massachusetts Department of Environmental Protection.
- Massachusetts Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program. Massachusetts Natural Heritage Atlas, 13th Edition with 2017 web updates. Accessed on 3/17/2020.
- Massachusetts Geographic Information System. January 2009. Outstanding Resource Waters. Massachusetts Department of Environmental Protection. Accessed on 3/17/2020.
- Massachusetts Geographic Information System. December 2003. Areas of Critical Environmental Concern. Massachusetts Department of Environmental Protection. Accessed on 3/17/2020.
- Newcomb, Lawrence. 1977. Newcomb's Wildflower Guide. Little, Brown and Company.
- Web Soil Survey of Suffolk County, Massachusetts. United States Department of Agriculture, Soil Conservation Service, in cooperation with Massachusetts Agricultural Experiment Station
- United States Department of Agriculture, Natural Resources Conservation Service. 2018. *Field Indicators of Hydric Soils in the United States*, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- USACOE, January 1987, Corps of Engineers Wetlands Delineation Manual, Wetlands Research Program Technical Report Y-87-1.
- FEMA Flood Map Service Center, online at [msc.fema.gov/portal](http://msc.fema.gov/portal) Assessed on 3/17/2020.
- Tiner, Jr., Ralph W., 2005, Field Guide to Nontidal Wetland Identification
- Tiner, Jr., Ralph W, 2009, Field Guide to Tidal Wetland Plants of the Northeastern United States and Neighboring Canada.
- Wojtec, Michael, Bard – A field Guide to Trees of the Northeast.
- New England Hydric Soils Technical Committee. 2019 Version 4, *Field Indicators for Identifying Hydric Soils in New England*. New England Interstate Water Pollution Control Commission, Lowell, MA.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

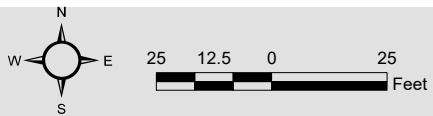
**Legend**

-  Mean Annual High Water (MAHW)
-  Plot 1

**FIGURE 1**

Charles River Vegetation  
Management Project  
Test Plot 1  
Boston MA

Wetland Field Map





Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

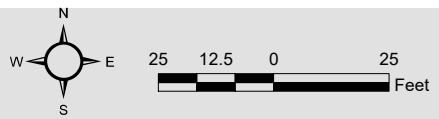
**Legend**

-  Mean Annual High Water (MAHW)
-  Plot 2

**FIGURE 2**

Charles River Vegetation  
Management Project  
Test Plot 2  
Boston MA



Wetland Field Map



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs



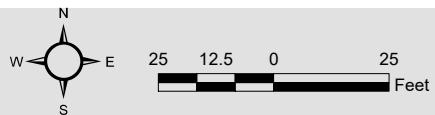
**Legend**

-  Mean Annual High Water (MAHW)
-  Plot 3

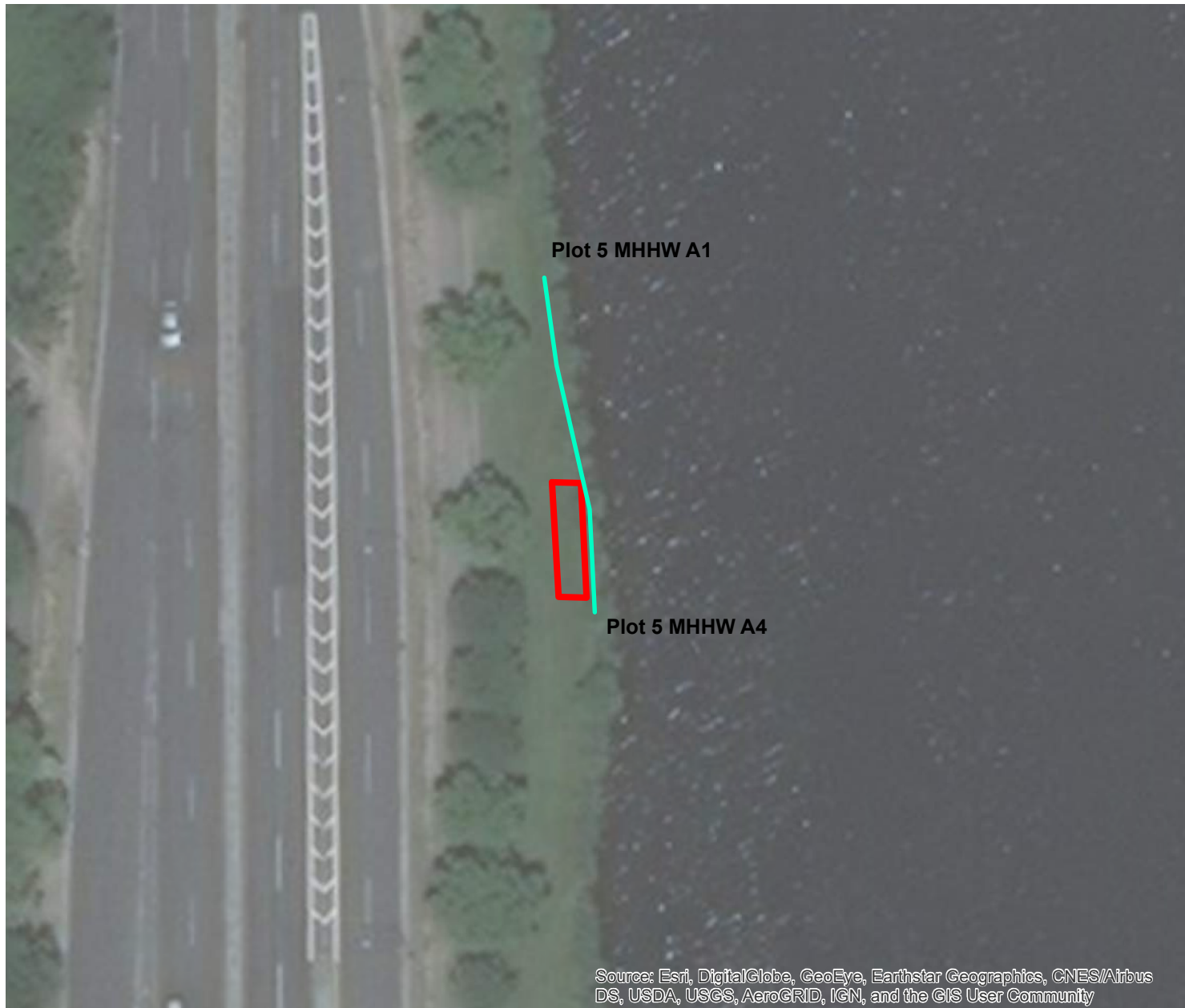
**FIGURE 3**

Charles River Vegetation  
Management Project  
Test Plot 3  
Boston MA



Wetland Field Map



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs



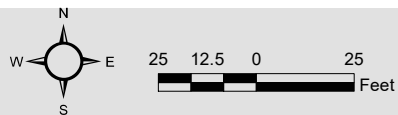
**Legend**

-  Mean Annual High Water (MAHW)
-  Plot 5

**FIGURE 4**

Charles River Vegetation  
Management Project  
Test Plot 5  
Boston MA

Wetland Field Map



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs



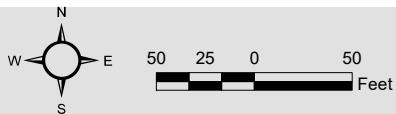
**Legend**

- Mean Annual High Water (MAHW)
- Plot 6A Shade
- Plot 6B Sun

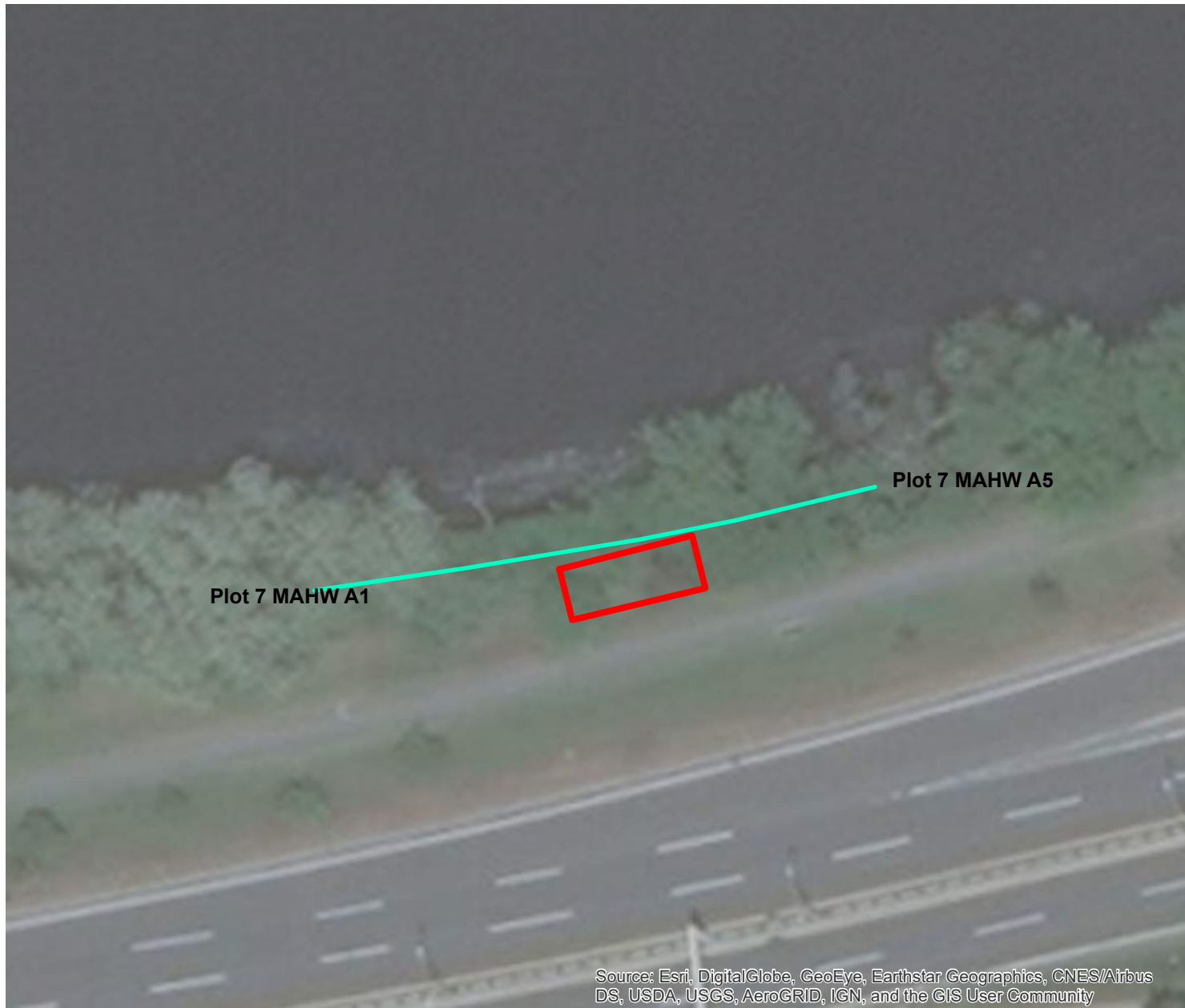
**FIGURE 5**

Charles River Vegetation  
Management Project  
Test Plot 6a & 6b  
Boston MA



Wetland Field Map



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs



**Legend**

-  Mean Annual High Water (MAHW)
-  Plot 7

**FIGURE 6**

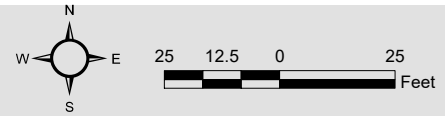
Charles River Vegetation  
Management Project  
Test Plot 7  
Boston MA

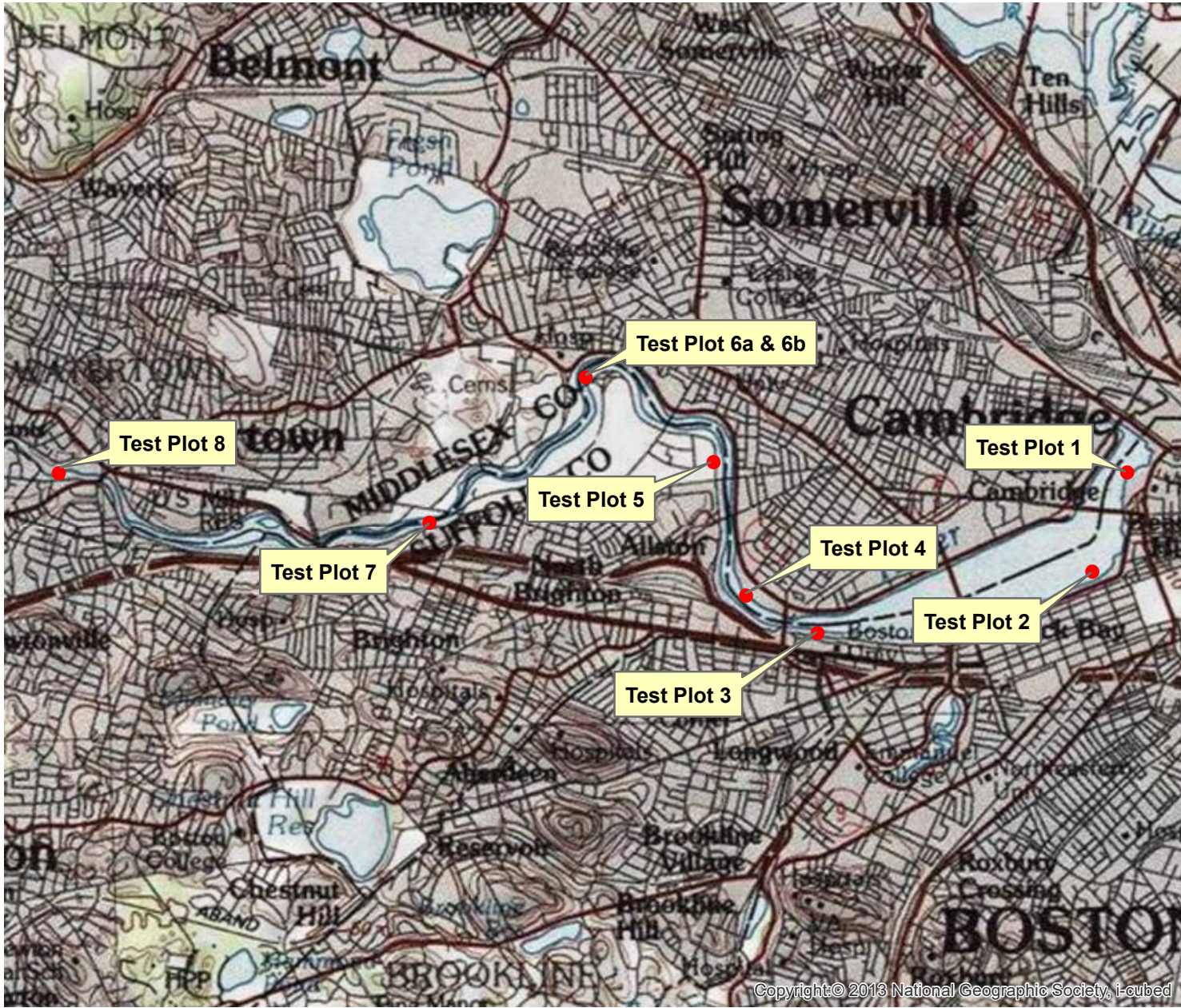
Wetland Field Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs





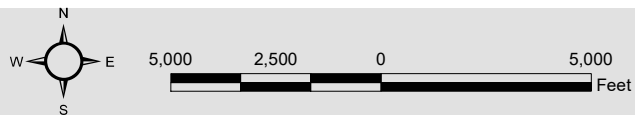
**Legend**

- Test Plot Locations

**FIGURE 7**

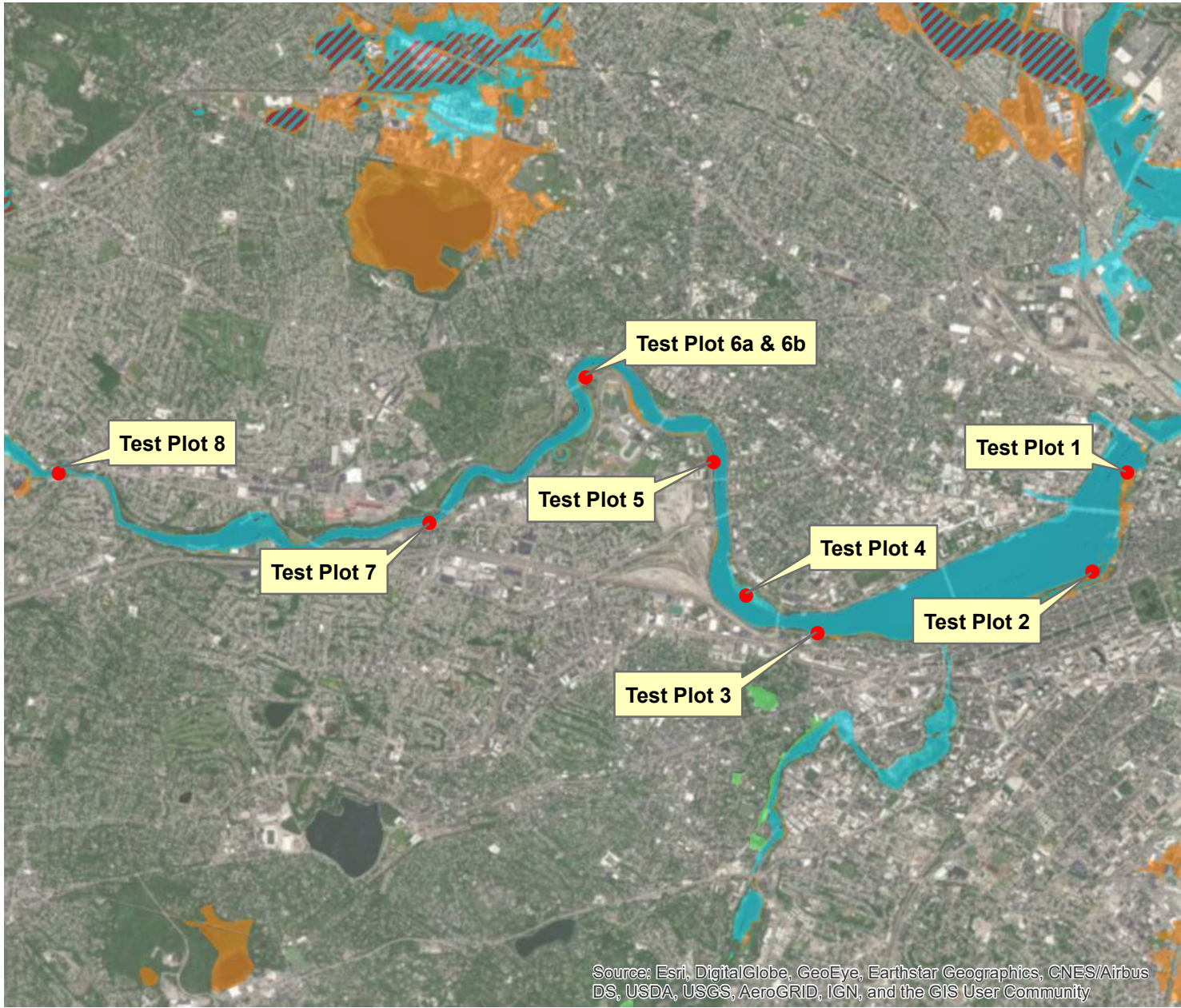
Charles River Vegetation  
Management Project  
Project Area  
Boston, Cambridge and  
Watertown MA

USGS Topographic Map



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

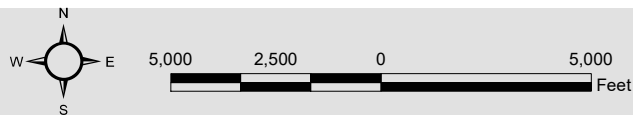
**Legend**

- Test Plot Locations
- FEMA National Flood Hazard Layer**
- Flood Zone Designations**
- A: 1% Annual Chance of Flooding, no BFE
- AE: 1% Annual Chance of Flooding, with BFE
- AE: Regulatory Floodway
- AH: 1% Annual Chance of 1-3ft Ponding, with BFE
- AO: 1% Annual Chance of 1-3ft Sheet Flow Flooding, with Depth
- VE: High Risk Coastal Area
- D: Possible But Undetermined Hazard
- X: 0.2% Annual Chance of Flooding
- X: Reduced Flood Risk due to Levee
- Area Not Included
- Area with no DFIRM - Paper FIRMs in Effect

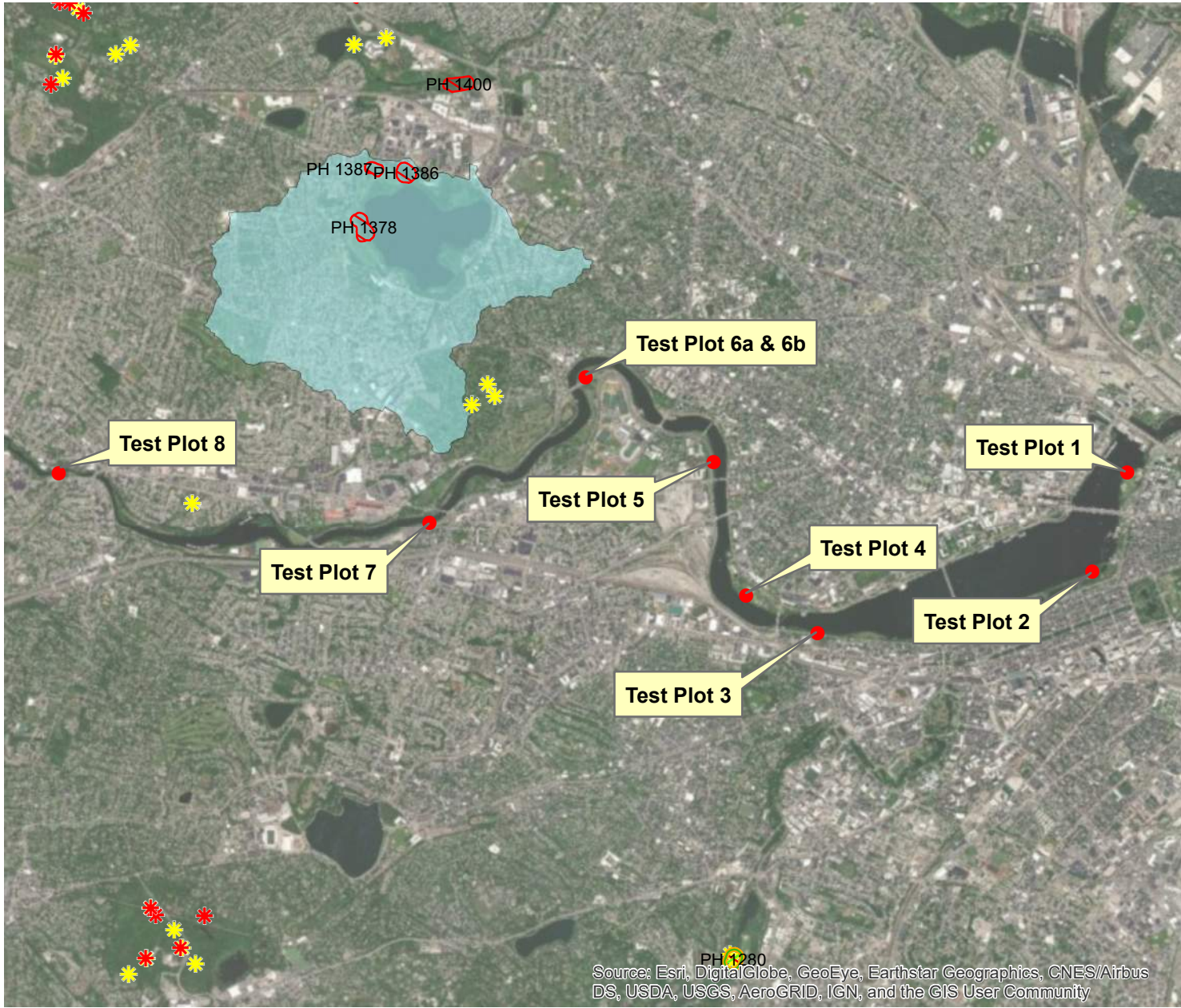
**FIGURE 8**

Charles River Vegetation  
Management Project  
Project Area  
Boston, Cambridge and  
Watertown MA

FEMA Map



Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs



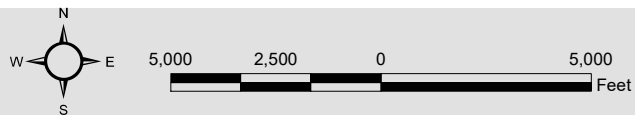
**Legend**

- Test Plot Locations
- ACECs
- NHESP Estimated Habitats of Rare Wildlife
- NHESP Priority Habitats of Rare Species
- ✱ NHESP Certified Vernal Pools
- ✱ NHESP Potential Vernal Pools
- Public Water Supply Contributor
- ORW for ACEC
- ORW for both Water Supply and Other

**FIGURE 9**

Charles River Vegetation  
Management Project  
Project Area  
Boston, Cambridge and  
Watertown MA

Environmental Resources Map



Data Source: Office of Geographic and Environmental Information (MassGIS),  
Commonwealth of Massachusetts Executive Office of Environmental Affairs

## APPENDIX A

### Site Photographs

Figure 1: Perennial Stream Bank Proposed Test Plot 1



Figure 2: Perennial Stream Bank Proposed Test Plot 2



Figure 3: Perennial Stream Bank Proposed Test Plot 3



Figure 4: Perennial Stream Bank Proposed Test Plot 5



Figure 5: Perennial Stream Bank Proposed Test Plot 6



Figure 6: Perennial Stream Bank Proposed Test Plot 7



APPENDIX H  
CHARLES RIVER VEGETATION MANAGEMENT PLAN  
(SEE ATTACHED CD)

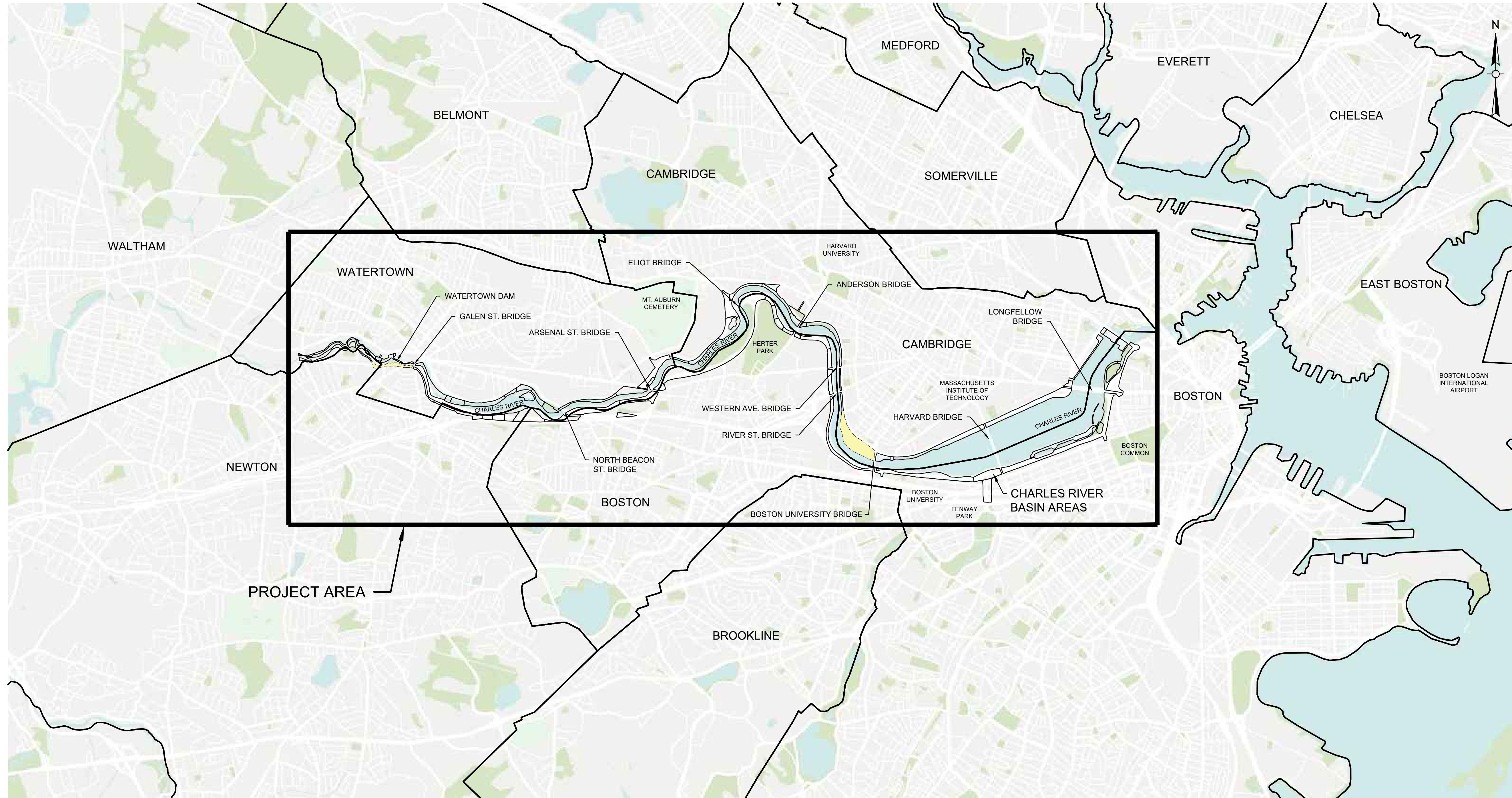
# CHARLES RIVER BASIN RIVERBANK VEGETATION MANAGEMENT PLAN

MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

DCR CONTRACT NO.: P18-3241-S1A



Weston & Sampson Engineers, Inc.  
85 Devonshire Street, 3rd Floor  
Boston, MA 02109  
978.532.1900 800.SAMPSON  
www.westonandsampson.com



### DRAWING INDEX

SHEET	TITLE
G000	COVER SHEET
G001	KEY PLAN
C101	TEST PLOT 1
C102	TEST PLOT 2
C103	TEST PLOT 3
C105	TEST PLOT 5
C106A	TEST PLOT 6A - SHADE MEADOW
C106B	TEST PLOT 6B - SUN MEADOW
C107	TEST PLOT 7
C108	TEST PLOT 8
C201	TEST PLOT 1 TO 3 PROFILES
C202	TEST PLOT 5 TO 6B PROFILES
C203	TEST PLOT 7 AND 8 PROFILES
C501	EROSION AND SEDIMENT CONTROL DETAILS
C502	PLANTING DETAILS
C503	PLANTING DETAILS
C504	PLANTING DETAILS



CHARLES D. BAKER,  
GOVERNOR

KARYN E. POLITO,  
LT. GOVERNOR

KATHLEEN A. THEOHARIDES,  
SECRETARY, EXECUTIVE  
OFFICE OF ENERGY &  
ENVIRONMENTAL AFFAIRS

JIM MONTGOMERY,  
ACTING COMMISSIONER,  
DEPARTMENT OF  
CONSERVATION &  
RECREATION



MASSACHUSETTS DEPARTMENT OF  
CONSERVATION AND RECREATION

JIM MONTGOMERY  
DCR COMMISSIONER  
251 CAUSEWAY STREET, SUITE 600  
BOSTON, MA 02114

Issued Date:

MARCH 2021

Sheet Number:



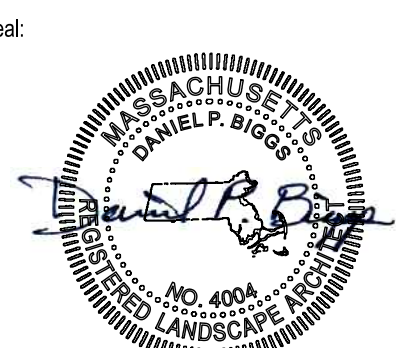
Know what's below.  
Call before you dig.

G000

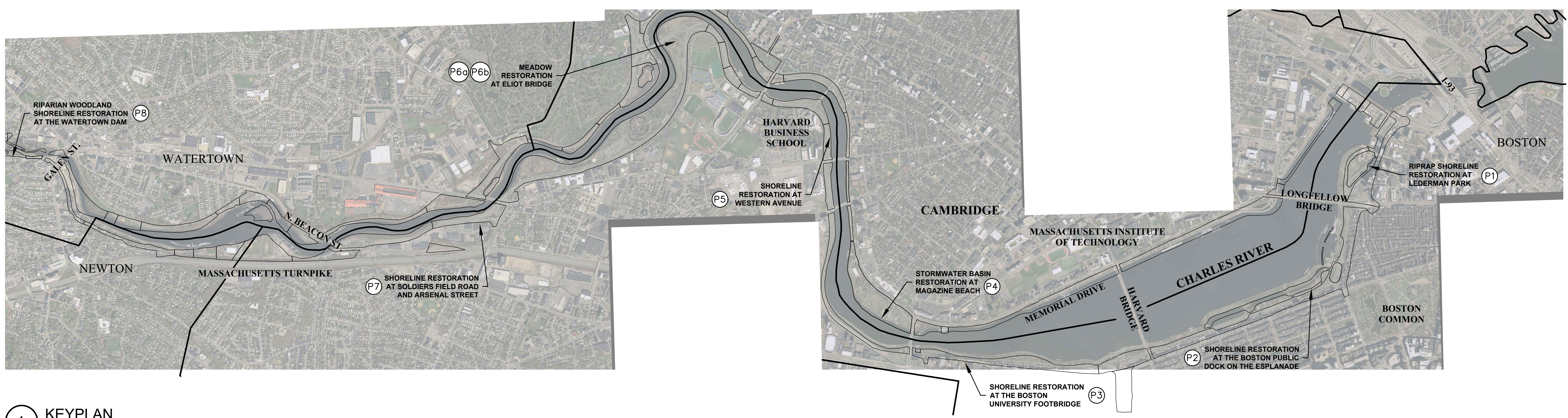
Issued For:

FOR PERMITTING USE ONLY -  
NOT FOR CONSTRUCTION

LOCATION MAP  
NOT SCALE







**1 KEYPLAN**  
 SCALE: N.T.S.

**GENERAL NOTES:**

- CONTRACTOR SHALL FURNISH ALL MATERIALS (EXCEPT PLANTS AND SEED), LABOR AND EQUIPMENT AND PERFORM ALL WORK INCLUDING RESTORATION FOR THE COMPLETE INSTALLATION OF ALL IMPROVEMENTS SHOWN OR IMPLIED AS NECESSARY, UNLESS OTHERWISE NOTED. SPECIFICATIONS FOR ALL WORK SHALL BE IN ACCORDANCE WITH THE APPLICATIVE STANDARDS AND CONTRACT SPECIFICATIONS OF THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION, MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION.
- PLANTS AND SEED FOR THE PROJECT WILL BE PROVIDED BY DCR. THESE MATERIALS WILL BE AVAILABLE FOR PICKUP AT A LOCATION LESS THAN 10 MILES FROM THE PROJECT SITE.
- ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THE OWNER'S REPRESENTATIVE IN WRITING, WHO SHALL PROMPTLY ADDRESS SUCH INCONSISTENCIES OR AMBIGUITIES IN WRITING. WORK DONE BY THE CONTRACTOR AFTER HIS DISCOVERY OF SUCH DISCREPANCIES, INCONSISTENCIES OR AMBIGUITIES, WITHOUT CLARIFICATION FROM THE OWNER'S REPRESENTATIVE, SHALL BE DONE AT THE CONTRACTOR'S RISK.
- CONTRACTOR TO VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES AND NOTIFY THE OWNER'S REPRESENTATIVE OF ANY CONFLICTS WITH THE PROPOSED WORK. DAMAGE TO EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION CALL DIG SAFE (888) 344-7233.
- ANY QUANTITIES SHOWN ON THE PLANS ARE FOR BIDDING PURPOSES ONLY. ALL BIDDERS ARE REQUIRED TO INSPECT THE PROJECT SITE IN ITS ENTIRETY PRIOR TO SUBMITTING THEIR BID, AND BECOME FAMILIAR WITH ALL CONDITIONS AS THEY MAY AFFECT THEIR BID. CONTRACTOR AND SUB-CONTRACTOR SHALL BE FAMILIAR WITH ALL DRAWINGS AND SPECIFICATIONS PRIOR TO COMMENCING CONSTRUCTION.
- ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS OUTSIDE THE PROJECT LIMITS SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST AND TO THE SATISFACTION OF THE OWNER.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS NEEDED TO PROTECT HIS EMPLOYEES, AS WELL AS PUBLIC USERS FROM INJURY DURING THE ENTIRE CONSTRUCTION PERIOD AT NO EXPENSE TO THE OWNER USING ALL NECESSARY SAFEGUARDS, INCLUDING BUT NOT LIMITED TO THE ERECTION OF TEMPORARY WALKS, STRUCTURES, PROTECTIVE BARRIERS, COVERING, OR FENCES. AT A MINIMUM, THE CONTRACTOR SHALL ENSURE COMPLIANCE WITH OSHA AND APPLICABLE STATE AND LOCAL REQUESTS.
- THE CONTRACTOR SHALL SUPPLY THE OWNER WITH THE NAME OF THE OSHA "COMPETENT PERSON" PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PERFORMANCE AND COMPLETION OF THE WORK AND SHALL RETAIN COMPETENT STAFF AT THE SITE AT ALL TIMES WHEN WORK IS IN PROGRESS.
- CONTRACTOR SHALL COORDINATE STAGING AREA LOCATIONS, SITE ACCESS, AND VEHICLE ACCESS WITH THE OWNER. REFER TO CONTRACT DRAWINGS AND SPECIFICATIONS FOR APPLICABLE REQUIREMENTS.
- THE CONTRACTOR SHALL KEEP ALL STREETS AND WALKS NOT RESTRICTED FROM PUBLIC USE DURING CONSTRUCTION BROOM CLEAN AT ALL TIMES. REFER TO SPECIFICATIONS FOR ACCEPTABLE METHODS AND MATERIALS TO MAINTAIN ADEQUATE DUST CONTROL THROUGHOUT CONSTRUCTION.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL RELEVANT LOCAL, STATE AND/OR FEDERAL PERMITS PRIOR TO THE START OF CONSTRUCTION, INCLUDING HERBICIDE TREATMENT PERMITS AND TEMPORARY FACILITIES.
- THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS CONTAINED IN RELEVANT PERMITS ISSUED FOR THIS PROJECT.
- NO WETLANDS SHALL BE DISTURBED UNLESS INDICATED ON THE PLANS AND ALL APPROPRIATE PERMITS ARE IN PLACE.
- PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT ANY IMPACTS TO AREAS OUTSIDE OF THE LIMITS OF PROPOSED WORK. THE CONTRACTOR SHALL SUBMIT TO THE OWNER'S REPRESENTATIVE FOR APPROVAL ANY IMPACTS TO AREAS OUTSIDE THE LIMITS OF PROPOSED WORK AT LEAST TWO WEEKS IN ADVANCE OF THE PROPOSED IMPACT. IF THE CONTRACTOR'S ACTIVITY ADVERSELY AFFECTS ANY AREA OUTSIDE THE LIMIT OF PROPOSED WORK, THE CONTRACTOR SHALL IMMEDIATELY RESTORE THE AREA TO ITS PRE-CONSTRUCTION CONDITION. THE CONTRACTOR SHALL TAKE CARE TO AVOID DAMAGE TO ANY ADJACENT NATIVE AND NON-NUISANCE PLANTS. ANY NON-TARGET PLANT DAMAGED DURING INVASIVE SPECIES CONTROL OPERATIONS SHALL BE REPLACED IN KIND.
- THE CONTRACTOR SHALL PREVENT THE TRANSPORT OF INVASIVE PLANT MATERIAL TO AND FROM THE SITE, EQUIPMENT, VEHICLES, PERSONAL GEAR, AND IMPORTED MATERIALS SHALL BE CLEAN AND FREE OF PLANT MATERIAL. INVASIVE MATERIALS SHALL BE DISPOSED OFF SITE ACCORDING TO LOCAL, STATE, AND FEDERAL REGULATIONS.
- THE CONTRACTOR SHALL TAKE CARE TO AVOID DAMAGE TO ANY ADJACENT NATIVE AND NON-NUISANCE PLANTS. ANY NON-TARGET AND NATIVE PLANT DAMAGED DURING INVASIVE SPECIES CONTROL OPERATIONS SHALL BE REPLACED IN KIND.

- WITHIN 24 HOURS FOLLOWING A RAINFALL EVENT WHERE THE PROJECT AREA RECEIVED PRECIPITATION GREATER THAN 1-INCH, THE CONTRACTOR SHALL INSPECT ALL PLANT MATERIAL AND SEEDED AREAS TO REPAIR AND/OR REPLACE DAMAGED MATERIALS.

**EROSION AND SEDIMENT CONTROL NOTES:**

- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE PUT INTO PLACE PRIOR TO BEGINNING ANY CONSTRUCTION OR DEMOLITION, INCLUDING BUT NOT LIMITED TO, DRAINAGE INLETS, MANHOLES AND CATCH BASINS WITHIN THE LIMIT OF WORK AND DRAINAGE STRUCTURES OUTSIDE THE LIMIT OF WORK THAT ARE IMPACTED BY THE WORK FOR THE ENTIRE DURATION OF CONSTRUCTION. REFER TO SPECIFICATIONS AND DETAILS FOR TYPE OF EROSION AND SEDIMENT CONTROL. THE CONTRACTOR SHALL INSTALL ALL REQUIRED POLLUTION CONTROL DEVICES PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THEIR MAINTENANCE, REPOSITIONING AND REMOVAL UPON COMPLETION OF WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUAL MAINTENANCE OF ALL CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT.
- CONTRACTOR SHALL MEET ALL OF THE COMMONWEALTH OF MASSACHUSETTS D.E.P. REGULATIONS FOR SEDIMENT AND EROSION CONTROL.
- EROSION CONTROL BARRIERS ARE TO BE INSTALLED ACCORDING TO SITE PLANS, NOTES, DETAILS, AND SPECIFICATIONS.
- PERMANENT VEGETATION TO BE SEEDED ON ALL EXPOSED AREAS IMMEDIATELY AFTER FINAL PLANTING. STRAW MULCH TO BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED. NO WOOD MULCH SHALL BE IMPORTED TO THE SITE.
- NATURAL FIBER ROLLS SHALL BE INSTALLED ACCORDING TO SITE PLANS, NOTES, DETAILS, AND SPECIFICATIONS. INSTALLATION LOCATIONS SHALL BE APPROVED BY THE OWNER. AT TIME OF REMOVAL, THE STAKES AND ANY OTHER ANCILLARY MATERIALS ASSOCIATED WITH THE FIBER ROLLS SHALL BE REMOVED FROM THE SITE.
- SHOULD CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE SHALL BE SPRINKLED UNTIL THE SURFACE IS WET. TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED, OR MULCH SHALL BE APPLIED IN ACCORDANCE WITH STATE STANDARDS FOR EROSION CONTROL.
- ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMITS OF DISTURBANCE OR ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
- WITHIN 24 HOURS FOLLOWING A RAINFALL EVENT WHERE THE PROJECT AREA RECEIVED PRECIPITATION GREATER THAN 1-INCH, THE CONTRACTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL DEVICES TO REPAIR AND/OR REPLACE DEVICES AS REQUIRED ACCORDING TO THE PLANS, NOTES, DETAILS, SPECIFICATIONS, AND APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
- STOCKPILE AND STAGING LOCATIONS SHALL BE APPROVED BY THE OWNER.

**WATER POLLUTION CONTROL NOTES:**

- CARE SHALL BE TAKEN TO PROTECT THE WATER.
- ALL WATER RESOURCES (I.E. GROUND AND SURFACE WATERS), INCLUDING ALL DRAINS, SHALL BE PROTECTED FROM LEACHING AND/OR RUN-OFF OF CHEMICAL POLLUTANTS, SOLID WASTES, AND CONSTRUCTION SITE DEBRIS.
- EQUIPMENT, TOOLS AND TRUCKS USED IN THIS PROJECT SHALL BE CLEANED IN SUCH A MANNER AS TO PREVENT WASH WATER FROM ENTERING ANY WATER BODY.
- SPILLAGE OF HAZARDOUS SUBSTANCES INTO THE WATERWAY IS PROHIBITED BY THE CLEAN WATER ACT OF 1977. MEASURES INCLUDING PROPER MAINTENANCE OF CONSTRUCTION EQUIPMENT, DESIGNATING FUEL/HAZARDOUS SUBSTANCES HANDLING AREAS TO ALLOW SPILLS TO BE CONTAINED BEFORE REACHING THE WATERWAY, INSTRUCTING PERSONNEL NOT TO DISPOSE OF OIL, AND OTHER SUCH MATERIALS AND HERBICIDES INTO DRAINS OR INTO THE WATERWAY DIRECTLY, AND OTHER NECESSARY PROCEDURES SHALL BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION ACTIVITIES.
- ABSORBENT MATERIALS SHALL BE RETAINED ONSITE IN THE EVENT THAT A SPILL OCCURS.

**LEGEND:**

- SLOPE STABILIZATION
- BORDERING LAND SUBJECT TO FLOODING (100-YEAR FLOODPLAIN) FEMA FLOOD ZONE AE
- LAND UNDER WATER
- MEAN ANNUAL HIGH WATER LINE/TOP OF BANK
- 25' RIVERFRONT AREA (APPROXIMATE)
- BOSTON 25' WATERFRONT AREA (APPROXIMATE)
- WATERTOWN 50' NO BUILD ZONE
- 100' WETLAND BUFFER TO INLAND BANK
- LIMIT OF DISTURBANCE
- SLOPE STABILIZATION AT RIPRAP
- SILT FENCE
- SILT FENCE WITH SNOW FENCE
- HERBIVORE PROTECTION FENCE
- FIBER ROLL
- INFORMATIONAL SIGN
- PROPOSED PLANTINGS
- EXISTING TREE
- RIVERS EDGE PLANTINGS
- MID GROUND PLANTINGS
- PARK EDGE PLANTINGS
- COMPASS ROSE (PROJECT NORTH)

**APPROXIMATE LATITUDE/LONGITUDE OF TEST PLOTS**

PLOT NO.	LATITUDE	LONGITUDE
PLOT 1	42.3647	-71.0720
PLOT 2	42.3666	-71.0758
PLOT 3	42.3516	-71.1061
PLOT 4	42.3546	-71.1138
PLOT 5	42.3657	-71.1176
PLOT 6A	42.3725	-71.1319
PLOT 6B	42.3727	-71.1316
PLOT 7	42.3808	-71.1489
PLOT 8	42.3651	-71.1695

**TEST PLOT 1 - NOTES:**

**SITE PREPARATION**

- WHERE SCOURING/SUMPING OF THE RIVERBANK IS FOUND BEHIND RIPRAP, INSTALL GEOTEXTILE AND SILT FENCE ACCORDING TO SLOPE STABILIZATION DETAIL 5, SHEET C501. SPECIFIC PLACEMENT OF FIBER ROLLS SLOPE STABILIZATION, AND SILT FENCE WILL BE DIRECTED BY THE OWNER'S REPRESENTATIVE.
- INVASIVE/NUISANCE SPECIES REMOVAL SHALL BE PERFORMED ACCORDING TO SPECIFICATIONS. IF ADDITIONAL INVASIVE/NUISANCE SPECIES NOT FOUND ON THIS LIST ARE FOUND, CONTRACTOR SHALL RECOMMEND TREATMENT PROCEDURES FOR REVIEW & APPROVAL BY THE OWNER'S REPRESENTATIVE. DOCUMENTED INVASIVE SPECIES ON THE SITE INCLUDE THE FOLLOWING:

SCIENTIFIC NAME	COMMON NAME
<i>Amorpha fruticosa</i>	FALSE INDIGO
<i>Celastrus orbiculatus</i>	ASIATIC BITTERSWEET
<i>Iris pseudacorus</i>	YELLOW IRIS
<i>Convolvulus arvensis</i>	HEDGE BINDWEED
<i>Cuscuta spp.</i>	DODDER

- EXISTING NATIVE SPECIES ARE TO REMAIN IN THE RESTORATION AREA. CONTRACTOR SHALL PROVIDE PROTECTIONS TO ENSURE NATIVE SPECIES ARE NOT DISTURBED OR DAMAGED BY INVASIVE REMOVAL AND RESTORATION PLANTING. CONTRACTOR SHALL OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE WHEN TRANSPLANT OR REMOVAL OF NATIVE SPECIES IS UNAVOIDABLE. ADDITIONAL NATIVE SPECIES NOT FOUND ON THIS LIST MAY EXIST AND SHALL RECEIVE THE SAME PROTECTIONS. DOCUMENTED NATIVE SPECIES INCLUDE THE FOLLOWING:

SCIENTIFIC NAME	COMMON NAME
<i>Onoclea sensibilis</i>	SENSITIVE FERN
<i>Aster spp.</i>	ASTER
<i>Tradescantia spp.</i>	SPIDERWORT
<i>Solidago spp.</i>	GOLDENROD
<i>Viola spp.</i>	VIOLET

- COMPACTED SOILS IN THE RESTORATION AREA SHALL BE LOOSENEED TO A DEPTH OF 12" MIN.
- CONTRACTOR SHALL NOT TO DISTURB OR RELOCATE EXISTING RIPRAP.
- THE CONTRACTOR SHALL INSTALL ALL REQUIRED POLLUTION CONTROL DEVICES PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THEIR MAINTENANCE, REPOSITIONING, AND REMOVAL UPON COMPLETION OF WORK. REQUIRED POLLUTION CONTROL DEVICES INCLUDE BUT ARE NOT LIMITED TO SILT FENCE, FIBER ROLLS, AND SLOPE STABILIZATION MATTING.
- CONTRACTOR SHALL NOT DAMAGE RIVERBANKS. RIVERBANKS SHALL BE CHECKED WEEKLY TO ENSURE THEY ARE STRUCTURALLY SOUND AND HAVE NOT BEEN DAMAGED BY RESTORATION WORK.
- THE EXTENT OF THE RESTORATION AREA MAY VARY FROM THE EXTENT SHOWN ON THE DRAWINGS BASED ON ACTUAL CONSTRUCTION MEANS AND METHODS. THE CONTRACTOR SHALL FIELD VERIFY RESTORATION BOUNDARIES WITH OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.

**PLANTING**

- PLANT MATERIAL SHALL BE PROVIDED BY DCR AND INSTALLED BY CONTRACTOR AS INDICATED IN THE APPROVED WORK PLAN AND DRAWINGS.
- RESTORATION AREAS SHALL BE CHECKED WEEKLY AND AFTER EACH RAINFALL EVENT PRODUCING AT LEAST ONE INCH OF PRECIPITATION TO ENSURE PLANTINGS ARE INTACT AND EROSION AND SEDIMENT STRUCTURES ARE STRUCTURALLY SOUND.
- AFTER CONTAINER AND PLUG PLANTS HAVE BEEN INSTALLED, SEED ALL DISTURBED AREAS WITH CUSTOM SEED MIX SEEDED AT SUPPLIER'S SUGGESTED RATES OF THE FOLLOWING SPECIES:

SCIENTIFIC NAME	COMMON NAME
<i>Acorus americanus</i>	SWEET FLAG
<i>Eurybia divaricata</i>	WHITE WOOD ASTER
<i>Iris versicolor</i>	BLUE FLAG IRIS
<i>Juncus tenuis</i>	PATH RUSH
<i>Schizachyrium scoparium</i>	LITTLE BLUESTEM
<i>Symphotrichum novae-angliae</i>	NEW ENGLAND ASTER

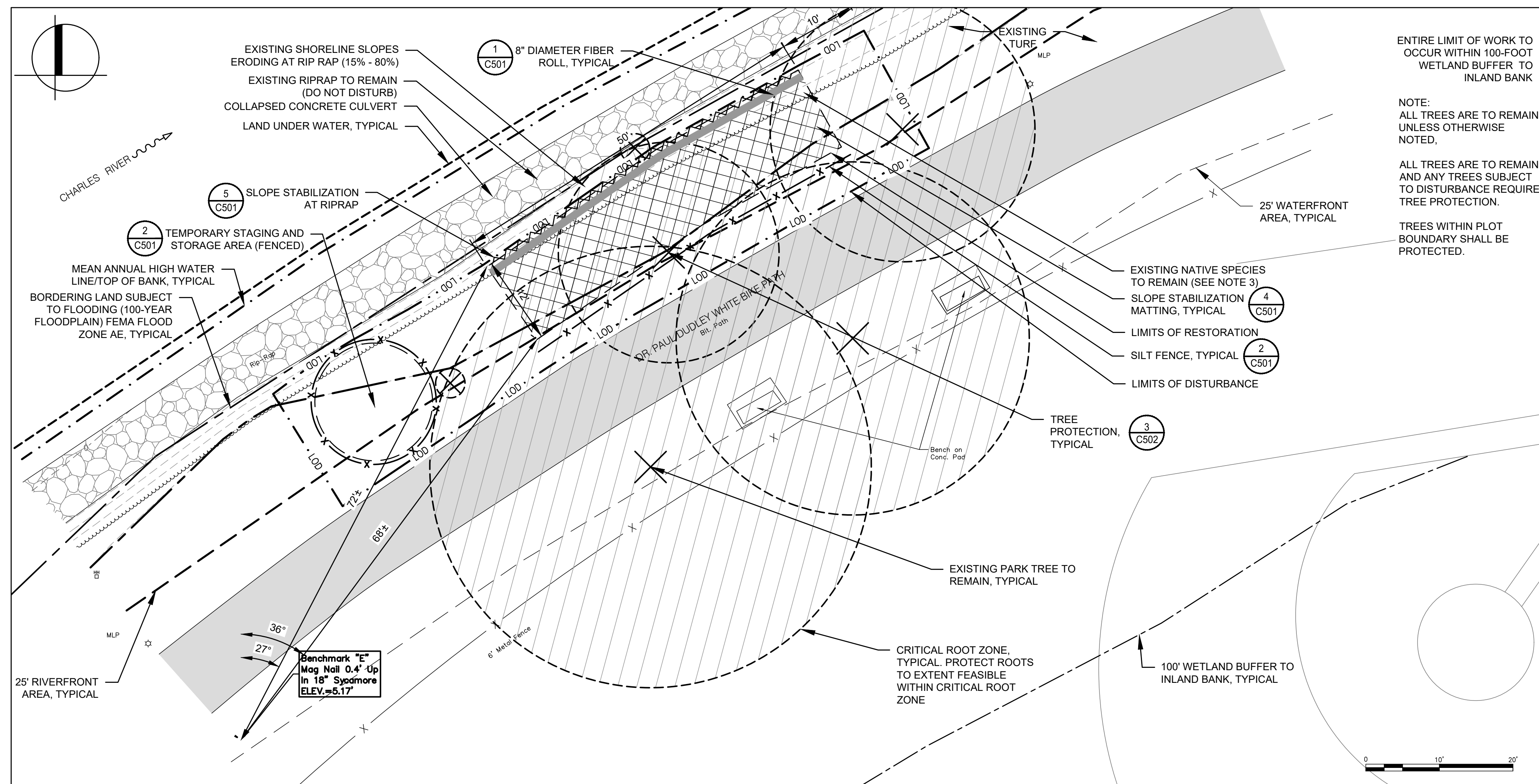
REFER TO SPECIFICATIONS FOR ADDITIONAL PRODUCT INFORMATION AND INSTALLATION INSTRUCTIONS.

**PLANTING SCHEDULE**

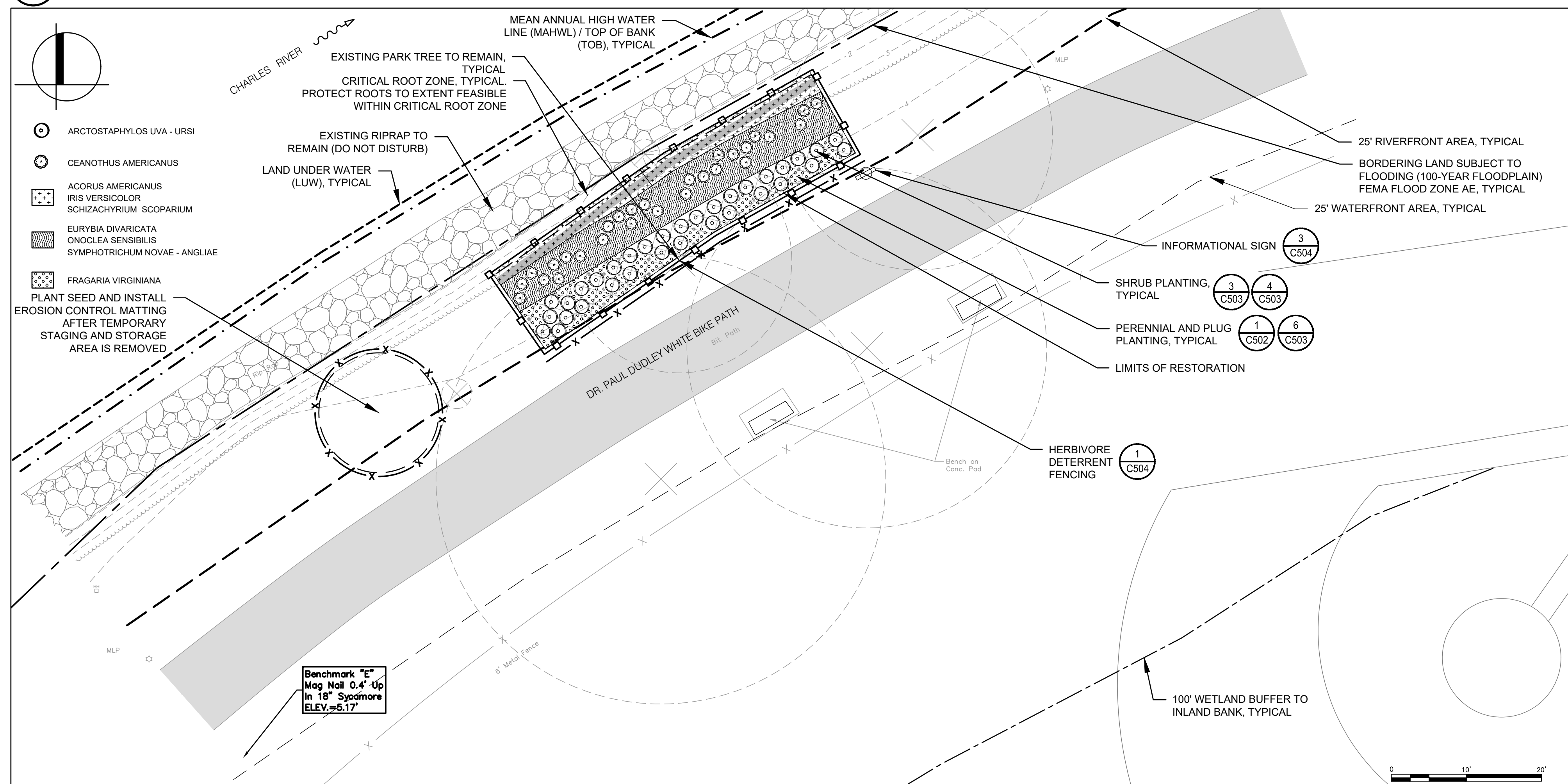
KEY	BOTANIC NAME	COMMON NAME	QUANTITY	SIZE / SPACING
<b>SHRUBS</b>				
AU	ARCTOSTAPHYLOS UVA - URSI	BEARBERRY	33	1 GAL.; 24" O.C.
CA	CEANOTHUS AMERICANUS	NEW JERSEY TEA	28	15 - 18" HT.; 18" O.C.
<b>PERENNIALS / FERNS</b>				
AA	ACORUS AMERICANUS	SWEET FLAG	55	PLUG; 12" O.C.
ED	EURYBIA DIVARICATA	WHITE WOOD ASTER	81	1 GAL.; 12" O.C.
FV	FRAGARIA VIRGINIANA	WILD STRAWBERRY	96	2 QT.; 12" O.C.
IV	IRIS VERSICOLOR	BLUE FLAG IRIS	28	2 QT.; 12" O.C.
OS	ONOCLEA SENSIBILIS	SENSITIVE FERN	16	1 GAL.; 18" O.C.
SS	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	222	PLUG; 6" O.C.
SN	SYMPHOTRICHUM NOVAE - ANGLIAE	NEW ENGLAND ASTER	81	1 GAL.; 12" O.C.

**APPROXIMATE LATITUDE/  
LONGITUDE OF TEST PLOTS**

PLOT NO.	LATITUDE	LONGITUDE
PLOT 1	42.3647	-71.0720



**1 TEST PLOT 1 - SITE PREPARATION**  
SCALE: 1" = 10'



**2 TEST PLOT 1 - PLANTING PLAN**  
SCALE: 1" = 10'

ENTIRE LIMIT OF WORK TO OCCUR WITHIN 100-FOOT WETLAND BUFFER TO INLAND BANK

NOTE: ALL TREES ARE TO REMAIN UNLESS OTHERWISE NOTED.

ALL TREES ARE TO REMAIN AND ANY TREES SUBJECT TO DISTURBANCE REQUIRE TREE PROTECTION.

TREES WITHIN PLOT BOUNDARY SHALL BE PROTECTED.

Project:  
**MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION**  
**dcr**  
Massachusetts  
CHARLES RIVER BASIN RIVERBANK VEGETATION MANAGEMENT PLAN

**Weston & Sampson**

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Boston, MA 02109  
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www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

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Approved By: CFR  
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W&S File No:

Drawing Title:  
**TEST PLOT 1**  
Sheet Number:  
**C101**

**TEST PLOT 2 - NOTES:**

**SITE PREPARATION**

- FIBER ROLLS SHALL BE INSTALLED ALONG THE RIVERBANK AND SILT FENCE SHALL BE INSTALLED ALONG THE NORTHERN EDGE OF THE PLANTING AREA ADJACENT TO THE LAWN. SPECIFIC PLACEMENT OF FIBER ROLLS SHALL BE DIRECTED BY THE OWNER'S REPRESENTATIVE.
- INVASIVE/NUISANCE SPECIES REMOVAL SHALL BE PERFORMED ACCORDING TO SPECIFICATIONS. IF ADDITIONAL INVASIVE/NUISANCE SPECIES NOT FOUND ON THIS LIST ARE FOUND, CONTRACTOR SHALL RECOMMEND TREATMENT PROCEDURES FOR REVIEW & APPROVAL BY THE OWNER'S REPRESENTATIVE. DOCUMENTED INVASIVE SPECIES ON THE SITE INCLUDE THE FOLLOWING:

SCIENTIFIC NAME	COMMON NAME
<i>Amorpha fruticosa</i>	FALSE INDIGO
<i>Phragmites australis</i>	COMMON REED
<i>Iris pseudacorus</i>	YELLOW IRIS
<i>Convolvulus arvensis</i>	HEDGE BINDWEED
<i>Cuscuta spp.</i>	DODDER

- EXISTING NATIVE SPECIES ARE TO REMAIN IN THE RESTORATION AREA. CONTRACTOR SHALL PROVIDE PROTECTIONS TO ENSURE NATIVE SPECIES ARE NOT DISTURBED OR DAMAGED BY INVASIVE REMOVAL AND RESTORATION PLANTING. CONTRACTOR SHALL OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE WHEN TRANSPLANT OR REMOVAL OF NATIVE SPECIES IS UNAVOIDABLE. ADDITIONAL NATIVE SPECIES NOT FOUND ON THIS LIST MAY EXIST AND SHALL RECEIVE THE SAME PROTECTIONS. DOCUMENTED NATIVE SPECIES INCLUDE THE FOLLOWING:

SCIENTIFIC NAME	COMMON NAME
<i>Oenothera biennis</i>	EVENING PRIMROSE
<i>Aster spp.</i>	ASTER

- COMPACTED SOILS IN THE RESTORATION AREA SHALL BE LOOSENED TO A DEPTH OF 12" MIN.
- CONTRACTOR SHALL NOT REMOVE EXISTING STONE MATRIX ON THE SHORELINE. PLANTS ARE TO BE PLANTED IN THE VOIDS BETWEEN THE STONE MATRIX.
- CONTRACTOR SHALL NOT DAMAGE RIVERBANKS. RIVERBANKS SHALL BE CHECKED WEEKLY TO ENSURE THEY ARE STRUCTURALLY SOUND AND HAVE NOT BEEN DAMAGED BY RESTORATION WORK.
- THE EXTENT OF THE RESTORATION AREA MAY VARY FROM THE EXTENT SHOWN ON THE DRAWINGS BASED ON ACTUAL CONSTRUCTION MEANS AND METHODS. THE CONTRACTOR SHALL FIELD VERIFY RESTORATION BOUNDARIES WITH OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.

**PLANTING**

- PLANT MATERIAL SHALL BE PROVIDED BY DCR AND INSTALLED BY CONTRACTOR AS INDICATED IN THE APPROVED WORK PLAN AND DRAWINGS.
- RESTORATION AREAS SHALL BE CHECKED WEEKLY AND AFTER EACH RAINFALL EVENT PRODUCING AT LEAST ONE INCH OF PRECIPITATION TO ENSURE PLANTINGS ARE INTACT AND EROSION AND SEDIMENT STRUCTURES ARE STRUCTURALLY SOUND.
- AFTER CONTAINER AND PLUG PLANTS HAVE BEEN INSTALLED, SEED ALL DISTURBED AREAS WITH CUSTOM SEED MIX SEEDED AT SUPPLIER'S SUGGESTED RATES OF THE FOLLOWING SPECIES:

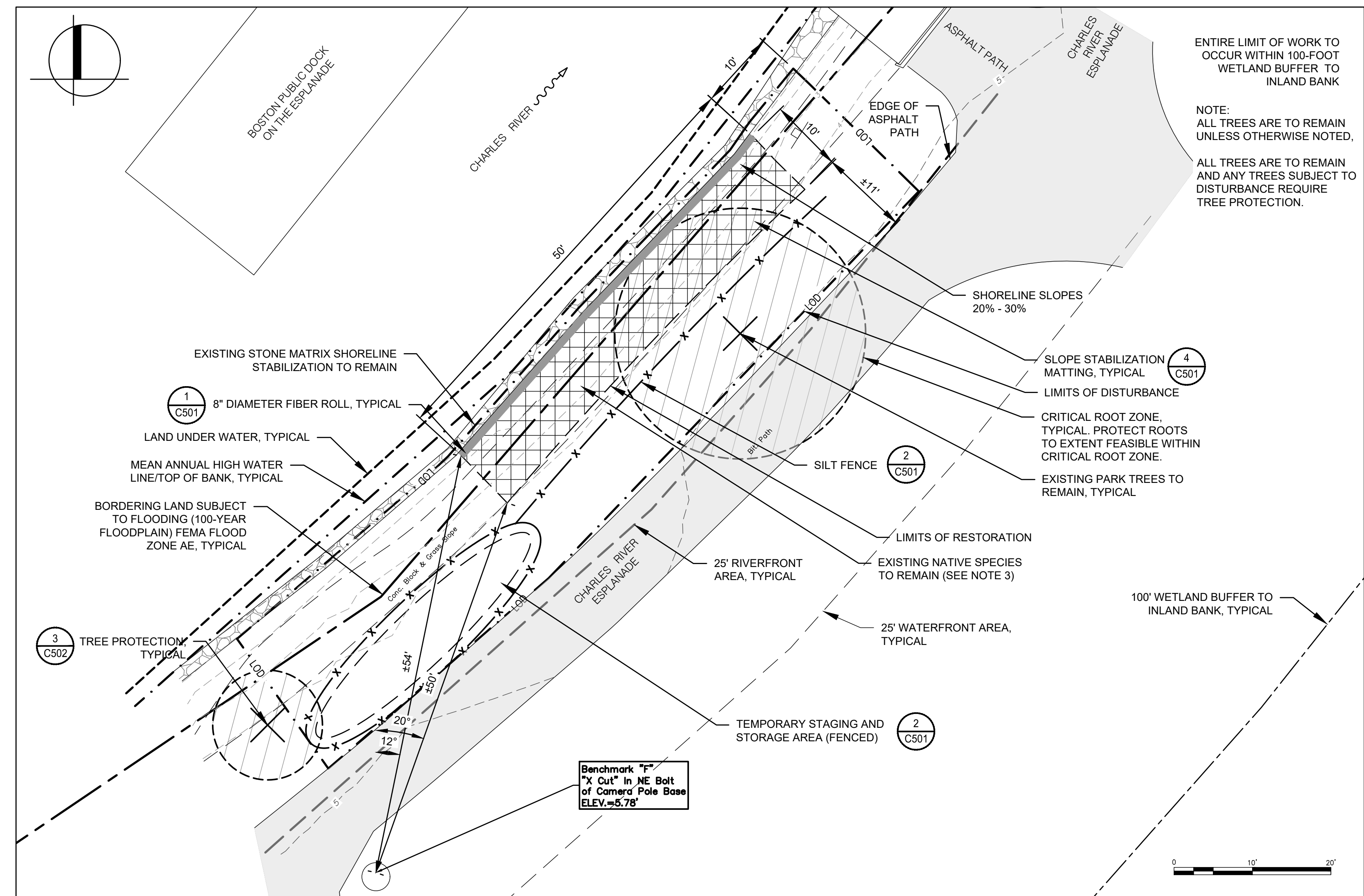
SCIENTIFIC NAME	COMMON NAME
<i>Asclepias tuberosa</i>	BUTTERFLY WEED
<i>Carex vulpinoidea</i>	FOX SEDGE
<i>Deschampsia flexuosa</i>	COMMON HAIRGRASS
<i>Iris versicolor</i>	BLUE FLAG IRIS
<i>Juncus tenuis</i>	PATH RUSH
<i>Schizachyrium scoparium</i>	LITTLE BLUESTEM

REFER TO SPECIFICATIONS FOR ADDITIONAL PRODUCT INFORMATION AND INSTALLATION INSTRUCTIONS.

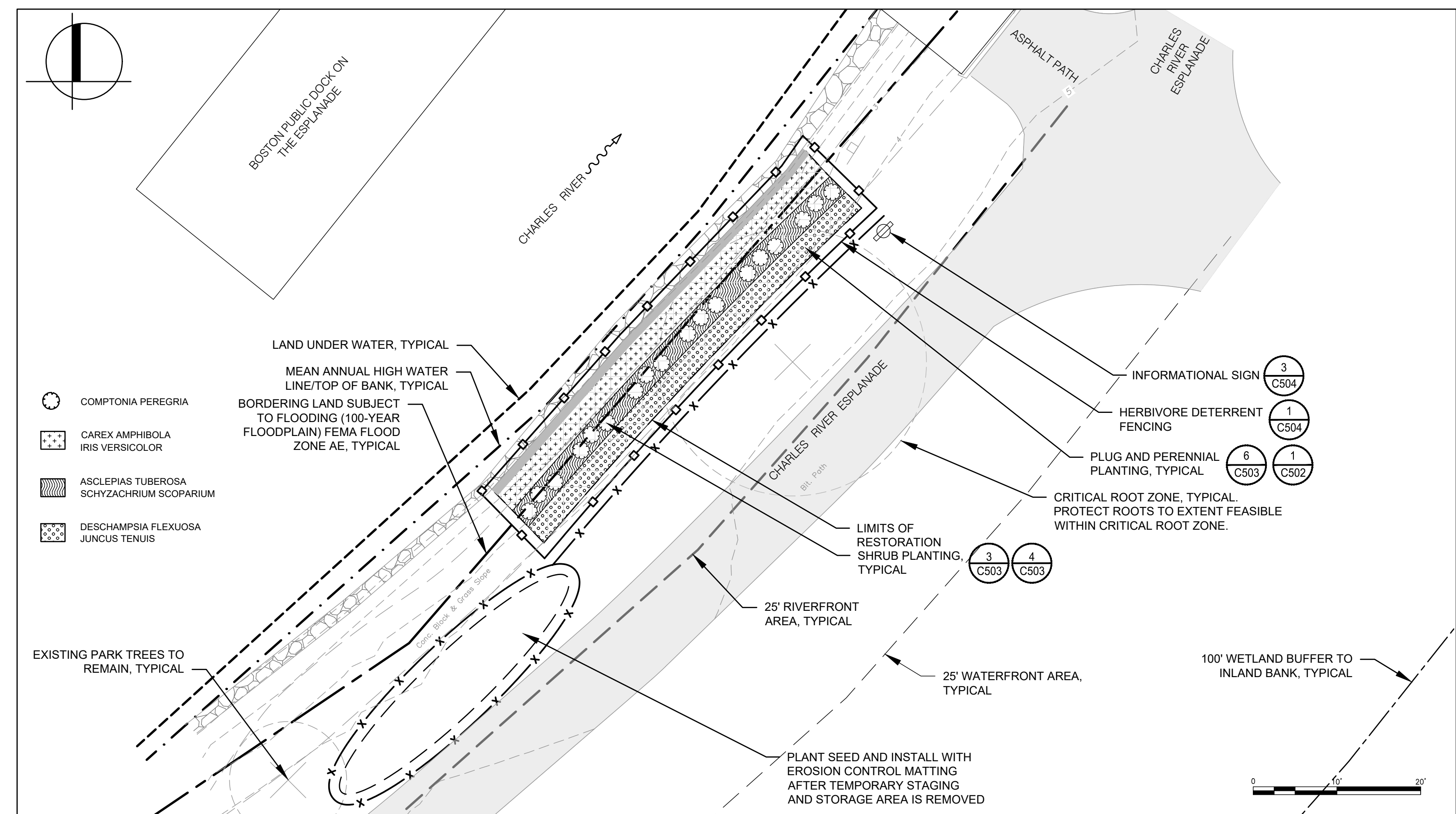
**PLANTING SCHEDULE**

KEY	BOTANIC NAME	COMMON NAME	QUANTITY	SIZE / SPACING
<b>SHRUBS</b>				
CP	COMPTONIA PEREGRIA	SWEET FERN	18	3 GAL.; 24' O.C.
<b>PERENNIALS / FERNS</b>				
AT	ASCLEPIAS TUBEROSA	BUTTERFLY WEED	50	PLUG; 12' O.C.
IV	IRIS VERSICOLOR	BLUE FLAG IRIS	100	2 QT.; 12' O.C.
<b>GRASSES / SEDGES / RUSHES</b>				
CA	CAREX AMPHIBOLA	CREEK SEDGE	100	1 GAL.; 12' O.C.
DF	DESCHAMPSIA FLEXUOSA	COMMON HAIRGRASS	74	1 GAL.; 10' O.C.
JT	JUNCUS TENUIS	PATH RUSH	74	PLUG; 10' O.C.
SS	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	50	PLUG; 12' O.C.

APPROXIMATE LATITUDE/LONGITUDE OF TEST PLOTS		
PLOT NO.	LATITUDE	LONGITUDE
PLOT 2	42.3566	-71.0758



**1 TEST PLOT 2 - SITE PREPARATION**  
SCALE: 1" = 10'

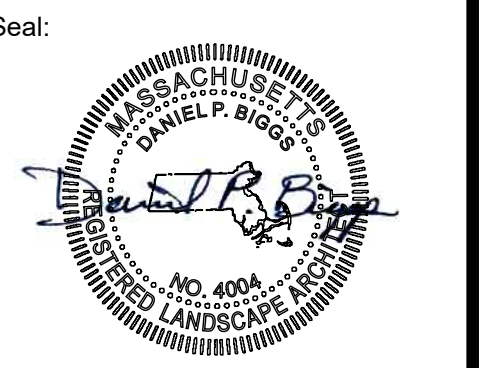


**2 TEST PLOT 2 - PLANTING PLAN**  
SCALE: 1" = 10'

Consultants:


Revisions:

No.	Date	Description



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Date: MARCH 2021  
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Approved By: CFR  
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W&S File No:

Drawing Title:  
**TEST PLOT 2**  
Sheet Number:  
**C102**

**TEST PLOT 3 - NOTES:**

**SITE PREPARATION**

- DCR SHALL UTILIZE INTERNAL CERTIFIED ARBORIST TO ASSESS AND COORDINATE REMOVAL OF HAZARDOUS LIMBS OR BRANCHES BEFORE WORK BEGINS.
- WHERE SCOURING/SLUMPING OF THE RIVERBANK IS FOUND BEHIND RIPRAP, INSTALL GEOTEXTILE AND SILT FENCE ACCORDING TO SLOPE STABILIZATION DETAIL 5, SHEET C501. SPECIFIC PLACEMENT OF FIBER ROLLS AND SLOPE STABILIZATION WILL BE DIRECTED BY THE OWNER'S REPRESENTATIVE.
- INVASIVE/NUISANCE SPECIES REMOVAL SHALL BE PERFORMED ACCORDING TO SPECIFICATIONS. ADDITIONAL INVASIVE/NUISANCE SPECIES NOT FOUND ON THIS LIST MAY EXIST AND SHALL BE REMOVED ACCORDING TO SPECIFICATIONS. DOCUMENTED INVASIVE SPECIES ON THE SITE INCLUDE THE FOLLOWING:

SCIENTIFIC NAME	COMMON NAME
<i>Amorpha fruticosa</i>	FALSE INDIGO
<i>Lythrum salicaria</i>	PURPLE LOOSESTRIFE
<i>Iris pseudacorus</i>	YELLOW IRIS

- EXISTING NATIVE SPECIES ARE TO REMAIN IN THE RESTORATION AREA. CONTRACTOR SHALL PROVIDE PROTECTIONS TO ENSURE NATIVE SPECIES ARE NOT DISTURBED OR DAMAGED BY INVASIVE REMOVAL AND RESTORATION PLANTING. CONTRACTOR SHALL OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE WHEN TRANSPLANT OR REMOVAL OF NATIVE SPECIES IS UNAVOIDABLE. ADDITIONAL NATIVE SPECIES NOT FOUND ON THIS LIST MAY EXIST AND SHALL RECEIVE THE SAME PROTECTIONS. DOCUMENTED NATIVE SPECIES INCLUDE THE FOLLOWING:

SCIENTIFIC NAME	COMMON NAME
<i>Salix nigra</i>	WILLOW
<i>Cephalanthus occidentalis</i>	BUTTONBUSH
<i>Solidago canadensis</i>	GOLDENROD
<i>Aster spp.</i>	ASTER

- COMPACTED SOILS IN THE RESTORATION AREA SHALL BE LOOSENEED TO A DEPTH OF 12" MIN., EXCEPT WHERE SUCH ACTIVITIES MAY DAMAGE TREE ROOTS LOCATED WITHIN THE CRITICAL ROOT ZONE AS SHOWN ON PLANS.
- CONTRACTOR SHALL NOT DAMAGE RIVERBANKS. RIVERBANKS SHALL BE CHECKED REGULARLY TO ENSURE THEY ARE STRUCTURALLY SOUND AND HAVE NOT BEEN DAMAGED BY RESTORATION WORK.
- THE EXTENT OF THE RESTORATION AREA MAY VARY FROM THE EXTENT SHOWN ON THE DRAWINGS BASED ON ACTUAL CONSTRUCTION MEANS AND METHODS. THE CONTRACTOR SHALL FIELD VERIFY RESTORATION BOUNDARIES WITH OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.

**PLANTING**

- PLANT MATERIAL SHALL BE PROVIDED BY DCR AND INSTALLED BY CONTRACTOR AS INDICATED IN THE APPROVED WORK PLAN AND DRAWINGS.
- RESTORATION AREAS SHALL BE CHECKED WEEKLY AND AFTER EACH RAINFALL EVENT PRODUCING AT LEAST ONE INCH OF PRECIPITATION TO ENSURE PLANTINGS ARE INTACT AND EROSION AND SEDIMENT STRUCTURES ARE STRUCTURALLY SOUND.
- AFTER CONTAINER AND PLUG PLANTS HAVE BEEN INSTALLED, SEED ALL DISTURBED AREAS WITH CUSTOM SEED MIX, SEEDED AT SUPPLIER'S SUGGESTED RATES OF THE FOLLOWING SPECIES:

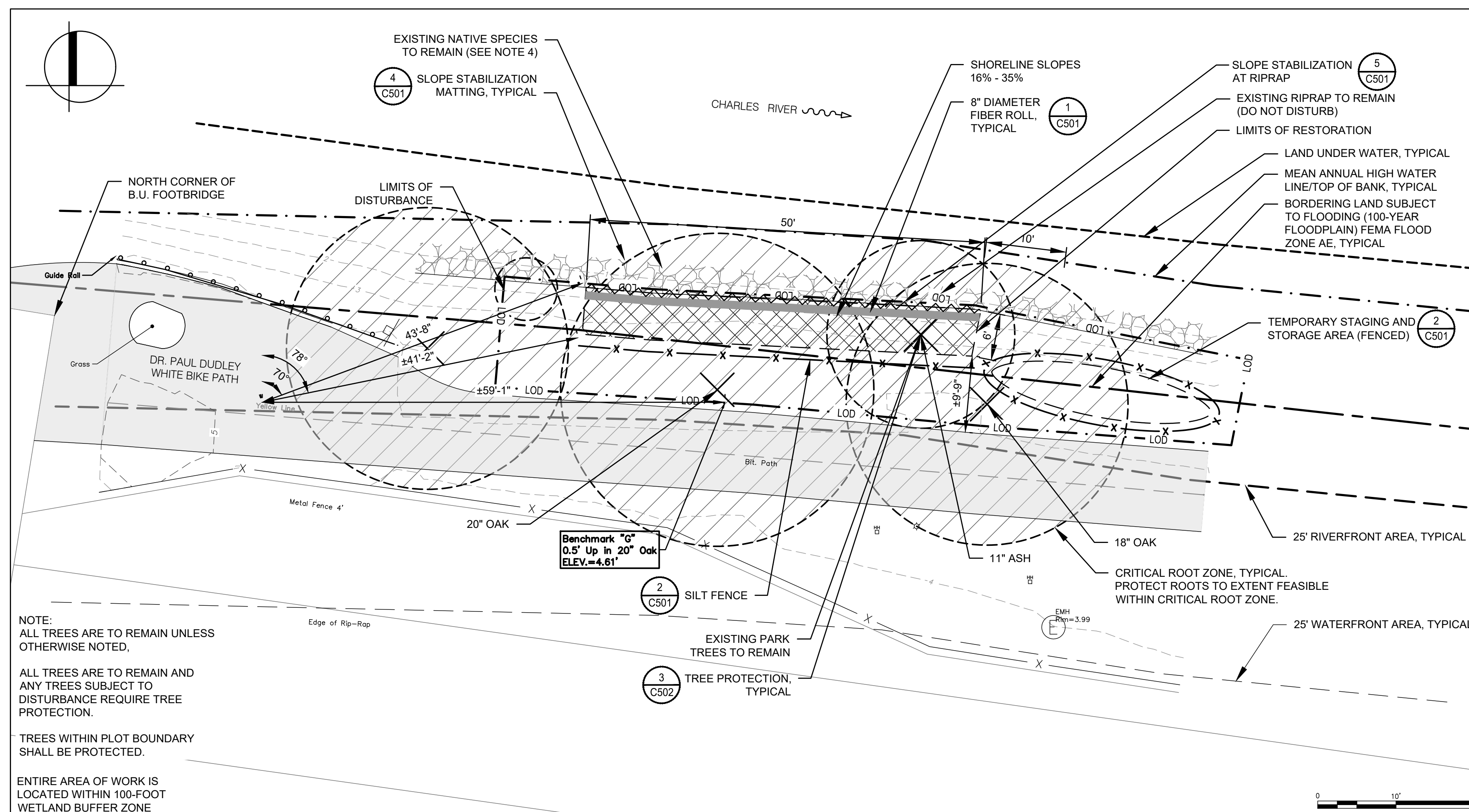
SCIENTIFIC NAME	COMMON NAME
<i>Carex vulpinoidea</i>	FOX SEDGE
<i>Deschampsia flexuosa</i>	COMMON HAIRGRASS
<i>Iris versicolor</i>	BLUE FLAG IRIS
<i>Juncus tenuis</i>	PATH RUSH

REFER TO SPECIFICATIONS FOR ADDITIONAL PRODUCT INFORMATION AND INSTALLATION INSTRUCTIONS.

PLANTING SCHEDULE				
KEY	BOTANIC NAME	COMMON NAME	QUANTITY	SIZE / SPACING
<b>SHRUBS</b>				
GB	GAYLUSSACIA BACCATA	BLACK HUCKLEBERRY	76 SF	MIXED SOD
VA	VACCINIUM ANGSTIFOLIUM	LOW - BUSH BLUEBERRY	41 SF	MIXED SOD
<b>PERENNIALS / FERNS</b>				
DP	DENNSTAEDTIA PUNCTILOBULA	HAY SCENTED FERN	58 SF	MIXED SOD
IV	IRIS VERSICOLOR	BLUE FLAG IRIS	58	2 QT.; 12" O.C.
OS	ONOCLEA SENSIBILIS	SENSITIVE FERN	26	1 GAL.; 18" O.C.
<b>GRASSES / SEDGES / RUSHES</b>				
CA	CAREX AMPHIBOLA	CREEK SEDGE	58	1 GAL.; 12" O.C.

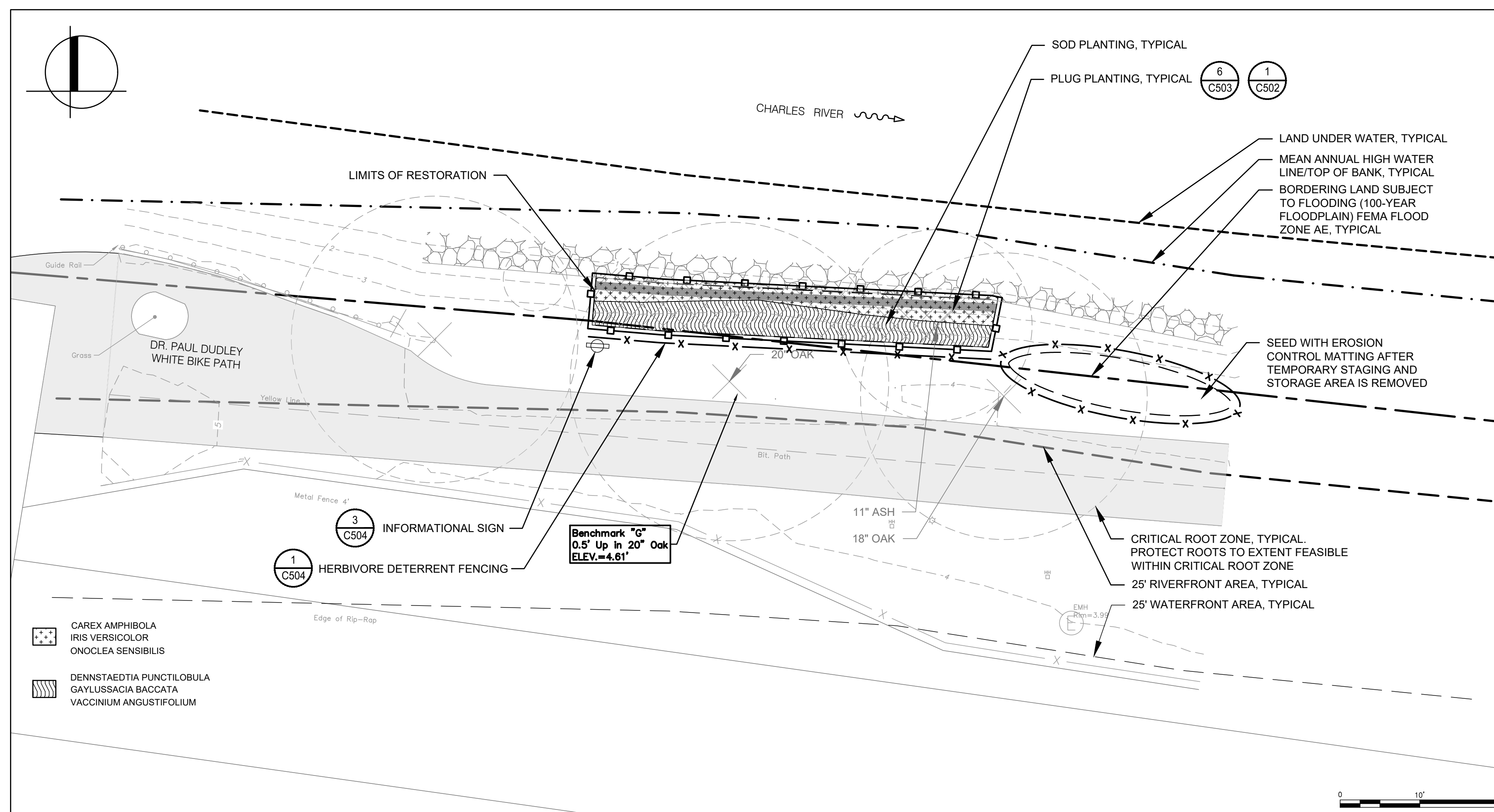
NOTE: HUCKLEBERRY, BLUEBERRY AND FERN SHALL BE A PRE - ESTABLISHED, MIXED SPECIES SOD.

APPROXIMATE LATITUDE/LONGITUDE OF TEST PLOTS		
PLOT NO.	LATITUDE	LONGITUDE
PLOT 3	42.3516	-71.1061



**1 TEST PLOT 3 - SITE PREPARATION**

SCALE: 1" = 10'



**2 TEST PLOT 3 - PLANTING PLAN**

SCALE: 1" = 10'

Consultants:

Revisions:

No.	Date	Description

Seal:



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W&S File No:

Drawing Title:

TEST PLOT 3

Sheet Number:

**C103**

TEST PLOT 3 - NOTES:

SITE PREPARATION

- DCR SHALL UTILIZE INTERNAL CERTIFIED ARBORIST TO ASSESS AND COORDINATE REMOVAL OF HAZARDOUS LIMBS OR BRANCHES BEFORE WORK BEGINS.
- SPECIFIC PLACEMENT OF FIBER ROLLS AND SLOPE STABILIZATION WILL BE DIRECTED BY THE OWNER'S REPRESENTATIVE.
- INVASIVE/NUISANCE SPECIES REMOVAL SHALL BE PERFORMED ACCORDING TO SPECIFICATIONS. ADDITIONAL INVASIVE/NUISANCE SPECIES NOT FOUND ON THIS LIST MAY EXIST AND SHALL BE REMOVED ACCORDING TO SPECIFICATIONS. DOCUMENTED INVASIVE SPECIES ON THE SITE INCLUDE THE FOLLOWING:

SCIENTIFIC NAME	COMMON NAME
<i>Amorpha fruticosa</i>	FALSE INDIGO
<i>Calystegia sepium</i>	HEDGE BINDWEED
<i>Lythrum salicaria</i>	PURPLE LOOSESTRIFE

- EXISTING NATIVE SPECIES ARE TO REMAIN IN THE RESTORATION AREA. CONTRACTOR SHALL PROVIDE PROTECTIONS TO ENSURE NATIVE SPECIES ARE NOT DISTURBED OR DAMAGED BY INVASIVE REMOVAL AND RESTORATION PLANTING. CONTRACTOR SHALL OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE WHEN TRANSPLANT OR REMOVAL OF NATIVE SPECIES IS UNAVOIDABLE. ADDITIONAL NATIVE SPECIES NOT FOUND ON THIS LIST MAY EXIST AND SHALL RECEIVE THE SAME PROTECTIONS. DOCUMENTED NATIVE SPECIES INCLUDE THE FOLLOWING:

SCIENTIFIC NAME	COMMON NAME
<i>Carex spp.</i>	SEDGE
<i>Impatiens capensis</i>	JEWELWEED
<i>Solidago canadensis</i>	GOLDENROD
<i>Rubus spp.</i>	RASPBERRY
<i>Urtica dioica</i>	STINGING NETTLE

- COMPACTED SOILS IN THE RESTORATION AREA SHALL BE LOOSENEED TO A DEPTH OF 12" MIN., EXCEPT WHERE SUCH ACTIVITIES MAY DAMAGE TREE ROOTS LOCATED WITHIN THE CRITICAL ROOT ZONE AS SHOWN ON PLANS.
- CONTRACTOR SHALL NOT DAMAGE RIVERBANKS. RIVERBANKS SHALL BE CHECKED REGULARLY TO ENSURE THEY ARE STRUCTURALLY SOUND AND HAVE NOT BEEN DAMAGED BY RESTORATION WORK.
- THE EXTENT OF THE RESTORATION AREA MAY VARY FROM THE EXTENT SHOWN ON THE DRAWINGS BASED ON ACTUAL CONSTRUCTION MEANS AND METHODS. THE CONTRACTOR SHALL FIELD VERIFY RESTORATION BOUNDARIES WITH OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.

PLANTING

- PLANT MATERIAL SHALL BE PROVIDED BY DCR AND INSTALLED BY CONTRACTOR AS INDICATED IN THE APPROVED WORK PLAN AND DRAWINGS.
- RESTORATION AREAS SHALL BE CHECKED WEEKLY AND AFTER EACH RAINFALL EVENT PRODUCING AT LEAST ONE INCH OF PRECIPITATION TO ENSURE PLANTINGS ARE INTACT AND EROSION AND SEDIMENT STRUCTURES ARE STRUCTURALLY SOUND.
- AFTER CONTAINER AND PLUG PLANTS HAVE BEEN INSTALLED, SEED ALL DISTURBED AREAS WITH CUSTOM SEED MIX, SEEDED AT SUPPLIER'S SUGGESTED RATES OF THE FOLLOWING SPECIES:

SCIENTIFIC NAME	COMMON NAME
<i>Carex vulpinoidea</i>	FOX SEDGE
<i>Eragrostis spectabilis</i>	PURPLE LOVE GRASS
<i>Juncus tenuis</i>	PATH RUSH
<i>Schizachyrium scoparium</i>	LITTLE BLUESTEM

REFER TO SPECIFICATIONS FOR ADDITIONAL PRODUCT INFORMATION AND INSTALLATION INSTRUCTIONS.

PLANTING SCHEDULE

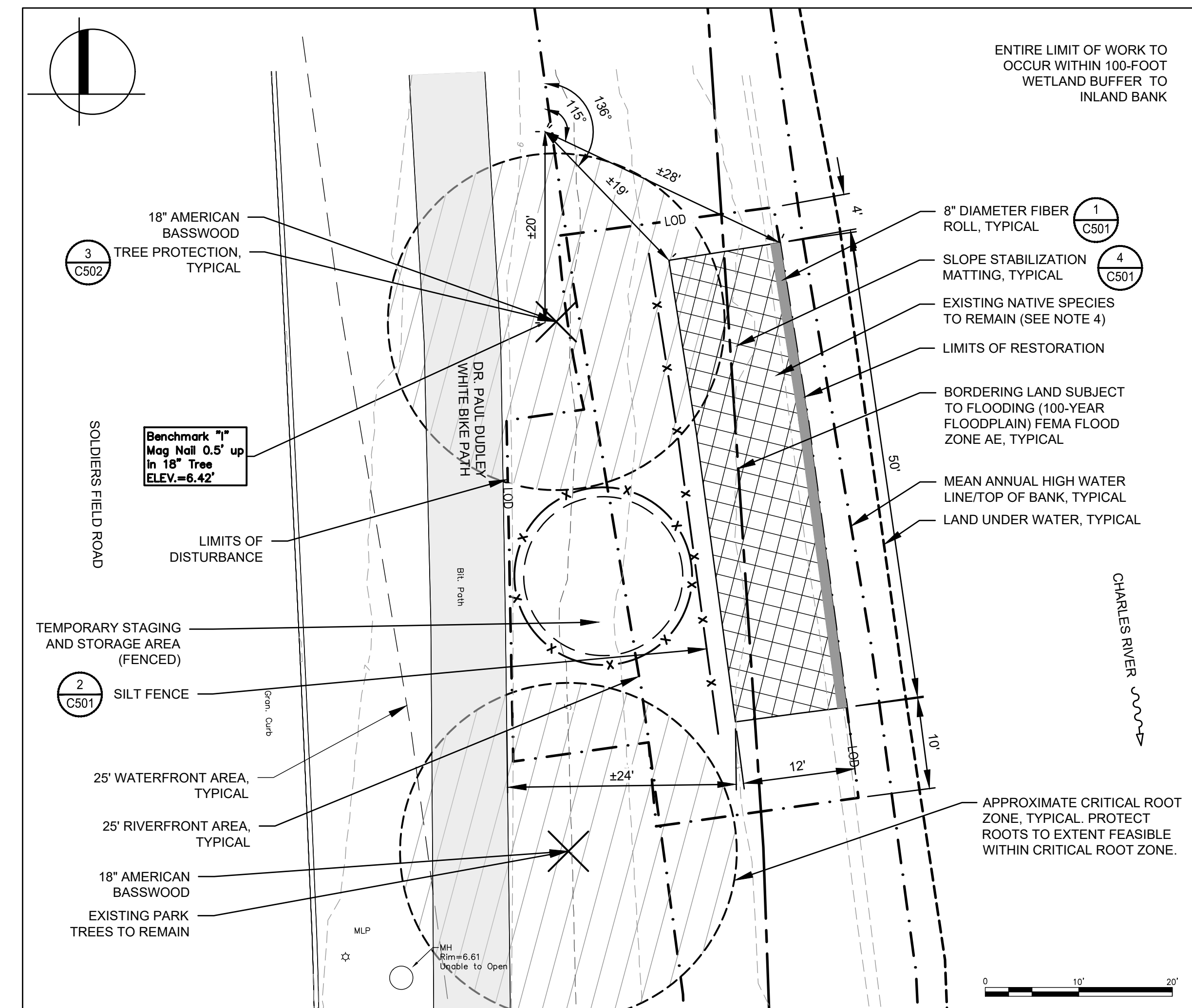
KEY	BOTANIC NAME	COMMON NAME	QUANTITY	SIZE / SPACING
<b>TREES</b>				
BP	BETULA PAPYRIFERA	PAPER BIRCH	2	4'-6' HT., AS SHOWN
<b>SHRUBS</b>				
CP	COMPTONIA PEREGRINA	SWEETFERN	14	3 GAL., 24" O.C.
DL	DIERVILLA LONICERA	NORTHERN BUSH HONEYSUCKLE	18	18-24", 36" O.C.
MG	MYRICA GALE	SWEET GALE	11	2-3' HT., 30" O.C.
ST	SPIREA TOMENTOSA	STEEPLEBUSH	22	2-3' HT., 30" O.C.
<b>GRASSES / SEDGES / RUSHES</b>				
CV	CAREX VULPINOIDEA	FOX SEDGE	73	PLUG, 10" O.C.
ES	ERAGROSTIS SPECTABILIS	PURPLE LOVE GRASS	33	1 GAL., 12" O.C.
JT	JUNCUS TENUIS	PATH RUSH	73	PLUG, 10" O.C.
SS	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	134	PLUG, 6" O.C.

APPROXIMATE LATITUDE/LONGITUDE OF TEST PLOTS		
PLOT NO.	LATITUDE	LONGITUDE
PLOT 5	42.3657	-71.1176

NOTE: ALL TREES ARE TO REMAIN UNLESS OTHERWISE NOTED.

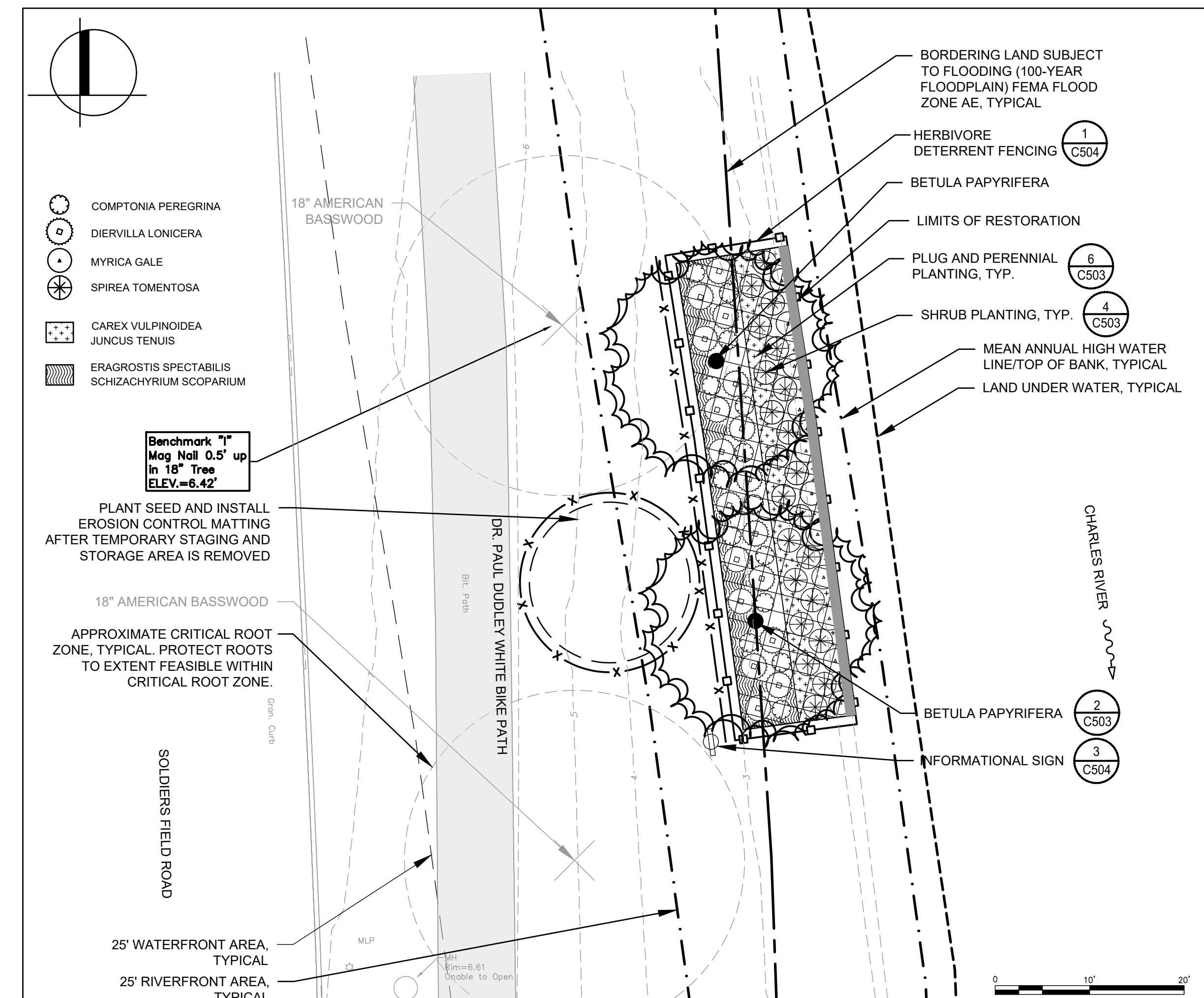
ALL TREES ARE TO REMAIN AND ANY TREES SUBJECT TO DISTURBANCE REQUIRE TREE PROTECTION.

TREES WITHIN PLOT BOUNDARY SHALL BE PROTECTED.



1 TEST PLOT 5 - SITE PREPARATION

SCALE: 1" = 10'



2 TEST PLOT 5 - PLANTING PLAN

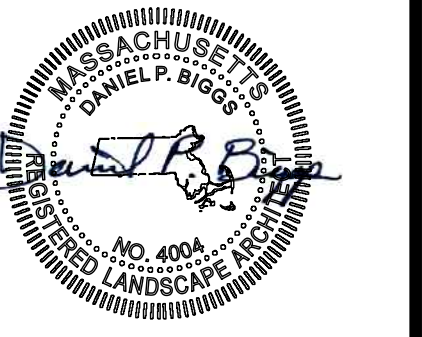
SCALE: 1" = 10'

Consultants:

Revisions:

No.	Date	Description

Seal:



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Scale: 1" = 10'

Date: MARCH 2021

Drawn By: RAM

Reviewed By: DPB

Approved By: CFR

W&S Project No: P18-3241-S1A

W&S File No:

Drawing Title:

TEST PLOT 5

Sheet Number:

C105

**TEST PLOT 6 - NOTES:**

**SITE PREPARATION**

1. AREA TO BE HAND-WEEDED AND HAND-RAKED IN PREPARATION FOR PLANTING IN SPRING 2021.
2. MEADOWS ARE TO BE HAND-SOWED WITH SEED IN THE SPRING OF 2021.
3. CONTRACTOR SHALL AVOID DISTURBANCE AND COMPACTION OF ROOTS WITHIN THE CRITICAL ROOT ZONE OF TREES SHOWN ON PLANTINGS.
4. DCR SHALL UTILIZE INTERNAL CERTIFIED ARBORIST TO ASSESS AND COORDINATE REMOVAL OF HAZARDOUS LIMBS OR BRANCHES BEFORE WORK BEGINS.
5. THE CONTRACTOR SHALL INSTALL ALL REQUIRED EROSION, SEDIMENT, AND POLLUTION CONTROL DEVICES PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THEIR MAINTENANCE, REPOSITIONING, AND REMOVAL UPON COMPLETION OF WORK.
6. THE EXTENT OF THE RESTORATION AREA MAY VARY FROM THE EXTENT SHOWN ON THE DRAWINGS BASED ON ACTUAL CONSTRUCTION MEANS AND METHODS. THE CONTRACTOR SHALL FIELD VERIFY RESTORATION BOUNDARIES WITH OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.

**PLANTING**

1. DCR SHALL PROVIDE PLANT MATERIALS AS INDICATED IN THE APPROVED WORK PLAN AND DRAWINGS. CONTRACTOR TO INSTALL MATERIALS.
2. RESTORATION AREAS SHALL BE CHECKED WEEKLY AND AFTER EACH RAINFALL EVENT PRODUCING AT LEAST ONE INCH OF PRECIPITATION TO ENSURE PLANTINGS ARE INTACT AND EROSION AND SEDIMENT STRUCTURES ARE STRUCTURALLY SOUND.
3. RATES AND DEPTHS OF SLICE SEEDING SHALL BE CONSISTENT WITH SEED SUPPLIER'S RECOMMENDATIONS.
4. NEWLY SEEDED MEADOWS SHALL BE WATERED DAILY FOR A MINIMUM OF THREE WEEKS WHEN RAINFALL DOES NOT OCCUR UNLESS OTHERWISE SPECIFIED BY SUPPLIER.
5. SEED MIX SHALL BE CUSTOM SHADE MIX - SEEDED AT SUPPLIER'S SUGGESTED RATES OF THE FOLLOWING SPECIES:

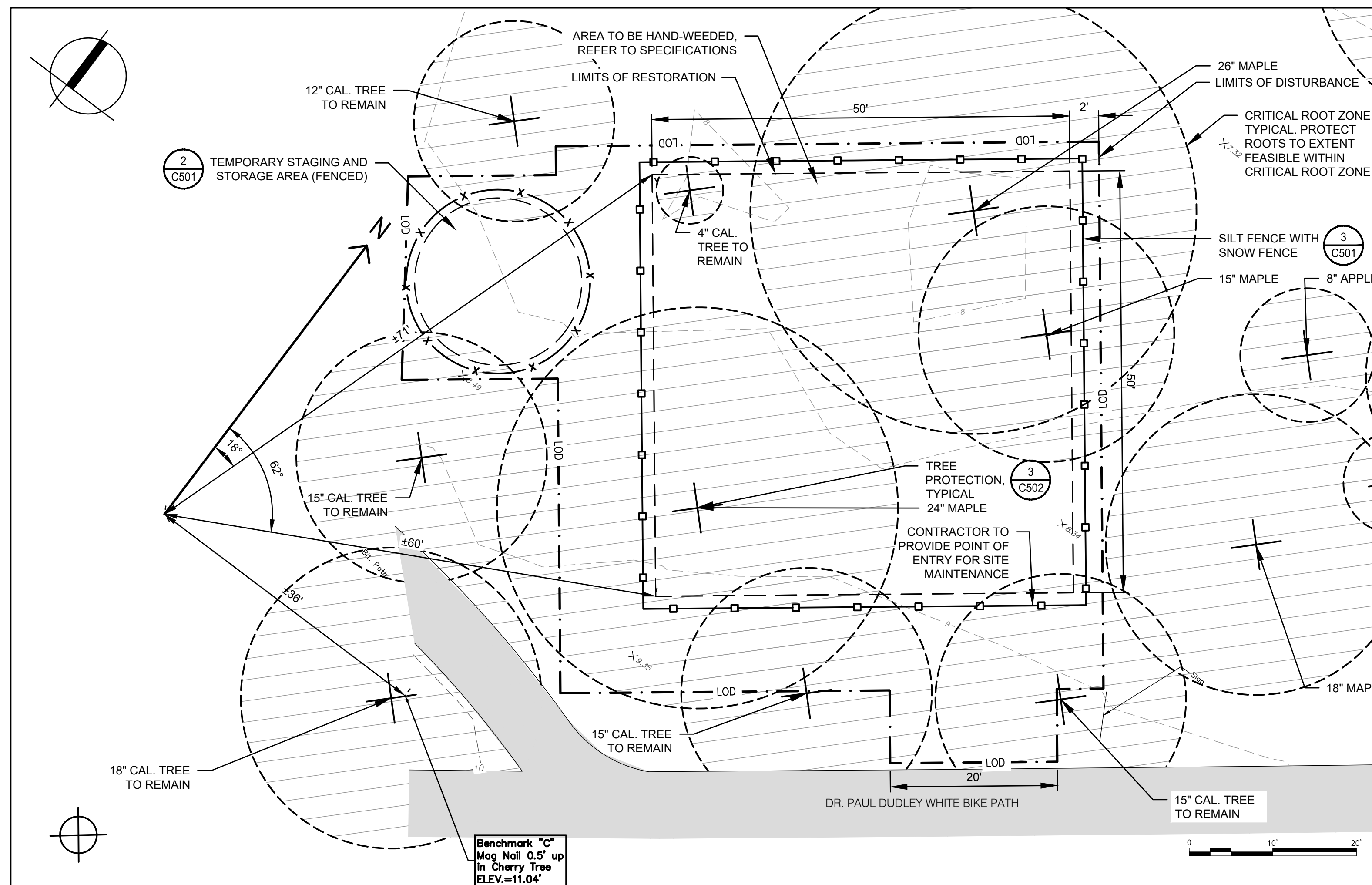
SCIENTIFIC NAME	COMMON NAME
<i>Deschampia flexuosa</i>	WAVY HAIRGRASS
<i>Eurybia divaricata</i>	WHITE WOOD ASTER
<i>Eurybia macrophylla</i>	BIG LEAF ASTER
<i>Festuca subverticillata</i>	NODDING FESCUE
<i>Geranium maculatum</i>	WILD GERANIUM
<i>Solidago nemoralis</i>	GREY GOLDENROD
<i>Symphotrichum cordifolium</i>	BLUE WOOD ASTER
<i>Zizia aurea</i>	GOLDEN ALEXANDERS

REFER TO SPECIFICATIONS FOR ADDITIONAL PRODUCT INFORMATION AND INSTALLATION INSTRUCTIONS.

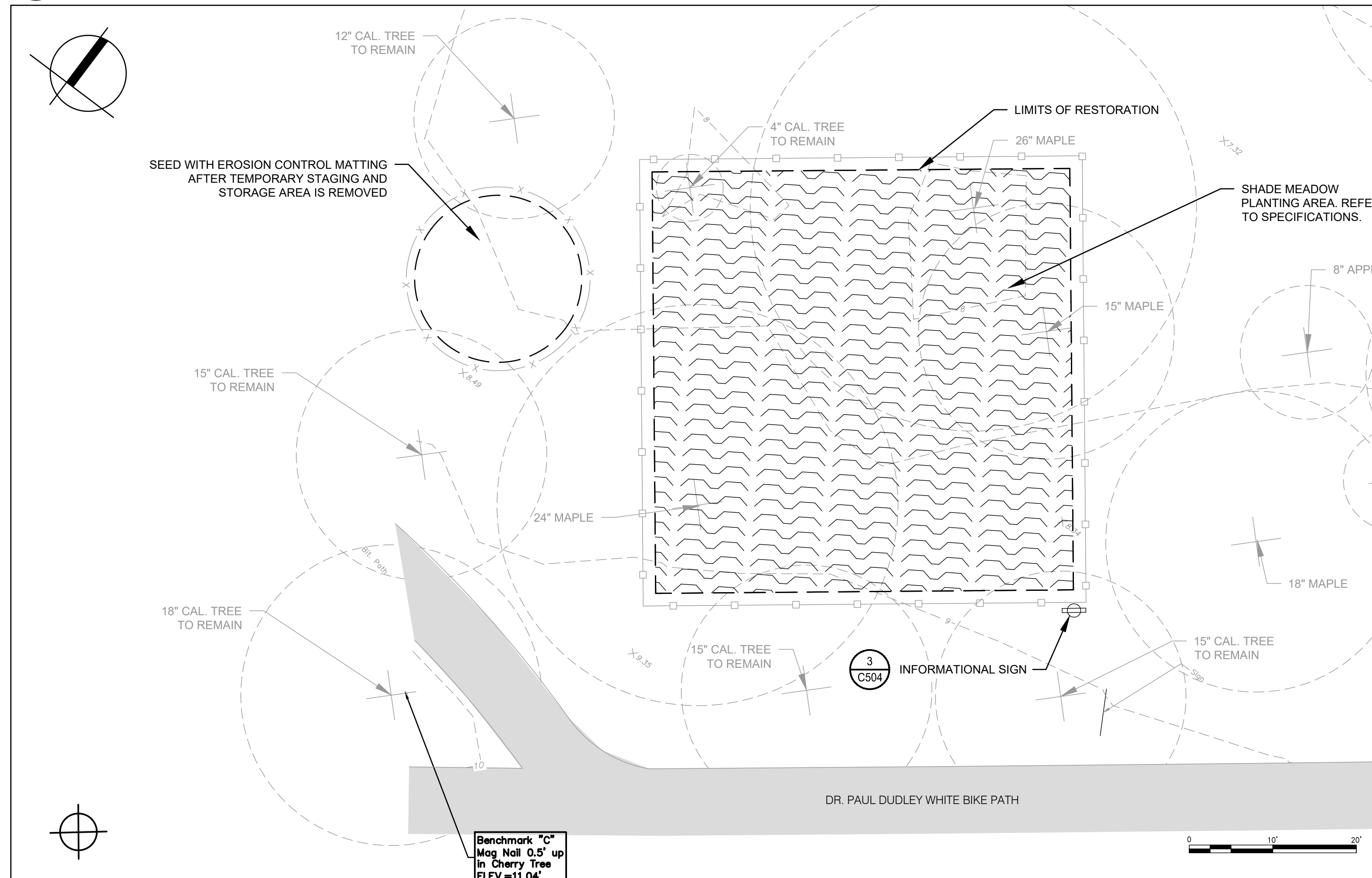
NOTE:  
ALL TREES ARE TO REMAIN UNLESS OTHERWISE NOTED.

ALL TREES ARE TO REMAIN AND ANY TREES SUBJECT TO DISTURBANCE REQUIRE TREE PROTECTION.

TREES WITHIN PLOT BOUNDARY SHALL BE PROTECTED.



**1 TEST PLOT 6 - SHADE MEADOW - SITE PREPARATION**  
SCALE: 1" = 10'



**2 TEST PLOT 6 - SHADE MEADOW - PLANTING PLAN**  
SCALE: 1" = 10'

APPROXIMATE LATITUDE/LONGITUDE OF TEST PLOTS		
PLOT NO.	LATITUDE	LONGITUDE
PLOT 6A	42.3725	-71.1319

**NOTES:**

1. ENTIRE LIMIT OF WORK TO OCCUR OUTSIDE OF 25' RIVERFRONT AREA.
2. ENTIRE LIMIT OF WORK TO OCCUR OUTSIDE OF 25' WATERFRONT AREA.
3. ENTIRE LIMIT OF PROJECT AREA IS LOCATED OUTSIDE FEMA ZONE AE BASED ON AVAILABLE FEMA FIRM MAPPING.
4. ENTIRE LIMIT OF WORK TO OCCUR OUTSIDE OF 100-FOOT WETLAND BUFFER TO INLAND BANK

SEE TEST PLOT 6 - LAYOUT PLAN ON SHEET C106B FOR ADDITIONAL INFORMATION.

Project:  
**MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION**  
**dcr**  
Massachusetts  
CHARLES RIVER BASIN RIVERBANK VEGETATION MANAGEMENT PLAN

**Weston & Sampson**

85 Devonshire Street, 3rd Floor,  
Boston, MA 02109  
617-412-4480 800.SAMPSON  
www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

Seal:

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Scale: 1" = 10'  
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Approved By: CFR  
W&S Project No: P18-3241-S1A  
W&S File No:

Drawing Title:  
**TEST PLOT 6A - SHADE MEADOW**  
Sheet Number:  
**C106A**

**TEST PLOT 6 - NOTES:**

**SITE PREPARATION**

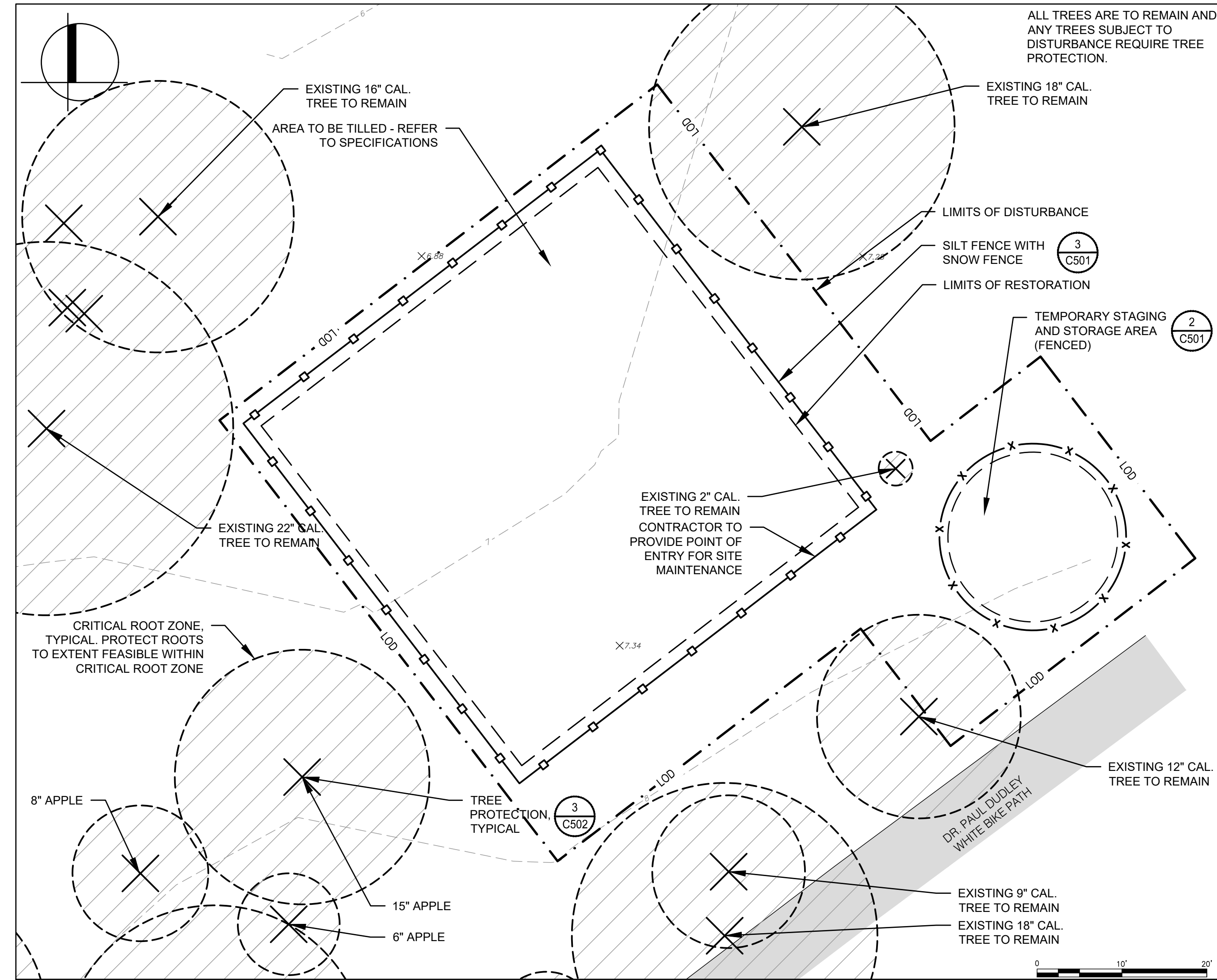
1. AREA TO BE TILLED IN PREPARATION FOR PLANTING IN SPRING 2021.
2. MEADOWS ARE TO BE PLANTED WITH SEED IN THE SPRING OF 2021.
3. CONTRACTOR SHALL AVOID DISTURBANCE AND COMPACTION OF ROOTS WITHIN THE CRITICAL ROOT ZONE OF TREES SHOWN ON PLANTINGS.
4. DCR SHALL UTILIZE INTERNAL CERTIFIED ARBORIST TO ASSESS AND COORDINATE REMOVAL OF HAZARDOUS LIMBS OR BRANCHES BEFORE WORK BEGINS.
5. THE CONTRACTOR SHALL INSTALL ALL REQUIRED EROSION, SEDIMENT, AND POLLUTION CONTROL DEVICES PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THEIR MAINTENANCE, REPOSITIONING, AND REMOVAL UPON COMPLETION OF WORK.
6. THE EXTENT OF THE RESTORATION AREA MAY VARY FROM THE EXTENT SHOWN ON THE DRAWINGS BASED ON ACTUAL CONSTRUCTION MEANS AND METHODS. THE CONTRACTOR SHALL FIELD VERIFY RESTORATION BOUNDARIES WITH OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.

**PLANTING**

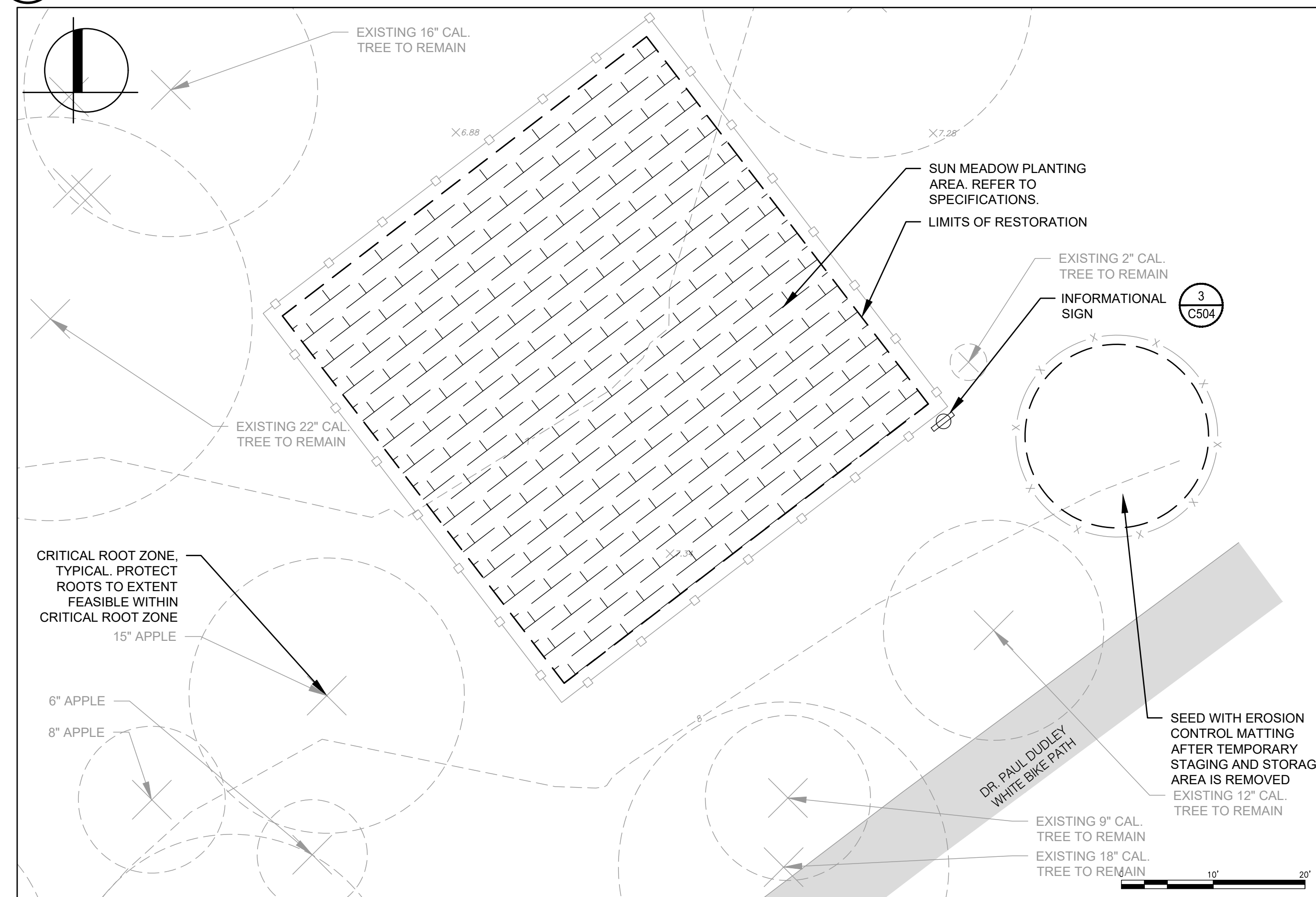
1. DCR SHALL PROVIDE PLANT MATERIALS AS INDICATED IN THE APPROVED WORK PLAN AND DRAWINGS. CONTRACTOR TO INSTALL MATERIALS.
2. RESTORATION AREAS SHALL BE CHECKED WEEKLY AND AFTER EACH RAINFALL EVENT PRODUCING AT LEAST ONE INCH OF PRECIPITATION TO ENSURE PLANTINGS ARE INTACT AND EROSION AND SEDIMENT STRUCTURES ARE STRUCTURALLY SOUND.
3. RATES AND DEPTHS OF SLICE SEEDING SHALL BE CONSISTENT WITH SEED SUPPLIER'S RECOMMENDATIONS.
4. NEWLY SEEDED MEADOWS SHALL BE WATERED DAILY FOR A MINIMUM OF THREE WEEKS WHEN RAINFALL DOES NOT OCCUR UNLESS OTHERWISE SPECIFIED BY SUPPLIER.
5. SEED MIX SHALL BE CUSTOM SUN MIX - SEEDED AT SUPPLIER'S SUGGESTED RATES OF THE FOLLOWING SPECIES:

SCIENTIFIC NAME	COMMON NAME
<i>Agrostis perennans</i>	UPLAND BENT GRASS
<i>Asclepias tuberosa</i>	BUTTERFLY WEED
<i>Chamaecrista fasciculata</i>	PARTRIDGE PEA
<i>Desmodium canadense</i>	SHOWY TICKTREFOIL
<i>Eragrostis spectabilis</i>	PURPLE LOVE GRASS
<i>Juncus tenuis</i>	PATH RUSH
<i>Schizachyrium scoparium</i>	LITTLE BLUESTEM
<i>Solidago nemoralis</i>	GREY GOLDENROD
<i>Symphoricarpon albidum</i>	BLUE WOOD ASTER

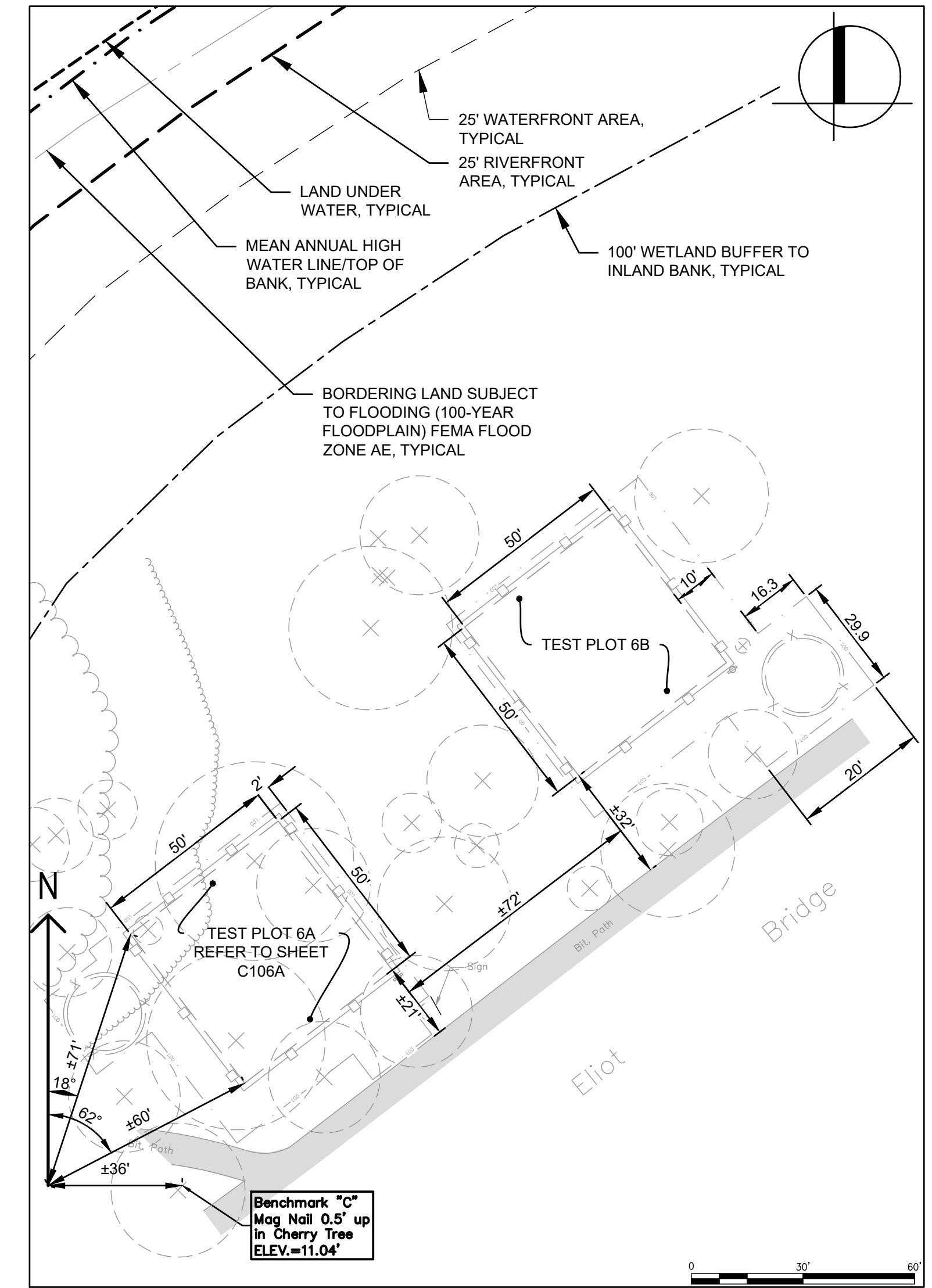
REFER TO SPECIFICATIONS FOR ADDITIONAL PRODUCT INFORMATION AND INSTALLATION INSTRUCTIONS.



**1 TEST PLOT 6 - SUN MEADOW - SITE PREPARATION**  
SCALE: 1" = 10'



**2 TEST PLOT 6 - SUN MEADOW - PLANTING PLAN**  
SCALE: 1" = 10'



**3 TEST PLOT 6 - LAYOUT PLAN**  
SCALE: 1" = 30'

APPROXIMATE LATITUDE/LONGITUDE OF TEST PLOTS		
PLOT NO.	LATITUDE	LONGITUDE
PLOT 6B	42.3727	-71.1316

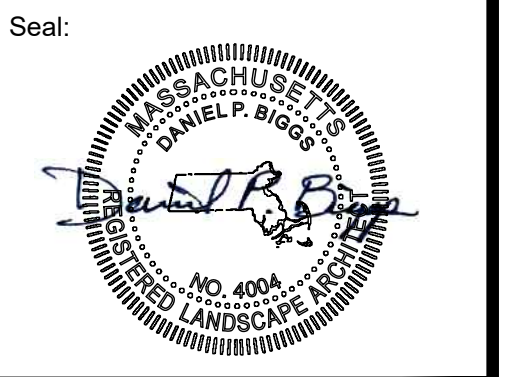
**NOTES:**

1. ENTIRE LIMIT OF WORK TO OCCUR OUTSIDE OF 25' RIVERFRONT AREA.
2. ENTIRE LIMIT OF WORK TO OCCUR OUTSIDE OF 25' WATERFRONT AREA.
3. ENTIRE LIMIT OF PROJECT AREA IS LOCATED OUTSIDE FEMA ZONE AE BASED ON AVAILABLE FEMA FIRM MAPPING.
4. ENTIRE LIMIT OF WORK TO OCCUR OUTSIDE OF 100-FOOT WETLAND BUFFER TO INLAND BANK

Consultants:

Revisions:

No.	Date	Description



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Scale: 1" = 10'

Date: MARCH 2021

Drawn By: RAM

Reviewed By: DPB

Approved By: CFR

W&S Project No: P18-3241-S1A

W&S File No:

Drawing Title:

**TEST PLOT 6B - SUN MEADOW**

Sheet Number:

**C106B**

**TEST PLOT 7 - NOTES:**

**SITE PREPARATION**

- THE CONTRACTOR SHALL INSTALL ALL REQUIRED POLLUTION CONTROL DEVICES PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THEIR MAINTENANCE, REPOSITIONING, AND REMOVAL UPON COMPLETION OF WORK.
- DCR SHALL UTILIZE INTERNAL CERTIFIED ARBORIST TO ASSESS AND COORDINATE REMOVAL OF HAZARDOUS LIMBS OR BRANCHES BEFORE WORK BEGINS.
- INVASIVE/NUISANCE SPECIES REMOVAL SHALL BE PERFORMED ACCORDING TO SPECIFICATIONS. IF ADDITIONAL INVASIVE/NUISANCE SPECIES NOT FOUND ON THIS LIST ARE FOUND, CONTRACTOR SHALL RECOMMEND TREATMENT PROCEDURES FOR REVIEW & APPROVAL BY THE OWNER'S REPRESENTATIVE. DOCUMENTED INVASIVE SPECIES ON THE SITE INCLUDE THE FOLLOWING:

SCIENTIFIC NAME	COMMON NAME
<i>Fallopia japonica</i>	JAPANESE KNOTWEED
<i>Artemisia vulgaris</i>	MUGWORT
<i>Ailanthus altissima</i>	TREE OF HEAVEN

- EXISTING NATIVE SPECIES ARE TO REMAIN IN THE RESTORATION AREA. CONTRACTOR SHALL PROVIDE PROTECTIONS TO ENSURE NATIVE SPECIES ARE NOT DISTURBED OR DAMAGED BY INVASIVE REMOVAL AND RESTORATION PLANTING. CONTRACTOR SHALL OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE WHEN TRANSPLANT OR REMOVAL OF NATIVE SPECIES IS UNAVOIDABLE. ADDITIONAL NATIVE SPECIES NOT FOUND ON THIS LIST MAY EXIST AND SHALL RECEIVE THE SAME PROTECTIONS. DOCUMENTED NATIVE SPECIES INCLUDE THE FOLLOWING:

SCIENTIFIC NAME	COMMON NAME
<i>Rhus typhina</i>	STAGHORN SUMAC
<i>Phytolacca americana</i>	AMERICAN POKEBERRY
<i>Solidago canadensis</i>	GOLDENROD

- THE CONTRACTOR SHALL PREVENT THE TRANSPORT OF INVASIVE PLANT MATERIAL TO AND FROM THE SITE, EQUIPMENT, VEHICLES, PERSONAL GEAR, AND IMPORTED MATERIALS SHALL BE CLEAN AND FREE OF PLANT MATERIAL.
- ONLY MATERIALS ACCEPTABLE TO THE OWNER SHALL BE USED IN THE FILL MIXTURE. REFER TO SPECIFICATIONS. SOIL AMENDMENTS SHALL BE ADDED TO CORRECT DEFICIENCIES LISTED IN THE SOIL TESTING REPORT. REFER TO SPECIFICATIONS. INCORPORATE FERTILIZER, pH ADJUSTERS, AND SOIL CONDITIONERS TO SOIL AT A MINIMUM OF 3" BY HARROWING, TILING, OR OTHER METHOD APPROVED BY THE OWNER'S REPRESENTATIVE PENDING OWNER'S APPROVAL.
- THE CONTRACTOR SHALL INSTALL ALL REQUIRED POLLUTION CONTROL DEVICES PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THEIR MAINTENANCE, REPOSITIONING, AND REMOVAL UPON COMPLETION OF WORK.
- CONTRACTOR SHALL NOT DAMAGE RIVERBANKS. THE BULKHEAD AND RIVERBANK SLOPE SHALL BE CHECKED REGULARLY TO ENSURE THEY ARE STRUCTURALLY SOUND AND HAVE NOT BEEN DAMAGED BY RESTORATION WORK.
- THE EXTENT OF THE RESTORATION AREA MAY VARY FROM THE EXTENT SHOWN ON THE DRAWINGS BASED ON ACTUAL CONSTRUCTION MEANS AND METHODS. THE CONTRACTOR SHALL FIELD VERIFY RESTORATION BOUNDARIES WITH OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
- EXCAVATION SHALL BE LIMITED TO (3) THREE-FOOT DEPTH IN THE VICINITY OF THE EXISTING RETAINING WALL.

**PLANTING**

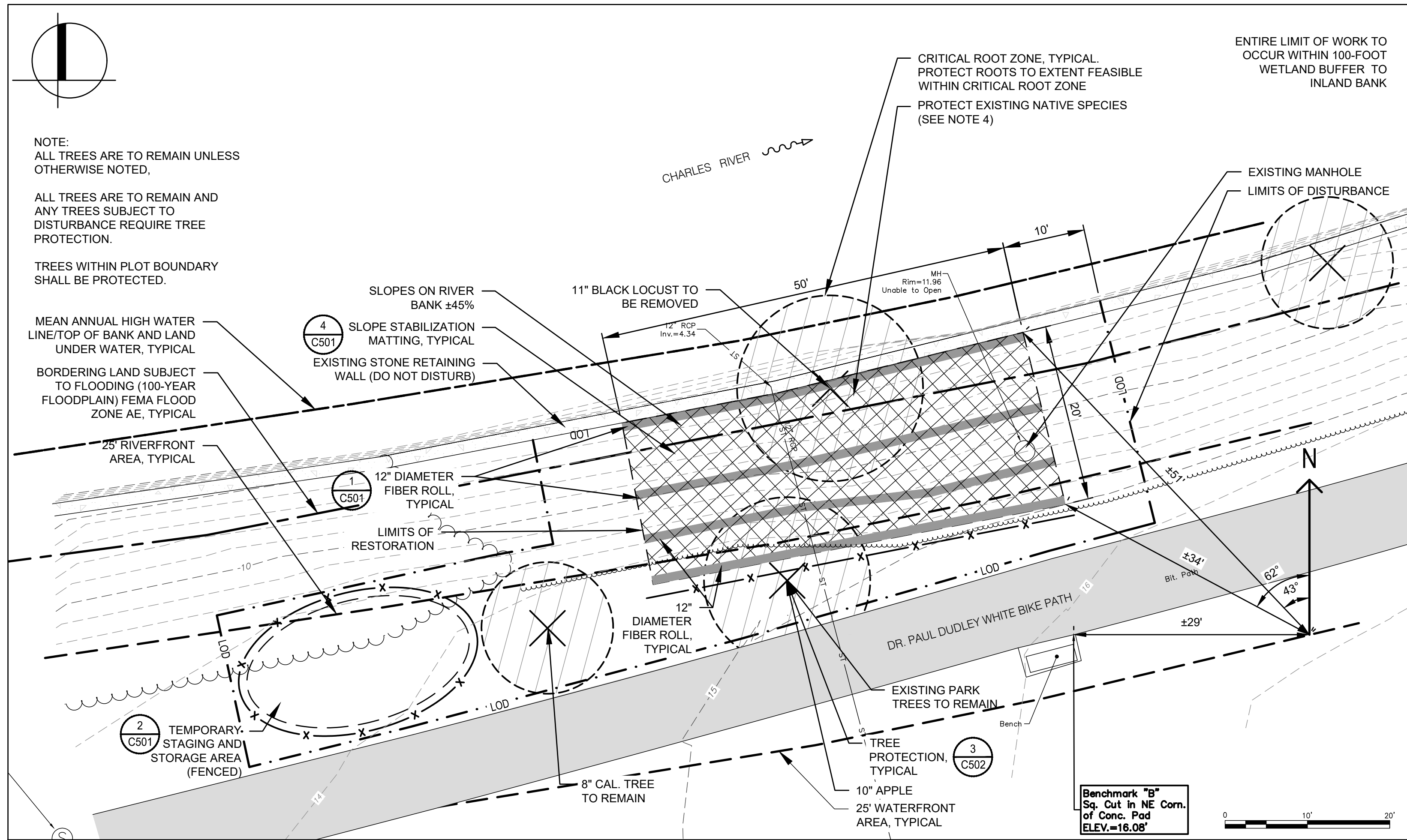
- PLANT MATERIAL SHALL BE PROVIDED BY DCR AND INSTALLED BY CONTRACTOR AS INDICATED IN THE APPROVED WORK PLAN AND DRAWINGS.
- RESTORATION AREAS SHALL BE CHECKED WEEKLY AND AFTER EACH RAINFALL EVENT PRODUCING AT LEAST ONE INCH OF PRECIPITATION TO ENSURE PLANTINGS ARE INTACT AND EROSION AND SEDIMENT STRUCTURES ARE STRUCTURALLY SOUND.
- AFTER CONTAINER AND PLUG PLANTS HAVE BEEN INSTALLED, SEED ALL DISTURBED AREAS WITH CUSTOM SEED MIX, SEEDED AT SUPPLIER'S SUGGESTED RATES, OF THE FOLLOWING SPECIES:

SCIENTIFIC NAME	COMMON NAME
<i>Asclepias tuberosa</i>	BUTTERFLY WEED
<i>Deschampsia flexuosa</i>	COMMON HAIRGRASS
<i>Eragrostis spectabilis</i>	PURPLE LOVE GRASS
<i>Eutrochium fistulosum</i>	JOE PYE WEED
<i>Juncus tenuis</i>	PATH RUSH
<i>Schizachyrium scoparium</i>	LITTLE BLUESTEM
<i>Symphotrichum novae-angliae</i>	NEW ENGLAND ASTER

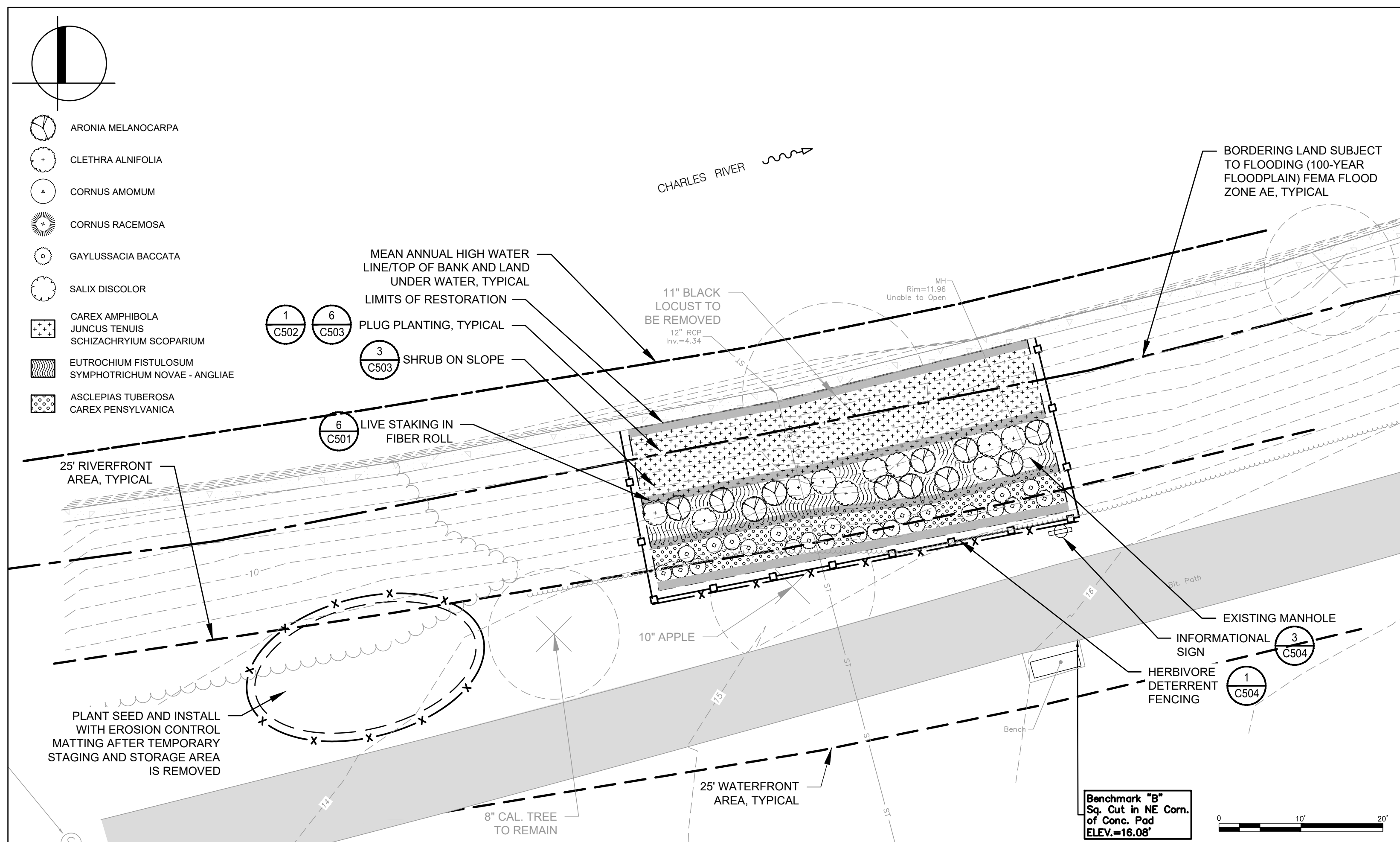
REFER TO SPECIFICATIONS FOR ADDITIONAL PRODUCT INFORMATION AND INSTALLATION INSTRUCTIONS.

PLANTING SCHEDULE				
KEY	BOTANIC NAME	COMMON NAME	QUANTITY	SIZE / SPACING
<b>SHRUBS</b>				
AM	ARONIA MELANOCARPA	BLACK CHOKEBERRY	11	3'-4" HT, 1.48" O.C.
CA	CLETHRA ALNIFOLIA	SUMMERSWEET CLETHRA	19	3 GAL, 36" O.C.
CS	CORNUS AMOMIUM	SILKY DOGWOOD	25	0.5'-1.5' DIA. LIVE STAKE; 24" O.C.
CW	CORNUS AMOMIUM	SILKY DOGWOOD	25	4-5" DIA. WATTLE; 24" O.C.
GL	GAYLUSSACIA BACCATA	BLACK HUCKLEBERRY	24	1 GAL, 12" O.C.
SD	SALIX DISCOLOR	PUSSY WILLOW	5	2 GAL, 36" O.C.
<b>PERENNIALS / FERNS</b>				
AT	ASCLEPIAS TUBEROSA	BUTTERFLY WEED	162	PLUG, 6" O.C.
EF	EUTROCHIUM FISTULOSUM	JOE PYE WEED	100	PLUG, 6" O.C.
SN	SYMPHOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	100	PLUG, 6" O.C.
<b>GRASSES / SEDGES / RUSHES</b>				
CA	CAREX AMPHIBOLA	CREEK SEDGE	220	PLUG, 6" O.C.
CP	CAREX PENSYLVANICA	PENNSYLVANIA SEDGE	162	PLUG, 6" O.C.
JT	JUNCUS TENUIS	PATH RUSH	220	PLUG, 6" O.C.
SS	SCHIZACHRYLIUM SCOPARIUM	LITTLE BLUESTEM	220	PLUG, 6" O.C.

APPROXIMATE LATITUDE/LONGITUDE OF TEST PLOTS		
PLOT NO.	LATITUDE	LONGITUDE
PLOT 7	42.3608	-71.1489

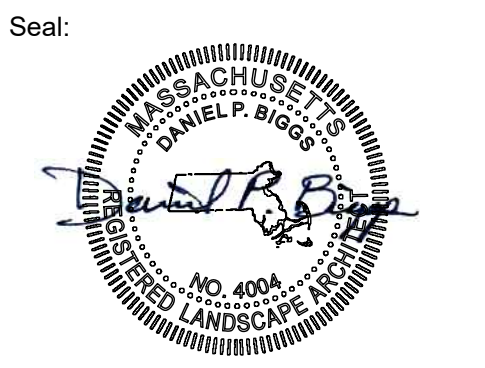


**1 TEST PLOT 7 - SITE PREPARATION**  
SCALE: 1" = 10'



**2 TEST PLOT 7 - PLANTING PLAN**  
SCALE: 1" = 10'

Revisions:	No.	Date	Description



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Scale: 1" = 10'  
Date: MARCH 2021  
Drawn By: RAM  
Reviewed By: DPB  
Approved By: CFR  
W&S Project No: P18-3241-S1A  
W&S File No:

\\westonandsampson\Projects\MA\DCR\Charles River Vegetation Management Plan\Phase C Bidding Documents and Construction Oversight\Phase 1 Implementation\CAD\DWG\C107 TEST PLOT 7.dwg



**TEST PLOT 8 - NOTES:**

**SITE PREPARATION**

1. THE CONTRACTOR SHALL INSTALL ALL REQUIRED POLLUTION CONTROL DEVICES PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THEIR MAINTENANCE, REPOSITIONING, AND REMOVAL UPON COMPLETION OF WORK. (SEE SPECIFICATIONS.)
2. DCR SHALL UTILIZE INTERNAL CERTIFIED ARBORIST TO ASSESS AND COORDINATE REMOVAL OF HAZARDOUS LIMBS OR BRANCHES BEFORE WORK BEGINS.
3. INVASIVE/NUISANCE SPECIES REMOVAL SHALL BE PERFORMED ACCORDING TO SPECIFICATIONS. ADDITIONAL INVASIVE/NUISANCE SPECIES NOT FOUND ON THIS LIST MAY EXIST AND SHALL BE REMOVED ACCORDING TO SPECIFICATIONS. DOCUMENTED INVASIVE SPECIES ON THE SITE INCLUDE THE FOLLOWING:

SCIENTIFIC NAME	COMMON NAME
<i>Frangula alnus</i>	GLOSSY BUCKTHORN
<i>Rhamnus cathartica</i>	COMMON BUCKTHORN
<i>Amorpha fruticosa</i>	FALSE INDIGO
<i>Celastrus orbiculatus</i>	ASIATIC BITTERSWEET
<i>Solanum dulcamara</i>	BITTERSWEET NIGHTSHADE
<i>Acer platanoides</i>	NORWAY MAPLE

4. EXISTING NATIVE SPECIES ARE TO REMAIN IN THE RESTORATION AREA. CONTRACTOR SHALL PROVIDE PROTECTIONS TO ENSURE NATIVE SPECIES ARE NOT DISTURBED OR DAMAGED BY INVASIVE REMOVAL AND RESTORATION PLANTING. CONTRACTOR SHALL OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE WHEN TRANSPLANT OR REMOVAL OF NATIVE SPECIES IS UNAVOIDABLE. ADDITIONAL NATIVE SPECIES NOT FOUND ON THIS LIST MAY EXIST AND SHALL RECEIVE THE SAME PROTECTIONS. DOCUMENTED NATIVE SPECIES INCLUDE THE FOLLOWING:

SCIENTIFIC NAME	COMMON NAME
<i>Ilex glabra</i>	WINTERBERRY

5. CONTRACTOR SHALL NOT DAMAGE RIVERBANKS. RIVERBANKS SHALL BE CHECKED REGULARLY TO ENSURE THEY ARE STRUCTURALLY SOUND AND HAVE NOT BEEN DAMAGED BY RESTORATION WORK.

6. THE EXTENT OF THE RESTORATION AREA MAY VARY FROM THE EXTENT SHOWN ON THE DRAWINGS BASED ON ACTUAL CONSTRUCTION MEANS AND METHODS. THE CONTRACTOR SHALL FIELD VERIFY RESTORATION BOUNDARIES WITH OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.

**PLANTING**

1. PLANT MATERIAL SHALL BE PROVIDED BY DCR. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION AND MAINTENANCE. REFER TO SPECIFICATIONS.
2. RESTORATION AREAS SHALL BE CHECKED WEEKLY AND AFTER EACH RAINFALL EVENT PRODUCING AT LEAST ONE INCH OF PRECIPITATION TO ENSURE PLANTINGS ARE INTACT AND EROSION AND SEDIMENT STRUCTURES ARE STRUCTURALLY SOUND.
3. AFTER CONTAINER AND PLUG PLANTS HAVE BEEN INSTALLED, SEED ALL DISTURBED AREAS WITH CUSTOM SEED MIX, SEEDED AT SUPPLIER'S SUGGESTED RATES OF THE FOLLOWING SPECIES:

SCIENTIFIC NAME	COMMON NAME
<i>Carex vulpinoidea</i>	FOX SEDGE
<i>Deschampsia flexuosa</i>	COMMON HAIRGRASS
<i>Geranium maculatum</i>	WILD GERANIUM
<i>Juncus tenuis</i>	PATH RUSH

REFER TO SPECIFICATIONS FOR ADDITIONAL PRODUCT INFORMATION AND INSTALLATION INSTRUCTIONS.

**PLANTING SCHEDULE**

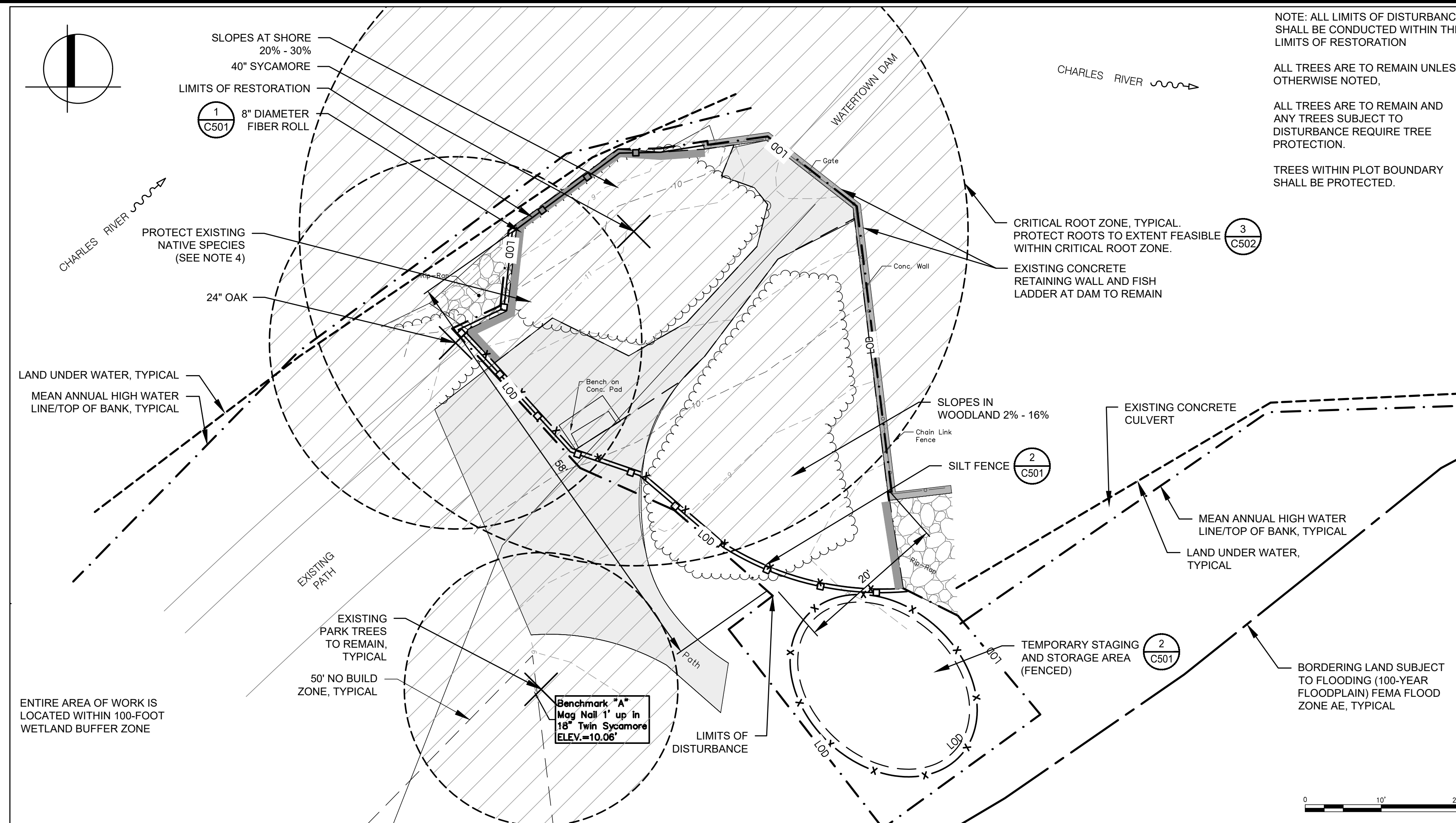
KEY	BOTANIC NAME	COMMON NAME	QUANTITY	SIZE / SPACING
<b>TREES</b>				
OV	<i>OSTRYA VIRGINIANA</i>	AMERICAN HOP HORNBEEAM	1	8' HT., AS SHOWN
<b>SHRUBS</b>				
CL	<i>CLETHRA ALNIFOLIA</i>	SUMMERSWEET CLETHRA	23	3 GAL., 36" O.C.
LB	<i>LINDERA BENZON</i>	NORTHERN SPICEBUSH	13	2 GAL., 48" O.C.
VN	<i>VIBURNUM NUDUM</i>	SMOOTH WITHERROD	13	3' - 4' HT., 48" O.C.
<b>PERENNIALS / FERNS</b>				
DP	<i>DENNSTAEDIA PUNCTILOBULA</i>	HAY - SCENTED FERN	73	1 GAL., 18" O.C.
GM	<i>GERANIUM MACULATUM</i>	WILD GERANIUM	404	PLUG, 6" O.C.
OS	<i>ONOCLEA SENSIBILIS</i>	SENSITIVE FERN	57	1 GAL., 18" O.C.
TC	<i>TIARELLA CORDIFOLIA</i>	FOAM FLOWER	273	PLUG, 6" O.C.
<b>GRASSES / SEDGES / RUSHES</b>				
CA	<i>CAREX APPALACHIA</i>	APPALACHIAN SEDGE	296	PLUG, 6" O.C.
CP	<i>CAREX PENNSYLVANICA</i>	PENNSYLVANIA SEDGE	404	PLUG, 6" O.C.
CV	<i>CAREX VULPINOIDEA</i>	FOX SEDGE	420	PLUG, 6" O.C.

**NOTES:**

1. ENTIRE LIMIT OF WORK TO OCCUR WITHIN THE WATERTOWN 50' NO BUILD ZONE.
2. ENTIRE LIMIT OF WORK TO OCCUR WITHIN 100' WETLAND BUFFER TO INLAND BANK.
2. ENTIRE LIMIT OF WORK TO OCCUR WITHIN THE 150' WATERTOWN WETLAND BUFFER ZONE.
3. ENTIRE LIMIT OF WORK TO OCCUR WITHIN THE WATERTOWN 100' AND 200' RIVERFRONT AREA.
4. ENTIRE LIMIT OF PROJECT AREA IS LOCATED WITHIN FEMA ZONE AE BASED ON AVAILABLE FEMA FIRM MAPPING.

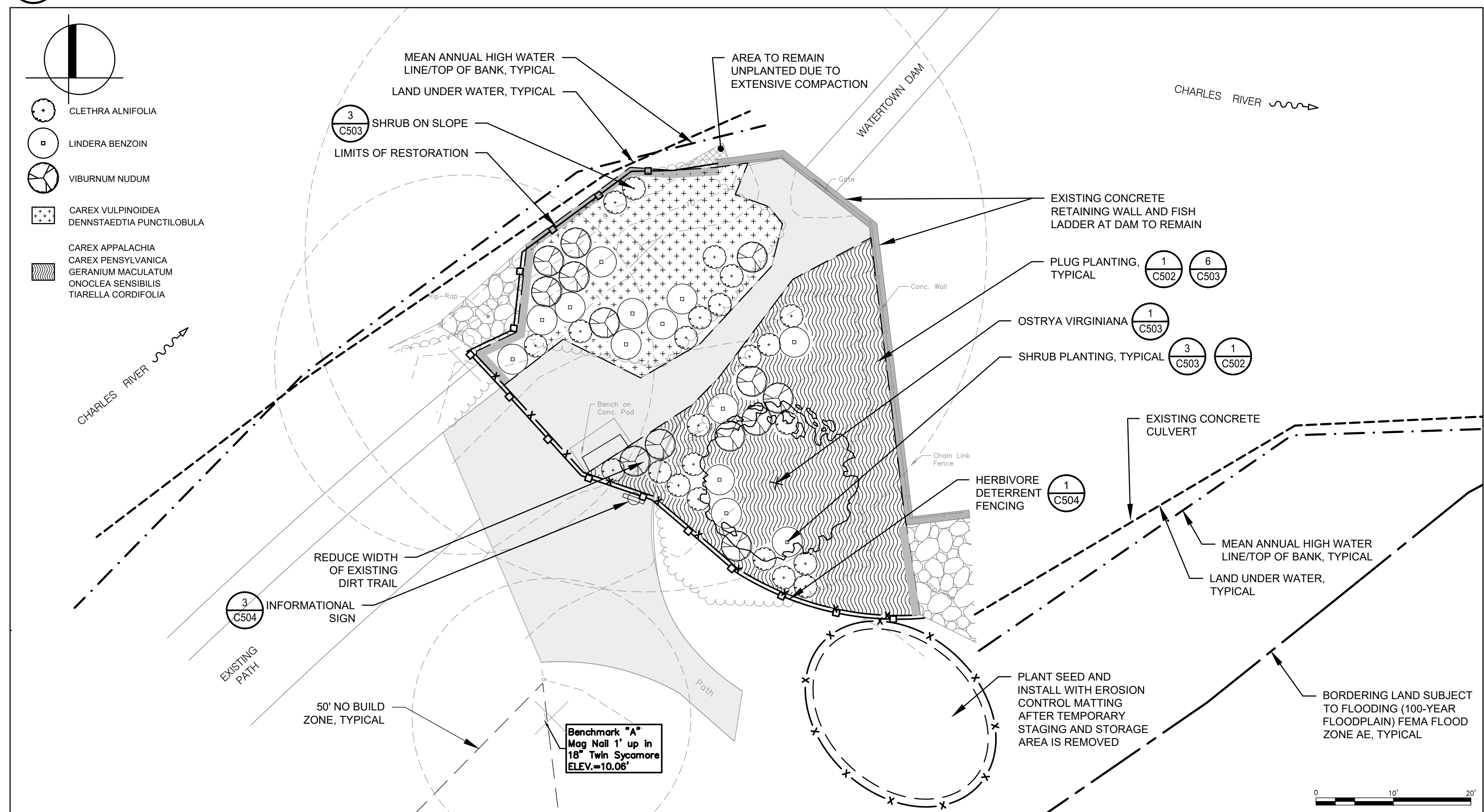
**APPROXIMATE LATITUDE/LONGITUDE OF TEST PLOTS**

PLOT NO.	LATITUDE	LONGITUDE
PLOT 8	42.3651	-71.1895



**1 TEST PLOT 8 - SITE PREPARATION**

SCALE: 1" = 10'



**2 TEST PLOT 8 - PLANTING PLAN**

SCALE: 1" = 10'

Project:  
**MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION**  
**dcr**  
 Massachusetts  
 CHARLES RIVER BASIN RIVERBANK VEGETATION MANAGEMENT PLAN

**Weston & Sampson**

85 Devonshire Street, 3rd Floor,  
 Boston, MA 02109  
 617-412-4480 800.SAMPSON  
 www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

Seal:

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Scale: 1" = 10'

Date: MARCH 2021

Drawn By: RAM

Reviewed By: DPB

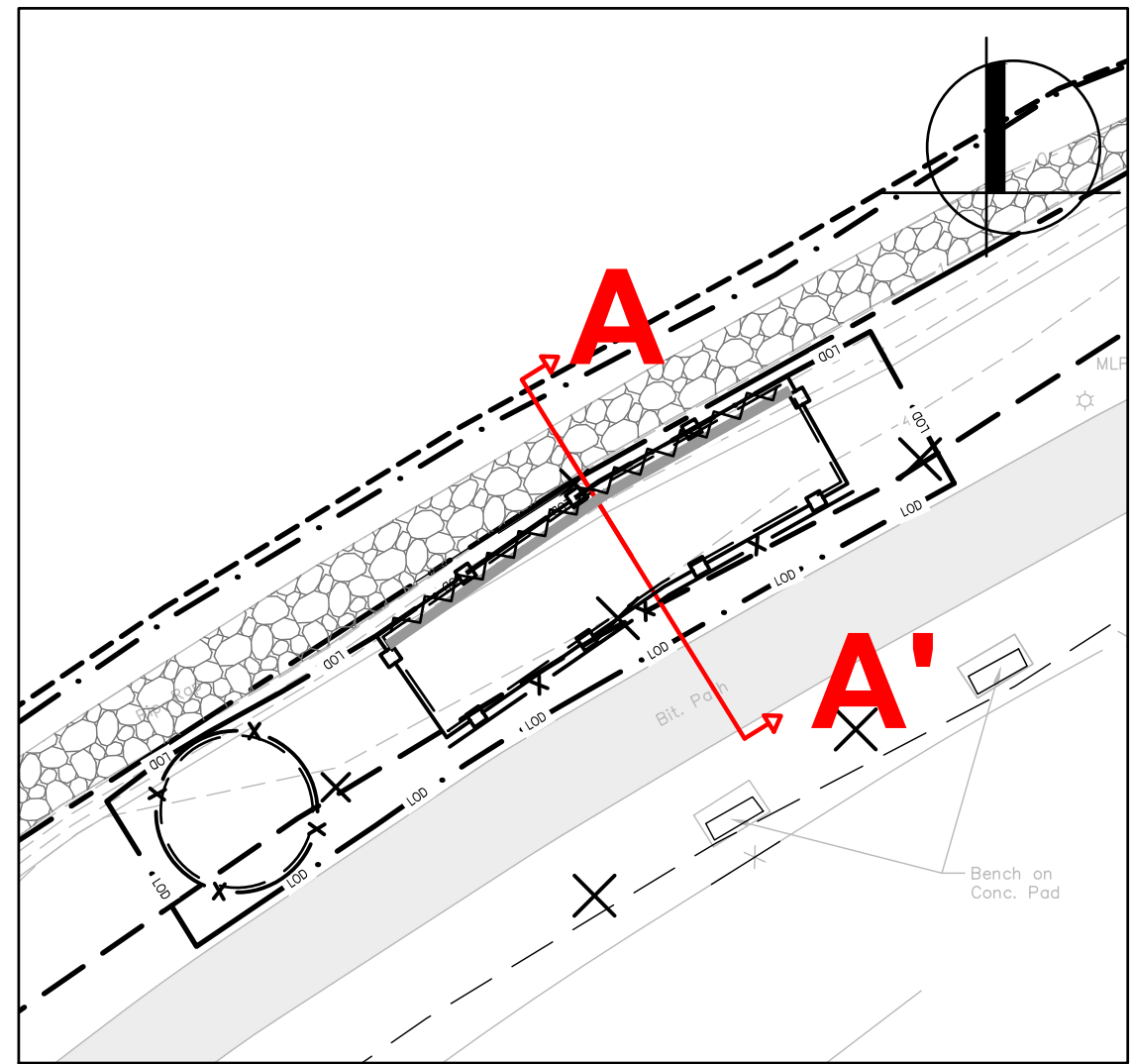
Approved By: CFR

W&S Project No: P18-3241-S1A

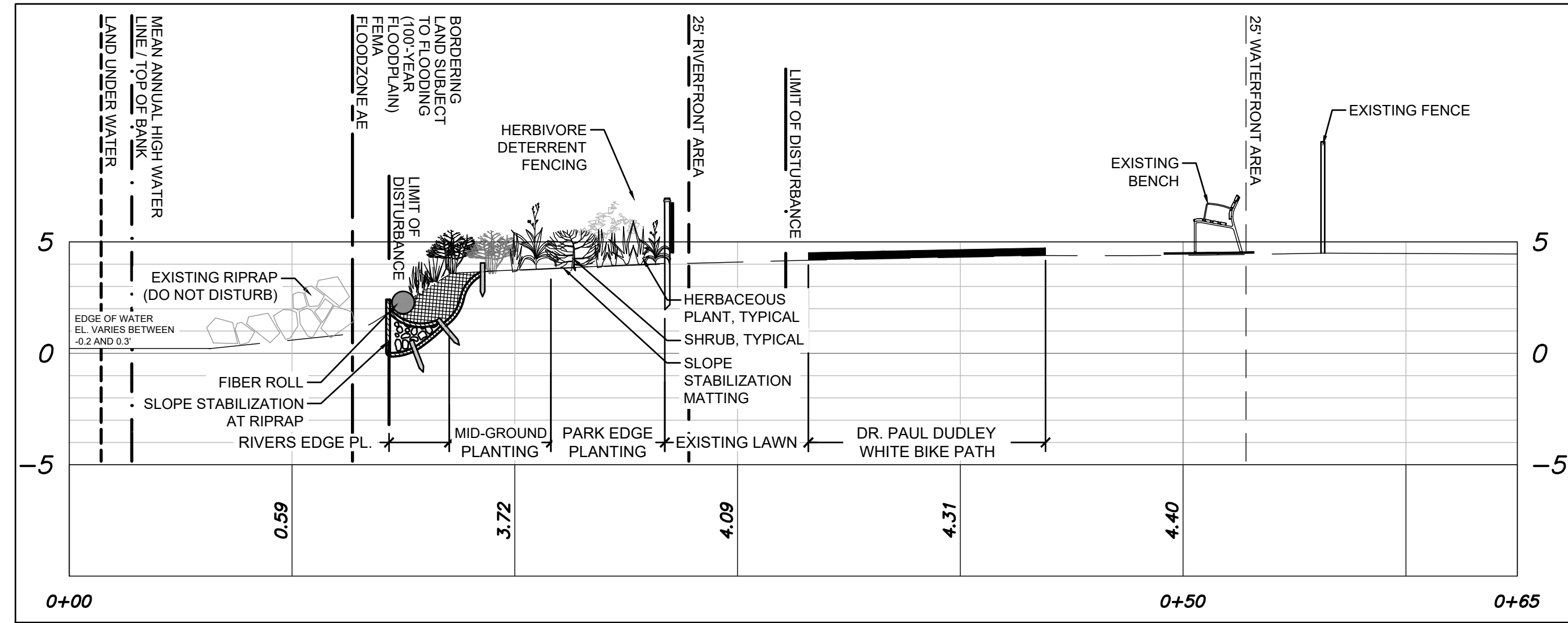
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Drawing Title:  
**TEST PLOT 8**

Sheet Number:  
**C108**



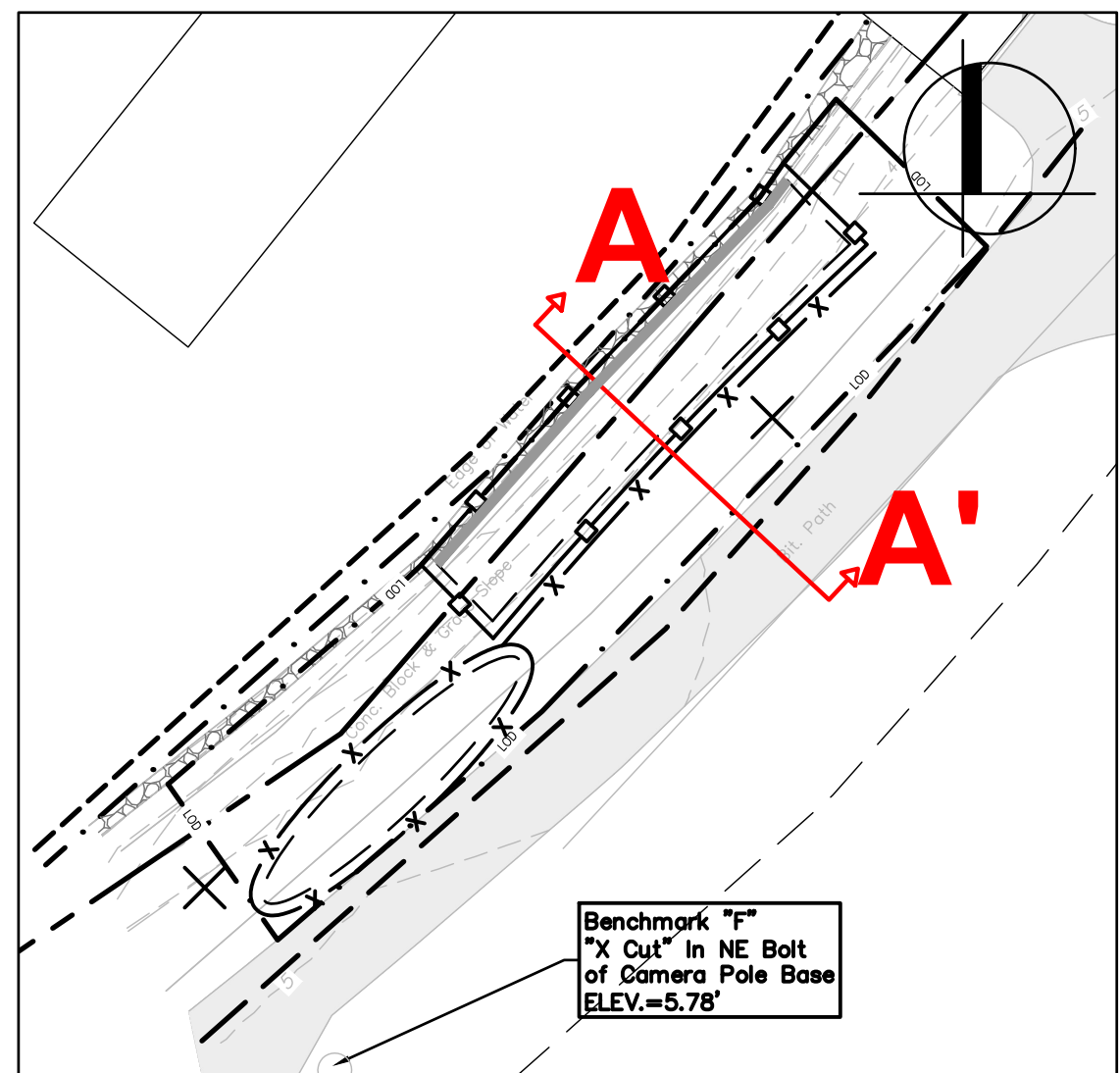
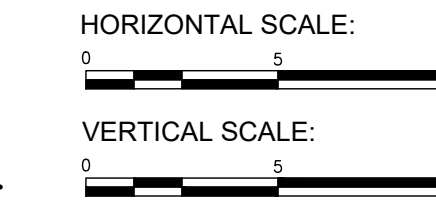
1a TEST PLOT 1 - KEY MAP  
SCALE: BAR SCALE



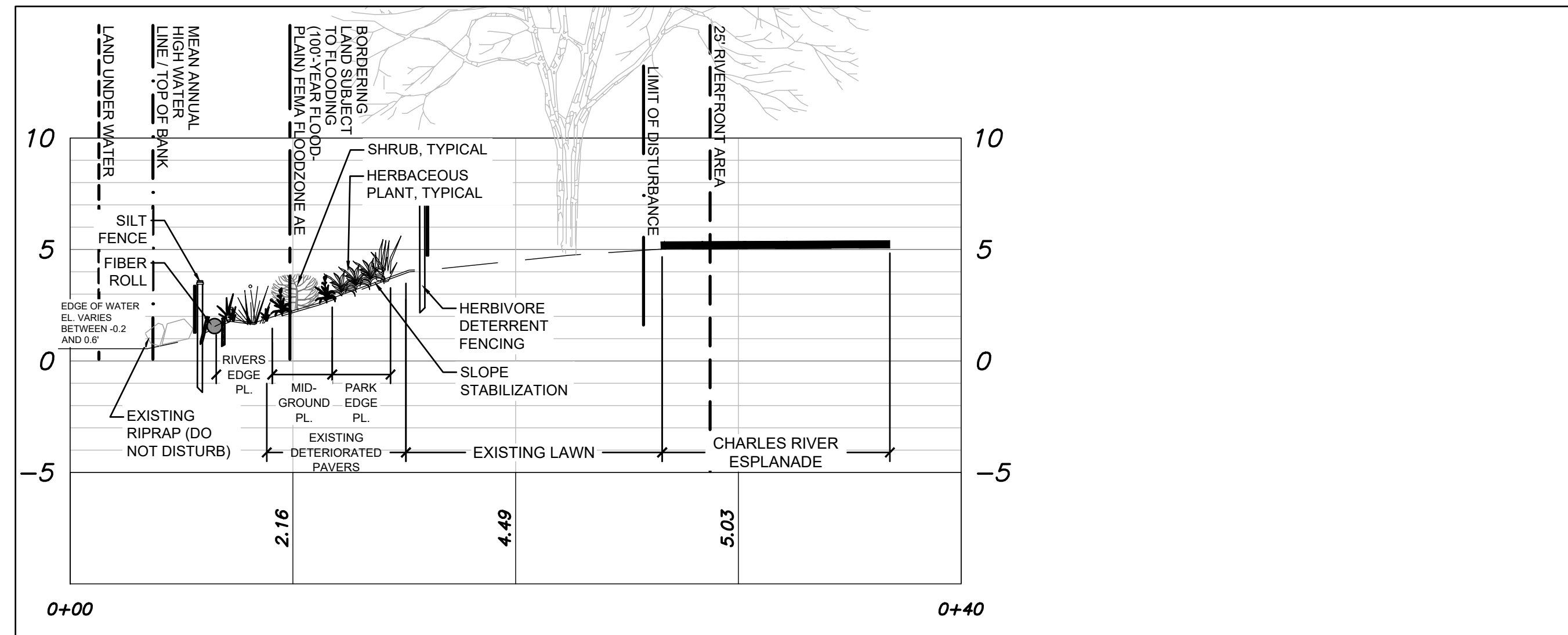
1b TEST PLOT 1 - SECTION A-A'  
SCALE: BAR SCALE

NOTES:

1. ENTIRE LIMIT OF WORK TO OCCUR WITHIN 100-FOOT WETLAND BUFFER TO INLAND BANK
- SEE SHEET C101 FOR ADDITIONAL INFORMATION.



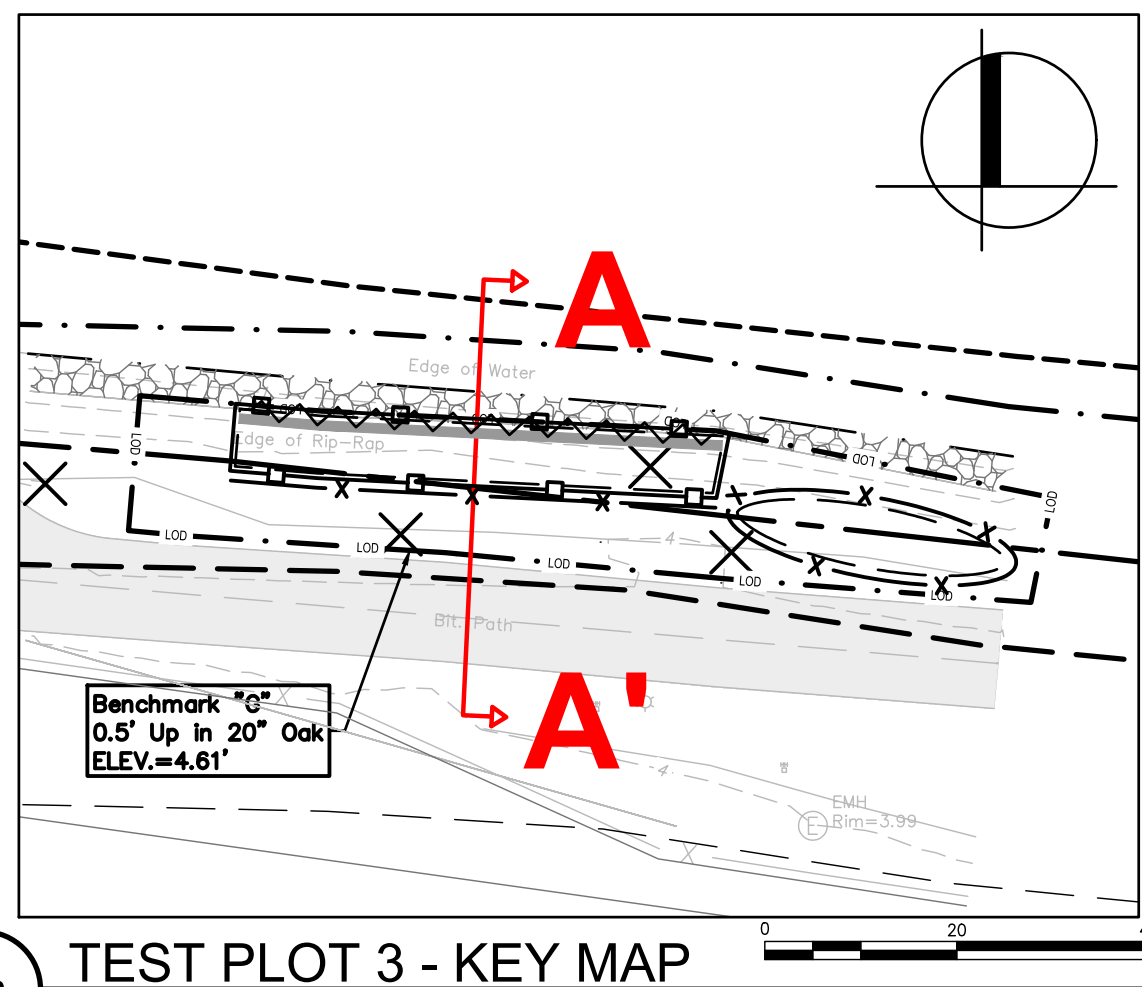
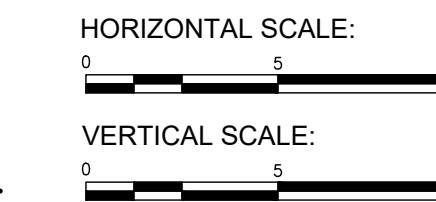
2a TEST PLOT 2 - KEY MAP  
SCALE: BAR SCALE



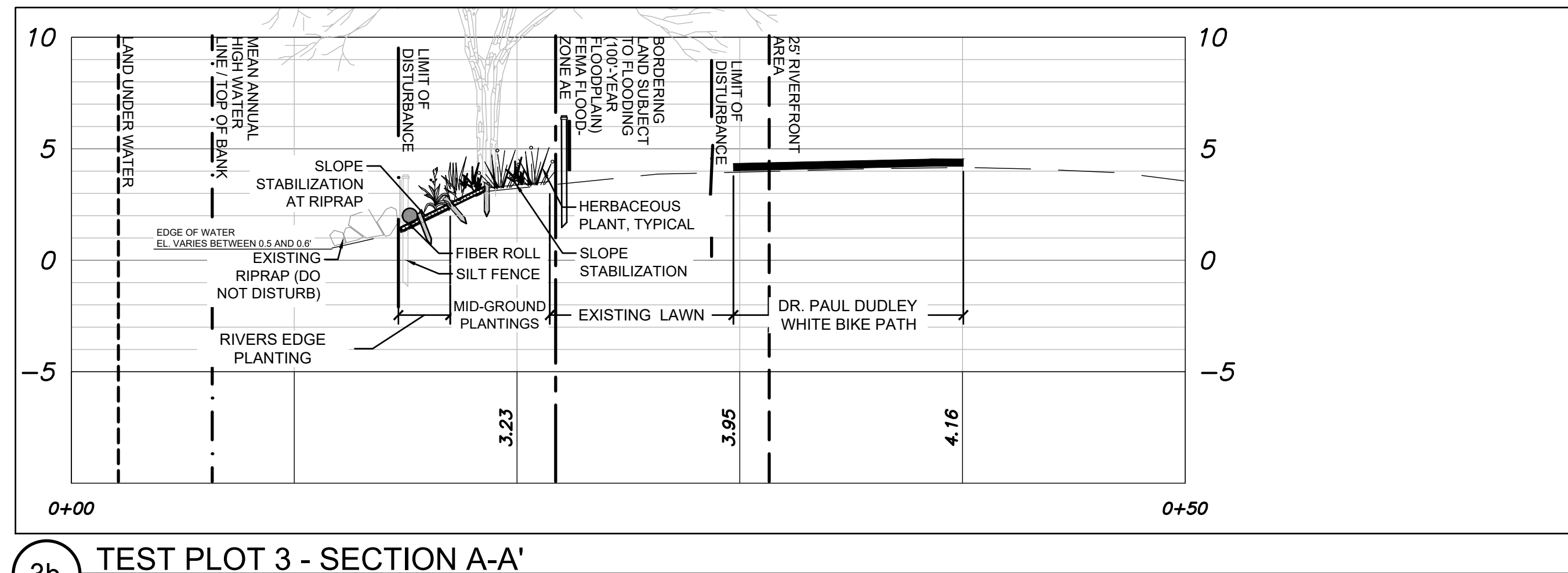
2b TEST PLOT 2 - SECTION A-A'  
SCALE: BAR SCALE

NOTES:

1. ENTIRE LIMIT OF WORK TO OCCUR WITHIN 25' WATERFRONT AREA.
  2. ENTIRE LIMIT OF WORK TO OCCUR WITHIN 100-FOOT WETLAND BUFFER TO INLAND BANK
- SEE SHEET C102 FOR ADDITIONAL INFORMATION.



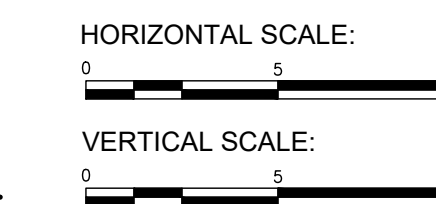
3a TEST PLOT 3 - KEY MAP  
SCALE: BAR SCALE



3b TEST PLOT 3 - SECTION A-A'  
SCALE: BAR SCALE

NOTES:

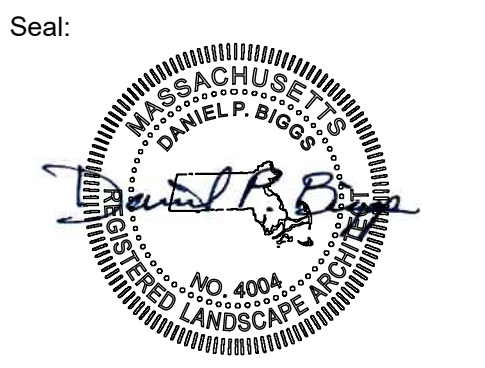
1. ENTIRE LIMIT OF WORK TO OCCUR WITHIN 25' WATERFRONT AREA.
  2. ENTIRE LIMIT OF WORK TO OCCUR WITHIN 100-FOOT WETLAND BUFFER TO INLAND BANK
- SEE SHEET C102 FOR ADDITIONAL INFORMATION.



Consultants:

Revisions:

No.	Date	Description



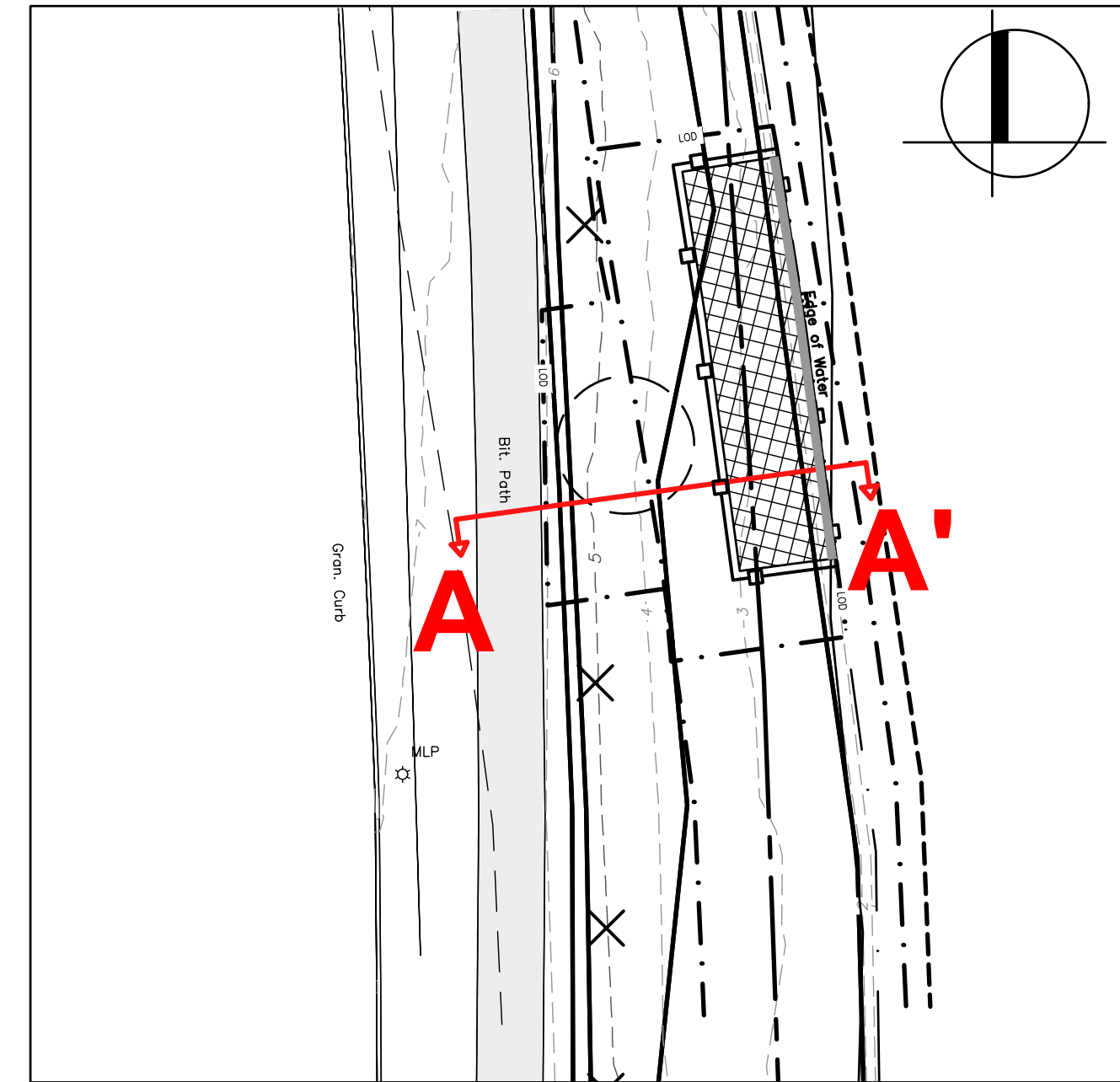
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Reviewed By: DPB  
Approved By: DPB  
W&S Project No: P18-3241-S1A  
W&S File No:

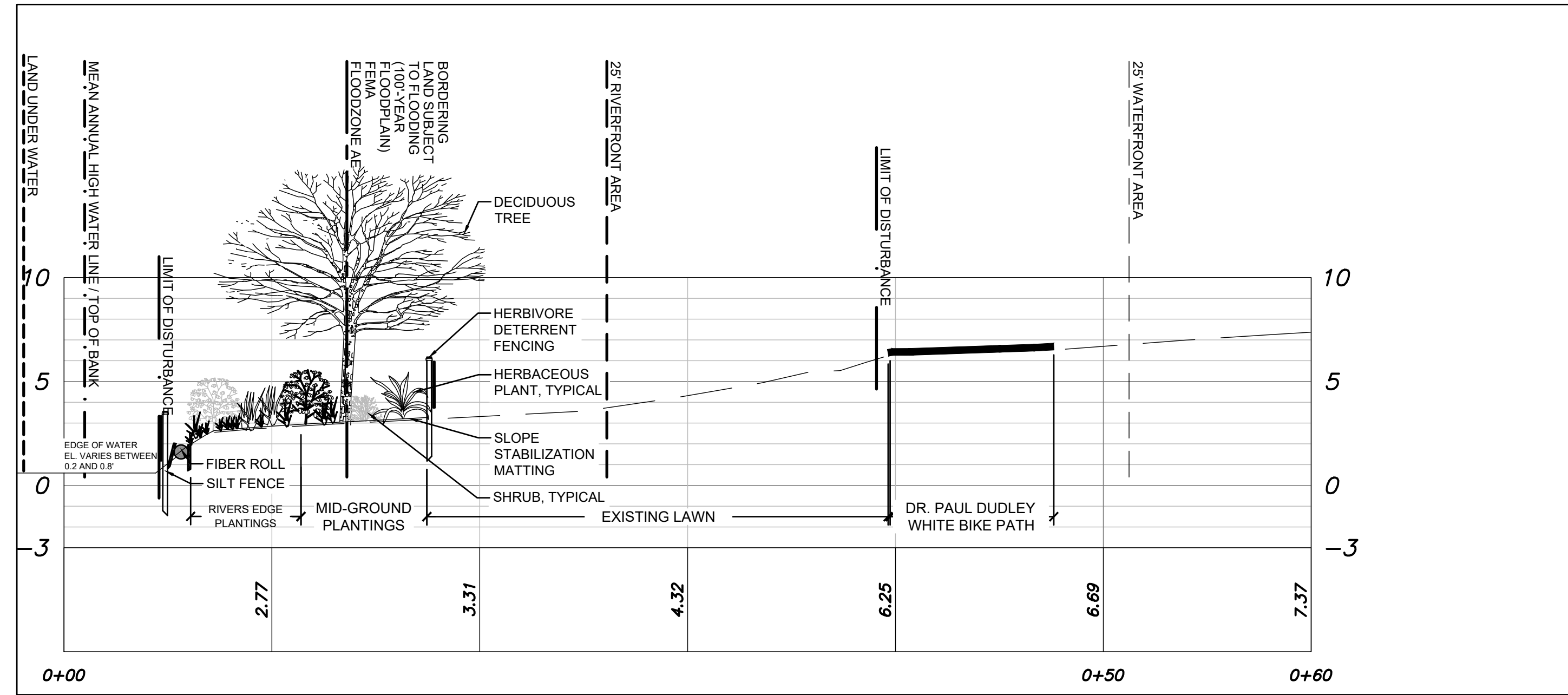
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**TEST PLOT 1 TO 3 PROFILES**  
Sheet Number:  
**C201**

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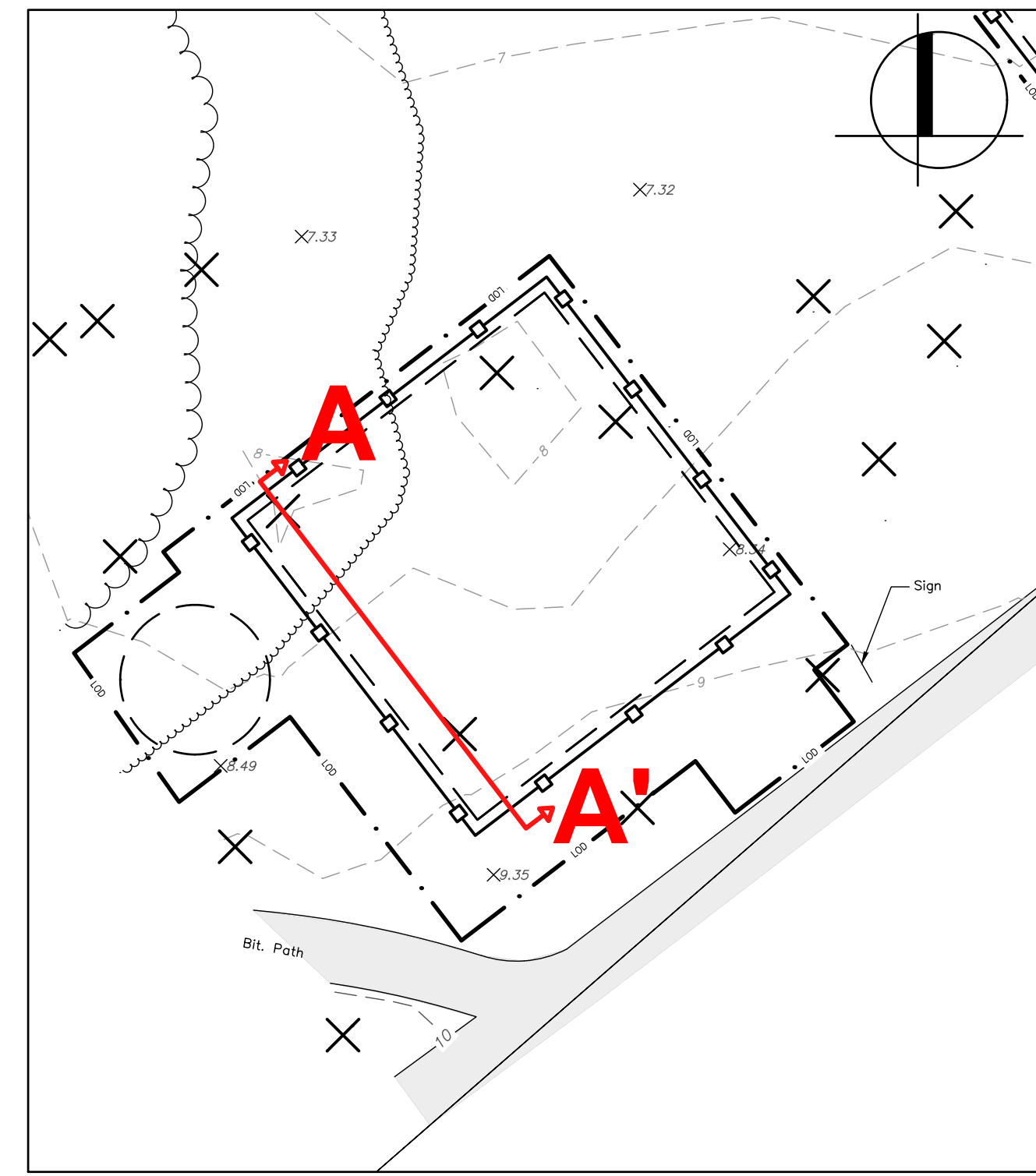
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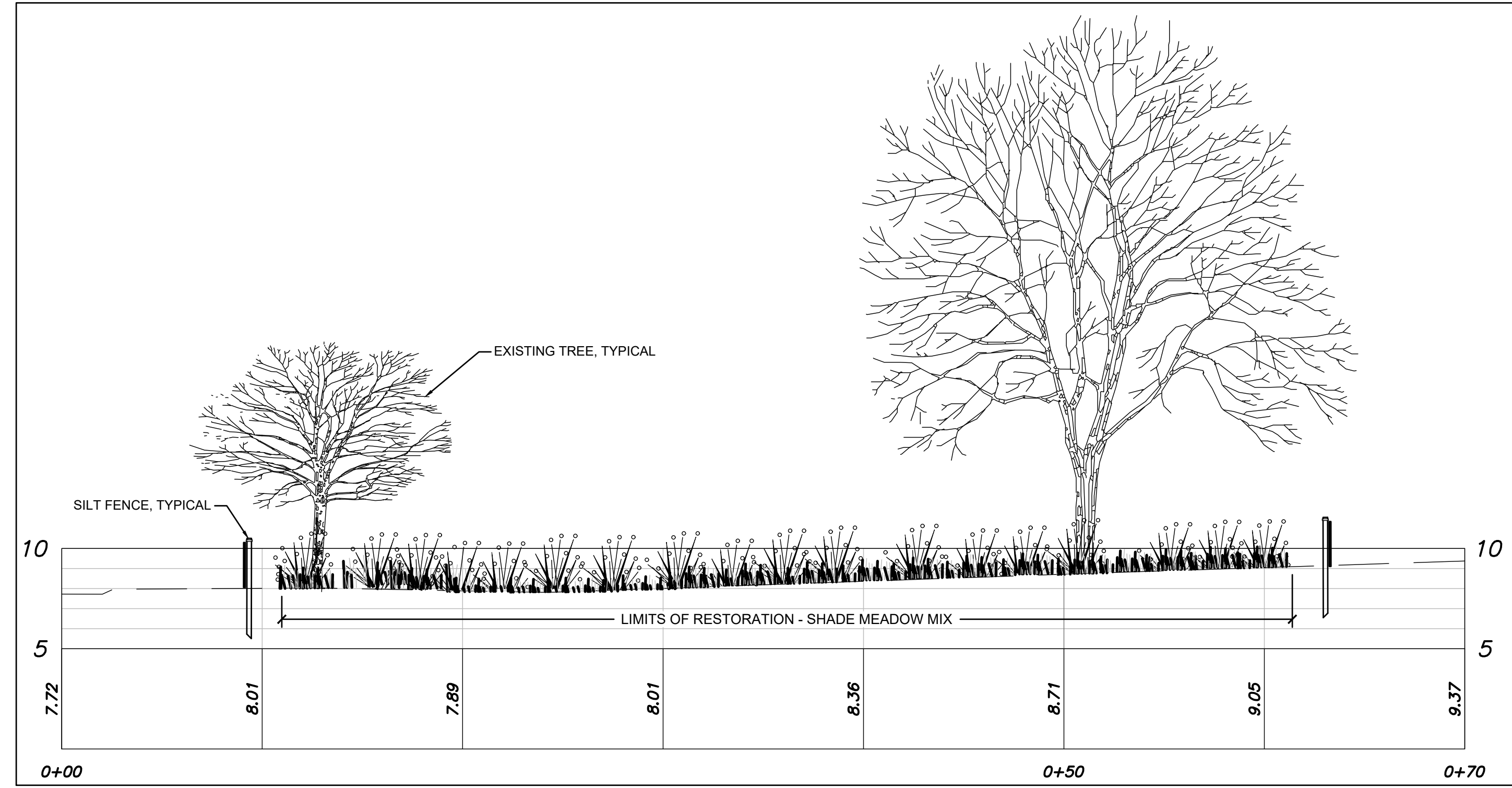
**1a TEST PLOT 5 - KEY MAP**  
SCALE: BAR SCALE



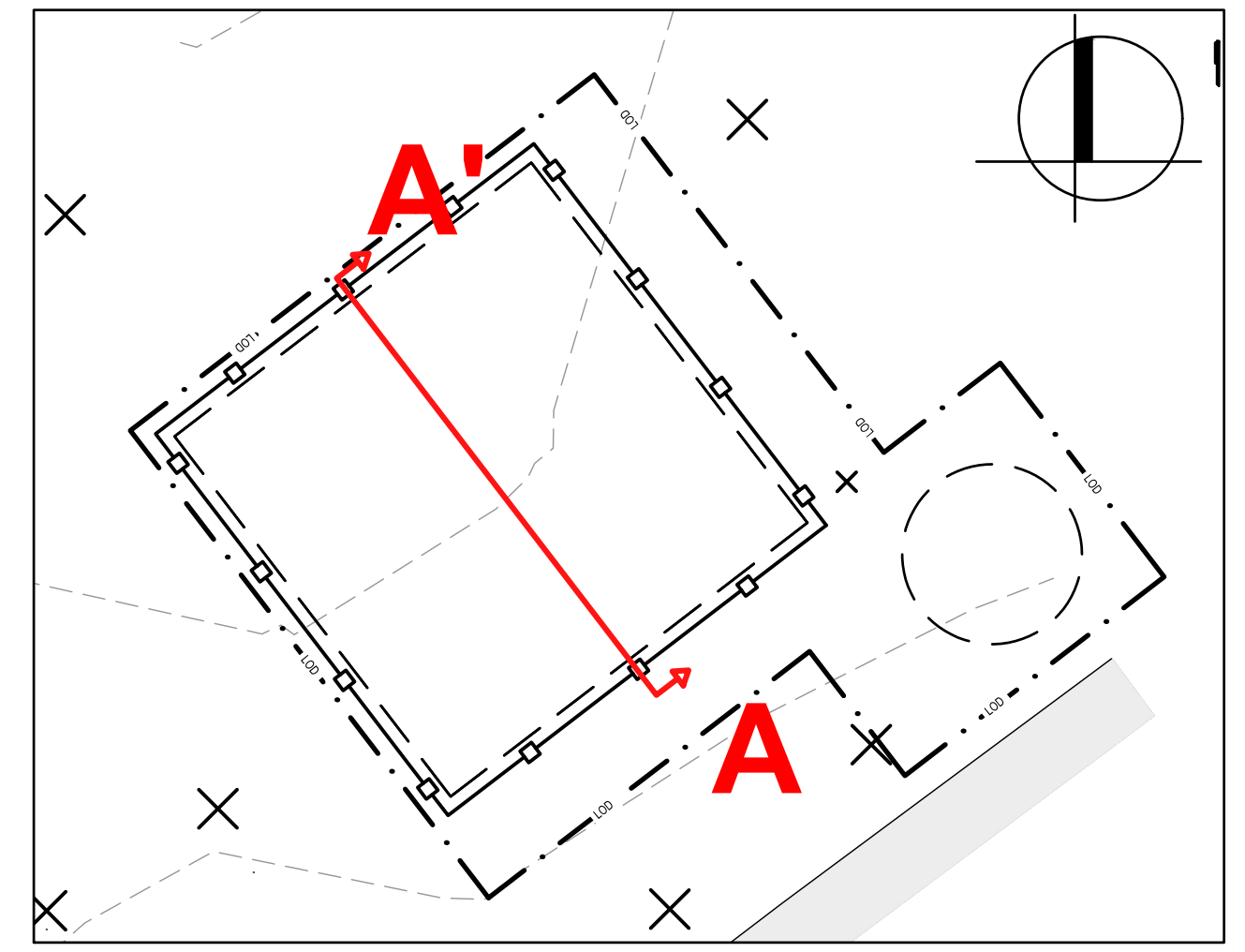
**1b TEST PLOT 5 - SECTION A-A'**  
SCALE: BAR SCALE



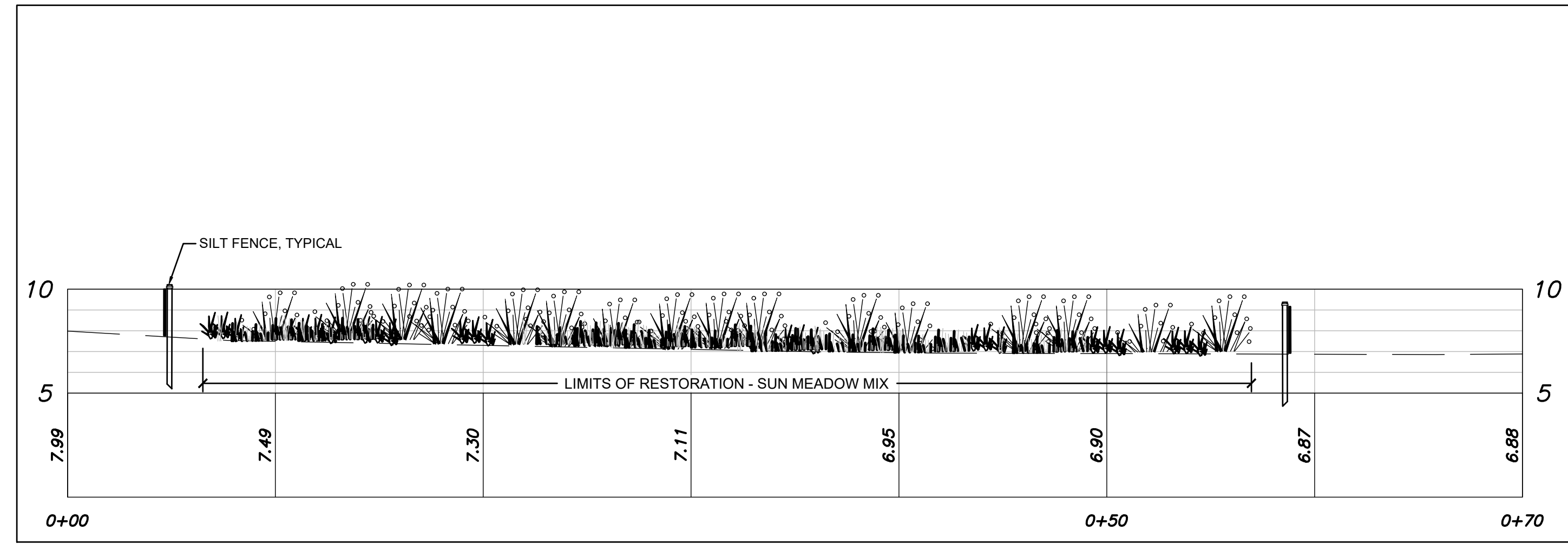
**2a TEST PLOT 6A - KEY MAP**  
SCALE: BAR SCALE



**2b TEST PLOT 6A - SECTION A-A'**  
SCALE: BAR SCALE



**3a TEST PLOT 6B - KEY MAP**  
SCALE: BAR SCALE



**3b TEST PLOT 6b - SECTION A-A'**  
SCALE: BAR SCALE

**NOTES:**

1. ENTIRE LIMIT OF WORK TO OCCUR WITHIN 25' WATERFRONT AREA
  2. ENTIRE LIMIT OF WORK TO OCCUR WITHIN 100-FOOT WETLAND BUFFER TO INLAND BANK
- SEE SHEET C105 FOR ADDITIONAL INFORMATION.

HORIZONTAL SCALE: 1" = 10'

VERTICAL SCALE: 1" = 5'

**NOTES:**

1. ENTIRE LIMIT OF WORK TO OCCUR OUTSIDE OF 25' RIVERFRONT AREA.
  2. ENTIRE LIMIT OF WORK TO OCCUR OUTSIDE OF 25' WATERFRONT AREA.
  3. ENTIRE LIMIT OF PROJECT AREA IS LOCATED OUTSIDE FEMA ZONE AE BASED ON AVAILABLE FEMA FIRM MAPPING.
  4. ENTIRE LIMIT OF WORK TO OCCUR OUTSIDE OF 100-FOOT WETLAND BUFFER TO INLAND BANK
- SEE TEST PLOT 6 - LAYOUT PLAN ON SHEET C106B FOR ADDITIONAL INFORMATION.

HORIZONTAL SCALE: 1" = 10'

VERTICAL SCALE: 1" = 5'

**NOTES:**

1. ENTIRE LIMIT OF WORK TO OCCUR OUTSIDE OF 25' RIVERFRONT AREA.
  2. ENTIRE LIMIT OF WORK TO OCCUR OUTSIDE OF 25' WATERFRONT AREA.
  3. ENTIRE LIMIT OF PROJECT AREA IS LOCATED OUTSIDE FEMA ZONE AE BASED ON AVAILABLE FEMA FIRM MAPPING.
  4. ENTIRE LIMIT OF WORK TO OCCUR OUTSIDE OF 100-FOOT WETLAND BUFFER TO INLAND BANK
- SEE TEST PLOT 6 - LAYOUT PLAN ON SHEET C106B FOR ADDITIONAL INFORMATION.

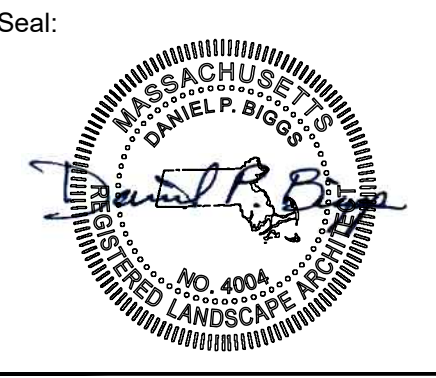
HORIZONTAL SCALE: 1" = 10'

VERTICAL SCALE: 1" = 5'

Consultants:

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No.	Date	Description



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Reviewed By: DPB

Approved By: DPB

W&S Project No: P18-3241-S1A

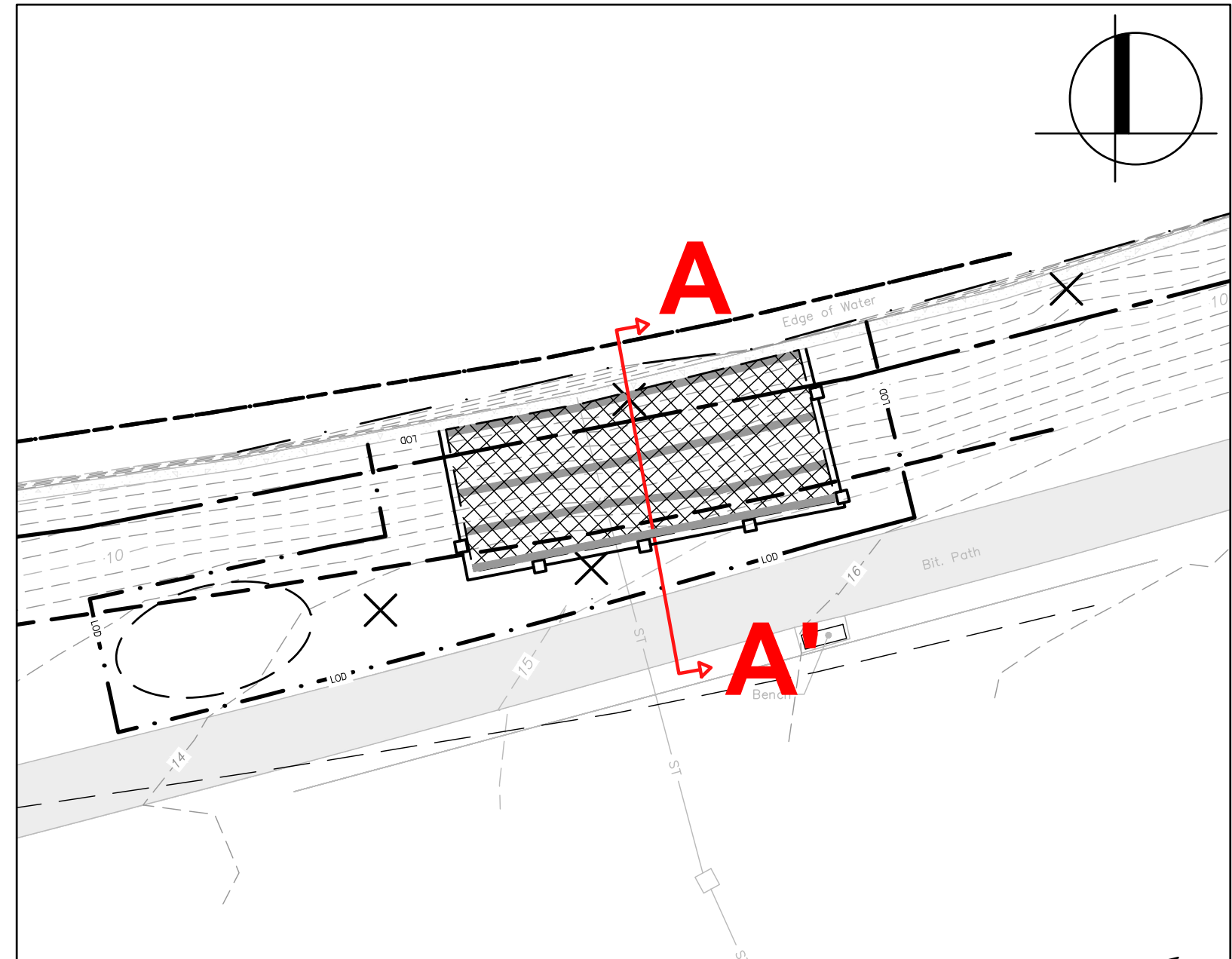
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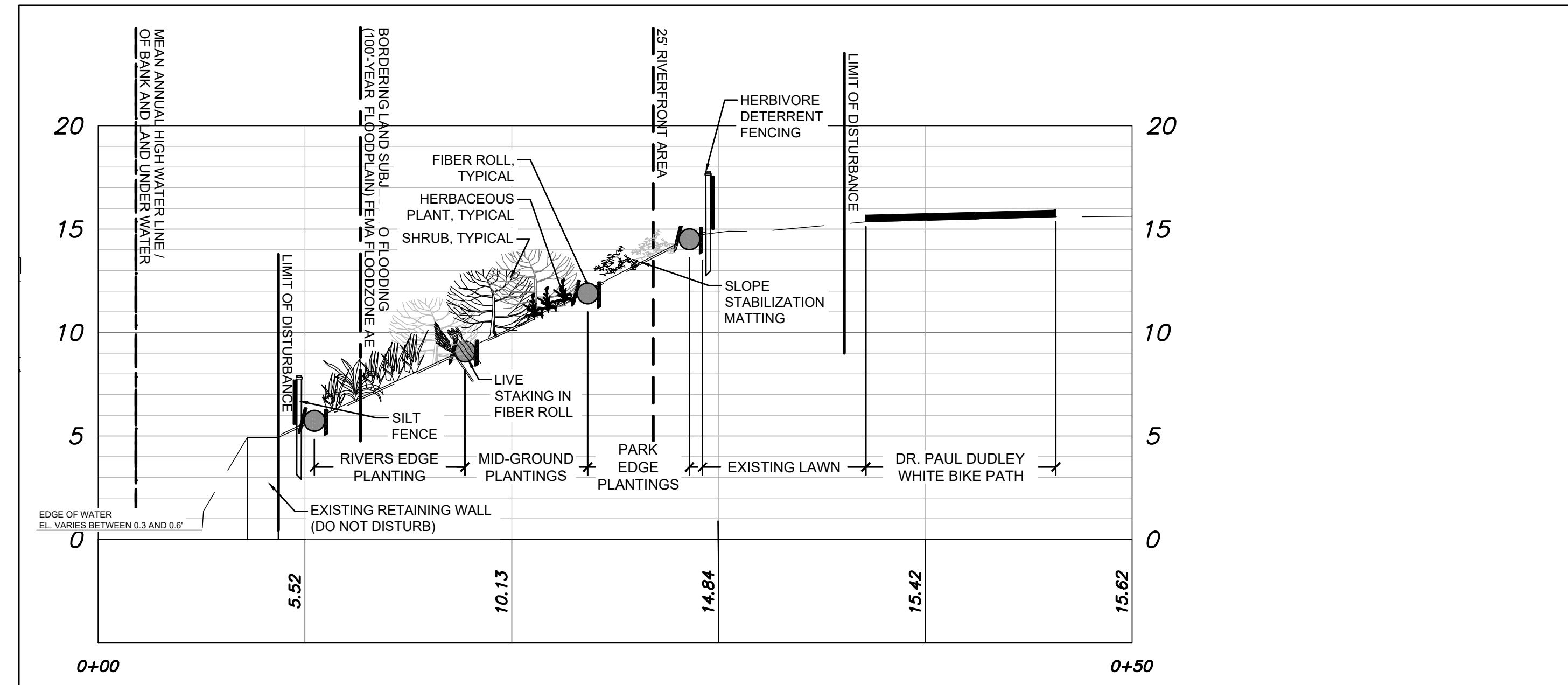
**TEST PLOT 5 TO 6B PROFILES**

Sheet Number:

**C202**

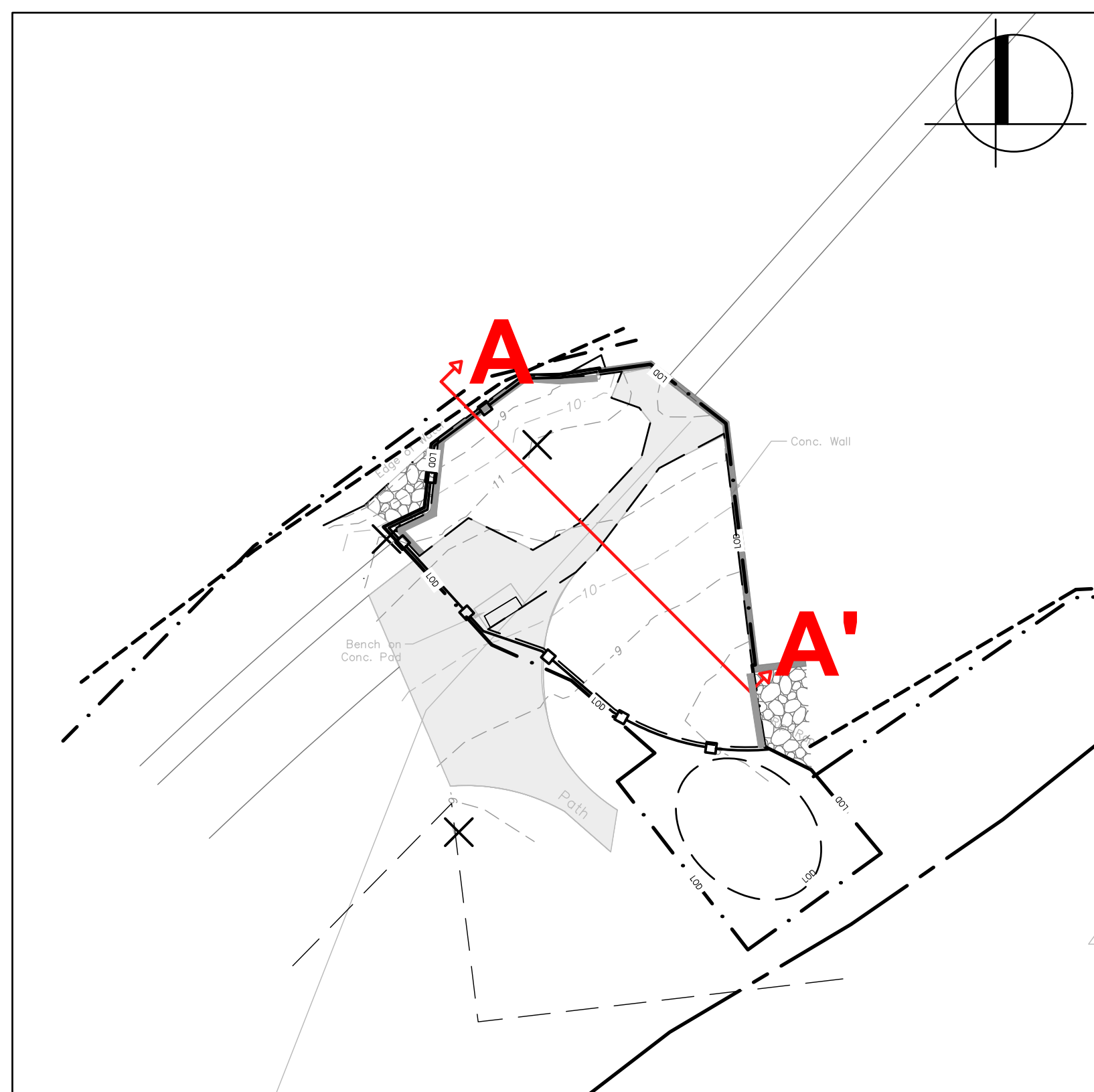
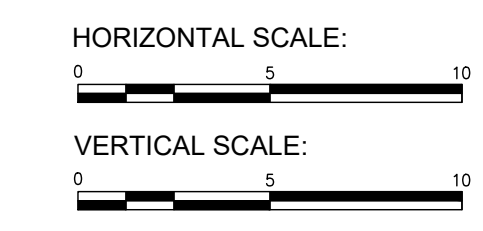


1a TEST PLOT 7 - KEY MAP  
SCALE: BAR SCALE

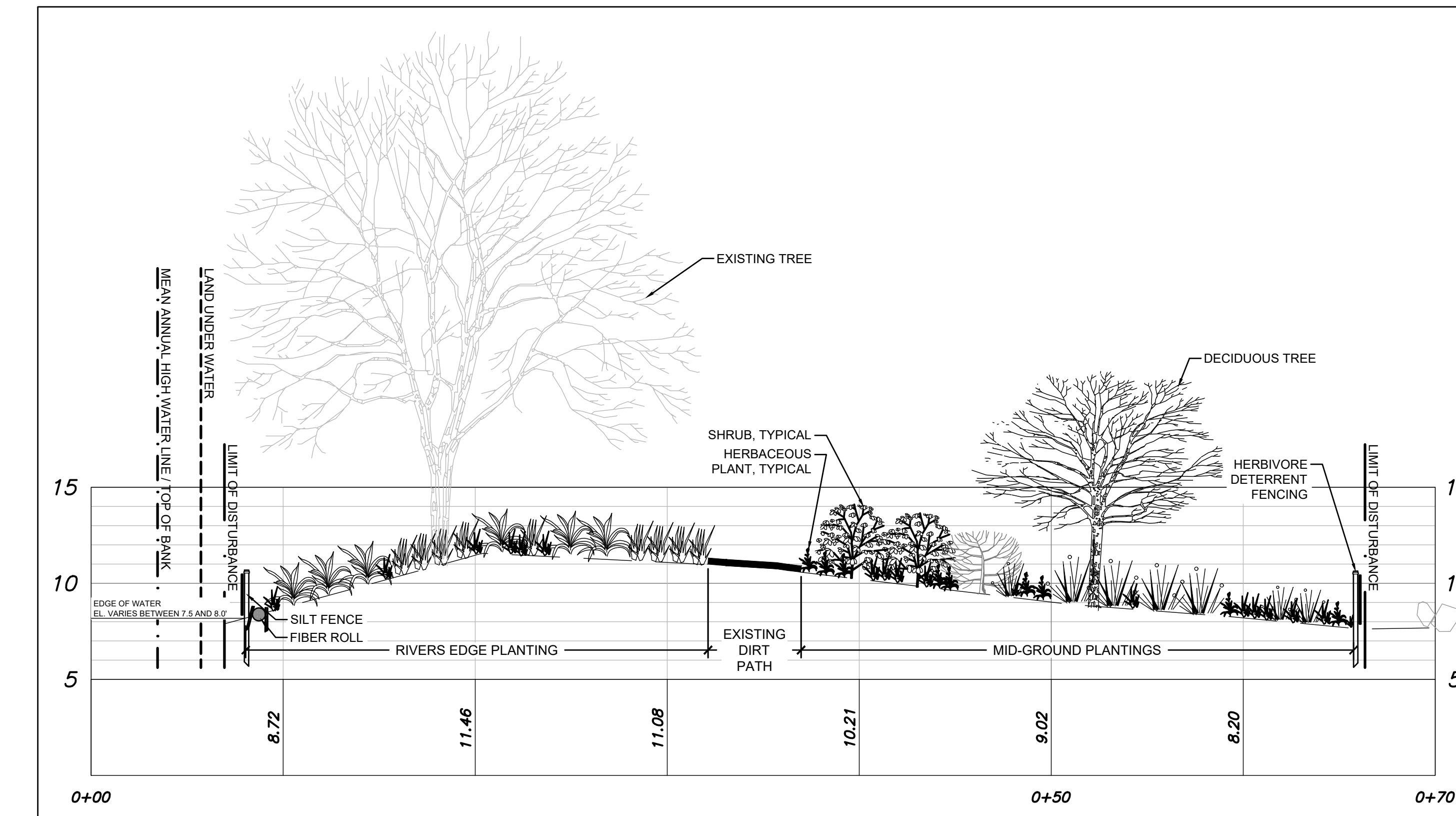


1b TEST PLOT 7 - SECTION A-A'  
SCALE: BAR SCALE

- NOTES:
1. ENTIRE LIMIT OF WORK TO OCCUR WITHIN 25' WATERFRONT AREA.
  2. ENTIRE LIMIT OF WORK TO OCCUR WITHIN 100-FOOT WETLAND BUFFER TO INLAND BANK.
- SEE SHEET C107 FOR ADDITIONAL INFORMATION.

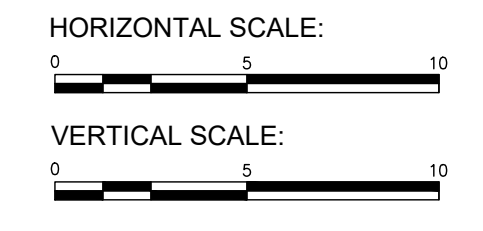


2a TEST PLOT 8 - KEY MAP  
SCALE: BAR SCALE



2b TEST PLOT 8 - SECTION A-A'  
SCALE: BAR SCALE

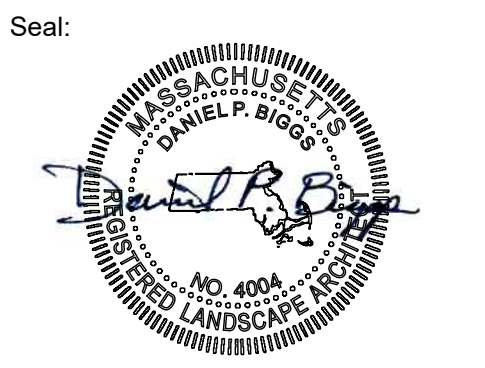
- NOTES:
1. ENTIRE LIMIT OF WORK TO OCCUR WITHIN THE WATERTOWN 50' NO BUILD ZONE.
  2. ENTIRE LIMIT OF WORK TO OCCUR WITHIN 100' WETLAND BUFFER TO INLAND BANK.
  3. ENTIRE LIMIT OF WORK TO OCCUR WITHIN THE WATERTOWN 100' AND 200' RIVERFRONT AREA.
  4. ENTIRE LIMIT OF PROJECT AREA IS LOCATED WITHIN FEMA ZONE AE BASED ON AVAILABLE FEMA FIRM MAPPING.
- SEE SHEET C108 FOR ADDITIONAL INFORMATION.



Consultants:

Revisions:

No.	Date	Description



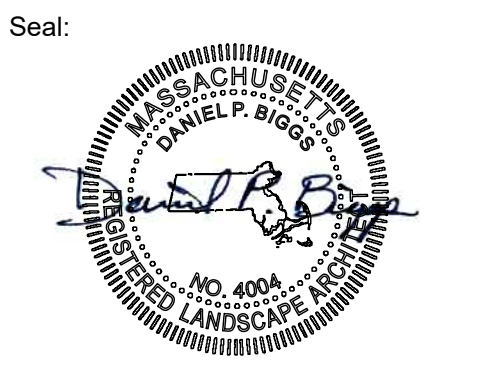
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Reviewed By: DPB  
Approved By: DPB  
W&S Project No: P18-3241-S1A  
W&S File No:

\\westonandsampson.com\Projects\MA\2021\Charles River Vegetation Management Plan\Phase 1 Implementation\CAD\DWG\C203 Profiles - PLOT 7 TO 8.dwg

Revisions:

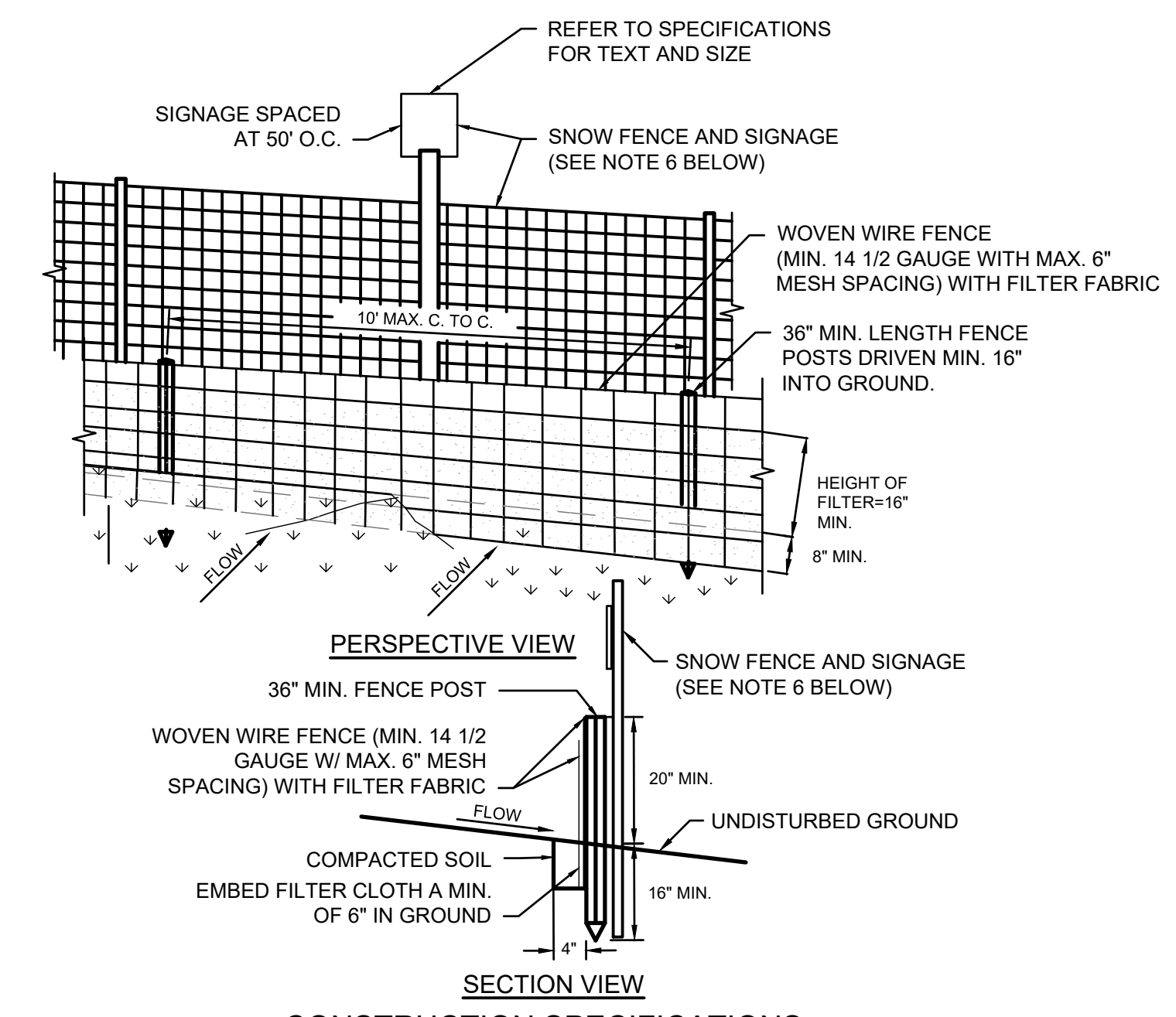
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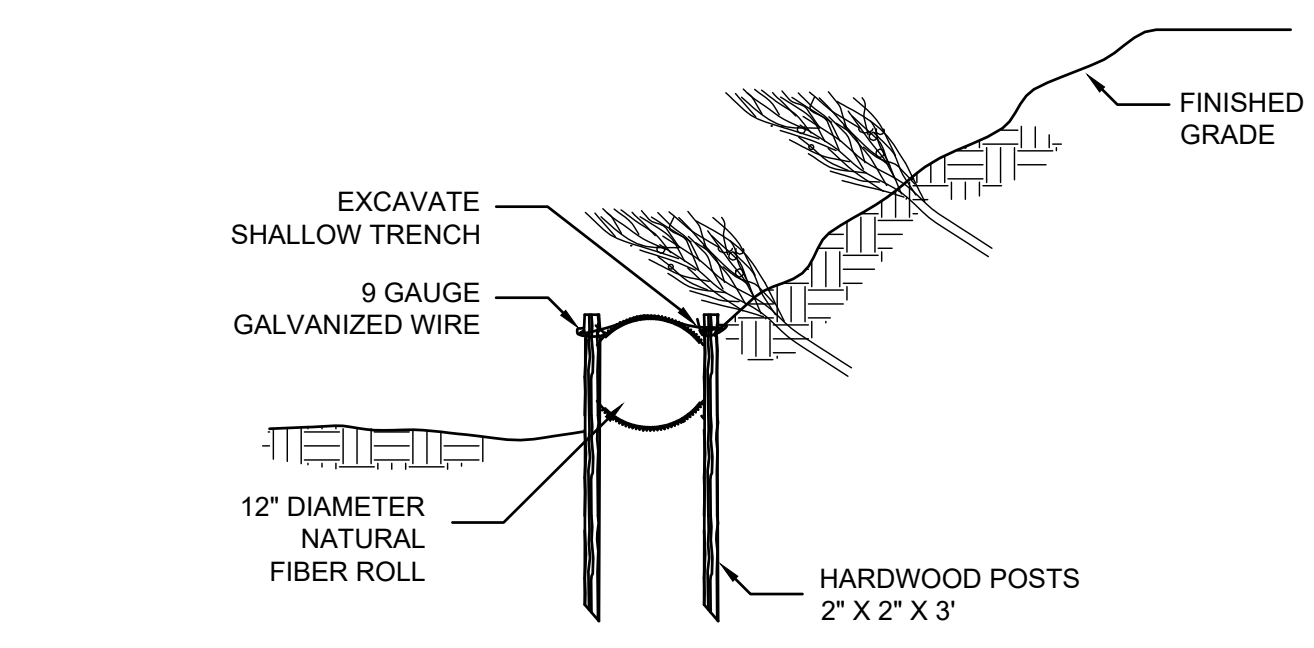
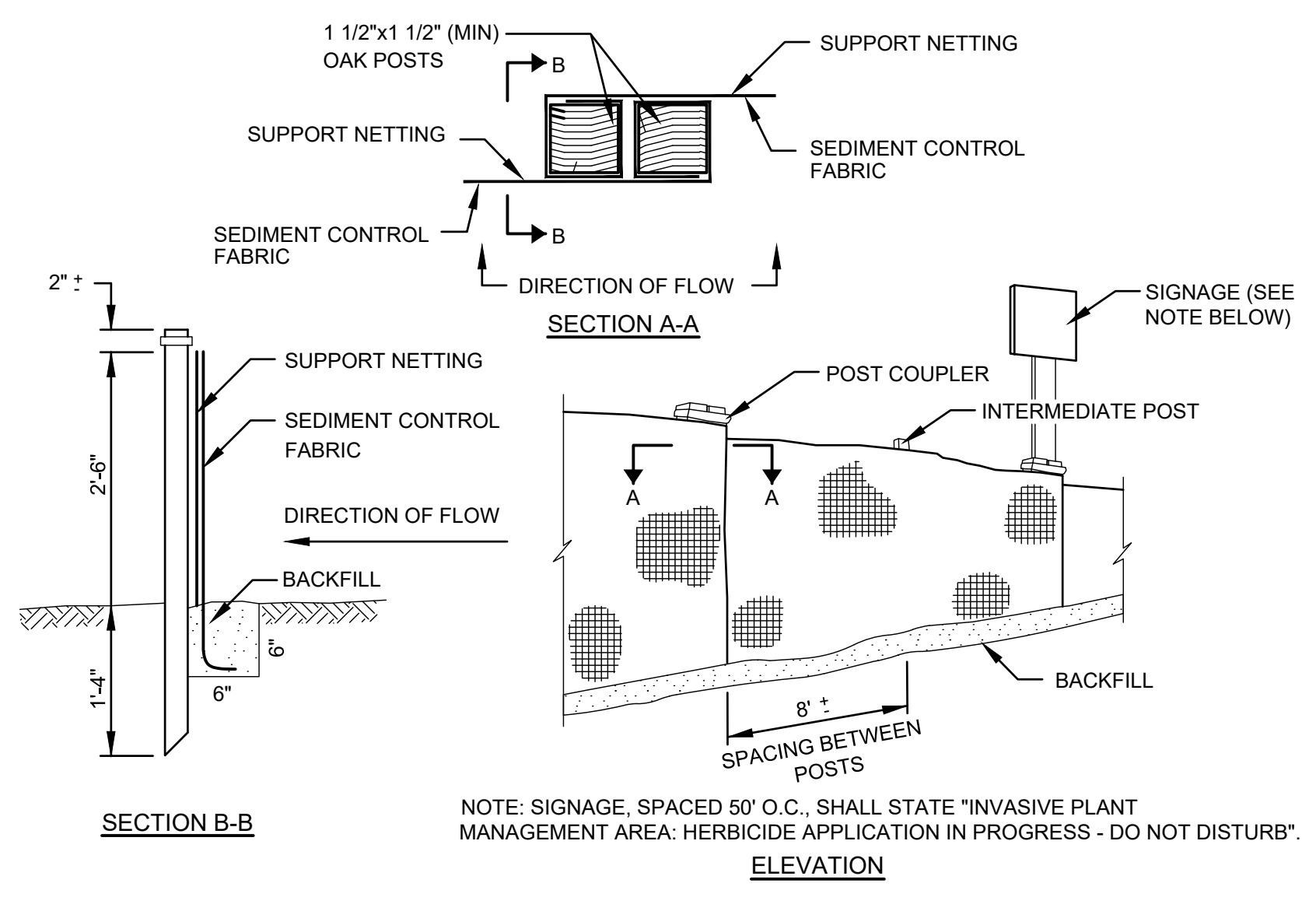
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 Reviewed By: DPB  
 Approved By: CFR  
 W&S Project No: P18-3241-S1A  
 W&S File No:

Drawing Title:  
**EROSION AND SEDIMENT CONTROL DETAILS**  
 Sheet Number:  
**C501**



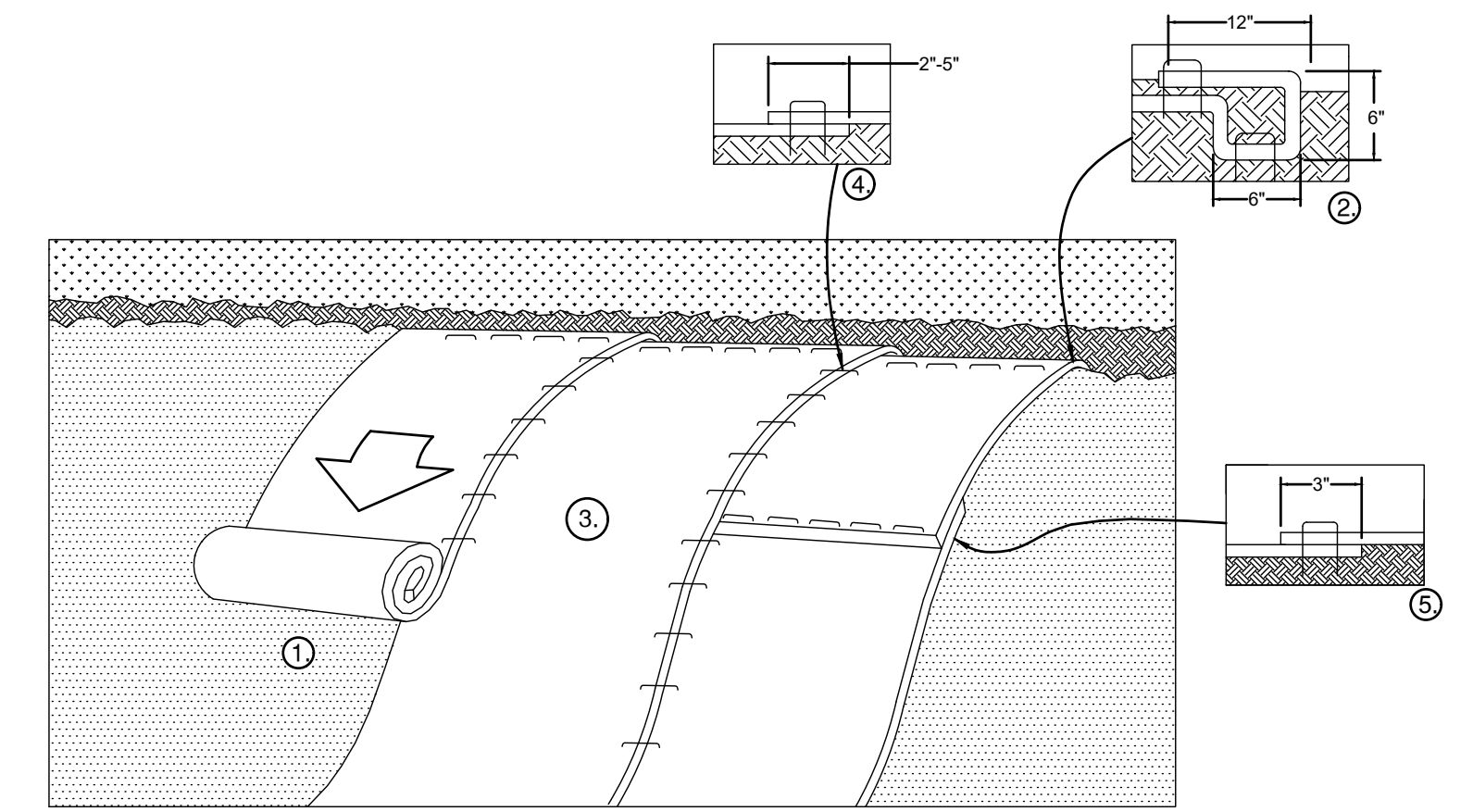
- CONSTRUCTION SPECIFICATIONS**
- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
  - FILTER FABRIC TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 12 1/2 GAUGE, 6" MAXIMUM MESH OPENING.
  - WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
  - PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, U.S. SILT & SITE SUPPLY CORPORATION/GETSGO, OR APPROVED EQUIVALENT.
  - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
  - WHEN SILT FENCE SURROUNDS RESTORATION AREAS, BRIGHT ORANGE SNOW FENCE SHALL BE INSTALLED AROUND PERIMETER AS A PHYSICAL BARRIER. SIGNAGE SPACED AT 50' O.C. SHALL STATE "INVASIVE PLANT MANAGEMENT AREA- HERBICIDE APPLICATION IN PROGRESS - DO NOT DISTURB".
  - REFER TO SPECIFICATIONS FOR ADDITIONAL MATERIAL AND INSTALLATION INFORMATION.



**1 FIBER ROLL DETAIL**  
 SCALE: N.T.S.

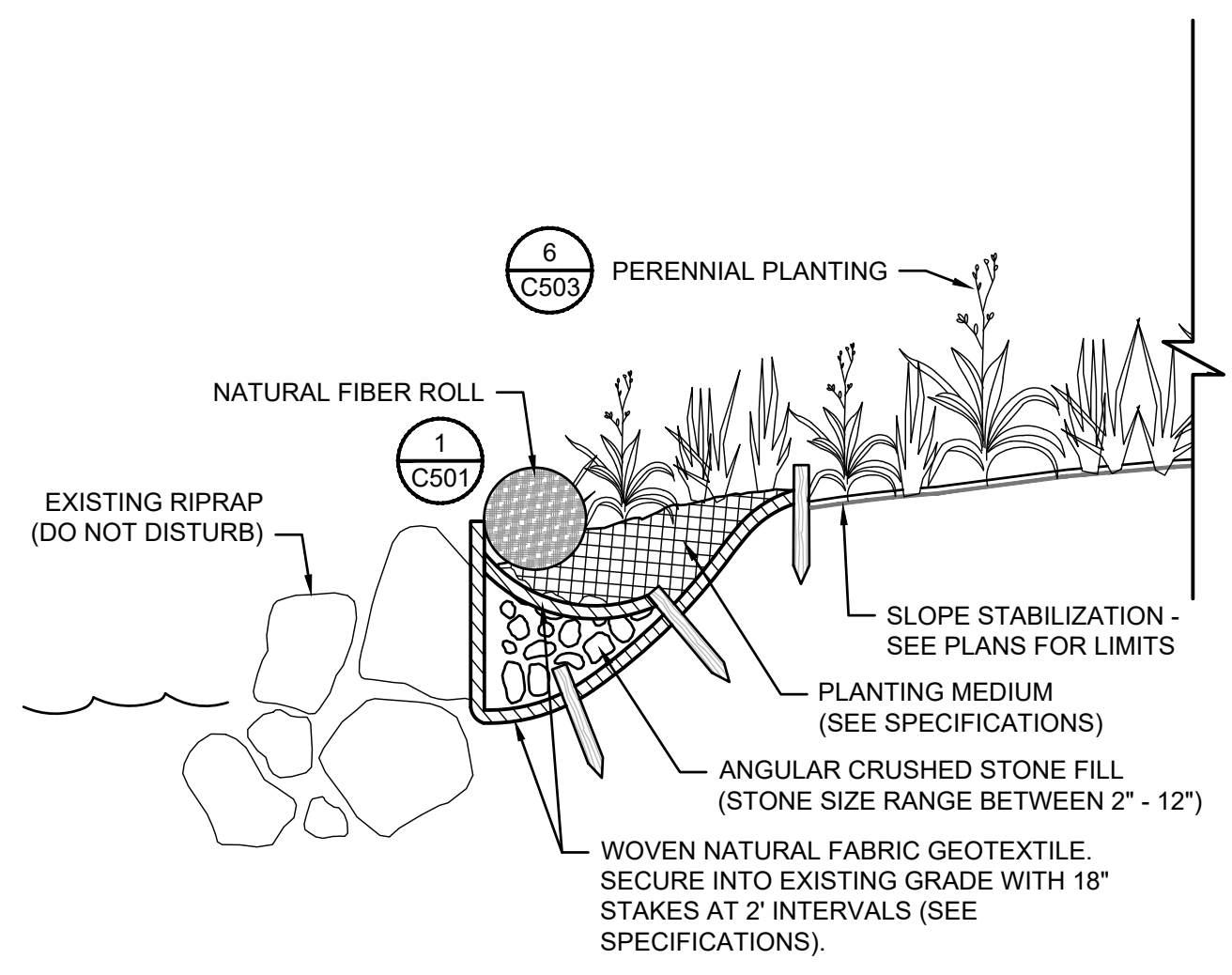
**2 SILT FENCE DETAIL**  
 SCALE: N.T.S.

**3 SILT FENCE WITH SNOW FENCE**  
 SCALE: N.T.S.



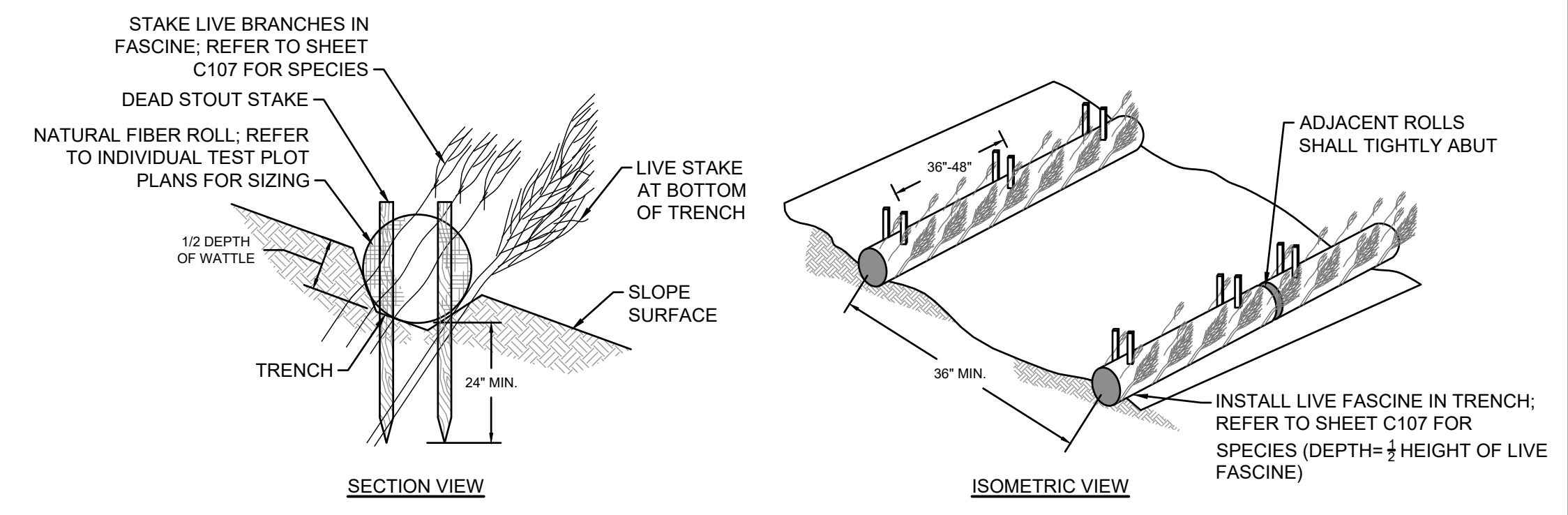
- PREPARE SOIL BEFORE INSTALLING NATURAL FIBER ROLLED EROSION CONTROL PRODUCTS (RECP'S).
  - BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP'S.
  - ROLL THE RECP'S DOWN THE SLOPE. RECP'S SHALL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
  - THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" OVERLAP DEPENDING ON RECP'S TYPE.
  - CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE ON RECP'S TYPE.
- NOTE:  
 IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

**4 EROSION CONTROL SLOPE STABILIZATION MATTING INSTALLATION DETAIL**  
 SCALE: N.T.S.



NOTE: ALL WORK TO OCCUR OUTSIDE THE 100-YEAR FLOODPLAIN AND ABOVE THE MEAN ANNUAL HIGH WATER LINE/TOP OF BANK.

**5 SLOPE STABILIZATION AT RIPRAP DETAIL**  
 SCALE: N.T.S.

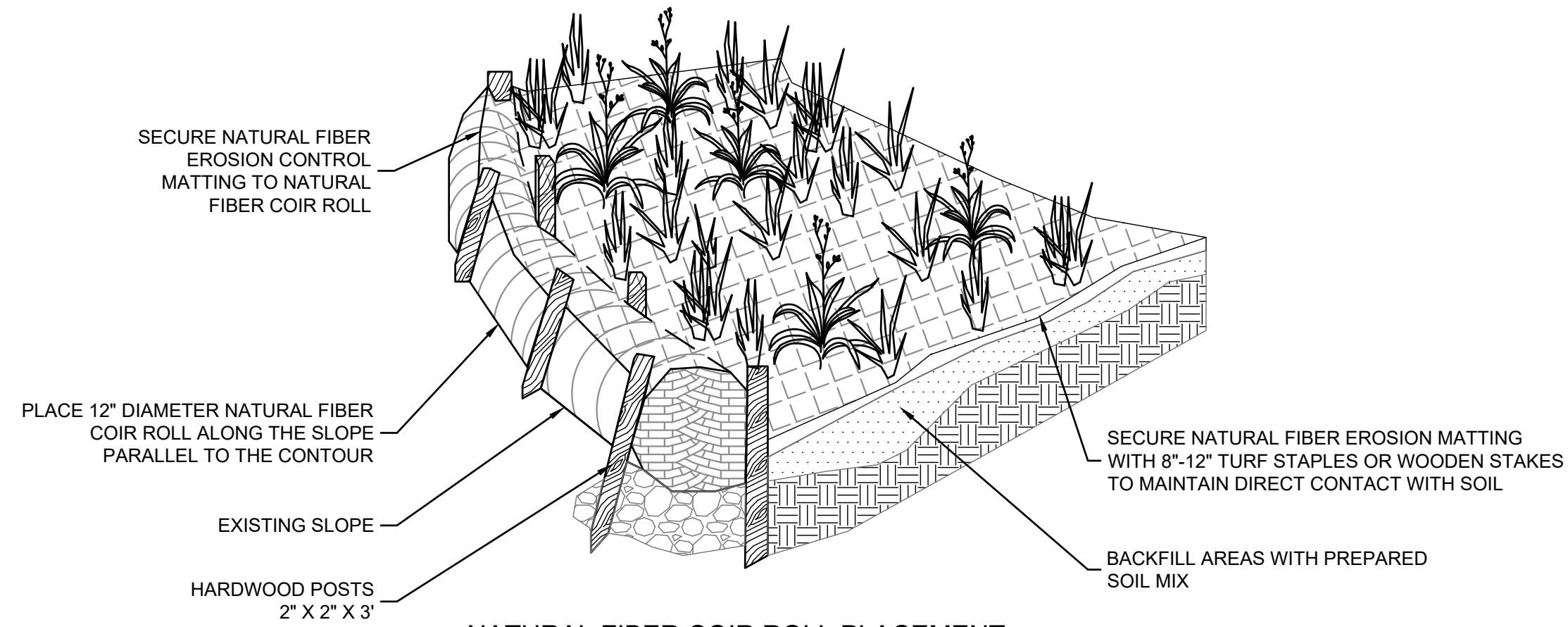


- NOTES:**
- BEGIN AT THE LOCATION WHERE THE ROLL IS TO BE INSTALLED BY EXCAVATING A TRENCH WITH A DEPTH OF 1/2 THE HEIGHT OF THE NATURAL FIBER COIR/STRAW ROLL ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SPOIL SHALL BE PLACED UP-SLOPE FROM THE ANCHOR TRENCH.
  - PLACE THE ROLL IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE ROLL ON THE UPHILL SIDE. ADJACENT WATTLES SHALL TIGHTLY ABUT.
  - SECURE THE ROLL WITH (2) 18"-24" STAKES EVERY 3'-4" AND WITH A STAKE ON EACH END. STAKES SHALL BE DRIVEN LEAVING AT LEAST 2"-3" OF STAKE EXTENDING ABOVE THE ROLL. STAKES SHALL BE DRIVEN PERPENDICULAR TO SLOPE FACE.
  - NOTCH THE POSTS AND TIE TOGETHER, ACROSS THE ROLL, WITH BIODEGRADABLE TWINE OR ROPE.
  - PLACE SOIL EXCAVATED FROM THE TRENCH BEHIND THE ROLL AND HAND TAMP. PLANT WITH SUITABLE HERBACEOUS OR WOODY VEGETATION AS NOTED ON PLANS. VEGETATION SHALL BE PLACED IMMEDIATELY ADJACENT TO THE ROLL TO PROMOTE ROOT GROWTH INTO THE FIBER. HERBACEOUS VEGETATION SHALL BE PLANTED INTO THE NATURAL FIBER ROLL AS INDICATED ON THE PLANTING PLANS.

**6 LIVE STAKING IN FIBER ROLL**  
 SCALE: N.T.S.

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Consultants:



**NATURAL FIBER COIR ROLL PLACEMENT**

1. EXCAVATE A SHALLOW 4" TRENCH ON SLOPE CONTOUR.
2. PLACE THE ROLL IN THE TRENCH AND ANCHOR WITH 2"X2" POSTS PLACED ON BOTH SIDES OF THE ROLL AND SPACED LATERALLY ON 2' TO 4' CENTERS. TRIM THE TOP OF THE POSTS EVEN WITH THE EDGE OF THE ROLL, IF NECESSARY.
3. NOTCH THE POSTS AND TIE TOGETHER, ACROSS THE ROLL, WITH BIODEGRADABLE TWINE OR ROPE.
4. PLACE SOIL EXCAVATED FROM THE TRENCH BEHIND THE ROLL AND HAND TAMP. VEGETATION SHALL BE PLACED IMMEDIATELY ADJACENT TO THE ROLL TO PROMOTE ROOT GROWTH INTO THE FIBER. HERBACEOUS VEGETATION MAY BE PLANTED INTO THE FIBER ROLL.

**1** PLANTED SLOPE STABILIZATION DETAIL  
 SCALE: N.T.S.

**2** NOT USED  
 SCALE: N.T.S.

**PROTECTION OF TREES:**

**CRITICAL ROOT ZONE PROTECTION NOTES:**

PROTECT EXISTING TREES WHICH ARE TO REMAIN FROM AREA CONSTRUCTION OPERATIONS, UTILIZING TREE PROTECTION CRITERIA INCLUDING:

- A. NO CONSTRUCTION EQUIPMENT SHALL BE PERMITTED WITHIN CRITICAL ROOT ZONE.
- B. AFTER PLANT INSTALLATION CONTRACTOR SHALL RESTORE GRADE WITH EXCESS ON-SITE SOIL, WATER WITHIN TEST PLOT, AND PRUNE ANY TREES DISTURBED/DAMAGED BY CONSTRUCTION UNDER THE SUPERVISION OF A CERTIFIED DCR STAFF ARBORIST. REFER TO SPECIFICATIONS.

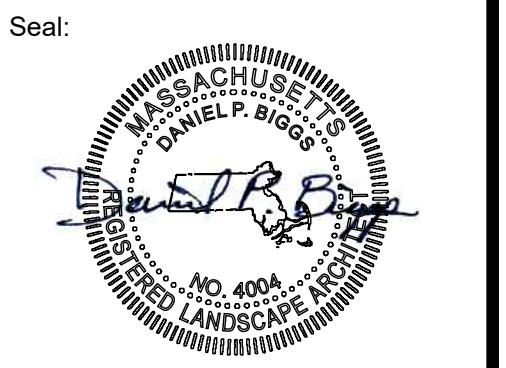
**LANDSCAPE REPLACEMENT:**

REMOVE TREES AND OTHER LANDSCAPE FEATURES SCARRED OR DAMAGED BY EQUIPMENT OPERATIONS, AND REPLACE WITH EQUIVALENT, UNDISTURBED TREES AND LANDSCAPE FEATURES. OBTAIN OWNER/ARCHITECT'S APPROVAL BEFORE REPLACEMENT. REPLACEMENT OF TREES SHALL OCCUR ON A ONE-TO-ONE BASIS.

**3** TREE PROTECTION AND REPLACEMENT NOTES  
 SCALE: N.T.S.

Revisions:

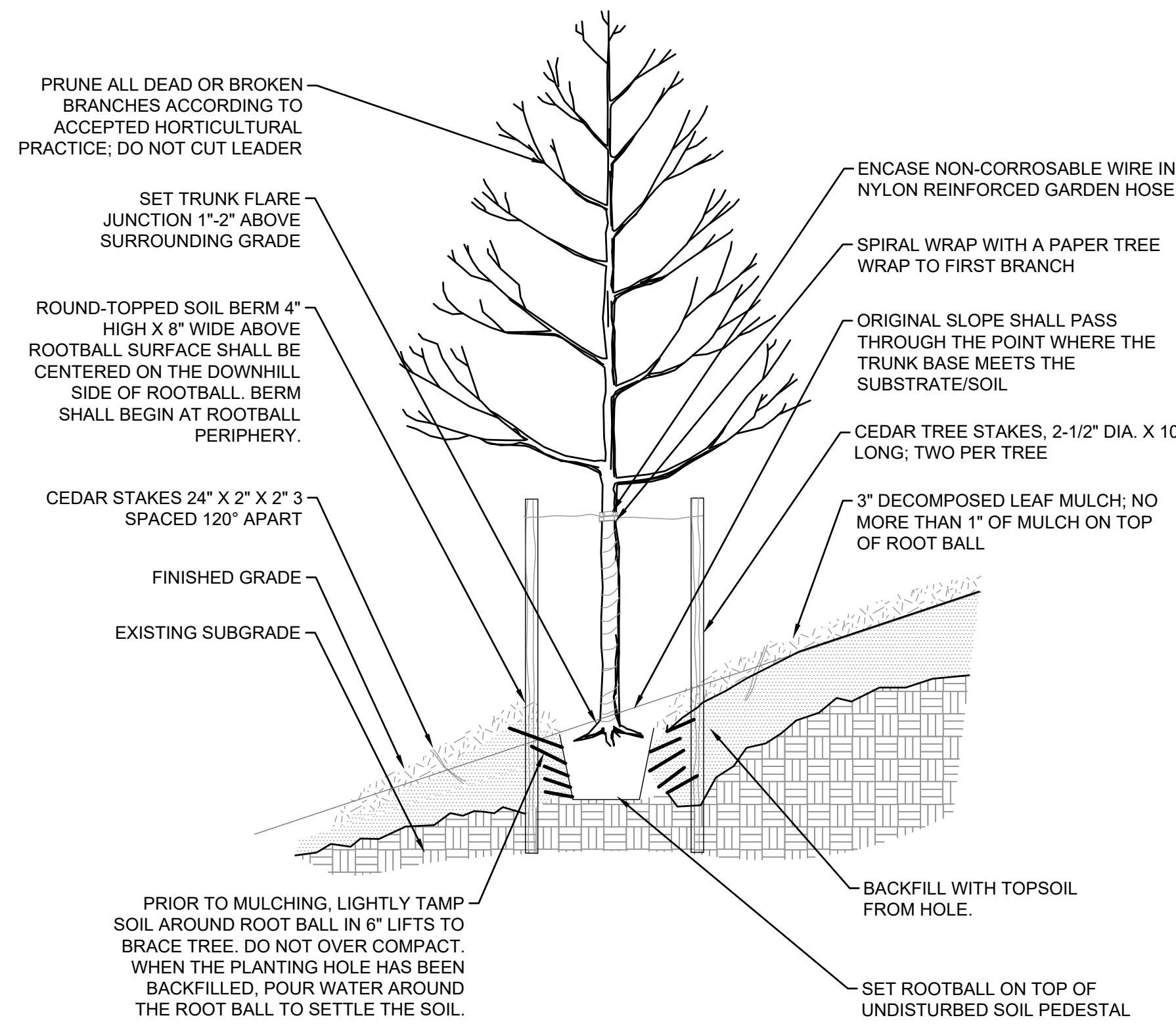
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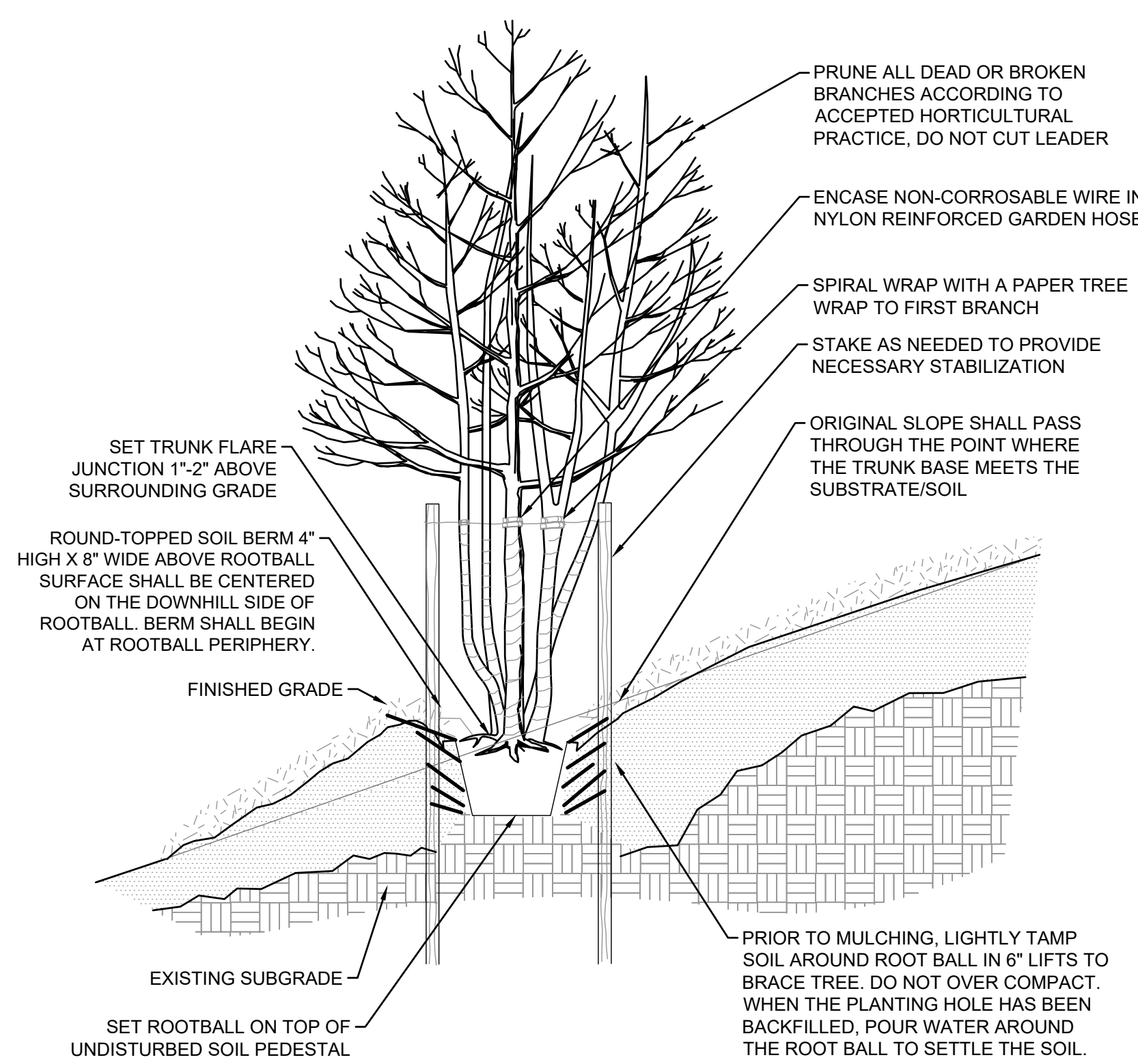
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 W&S File No:

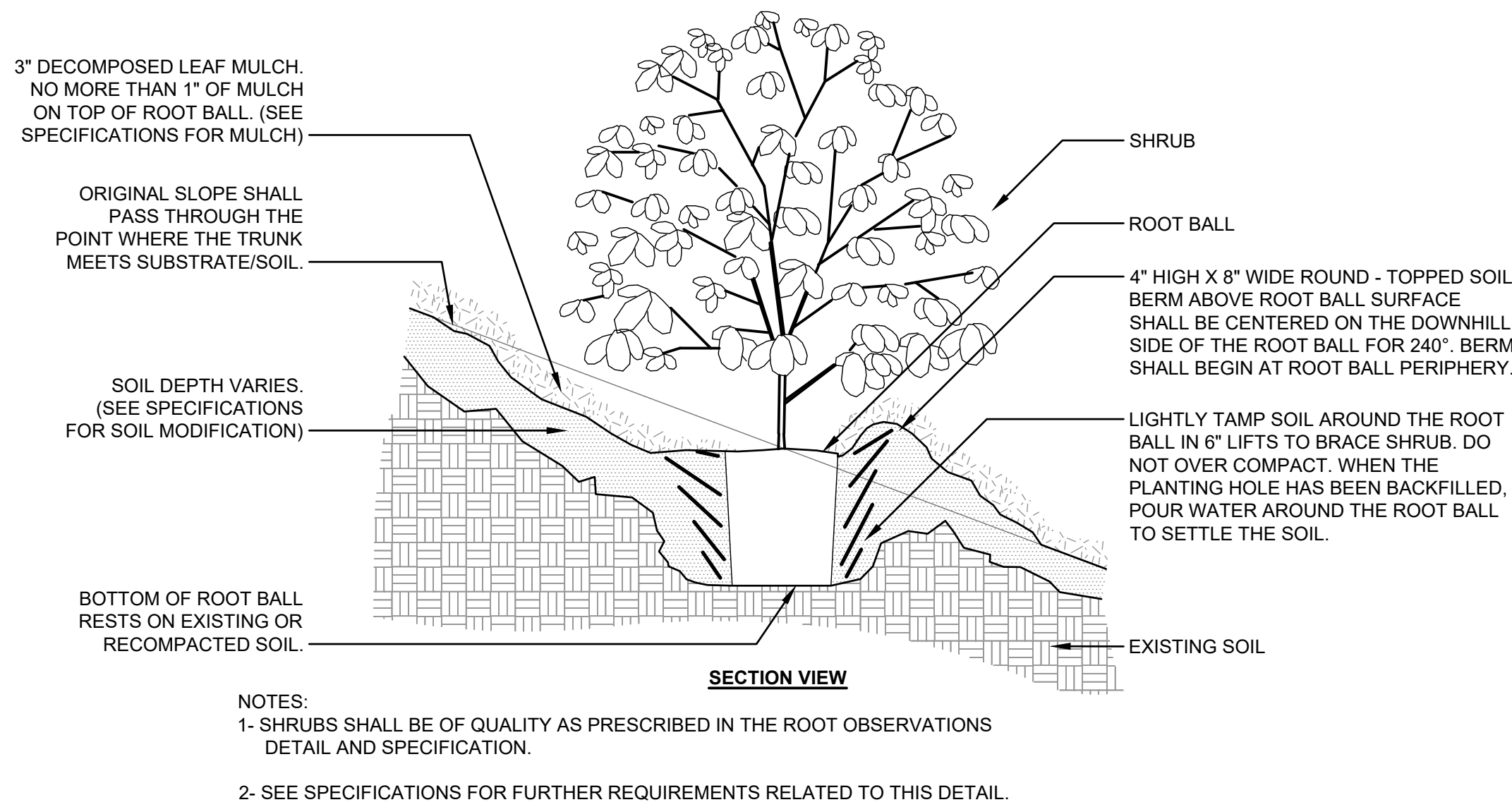
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**PLANTING  
 DETAILS**  
 Sheet Number:  
**C502**



**1 DECIDUOUS TREE ON SLOPE 5% (20:1) TO 50% (2:1)**  
SCALE: N.T.S.

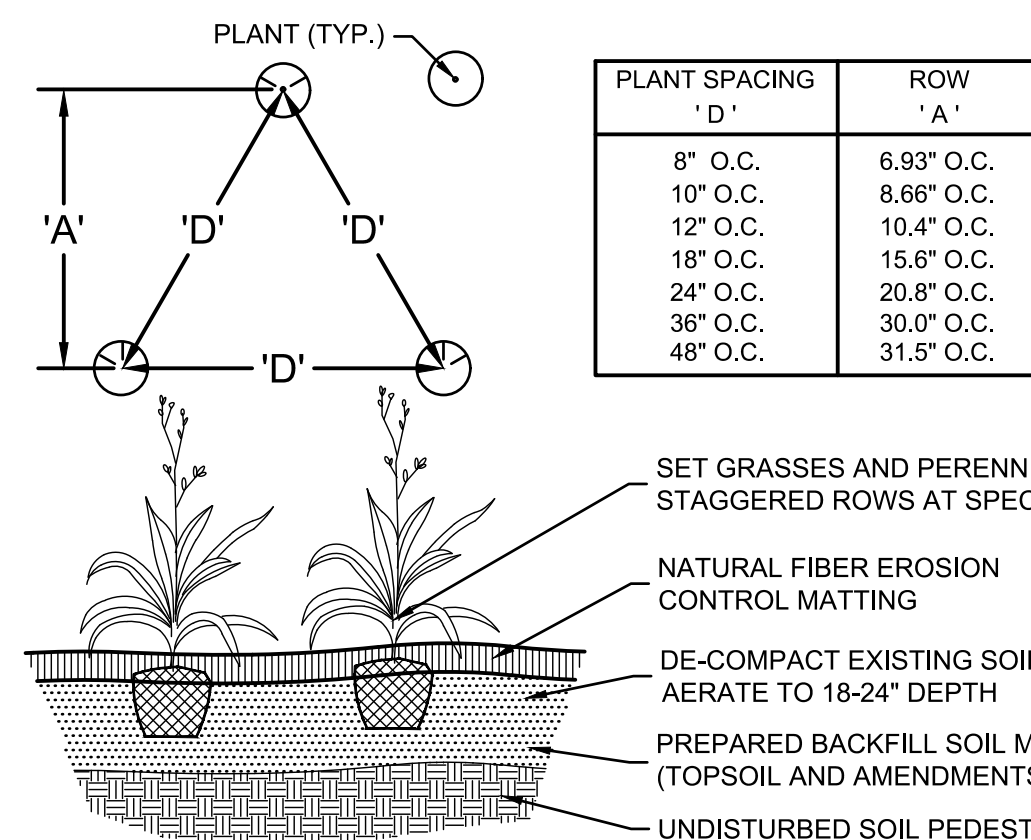


**2 MULTI-STEMMED TREE ON SLOPE 5% (20:1) TO 50% (2:1)**  
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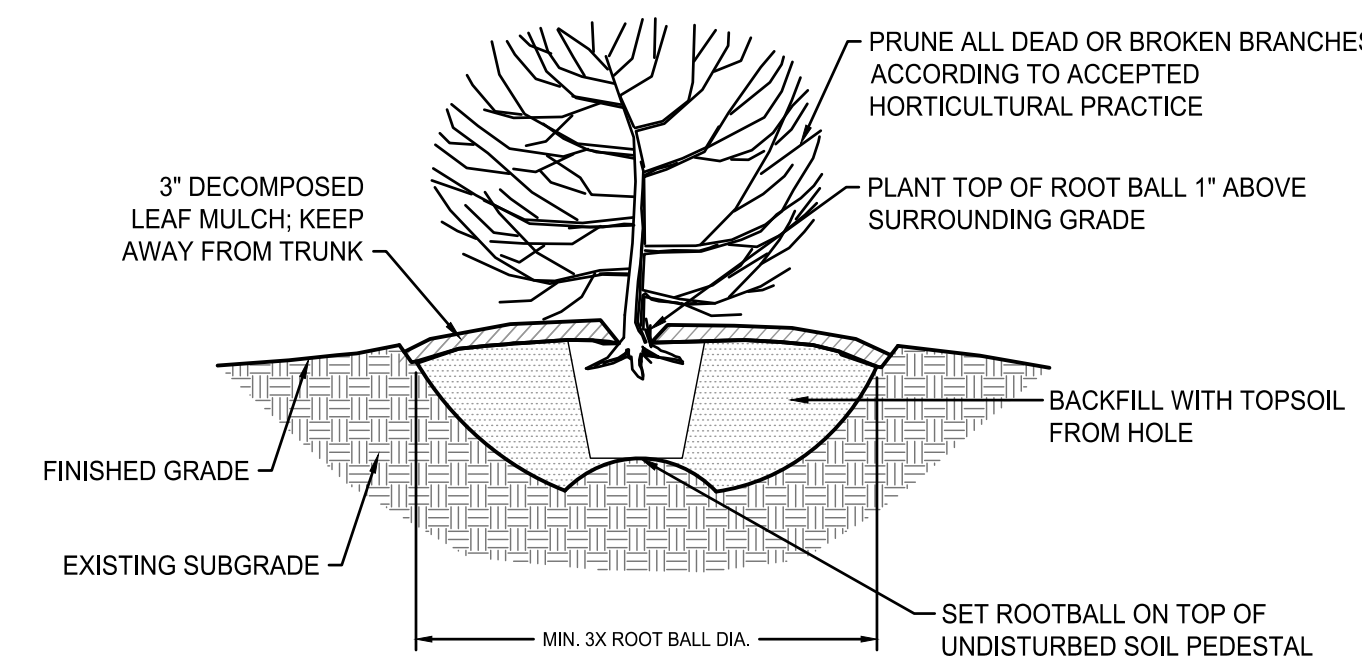


**3 SHRUB ON SLOPE 5% (20:1) TO 50% (2:1) - MODIFIED SOIL**  
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- NOTE:
- GRASSES AND PERENNIALS TO BE INSTALLED WITH TRIANGULAR SPACING.
  - PLUGS: SEE DRAWINGS FOR SPACING.
  - SHRUBS AND CONTAINER PLANTS: 30" O.C.



**6 PERENNIAL AND PLUG PLANTING DETAILS**  
SCALE: N.T.S.

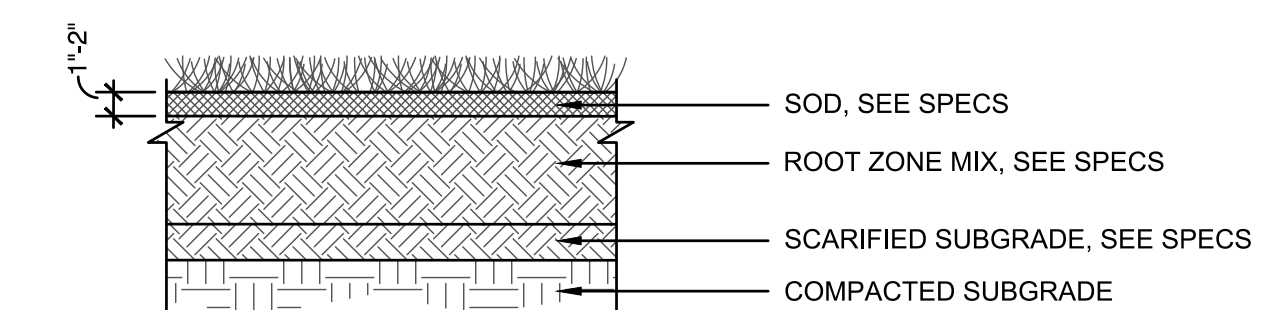


**4 SHRUB PLANTING ON LEVEL GROUND**  
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**PLANTING NOTES:**

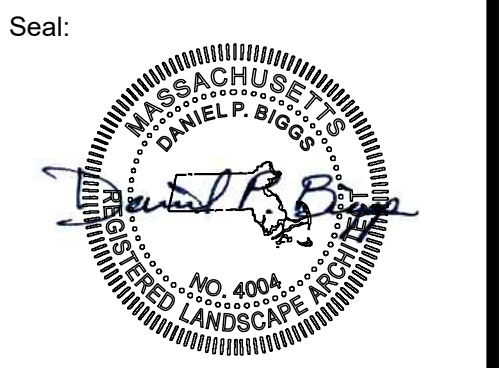
- ALL PLANTS SHALL BE NURSERY GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT.
- TAKE CALIPER MEASUREMENTS 6 INCHES ABOVE GROUND FOR TREES UP TO 4-INCH CALIPER SIZE. MEASURE MAIN BODY OF TREE OR SHRUB FOR HEIGHT AND SPREAD; DO NOT MEASURE BRANCHES OR ROOTS TIP-TO-TIP.
- TREES SHALL BE FRESHLY DUG DURING THE SEASON OF PLANTING, MARCH 1ST TO MAY 1ST FOR SPRING PLANTING AND OCTOBER 15TH TO DECEMBER 15TH FOR FALL PLANTING. PLANTS KNOWN AS FALL DIG HAZARDS SHALL BE DUG IN THE SPRING ONLY.
- DCR SHALL PROVIDE ALL PLANT MATERIAL AND SEED FOR CONTRACTOR'S USE. PLANTS WILL BE MADE AVAILABLE AT A DCR PROPERTY WITHIN 10 MILES FROM THE PROJECT SITE.
- THE LANDSCAPE ARCHITECT RETAINS THE RIGHT TO INSPECT TREES AND SHRUBS FOR SIZE AND CONDITION OF BALLS AND ROOT SYSTEMS, INSECTS, INJURIES AND LATENT DEFECTS, AND TO REJECT UNSATISFACTORY OR DEFECTIVE MATERIAL AT ANY TIME DURING PROGRESS OF WORK. CONTRACTOR SHALL REMOVE REJECTED TREES OR SHRUBS IMMEDIATELY FROM PROJECT SITE.
- THE CONTRACTOR SHALL STAKE THE LOCATIONS OF ALL PROPOSED PLANT MATERIAL AND PLANT BEDS FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF PLANTING.
- INSTALLED PLANTS SHALL BEAR THE SAME RELATIONSHIP TO PROPOSED GRADE AS THEY BORE TO PREVIOUS GRADE. NO TREES SHALL BE PLANTED BEFORE ACCEPTANCE OF ROUGH GRADING.
- CONTRACTOR SHALL PROVIDE LONG LASTING, SLOW RELEASE STARTER FERTILIZER IN EACH PLANTING PIT FOR TREES, SHRUBS AND PERENNIALS.
- IF DISCREPANCIES EXIST BETWEEN THE NUMBER OF PLANTS DRAWN ON THE PLANTING PLAN AND THE NUMBER OF PLANTS IN THE PLANT LIST, THE LARGER QUANTITY SHALL GOVERN.
- MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER EACH PLANT IS PLANTED AND SHALL CONTINUE FOR A MINIMUM 60-DAY MONITORING PERIOD AFTER NOTIFICATION OF SUBSTANTIAL COMPLETION, AND UNTIL FINAL ACCEPTANCE, WHICHEVER IS GREATER. MAINTENANCE INCLUDES PRUNING, WEEDING, WATERING, FERTILIZATION AS NECESSARY.
- PROTECT PLANTS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS AND OPERATIONS OF OTHER CONTRACTORS AND TRADES. TREAT, REPAIR, OR REPLACE DAMAGED PLANTINGS.
- UPON COMPLETION OF ALL PLANTING WORK, THE CONTRACTOR SHALL REQUEST IN WRITING THAT THE LANDSCAPE ARCHITECT FORMALLY INSPECT THE PLANTING WORK. IF PLANT MATERIALS AND WORKMANSHIP ARE ACCEPTABLE, THE OWNER'S REPRESENTATIVE WILL ISSUE A WRITTEN CERTIFICATE OF SUBSTANTIAL COMPLETION.
- FOLLOWING THE ISSUANCE OF THE CERTIFICATE OF SUBSTANTIAL COMPLETION TO THE CONTRACTOR, THE CONTRACTOR SHALL MAINTAIN THE PLANTS FOR THE MAINTENANCE PERIOD SPECIFIED IN THE SPECIFICATION.
- ACCEPTANCE STANDARDS AT END OF THE MAINTENANCE PERIOD:
  - PLANTS SHALL BE FREE OF FROST CRACKS; SUN SCALD; DAMAGE DUE TO INSECTS, PESTS, AND DISEASE; STRUCTURAL DEFECTS; AND DAMAGE RESULTING FROM MACHINERY OR TOOLS. ALL PLANTS REGARDLESS OF THE SEASON OF REVIEW SHALL HAVE A MINIMUM OF 75 PERCENT HEALTHY, BALANCED BRANCHING STRUCTURE WITH A HEALTHY TERMINAL LEADER(S) WITH VIABLE TERMINAL BUD(S). TREES SHALL BE PLUMB AND SHOW NO SIGNS OF UNEVEN SETTLING OR LEANING.
- IF PLANT MATERIALS AND WORKMANSHIP ARE ACCEPTABLE, THE OWNER'S REPRESENTATIVE WILL ISSUE A WRITTEN CERTIFICATE OF FINAL ACCEPTANCE TO THE CONTRACTOR.
- CONTRACTOR SHALL REPLACE ALL PLANTS THAT ARE MORE THAN 25% DEAD OR, AS DETERMINED BY THE LANDSCAPE ARCHITECT, ARE IN AN UNHEALTHY OR UNSIGHTLY CONDITION. CONTRACTOR SHALL BEAR THE COST OF COMPLETE REPLACEMENT(S). REPLACEMENTS SHALL BE OF THE SAME SIZE AND SPECIES AS SPECIFIED ON THE PLANTING LIST.

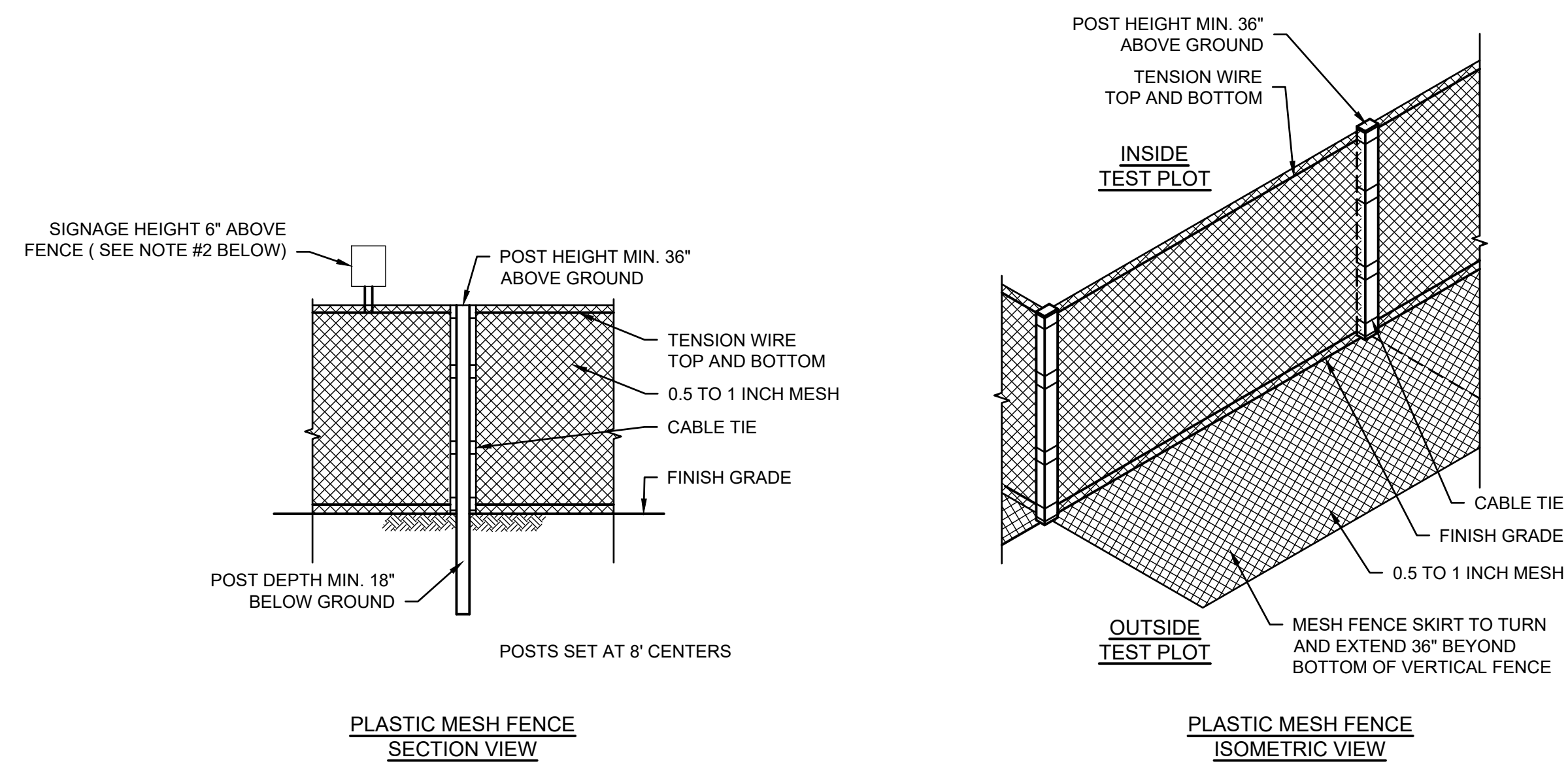
**5 PLANTING NOTES**  
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**8 PERENNIAL/SHRUB PRE-PLANTED SOD**  
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No.	Date	Description



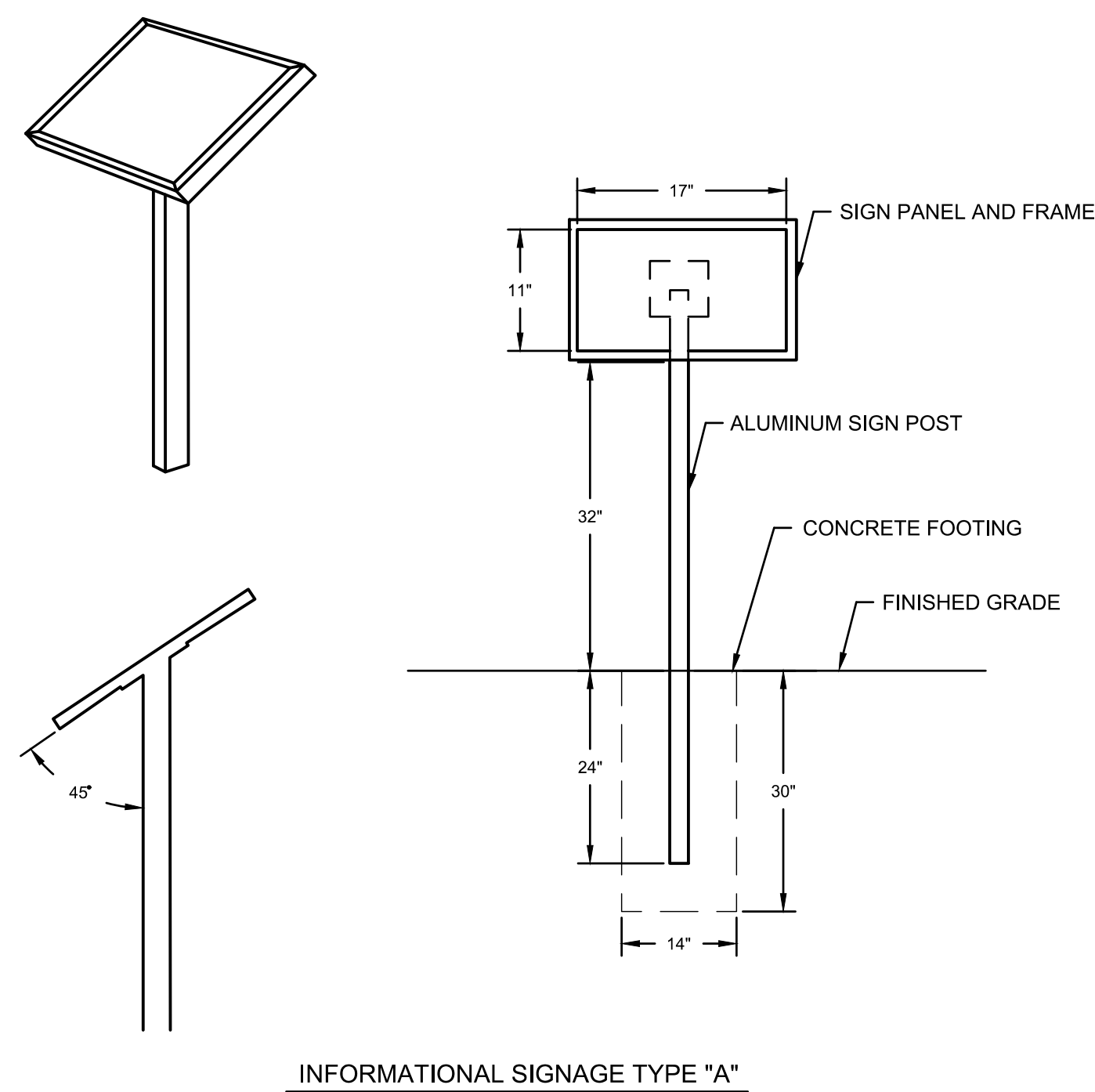


**NOTES:**

1. THE PLASTIC MESH FENCE SHALL BE PLACED ON THE UPLAND SIDE OF ALL RESTORATION AREAS AND ON THE WATER SIDE.
2. SIGNAGE, SPACED 50' O.C., SHALL STATE "INVASIVE PLANT MANAGEMENT AREA: HERBICIDE APPLICATION IN PROGRESS - DO NOT DISTURB".

**1 HERBIVORE DETERRENT FENCING DETAIL**  
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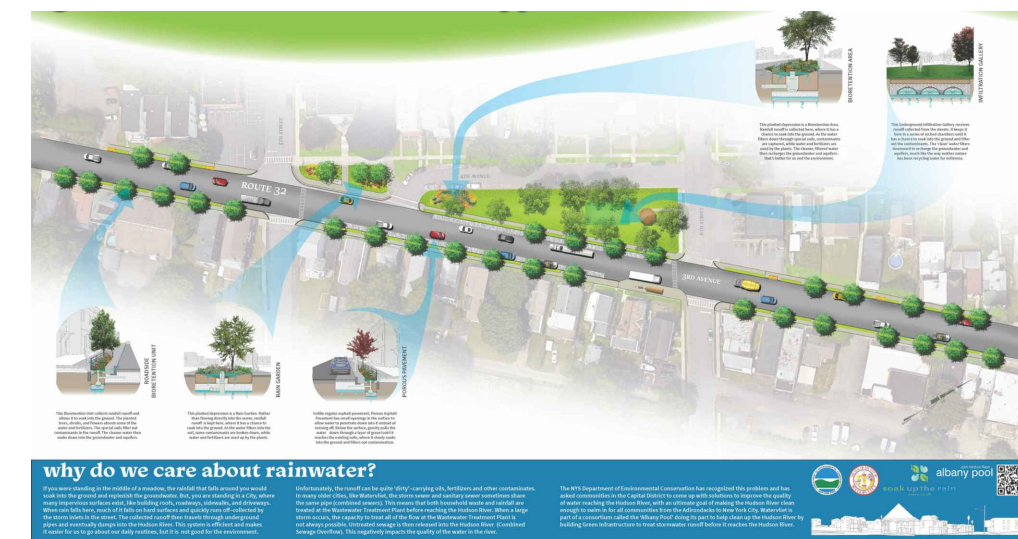
**2 NOT USED**  
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**NOTES:**

1. POSTS TO BE 2" X 4" RECTANGULAR ALUMINUM WITH STAINLESS STEEL HARDWARE.
2. SIGN PLATE TO BE WELDED AT 45 DEGREES IN ALL INSTANCES.
3. POSTS TO BE INSTALLED A MINIMUM OF 24" BELOW GRADE IN CONCRETE FOOTING PER MANUFACTURER'S RECOMMENDATIONS.
4. SIGN POST AND FRAME TO BE TEXTURE POWDER COATED "FOREST GREEN" IN COLOR.
5. SIGN FRAMES TO ALLOW FOR A PANEL THICKNESS OF .125".
6. SIGN FRAME WIDTH TO BE 3/4" AND PROVIDE A REMOVABLE TOP RAIL FOR PANEL INSTALLATION.
7. SIGN FRAME TO ALLOW FOR 11" BY 17" GRAPHIC PANEL.
8. SIGN MATERIALS TO BE AS MANUFACTURED BY FOSSIL INDUSTRIES INC., PANNIER GRAPHICS, IZONE IMAGING OR APPROVED EQUIVALENT.

**3 INFORMATIONAL SIGN DETAIL**  
SCALE: N.T.S.



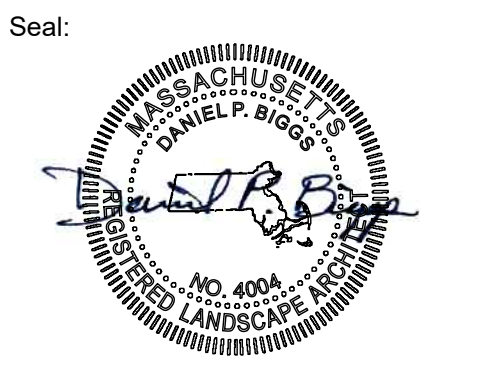
**TYPICAL INFORMATIONAL SIGN GRAPHIC**

**NOTE:** GRAPHIC TO BE PROVIDED BY OWNER'S REPRESENTATIVE.

Consultants:

Revisions:

No.	Date	Description



Issued For:  
 FOR PERMITTING USE ONLY - NOT FOR CONSTRUCTION

Scale: AS NOTED  
 Date: MARCH 2021  
 Drawn By: RAM  
 Reviewed By: DPB  
 Approved By: CFR  
 W&S Project No: P18-3241-S1A  
 W&S File No:

Drawing Title:  
**PLANTING DETAILS**  
 Sheet Number:  
**C504**



# Lower Charles River Riverbank Vegetation Management Plan

Prepared for: Department of Conservation and Recreation  
Prepared by: Weston & Sampson (Prime Contractor)  
Offshoots (Sub-Contractor)



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## REPORT

October 2018

MASSACHUSETTS

Department of  
Conservation & Recreation

## Charles River Vegetation Management Plan



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LOWER CHARLES RIVER  
RIVERBANK VEGETATION MANAGEMENT PLAN

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## EXECUTIVE SUMMARY

As discussed further in the pages of this document a riverbank vegetation management plan (RVMP) has been developed by the Massachusetts Department of Conservation and Recreation (DCR) for the Charles River Reservation in the jurisdictions of the Conservation Commissions of Boston, Cambridge, Newton, and Watertown and the Massachusetts Department of Environmental Protection (MassDEP). This RVMP provides a full update of existing vegetation management practices for the management area, which extends from the New Charles River Dam at Boston Harbor to the Watertown Dam in Watertown, a length of approximately 8 ½ miles. This segment of the Charles River is referred to as the Lower Charles River.

Currently, management is conducted under expired orders of conditions (OOCs) with the four previously mentioned municipal Conservation Commissions. Recognizing DCR's resource limitations and the importance of park maintenance, each of the Conservation Commissions has allowed operation and maintenance under expired OOCs; however, this approach has only been intended as a short-term solution.

The RVMP for the Charles River Reservation is intended to be a plan of action to address the following goals:

- Steward parklands that reflect the cultural value and 100-plus-year history of the Charles River Reservation.
- Provide public access to outstanding opportunities for passive and active recreation along and adjacent to the riverbank.
- Restore a healthy riverbank ecology that provides for stable shorelines, beautiful vistas, climate resiliency, and a safe, stable tree canopy.
- Engage a cooperative network of parkland stakeholders who both enjoy the many recreational opportunities and provide volunteer assistance in managing the RVMP area.

The DCR is requesting coverage under the RVMP for a two- to five-year term and will request an option to extend it for an additional term of two to five years.

Vegetation management of the Charles River basin involves a complex network of DCR staff, non-profit and volunteer groups. A significant amount of important management work is completed by non-governmental groups. This RVMP sets out a framework for all entities to work towards the same overall goals in a coordinated manner.

This RVMP includes the following major sections:

- Project overview, which discusses background and purpose of the RVMP, aspired conditions, regulatory context, public involvement and data used to develop the plan.
  - Existing conditions, which discusses history of the Charles River Reservation, existing riverbank vegetation and other topics related to the condition of vegetation.
  - Vegetation management strategy, which discusses preferred vegetation conditions, management of riparian biodiversity, tree health, ground stability, erosion control, soil management, and vistas.
  - Management areas and management approaches, which discusses an ecological-services approach to managing the subject area.
-

- Management logistics, which discusses, schedule, ongoing maintenance, monitoring and adaptive management.

Reference materials are provided in the appendices and other attachments of the RVMP, which are intended to be used by DCR field staff to guide maintenance approaches.

## 1.0 OVERVIEW

Section 1 gives a general overview of the project, which includes a project background and context for this River Vegetation Management Plan implementation. This section also discusses the anticipated regulatory review process for the RVMP.

### 1.1 Project Background and Study Area

This riverbank vegetation management plan includes best management practices (BMPs) and techniques for managing riverfront vegetation along the Charles River in the jurisdictions of the Conservation Commissions of Boston, Cambridge, Newton, and Watertown and the Massachusetts Department of Environmental Protection. The management area subject to this RVMP extends from the New Charles River Dam at Boston Harbor to the Watertown Dam in Watertown, a length of approximately 8 ½ miles also known as the Lower Charles River. The Lower Charles has four major sections—the

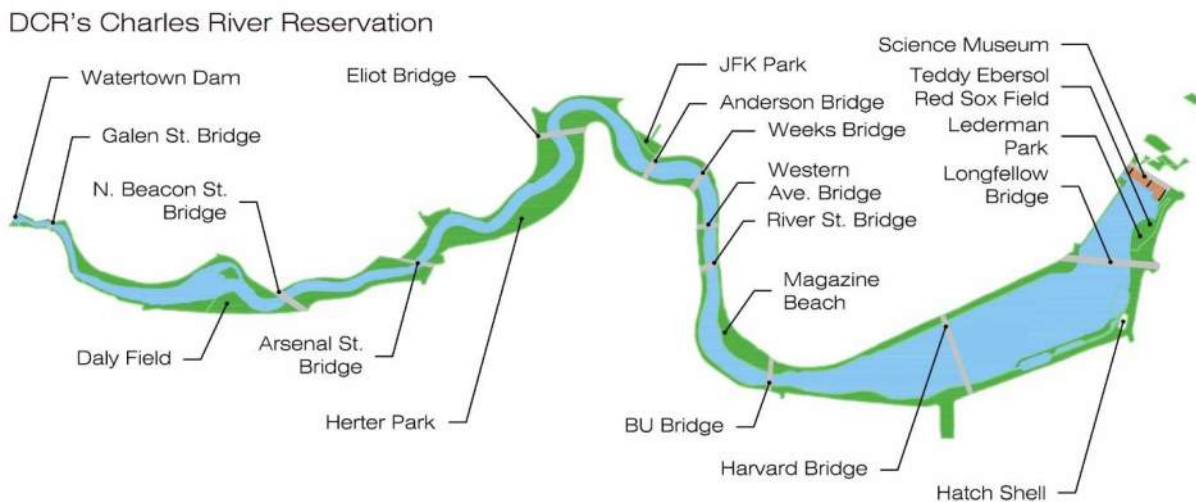


Figure 1. Study Area.

The parklands of the Charles River Reservation were built over 100 years ago. They remain one of Boston's most iconic open spaces, but age is beginning to show in the deteriorating condition of infrastructure and edges.

Upper Basin from the Watertown Dam to Herter Park, the Middle Basin from Herter Park to the Boston University Bridge, the Lower Basin from the Boston University Bridge to Science Park, and the New Charles River Basin from Science Park to the Charles River Locks. The study area for this RVMP includes land owned by the Massachusetts Department of Conservation and Recreation, which is immediately adjacent to the resource areas when the adjacent parkland impacts the ecological function of the resource areas. Several highly valued recreational areas are located in the project corridor.

The Dr. Paul Dudley White Bike Path extends along the length of the river between the two dams. Nashua Street Park, the Esplanade, and Herter Park are all found in Boston. Magazine Beach is a popular park and former swimming site in Cambridge, and Daly Field provides a range of athletic opportunities in Newton. The Watertown Riverfront Park and Braille Trail are popular destinations at the western end of the study area. Several rowing clubs, yacht clubs, and boat houses are located along the banks of the

river. DCR Parklands border property owned by Boston University, Harvard University, and the Massachusetts Institute of Technology.

## 1.2 Context for Implementation

The Charles River shoreline is a manmade environment, both in terms of soils and the inhabiting vegetation. Formerly a tidal salt marsh, the current alignment of the Upper, Middle and Lower basins was influenced by the creation of the dam and constructed shoreline edges over 150 years ago. Almost immediately, volunteer species, both native and non-native, moved in and colonized the shore. The Upper, Middle and Lower basins of the Charles are entirely manmade. Over time, ecological disturbance and anthropocentric management practices have altered plant communities and shoreline conditions.

Volunteer plants have established themselves along most of the shoreline and include shrubby growth along the riverbanks. However, erosive flows and wave action from the river's active boating community have severely undercut parts of the shore. Some trees and shrubs lean toward the water; others have lost the battle with gravity and have toppled in. Additionally, runoff from increasingly heavy storm water volumes have contributed to erosive conditions along the shore. At the same time, many, many invasive plant species have knit themselves into disturbed plant communities. Phragmites, Japanese knotweed, multiflora rose, and other species expand their range from season to season, displacing native plants and disrupting valuable habitats. Several non-invasive, but visually obstructive species such as pokeweed and false indigo bush, have colonized the shore. DCR maintenance staff struggle to keep views cleared for daily passive use and highly anticipated annual events such as the Head of the Charles Regatta.

The DCR maintenance staff mow the grass and cut tall riverbank vegetation that would otherwise obstruct views of, and access to, the water. Currently, management is conducted under expired orders of conditions with the four previously mentioned municipal Conservation Commissions. Recognizing DCR's resource limitations and the importance of park maintenance, each of the Conservation Commissions has been willing to allow continued operation and maintenance under expired OOCs; however, this approach has only been intended as a short-term solution. For example, in some areas maintenance practices have resulted in overcutting of vegetation and indiscriminate mowing right up to the edge of water. In addition to potential exposure and erosion, areas of cleared vegetation present easy access to the river for geese and swans, which are aggressive, territorial, and tend to foul both water and adjacent parklands with their droppings.



Figure 2. Swans and Geese Living in the Charles River Reservation.

The DCR understands the need to conduct an overhaul of management practices to protect resource areas and accommodate recreational uses. Updating practices and refocusing operations requires a creative approach. This RVMP provides staff, volunteers, and stakeholders with a guide to successfully steward the Charles River Basin Reservation.

### 1.3 Plan Development

The DCR has developed this plan through its consultant team (Weston & Sampson as prime with Offshoots as a subconsultant), a DCR working group and a stakeholder working group. The RVMP is written for review and approval of the four conservation commissions with jurisdiction over the management area. Development and review of this RVMP is being conducted in the context of a stakeholder working group and includes public meetings and hearings in accordance with the requirements of the conservation commissions having jurisdiction in the RVMP management area. Meeting summaries are provided in Appendix F—Meeting and Hearing Summaries to the extent that they are currently available.

#### 1.3.1 *Aspired Conditions*

The RVMP for the Charles River Reservation is intended to be a plan of action to address the following goals:

- Steward parklands that reflect the cultural value and 100-plus-year history of the Charles River Reservation.
- Provide public access to outstanding opportunities for passive and active recreation along and adjacent to the riverbank.
- Restore a healthy riverbank ecology that provides for stable shorelines, beautiful vistas, climate resiliency, and a safe, stable tree canopy.
- Engage a cooperative network of parkland stakeholders who both enjoy the many recreational opportunities and provide volunteer assistance in managing the RVMP area.

#### 1.3.2 *Term of the Plan*

The DCR intends to request coverage under the RVMP to address a five-year term with the option to extend it for an additional five years.

#### 1.3.3 *Statement of Goals*

As part of developing this RVMP, DCR has developed the following series of implementation goals for riverbank vegetation management.

##### Two-Year Goals

Two-year goals include the following:

- Approval of the RVMP for the management area by December 2018.
- Initial implementation of the RVMP during spring 2019. This will include implementation of eight vistas and eight restoration areas as well as general operation and maintenance in accordance with the RVMP.<sup>1</sup>
- Monitoring of the installed vistas and restoration areas to ensure planting/stabilization strategies are successful, and to provide ongoing public access.

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<sup>1</sup> In some cases, this RVMP proposes a combination vista installation and vegetation restoration on individual sites.

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### Five-Year Goals

The principal five-year goal of this RVMP is to continue monitoring, operation and maintenance in accordance with the RVMP to support and promote biodiversity, shoreline resilience, and appropriate public use.

### Goals Beyond Five Years

The principal goal beyond the five-year initial term of this RVMP is to adapt and update management strategies as needed to maintain diverse native plant associations, appropriate public use, and establish appropriate management standards for a five-year extension of regulatory approval.

## 1.4 Responsible Parties for Management

Vegetation management of the Charles River basin involves a complex network of DCR staff, non-profit and volunteer groups. A significant amount of important management work is completed by non-governmental groups. This plan sets out a framework for all entities to work towards the same overall goals in a coordinated manner. In each management area, the entity responsible for talking on a particular management activity is identified. The ongoing management framework seeks to:

- Be realistic about what the DCR inhouse staff can take on, with current machinery, tools and staff resources available.
- Strategize DCR-funded capital interventions to maximize impact of available funding.
- Strategize non-profit, NGO and volunteer group efforts to maximize implementation of long-term goals.

Management activities in the basin shall be guided by this plan, and individually organized by either the DCR, or other support groups. Most routine, weekly/ monthly practices are best completed by DCR staff. In addition, recurring periodic maintenance activities, such as vista pruning, shoreline vegetation cutting, or yearly meadow mowing can also be completed by DCR staff. When more detailed periodic maintenance activities, like invasive species removal or one-time, project-based work is required, these activities are best taken on by either a nonprofit group (with volunteers or contractors) or DCR hired contractors. The challenge with DCR hired contractors is that the funding available and procurement process may not best correlate with when the work should occur in the field for ecological objectives. For this reason, non-profit groups may be best suited for many of the more detailed periodic maintenance and project-based work focused on important calendar dates.

## 1.5 Anticipated Regulatory Approval Process

DCR anticipates approval through local conservation commission filings with the cities of Boston, Cambridge, Newton, and Watertown. Application forms and related materials are in development and are to be provided under "Permitting Application Materials" as noted in the Table of Contents. Review and approval are anticipated to include formal public hearings and review at local conservation commission meetings. Development of the RVMP will also include informal review through public meetings, although this is not intended as part of regulatory approval.

It is assumed that the Conservation Commissions will not require on-the-ground field surveys or stamped engineering drawings for the filings but will accept a geographic information systems (GIS)-level of plan information that is generally consistent with earlier DCR applications and permitting efforts.

## 1.6 Data Collection

This section describes the data used to assess current site conditions. Base mapping and data was obtained from publicly available GIS data, Google Earth imaging, and past studies. Data was also collected in the field. Methods of field data collection are described below.

### 1.6.1 Geographic Information Systems Data

The desktop evaluation was conducted using ArcGIS Desktop 10.5.1. Data layers from MassGIS were used to provide an initial overview of the site conditions. MassGIS data layers are listed, below, in Table 1.

Report Section	MassGIS Data Layer Name
Section 2.6.1- Soils	SOILS_POLY
Section 2.6.2 - Topography	LiDAR data used to create 1-foot contours
Section 2.6.3 - Land Use	LANDUSE2005_POLY
Section 2.6.4 - Cultural Resources	SRHPPT_PT
Section 2.6.5 - Habitat	ACECS_POLY
	PRIHAB_POLY
	ESTHAB_POLY
	NHESP_CVP_PT
	ORW_POLY
	IL_2014_ARC
Section 2.6.6 - Wetland Resource Areas	WETLANDSDEP_POLY
	FEMA_NFHL_POLY

Using the “data driven pages” subroutine in ArcGIS, maps were automatically generated to create many enlarged maps of our overall investigation area.

### 1.6.2 Google Earth Data

Imagery was collected from Google Earth<sup>2</sup> and used to support a desktop review of field conditions. This data was supplemented with field review data to ensure accurate reporting and analysis of current field conditions.

### 1.6.3 Previous Studies and Reports

Past studies and reports were reviewed as part of the study area analysis. Data was obtained from sources, including DCR, local conservation commissions, other project stakeholders, and publicly available data online. The documents reviewed include the following:

- *Charles River Pathway Plan* (William D. Geizentanner, July 1975). This plan provides a list of manmade features along the pathway in Newton, including canoe launching sites.

<sup>2</sup> Google Earth data was obtained from <https://earth.google.com/web/>.



- *Stressed Basins in Massachusetts* (The Commonwealth of Massachusetts Water Resources Commission, Approved December 13, 2001). This document provides a list of stressed basins in Massachusetts and a description of what stressors are affecting river segments.
- *Charles River Master Plan* (2002, DCR). A list of existing species along the Charles River was provided in this master plan. Proposed riverbank establishment and maintenance techniques were reviewed.
- *Cultural Landscape Report – The Esplanade* (Shary Page Burg, April 2007). A historic plant list is provided in Appendix B of the *Cultural Landscape Report*.
- *Charles River Esplanade Study Report* (Amended June 23, 2009, Boston Landmarks Commission). A list of vegetation is provided in Appendix A of the *Charles River Esplanade Study Report*.
- *Charles River Peninsula Management Plan* (The Trustees of Reservations, 2010). While this plan focuses on a segment of the Charles River that is not in our study area, it is helpful in developing possible management strategies for the study area.
- *New Charles River Master Plan Updates* (2017, DCR). Projects along the Charles River are highlighted in this master plan update.
- *Vegetative Management Plan – Head of the Charles Regatta* (Weston and Sampson, April 4, 2018). An invasive species management plan development and implementation are provided for this section of the Charles River.

#### 1.6.4 Field Data Collection Methods

Initial field assessments were conducted in late July 2018. Shoreline conditions and typical management areas were observed and recorded by boat, foot, and bicycle. Field data was recorded with a handheld GPS (Trimble Geo 7x Centimeter Edition) and a digital form. Extensive photographs were taken throughout the field assessment process. Field work photographs were provided on a CD to the DCR in the fall of 2018.

Field notes (plant species, management area conditions, significant erosion issues) were organized spatially by recording a new series of notes each time a bridge was crossed along the river, moving west to east. Conditions were further organized by management areas within the project area between the bridges.

Tree hazards were recorded via photograph and handheld GPS. Trees presenting a hazard due to decay, disease, branch/crown die off, or collapse were recorded with a note to further assess, prune, or remove. The Esplanade Association area was not evaluated for tree hazards – trees in this zone have been examined previously in another recent study. Additionally, tree hazards along paths had been previously mapped by the DCR.

Field evaluations by boat was an important method for gathering data to observe erosion, undercutting, and scouring beneath high shrub and treed edges not visible from the shoreline. (Delineation of management area types was easily recorded on the water, and the distinction between shoreline and upland conditions was obtained by comparing data points from the water and on land). Erosion mitigation and invasive removal sites were recorded when unfavorable conditions were detected.

Land-based evaluations cataloged observable native, non-native, and invasive herbaceous, woody, and tree species along the project corridor. Data points were recorded at the intersection of each

management area to inform subsequent mapping. Potential restoration and control areas were recorded with data points, photos, and notes. Potential vistas were recorded for mapping and review.

## 2.0 EXISTING CONDITIONS

Section 2 discusses vegetation composition, existing plant communities, ecosystem services, and cultural influences affecting the landscape in the study area. This section also provides a list of plant species observed in the field or known to exist in the study area based on review of GIS, reports and other data as referenced in Appendix A – Invasive Species Control and Appendix C- Field Data Sheets, Forms & Photographs.

### 2.1 History of the Charles River

The Charles River is a largely manmade resource, changed over time from a riverine estuary made up of shallow streams and salt marshes to the robust freshwater riparian corridor seen today. Filled in over time for reasons varying from desired development to sanitation concerns, the river and its vegetated banks are almost entirely a built environment (Haglund, 2003). Through the work of many parties, including the Boston Park Conservancy and landscape architect Charles Eliot, a ‘water park’ was designed to provide Bostonians with access to ‘reservations of scenery’ by maintaining a large tract of open land along the river for public use (Haglund, 2003). The early parks along the river were picturesque open lawns with rows of trees that would grow into the tall tree canopies and groves seen throughout the lower basin today. The river became intertwined with Boston’s identity, the city upon the hill, as viewed from the banks of the Charles rather than the bay. Although the park system does not connect its users with a “natural” ecosystem, its riparian meanderings have become an iconic landscape known as a mirror of the Boston skyline, and Eliot’s vision for a scenic public amenity remains.



Figure 3. The Upper Basin has Transformed. from an area of open salt marshes to a densely vegetated fresh water river corridor where the river height is carefully controlled. The image on the left shows a historic view of the Charles River adjacent to the Arsenal in Watertown (Haglund, 2003), and the image on the right shows the same location in 2018. (Offshoots). The vegetation in this portion of the river has become denser, with fewer open views

## 2.2 Vegetation Composition

Existing vegetation in the study area is quite robust given the active use of most sites and proximity to the heavily developed urban landscape. Existing shrub and herbaceous species show few signs of decline. Most problematic is the overall lack of species diversity and rampant proliferation of invasive species, particularly along the river edge.

### 2.2.1 *Species of Vegetation*

Vegetation inventory fieldwork was conducted July - September 2018. Spring emergent species were not included in this list since this season was not observed. Other species may exist that were not encountered during field investigations, particularly in wetland and densely treed areas. Most native and acceptable non-native species were intentionally planted. Others have naturalized along the riverbank as conditions allowed.

The four tables below present native, non-native, invasive and likely or potential invasive plant<sup>3</sup> species of plants either found during field investigation or known to exist from available data.



Figure 4. Example of Lawn in Good Condition.

Plant species are listed as native if listed as native to the Boston Basin ecoregion on “The Vascular Plants of Massachusetts: A County Checklist, (2012).” Plant Species are listed as invasive if identified as invasive by the Massachusetts Invasive Plant Advisory Group or the species is on the DCR Invasive Management Plan.

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<sup>3</sup> “Likely or potential invasive plants” refers to species of plants that are not currently considered invasive but may become invasive in the foreseeable future due to changing ecological conditions such those that may result from climate change. The MIPAG list of “likely” and “potential” invasive plants is used as the principal method to define this term.

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*Table 2. Native Species in the Charles River Reservation*

Scientific Name	Common Name
<b>Trees</b>	
<i>Acer rubrum</i>	Red Maple
<i>Acer saccharinum</i>	Silver Maple
<i>Acer saccharum</i>	Sugar Maple
<i>Acer negundo</i>	Box Elder Maple
<i>Amelanchier spp.</i>	Serviceberry
<i>Betula spp.</i>	Birch
<i>Cornus spp.</i>	Dogwood
<i>Crataegus spp.</i>	Hawthorn
<i>Fagus spp.</i>	Beech
<i>Fraxinus pennsylvanica</i>	Green Ash
<i>Pinus strobus</i>	White Pine
<i>Platanus occidentalis</i>	American Sycamore
<i>Populus spp.</i>	Cottonwood
<i>Prunus serotina</i>	Black Cherry
<i>Quercus velutina</i>	Black Oak
<i>Quercus rubra</i>	Red Oak
<i>Salix spp.</i>	Willow
<i>Tilia americana</i>	American Linden
<i>Ulmus spp.</i>	Elm
<b>Shrubs</b>	
<i>Ilex verticillata</i>	Winterberry
<i>Rhus typhina</i>	Staghorn Sumac
<i>Sambucus canadensis</i>	Black Elderberry
<i>Viburnum spp.</i>	Viburnum
<b>Herbaceous species</b>	
<i>Aster spp.</i>	Aster
<i>Ambrosia artemisiifolia</i>	Ragweed
<i>Asclepias syriaca</i>	Common Milkweed
<i>Cephalanthus occidentalis</i>	Button Bush
<i>Clethra alnifolia</i>	Sweetspire
<i>Dasiphora floribunda</i>	Shrubby Cinquefoil
<i>Erigeron philadelphicus</i>	Philadelphia Fleabane
<i>Helianthus divaricatus, strumosus</i>	Sunflower
<i>Hibiscus moscheutos</i>	Rosemallow
<i>Impatiens capensis</i>	Orange Jewelweed
<i>Nymphaea odorata</i>	Fragrant Water Lily
<i>Oenothera biennis</i>	Evening Primrose
<i>Polygonum pensylvanicum</i>	Smartweed
<i>Parthenocissus quinquefolia</i>	Virginia Creeper
<i>Persicaria spp.</i>	Smartweed
<i>Phytolacca americana</i>	Pokeweed
<i>Sambucus canadensis</i>	American Black Elderberry
<i>Solidago spp.</i>	Goldenrod
<i>Spiraea tomentosa</i>	Steeplebush
<i>Toxicodendron radicans</i>	Poison Ivy

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<i>Tradescantia ohiensis</i>	Spiderwort
<i>Typha latifolia</i>	Cattail
<i>Verbena hastata</i>	Blue Vervain
<i>Vitis spp.</i>	Wild Grape

<i>Table 3. Noninvasive Non-Native Species in the Charles River Reservation</i>	
Scientific Name	Common Name
Trees and Shrubs	
<i>Amorpha fruticosa</i>	False Indigo Bush
<i>Morus alba</i>	White Mulberry
Herbaceous species	
<i>Artemisia vulgaris</i>	Mugwort
<i>Baptisia australis</i>	Blue False Indigo
<i>Cichorium intybus</i>	Chickory
<i>Cucumis anguria</i>	Bur Cucumber
<i>Datura stramonium</i>	Jimsonweed
<i>Daucus carota</i>	Queen Anne's Lace
<i>Dianthus armeria</i>	Deptford Pink
<i>Glechoma hederacea</i>	Ground Ivy
<i>Hypericum perforatum</i>	St. John's Wort
<i>Leucanthemum spp.</i>	Daisy
<i>Linaria vulgaris</i>	Toadflax
<i>Melilotus albus</i>	White Sweet Clover
<i>Rudbeckia hirta</i>	Black-Eyed Susan
<i>Saponaria officinalis</i>	Soapwort
<i>Silene vulgaris</i>	Bladder Champion
<i>Tanacetum vulgare</i>	Tansy
<i>Trifolium pretense</i>	Red Clover
<i>Verbascum thapsus</i>	Common Mullein
<i>Vicia cracca</i>	Bird Vetch

<i>Table 4. Likely or Potential Invasive Plant Species in the Charles River Reservation<sup>a</sup></i>	
Scientific Name	Common Name
Herbaceous species	
<i>Clematis paniculata</i>	Sweet Autumn Clematis
<i>Lonicera maackii</i>	Amur Honeysuckle (PI)
Grasses	
<i>Anthraxon hispidus</i>	Hairy Joint Grass (PI)
<i>Carex kobomugi</i>	Japanese Sedge (PI)

Note:

- a. The species in Table 3 are listed as potentially invasive by the Massachusetts Invasive Plant Advisory Group (MIPAG). These plants should be monitored if observed in the landscape. *Clematis paniculata* is not listed as potentially invasive by MIPAG but extensively encountered in the field.

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Table 5. Invasive Species in the Charles River Reservation	
Scientific Name	Common Name
Trees	
<i>Acer platanoides</i>	Norway Maple (I)
<i>Acer pseudoplatanus</i>	Sycamore Maple *(I)
<i>Allanthus altissima</i>	Tree of Heaven (I)
<i>Robinia pseudoacacia</i>	Black Locust (I)
<i>Salix atrocinerea/S. cinera</i>	Large Gray Willow/Rusty Willow *(I)
Shrubs	
<i>Elaeagnus umbellata</i>	Autumn Olive (I)
<i>Euonymus alatus</i>	Burning Bush (I)
<i>Berberis thunbergii</i>	Japanese Barberry (I)
<i>Berberis vulgaris</i>	European Barberry (LI)
<i>Frangula alnus</i>	Glossy Buckthorn (I)
<i>Lonicera japonica</i>	Japanese Honeysuckle (I)
<i>Lonicera maackii, L. morrowii, L. tatarica, L. x bella, L. xylostemum</i>	Shrub Honeysuckles (I)
<i>Rhamnus cathartica</i>	Common Buckthorn (I)
Herbaceous species	
<i>Aegopodium podagraria</i>	Goutweed (I)
<i>Alliaria petiolata</i>	Garlic Mustard (I)
<i>Anthriscus sylvestris</i>	Wild Chervil (LI)
<i>Atropa belladonna</i>	Deadly Nightshade *
<i>Centaurea biebersteinii</i>	Spotted Knapweed (LI)
<i>Centaurea nigrescens</i>	Tyrol Knapweed
<i>Chelidonium majus</i>	Celandine *
<i>Cuscuta spp.</i>	Dodder (parasitic) +
<i>Cynanchum louiseae (Cynanchum spp.)</i>	Black Swallow-wort (Swallow-wort) (I)
<i>Euphorbia cyparissias</i>	Cypress Spurge (LI)
<i>Euphorbia esula</i>	Leafy Spurge *(I)
<i>Glaucium flavum</i>	Horned Poppy; Yellow Hornpoppy (I)
<i>Heracleum mantegazzianum</i>	Giant Hogweed+ (LI)
<i>Hesperis matronalis</i>	Dame's Rocket (I)
<i>Iris pseudacorus</i>	Yellow Iris (I)
<i>Lepidium latifolium</i>	Broad-leaved Pepperweed+ (I)
<i>Lythrum salicaria</i>	Purple Loosestrife (I)
<i>Polygonum cuspidatum</i>	Japanese Knotweed (I)
<i>Rosa multiflora</i>	Multiflora Rose (I)
<i>Solanum dulcamara</i>	Bittersweet Nightshade
Vines	
<i>Actinidia arguta</i>	Hardy Kiwi ** (LI)
<i>Calystegia sepium</i>	Hedge Bindweed
<i>Celastrus orbiculatus</i>	Asiatic Bittersweet (I)
<i>Convolvulus arvensis</i>	Morning Glory/Bindweed
<i>Polygonum perfoliatum</i>	Mile-a-minute Vine ** (I)
<i>Pueraria montana spp. lobata</i>	Kudzu ** (LI)
Grasses	
<i>Microstegium vimineum</i>	Japanese Stiltgrass+ (LI)

<i>Miscanthus sinensis</i>	Chinese Silver Grass
<i>Phalaris arundinacea</i>	Reed Canary Grass (I)
<i>Phragmites australis</i>	Common Reed (I)

Note:

- a. Asterisk (\*) indicates species that were not observed during the field assessments but are listed as an early detection priority species for DCR properties in the Commonwealth and/or were supplied during the stakeholder meeting.
- b. Cross (+) indicates early detection priority species.
- c. (I) indicates the species is listed by MIPAG as invasive
- d. (LI) indicates the species is listed by MIPAG as likely invasive
- e. (PI) indicates the species is listed by MIPAG as potentially invasive

### 2.2.2 Plant Communities and Cultural Influences

Most of the species along the Charles River banks are volunteer species, most of them are also non-native, and many of them are invasive, likely invasive or potentially invasive. Two plants are also considered nuisance species, which are not necessarily considered invasive by MIPAG or the DCR, but undesirable due to the difficult management practices these species necessitate. These two species are poison ivy (*Toxicodendron radicans*), which is especially prominent along pathways or near benches, and false indigo (*Amorpha fruticosa*), which thrives along the shoreline and can be a nuisance when it blocks important views to the water.

Some generalizations can be summarized about the plant community composition in the study area:

1) *Disturbance events greatly influence the plant composition of the Charles River Basin*

The Head of the Charles Regatta in October and 4<sup>th</sup> of July Celebrations each year are major events that garner national attention on the Charles. Open views to the water are critical during these two time-periods, and for this reason, shoreline vegetation is cut in the lower and middle basins in the two-week period leading up to these events. This practice has resulted in a plant species mix adapted to disturbance, which includes a host of invasive and nuisance species. In addition, the soil matrix in this area is typically riprap or a dry, gravel medium, where disturbance-adapted species thrive. Wherever the banks are cut twice a year to create views, the plant community is dominated by species listed in Table 6, on the following page.



Table 6. Plant Community in Sunny, Continually Cut Areas

Typically, this is in the Low to Medium Herbaceous with Shrub or Medium to High Shrub Vegetation Management Areas

Latin Name	Common Name	Category
<i>Amorpha fruticosa</i>	False Indigo Bush	Noninvasive Non-native Nuisance Plant
<i>Rhus typhina</i> L.	Staghorn Sumac	Native Species
<i>Ailanthus altissima</i>	Tree of Heaven (Saplings)	Invasive Species
<i>Polygonum cuspidatum</i>	Japanese Knotweed	Invasive Species
<i>Phragmites australis</i>	Common Reed	Invasive Species
<i>Phalaris arundinacea</i>	Reed Canary Grass	Invasive Species
<i>Oenothera biennis</i> L.	Evening Primrose	Native Species
<i>Solidago</i> spp	Goldenrod	Native Species
<i>Artemisia vulgaris</i>	Mugwort	Invasive Species
<i>Clematis terniflora</i>	Sweet Autumn Clematis	Likely or Potentially Invasive Plants

2) Where the vegetation hasn't been cut each year to open views, thickly vegetated riparian banks with shade-tolerant species are common

Volunteer species, both native and non-native, have colonized the river bank edges that are not cut each year. The mix of understory species tends to be mostly shade-tolerant species with some sun adapted species at the margins. Tree species tend to be at least 50% native, while the understory is predominantly invasive Buckthorn (*Rhamnus* spp.) mixed with various tree saplings, Poison Ivy (*Toxicodendron radicans*) and Virginia Creeper (*Parthenocissus quinquefolia*).

<i>Table 7. Plant Community in Shady, Tree-Overstory Areas with Limited Cutting</i>		
<i>Typically, this is in the Riparian Wooded Banks with Understory or Medium to High Shrub with Overstory management areas</i>		
Latin Name	Common Name	Category
<b>Mixed Tree Canopy Including:</b>		
Acer spp.	Maples	Native Species
Quercus spp.	Oaks	Native Species
Fagus spp.	Beech	Native Species
Betula spp.	Birch	Native Species
Populus spp.	Cottonwood	Native Species
Pinus strobus	White Pine	Native Species
Fraxinus spp.	Ash	Native Species
Amelanchier spp.	Serviceberry	Native Species
Prunus serotina	Black Cherry	Native Species
Tilia spp.	Basswood	Noninvasive Non-Native
Ailanthus altissima	Tree of Heaven	Invasive Species
Acer platanoides	Norway Maple	Invasive Species
Morus spp.	White Mulberry	Noninvasive Non-Native
<b>Shrubs</b>		
Rhamnus cathartica	Common Buckthorn	Invasive Species
Frangula alnus	Glossy Buckthorn	Invasive Species
Rosa multiflora	Multiflora Rose	Invasive Species
Berberis thunbergii	Japanese Barberry	Invasive Species

Euonymus alatus	Winged Euonymus	Invasive Species
Groundcovers/ Vines		
Toxicodendron radicans	Poison Ivy	Native Species Nuisance Plant
Celastrus orbiculatus	Oriental Bittersweet	Invasive Species
Aegopodium podagraria	Goutweed	Invasive Species
	Various Tree Seedlings	

A summary of the existing predominant plant communities with future health objectives for each of these environments is described in Section 3 (Vegetation Strategy) and Section 4 (Management Areas and Management Approaches) by vegetation management area.

## 2.3 Trees

This section gives an overview of the tree species found in the study area and a discussion of tree hazards observed during field investigations in summer 2018. Common causes of decline, environmental stressors, and a general overview of common pests and diseases are discussed in this section. A map of tree hazards across the project corridor can be found in Drawing and Map Atlas (Section 1: Existing Conditions Mapping).

### 2.3.1 Observed Tree Species

The following table lists trees observed as part of field evaluation of vegetation.

*Table 8. Tree Species Observed in the Charles River Reservation*

Scientific Name	Common Name	
<i>Acer platanoides</i>	Norway Maple*	Invasive Species
<i>Acer rubrum</i>	Red Maple	Native Species
<i>Acer saccharinum</i>	Silver Maple	Native Species
<i>Acer saccharum</i>	Sugar Maple	Native Species
<i>Acer negundo</i>	Box Elder Maple	Native Species
<i>Aesculus hippocastanum</i>	Horse Chestnut	Noninvasive Non-Native
<i>Ailanthus altissima</i>	Tree of Heaven *	Invasive Species
<i>Alnus rubra</i>	American Alder	Noninvasive Non-Native
<i>Alnus glutinosa</i>	European Alder	Noninvasive Non-Native
<i>Amelanchier spp.</i>	Serviceberry	Native Species
<i>Betula spp.</i>	Birch	Native Species
<i>Carpinus spp.</i>	Hornbeam	Noninvasive Non-Native
<i>Cornus spp.</i>	Dogwood	Native Species
<i>Crataegus spp.</i>	Hawthorn	Native Species
<i>Fagus spp.</i>	Beech	Native Species
<i>Fraxinus pennsylvancia</i>	Green Ash	Native Species

<i>Gleditsia triacanthos</i>	Honey Locust	Noninvasive Non-Native
<i>Gymnocladus dioicus</i>	Kentucky Coffeetree	Noninvasive Non-Native
<i>Koelreuteria paniculata</i>	Goldenrain Tree	Noninvasive Non-Native
<i>Liriodendron tulipifera</i>	Tulip Tree	Noninvasive Non-Native
<i>Malus spp.</i>	Apple	Noninvasive Non-Native
<i>Magnolia spp.</i>	Magnolia	Noninvasive Non-Native
<i>Morus alba</i>	White Mulberry	Noninvasive Non-Native
<i>Platanus x acerifolia</i>	London Planetree	Noninvasive Non-Native
<i>Platanus occidentalis</i>	American Sycamore	Native Species
<i>Pinus nigra</i>	Austrian Pine	Noninvasive Non-Native
<i>Pinus strobus</i>	White Pine	Native Species
<i>Pinus resinosa</i>	Red Pine	Noninvasive Non-Native
<i>Prunus spp.</i>	Cherry	Native Species
<i>Pyrus spp.</i>	Pear	Noninvasive Non-Native
<i>Rhamnus cathartica</i>	Common Buckthorn	Invasive Species
<i>Robinia pseudoacacia</i>	Black Locust*	Invasive Species
<i>Quercus velutina</i>	Black Oak	Native Species
<i>Quercus rubra</i>	Red Oak	Native Species
<i>Salix spp.</i>	Willow	Native Species, Noninvasive Non-Native
<i>Salix atrocinerea/S. cinera</i>	Large Gray Willow/Rusty Willow*	Invasive Species
<i>Sophora japonica</i>	Scholar Tree	Noninvasive Non-Native
<i>Tilia americana</i>	American Linden	Native Species
<i>Tilia cordata</i>	Littleleaf Linden	Noninvasive Non-Native
<i>Ulmus spp.</i>	Elm	Native Species
<i>Zelkova serrata</i>	Japanese Zelcova	Noninvasive Non-Native

Note:

- a. Asterisks (\*) indicate invasive species as listed by the Massachusetts Invasive Plant Advisory Group (MIPAG). These trees should be monitored for their potential to impact the ecology.

### 2.3.2 Tree Condition

A preliminary visual tree hazard assessment was conducted in the project area to determine which trees pose a risk to path and park users. Trees with obvious pest and disease symptoms, dead branches, and indicators of decline or mortality were mapped. Many trees are in good condition and a fair degree of diversity exists in riparian zones. The visual tree assessment was cursory and serves only to inform subsequent, more extensive studies. In most cases, a risk analysis of declining trees will need to be performed by a certified arborist/qualified professional.

Tree condition evaluations were conducted using the following parameters (Webster, 2018):



Figure 5. Fruiting Bodies on a Tree Planted Along a Shared-Use Path.

- Good: Structure of the tree is intact (including canopy). Trees appear to be in relatively good health.
- Fair: Trees need maintenance or show some evidence of stress (e.g., Scarring of tree trunks, missing/broken branches, feathering growth at base).
- Poor/Dead: Trees show signs of significant damage, including damaged or missing bark over large regions of the trunk, severe deformity, missing branches, dieback of canopy, and/or extensive alteration of basic structure.

In addition to the visual tree hazard assessment performed by a certified arborist at Weston & Sampson, previous tree hazard assessments were reviewed. A tree hazard survey was performed by Bartlett Tree Experts of the Charles River Esplanade in 2015 (Zick, 2018). An internal assessment of additional portions of the study area was performed by DCR staff. An analysis of these studies reveals a total of 4,174 determined to require further assessment. These trees may pose a risk to park users due to decline or branch die-off. Significantly less trees require removal – only 1,017 trees were determined to be at such an advanced stage of decline. Tree hazard evaluations should be conducted by a certified arborist/qualified professional on a one- to two-year schedule.

Maps of existing tree hazards can be found in Drawing and Map Atlas (Section 1: Existing Conditions Mapping).

#### Factors Contributing to Tree Decline

In some instances, trees are simply declining due to age. As trees grow older, they are less able to compartmentalize injuries, resist decay, and retain branches. Trees in urban conditions are more likely to fail, especially if they are exposed to construction activities or are situated adjacent to impervious surfaces and polluted runoff. In addition, trees planted in monocultures often are the same age and exposed to the same stress conditions and can become infected with disease or insects that spread from one tree to another. Decay is a critical factor in the overall stability of a tree but is not always visually apparent. Fruiting bodies (fungi) and cavities found at the base or trunk of a tree are a reliable sign of decay. Insect infestations can reduce the strength of the wood and increase the chance of failure.

A healthy riparian corridor has space for root growth, species diversity, symbiotic mycorrhizal<sup>4</sup> relationships, recycling of nutrients, and shade. In areas where insufficient space is available for the riparian forest, trees are exposed to erosional factors and eventual collapse into the river. Sporadic loss of trees in this condition is part of the natural cycle of riverine shoreline conditions and should only be considered a detriment if the fallen trees pose a threat to public safety.

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<sup>4</sup> Mycorrhizae - a symbiotic relationship occurring in the root zone between a vascular plant and fungi

Trees experience considerable stress when they are located along shoreline edges adjacent to asphalt bicycle paths and roadways. These trees are often situated along steep slopes with a meager amount of stable soil and low-nutrient recycling. Impervious surface runoff (roads and paths) further contributes to the problem of erosion along these shores. Additionally, pollutants and winter salts may damage vegetation and alter the pH of the soils. A significant number of trees in these areas also pose a hazard to path users and motorists and will inevitably collapse into the river.



Figure 6. Example of Tree Decline Adjacent to Roadway.

Another location where trees are subjected to difficult conditions is adjacent to roadways on the upland side of the river corridor. Mature trees show signs of decline—crown dieback, bark damage, and root girdling, and frequently succumb to scorch and dehydration. Construction of pathways, bridge restoration, and excessive foot traffic all contribute to root damage and compaction. In areas where planting corridors are wide enough to accommodate long-term growth of roots and in large expanses of lawn established trees are in very good condition. Newly planted tree conditions vary depending on site conditions; however, many sapling and juvenile trees show evidence of crown die back. Often, landscape maintenance activities such as weed whacking and mowing cut into the trunks and open the bark to insect invaders and disease. Norway Maples and London Plane trees planted along walking paths may simply be declining with age and stress associated with urban planting conditions.

A final characteristic to note is the presence of pests and disease among the riparian forest canopy. For example, many ash trees are experiencing the effects of emerald ash borer and will require further assessment to determine treatment, pruning, and removal requirements. This list of pests and diseases below is not exhaustive. Integrated Pest Management (IPM) treatment methods should be utilized to manage pests and diseases. Application of chemical treatment should be limited to the extent practicable to avoid contamination of adjacent watercourses or other adverse side effects. A certified pesticide applicator technician must be involved when chemical treatments are used.

#### Pests and Diseases Commonly Associated with Plants in the Study Area

##### **Emerald Ash Borer**

Emerald Ash Borer (EAB) is a species of borer that specifically attacks ash trees. It is a small beetle with a shiny green body and copper-red abdomen. They are most active in June and July. Symptoms of emerald ash borer damage include “D”-shaped exit holes in the outer bark of infested trees, canopy dieback, discoloration of leaves, and eventual death of the tree. The emerald ash borer is causing widespread destruction of ash trees in over 30 states. Proper evaluation of declining trees with respect to insect



Figure 7. Emerald Ash Borer

Source:

<https://upload.wikimedia.org/wikipedia/commons/>

damage and the risk of transmission to other ash trees along the riparian corridor is essential.

If an ash tree is infested with EAB, and the infection is detected early, it is possible to treat the tree to prevent further damage and help it recover. Some research shows that insecticide treatments are much more effective on trees with EAB with less than 50% canopy die-back. Trees with greater than 50% canopy die-back should be removed. If using insecticide, the tree should be healthy enough to be able to transport the chemical throughout the entire vascular system. Yearly EAB applications are usually required to properly protect the tree.



Figure 8. EAB Branch Die-Off.

Promising biocontrols have been released in the state. These include larval parasitoids and egg parasitoids were thoroughly researched prior to introduction to avoid any harmful ecological impacts. The Forest Health Program is releasing these host specific parasitic wasps – if biocontrol is desired the DCR may contact this organization to determine if this is an appropriate method in this location.

Removal of dead or diseased branches should occur in late winter, when the tree is dormant. The state of Massachusetts is considered an EAB quarantine zone. Wood removed from infested trees must remain in the area. Contact local regulators to determine the proper disposal methods of wood from pruned and removed ash trees (Gooch, 2018).

### Fire Blight

Fire blight is a disease caused by the bacteria *Erwinia amylovora*, which can affect over 75 different species of trees and shrubs. Symptoms of fire blight include rapid die off of branch tips and leaders, predominately during flowering. In moist conditions, a light-colored liquid may seep from cankers on the trunk and branches. Fire blight spreads by insects, wind and rain carrying infected tissue from plant to plant. The bacteria infect the flower or succulent part of a host plant before moving further into the branches and trunk. Sunken dark cankers then form on the wood (University of California, 2018).



Figure 9. Fire Blight

Source:

<https://upload.wikimedia.org/wikipedia/commons/>

### Gypsy Moth

Gypsy moths attack various hardwood tree species as well as conifers, including pine, spruce, cedar and fir. Symptoms of gypsy moth damage include defoliation of branches, sometimes spreading to the entire tree. They can be identified by their tan egg clusters on the underside of branches and reddish-brown pupal cases hanging from the trunk of infested trees. Gypsy moths overwinter in egg masses which hatch between April and May. The larvae move onto newly growing leaves of the infested tree, feeding for approximately two months. After completing the pupal stage, adult moths seek mates before laying eggs and starting the cycle over again. Adult moths live for only a few weeks, and do not feed during this stage of their life cycle; the damage to trees occurs solely in the larval stage (Morton Arboretum, 2018).



Figure 10. Gypsy Moth  
Source: <http://i.imgur.com/kS9o2tk.jpg>

### Phytophthora

*Phytophthora* is a fungus-like organism that attacks woody ornamental shrubs and trees, and/or herbaceous plants depending on the species. Symptoms of *phytophthora* damage include shrunken foliage, dark streaks on stems, wilting, discoloration of wood at the soil line, and damaged or dead root systems. Infection by *phytophthora* occurs within temperatures ranging from 59 to 82 degrees Fahrenheit. *Phytophthora* favors poorly drained and wet soils, and spores typically infect feeder roots just behind the root cap. The organism overwinters in infected plant roots or stems. Organisms within the soil can be splash-dispersed during rain storm or irrigation and can be carried via run-off from plant to plant (Kabashima, 2018).



Figure 11. Phytophthora  
Source: <https://tse2.mm.bing.net/t>



### Powdery Mildew

Powdery mildew is a fungus that attacks a wide range of trees and shrubs. It is an obligate parasite that requires living plant tissue to grow. Symptoms of powdery mildew damage include a white fungus growing on the upper surface of leaves, causing the foliage to become distorted and wilted. Powdery mildew thrives in warm, humid environments and spreads by via spores carried by wind (Kabashima, 2018).



Figure 12. Powdery Mildew  
Source: <https://encrypted-tbn0.gstatic.com/images>

### Spotted Lantern Fly

The Spotted Lantern Fly is native to southeast Asia and has recently been identified in Pennsylvania and New York. While not currently active in Massachusetts, the rapid spread of this pest suggests that preventative measures should be taken when developing future management plans. *Ailanthus altissima* (Tree of Heaven) is the favored host plant of the Spotted Lantern Fly; therefore, preemptive removal of this invasive species is recommended. The insect attacks both herbaceous and woody plant materials, inflicting weeping grey/black wounds. Females lay up to 50 eggs in masses that are covered in a mud-like substance. Adult spotted lantern fly sport sets of grey and red wings with black spots and a yellow abdomen. Both nymphs and adults feed by sucking sap from host plants, causing the wounds and attracting other insects such as wasps, hornets and ants, which may further contribute to the decline of the plant (Krawczyk, 2017).



Figure 13. Spotted Lantern Fly  
Source: <https://entomologytoday.org>

## 2.4 Ground Stability and Erosion Issues

Ground stability and erosion issues are present along the banks of the Charles River. Shore instability along the Charles River is generally due to one or more of the following factors:

- Bank undercutting due to wave action.
- Bare soil conditions (no vegetation).
- Water encroachment behind shallow concrete revetments or riprap.
- Trees collapsing into the river.
- Persistent use of walking paths near the edge of the river. This leaves the path bare of vegetation and compromises tree roots.

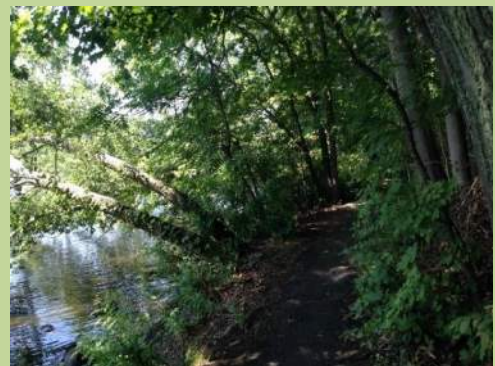


Figure 14. Path Encroachment at the Shore Edge.

Areas of particular concern include:

- Treefall and erosion west of the Western Avenue Bridge.
- Treefall and erosion west of the North Harvard Bridge.
- Steep slopes along Nonantum Road east of the Galen Street Bridge.
- Steep slopes with minimal tree cover between BU bridge and Western Avenue on the south side of the river.
- Insufficient vegetative buffer and encroachment of footpaths at the shoreline edge along the Charles River Esplanade.

## 2.5 Vistas

Low herbaceous plants and lawn in study area east of the Eliot Bridge provide open, expansive views of the Charles River. Vegetation has been actively managed along the shore and stretches of shared-use paths span the length of bulkheads and revetments at the water's edge. Benches are located at regular intervals throughout the project corridor; however, in areas of dense vegetation these benches do not offer views. In some instances, views which were previously available are obstructed by high woody vegetation or trees. A pruning strategy to remove obstructive vegetative material will be required in these locations to restore the vista.

As the corridor continues west of the Eliot Bridge, vistas are increasingly harder to find. Much of the shoreline in Watertown and Newton is comprised of riparian wooded banks and parklands – with varying densities of understory and tree canopy. Several locations with existing pathway pull offs, cultural/historic features, and seating areas may be suitable for the development of vistas along this stretch of the river. Detailed recommendations for improved management of vistas is included in section 3.6.



Figure 15. Obstructed View.  
Example of an obstructed view west of Eliot Bridge.

## 2.6 Other Site Conditions Related to Vegetation Management

An analysis was conducted of site conditions in the study area related to vegetation management. Section 2.6 summarizes the results of that analysis and include discussion of the following site conditions.

- Soils
- Topography
- Land use
- Cultural Resources
- Habitat
- Wetland Resource Areas
- Climate Change

The analysis relied on data from MassGIS and other public data sources as well as past studies of the study area. Compiled data was supplemented with field evaluations data. A detailed discussion of data used for the analysis is provided in Section 2.6.1.

### 2.6.1 Soils

Several US Geologic Survey (USGS) soil classifications are found on the banks of the Charles River. The four most common soil types are:

1. Urban Land: These areas consist mostly of sites for buildings, paved roads, and parking lots.
2. Udorthents, wet substratum: This map unit consists of filled areas that were previously tidal marshes, river flood plains, bays, harbors, and swamps. The fill consists of rubble, refuse, and mixed soil material, typically sand, gravel, and channel dredge.
3. Urban Land, wet substratum: This map unit consists of Urban Land developed in areas of Udorthents, wet substratum.
4. Merrimac Urban Land Complex: This map unit consists of nearly level and undulating Merrimac soil and areas of Urban land on broad plains. Merrimac soils are well-drained.

(USDA, 2018)

Buildings, industrial areas, pavement, and railroad beds cover more than 75 percent of the land surface. Not surprisingly, these soils indicate the presence of urban fill (i.e., disturbed and imported soil).

### 2.6.2 Topography

The topography in the study area varies; In general, there is a very gentle sloping of land from the riverbank to the outer perimeter of DCR owned land (< 5% slope). However, the majority of the riverbank itself is steep (> 15% slope) and provides an abrupt change from river to upland area. The steepest sloped area is approximately at the midpoint of the study area along the southern bank of the Charles River on either side of Arsenal Street. From the water's edge to the top of bank, the slope of the bank itself is relatively steep (> 15%) with a wooded/high shrub riparian edge and abrupt transition from water's edge to a relatively flat, gently sloping upland area. Some of the shorelines with low herbaceous/passive recreation areas have gradual (< 5%) slopes.

The steepest slopes can be found around Herter Park (Boston) Amphitheater. The amphitheater exists as an island that is surrounded by water, with a foot bridge allowing public access. The park has steep slopes along the bank and becomes steeper towards the center.

There is also irregular steepness along Charles River Road in between Irving Street and Beechwood Avenue. Slopes in this area are between 5% and 15%.

### 2.6.3 Land Use

Based on land-use classifications from MassGIS for the study area, the most commonly occurring land uses within the study area are:

- Urban public/institutional – Occurs predominantly in the Boston and Cambridge areas, with a slight presence in Watertown. Several cemeteries are located along the northern-central bank in Cambridge.

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- Participation recreation – Is found throughout Boston, Cambridge, Newton and Watertown.
- Transportation – Is found mostly in Boston, with a few smaller areas in Cambridge
- Commercial – Commercial areas are dispersed throughout Boston, Cambridge, and Watertown.
- Forest – While occurring infrequently, forest areas are located in Boston, Cambridge, Newton and Watertown.

The following table lists land use, acreage, and percentage of land use per municipality.

*Table 9. Land Use within the Charles River Study Area (MassGIS, 2018)*

Municipality	Land Use	Acres of Land Use Type within Municipality	Percent of Land Use in Municipality
Boston	Urban Public/Institutional	147.70	50.62
	Transportation	50.99	17.47
	Participation Recreation	35.71	12.24
	Commercial	18.69	6.41
	Forest	11.21	3.84
	Multi-Family Residential	10.81	3.70
	Transitional	6.22	2.13
	Water-Based Recreation	4.31	1.48
	Spectator Recreation	4.27	1.46
	Industrial	0.69	0.23
	Marina	0.61	0.21
	High Density Residential	0.39	0.13
	Saltwater Sandy Beach	0.20	0.07
Cambridge	Urban Public/Institutional	61.76	41.56
	Participation Recreation	27.06	18.21
	Commercial	22.06	14.85
	Cemetery	5.88	3.96
	Transitional	5.62	3.78
	Forest	4.60	3.09
	Transportation	4.59	3.09
	Non-Forested Wetland	3.90	2.62
	Water-Based Recreation	3.77	2.53
	Multi-Family Residential	3.75	2.53
	Industrial	3.15	2.12
	Brushland/Successional	1.97	1.32
	High Density Residential	0.49	0.33
Very Low Density Residential	0.00	0.00	
Newton	Marina	7.47	53.06
	Forest	3.64	25.84
	Open Land	1.52	10.82

Municipality	Land Use	Acres of Land Use Type within Municipality	Percent of Land Use in Municipality
	Participation Recreation	1.39	9.85
	Multi-Family Residential	0.06	0.43
Watertown	Forest	24.93	36.32
	Participation Recreation	13.35	19.45
	Urban Public/Institutional	6.45	9.40
	Multi-Family Residential	5.88	8.57
	Marina	5.64	8.21
	Industrial	4.00	5.83
	Commercial	3.76	5.47
	Forested Wetland	2.43	3.54
	High Density Residential	1.06	1.54
	Non-Forested Wetland	1.05	1.53
	Cemetery	0.09	0.13

#### 2.6.4 Cultural Resources

Weston & Sampson reviewed cultural resource data from MassGIS. Historic sites and resources occur throughout the study area and areas immediately adjacent. A map of existing Cultural Resources can be found in Drawing and Map Atlas (Section 1: Existing Conditions Mapping). Cultural resources are list below, by municipality:

##### Newton

- 60 William Street - house
- 68 Maple Street - house

##### Watertown

- Commanding Officers Quarters Building - house

##### Cambridge

- 259 Mount Auburn Street - house
- Conventional Church of St. Mary and St. John - church
- B and B Chemical Company – office/industrial building
- Baker House
- Riverbank Court Hotel
- Little, Arthur D. Inc. Building – academic building

#### 2.6.5 Habitat

Table 10 (below) provides a summary assessment of environmental resources in the study area. A map of existing Environmental Resources can be found in Drawing and Map Atlas (Section 1: Existing Conditions Mapping).

*Table 10. Environmental Resource Information (MassGIS, 2018)*

Type of Resource	Presence on Project Site	Discussion
Areas of Critical Environmental Concern (ACEC) <sup>a</sup>	No	There are 30 designated ACECs in Massachusetts. The study area is not in an ACEC.
Rare Species <sup>b</sup>	No	No rare species have been identified at the study area.
Estimated Habitat <sup>c</sup>	No	The study area does not include estimated habitat.
Outstanding Resource Waters <sup>d</sup>	No	No portion of the Charles River is considered an ORW.
Impaired Waters <sup>e</sup>	Yes	This segment of the Charles River (Lower Charles River) is designated as a Category 5 (Impaired – TMDL required) waterbody. TMDLs have been previously completed for phosphorus and pathogens.
Wild and Scenic River <sup>f</sup>	No	The Charles River is not included in the wild and scenic river designation.
Stressed Basin <sup>g</sup>	No	Based on the 2001 “Stressed Basins in Massachusetts,” there is not enough data to determine if the area is within a stressed basin.

Notes:

- a. ACEC refers to areas listed in the Massachusetts Areas of Critical Environmental Concern (DCR, 2010)
- b. Rare species refers to federally listed rare, threatened and endangered species. MassGIS data was used to determine the presence of rare species.
- c. Estimated habitat refers to the geographical extent of habitat of state-listed rare wetlands wildlife and is codified under the Wetlands Protection Act. State-listed wetland wildlife species are protected under the Massachusetts Endangered Species Act as well as the Wetlands Protection Act.
- d. Outstanding resource waters refers to waters designated by DEP under the Massachusetts Surface Water Quality Standards, 314 CMR 4.00. In general, these waters include public water supplies, certain wetlands, and other waters as determined by DEP based on their outstanding socio-economic, recreational, ecological and/or aesthetic values.
- e. Impaired waters refer to waterbodies listed on the *List of Impaired Waters* by the Commonwealth of Massachusetts Department of Environmental Protection.
- f. Wild and Scenic River refers to rivers listed under the National Parks Service Wild and Scenic Rivers Program pursuant to Public Law 90-542; 16 U.S.C. 1271 et seq., also known as the Wild and Scenic Rivers Act.
- g. Stressed basin refers to waters listed in Stressed Basins in Massachusetts (Massachusetts Water Resources Commission, 2001).

### 2.6.6 Wetland Resource Areas

Based on MassGIS data, wetland resource areas protected by the Massachusetts Wetlands Protection Act that are within the study area mainly consist of the bank of a perennial stream (the Charles River), land under water (land within the banks), and riverfront area. A map of existing Wetland Resources can

be found in Drawing and Map Atlas (Section 1: Existing Conditions Mapping). A very small percentage of area is considered bordering vegetated wetlands (BVW), which is commonly considered “wetlands.” The desktop evaluation mapped BVW areas in Watertown and Cambridge. However, the majority of riverbank is steep (> 15% slope) and provides an abrupt change from river to upland area. As such, soil and hydrologic conditions are not present to support a bordering vegetated wetlands environment.

A cursory field review found two sizeable wetlands along the northern portion of the study area, between the Arsenal and Eliot Bridges. Wetland conditions exist in varying degrees in other locations along the study area. Wetlands are heavily dominated by Phragmites (*Phragmites australis*), Knotweed (*Polygonum spp.*), and Purple Loosestrife (*Lythrum salicaria*), with little native vegetation. A stand of cattail (*Typha latifolia*) was noted at the western edge of the inland wetland near the Eliot Bridge, and pockets can be found adjacent to the shore in various locations in the study area. Sizeable native stands of wetland vegetation were not noticed at the time of the field investigation.

### 2.6.7 Climate Change

Climate change has the potential to create significant adverse effects in the Charles River Reservation Basin, which could have major implications for DCR’s management of the parklands. Below is a brief discussion of recent climate change, predicted change, and the implications for management.

#### Recent Changes

Between 1921 and 2012, the relative mean sea level in Boston increased more than nine inches (the equivalent of 2.79 millimeters or 0.11 inches annually). Over a century, the rate of relative sea level rise in Boston was 0.92 feet (MA CZM, 2013). Relative sea level rise includes both global-scale changes such as thermal expansion of seawater and the addition of water from melting land-based glacial ice sheets and more localized changes in land surface elevations such as land subsidence. Precipitation patterns have also changed with more extreme droughts and rainfall intensities. The amount of precipitation associated with a 24-hour storm having an average return period of 100-year has increased from approximately 6.7 inches in 1961 (U.S Department of Commerce, 1961) to 7.88 inches in 2015 (NOAA Atlas 14, Volume 10, 2015). Finally, over the past century, annual air temperatures in the Northeast United States have increased at a rate of nearly 0.26°C (0.5°F) per decade since 1970, and winter temperatures have risen at a rate of over 0.7°C (1.3°F) per decade (MA EEA, 2011).

#### Predicted Changes

Sea level is predicted to continue to rise, with projections the Boston tide gate is “likely” to rise by 1.5 to 4.0 feet and could be as high as 9.7 feet by 2100 (NECSC, 2018). Projections of precipitation in the Charles River Basin under climate change indicate that by 2090, annual precipitation could increase between 0.74 and 8.18 inches and there will be up to four additional 1-inch storms each year. The highest number of consecutive dry days are predicted to occur in the fall and summer seasons with an increase of up to 3 consecutive dry days in the fall by the end of the century (NECSC, 2018). By the end of the century, the average temperature in the Charles River Basin is projected to increase between 3.49 and 10.72°F. Annual growing degree days<sup>5</sup> is projected to increase between 720 and 2,491 during the same period (NECSC, 2108).

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<sup>5</sup> Growing degree days is a measure of heat accumulation used to predict plant and animal development rates such as the date that a flower will bloom, an insect will emerge from dormancy, or a crop will reach maturity.

### Management Implications

A flood control structure, the New Boston Dam, provides a level of protection against sea level rise and coastal surge to the parklands along the Charles River Basin. Unless the dam is flanked or overtopped by extreme conditions in the Boston Harbor, sea level rise and coastal surge are not expected to be an immediate threat to the vegetation along the river. However, an increased precipitation frequency could increase peak stream flows and cause riverine flooding, destabilizing the river's banks, causing scouring along bridge embankments, and causing the vegetation to be lost or compromised. Extended drought conditions and increased rainfall could also negatively impact the park's plant life and/or change the plant community species composition. Warmer temperatures are expected to increase the vegetation's growing season. While a longer growing season could be beneficial, it may also result in a production of allergens, including pollen and poison ivy. Warmer temperatures and changes in precipitation patterns could also increase the presence of pests that are harmful to the park's vegetation as well as vector-borne diseases (such as Lyme disease) affecting the park's visitors. Selection of plants should consider those that are drought resistant, pest resistant, are less likely to produce allergens and can compete with other invasive species that might be more adapted to climate change.

#### *2.6.8 Water Quality*

The water quality of the Charles River has steadily improved over time, which has particularly resulted from the abatement of combined sewer overflows—a point source of water pollution. In 2014, EPA rated Charles River water quality a B+, which was up from a D in 1995 (see Figure 16, next page). High levels of pathogens and phosphorus—which contributes to nuisance aquatic plant growth—represent key issues that continue to degrade water quality. Most of the phosphorus loading is from urban runoff. The Charles River Basin is the “most densely populated watershed in New England” (CRWA, 2014) and suffers from the adverse effects of unmanaged urban runoff. Runoff in urban areas flows over roadways, parking lots, maintained grass areas (with fertilizer, dog and geese feces) and picks up various pollutants, such as phosphorus, along the way. This pollutant-laden stormwater then enters the Charles causing water quality issues.

The EPA and MassDEP established TMDLs for phosphorus and pathogens for the Upper/Middle and Lower Charles River Watersheds. The area subject to this RVMP is entirely within the Lower Charles River. A TMDL provides one or more specific daily pollutant limits for restoring the quality of an “impaired” (i.e., polluted) waterbody such as the Charles River.

This RVMP identifies BMPs for establishing healthy vegetation along the banks of the Charles River. While DCR is not specifically subject to the Charles River TMDL, ensuring healthy vegetation will provide the adjunct benefit of reducing direct stormwater discharge as well as phosphorus and pathogen loadings to the Charles River. By improving vegetation management on the riverbank, DCR will help to achieve improved water quality in the Lower Charles River.



# LOWER CHARLES RIVER RIVERBANK VEGETATION MANAGEMENT PLAN

## Charles River Water Quality

EPA Report Card Grades :: 1995 - Present

Sources: Charles River Watershed Association & US EPA

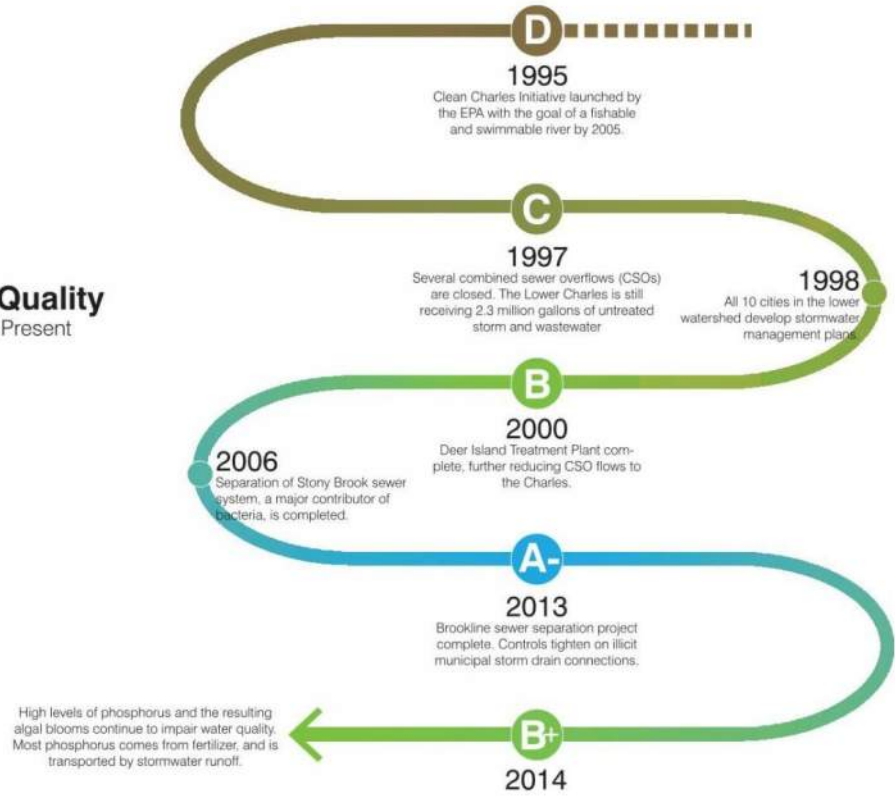


Figure 16. EPA Report Card Grades.

### 3.0 VEGETATION MANAGEMENT STRATEGY

Section 3 discusses strategies to restore a healthy riverbank ecology that provides for stable shorelines, beautiful vistas, climate resiliency, and a safe, stable tree canopy. Strategies to provide public access to passive and active recreation along and adjacent to the riverbank are also included in this section.

#### 3.1 Preferred Composition of Plants

To the greatest extent possible, this plan proposes installation of plants native to the Charles River basin; however, since the majority of existing herbaceous and shrub plants observed in the study area are non-native, this objective presents a significant challenge.

A typical restoration strategy would be to eliminate the non-native species and reestablish species that are native to the bioregion along the whole corridor; however, this kind of broad-brush capital improvement project is not a realistic vision. It would require continuous ongoing maintenance to keep out the already-established non-natives and would require more DCR resources than realistically available.

The vegetation management framework for this plan, therefore, offers the following strategy:

1. Target the highest priority invasive species, in two categories described below and replant with natives to the bioregion.
2. Enhance the amount of native plants throughout the corridor with future capital projects, including establishment of meadows and backplanting with native plants.
3. Shift routine maintenance activities to favor native plant establishment while controlling invasive plants, described in Section 4 - Management Areas and Management Approaches.

##### 3.1.1 Target Invasive Plants

This RVMP proposes management of invasive, noxious, and visually obstructive plant species with the intent to increase vegetation diversity and habitat creation while improving views. An integrated vegetation management approach is recommended for the study area, combining biological, manual, mechanical, chemical, and cultural control practices (MIPAG, 2012).

Though many invasive species were found during the field inventory in the summer of 2018, the following species are recommended for priority removal due to their deleterious effect on native plant communities and associated faunal habitats. Two main approaches will be utilized to control the spread of invasive species in the study area (MIPAG, 2012):

1. Site-based management (Large Populations) – removes populations of invasive plants in specific areas, to protect or restore an existing feature or to test removal methods for a specific priority species. The species targeted this category are wide-spread throughout the study area, with many existing occurrences within the shoreline vegetation.
2. Weed-based management (Early Detection Priority Species)– focuses on the removal of small populations of invasive plants before they become heavily established.

Table 11 breaks down the list of invasive species found in the study area into these two management categories.

<i>Table 11. Invasive Species Removal by Management Approach</i>	
Site-Based Management (Large Populations)	Weed-Based Management (Early Detection Priority Species)
<i>Acer platanoides</i> – Norway Maple	<i>Actinidia arguta</i> - Hardy Kiwi **
<i>Ailanthus altissima</i> – Tree of Heaven	<i>Acer pseudoplatanus</i> – Sycamore Maple*
<i>Celastrus orbiculatus</i> – Asiatic Bittersweet	<i>Aegopodium podagraria</i> - Goutweed
<i>Convolvulus arvensis</i> - Bindweed	<i>Anthriscus sylvestris</i> – Wild Chervil+
<i>Frangula alnus</i> – Glossy Buckthorn	<i>Alliaria petiolata</i> - Garlic Mustard
<i>Phalaris arundinacea</i> - Reed Canary Grass	<i>Berberis thunbergii</i> - Japanese Barberry
<i>Phragmites australis</i> – Common Reed	<i>Berberis vulgaris</i> - European Barberry
<i>Polygonum cuspidatum</i> - Knotweed	<i>Calystegia sepium</i> – Hedge Bindweed
<i>Rhamnus cathartica</i> - Common Buckthorn	<i>Centaruea biebersteinii</i> – Spotted Knapweed
	<i>Centaruea nigrescens</i> – Tyrol Knapweed
	<i>Chelidonium majus</i> - Celandine*
	<i>Cuscuta spp.</i> - Dodder (parasitic) +
	<i>Cynanchum louiseae</i> – Black swallow-wort
	<i>Elaeagnus umbellata</i> – Autumn Olive
	<i>Euonymus alatus</i> - Burning Bush
	<i>Euphorbia cyparissias</i> – Cypress Spurge
	<i>Euphorbia esula</i> – Leafy Spurge*
	<i>Glaucium flavum</i> - Horned Poppy
	<i>Heracleum mantegazzianum</i> – Giant Hogweed+
	<i>Hesperis matronalis</i> - Dame's Rocket
	<i>Iris pseudacorus</i> - Yellow Iris
	<i>Lepidium latifolium</i> - Broad-leaved Pepperweed+
	<i>Lonicera japonica</i> – Japanese Honeysuckle
	<i>Lonicera spp.</i> – Shrub Honeysuckles
	<i>Lythrum salicaria</i> - Purple Loosestrife
	<i>Microstegium vimineum</i> - Japanese Stiltgrass+
	<i>Miscanthus sinensis</i> - Chinese Silver Grass
	<i>Polygonum perfoliatum</i> – Mile-a-minute vine**
	<i>Pueraria montanas spp. lobate</i> - Kudzu **
	<i>Rosa multiflora</i> - Multiflora Rose
	<i>Solanum dulcamara</i> – Bittersweet Nightshade
	<i>Salix atrocinerea/S. cinera</i> – Large Gray Willow/Rusty Willow

Note:

- Asterisk (\*) indicates species that were not observed during the field assessments but are listed as an early detection priority species for DCR properties in the Commonwealth and/or were supplied during the stakeholder meeting.
- Cross (+) indicates early detection priority species.
- The species with highest priority for early detection are indicated in red.

Management recommendations are based on the distribution and quantity of invasive species observed in the study area during summer 2018. “Site-based” species (see the “Site-Based Management” column of Table 11) were frequently noted across the study area or observed to be growing in dense stands in

specific locations. “Weed-based” (see the “Weed-Based Management” column of Table 11) species were either infrequently observed or found in sporadic distribution across the study area. If intercepted soon, these invasive species can be prevented from spreading throughout the basin.

With the DCR resources available, this strategy removes the highest priority invasive species first and sets priorities for which species to target in a recommended order. This will produce a shift in ongoing management strategies to increase ecological services and encourage native plant growth in the long run. The details of this management approach are included in Sections 4 and 5.

### 3.1.2 *Managing Non-Native Plant Species to Balance Ecosystem Services*

The text below discusses general management of non-native species and specifically management of false indigo, which is one of the more dominant species in the management area and is noted to create nuisance conditions in certain settings.

#### General Management

Many non-native plant species provide important ecological services. These include shade and cooling of the river, erosion control and stabilization, resources for pollinators, nitrogen fixation, foraging and habitat cover, air pollution buffering, rhizofiltration<sup>6</sup> and water quality improvement (Kennen and Kirkwood, 2015). Some of the non-native species may also be particularly resilient to predicted climate change. Removal and management of non-native species will be conducted strategically to maintain ecological balance and in consideration of the benefits such plant species provide.

#### Management of False Indigo

False indigo (*Amorpha fruticosa*) is a nuisance species in the study area. False Indigo is a species not native to the River Charles bio-region but is native to south-eastern US. It is a nuisance species along the in the RVMP management area because of its tall height, which obstructs views of the river during important events. For this reason, shoreline cutting is currently conducted 2-3 times per year before cultural events, which is resource and energy intensive. As an alternative, cutting and dabbing is being used at certain locations to minimize the need for management resources. False indigo, however, provides a significant number of environmental services, including shoreline stabilization, nitrogen fixation, soil development and high-quality habitat. Under this RVMP, false indigo is proposed cut and dabbed strategically to allow for views at vistas and in prescribed areas along Reunion Village to allow for viewing of the Head of the Charles Regatta but will not be targeted for general removal as an invasive species.

### 3.1.3 *Control Techniques*

Invasive species control will be carefully planned, with special attention paid to the proximity of the Charles River and associated sensitive biological factors. Before conducting invasive species removal project, the following tasks will be performed.

- Survey and document extent of infestation. If possible, start control methods at headwaters and progress downstream.
- Where feasible, focus on manual removal of small infestations.
- Use barriers to prevent sediment and other debris from entering nearby water systems.

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<sup>6</sup> Rhizofiltration: Trapping of contaminants by the roots of plants in soils and water (Kennen and Kirkwood, 2015)

- When large areas are cleared, stabilize against erosion and replant with native or non-invasive vegetation.
- Large areas will incorporate a management plan for several years to control germinating plants.
- A review of current research pertaining to the adverse side effects of selected herbicides on pollinators should be reviewed before spraying application is performed. Pollinator decline has been linked to exposure to pesticides, fungicides and herbicides – bee detoxification systems may not be able to efficiently eliminate these chemicals (Penn State, 2018).
- Timing of migration and mating will be noted. Control measures will be conducted around these windows to avoid damaging habitat during spawning and mating seasons.

### Mechanical Controls

Mechanical methods are commonly the go-to approach to manage invasive plant species and can be used with no special licensing. Most of the work can be done with the assistance of either volunteers or maintenance staff. However, mechanical removal methods can require long-term commitment and continued maintenance of the invasive species zones to ensure that the plants removed do not grow back. Depending on the breadth and extent of the population, mechanical management may also require large areas of disturbance, especially when digging is required. These disturbed areas may be susceptible to erosion and can become prime breeding grounds for regrowth or encroachment of other invasive species. Proper erosion and sediment control measures should be put into place to mitigate disturbances and cleared areas should be replanted with appropriate native species as soon as possible. Two methods of mechanical control that have proven effective are highlighted below.

**Pull or Dig:** Large herbaceous and woody plant species can often be pulled out and have their roots dug up, if found in limited quantities. When this method is used, it is important to remove as much of the plant material as possible including root mass, stolons, and rhizomes. Some species can re-infest an area if remnant roots are left behind. Instead of using a shovel, digging with a fork or similar tool may be preferred. Shovels can often cut through a root, leaving a portion behind, whereas a fork will tend to pull the entire root system. Weed wrenches can be useful tools for removing woody plant species. Steel prongs attached to a long rod are used to lever under the roots of a plant and uproot it from the soil.



Figure 17. Weed Wrench  
Source: <https://kk.org/wp-content/archiveimages/weed-wrench.jpg>

In some instances, where large stands are present, it may be beneficial to work with a small excavator or skidsteer to remove large portions of infested soil. This work should be done in the early spring where seeds have yet to mature and the soil is still moist. The moist soils will allow for easier pulling of most species and if the seeds have not matured it will reduce the risk of seed transport to other areas.

**Light Barriers:** The introduction of light barriers is another method used to remove small seedlings and other small herbaceous plants that can't be readily pulled. This method involves the placement of any light-blocking material (usually plastic sheeting or weed block) over the infestation. This material should be staked or weighed down and should extend outside of the infestation area. This material can either be left in place or loamed and seeded over. This technique will kill all species, both invasive and native, that are trapped under the barrier. Success rates depend on species - refer to Appendix A—Invasive Species Control Methods and Herbicide Application Plan for additional information.

### Chemical Controls (Herbicides)

Herbicides are one of the most effective ways to treat invasive species; however, careful consideration should be taken when using any chemicals, especially when adjacent to a natural resource area. Chemical methods are usually accomplished in two manners: large scale spraying (often seen on power line easements) and small-scale localized applications. All applications should comply with local laws, licensing requirements, and manufacturer recommendations.

Due to the proximity of target species to adjacent waterways, chemical control via large-scale spraying is not recommended. Instead, chemical treatments should be conducted through localized applications. Herbicides that are least impactful to water bodies should be used. Localized applications could and should be performed in conjunction with mechanical methods such as cutting. Timing is paramount to any successful chemical treatment to interrupt the lifecycle of the plant. Precautions should be taken to avoid chemical runoff or drift and impacts to pollinators and other nontarget species. Herbicides should only be applied on dry days with minimal to no wind to prevent impacting other species in the area. Two chemical treatment methods that have proven effective are highlighted below.

**Foliar Applications:** Utilizing a backpack sprayer or equivalent (such as a small handheld sprayer) chemical treatments of monocultures or individual invasive plants can be performed. Spray applications have proven useful against herbaceous species that are difficult to manage with mechanical methods. Spray applications are a practical alternative for some woody species that grow in dense stands. It is generally recommended that the mixture contain no more than 5% of the active ingredient. Treatment should occur in early spring when the plants are growing to interrupt the life cycle and stop future growth. Spraying should take place when no rain is forecast for several days after the application. This will ensure the treatment does not wash into adjacent water bodies.

**Cut and Dab:** The cut-and-dab method combines mechanical and chemical treatments. The goal is to avoid large ground disturbances caused by digging up roots. Instead, a chemical treatment is applied to cut stems and/or roots, which require a higher concentration of the active ingredient than is used in small scale spray applications. A 25 - 35% solution of the active ingredient should be used. Stems should be cut as close to the ground as possible and herbicide should be applied directly to the cut surface. This application should be done as soon as possible after the plant is cut to ensure effectiveness of the herbicide. The herbicide can be applied in many different methods including spray bottle, rag, brush, or sponge. The idea is to thoroughly wet the cut surface so that the herbicide absorbs into the plant tissues. This technique is most effective in late summer or early fall. As with spray applications, apply chemicals during dry conditions to reduce the chance of point-source pollution.

A detailed discussion of possible control techniques for each invasive plant listed in Section 3.1.3 can be found in Appendix A—Invasive Species Control.

#### 3.1.4 *Vegetative Restoration*

Removal of invasive vegetation must always be followed immediately by restoration replanting with native species, light compaction of disturbed soils, and placement of onsite compost or woodland duff (from native species). Typically, restoration plant materials are small enough to prevent soil disturbance and reduce maintenance requirements. For this reason, the RVMP includes native seed mixes, plugs, tubelings, and live stake lists. Refer to the Drawing and Map Atlas for planting lists and specific restoration strategies.

### Revegetation with Native Species

The following methods may be used to stabilize the shore, depending on the location of disturbance:

- Slope crest planting – functions as a buffer between the slope and upland infrastructure or parklands. Plantings are installed at the top of the slope where the grade is steep and other stabilization measures are not feasible. Dense plantings in a strip at the top of the slope will help prevent future slumping and downhill sliding.
- Slope face planting – the slope face is the exposed surface of the slope. Many types of native pioneer species can succeed when planted on the face of a slope, including grasses, legumes, shrubs and trees. Trees and shrubs must be monitored after planting to ensure the roots have been sufficiently established on the shore. Trees and shrubs at risk of toppling should be replanted or removed to avoid a significant disturbance of the soil.
- Slope toe planting – generally located at the bottom of the slope, this is the area where the shore flattens out. Where wave action is not anticipated, woody trees and shrubs may be planted to stabilize the upland slope.



(NYS DEC 2018)

### *Backplanting*

In areas where an increased width of the vegetated buffer is desired, additional plantings may be installed in a phased method. Each year a row of plants may be added behind existing established vegetation. Over time, the width and resiliency of the vegetative buffer will gradually increase. Plant species must be carefully chosen to accomplish objectives specific to each site.

Where shoreline conditions exist without overstory plantings, clusters or linear plantings of trees behind the shrub layer is recommended. The extensive root systems of trees are a critical component of slope stabilization, and the added layer of overstory in a planting conditions will attract a greater range of birds and other wildlife. Tree canopy shading may inhibit invasive encroachment in the shrub layer. If adequate room is present at the restoration site, a layer of shade tolerant herbaceous material may be planted between the shrub layer and adjacent upland landscape.



### Live Staking

Live staking is an easy and inexpensive bioengineering erosion and sediment control measure. The method involves inserting live cuttings of specific plant species into the ground on a slope or shoreline, which will then sprout new roots and branches forming mature woody plants. It is most effective where shallow erosion is a concern. Stakes are generally under 1 inch in diameter and 2 to 3 feet in length and are installed 2 to 3 feet apart in a triangular pattern. Stakes must be planted within 8 to 10 days from being harvested (Vermont, 2018).



Figure 19. Live Staking

Source: <https://www.uwsp.edu/cnr-ap/UWEXLakes/PublishingImages/resources>

### Vegetation in Riprap

Vegetated riprap, also known as joint planting, combines stone reinforcement structures with live plants. Stakes ranging from 1 to 1.5 inches in diameter are placed within the openings between the riprap. Stakes should be long enough to reach through the riprap and into the soil of the bank or shoreline. The combination of plant roots and riprap provide enhanced stabilization, and the plantings work to soften the appearance of bare stone. Filter fabric shall also be used beneath the riprap. The live cuttings are arranged perpendicular to the slope and tamped into the ground during installation (Hoag & Sampson, 2007).

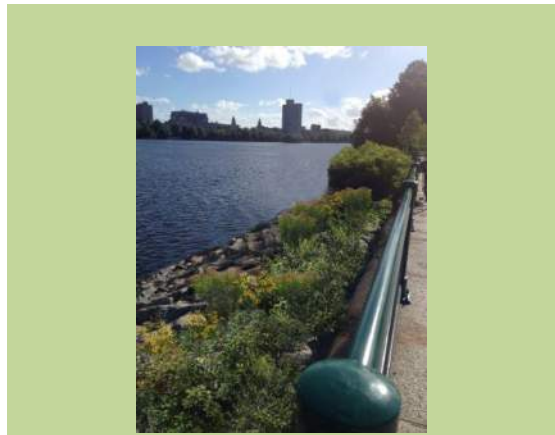


Figure 20. Vegetation in Riprap Rendering Along the Charles River

### Vegetation in Cribbing

Vegetation cribbing involves placing live plant cuttings placed within soil filled cells of a crib wall. Vegetated cribbing is commonly used on banks with very little existing vegetation or where extensive backfill will be used to restructure a slope. The crib wall is first constructed by placing timber, concrete, or metal courses alternated with backfill material placed parallel and perpendicular to the slope (Tuttle, 1996). Live cuttings are then inserted into the backfill exposed between the structural courses. Logs or timber are the most cost-efficient material to construct a crib wall. Pressure-treated woods are not recommended as these chemicals may be harmful to aquatic organisms. Long-term replacement of these structures may be warranted due to natural decomposition of the materials.

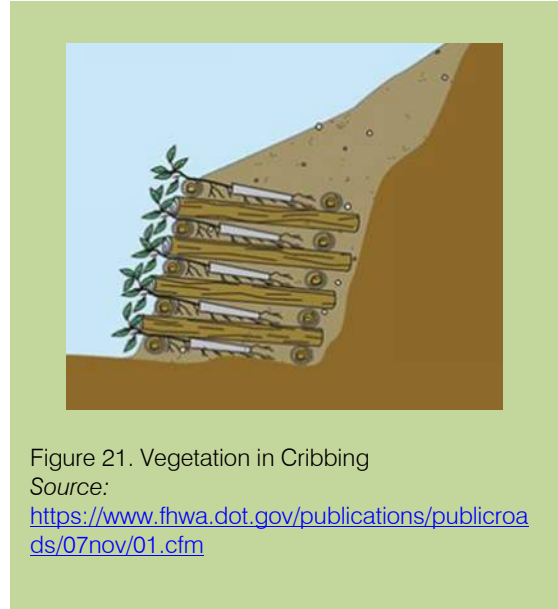


Figure 21. Vegetation in Cribbing

Source:

<https://www.fhwa.dot.gov/publications/publicroads/07nov/01.cfm>

### Wetland Restoration

Wetland restoration involves reconstructing wetlands using native plants to restore an area. Existing soil is excavated approximately 12 inches below grade and replaced with high quality soils susceptible to hydric conditions. Hydric soil is a soil that is formed under conditions of saturation, flooding or ponding to develop anaerobic conditions in the upper layers of the soil. Native plants are then installed in the restored area (Rohal, 2017).



Figure 22. Wetland Restoration

Source:

<https://www.fws.gov/refuge/Wertheim/about.html>

### Contour Wattling

Contour wattling can be accomplished via “live fascines” (stems and branches from live plants tied into bundles) or by planting live stakes into coconut husk or straw filled coir logs. The bundles/logs are placed in parallel to a bank in shallow trenches and held in place by wooden stakes. The wattles work to slow runoff and trap sediment as water flows down the bank. Contour wattling is suitable to protect toe and face of slope erosion and is commonly paired with other protective measures. Installation of contour wattles is more complex than live staking and involves digging a trench approximately half the depth of the bundle, securing the bundles/logs in the trench with stakes every 2 to 3 feet, placing moist topsoil in and along the sides of the wattles, and placing slope stabilization features (straw, mulch, coir fabric) along the slope between the bundles (Homziak, 2004).



Figure 23. Contour Wattling

Source:

<http://www.landscapeonline.com/research/article-a.php?number=411>

### Brush Layering

Brush layering consists of dispersing cut branches from live plantings between layers of soil along a shore or bank to create a series of benches. This method is commonly used in the replacement of new fill, restoring shallow slump conditions, and repairing small gullies. First, long branches from specific plant species are collected. The first bench is excavated at the bottom of the slope, and a layer of cuttings are placed on the bench in a “crisscross” pattern. Dry soil is placed on the cuttings before laying down additional layers of plant cuttings. This is repeated up the slope with mulch or straw being strewn between benches (Homziak, 2004).



Figure 24. Brush Layering.

Source:

[http://www.dot.ca.gov/hq/LandArch/16\\_la\\_design/guidance/ec\\_toolbox/steep\\_slopes/recp\\_flap\\_with\\_brush\\_layering.htm](http://www.dot.ca.gov/hq/LandArch/16_la_design/guidance/ec_toolbox/steep_slopes/recp_flap_with_brush_layering.htm)

### Erosion Control Matting

Erosion control matting is made of lightweight, tangled jute strands shipped in rolls. The matting can be installed one of two ways, either by soilfilling or nonsoil filling. In both methods, the mat is rolled onto a bank or slope and grass seed is spread throughout the matting. Soil filling is typically done to provide topsoil and allow planted seeds to develop, while nonsoil filling does not involve the placement of extra soil. Leaving existing soils in place is appropriate where the existing seed bank and soil layer is sufficient to revegetate the site. The matting is easy to install and is commonly combined with other erosion and sediment control measures. When rolling the mat, rolls should overlap 3 to 4 inches and staples are installed down the center of each mat (Cardno, 2018).



Figure 25. Brush Layering.  
Source: <http://buffelgrassseed.com/erosion-control-blanket/>

### Meadows

Meadows are characterized by grasses and other herbaceous plant material that provide habitat for numerous species of plants and animals. Meadows provide important ecological benefits in addition to providing runoff reduction and sediment filtration functions. Design, installation, and ongoing management of meadows is important to ensure the success of these native grasslands. Once established, long-term maintenance costs (mowing, fertilizers, pesticides, and watering) can be reduced by 80 – 90% (Pratchett, 2015).



Figure 26. Meadow Restoration Rendering in Parklands Along the Charles River

### Rain Gardens

Rain gardens are planted depressions that collect rainfall from hard surfaces like paths and roads to contain the oils, fertilizers, and other contaminants typically found in storm water runoff. Rather than flowing directly into the sewer, the runoff is kept in the rain garden, where it has a chance to soak into the ground. As the water filters into the soil, some contaminants are broken down, and the water and fertilizers are used by the plants. The filtered water then recharges the groundwater and aquifer. Rain gardens provide habitat value and if planted with biodiversity in mind, can contribute to the resilience of landscape ecosystems (NYS DEC 2015).

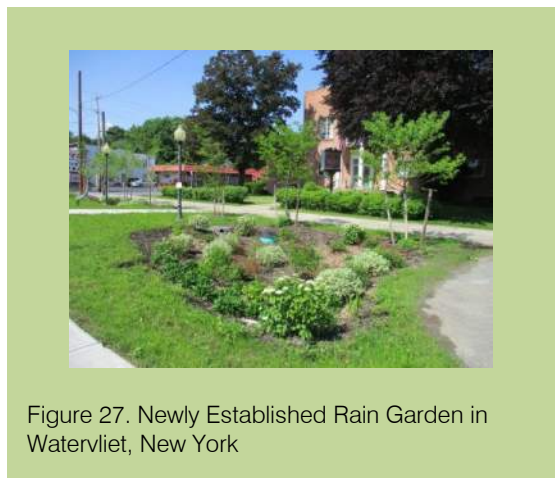


Figure 27. Newly Established Rain Garden in Watervliet, New York

### 3.2 Riparian Biodiversity

Riparian corridors are important areas for wildlife habitat, because many species live both on land and in the water. Transition zones between the water and land are typically very diverse – these areas exist in a dynamic equilibrium governed by the changing currents of the river and flux of the shoreline over time. Shoreline vegetation provides forage and shelter for wide range of aquatic and terrestrial species. Botanically diverse riparian edges provide seeds, nuts, buds, and fruits. Fisheries rely on shade and woody debris from shoreline trees and shrubs – healthy fish populations in turn provide food for a variety of mammalian, amphibian, and avian species (Cohen, 2014). The following section provides a brief discussion of wildlife suitable for restoration and the associated plant and habitat requirements of each. This information is intended to inform vegetation restoration and management strategies to promote biodiversity in the Charles River Basin.

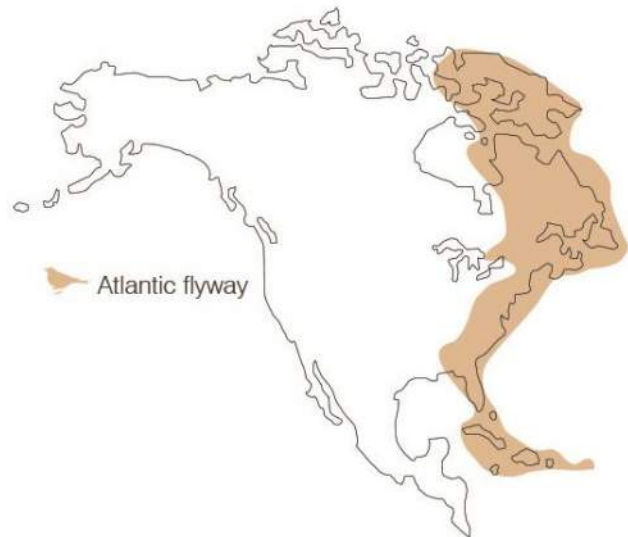


Figure 28. The Atlantic Flyway Migration Route Spans the Atlantic Coast of North America.

#### 3.2.1 Selected Species

The following mammal, avian, amphibian, and reptile species have been selected for habitat restoration in the study area. Rationale for selection includes likelihood of appropriate habitat (existing or proposed), previous restoration efforts, recent sightings at or near the study area, and the study area’s location along the migratory Atlantic Flyway (Alden, 2018). The urban woodland canopy in the Mount Auburn Cemetery and parklands along the Charles River provide important migratory bird habitat. Water quality improvements and restoration efforts have increased fish populations; as a result, raptors such as bald eagles and osprey have been sighted near the Charles River (Alden, 2018).

Most animals depend on vegetation for shelter and forage. Plants even provide an important source of water for many herbivorous animals. Planting lists and restoration strategies described in Drawing and Map Atlas (Section 2: Proposed Projects) include vegetation and stabilization strategies to foster habitat development. The table below describes specific plants and habitat types associated with the wildlife selected for restoration at the Charles River Basin (Martin, 1951).

<i>Table 12. Wildlife Plant and Habitat Associations (Martin, 1951; Cornell, 2017)</i>	
<b>Mammals</b>	<b>Plants (Forage/Shelter)</b>
Beaver	Poplar, Willow, Birch, Hazelnut, Waterlily, Cow lily
Big Brown Bat	Tree hollows (roosting)
Common Muskrat	Cattail, Bulrush, Burreed, Waterstarwort, Pondweed
Little Brown Bat	Tree hollows (roosting)
<b>Birds</b>	<b>Plants (Forage/Shelter)</b>
American Tree Sparrow	Bristlegrass, Crabgrass, Panicgrass, Sedge
Baltimore Oriole	Mulberry, Serviceberry, Blackberry, Blueberry
Bald Eagle	Nests in open or semi-open forests close to water

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Blue-winged Teal	Duckweed, Bulrush, Smartweed, Sedge, Cutgrass
Chipping Sparrow	Panicgrass, Oats, Timothy, Chickweed, Ragweed
Green Heron	Pine, Oak, Sassafras, Willow (nesting)
Great Blue Heron	Pine, Reeds, Grasses (nesting)
Merganser	Tree cavities, holes under tree roots, undercut banks
Orchard Oriole	Mulberry, Cherry, Blackberry, Grape
Osprey	Snags, Treetops, large branches and trunks (nesting)
Redpoll	Alder, Ragweed, Birch, Goosefoot, Smartweed
Ruby-crowned Kinglet*	Poison Oak, Galls, Elderberry, Dogwood
Ruby-throated Hummingbird	Larkspur, Columbine, Phox, Clematis, Rose
Spotted sandpiper	Raspberries, Nettles, Broad-leaved plants (nests)
Tree swallow	Bayberry, Virginia Creeper, Dogwood, Red Cedar
Red-eyed Vireo	Dogwood, Virginia Creeper, Spicebush, Sassafras
White-throated Sparrow*	Ragweed, Smartweed, Bristlegrass, Oats, Panicgrass
Woodcock*	Bristlegrass, Blackberry, Panicgrass, Sedge
Wood Duck	Wildrice, Pondweed, Burreed, Smartweed, Arrow-arum
Yellow-rumped Warbler*	Bayberry, Waxmyrtle, Dogwood, Grape
<b>Amphibians and Reptiles</b>	<b>Typical habitat (shelter)</b>
Northern Two-lined Salamander	Leaf litter, logs, rocks
Wood Frog	Logs, fallen Branches, leaf litter
Painted Turtle	Aquatic vegetation, logs, branches
Ribbon Snake	Shrubs, grasses, sedges
Garter Snake	Vegetative debris, logs, rocks

Note:

- a. Asterisk (\*) indicates species likely to use the Charles River Basin for migration.

### 3.2.2 Management Considerations

Numerous strategies can be implemented to protect and enhance wildlife habitat along the Charles River. Mowing/cutting times should consider the lifecycles of the animals and insects who depend on the plants for forage and shelter. Pruning after flower and seed cycles allows for the replenishment of the seed bank in the soil, and opportunities for feeding on nectar and fruits. Localized noise disturbances can have detrimental effects on wildlife, particularly during the breeding season. Routine management practices should be avoided during nesting and peak activity periods, to reduce disruptions and damage to breeding sites. Identification and routine monitoring of sensitive species in the Charles River Basin must be performed to develop management strategies consistent with ecologically sound objectives.

#### Trees

Deadwood<sup>7</sup> and snags<sup>8</sup> provide a crucial role in any health ecosystem. Deadwood provides habitat for detritivores and decaying organisms, while snags provide habitat for a variety of species, depending on the height of the snag (French, 2018). Even snags as low as 5-15 feet can provide nesting habitat. Trunk hollows can be made from tree stumps rather than completely removing every dead or damaged tree on the site. Identify suitable trees and prune back the canopy as necessary. If possible, retain any

<sup>7</sup> Deadwood – a dead branch or other part of a tree

<sup>8</sup> Snag – decaying or dead standing tree

existing hollows, and create new holes and cavities where feasible. This can be done in branches, trunks, and stumps.

Both snags and deadwood can increase wildlife habitat and dependent species. For example, loose bark is often used by bats for roosting, and many bird species use taller snags as nesting sites. The likelihood of a tree's failure, its height, and its distance from public thoroughfares are all factors to be considered determining whether to create a snag. Fallen trees may be left in woodland areas and in the water close to the shore as long as they do not pose a hazard to river and parkland users. These trees provide perches for turtles and birds and valuable microbiotic habitat below the water and in the soil.

### 3.3 Improving Tree Health

The following sections discuss tree management techniques such as pruning, removal, and replacement. All work should be completed by a qualified professional with knowledge of the vegetation management practices discussed below.

#### 3.3.1 Pruning

Pruning of trees can be performed to enhance the overall appearance of the specimen or to remove specific defects or hazards such as declining or dead branches. Vista pruning may be utilized to open viewsheds in specific locations. In all cases, the species of the tree must be identified before pruning to determine best practices for that particular plant.

Pruning should enhance the natural growth habit of the species, except when specific ornamental goals (such as topiary, pollarding, and espalier) are desired. These specialty techniques are not currently utilized in the study area; rather, pruning will be performed to remove dead, broken, crossing, and interfering limbs. The canopy of the tree may be selectively thinned to promote air circulation and reduce the occurrence of fungal issues depending on the species (ISA, 2018).

Broken, dead, or diseased branches can be removed at any time of the year, especially if the branches pose a hazard to passing pedestrians, bicyclists, or motorists. Most deciduous species can be pruned during the late fall and winter when the plant is dormant. Coniferous species should be pruned in the late winter before emergent growth. Pruning in winter reduces the risk of pests and disease and gives the plant time to compartmentalize the injury (ISA, 2018).

Tree pruning should be performed by a qualified professional, and maintenance staff should be trained to remove hazard branches correctly to prevent damage and the risk of pests and diseases. Pruning techniques may be necessary and are dependent on the species, location, and condition of the plant (University of Delaware, 2018).

#### 3.3.2 Removal

Removing mature trees can have a significant impact on the wildlife habitat and landscape diversity. Young trees cannot replace old tree structure, regardless of the quantity of trees planted. It is important to remember that habitat features increase with the age of a tree. These include greater structural complexity, height gradient, number of cavities, elaborate root systems, and large deadwood/decaying substrate and soil quality. When possible, the removal of mature trees should be avoided. Exceptions include diseased trees and invasive species, such as Tree of Heaven (*Ailanthus altissima*). When

removal is unavoidable, it is critical to consider the urban context and proximity of DCR parklands to heavily used public spaces.

Safety is the number one priority for any tree removal project. A careful review of site conditions must be performed to evaluate potential risks. These include physical characteristics of the tree and surrounding terrain, surrounding obstacles (power lines, roads, infrastructure), wind direction and proximity to public travel ways. If the structure of the tree is compromised, an assessment of potential problems during removal must be conducted. Due to the complex and often dangerous nature of tree removal work, employment of a reputable experienced/qualified professional is highly recommended. A work plan tailored to the unique conditions of the site is essential to ensure the safety of workers and the public (Harris, 2004).

In the first year, all trees classified as dangerous should be removed. Conduct removals during winter months to minimize damage to the ground, the bulk of material to be removed, and cost. To remove stumps, grind the material and remove all debris. If an insect, pest, or fungal infestation contributed to the decline of the tree, follow local regulations to ensure disposal of the material does not contribute to the spread of pathogens.

### 3.3.3 *Replacement*

Before replacing trees in a location where a tree has been removed, the reason for failure and subsequent removal must be fully understood. Urban conditions can be extremely stressful for trees, and not all sites are appropriate for tree replacement. This is especially true in spaces where there is not enough room for the expansion of a healthy root system, and where impervious surfaces (paths and roadways) are very close to the base of the tree. If the location is deemed suitable for the planting of a new tree, a species adapted to anticipated site conditions (soils/microclimate) must be chosen. The height and spread of the crown of the tree at maturity should be reviewed to determine if overhead clearance is adequate and if the space around the base of the tree will be adequate for the root zone.

New trees can be planted in the space leftover from the removed stump if the site is deemed suitable for replacement. Soils should be prepared according to specific nutrient and pH requirements for the planted tree. Soil tests of surrounding areas should be performed to determine if fertilization and/or soil amendments are needed. Water new plantings thoroughly and mulch around the base of the tree. Do not over mulch—deep mulch at the root flare (base) of the trunk will suffocate the tree and encourage fungal disorders. Do not wrap the trunk of the tree, as this encourages molds, mildew, and fungal issues. If the site is not appropriate for tree replacement, the hole left by the stump can be filled with soil and planted with grass or herbaceous materials in the spring (Johnson & Johnson, 2008). A long-term maintenance plan for all newly planted trees is highly recommended. An annual assessment of trees should be performed by a qualified professional to monitor new plantings and determine changing maintenance requirements.

## 3.4 Ground Stability and Erosion Control

Shoreline stabilization techniques are site-sensitive, due to the variable conditions along the shore of the Charles River. The recommendations listed below should be considered a list of possibilities and not a one-size-fits-all approach. Some stabilization strategies can be quite labor intensive, and others require special machinery. Coordination of volunteer and staff resources will be essential to ensure the success of restoration endeavors.



### 3.4.1 Slope Stabilization

This section describes methods for bio-stabilizing existing erosional areas and includes suggestions ranging from limited to maximized protection. Proper stabilization measures should be based on specific site conditions and erosional forces at play. For instance, if the erosion is minor and due to foot traffic, limited protection measure may be adequate. However, if the location is subject to wave and wind action a more substantial shoreline stabilization method may be necessary.

All stabilization practices provided within this plan have been developed and will be installed in accordance with “A Soil Bio-engineering Guide for Streambank and Lakeshore Stabilization,” developed by the U.S. Department of Agriculture Forest Service. The techniques proposed for this project were selected not only to provide protection of the shoreline but also to mimic and create a natural riverine environment and provide habitat for riverine species. The techniques listed below are described in greater detail in Section 3.1.4 – Vegetative Restoration.



Figure 29. Example of Pathway at the Edge of the Shore with Subsequent Tree Decline.

- Revegetation – use where the shore is disturbed but not significantly destabilized.
- Live Staking – ideal for slopes with minimal erosion. May be combined with other stabilization methods.
- Vegetation in Riprap – utilized where existing riprap are either bare or populated with undesirable species. Riprap should be evaluated to determine if repairs are needed before planting. Installation of new riprap may be necessary where the shore experiences regular erosional factors. Integration of vegetation within newly constructed riprap is recommended.
- Vegetation in Cribbing – can be utilized on moderate slopes with limited vegetation. Not ideal for overly steep slopes.
- Contour Wattling – used on slopes with minimal erosion. Should not be used in areas experiencing significant erosive action.
- Brush Layering – works on badly eroded slopes, but not in areas with loose/unstable soils.
- Erosion Control Matting – may be utilized on steep slopes adjacent to roadways and in areas where construction activities have destabilized the shore.  
(Homziak, 2004)

Erosion prevention along the Charles River can also be accomplished through proper park and pathway designs. This technique is described in further detail, below.

### 3.4.2 Pathway Improvement

In order to prevent further erosion along the banks and protect environmental resources, several measures can be implemented to promote proper path and park design. These include proper buffer plantings to prevent off-path access, specific call outs for access to fishing and boating, and proper signage to prevent intrusion into sensitive areas.

### *Plantings to Discourage Access*

Plantings of appropriate species along the bank of any pathway is a good first start to discourage parkgoers from accessing sensitive areas such as wetlands or recently restored banks. Plantings should exhibit the following characteristics:

- Generally, woody species do the best. Shrubs are difficult to navigate and push aside and provide ample resistance when people attempt to go around them.
- Species should be tightly grouped together to provide a physical barrier.
- Species should be low enough to not obscure views to the river and pathway sightlines.

This technique can be used to discourage users from creating footpaths or access points along the river which threaten the stability of the shoreline and contribute to sediment accumulation in the waterway.

### *3.4.3 River Access*

It is important to provide formalized locations for river access at regular intervals and popular locations. These access points can be designed to accommodate heavy foot traffic, soft launches, or fishing. Structured river access can be accomplished with the installation of wood deck overlooks or hard scape areas with a small natural retaining wall along the shore. Inclusion of built river access will prevent erosion issues resulting from informal recreational entry points.

## **3.5 Soil Management and Analysis**

The soils in the plan area are primarily urban fill with a top layer of imported topsoil. The key soil management issues are prevention of erosion of existing soils into the water body, improving soil health by maximizing nutrient cycling and microbial health of existing soils to support native ecosystems, and minimizing introduction of weeds and/or invasive species when new soils are brought onto the site.

### *3.5.1 Erosion Prevention*

Maintenance practices and user activities close to the water's edge must be designed to prevent erosion. Pruning and mowing heights need to be managed so that scalping of the ground does not occur. Maintenance practice guidelines to prevent erosion are included under "Proposed Routine and Periodic Maintenance Activities" for each management area type discussed in Section 4. As proposed restoration projects and future capital improvements are implemented, they shall include erosion prevention practices such as revegetating bare areas of shoreline and diverting and infiltrating stormwater to minimize erosion. All capital projects shall include a soil management and erosion control plan.

### *3.5.2 Improving Soil Health*

Nutrient cycling and a symbiotic microbial flora in the soil are key to native plant community health. A diverse matrix of plants will create a more active, functioning rhizosphere<sup>9</sup> with a plethora of microbial species. Diverse plant communities are shown to process nutrients more effectively and capture and treat soil and water born pollution (Kennen and Kirkwood, 2015). By improving the diversity of plants in a system, overall soil health and the pollution removal capacity of buffer plantings will be improved. In

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<sup>9</sup> Rhizosphere: Soil surrounding the plant roots that is influence by the plant root and has a more active microbial population (Kennen and Kirkwood, 2015)

addition, any project-based work shall test existing soils and consider composition prior to design. Soils in the basin may be rich in nutrients (from runoff) and salt (from snow management) and can drastically alter the species present, encouraging non-natives to outcompete other species. Snow management practices will consider where and when salt is applied, and how it affects the adjacent species composition. Salt should be removed from maintenance practices wherever possible, when safety conditions allow, and other snow management solutions are available.

### 3.5.3 *Imported Topsoil and Soil Amendments*

Newly imported topsoil and soil amendments, such as compost for capital improvements projects, can also bring in a host of undesirable species onto a site. Topsoil and compost will be specified to be weed-free to the greatest extent possible. In addition, when new soils are brought onto a site, they should be allowed to sprout and express their weed seed, then the weeds removed (usually with carefully managed herbicide), then let sprout again, weeds removed yet again, and then planted or seeded with the intended species. This process eliminates the majority of the seed bank problems prior to planting with the desired species. If a disturbance event occurs in the future and soils are exposed, the new soil is less likely to fill in with undesirables. This process does take longer during the installation process and should be designed into projects.

## 3.6 Vistas

This section provides an overview of the historic river views (i.e., vistas) as well as original design intent and a recommended course of action. Much of the Lower and Middle Basins are actively maintained to provide open-water views for park visitors and events, including the Head of the Charles Regatta and the 4<sup>th</sup> of July celebration, which brings nationwide attention to the river. Throughout the Upper Basin, the area west of the Eliot Bridge, (the Head of the Charles finish line), views are limited by dense wooded vegetation along the shore. Vista objectives of this RVMP include:

- Keeping the lower basin vistas open per the original historic design intent.
- Establishing new vistas throughout the dense portion of the park west of the Eliot Bridge at a series of existing infrastructural elements, as well as at each of the proposed restoration plots.

These actions will enhance the visitor experience and celebrate the original design intent of the Charles River Basin.

Planning for vistas is one cultural component of an overall approach to managing the river through targeted restoration, pruning, and vegetation management. This section is intended to connect the overall management objectives with the goal of creating and maintaining key vista locations along the river.



Figure 30. Charlesbank.

As the river and park land developed, views into the changing river system also changed. The vast open saltmarshes of the lower basin were converted into open park landscapes supported by solid seawalls as seen in this historic photo. (Source: Haglund, 2003)

### 3.6.1 *User Groups*

The Charles River's scenery is viewed from a variety of angles by hundreds of thousands of people every day. Between commuters zipping along Storrow Drive and Soldier's Field Road (average daily volume of 80,000 cars), students biking to class, and tourists renting kayaks, there is no shortage of ways to experience the river. Each of these means must be considered in planning for maintaining and enhancing the future of this scenic reservation (BRMPO, 2006).

People viewing the river can be categorized into three general user groups:

- Abutters who own property at the park edges.
- Drivers/passengers traveling the roads adjacent to the park.
- Park visitors (pedestrians, cyclists, and occupants).

Each group brings their own distinct needs that can be used to develop criteria for evaluating successful vegetation management of vistas.

Abutters - neighbors (residential, institutional, corporate) with views of the park or river, are assumed to place value on being able to see into and across the park. Many abutters, especially along the middle and lower basin, will see the park from an overhead view. These viewers will be concerned primarily with the obstruction of the view by the tree canopy. Along the lower basin, there are currently intermittent views of the water through regular mature shade trees within the parks and along the road.

Drivers and passengers travelling along the Charles River will see the park from car level (approximately 3.5 feet above grade) at driving speeds (avg: 35 miles per hour). Glimpses of the river can be appreciated by road and should be considered along the full length of study area. A pattern of intermittent views along the densely vegetated upper basin would enhance the current driver/passenger experience. Views at stoplights and bridges may also be considered desirable because drivers can pause to see the vista; however, air pollution from idling vehicle emissions (primarily particulate matter) is a concern. This can be minimized with the planting of a thick vegetated buffer within 100 meters where cars are idling (Kennen and Kirkwood, 2015).

The study area has a wide variety of park patrons whose views, speed of travel, desired programs, events, and park engagement should all be considered. While the active-use park visitor (bikers, runners, etc.) may move rapidly through the park, they may still have chosen that route to experience the river, the landscape, and uninterrupted miles of trails. A passive park user (a family on a picnic, a painter, etc.) may look for open lawn with a view under the shade of trees. The primary bank vegetation type that will impede a park visitors view is mid to high-level woody understory. While this vegetation type can block views, it also provides important habitat value and should be retained throughout the basin.

The following subsections discuss opportunities to create or enhance vistas within the management areas identified in the RVMP. The development of a simple framework of vista types allows the DCR to implement standard clear widths at a series of locations to create intermittent views of the water in more heavily vegetated areas. This section does not address identification of invasive species for priority thinning in vistas, or detailed monitoring and maintenance techniques; rather it provides an overview on the desired locations for targeting vista installation at either proposed test plots or at existing

infrastructure (benches and DCR markers). Discussion of invasive plant management can be found in Section 3.1.3. Discussion of monitoring can be found in Section 5.3.

### 3.6.2 Primary Vista Opportunities – Restoration Areas

Key opportunities for creation of new large vista areas exist in the proposed restorations areas, which are identified for test plots. As a part of the design and implementation of the proposed test plots identified in Section 4, special care will be given to enhance, create, or preserve views (i.e., vistas) of the river and native ecologies. Combining vista creation with these objectives gives the DCR the opportunity to enhance ecological and cultural resources in a singular effort.

Where appropriate, views in the restoration areas may overlap with other vista opportunity criteria, as identified in the following subsections. Maintenance recommendations and opportunities for each vista will vary based on each location's targeted restoration techniques and desired future condition.

#### Installation Procedures

At each proposed restoration site, vistas will be located based on the following criteria: user groups present, existing and proposed vegetation, and existing and proposed views. The vistas will be installed as a part of restoration, see Section 3.6. Ongoing monitoring and maintenance will be incorporated into the plan for each restoration area, (refer to Section 5).



Figure 31. Proposed Restoration Areas. present the opportunity to address improved ecological health while also creating new views with appropriate plant species.

### 3.6.3 Secondary Vista Opportunities – Benches and DCR Markers

In addition to primary vistas at each of the proposed restoration areas, there is an opportunity to create a series of secondary vistas throughout the upper basin that would establish a rhythm of openings to reconnect bicyclists and drivers with the river while enhancing the experience of park visitors with the establishment of regular views. These vistas are located at existing benches and granite DCR markers to capitalize on improvements already in place and to simplify future vista maintenance.

In addition to creating/enhancing views, vista maintenance provides an opportunity for targeted invasive species removal throughout the park. When maintenance occurs, invasive plant species removal and planting restoration should be done in tandem to conserve resources and streamline the maintenance process.



Figure 32. Granite DCR Markers. Markers present an opportunity to open views to the river.

### Existing Benches

Many of the existing bench views are currently blocked by tall understory plants and low hanging overstory. Whenever a bench is present and facing banks vegetated with medium to high shrub and overstory (Type E) or riparian wood banks with understory (Type F) and is within approximately 30 feet of the river bank, a view should be cleared. The clearing should target the removal of mid-level understory plants and low tree branches to create a view of the water for a person sitting on the bench (eye height approximately 4 feet).



Figure 33. Existing Park Benches.

Benches throughout the densely vegetated upper basin provide numerous discrete opportunities to create views to the river.

### *Installation Procedures*

At each existing bench identified as a potential vista, a targeted pruning strategy should be implemented to create or enhance views of the river and/or adjacent landmarks. River views should be maintained in a 25-foot wide swath along the bank across from existing benches, centered on the bench and oriented from each location to create the optimal river view. All invasive plants in the view area should first be removed, following the preferred composition of plants guidelines in Section 3.1. The opening should be framed by native vegetation starting 2 – 8 feet above grade. The cleared area will be pruned of woody vegetation by focusing on mid-level understory plants. Overstory branches that fall within the vista clear area should be selectively pruned. All woody plant management in vista areas should follow the recommended pruning strategies in Section 3.3.1.

### DCR Markers

A series of granite DCR markers and landmarks located in key transition areas throughout the park system form a cohesive identity along the river. To capitalize on this successful branding tool, views to the river should be opened at each marker. These vistas will help link the trail system to the river and contribute to the rhythm of views for active-users created by the secondary vista opportunities.

### *Installation Procedures*

A clear view to the river should be established at each existing DCR marker identified as a potential vista. A 12-foot-wide clear area, starting 2-feet high above grade and extending to 8-feet high above grade should be thinned to create a view to the river beyond the existing granite plinth. The clearing is to be created by selective pruning of mid to high understory shrubs and removal of low hanging upper story branches only as necessary to create the desired view, using the recommended woody plant pruning strategies identified in Section 3.3.1. In addition, all invasive species should be removed, and native species planted in these areas while pruning the view, per the guidelines in Section 3.1.

See the Drawing and Map Atlas maps for locations for test plots and Section 3.6 for vista installation procedures.

#### 3.6.4 *Pruning Practices*

Vista pruning will be required to maintain suggested views and open space at each identified vista. Standard pruning practices should be followed for optimal plant health, on a species by species basis.

Pruning of shrubs is species and outcome specific – ornamental shrubs in manicured landscape settings may need to be pruned to promote bloom or foliage growth. Shrubs blocking desired viewsheds may be pruned to reduce the overall size or increase visibility through the vegetative material. Shrub pruning techniques should be determined on a case by case basis with special regard to the requirements of the species and resulting appearance.

When invasive species are identified at a vista location, removal efforts should be combined with ongoing vista monitoring and management activities. Priority is to be given to ensure invasive plants are to be removed using the best management practices as described in Section 3.1.

#### 4.0 MANAGEMENT AREAS AND MANAGEMENT APPROACHES

Section 4 summarizes the types of management activities that are proposed in the basin area for each of ten management area types, which are listed below as types A through J:

- Type A—Passive Recreation
- Type B—Active Recreation
- Type C—Meadow
- Type D—Roadway and Shared-Use Paths
- Type E—Low to Medium Herbaceous with Shrub and Overstory
- Type F—Medium to High Shrub and Overstory
- Type G—Riparian Wooded Banks with Overstory
- Type H—Biological Wetland<sup>10</sup>
- Type I—Engineered Structures—Revetments and Riprap
- Type J—Engineered Structures—Bulkheads

Management area types are defined to group areas with similar ecologic conditions and similar management needs. This is intended to simplify and logically combine the types of management proposed. Each subsection below provides a discussion of the follow:

- Existing conditions, which are used define each management area type. Existing Conditions Mapping can be found in Drawing Atlas: Section 1 – Existing Conditions Mapping.
- Proposed management objectives, which identify specific management objectives for each type of management area.
- Proposed routine and period maintenance activities. Routine maintenance refers to weekly and monthly management activities. Periodic maintenance refers to management activities that are scheduled to occur 1-3 times during the growing season. Detailed Routine and Periodic Maintenance instructions and schedules can be found in Appendix B: Maintenance Plan.
- Proposed test plots. Test plots are proposed to be implemented and monitored in the first two years after approval of the RVMP. They will allow for observation and refinement of management approaches for implementation in subsequent years. Refer to the Drawing Atlas for Proposed Test Plot Planting Plans, Proposed Plant Lists, and Site Details.
- Recommended capital improvement projects, which refer to recommendations that are likely to require allocation of special resources, particularly capital, and more than two years to implement. Potential Future Capital Improvement Project Mapping can be found in Drawing Atlas: Section 2 – Proposed Projects Mapping. Detailed Potential Future Capital Improvement Project descriptions can be found in Appendix B: Maintenance Plan.

DCR anticipates conducting RVMP implementation using DCR staff, contractors and nongovernmental stakeholders who use and assist in managing DCR properties. A management framework is created for all these stewards of the Charles River Reservation to organize management and help DCR achieve the

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<sup>10</sup> Biological wetland is a nonregulatory term that refers to areas such as cattail marshes and red maple swamps, intermittent streams, floodplains but is intended exclude buffering and perimeter areas.



vegetation management goals. Tabular summaries of management approaches for each management area include listing of the intended responsible party for management.

#### Use of Test Plots

Test plots are proposed for first implementation of management techniques for each of the management area types. Test plots are proposed to be implemented and monitored in the first two years after approval of the RVMP. Test plots will allow for observation and refinement of management approaches for implementation in subsequent years.

Test plots with corresponding control plots have been chosen to represent the 10 cataloged management area types. Various management strategies will be tested within each of the 50-foot test plots. Monitoring will be conducted over a two-year period to assess and quantify changes in species composition and abundance. (The detailed monitoring protocol is included in Section 5.3). An annual report for the conservation commissions will be generated that summarizes the control, monitoring efforts and recommendations. The results of these test and control plots will help to inform future capital improvement projects and shifts in maintenance practices.

Test plots are summarized in Table 12, next page, and have been identified and detailed as planting management and restoration strategies in this section by management area. In addition, plans and diagrams for these projects are included in the Drawing and Map Atlas: Section 2 - Proposed Projects Mapping.

Table 12. Test Plot Projects

Key-Type	Management Area	Mgmt Item #	Description
I	Engineered Structures—Revetments and Riprap	P1	Test Plot P1—Teddy Ebersol's Red Sox Fields near Lederman Park, Southside- Restore Low Herbaceous Rip Rap/ Scouring and ongoing care. Maintain vista.
E	Low to Medium Herbaceous with Shrub or Overstory	P2	Test Plot P2—Esplanade dock, Southside—Restore Low Herbaceous Planting at west side of dock ramp and Ongoing Care
D	Roadway and Multi-Use Paths	P3	Test Plot P3—Between Esplanade Outdoor Gym and Boston University Bridge, Southside—Restore/ Revegetate Eroded Path Along the Shore and Ongoing Care
H	Biological Wetland	P4	Test Plot P4—At Magazine Beach. Restore wetland and ongoing care.
F	Medium to High Shrub and Overstory	P5	Test Plot P5—North of Western Avenue, Northside—Restore Medium-High Shrub Shoreline and Ongoing Care
C	Meadows	P6	Test Plot P6—Eliot Bridge, Southside—Convert Passive Lawn to Meadow and Ongoing Care
F	Medium to High Shrub and Overstory	P7	Test Plot P7—Western side of Arsenal, Southside—Remove Knotweed at Shore, Replant with Medium to High Species and Ongoing Care
G	Riparian Wooded Banks with Understory	P8	Test Plot P8—Watertown Dam, South Side—Restore Riparian Wooded Bank.

## **A** TYPE A: TURF - PASSIVE RECREATION



### 4.1 Type A: Turf – Passive Recreation

#### 4.1.1 Existing Conditions

*Predominant Plant Community:* Non-native cool season grasses and warm season weeds

Typically used for passive recreation, these areas have varying degrees of vegetation and shoreline protection. Trees, shrubs and herbaceous vegetation adjacent to lawn areas can be either dense or intermittent, depending on the level of shoreline disturbance and land use. Impervious surfaces such as paths and structures are often located in these management areas. Open viewsheds, visual river access, manicured lawns, and a system of shared-use paths promote public use.

Though not specific to Type A: Turf – Passive Recreation, sediment, pollution, and nutrient loading is a serious concern in the Charles River. These factors contribute to eutrophication, declines of aquatic species and unsafe water quality. Reducing herbicide, fertilizer, and/or pesticide use is especially important in areas with limited shoreline protection and expansive turf.



Figure 34. Type A: Turf—Passive Recreation.

#### 4.1.2 Proposed Objectives

- Reduce maintenance- Minimize mowing practices where possible (which are resource and energy consumptive)
- Increase infiltration/minimize nutrients and runoff
- Increase pollinator and animal habitat while still allowing for passive recreation where most desirable
- Increase vegetative buffer where turf areas are currently too close to the shore

*Plant Community Objective:* Native mix of cool season and warm season low-mow grasses with flowering forbs to provide pollinator habitat. Remove and replant with meadow or low mow grass seed where uses allow.

Many of the existing turf areas in this category are pass-through landscapes, where pathways and transportation corridors exist, but no other passive recreation activities occur. They are primarily maintained as lawns 1) to keep a neat appearance, and 2) they have always been that way, and maintenance practices have not changed. These pass-through landscapes in this category are prime locations to convert to meadows and low-mow grass areas. These taller-grass and forb locations will

not only provide increased pollinator, bird and small mammal habitat, but will limit open grass areas for Canada geese, thereby decreasing feces and nutrient loading via stormwater. Locations for these conversions have been identified on the Drawing Atlas: Section 2 – Proposed Project Mapping.

Establishing low-mow zones, meadows, and enhancing shoreline stabilizing plantings where appropriate will greatly assist with protecting the shoreline against erosion, as well as increasing biodiversity and habitat, especially for pollinators. Taller grasses provide cover and camouflage for birds and provide visual interest across the landscape. Establishment of meadows and low-mow areas in existing turf areas will protect trees from mower and mechanical damage and may help to maintain soil moisture around planted trees. Where appropriate, the establishment of native perennial grasses is advised to reduce overall management and increase resilience and diversity across the landscape.

Another cause for concern in these areas is increased runoff due to compaction of soils, impervious surfaces, improper conveyance of stormwater, and insufficient vegetated buffers along the shore. Erosion control matting, live staking with buffer plantings, contour wattling, and other green infrastructure strategies are methods used to intercept and promote infiltration of stormwater. Finally, limited no-mow zones may be an effective way to increase the width of the vegetative buffer without expensive, labor-intensive planting. No-mow zones allow forests to return via succession but must be monitored for invasive plants during establishment.

Rain gardens and other green infrastructure measures are an excellent option for underutilized, maintenance intensive turf areas. Massachusetts Department of Environmental Protection stormwater standards direct municipalities to eliminate or minimize loss of annual recharge into the groundwater through the installation of environmentally sensitive site design and stormwater best management practices (MassDEP, 2008). Rain gardens can be planted in areas adjacent to impervious surfaces with high runoff volumes. As storm events become more severe, incorporating green infrastructure into the landscape is increasingly prudent.

#### 4.1.3 Proposed Test Plots

Test Plot P6—Eliot Bridge, Southside—Convert Passive Lawn to Meadow and Ongoing Care. A large expanse of lawn exists to the east of Eliot Bridge, with intermittent tree cover. The creation of sun and shade meadows/low-mow areas are recommended for this location. Meadows contribute to biodiversity and reduce the need for carbon-intensive maintenance. The establishment of meadows will increase infiltration rates of stormwater and will contribute to genetic resilience across the landscape. See Drawing Atlas for plans and specifications for this test plot.

A significant amount of passive lawn exists that is recommended to be transitioned to a low-mow meadow or taller meadow use. These areas are identified in Drawing Atlas: Section 2 – Proposed Projects Mapping.

## **B** TYPE B: TURF - ACTIVE RECREATION



### 4.2 Type B: Turf - Active Recreation

#### 4.2.1 Existing Conditions

*Predominant Plant Community:* Non-native cool season grasses and warm season weeds.

Type B: Turf-Active recreation management areas may contain artificial and natural turf fields, structures, soft and hard boat launches, aquatic resources (pools/splash pads) and playgrounds. Active recreation sites are likely to have extensive impervious surfaces in the form of parking, buildings, pathways, and play areas. Varying degrees of shoreline protection and vegetation exist along these areas, and views may be extensive or limited, depending on the site. Active recreation areas are often situated next to or within larger passive recreation land uses.

Most of the active recreating turf areas in this category are repeatedly mown, but not fertilized or chemically treated. The exception to this is the North Point Parks, which are chemical treated with a traditional program, and the Hatch Memorial Shell area which is organically managed.



Figure 35. Type B: Turf--Active Recreation.  
These areas provide opportunity for sports and active play.

#### 4.2.2 Proposed Objectives

- Increase infiltration/minimize nutrients and runoff
- Reduce nutrient loads (revise management practices)
- Increase vegetative buffer where turf areas are currently too close to the shore

*Plant Community Objective:* Native mix of cool season and warm season low-mow grasses with flowering forbs to provide pollinator habitat.

Sediment, pollution, and nutrient loading are relevant concerns in Type B: Turf- Active Recreation areas. Stormwater runoff velocity increases as more impervious surfaces are added to the landscape. Where natural shorelines exist adjacent to large sport fields and associated infrastructure, the impact of heavier storm flows is evident along the shoreline. It is critical to establish an adequate buffer of trees and herbaceous species exist between intensive land use areas and the water's edge. Restoration of the shoreline and expanded areas of shoreline stabilization plantings are needed where the impacts of development are evident.

Management of turf with active recreation area is similar to management of turf with passive recreation area. Establishing a clear edge between turf areas and native species/riparian tree plantings will minimize the occurrence of disturbance, which creates ideal conditions for invasive species.

Due to the popularity of Active Recreation sites, green infrastructure, pollinator gardens, and educational native planting restoration sites are ideal for these locations. Educational signage will inform the public of the need for ecological restoration and the importance of the Charles River Watershed. A turf management plan and the installation green infrastructure to infiltrate stormwater is advised to reduce nutrient loading.

#### 4.2.3 *Proposed Test Plots*

Test plots are not proposed for Turf – Active Recreation areas at this time.

Recommendations for Turf-Active Recreation include the following:

- Do not allow traditional fertilizer and chemical programs to be used. Change North Point RFPs for outside contractors.
- Turf mow height to be 3 inches or greater
- Where compaction is significant, and resources allow, aerate, topdress with compost over overseed with low-mow seed mix
- For new installations where a mown appearance is required, plant with a low-mow seed mix with fescues and forbs (see plant lists) where possible, rather than a traditional grass seed mix.

## TYPE C: MEADOWS



### 4.3 Type C: Meadow

#### 4.3.1 Existing Conditions

*Predominant Plant Community:* Non-native cool season grasses and warm season weeds.

There is little if any meadow in the study area currently. Current conditions of potential meadow areas consist primarily of turf with varying degrees of management. Existing meadows are more accurately described as no-mow zones. Species composition includes turf grasses allowed to go to seed and a mix of weedy herbaceous plants. There is only one small area along Greenough Boulevard that was originally designed as a meadow and is currently only cut a few times a year. This installation however, was not originally installed with an appropriate mix flowers and forbs to create long-term success. In addition, the soils were not managed to prevent weed growth during meadow establishment. Meadow success is determined by the amount of care taken before and after an installation. New seeded areas must be actively maintained for one to two years until desired species have adequate distribution.



Figure 36. A Low-Mow Zone.

#### 4.3.2 Proposed Objectives

- Promote biodiversity
- Reduce maintenance (reduce mowing)
- Promote infiltration

*Plant Community Objective:* A diverse mix of native cool and warm season grasses and flowering forbs to provide pollinator habitat.

Establishing meadows will help support important ecological functions and values - there are many and diverse opportunities in the study area to establish meadows. It is recommended that meadows be established where turf is no longer necessary for recreational purposes in order to reduce unnecessary inputs and maintenance while promoting ecologically diverse landscapes for pollinators, birds and other wildlife.

#### 4.3.3 Proposed Test Plots

Test Plot P6—Eliot Bridge, Southside—Convert Passive Lawn to Meadow and Ongoing Care. A large expanse of lawn exists to the east of Eliot Bridge, with intermittent tree cover. The creation of sun and

shade meadows/low-mow areas are recommended for this location. Meadows contribute to biodiversity and reduce the need for carbon-intensive maintenance. The establishment of meadows will increase infiltration rates of stormwater and will contribute to genetic resilience across the landscape.

Recommendations for Meadows:

- Convert one lawn area to meadow per year, as identified in the matrix that follows.
- Provide seed mixes from local sources, with priority given to products from the local seed bank, when possible.
- All plants are to be 3' height max and native to the Charles River Basin.
- Once established, cut meadow back once per year in March/February.





## TYPE D: ROADWAY AND MULTI-USE PATHS



### 4.4 Type D: Roadway and Shared-Use Paths

#### 4.4.1 Existing Conditions

*Predominant Plant Community:* Along roadway edges, non-native cool season grasses and warm season weeds dominate (including Tall Chicory (*Cichorium intybus*) and Mugwort (*Artemisia vulgaris*) that need to be continually cut.) Along the shoreline, False Indigo (*Amorpha fruticosa*), Staghorn Sumac (*Rhus typhina*), Tree of Heaven (*Ailanthus altissima*), Evening Primrose (*Oenothera biennis*), and Goldenrod (*Solidago spp.*) dominate with other interspersed native and non-native trees. Sections of Knotweed (*Polygonum japonica*) and Phragmites (*Phragmites australis*) are also found. These plants all grow well in disturbed, compacted, salt-impacted soils in a mostly full-sun condition.



Figure 37. Roadways and Multiuse Paths.

A lack of adequate shoreline vegetated buffer is the primary characteristic of Type D: Roadway and Shared-Use Paths. Sporadic tree cover, shrubs, and herbaceous species are present, but this condition is often dominated by trees. Shoreline conditions are typically extremely steep, dominated by trees and sparse understory shrubs. Many trees are suffering from contaminated runoff, poor soils, and insufficient shoreline depth. Salt (de-icing) damage and snow management damage are evident, contributing to the collapse of trees into the river. Declining trees pose a hazard to travelers along shared-use paths and roads.

#### 4.4.2 Proposed Objectives

- Stabilize eroded shorelines
- Replace declining shoreline plants with pollution-tolerant/shore-stabilizing species
- Protect existing infrastructure
- Transition roadway and multi-use path shoulders from tall weeds and turf to low-mow lawn or meadows that are maintained organically.

*Plant Community Objective: Along roadway edges and medians:* Native mix of cool season and warm season low-mow grasses with flowering forbs to provide pollinator habitat and to reduce need for string trimming.

*Plant Community Objective: Shoreline vegetation:* Increase ratio of native to non-native species, by replacing non-native plants with native salt tolerant species with high habitat and high air-pollution buffering value.

Invasive species are a concern in this management area, but they also serve to stabilize the shore, especially in areas where pollution, poor soils, and steep slopes are present. Invasive plant removal strategies must be accompanied by immediate replanting to maintain the integrity of the river edge.

To prevent further erosion and minimize pollution from adjacent roadways, replanting of vigorous native shrubs and trees adapted to salt and urban conditions is recommended.

Vegetated cribbing is another viable option in this management condition. Where slopes are too steep to adequately maintain vegetation, a living engineered structure may be installed to increase the depth and width of the shore. This strategy will provide additional space for appropriate native plantings and increase flood resilience. This intensive measure should be considered to protect the critical infrastructure just above the river's edge.

#### 4.4.3 *Proposed Test Plots*

Test Plot P3—Between Esplanade Outdoor Gym and Boston University Bridge, Southside—Restore/Revegetate Eroded Path Along the Shore and Ongoing Care. Joggers have created a footpath adjacent to an existing asphalt multi-use path close to the river edge. Erosion of exposed soils, minimal vegetative cover, and compacted tree roots are a result. Revegetation with low-lying shrubs and herbaceous perennial in the area between the asphalt path and river is recommended. Establishment of a stabilized footpath and formal river access may be appropriate in this area.



## TYPE E: LOW TO MEDIUM HERBACEOUS WITH SHRUB OR OVERSTORY



### 4.5 Type E: Low to Medium Herbaceous with Shrub and Overstory

#### 4.5.1 Existing Conditions

*Predominant Plant Community:* False Indigo (*Amorpha fruticosa*) dominates the shore edge. Evening Primrose (*Oenothera biennis*) and Goldenrod (*Solidago spp.*) are scattered throughout, and as Phragmites (*Phragmites australis*) and other invasive plants occur in pockets. These plants all thrive with by continuously cut, in compacted soils, and in mostly full-sun conditions.

In Type E: Low to Medium Herbaceous with Shrub and Overstory management, these areas have been historically cut by both the DCR and various non-profit groups to manage the height of the vegetation at the shore. These areas typically are found within the lower basin/ esplanade where views are prioritized. The condition of the shoreline varies depending on location – in some areas herbaceous and shrubby species may exist with overstory trees. In other locations the shore edge is without overstory and the density of herbaceous and shrubby material may be rather sparse. Where the shrubby material is dense, the shoreline edge is relatively stable.

As with other conditions, nutrient loading from dog and geese feces, chemical controls and stormwater runoff is a concern where there is insufficient vegetated buffer at the shore. Sparse vegetation contributes to erosion and is an ideal condition for invasive species. Where trees are absent, invasive species are more likely to thrive with ample sunlight. A shoreline edge without ample vegetated buffer also invites Canada geese to populate and thrive in passive recreation lawn areas.

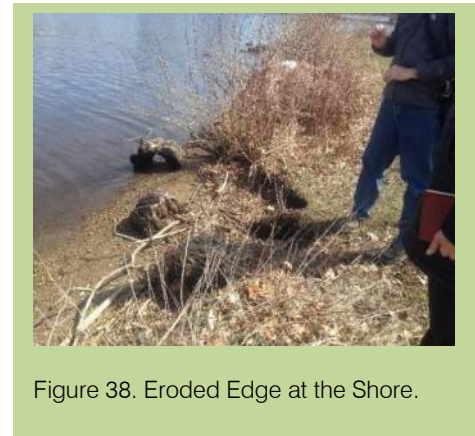


Figure 38. Eroded Edge at the Shore.

#### 4.5.2 Proposed Objectives

- Shift ecological/botanical community composition to promote biodiversity
- Establish plantings consistent with viewshed objectives
- Increase vegetative buffer width to stabilize the shore

*Plant Community Objective:* Native mix of riparian herbaceous plants and shrubs that naturally grow to a maximum of 3' height. Increase the vegetated buffer width to a minimum of 7' wide along the shore.

Remove invasive plants and reestablish low-herbaceous native plants along shoreline to maintain visibility of river and reduce the amount of maintenance cutting required. Living shoreline creation, overstory restoration, and diverse planting strategies are viable restoration options. Low-lying native species may be established where viewsheds are desired; however, intermittent stands of trees should also be considered to shade out invasive species and to provide stable shoreline conditions.

Dense plantings with a diverse palette of native plants behind existing shoreline vegetation will increase the width of the vegetative buffer to provide greater protection of the shore. To stabilize the shore, biodegradable coir logs shall be placed parallel to the contour at the edge of the existing shoreline.

Backfill soil will be placed behind the coir log at a shallow slope up to the edge of the eroded bank. A coir erosion control mat will be attached to the coir log and staked into the ground over the backfilled soil. Plantings will be placed directly into the erosion mat in a clustered pattern.



Figure 39. Low to Medium Herbaceous with Shrub or Overstory.

#### 4.5.3 Proposed Test Plots

Test Plot P2—Esplanade dock, Southside—Restore Low Herbaceous Planting at west side of dock ramp and Ongoing Care. The vegetative buffer in this area is sparse, narrow and primarily composed of invasive species, including *Phragmites australis*, *Cuscuta* (Dodder) and *Calystegia sepium* (Bindweed). Revegetation with low-lying native shrubs and herbaceous perennials is recommended to prevent degradation of the bank.

## **F** TYPE F: MEDIUM TO HIGH SHRUB AND OVERSTORY



### 4.6 Type F: Medium to High Shrub and Overstory

#### 4.6.1 Existing Conditions

*Predominant Plant Community:* False Indigo (*Amorpha fruticosa*) dominates the shore edge. Evening Primrose (*Oenothera biennis*), Goldenrod (*Solidago spp.*), and Autumn Clematis (*Clematis paniculata*) are scattered through as well as Staghorn Sumac (*Rhus typhina*), Tree of Heaven (*Ailanthus altissima*), Phragmites (*Phragmites australis*) and other invasive plants in pockets. These plants all thrive in compacted urban soils in a mostly full-sun condition and have been historically cut to manage woody trees from moving into these areas.

Medium to High Shrub and Overstory shoreline conditions are found primarily in conjunction with passive recreation land uses. Public river access (structured or unstructured), lawns, and impervious surfaces are likely to be found. Tree canopy is intermittent, with a dense shrubby understory. Views are limited to river access points and managed public spaces.

Common concerns seen in other management areas are evident in Medium to High Shrub and Overstory. Examples include turf damage, nutrient loading where vegetation is sparse, and tree hazards. Overgrown vegetation, limited tree plantings, and viewshed obstruction are common problems.

#### 4.6.2 Proposed Objectives

- Shift ecological/botanical community composition to promote biodiversity and native species
- Establish overstory plantings to reduce prevalence of invasive species
- Increase vegetative buffer width to stabilize the shore

*Plant Community Objective:* Increase ratio of native to non-native species in overstory and shrub layer, by replacing non-native plants with native shade trees and shrubs with high habitat value.

The priority for this area is to control invasive species, especially those on the early-detection list. Invasive species in this area type may be controlled by mechanical/chemical means. Identifying likely or potentially invasive species and developing appropriate management plans is a proactive step that will limit detrimental effects to biodiversity and habitat in the future. Previous restoration efforts (e.g., Magazine Beach) should be referenced to inform restoration strategies. Furthermore, invasive plants may be difficult to remove without negatively impacting native species due to the density of vegetation.



Figure 40. Medium to High Shrub and Overstory shown with degradation of the vegetative buffer.

Therefore, it is important to exercise caution and protect desired vegetation when controlling for invasive species. Erosion issues are less likely where dense vegetation occurs; however, steep slopes with poor soil conditions are commonly found. A strategy for the stabilization of steep slopes should be considered before the removing any vegetation.

A variety of methods may be utilized to stabilize the shoreline and restore vegetation in Medium to High Shrub and Overstory management areas. Shrubs and overstory trees should be planted where stabilization of the bank is desired. A dense matrix of shrub and tree plantings will provide an excellent vegetative buffer to absorb stormwater runoff and will supply adequate root structure to prevent shoreline erosion. Medium to high shrubs may also be planted in clusters amongst low herbaceous material to add visual interest and promote diversity.

Live staking may be used where erosion is minimal, the slope is relatively shallow, and competition from adjacent vegetative material is minimal. Live staking is not recommended where vistas are required, as many woody species used for live staking will not be low enough to encourage views. Where the slope is seriously degraded, live staking in cribbing may be recommended.

Contour wattling and brush layering may be appropriate if the slope is wide enough to properly utilize the strategy. This method may be used where a stand of invasive material is removed. In this condition, the use of contour wattling or brush layering will stabilize the shore long enough for plantings to become established. Erosion control matting may also be required if extensive invasive species have been removed.

#### 4.6.3 *Proposed Test Plots*

Test Plot P5—North of Western Avenue, Northside—Restore Medium-High Shrub Shoreline and Ongoing Care. The shoreline edge is dominated by *Amorpha fruticosa* (False Indigo), *Calystegia sepium* (Bindweed) and stands of *Ailanthus altissima* (Tree of Heaven). The shore is very steep in this area and current cutting strategies leave the shore bare at certain times of the year. Removal of Tree of Heaven and other invasive plants is recommended. Subsequent replanting with mid-height shrubs and herbaceous perennials will be necessary to stabilize the shore and prevent recolonization of invasive species.

Test Plot P7- Western side of Arsenal, Southside- Remove Knotweed at Shore, Replant with Medium to high Species and Ongoing Care. *Polygonum cuspidatum* (Japanese Knotweed) and intermittent stands of *Ailanthus altissima* (Tree of Heaven) dominate the shoreline at this location, blocking visual access and crowding out native species. Existing benches and proximity to the shared-use path make this an ideal viewshed location. Removal of invasive species and subsequent replanting of native shrub and herbaceous materials is recommended. Intermittent plantings of trees at the slope crest is recommended to shade out invasive species and enhance shoreline stabilization.



## TYPE G: RIPARIAN WOODED BANKS WITH UNDERSTORY



### 4.7 Type G: Riparian Wooded Banks with Understory

#### 4.7.1 Existing Conditions

*Predominant Plant Community:* Overstory of mixed native and non-native tree species consisting of a diversity of trees (Red Maple (*Acer rubrum*), Oaks (*Quercus* spp.), Beech (*Fagus* spp.), Ash (*Fraxinus* spp.), White Pine (*Pinus strobus*), Tree of Heaven (*Ailanthus altissima*), and Norway Maple (*Acer platanoides*) with a shade-tolerant woody understory of primarily invasive species (Buckthorn (*Rhus typhina*), Barberry (*Berberis* spp.), Multiflora Rose (*Rosa multiflora*) with some native and non-native shade-tolerant woody understory species (Poison Ivy (*Toxicodendron radicans*), Bittersweet (*Solanum dulcamara*)).

Riparian Wooded Banks with Understory are comprised of shoreline with intermittent to dense tree canopy, herbaceous and shrubby vegetation, and natural shoreline conditions. The understory conditions are shady, therefore the shrubs and herbaceous plants in this community area shade tolerant. These areas have not been historically cut, which is why trees are prevalent. Passive recreation activities and impervious shared-use paths are commonly found in these management areas.

Riparian wooded banks are frequently the most stable of existing shoreline conditions in the study area, especially when the slope is average and adequate width exists between the river edge and upland developed settings. Exceptions include areas where trees have collapsed into the river, creating an unstable edge. These areas also tend to have a good number of native trees in the canopy, however thick stands of buckthorn dominate the understory in most areas.

#### 4.7.2 Proposed Objectives

- Shift ecological/botanical community composition to promote biodiversity and native understory shrubs
- Stabilize eroded shorelines – correct undercut river edge conditions
- Limit/Formalize public access to reduce the possibility of compaction – damage to tree roots
- Shade/Cool the river, provide erosion control, improve water quality, shift toward layered native plant communities,

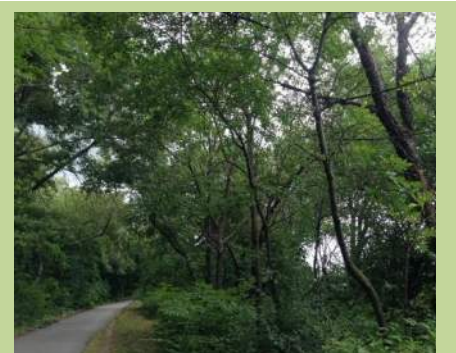


Figure 41. Riparian Wooded Banks with Understory

- Perforate with mid-story vistas for recreation resources. Increase ratio of native to non-native species in overstory and shrub layer, by replacing non-native plants with native shade trees and shrubs.

*Plant Community Objective:* Increase ratio of native to non-native species in overstory and shrub layer, by replacing non-native plants with native shade trees and shrubs.

Invasive species (e.g., common buckthorn, tree of heaven) in riparian wooded banks management areas should be removed where feasible when the removal of these species won't weaken the structure of the shoreline. Wherever vegetation is removed, native or acceptable non-native species should be immediately restored. Invasive plants are most often found in areas of disturbance – without proper restoration the removal site will quickly revert to the previous condition.

Fallen trees into the waterway can support a variety of life, providing shelter for spawning fish and feeding sites for aquatic invertebrates. If the presence of these snags does not pose a hazard to recreational river users they should be allowed to decompose in place. An additional benefit to leaving collapse trees in place in the river is the natural restoration of the shore behind the snag. Undercutting was observed in a few locations during field work – these areas could be restored by selectively allowing dead trees to remain in place in the water. Over a period of time, sediment will accumulate behind the structure of the tree. This sediment can be allowed to naturally revegetate, or a more active approach may be used to re-establish native vegetation and a desired gradual slope at the bank. Due to the prevalence of invasive species along the Charles River corridor, an active replanting approach is likely necessary. If it is not feasible to leave trees in the water, coir logs may be placed at the toe of the slope. A matrix of stabilized soils, native shrubs and herbaceous materials may be planted behind the erosion control structure to reestablish the river edge.

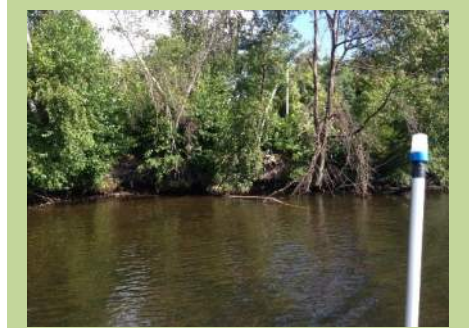


Figure 42. Undercutting at the Shore.

#### 4.7.3 Proposed Test Plots

Test Plot P8—Watertown Dam, South Side—Restore Riparian Wooded Bank. Located near the fish ladder at the Watertown Dam, this location is dominated by *Rhamnus cathartica* (Common Buckthorn), *Frangula alnus* (Glossy Buckthorn), and *Celastrus orbiculatus* (Asiatica Bittersweet). Proximity to the dam, fish ladder, and the presence of benches makes this an ideal location for vista establishment. Removal of invasive species and subsequent replanting with native understory species is recommended. See Drawing and Map Atlas for detailed plans and specifications.



## TYPE H: BIOLOGICAL WETLAND



### 4.8 Type H: Biological Wetland

#### 4.8.1 Existing Conditions

*Predominant Plant Community:* Monoculture of Phragmites (*Phragmites australis*).

Two significant wetlands exist in the study area on the northern side of the river between the Eliot Bridge and Arsenal Street bridge. Access to wetlands is currently restricted – particularly at the wetland adjacent to the shoreline closest to the Arsenal Street Bridge. Wetland conditions also occur sporadically throughout the corridor in smaller segments. The tree canopy is intermittent or dense, with dense shrub and wetland species - invasive and/or non-native wetland species dominate the landscape. Limited viewsheds, adjacent impervious surfaces (pathways), and low species diversity are all characteristics of Biological Wetland areas.



Figure 43. Biological Wetland.

#### 4.8.2 Proposed Objectives

- Shift ecological/botanical community composition to promote biodiversity
- Provide formalized public access and educational opportunities

*Plant Community Objective:* Establish a diverse mix of native wetland species.

The primary goal of biological wetland restoration is to restore biodiversity and provide access for maintenance and public enjoyment. The common reed (*Phragmites australis*) has formed a monoculture in wetland conditions. Large swaths of this reed dominate the landscape on the northern side of the river between Eliot bridge and the Arsenal street bridge. Small patches of the *Phragmites* can be found on the south side of the river along the Esplanade corridor. A systematic strategy of removal and monitoring must first be conducted before native replanting can commence.

Revegetation via seeding is the most effective method of native plant restoration in *Phragmites* dominated wetlands. Sourcing the seeds from three separate local suppliers will increase the chance of genetic diversity and resilience. Plants should be selected with the specific wetland conditions in mind – the depth of water should be recorded different times of the year to determine which species would be most successful at each site.

*Protection of Resource Areas*

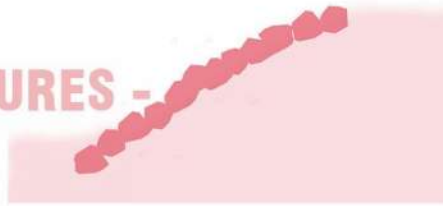
Providing structured access routes to wetland areas will increase efficacy of monitoring and management and will provide the public with recreational and educational opportunities. Increased access can be problematic if natural resource areas are not fully understood. The most efficient means of protection is often education. People are more likely to protect rather than disturb sensitive resource areas if they understand the value of these habitats. A thoughtfully designed interpretive signage program highlighting important ecological resources can be installed at active and established restoration locations.

*4.8.3 Proposed Test Plots*

Test Plot P4—At Magazine Beach. Restore wetland and ongoing care. The existing inland wetland is dominated by *Phragmites australis*. *Phragmites* has established itself as a monoculture, altering wetland soil conditions and emitting compounds toxic to native plant species upon decomposition. *Phragmites* removal and subsequent replanting with appropriate, diverse native wetland species is recommended.



## TYPE I: ENGINEERED STRUCTURES - REVTMENTS AND RIPRAP



### 4.9 Type I: Engineered Structures—Revetments and Riprap

#### 4.9.1 Existing Conditions

*Predominant Plant Community:* False Indigo (*Amorpha fruticosa*) dominates the shore edge. Evening Primrose (*Oenothera biennis*), Aster (*Symphyotrichum novae-angliae*) and Goldenrod (*Solidago spp.*) are scattered throughout, and as Phragmites (*Phragmites australis*) and other invasive plants occur in pockets.

Revetments are typically constructed of large rocks and concrete armor units, used to stabilize the shoreline and dissipate wave energy along slopes. Riprap armors a sloping shore with rocks, cobble, or broken concrete. Herbaceous and woody vegetation commonly colonizes both conditions. Along the Charles River a wide variety of shoreline conditions may exist adjacent to revetments and riprap. These engineered structures can be found at the intersections of headwalls and a natural shoreline condition, and may also be found along shores with herbaceous, woody, and overstory vegetation.

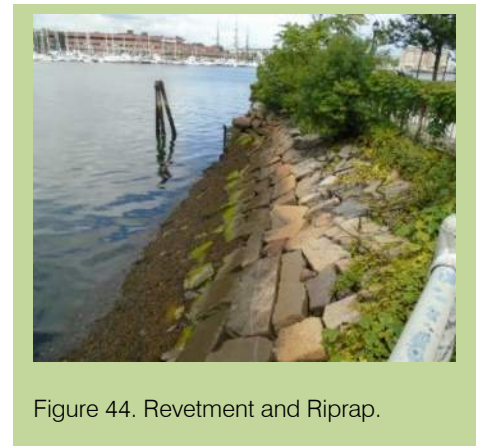


Figure 44. Revetment and Riprap.

#### 4.9.2 Proposed Objectives

- Correct scouring/riprap failure
- Establish low native vegetation in riprap to mitigate flood potential
- Increase vegetative buffer width to stabilize the shore

The objective where possible is to establish shoreline plantings on revetments and riprap to provide habitat value. Low to medium height native shoreline plants are recommended to preserve views. In some cases, revetments may be removed or modified to facilitate an engineered living shoreline condition. An excellent way to improve the appearance of revetments and riprap while increasing the resilience of the shoreline is to establish vegetation in the riprap. A variety of herbaceous and woody materials can be selected to meet desired aesthetic and viewshed purposes. Vegetative materials provide hydraulic roughness that shields the riprap from wave action and dissipates water flows (Hoag & Sampson, 2007). Low-lying native herbaceous and woody species can be planted in areas where viewsheds are desired. Interplanting in riprap will assist with the reduction of nutrient loads, sediment, and runoff volume by providing vertical absorptive buffer along the shore edge.

#### 4.9.3 Proposed Test Plots

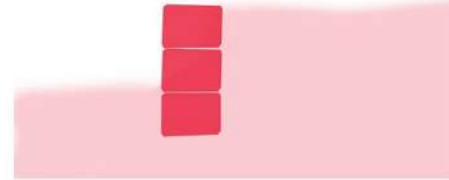
Test Plot P1—Teddy Ebersol's Red Sox Fields near Lederman Park, Southside- Restore Low Herbaceous Rip Rap/ Scouring and ongoing care. Maintain vista. Nuisance/invasive vegetation at this

location includes *Amorpha fruticosa* (False Indigo), *Calystegia sepium* (Bindweed), and *Celastrus orbiculatus* (Asiatic Bittersweet). The existing riprap shoreline is compromised by a lack of adequate vegetative buffer at the slope crest. Water has scoured behind the riprap, collapsing the bank. Soil backfill of degraded shore edge with E&S control measures will be necessary. Subsequent revegetation of native species within and behind existing riprap is recommended to stabilize the shore.

#### *4.9.4 Potential Future Capital Improvement Projects*

At Lederman Park, vegetation is heavily managed and herbaceous species dominate the river edge. Scouring has occurred behind the riprap, creating pockets of absent, eroded shoreline. A dense, vegetated edge with a backfill of stabilized is recommended in this condition. Plantings of low-lying shrubs, clustered small trees, and native grasses would improve the appearance of the shore and stabilize the edge. Buffer plantings are suggested where erosion has not yet occurred to prevent further scouring and shoreline collapse.

## **TYPE J: ENGINEERED STRUCTURES - BULKHEADS**



### 4.10 Type J: Engineered Structures—Bulkheads

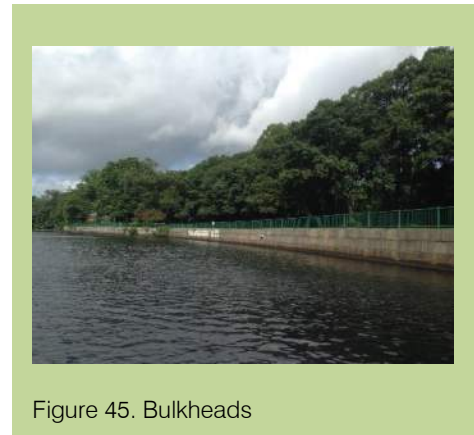
#### 4.10.1 Existing Conditions

*Current Predominant Plant Community:* N/A

Bulkheads are a commonly used engineering practice to protect vulnerable shorelines and a working waterfront. The bulkheads along the Charles River are vertical concrete and steel walls, often lined with a fence along the top. In most cases the public enjoys access along these structures and expansive views of the river. Lawns, pathways, tree plantings, and passive recreation areas are distinguishing characteristics in Engineered Structures - Bulkheads management areas.

#### 4.10.2 Proposed Objectives

- Consider floating wetlands to promote biodiversity and water cleansing along water's edge of bulkhead where possible
- Improve landscape with formalized plantings (tree/shrub/herbaceous)



Management areas adjacent to bulkheads will benefit from tree replacement and the establishment of diverse landscape plantings. Successful examples of visually interesting, topographically engaging landscapes include Paul Revere and North Point park. These spaces boast a variety of native and non-native intentional plantings, with a diverse pallet of mature and young trees.

#### 4.10.3 Proposed Test Plots:

Test plots are not proposed for this management type at this time.

Floating wetlands are an innovative approach to reduce wave velocity, increase biodiversity, and improve water quality. These floating ecosystems can be installed at headwall locations to provide river surface vegetative buffer, whose underwater filaments provide shelter for a variety of aquatic organisms. Available as modular structures, these products can be customized into a variety of shapes and sizes to fit the needs of any site. A wide range of plant material can be supported, from small perennials and grasses to large shrubs and trees. The structures are comprised of coir filled mats and can be biodegradable or contain non-biodegradable layers to provide more permanence. Root structures from wetland plantings extend into the water, providing a matrix which will support water quality and provide

food and habitat for fish. Floating wetlands may be considered for future restoration projects in locations with hard, engineered edges (Biomatrix Water, 2018).

## 5.0 MANAGEMENT LOGISTICS

The ongoing management strategy defined in this plan is intended to offer a pragmatic approach that realistically considers DCR's available resources as well as partnership opportunities with stakeholders such as environmental groups and the rowing community.

### 5.1 Schedule

This section of the RVMP discusses scheduling of management for vista clearing, cutting and invasive plant management as well as routine and periodic maintenance.

#### 5.1.1 *Previous Vista-Clearing Practices and Schedule*

For over 20 years, the schedule and method of cutting vegetation in viewsheds along the Charles River has been strictly based on programmed events and efficiency due to existing funding and staffing constraints of the DCR. The primary times for cutting the shoreline vegetation to create views by DCR Staff are in the 3 weeks leading up to the Esplanade 4th of July Celebration (June 10-July 4) and the 3 weeks leading up to the Head of the Charles Regatta (September 30-October 21). In addition, the Esplanade Association and groups of volunteers cut the shoreline vegetation of the lower basin continuously throughout the growing season to keep views clear.

The main concern with this practice is that most of the species in within the lower and middle basin cutting areas benefit from cutting, which increases their spread and density. The repeated disturbance by cutting equipment also creates desirable conditions for many invasive species. As a result, the majority of these viewsheds are covered with non-native vegetation and invasive plants which thrive in full sun, disturbance conditions and reach undesirable heights at rapid rates. The cutting times in June/July and October increase the spread of invasive and nuisance vegetation in two ways: most of the invasive and nuisance species (Tree of Heaven, Norway Maple, Japanese Knotweed, and False Indigo) send out new shoots and rhizomes in response to a mid-season cut, increasing their vigor and density. Secondly, debris - plant segments and seeds - are spread to new locations by water migration and mowing equipment. The debris and seeds also enter the river via stormwater, resulting in the spread of species downstream.

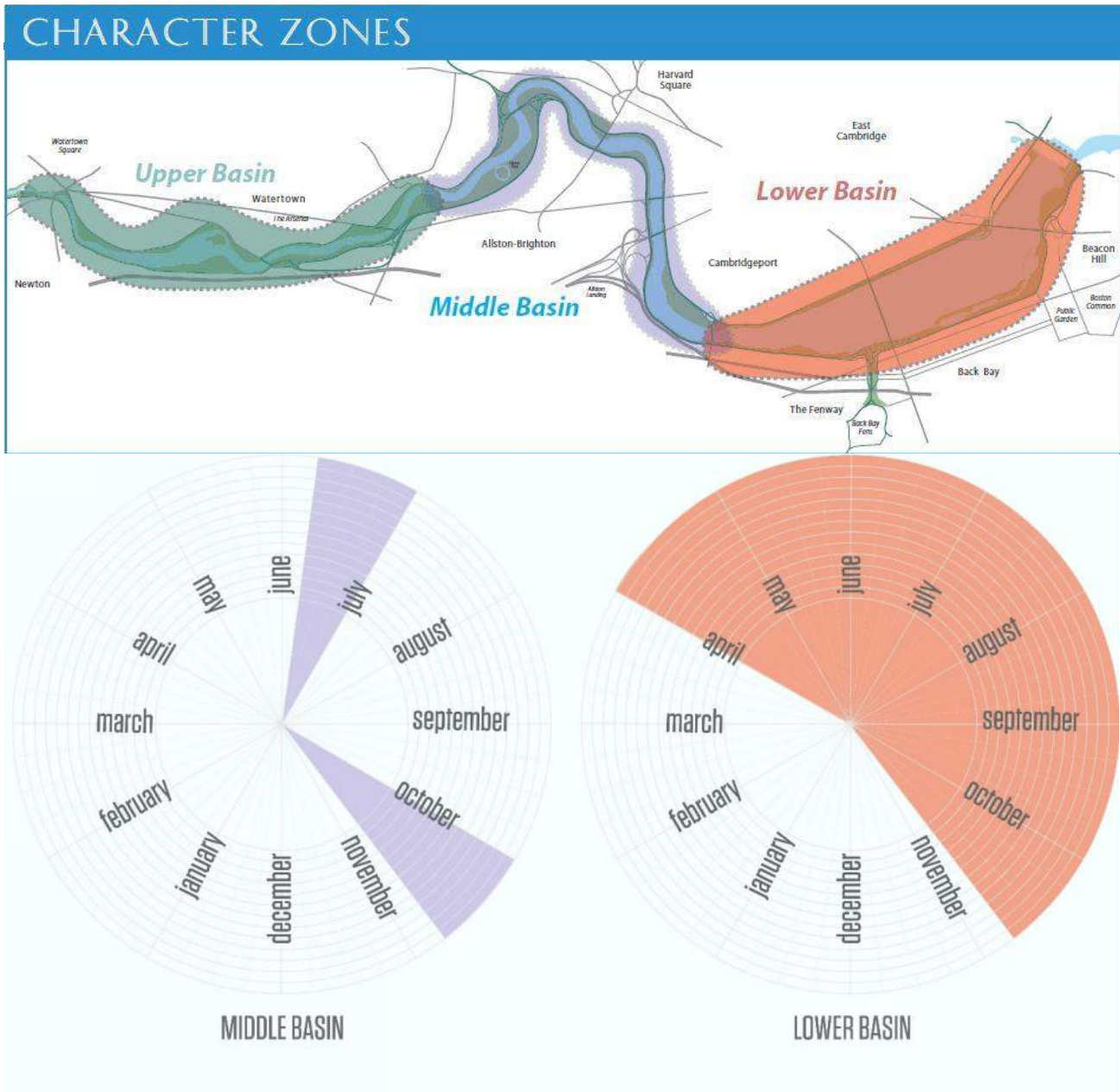


Figure 46. Cutting Schedules

LEFT: The shoreline vegetation in the middle basin area, (including a few parts of the lower basin) has historically been cut one to two times a year, in a three-week period leading up to the 4th of July Celebration and Head of the Charles Regatta in October. RIGHT: The low-medium herbaceous shoreline of the lower basin esplanade area historically has been cut regularly (about 3 times per year) throughout the growing season to maintain views by volunteer groups such as the Esplanade Association. The upper basin has not been cut continuously in recent history, which is why most of this area has transitioned to a thicker, dense riparian wooded edge with thickets of trees and shrubs that block views.



*5.1.2 Proposed Cutting and Invasive Plant Management Schedule*

The proposed revised cutting schedule is strategically planned around the growth patterns, flowering time, and seed production of nuisance and invasive species. There is an ideal cut time for each species based on these characteristics, and many species have overlapping time-frames best for cutting. However, cutting and other means of mechanical removal of these species is not effective alone. To increase the efficacy of cutting, reduce the long-term maintenance of viewing areas by DCR. To limit the spread and persistence of invasive species, the strategic use of herbicides and replanting of natives must accompany cutting. In most cases, invasive species will be contained and removed using this approach within a three-year window. The areas can then be restored and planted with low growing native vegetation that will not require repeated cutting or intensive maintenance by DCR and will provide high value ecosystem services along the Charles River.

This plan includes a revised seasonal management strategy - cutting the banks and treating with herbicides and revegetation strategies in stages by species, rather than as a single broad-brush cut twice a year. This plan will be rolled-out as a series of small changes and interventions over time. In the meantime, as DCR staff and resources available adjust to this change, current methods of cutting 18 inches above the bank surface before these two important cultural events will be maintained.

The diagrams and charts on the following pages describe the new schedule and recommended management practice for each species.

# LOWER CHARLES RIVER RIVERBANK VEGETATION MANAGEMENT PLAN

Invasive/Nuisance Species Removal and Management Schedule										
Scientific Name	Common Name	Type	MIPAG Invasive (Y/N)	Bloom Time	Spreading Method	Best Date for Manual Removal	Best Date for Mechanical Removal	Best Date for Biological Removal	Best Date for Chemical Removal	Suggested Removal Method
Site-Based Management Species:										
Acer platanoides	Norway Maple	Tree	Y	April-May	Seed	Hand Pulling: Year Round Girdling: Spring	Cutting: Fall or Winter Girdling: Spring	N/A	Early Spring or June 1-September 30	Cut and herbicide
Ailanthus altissima	Tree of Heaven	Tree	Y	April-May	Seed & Aggressive Suckering	Spring or Early Summer	Spring	TBD	Summer	Cut and herbicide
Celastrus orbiculatus	Asiatic Bittersweet	Vine	Y	May-June	Aggressive Vine	When Soils are Moist	Fall and Winter	N/A	Fall and Winter	Cut and herbicide
Convolvulus arvensis	Morning Glory/ Bindweed	Vine	N	June - September	Seed and Aggressive Vining and Roots	Spring-Fall	N/A	Spring-Fall	Early June	Deep Cultivation and Covering
Frangula alnus	Glossy Buckthorn	Shrub	Y	Spring - Fall	Seed (bird and water dispersal)	Early Spring-Late Summer	Fall or Early Winter	N/A	Fall or Early Winter	Cut and dab
Phalaris arundinacea	Reed Canary Grass	Grass	Y	August	Via Rhizomes & Seed	Late Spring (throughout season for covering)	Late Spring	Spring-Fall	Late Summer	Herbicide and cover
Phragmites australis	Common Reed	Grass	Y	August	Via Rhizomes & Seed	Pulling/Cutting: July Black Plastic: Spring through Fall	Late Summer or Early Fall	N/A	Late Summer or Early Fall	Cut stem treatment
Polygonum cuspidatum	Japanese Knotweed	Herbaceous	Y	August-September	Via Rhizomes, Low seed germination	N/a	June	N/A	Late Summer (6 weeks after cutting)	Cut and herbicide
Rhamnus cathartica	Common Buckthorn	Shrub	Y	April-May	Seed & Vegetative	Hand-pulling: Spring	Spring through Fall	N/A	Fall or Early Winter	Cut and dab
*Note: See Appendix A for references used.										
						LEGEND:				
						Manual is Best Method	Mechanical is Ideal Method	Biological is Ideal Method	Chemical is Best Method	
						Example	Example	Example	Example	
*Colors indicate best removal method for each species.										

**Table 13. Summary of Best Practices for Invasive Species Removal – Site Based Management Species**

The chart above summarizes the detailed recommendations for removal of each invasive species that currently has large populations in the basin. These invasive plants will be managed on a site-by-site basis as resources allow.

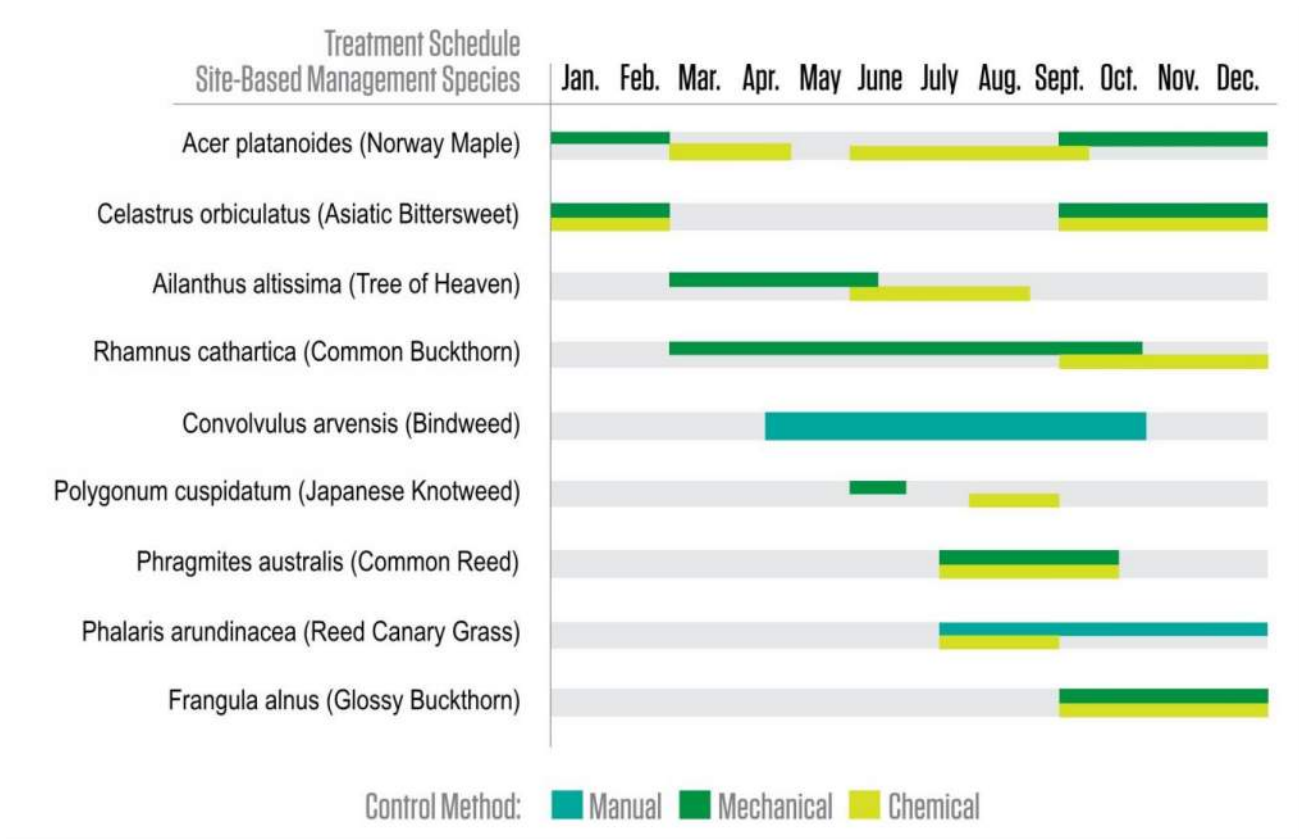


Figure 47. Proposed Cutting Schedule - Site Based Management Species

The proposed schedule for shoreline cutting of the site-based management invasive species considers the ideal time for management to achieve long term reduction in large populations.

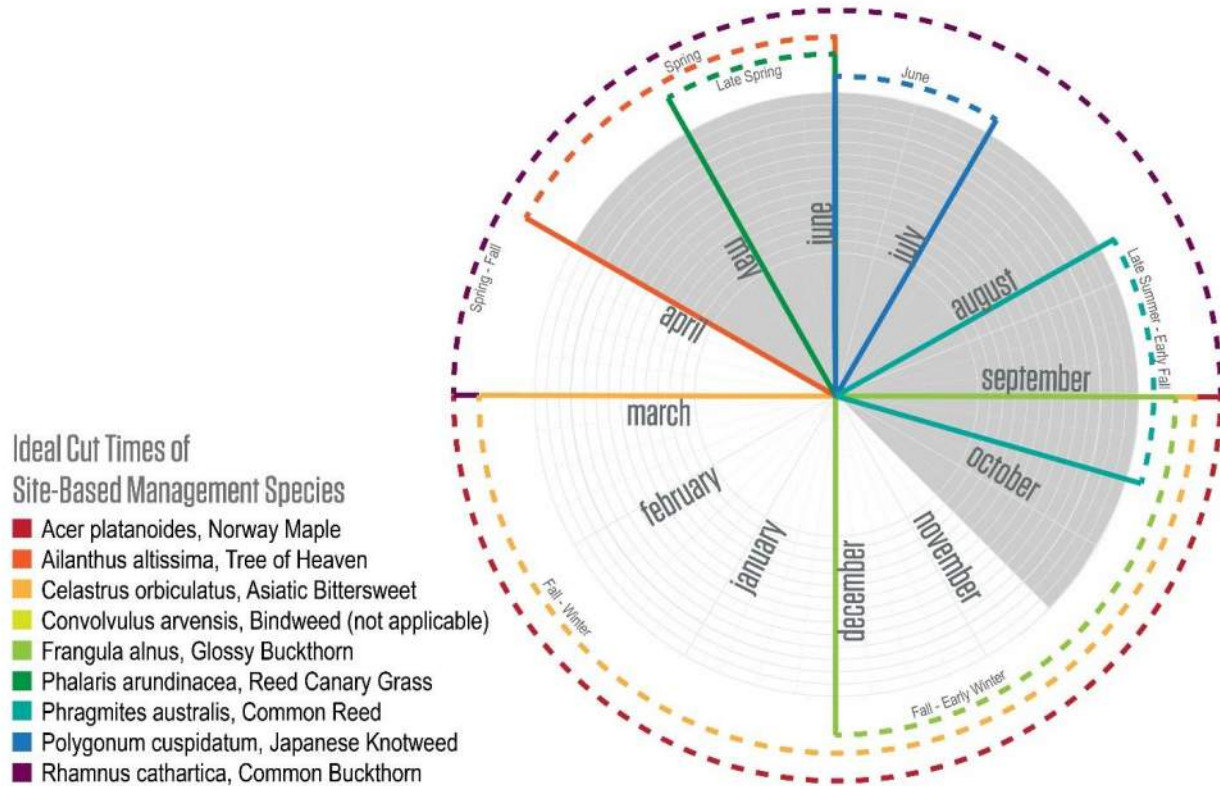


Figure 48. Proposed Cutting Schedule - Site Based Management Species

The proposed calendar year schedule for shoreline cutting of the site-based management invasive species is represented here as a circle and considers the ideal time for management to achieve long term reduction in large populations.

LOWER CHARLES RIVER  
RIVERBANK VEGETATION MANAGEMENT PLAN

Invasive/Nuisance Species Removal and Management Schedule										
Scientific Name	Common Name	Type	MIPAG Invasive (Y/N)	Bloom Time	Spreading Method	Best Date for Manual Removal	Best Date for Mechanical Removal	Best Date for Biological Removal	Best Date for Chemical Removal	Suggested Removal Method
Weed-Based Management Early Detection Priority Species:										
Actinidia arguta	Hardy Kiwi	Woody Vine	Likely Y	Spring	Seed and Aggressive Vining	Winter or Early Spring	Late summer to early fall	N/A	Late summer to early fall	Cut and dab
Anthriscus sylvestris	Wild Chervil	Herbaceous	Likely Y	Late May - Early June	Seeds and Lateral Budding	April through Early May	Late June	N/A	Mid May through Early June	Digging
Lepidium latifolium	Broad-leaved Pepperweed	Herbaceous	Y	Late spring to Summer	Seeds	Early Spring (before flowering)	Fall and Spring	N/A	Spring	Till and Herbicide
Microstegium vimineum	Japanese Stiltgrass	Grass	Likely Y	August - September	Seed	Spring - July	Early September	N/A	June - August	Cut and Herbicide
Polygonum perfoliatum	Mile-a-minute vine	Vine	Y	June	Aggressive Vine, Seeds	Spring through June	Spring through fall	N/A	June	Repeated Mowing
Pueraria montanas spp. Lobate	Kudzu	Herbaceous Vine	Likely Y	June - September	Rhizomes and Stolons	Spring	Late Summer- Early Fall	N/A	Late Summer- Early Fall	Cut Stem Treatments
*Note: See Appendix A for references used.										
						LEGEND:				
						Manual is Best Method	Mechanical is Ideal Method	Biological is Ideal Method	Chemical is Best Method	
						Example	Example	Example	Example	
*Colors indicate best removal method for each species.										

*Table 14. Summary of Best Practices for Invasive Species Removal – PRIORITY EARLY DETECTION, Weed Based Management Species*

The chart above summarizes the detailed recommendations for removal of each invasive species that are on the DCRs list as a priority early detection species, and are found either in small populations, or are not currently existent in the Charles River Basin. This plan recommends that a specialty contractor or dedicated DCR staff team (with invasive control experience and a pesticides license) be hired to monitor these species and address them continually each growing season per the schedule above.

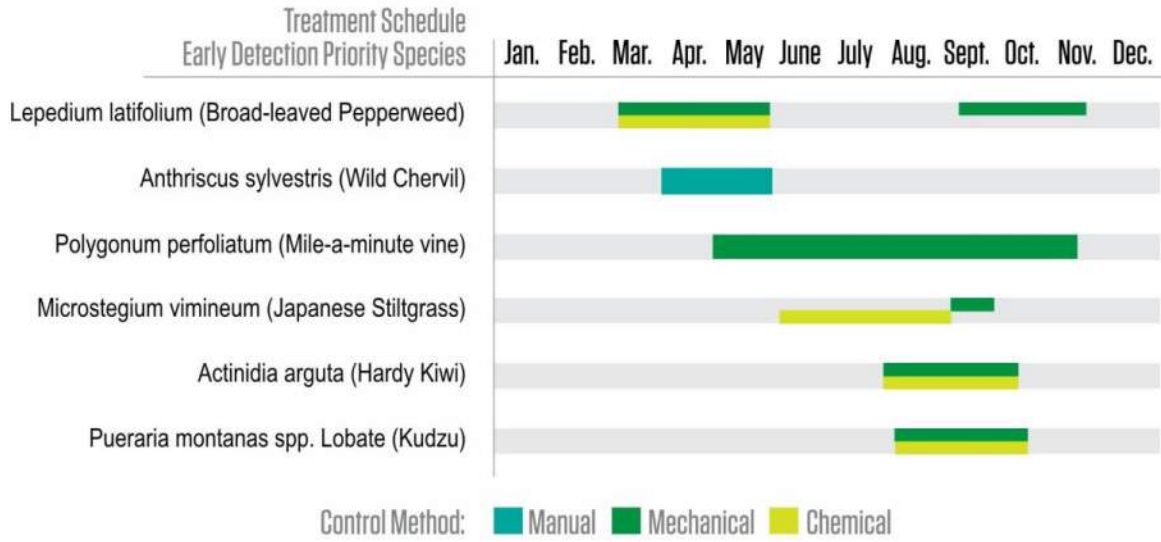


Figure 49. Proposed Treatment Schedule - PRIORITY EARLY DETECTION, Weed Based Management Species.

The proposed schedule for shoreline treatment of the early detection weed-based management invasive species considers the ideal time for management to achieve long term reduction in large populations.

# LOWER CHARLES RIVER RIVERBANK VEGETATION MANAGEMENT PLAN

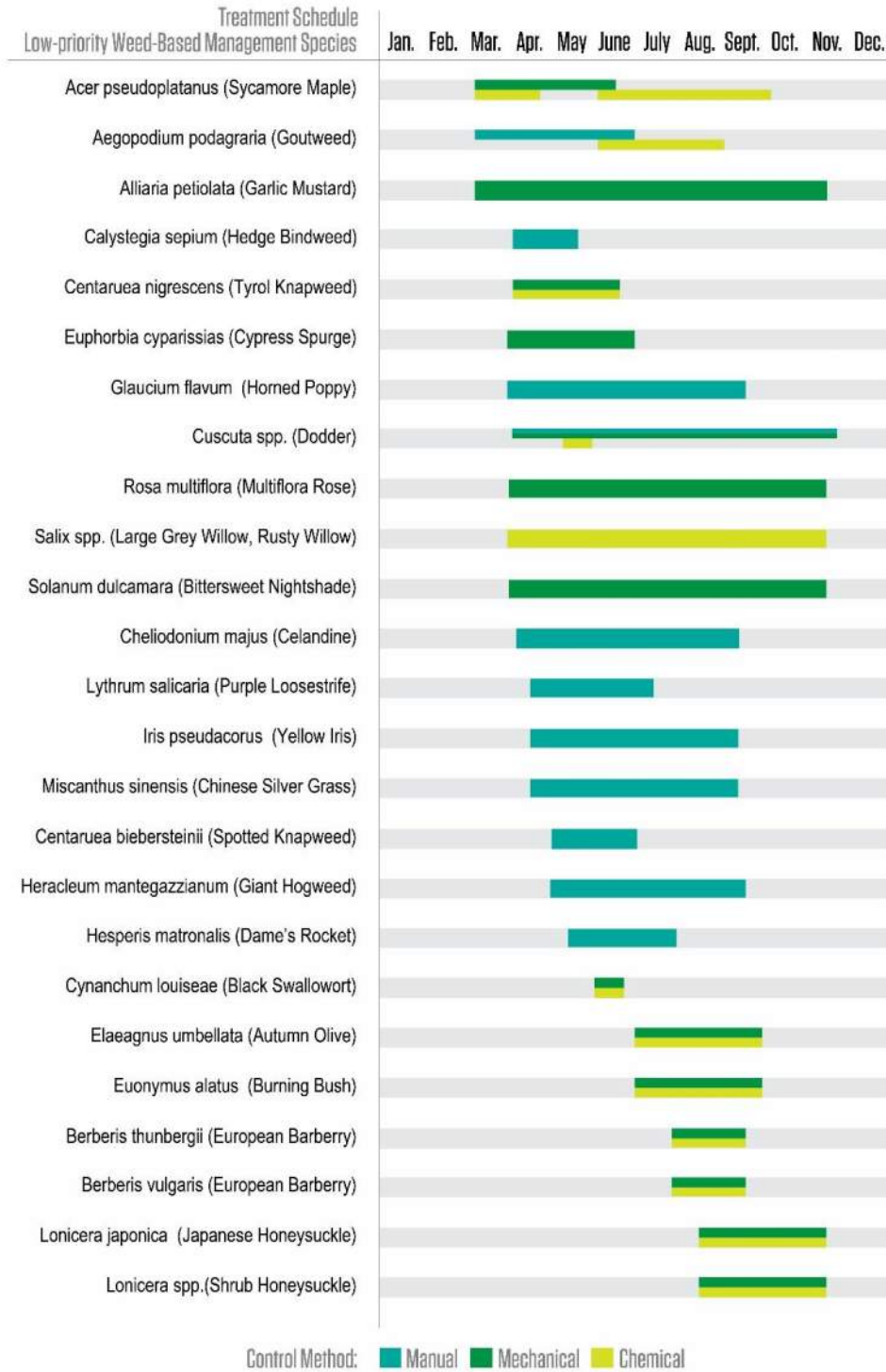


Figure 50. Proposed Treatment Schedule - LOW-PRIORITY, Weed Based Management Species.

The proposed schedule for shoreline treatment of the early detection weed-based management invasive species considers the ideal time for management to achieve long term reduction in large populations.

# LOWER CHARLES RIVER RIVERBANK VEGETATION MANAGEMENT PLAN

Invasive/Nuisance Species Removal and Management Schedule										
Scientific Name	Common Name	Type	MIPAG Invasive (Y/N)	Bloom Time	Spreading Method	Best Date for Manual Removal	Best Date for Mechanical Removal	Best Date for Biological Removal	Best Date for Chemical Removal	Suggested Removal Method
Non-priority Weed-Based Management Species:										
<i>Acer pseudoplatanus</i>	Sycamore Maple	Tree	Y	May	Seeds	Spring	Spring	Early Spring or June 1 - September 30	Early Spring or June 1 - September 30	
<i>Aegopodium podagraria</i>	Goutweed	Herbaceous	Y	May - June	Rhizomes	Spring to Early Summer	Spring	N/A	Summer	Mow and Cover
<i>Alliaria petiolata</i>	Garlic Mustard	Herbaceous	Y	April - June	Self-pollinating Seeds	Early Spring (before buds emerge)	Spring through Fall	N/A	Early Spring or Late Fall	Mowing
<i>Berberis thunbergii</i>	Japanese Barberry	Shrub	Y	April-May	Seed & Vegetative	Early Spring to Late Summer	Late Summer	N/A	Late Summer	Cut Stump
<i>Berberis vulgaris</i>	European Barberry	Shrub	Y	April-May	Seed & Vegetative	Early Spring to Late Summer	Late Summer	N/A	Late Summer	Cut Stump
<i>Calystegia sepium</i>	Hedge Bindweed	Herbaceous Vine	N	Summer	Vegetative	Hand Pulling: Spring Deep Cultivation: Late spring-early summer	Spring	Spring-Fall	Early Summer or Fall	Hand-pull and Cover
<i>Centaruea biebersteinii</i>	Spotted Knapweed	Herbaceous	Likely Y	June - October	Seed	May-June, repeat throughout season	N/A	N/A	Early Spring or Fall	Hand-pull
<i>Centaruea nigrescens</i>	Tyrol Knapweed	Herbaceous	N	June - October	Seed	Late Spring- Early Summer	Spring through Early June	Spring	Spring through Early June	Mowing and Herbicide
<i>Chelidonium majus (Ranunculus ficaria)</i>	Celandine	Ephemeral	Y	Late April to Early May		Early Spring to Late Summer	N/A	N/A	Early May	Hand-pull
<i>Cynanchum louiseae</i>	Black Swallowwort	Herbaceous Vine	Y	Early June	Aggressive Vine	June	Mowing: Late Spring - Fall Cutting: Early June	N/A	Early June	Cut and dab
<i>Cuscuta spp.</i>	Dodder	Herbaceous	N	June - October	Parasitic	Immediately/ throughout year	Immediately/ throughout year	N/A	May	Mow/hand pull and herbicide
<i>Elaeagnus umbellata</i>	Autumn Olive	Shrub	Y	February - June	Seed	Spring	July through September	N/A	July through September	Cut Stump Method
<i>Euonymus alatus</i>	Burning Bush	Shrub	Y	May - June	Seed	Spring	Spring	N/A	Early Summer	Cut Stump Method



LOWER CHARLES RIVER  
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Euphorbia cyparissias	Cypress Spurge	Herbaceous	Likely Y	April to June	Seed and Vegetative (Rhizomes)	Early Spring - Fall	Early Spring - Fall	TBD	N/A	Mowing
Euphorbia esula	Leafy Spurge	Herbaceous	Y	June	Seed and Vegetative	N/A	Spring through June	N/A	N/A	Cutting/ Mowing
Glaucium flavum	Horned Poppy	Herbaceous	Y	Late Spring to Mid Summer	Seed	Spring through Summer	N/A	Year Round	N/A	Hand-pull
Heracleum mantegazzianum	Giant Hogweed	Herbaceous	Likely Y	Mid-May through July	Seed	Remove Roots: Mid Spring- late summer Hand-Pull: April- May Flower/Seedhead Removal: May through Fall	Mid-Spring to Late Summer	N/A	Late April - Early July, follow-up in July or August	Digging, hand-pulling and flower/ seedhead removal
Hesperis matronalis	Dame's Rocket	Herbaceous	Y	Late May - June	Seed	Late Spring- Early Summer	N/A	N/A	Fall	Digging/ hand-pulling
Iris pseudacorus	Yellow Iris	Herbaceous	Y	April - June	Rhizomes and Seeds	Spring-Summer	N/A	N/A	N/A	Hand-pull
Lonicera japonica	Japanese Honeysuckle	Woody Vine	Y	Early Summer	Vegetative and Seed	Spring-Fall	Fall	N/A	Fall	Cut Stump Method
Lonicera spp.	Shrub Honeysuckles	Shrub	Y	Early Summer	Seed	When Soils are Moist	Fall	N/A	Fall	Cut Stump Method
Lythrum salicaria	Purple Loosestrife	Herbaceous	Y	July - September	Seed	Spring-Early Summer (before flowering)	N/A	TBD	Late August	Hand-pull
Miscanthus sinensis	Chinese Silver Grass	Grass	N	July - Fall	Seed and Rhizomes	Spring - summer	N/A	N/A	Late Spring or Fall	Hand-pull and spot treat with herbicide
Rosa multiflora	Multiflora Rose	Shrub	Y	June	Seed & Vegetative	Spring	Throughout Year (3-6 times)	N/A	Early summer to early fall	Cut and Cover
Salix atrocinerea/ S. cinera	Large Gray Willow/ Rusty Willow	Shrub/ Tree	Y	Spring	Seed	N/A	Spring - Summer	N/A	Bore/Fill: Year-round Cut stem/stump: Summer - Fall	Bore and Fill
Solanum dulcamara	Bittersweet Nightshade	Herbaceous Vine	N	Late May - September	Rhizomes	When Soils are Moist	Throughout Growing Season	N/A	When rain not expected for 24 hours, and temperatures have been between 50-85F for several days	Cut and Cover

**Table 15. Summary of Best Practices for Invasive Species Removal – Weed Based Management Species, Second Priority**

The chart above summarizes the detailed recommendations for removal of each invasive species that currently found in small populations or not at all in the Charles River Basin. The species noted in this chart are not categorized as the most important early detection species. These species will be managed as early detection species but are secondary to other early-detection priority species. This plan recommends that a specialty contractor or dedicated DCR staff team (with invasive control experience and a pesticides license) be hired to monitor these species and address them continually each growing season, using this chart as a reference.

Nuisance Species:										
Amorpha fruticosa	False Indigo Bush	Shrub	N	Late Summer	Seeds	Anytime throughout year	Midsummer	N/A	Spring/Summer or Winter	Cut Stump Method
*Note: See Appendix A for references used.										
LEGEND:										
			Manual is Best Method		Mechanical is Ideal Method		Biological is Ideal Method		Chemical is Best Method	
			Example		Example		Example		Example	
*Colors indicate best removal method for each species.										

**Table 16. Summary of Best Practices for Nuisance Species Removal, Low Priority**

The chart above summarizes the detailed recommendations for removal of the Nuisance Species False Indigo.

### 5.1.3 *Calendar-Year Management Schedule* (Routine and Periodic Management Activities)

A detailed calendar-year schedule of recommended management actions to be performed by the DCR, (including routine and periodic maintenance items), is provided below to assist the DCR in allocating staff at various times of the year.

The most important component of the management schedule is a change to the vista clearing practices that have been utilized in the past for the lower and middle basins.

## 5.2 Test Plots: Ongoing Maintenance

For the test plots being installed and continually maintained and monitored, the following additional ongoing maintenance guidelines will be followed.

### Post-Rainfall Inspection

Following all runoff-producing rainfall, any erosion control practices that are part of the test plots shall be inspected to ensure they remain stable and are operating properly. Required repairs will be made immediately.

DCR staff or hired contractors shall inspect erosion controls after every major storm event (any storm resulting in less than 0.5 inches of rainfall). The onsite inspector will ensure that erosion and sedimentation controls are in place and working properly. Any maintenance requirements will be documented on an inspection form and maintenance work will commence within seven days of the site inspection. Please see Appendix D for an Inspection Form.

### Mowing Restrictions

Routine mowing or clearing shall not occur more often than every 3 years; this will promote full growth of the planted vegetation. Time of year restrictions (April 15-August 1) apply to mowing and clearing in all areas.

### Pedestrian Restrictions

Where appropriate, signs and gates will be utilized to deter pedestrians from walking, running, biking, etc. within the areas where erosion controls have been implemented. This will continue throughout the life of the project and will allow vegetation to grow uninterrupted.

### Revegetation

Revegetation efforts will continue until more than 70% coverage is achieved at the site.

### Reseeding

All seeded areas will continue to be reseeded and mulched according to specifications in the vegetative plan.

## 5.3 Monitoring Plan

To verify that invasive species have been removed on a permanent basis and introduced species have become established, seasonal monitoring at specific areas is required. In addition, future strategies for

maintenance, control, or replanting must be modified based on the information collected. Below is a description of monitoring plans developed for the project study area.

### 5.3.1 Test Plot Monitoring Approach

Markers in the field will be placed at each identified Test Plot so that monitoring will be conducted in exactly the same areas each season. For each Test Plot, a nearby Control Plot with similar exposure and species has been identified and these will be monitored in tandem. The plots will be monitored by a field technician during the subsequent two (2) growing seasons to determine percent dominance and percent cover of native and invasive plant species identified within the Control Site. The growing season will be April 15 to October 15. The wetland scientist will take photographs at the same specified locations from a fixed point so that visual comparisons can be made during future monitoring events.

After each monitoring event, proper documentation will be kept for reference and to be used for future monitoring and control of each site.

At any time during the monitoring period, if invasive species are found within any plot, work will be conducted to remove all invasive species from the entire investigation area and to replant disturbed areas with native species. Removal operations will be conducted by the DCR or a DCR hired contractor.

The information gathered during the monitoring events will be incorporated into annual reports, to be completed at the end of October. The annual reports will detail the following:

- Invasive species identification.
- Methods of invasive species control and native species restoration (if necessary).
- Timing and frequency of control.
- Success of control methods.
- Anticipated follow-up monitoring efforts.
- Photographs of monitoring plots.

If individual invasive species are found, all plant material including root mass, stolons, and rhizomes of the invasive will be removed to prevent re-sprouting from occurring. This will be done with hand tools. The vegetation will be placed inside plastic bags, so seeds do not spread to any unimpacted areas. If larger colonies of invasive species are found and hand removal is not practicable, herbicide application may be required. Seed or plant plugs after removing invasive plants and stabilize disturbed soil. Cover with onsite woodland duff, leaves, or clippings from native plants.

When leaving the work area, all equipment and clothing used during removal will be cleaned to remove seed material before entering unimpacted areas.

### Erosion Control Monitoring

As part of the Test Plot Monitoring, this "Erosion Control Monitoring Plan" has been created to ensure that the success of the selected erosion controls is evaluated effectively.

There are several areas along the banks that are being eroded. As part of the RVMP, careful consideration should be made on how to prevent further erosion from occurring in these and other areas. Bio-stabilization practices have been developed and will be installed in accordance with "A Soil

Bio-engineering Guide for Streambank and Lakeshore Stabilization,” (a U.S. Department of Agriculture Forest Services guide). The techniques proposed for this project were selected not only to provide protection of the shoreline, but also to mimic and create a natural riverine environment and provide habitat for riverine species including fish. To promote the success of the selected erosion controls, the following monitoring measures will be taken:

#### Follow-up Inspections

All disturbed areas will be monitored to determine the success of the utilized erosion control. Inspections will occur after the first and second growing seasons to monitor revegetation in certain locations throughout the project area. Success will be measured by the density and cover of noninvasive vegetation and how it compares to the surrounding undisturbed areas.

#### Monitor Soil Health

Soil erosion can be measured by the soil health at the site. By taking measurements such as diversity of soil life, root development, soil pH, and soil structure, the success of the erosion controls can be identified.

#### Photographs

Photographs of the areas where erosion controls were utilized will be taken annually in the Spring. A visual assessment of the control success can be achieved by comparing the photos from subsequent years.

#### Erosion Control Catchments

Erosion controls (i.e., compost filter tubes, silt fences, etc.), as well as restoration species shall be installed at the base of pre-selected plots where erosion occurs. This will not only control the migration of sediment into the river at the plot, but also provide an accurate visual of how much erosion is occurring in the area. These controls should be inspected in the spring and autumn, and sediment removed as needed. See Appendix D for an Inspection Form.

#### Pre and Post-Storm Event Inspections

All erosion controls will be inspected to ensure they have been properly installed and are secure before all major storm events. A major storm is defined as a storm predicted by the National Office of Atmospheric Administration (NOAA) Weather Service with warnings of flooding, severe thunderstorms, or similarly severe weather conditions or effects. For the purposes of this monitoring plan, inspections will be required for storms producing more than 0.5 inches of rainfall. After the storm event, the erosion controls will be inspected to ensure the structural integrity of the Best Management Practice (BMP) is intact and to determine if sediment needs to be removed from the BMP.

### 5.3.2 *Vista Monitoring*

#### Primary Vistas

The monitoring of primary vistas, (located at proposed restoration areas), is to be implemented in coordination with monthly monitoring of proposed restoration areas. Photos are to be taken from the same location at each visit to monitor the development of trees and shrubs that may impact the intended vista(s). Benchmark vista dimensions will be provided for each location; when the vegetation has filled in enough that the benchmarks are reached, maintenance will be needed to prevent loss of proposed

vistas. The proposed revegetation strategies will be planned with the vistas as an objective and plant species will be selected to prevent the need for unnecessary maintenance at these locations.

#### Secondary Vistas

Vistas located at existing benches and DCR markers are to be monitored on an annual basis once established. A monitoring visit should be conducted for each vista after plants have leafed out to determine if the vista still meets the size recommendations. This visit should be conducted in the same month every year—ideally in July after preparations for the 4<sup>th</sup> of July events have been completed. A photo shall be taken from the same location at each site during the annual monitoring visit to create a catalogue of vista maintenance over time. In addition to site photos, any sites in need of winter pruning will be noted. Notes will be maintained for annual reference in the vista catalogue.

In addition to cataloguing the existing vista conditions, the annual monitoring visit should note any invasive species in the vista management area. By cataloguing the invasive species over time, the DCR can develop a record of the spread or successful management of invasive species throughout the Upper Basin, where a large number of non-native species have established in the thick understory. Adding invasive species notes to the catalogue will allow maintenance staff to be prepared to conduct invasive species best management practices when it is time for vista maintenance.

#### 5.4 Adaptive Management

The data collected from Test Plot monitoring will be summarized and written into an annual report each year. This will include recommended adaptive management strategies. Changes to routine or periodic management activities or shifts in Capital Project recommendations will likely to achieve the best results. This plan is intended to be reviewed annually, with recommended changes summarized in reports for the Conservation Commissions.

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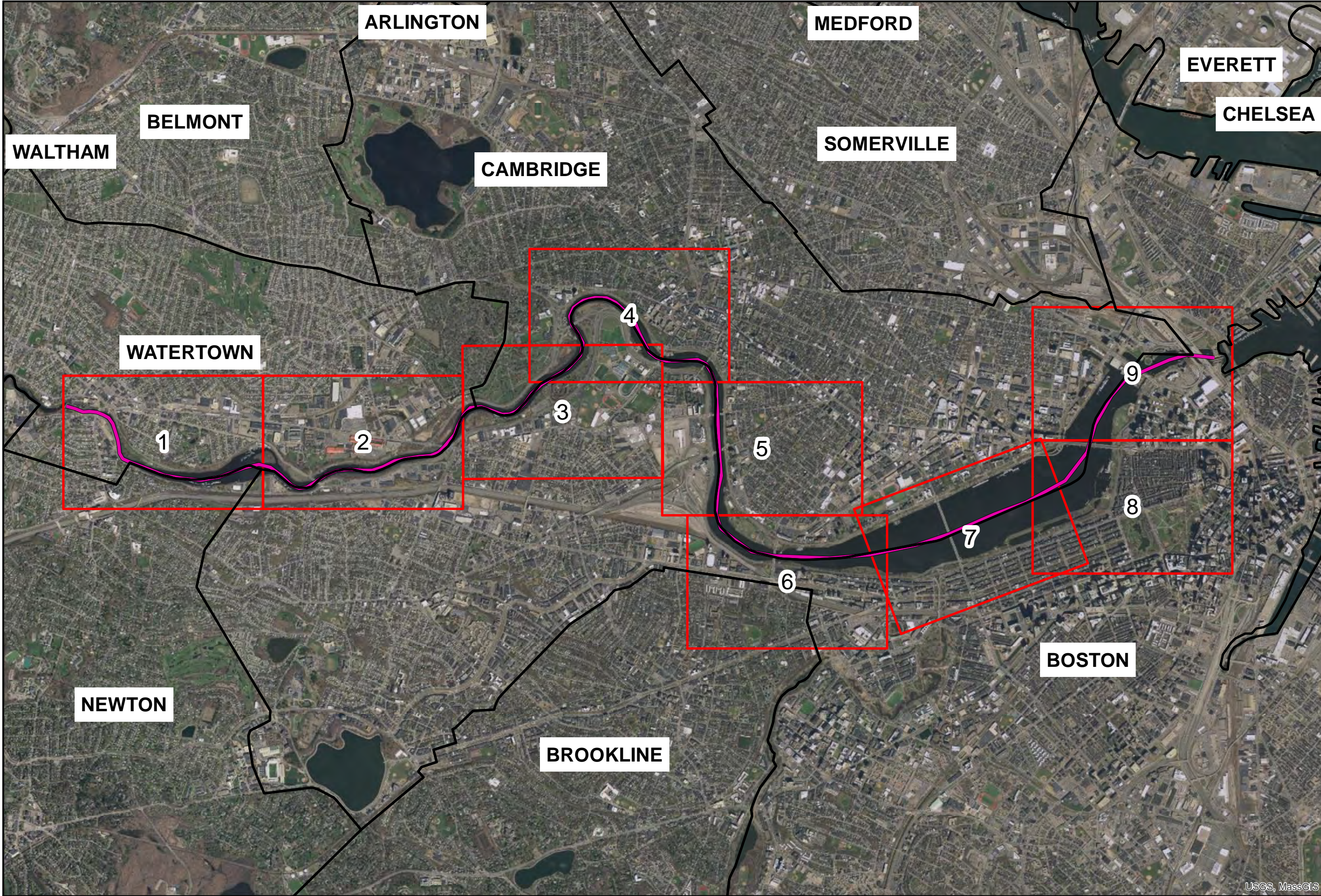
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# DRAWING ATLAS

# Section 1

## Existing Conditions Mapping

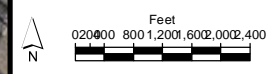


Massachusetts Department of Conservation & Recreation  
Charles River Vegetative Management Plan  
October 2018



Disclaimer:  
The information shown is for planning purposes only and should not be considered exact. Field inspection and verification is required.  
Coordinate System:  
NAD83 Massachusetts State Plane Mairland (Feet)

**Legend**  
MA Towns  
Charles River Work Segment  
GRID\_400



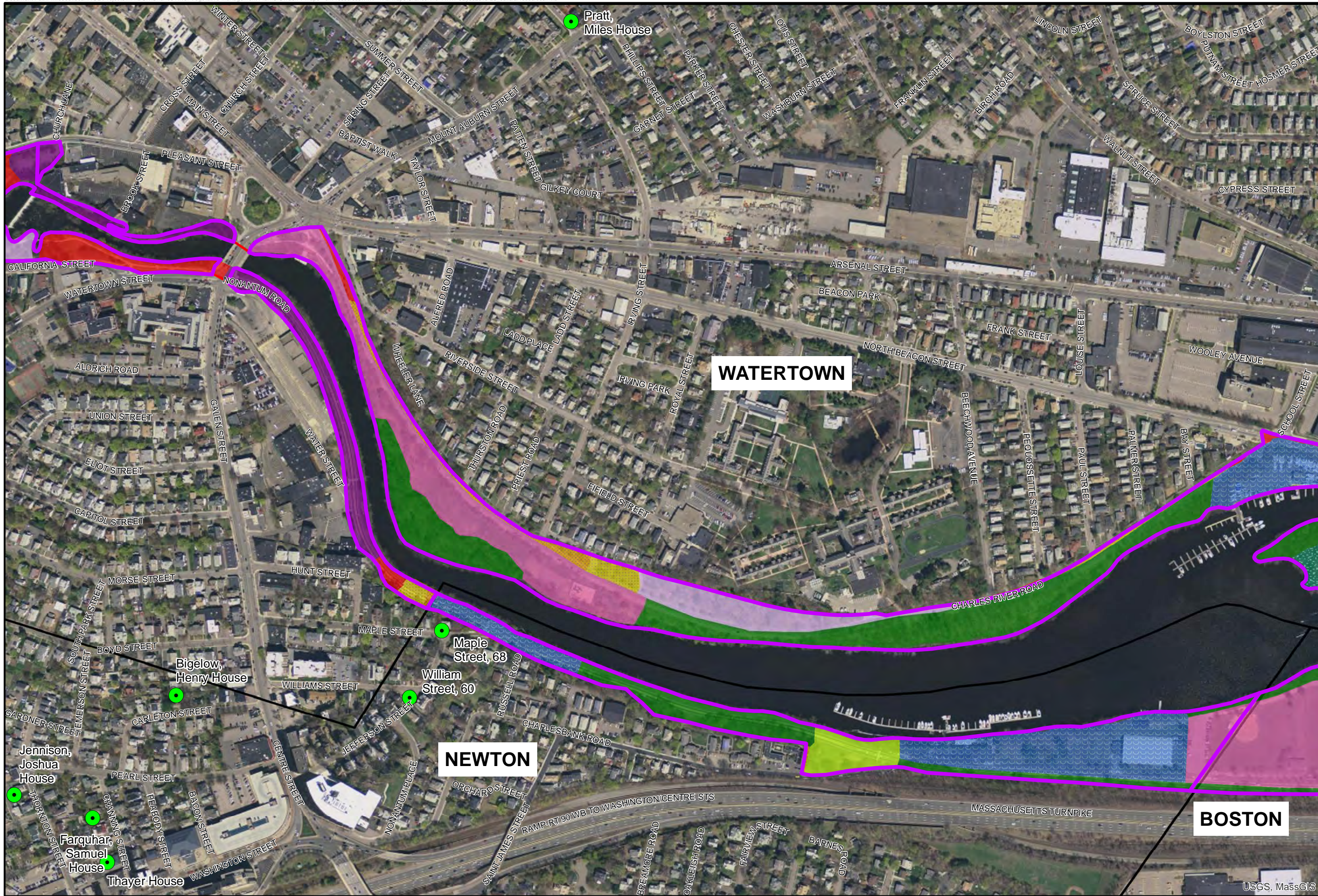
NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.

# Legend for Cultural Resources and Land Use Areas

## Map

### Legend

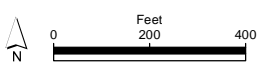
-  State Registry of Historic Places
-  Forest
-  Non-Forested Wetland
-  Open Land
-  Participation Recreation
-  Spectator Recreation
-  Water-Based Recreation
-  Multi-Family Residential
-  High Density Residential
-  Commercial
-  Industrial
-  Transitional
-  Transportation
-  Saltwater Sandy Beach
-  Marina
-  Urban Public/Institutional
-  Cemetery
-  Forested Wetland
-  Very Low Density Residential
-  Brushland/Successional
-  Study Area
-  MA Towns
-  DCR Land



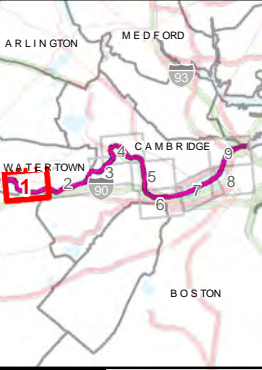
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NAD83 Massachusetts State Plane Mairland (Feet)

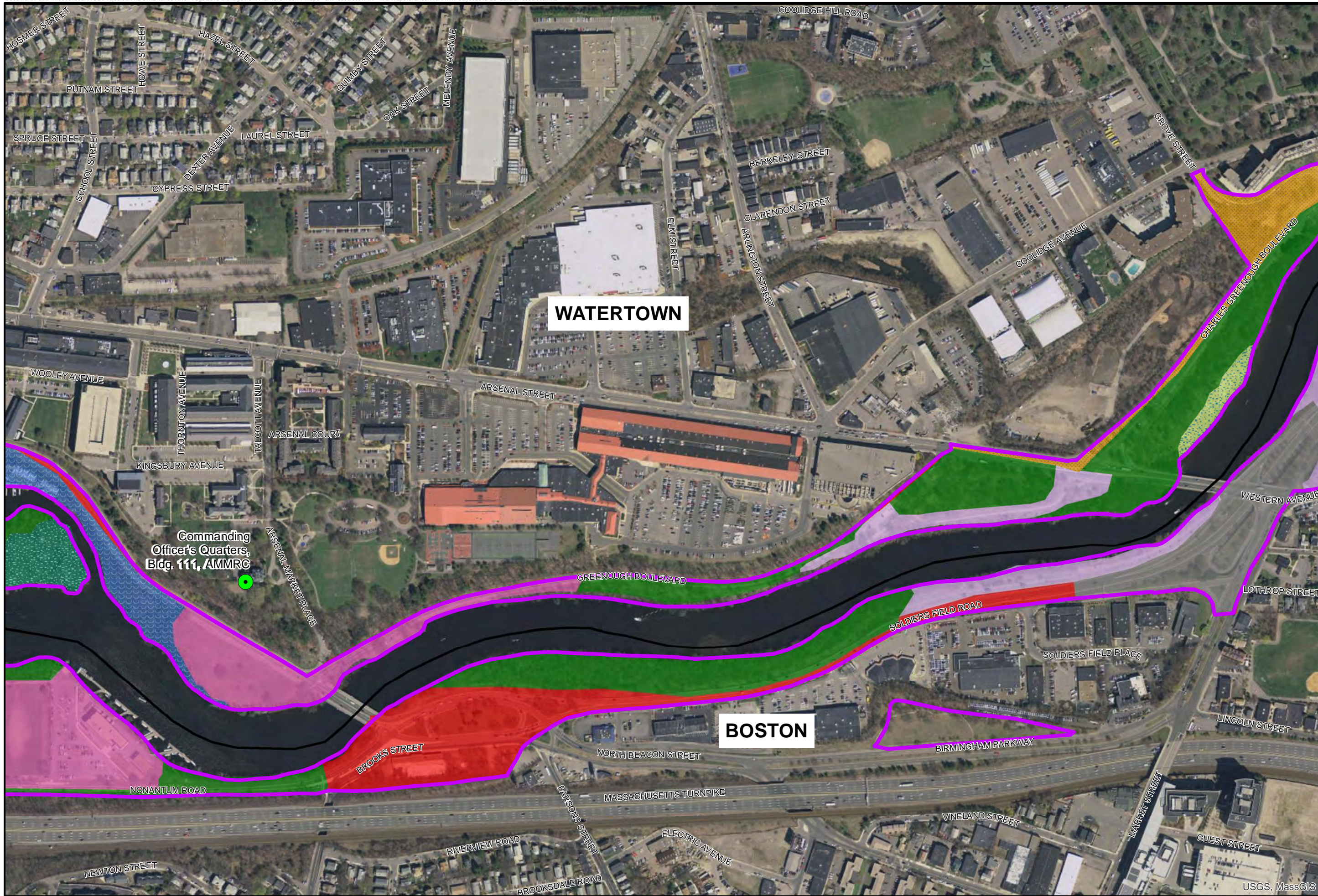
### Land Use and Cultural Resources

Weston & Sampson



NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.

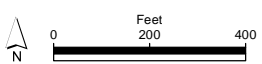




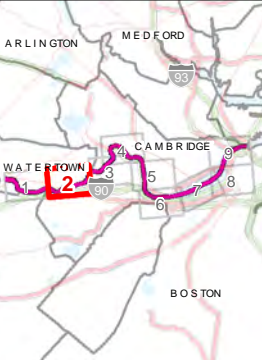
Disclaimer: The information shown is for planning purposes only and should not be considered exact. Field inspection and verification is required.  
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### Land Use and Cultural Resources

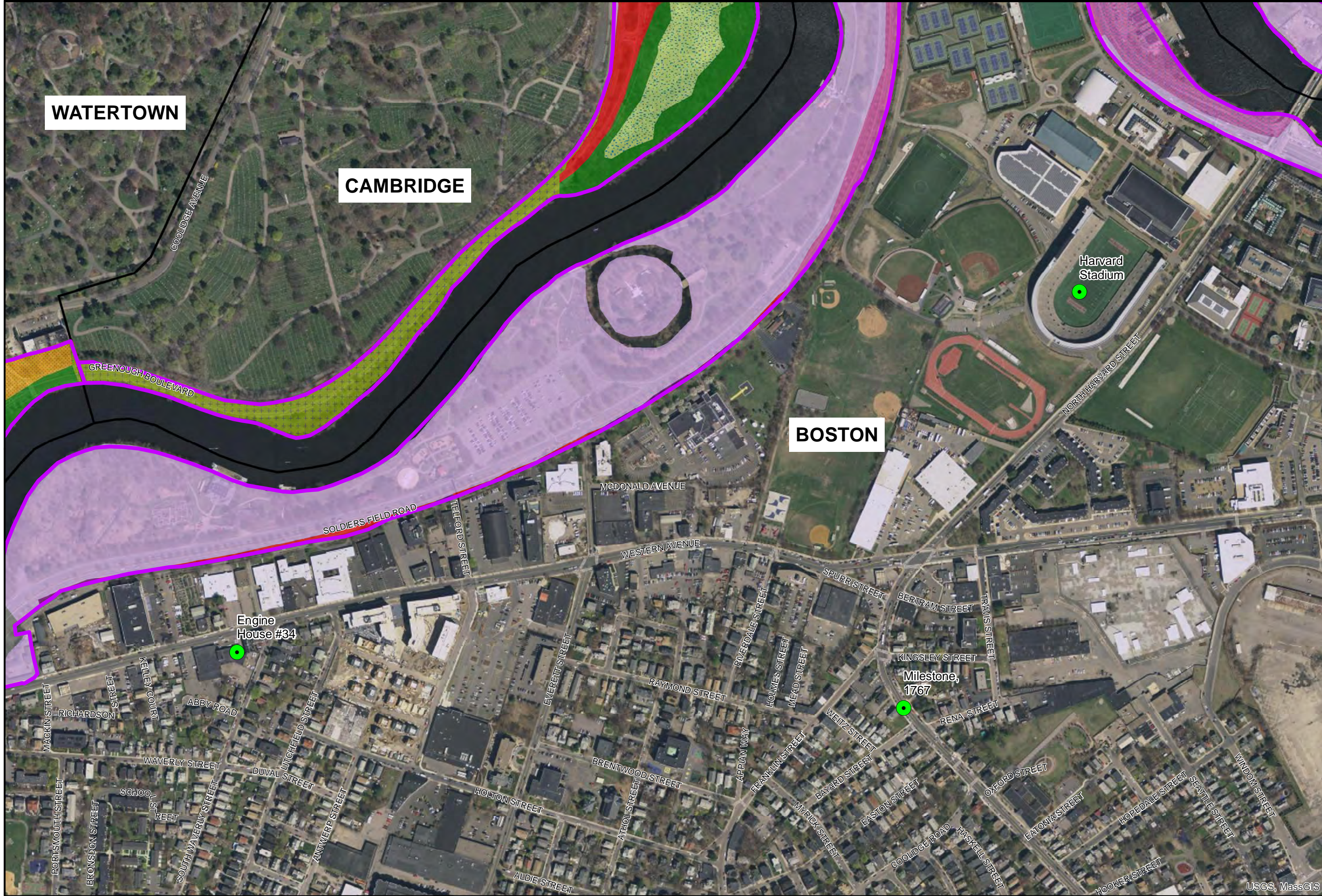
Weston & Sampson



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WATERTOWN

CAMBRIDGE

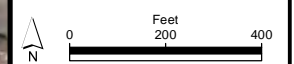
BOSTON

Harvard Stadium

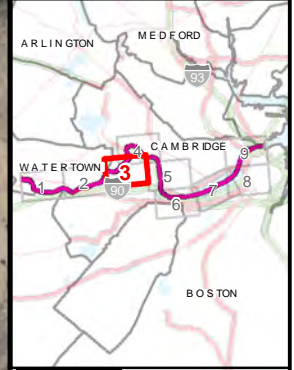
Engine House #34

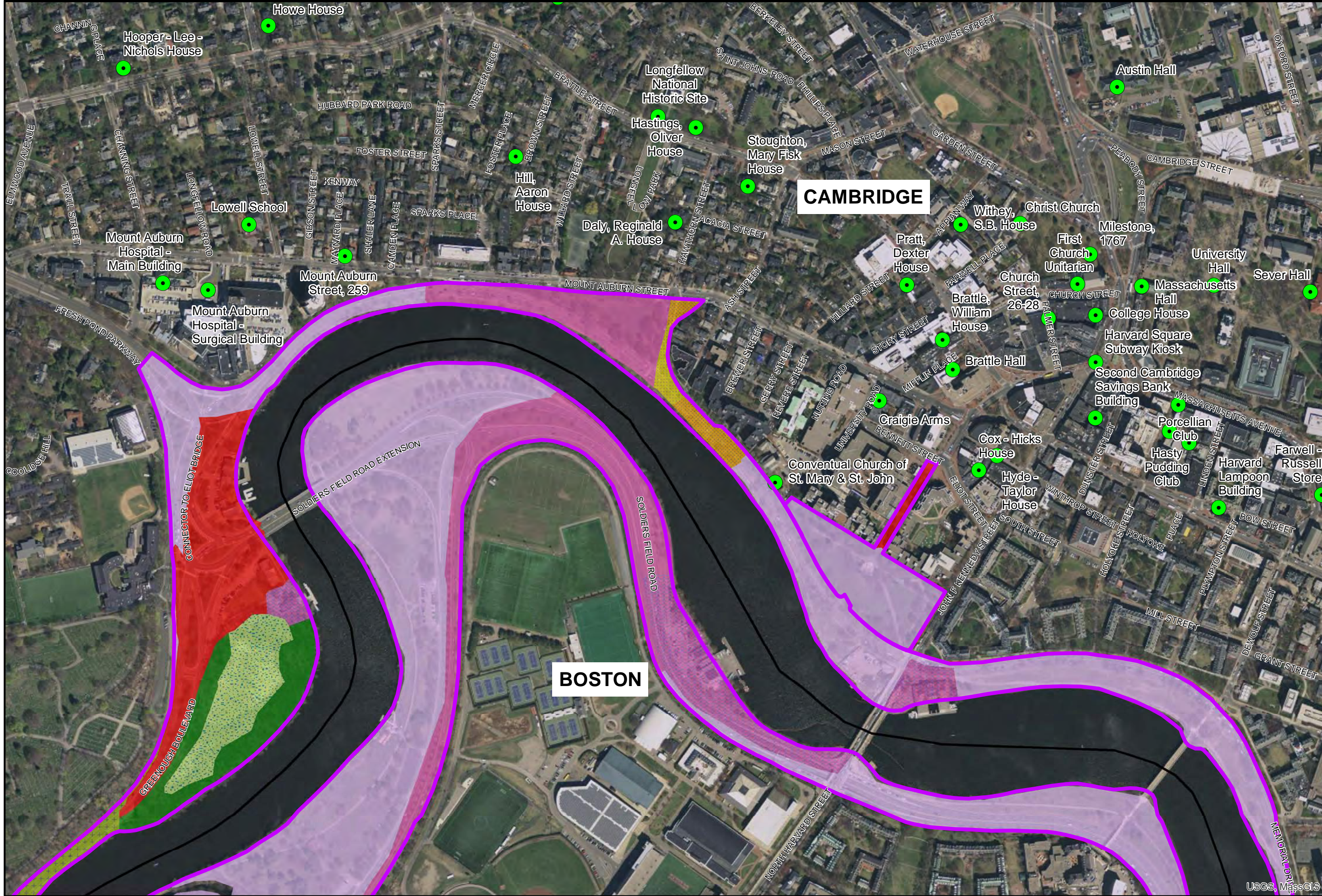
Milestone, 1767

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Coordinate System:  
NAD83 Massachusetts State Plane Mairland (Feet)



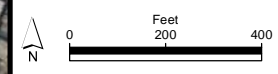
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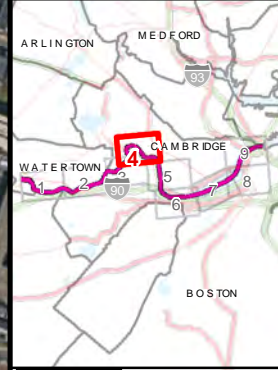


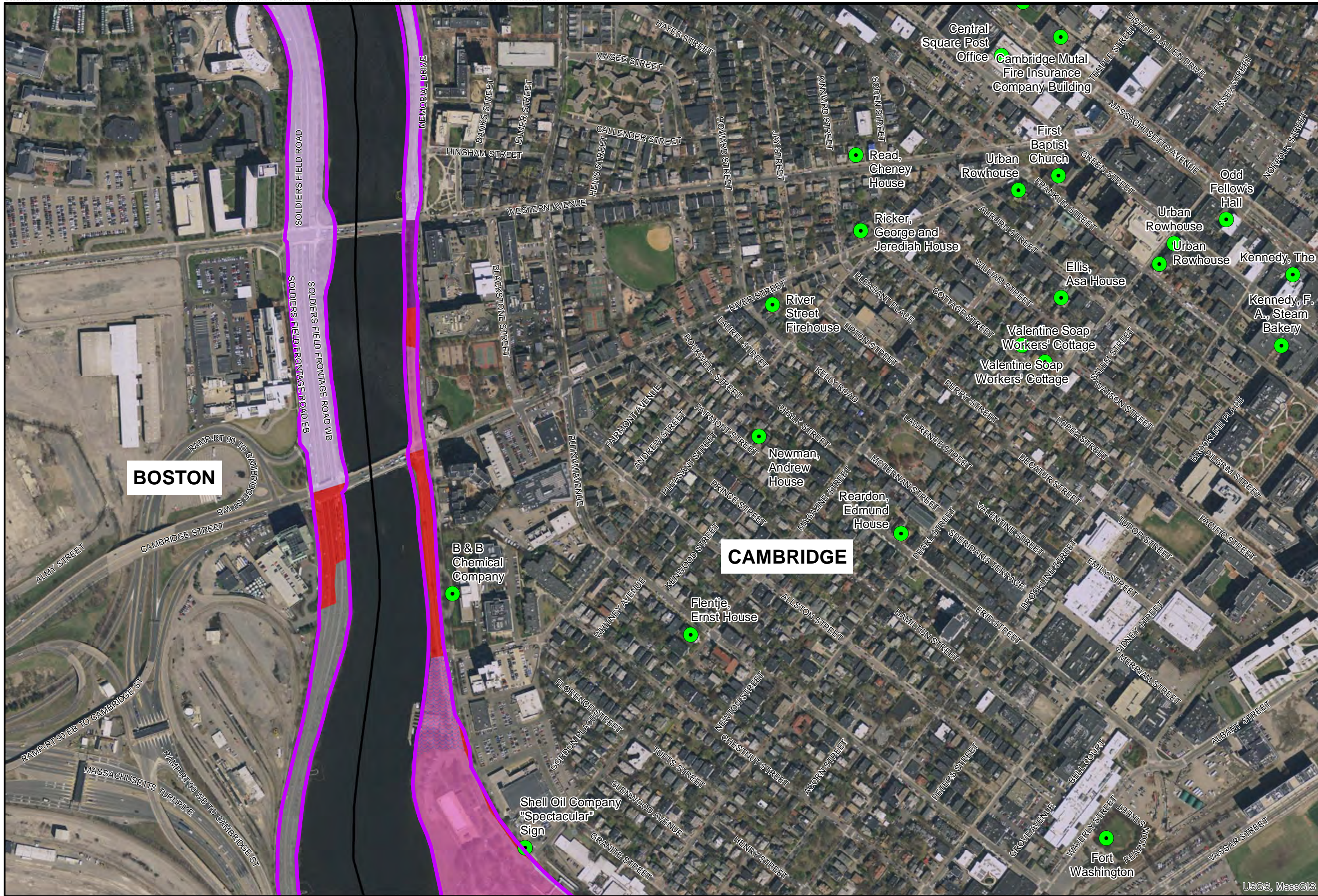
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Land Use and Cultural Resources  
Weston & Sampson



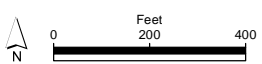
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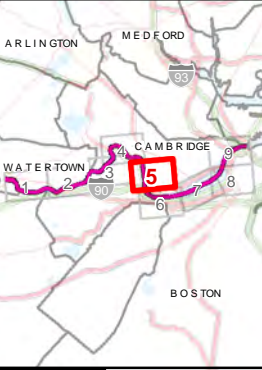


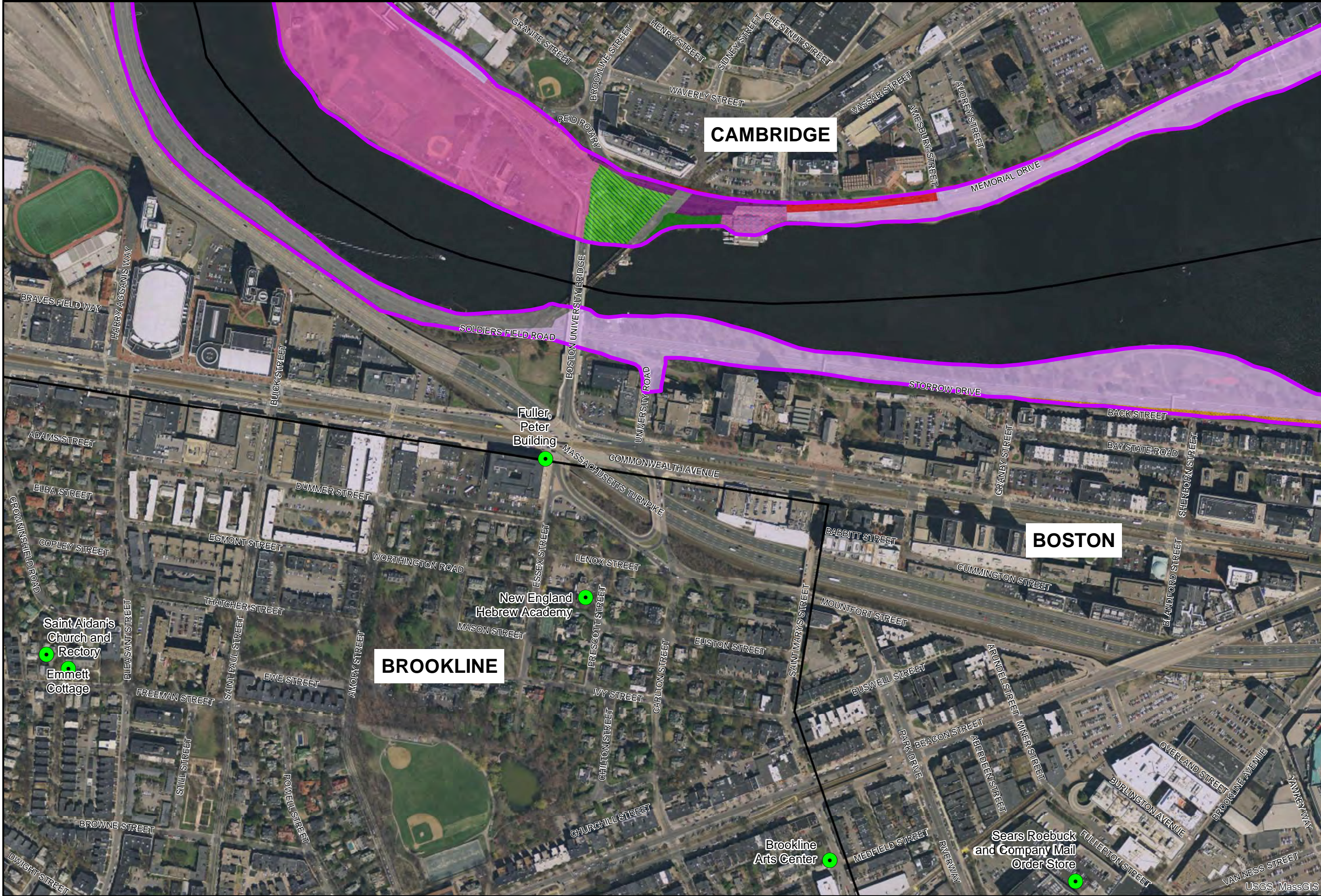
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### Land Use and Cultural Resources



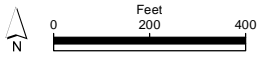
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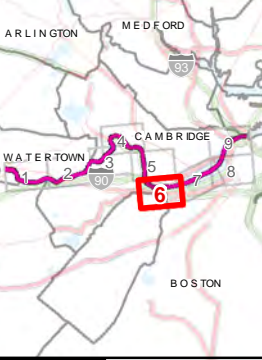


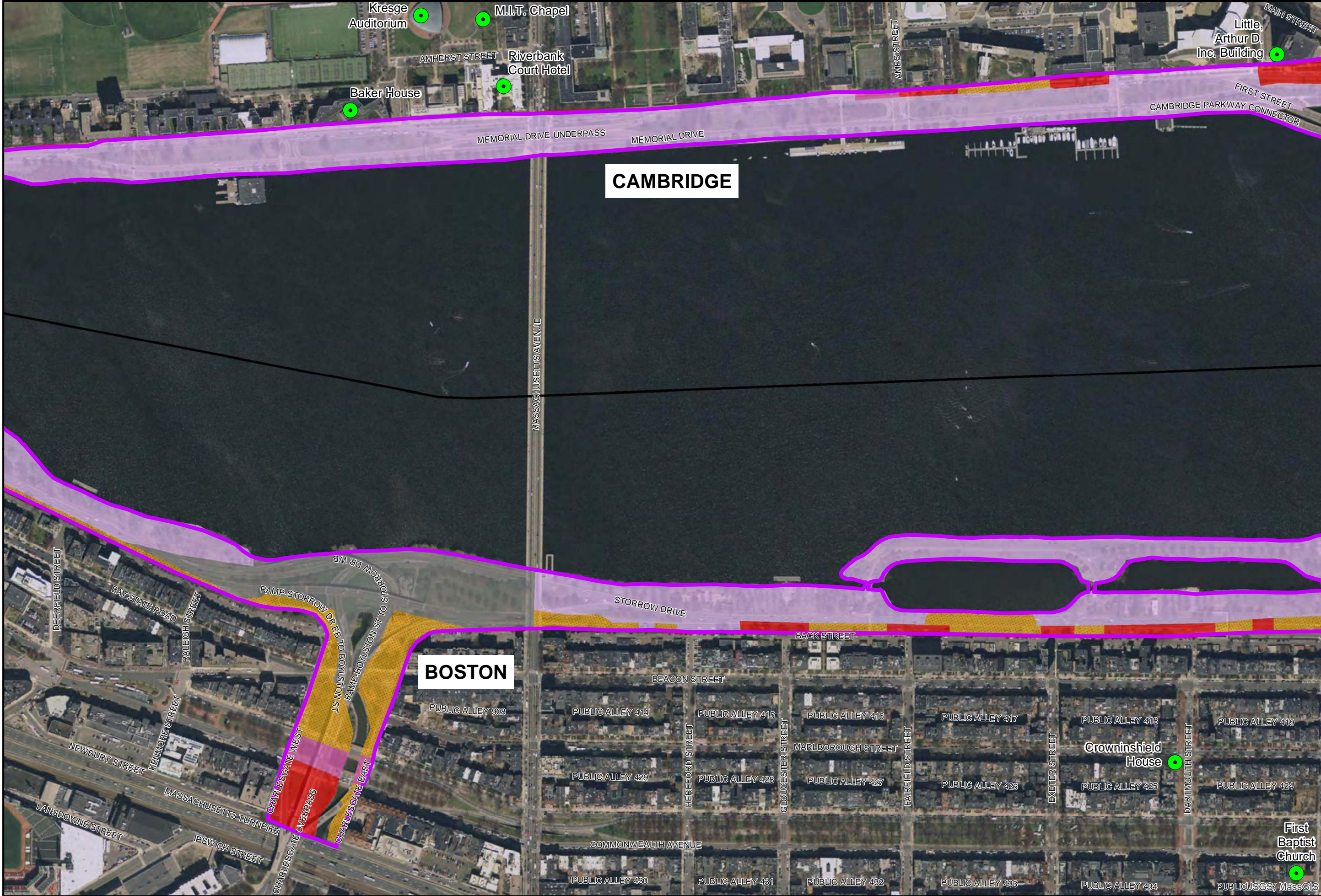
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Land Use and Cultural Resources  
Weston & Sampson



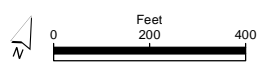
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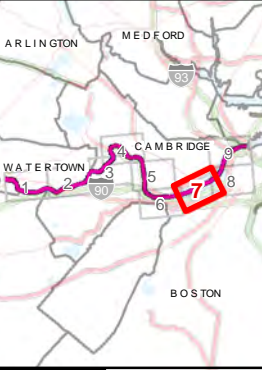


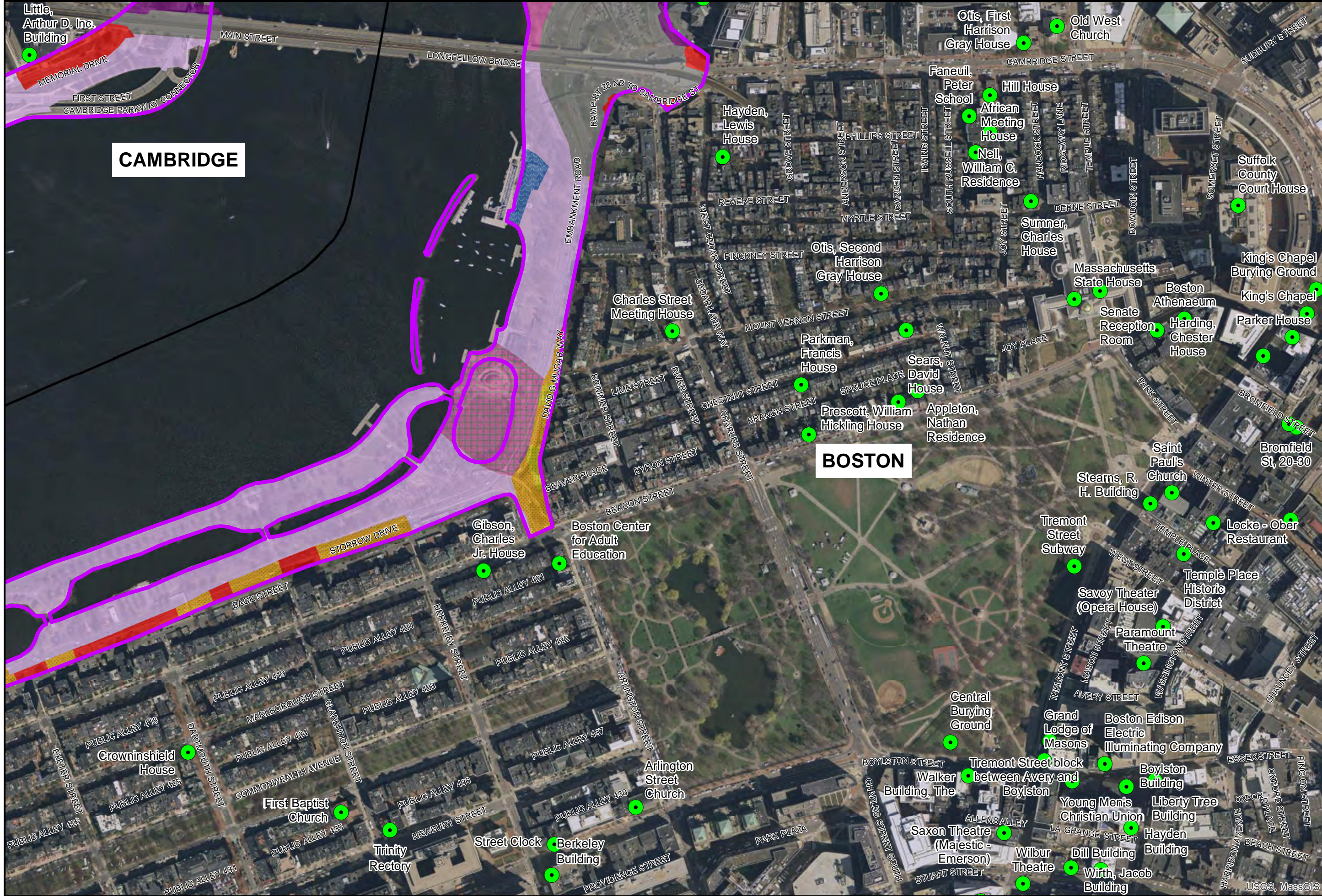
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**Land Use and Cultural Resources**  
 Weston & Sampson



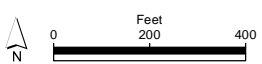
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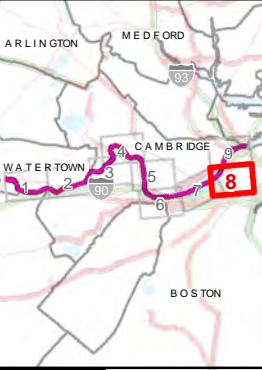


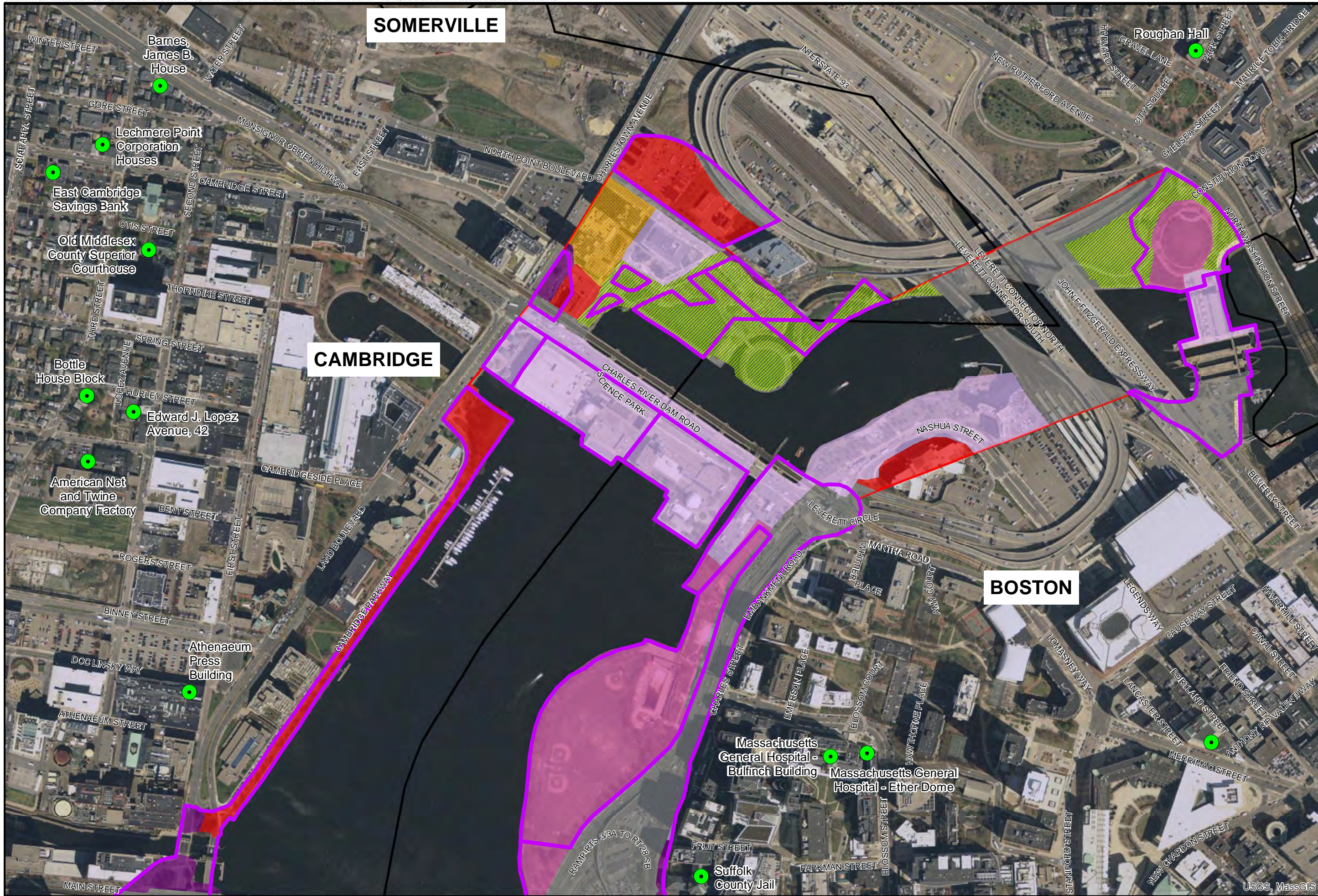
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Land Use and Cultural Resources



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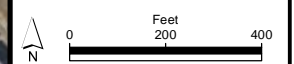


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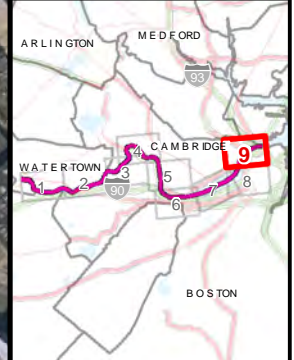
**CAMBRIDGE**

**BOSTON**

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Coordinate System: NAD83 Massachusetts State Plane Mainland (Feet)



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# Legend for Habitat, Soils, Slope, and Wetlands Map

## Legend

-  NHESP Certified Vernal Pools
-  Soils
-  MA Towns
-  DCR Land
-  NHESP Priority Habitats of Rare Species
-  NHESP Estimated Habitats of Rare Wildlife
-  ACECs
-  DEP Wetlands



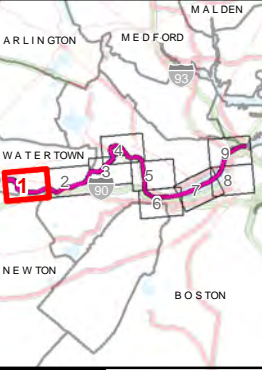


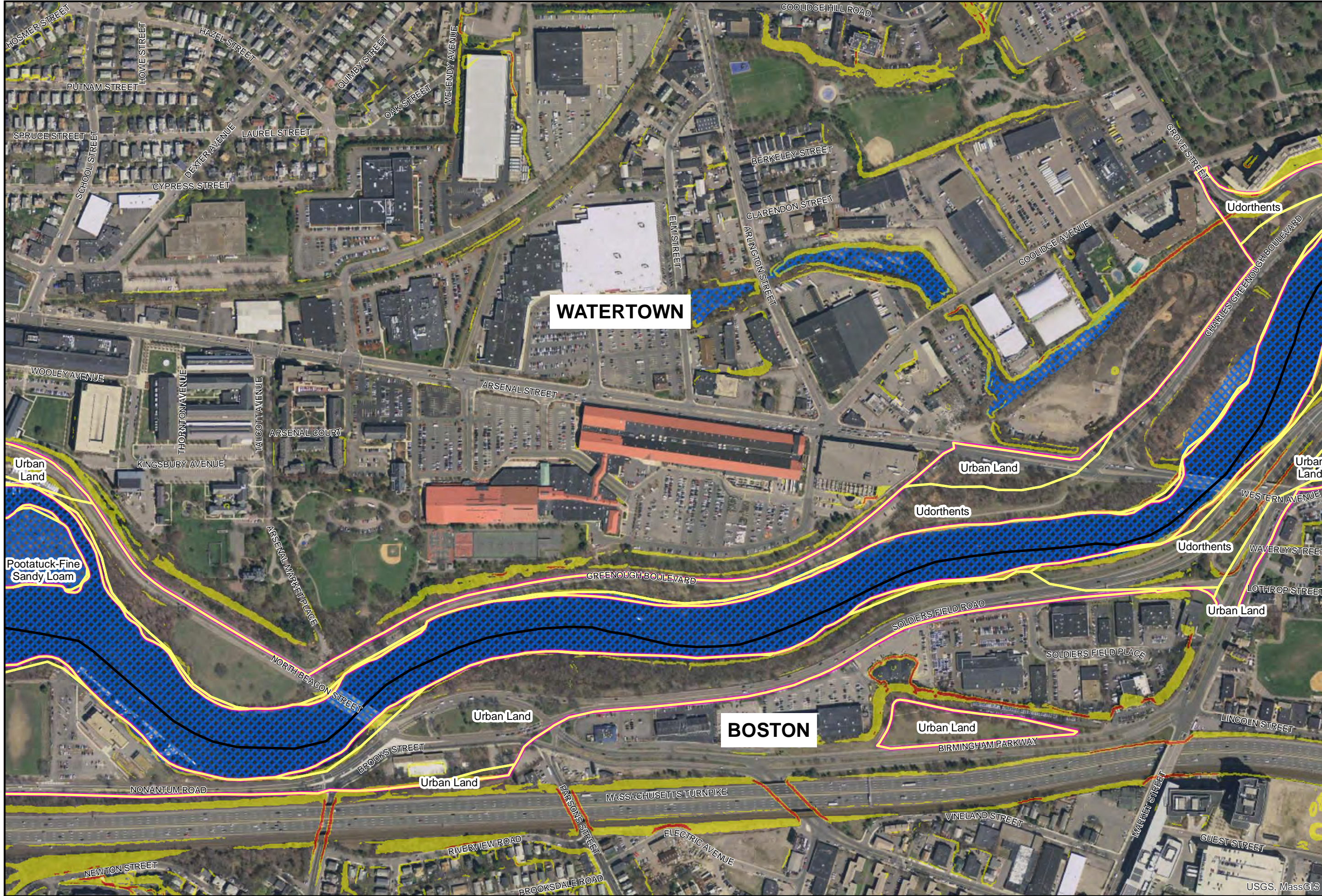
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Coordinate System: NAD83 Massachusetts State Plane Mainland (Foot)

Habitat, Soils, Slope, Wetlands

Weston & Sampson

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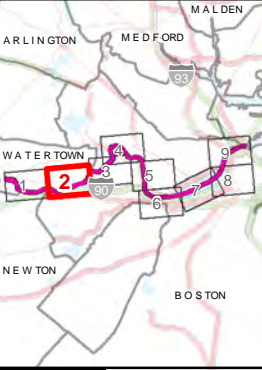




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Coordinate System:  
NAD83 Massachusetts State Plane Mairland (Feet)

**Habitat, Soils, Slope, Wetlands**  
Weston & Sampson

NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.





**WATERTOWN**

**CAMBRIDGE**

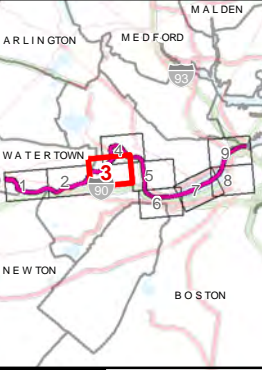
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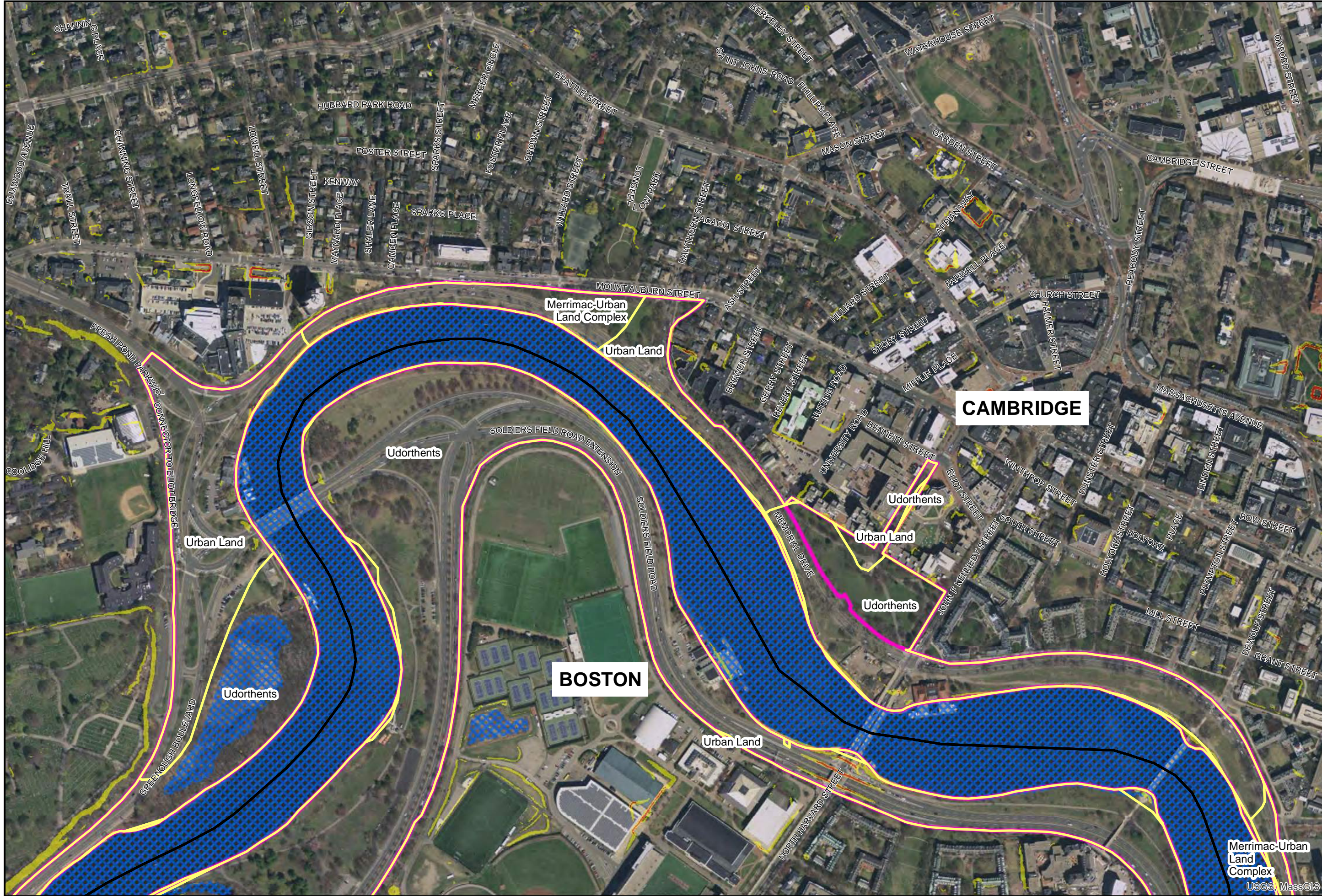
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**Habitat, Soils, Slope, Wetlands**



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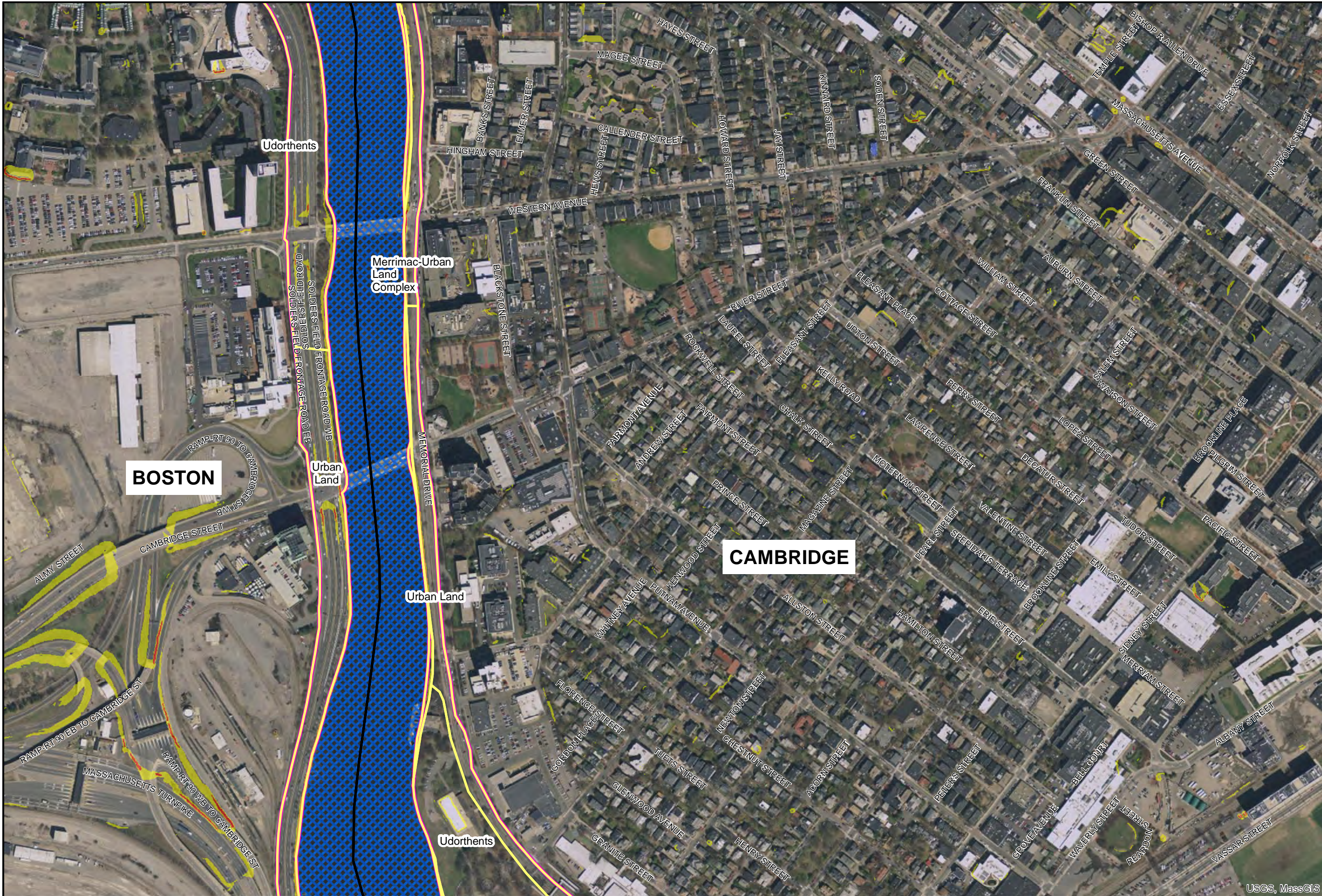
Habitat, Soils, Slope, Wetlands



NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.



Merrimac-Urban Land Complex  
USGS, MassGIS



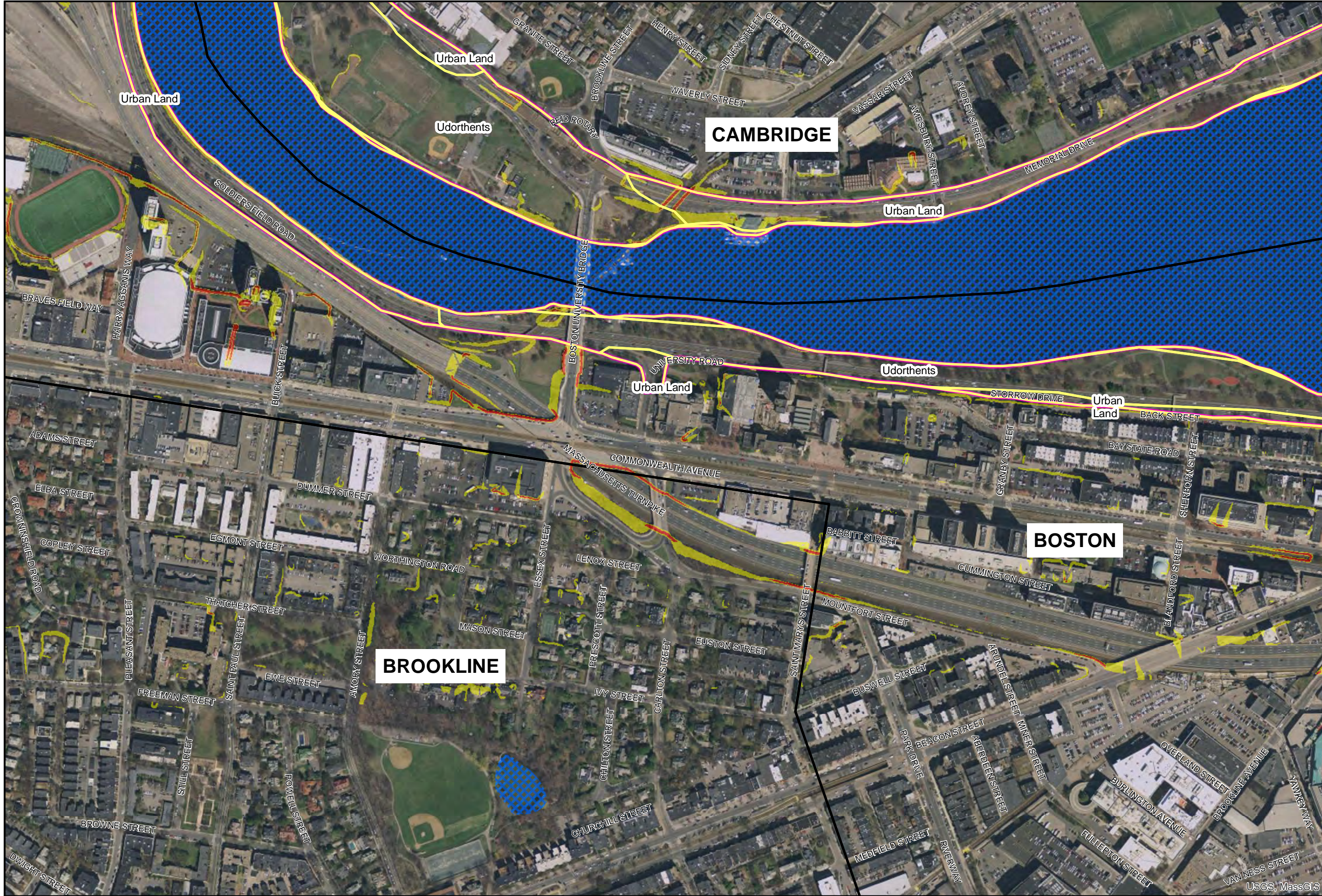
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Habitat, Soils, Slope, Wetlands



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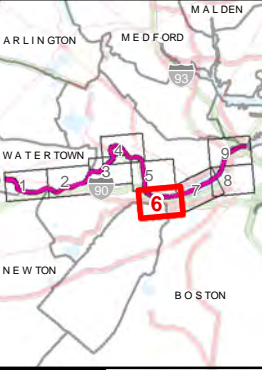




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Coordinate System:  
NAD83 Massachusetts State Plane Mairland (Foot)

Habitat, Soils, Slope, Wetlands  
Weston & Sampson

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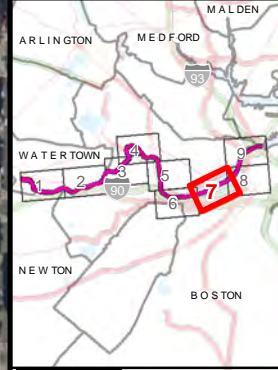


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**Habitat, Soils, Slope, Wetlands**



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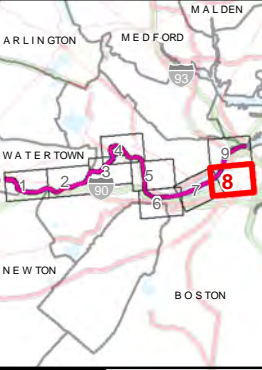


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NAD83 Massachusetts State Plane Mainland (Feet)

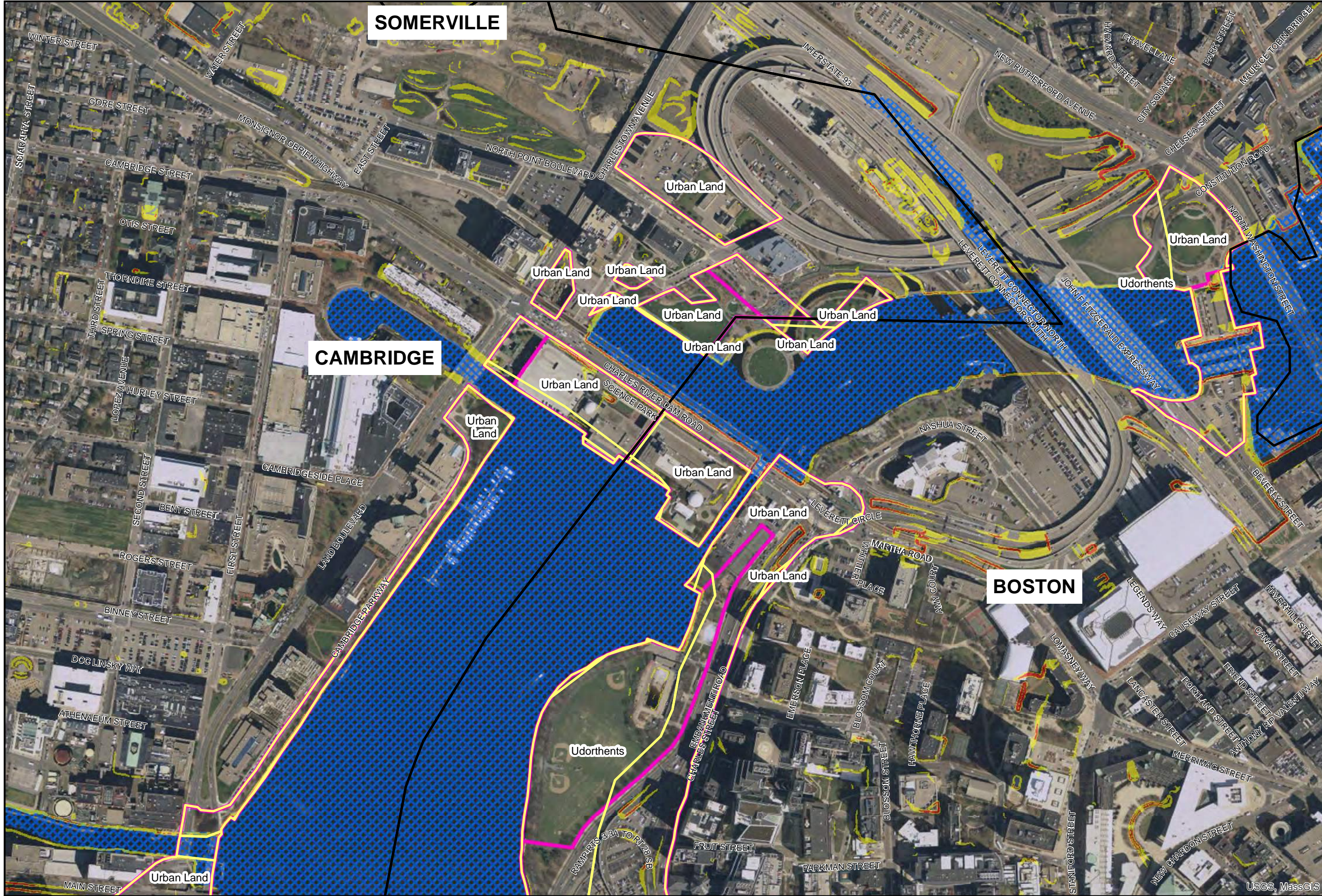
**Habitat, Soils,  
Slope, Wetlands**



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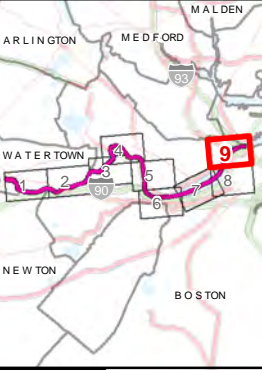
**CAMBRIDGE**

**BOSTON**

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Coordinate System:  
NAD83 Massachusetts State Plane Mairland (Feet)

**Habitat, Soils, Slope, Wetlands**  
Weston & Sampson





NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.







# Legend for Tree Hazards Map

## Legend








### Tree Information

-  Trees for Pruning/Assessment
-  Trees for Removal
-  MA Towns
-  Area\_gen








### DCR Tree Inventory

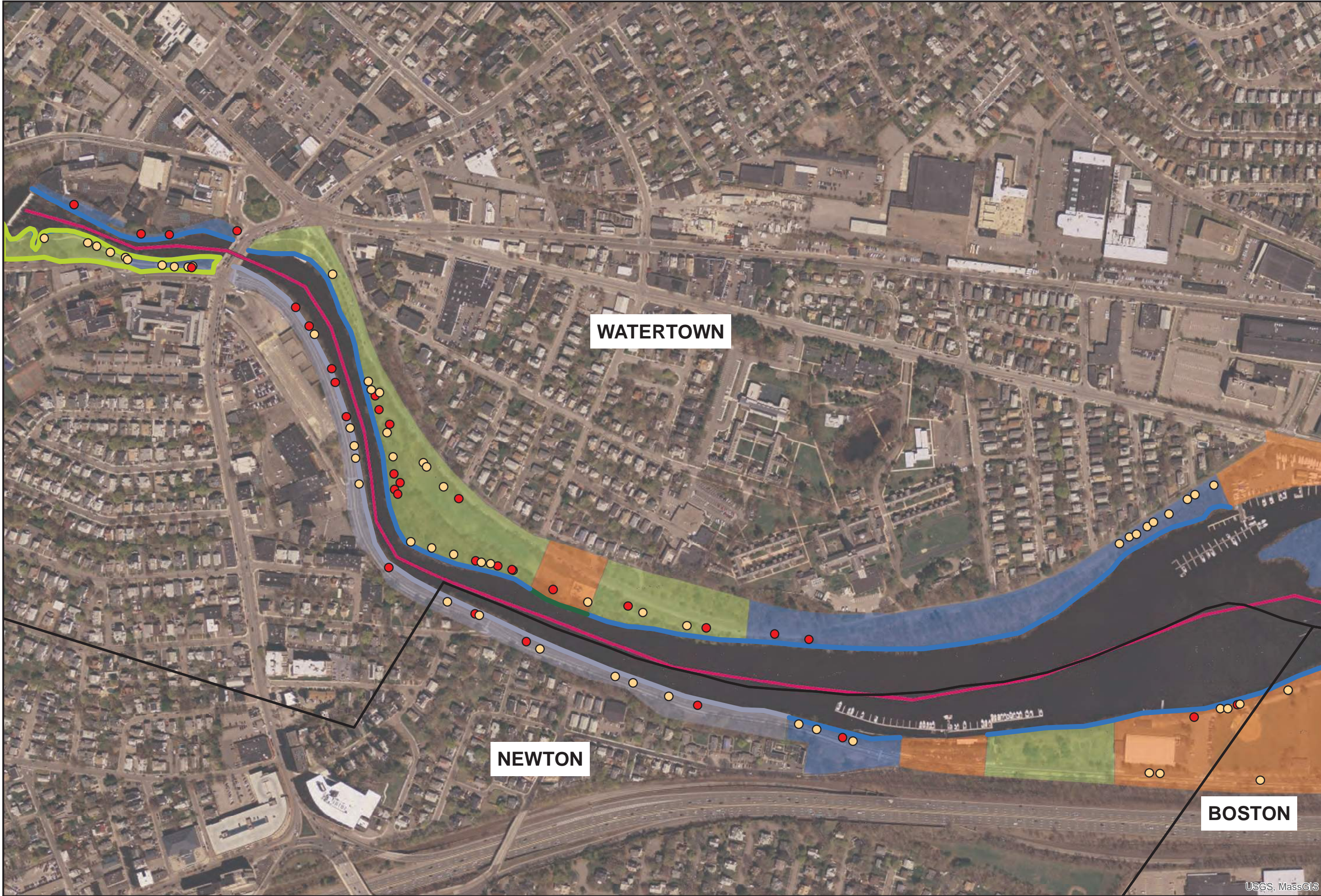
-  DCR Trees for Assessment
-  DCR Trees for Removal
-  Esplanade\_AlreadyAssessed
-  Not Assessed

### Riverbank Management Areas

-  Bulkhead
-  Low to Medium Shrub and Overstory
-  Medium to High Shrub and Overstory
-  Stone or Concrete Revetment
-  Riparian Wooded Banks
-  Biological Wetlands
-  Wooded Bank Adjacent to Roadway

### Management Areas

-  Medium to High Shrub and Overstory
-  Riparian Wooded Banks
-  Turf Active Recreation
-  Turf Passive Recreation
-  Biological Wetlands
-  Wooded Bank Adjacent to Roadway
-  Charle River Work Segment



WATERTOWN

NEWTON

BOSTON

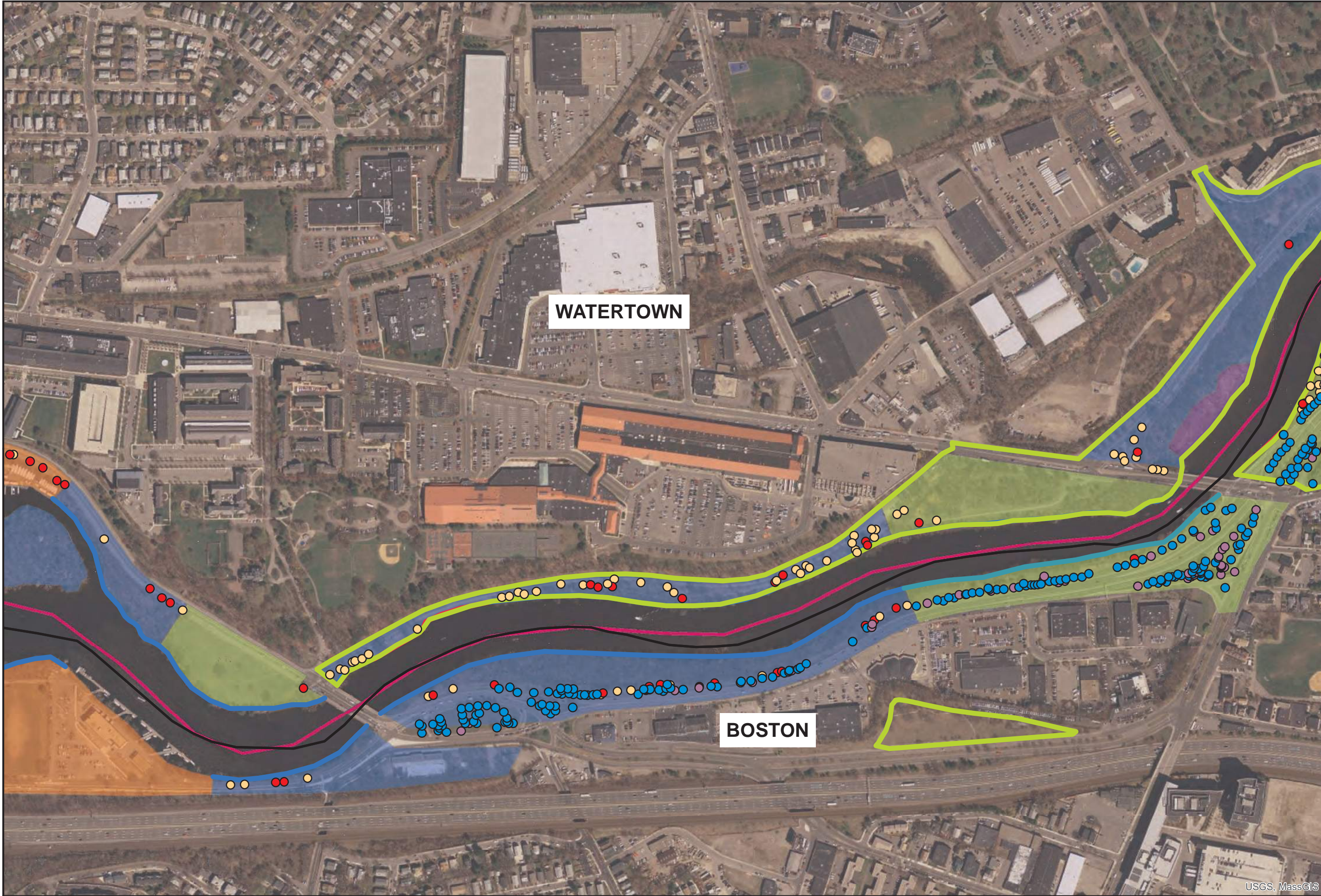
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NAD83 Massachusetts State Plane Mairland (Feet)

Tree Hazards  
Weston & Sampson



NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.



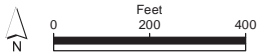


WATERTOWN

BOSTON

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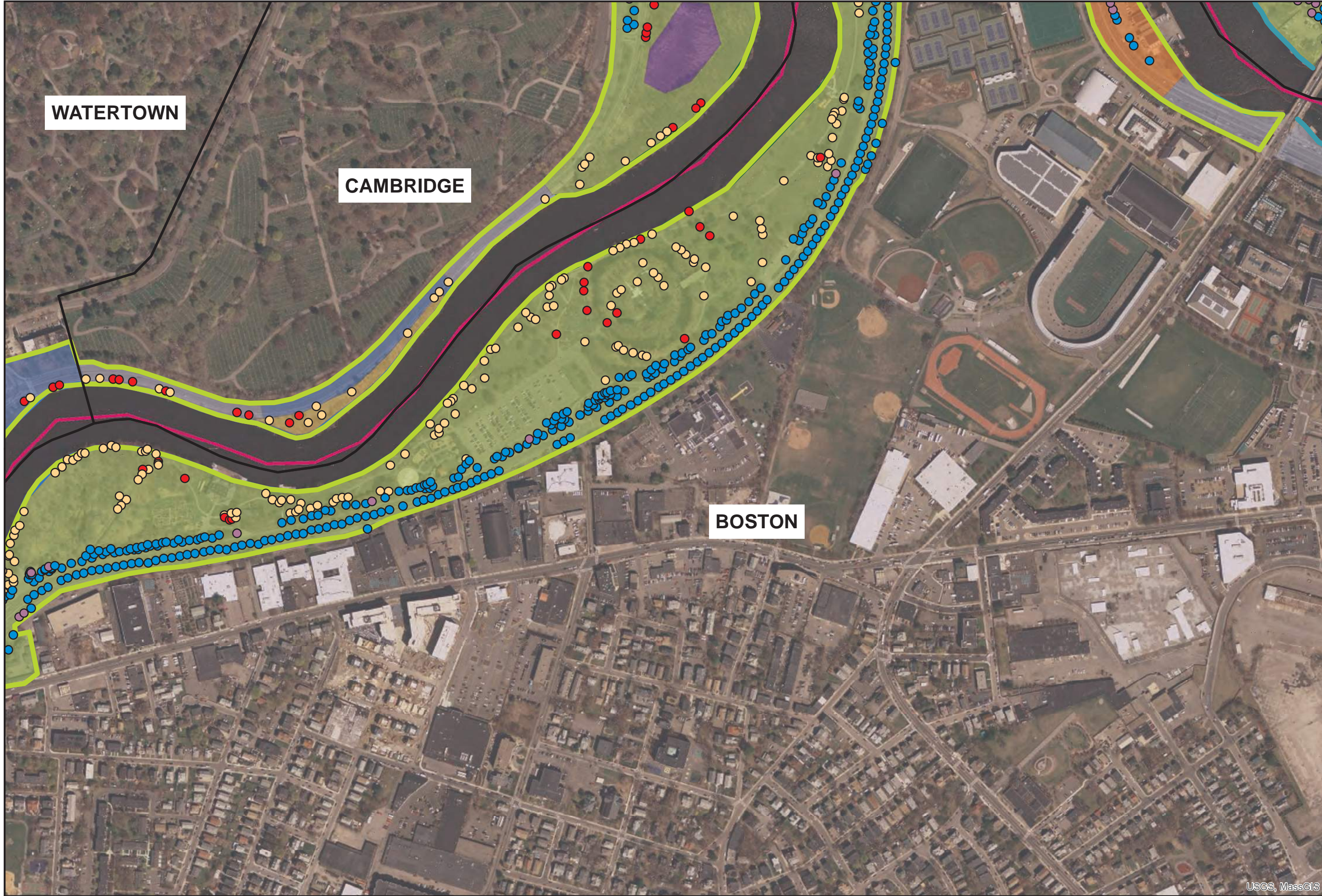
Tree Hazards  
Weston & Sampson



NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.



F2



WATERTOWN

CAMBRIDGE

BOSTON

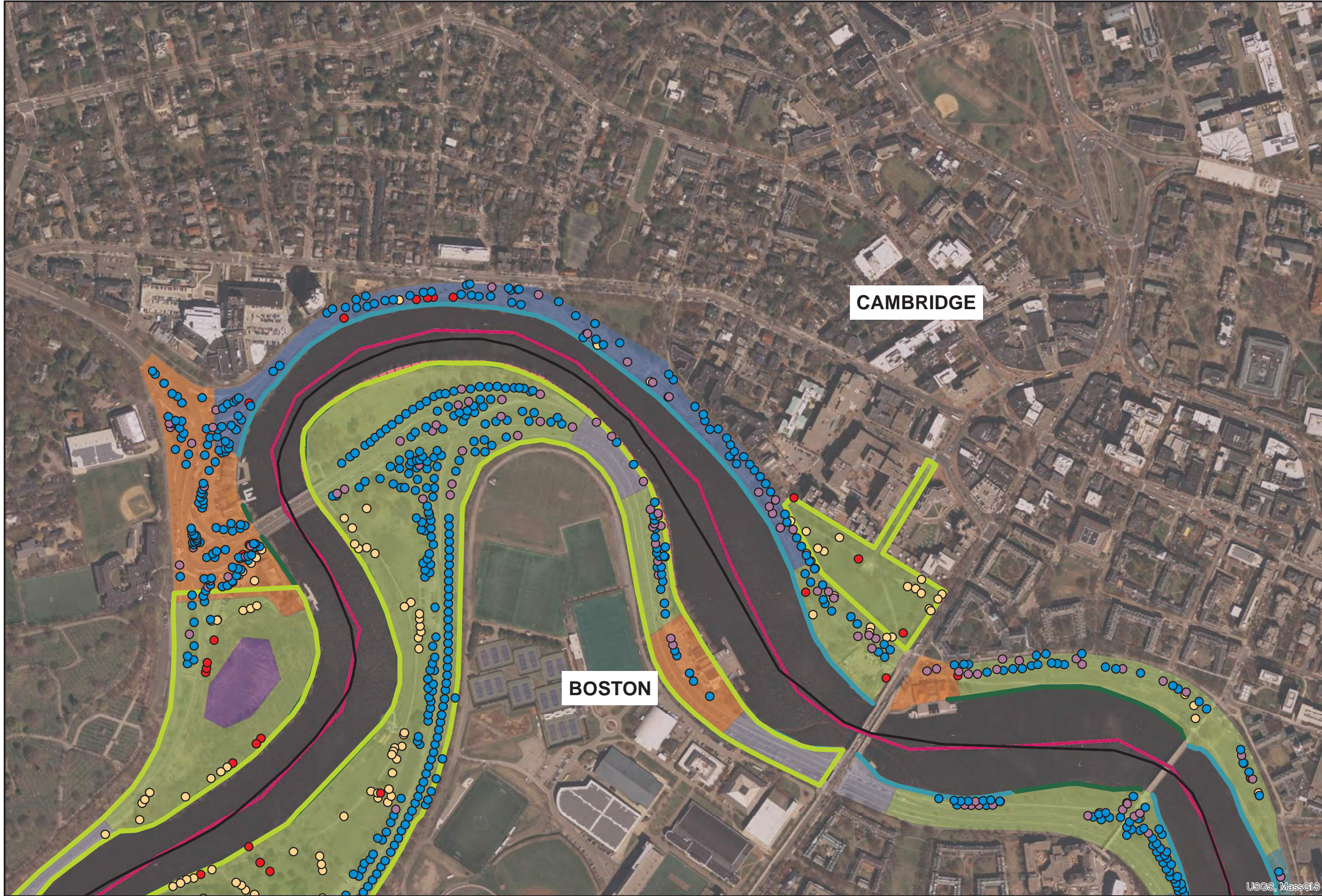
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Tree Hazards  
Weston & Sampson



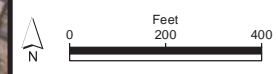
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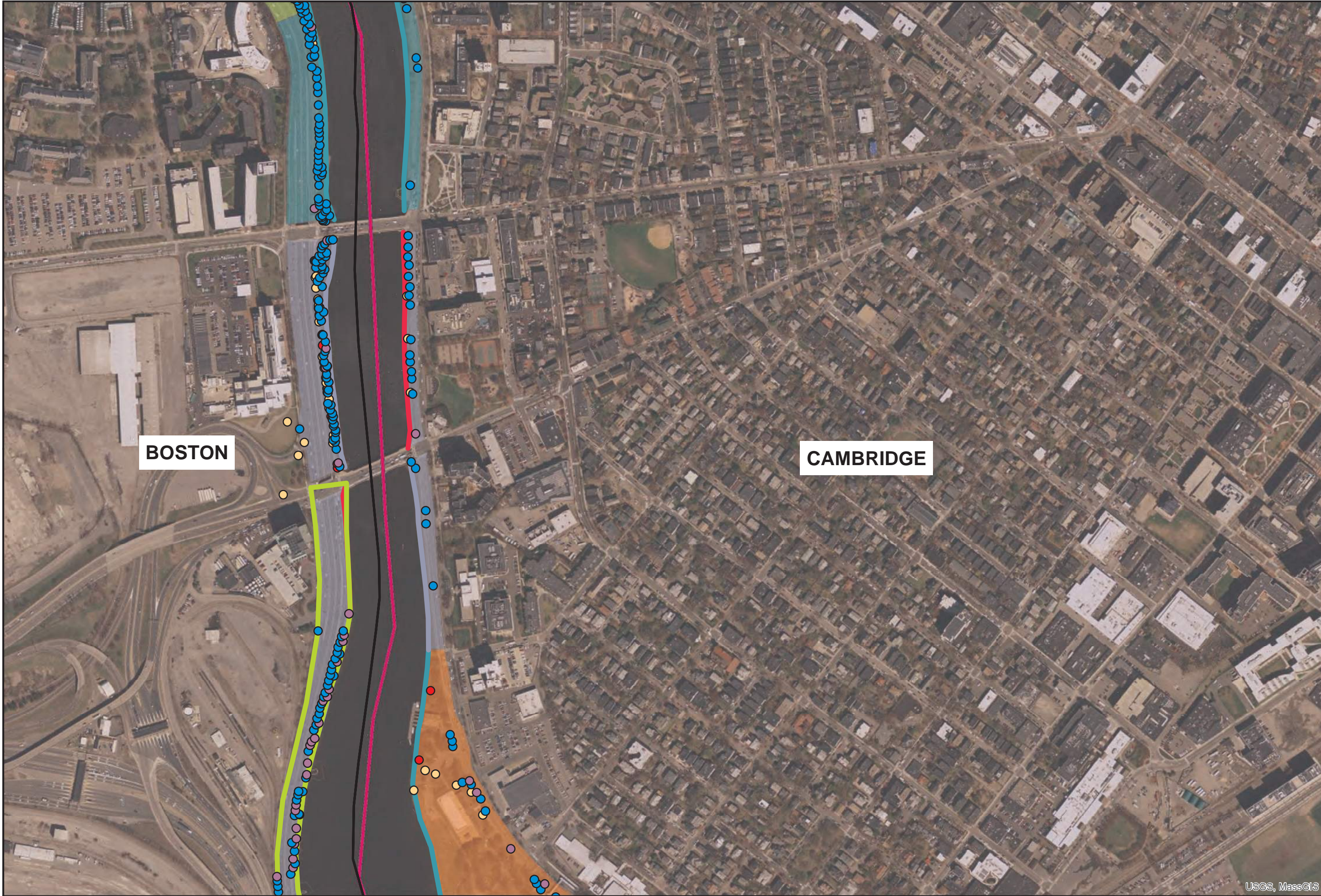
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Tree Hazards  
Weston & Sampson



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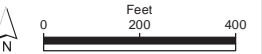
BOSTON

CAMBRIDGE

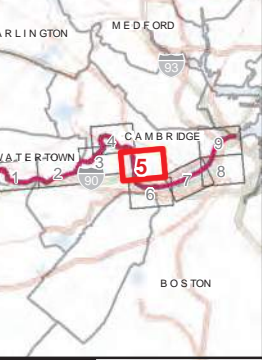


Disclaimer: The information shown is for planning purposes only and should not be considered exact. Field inspection and verification is required.  
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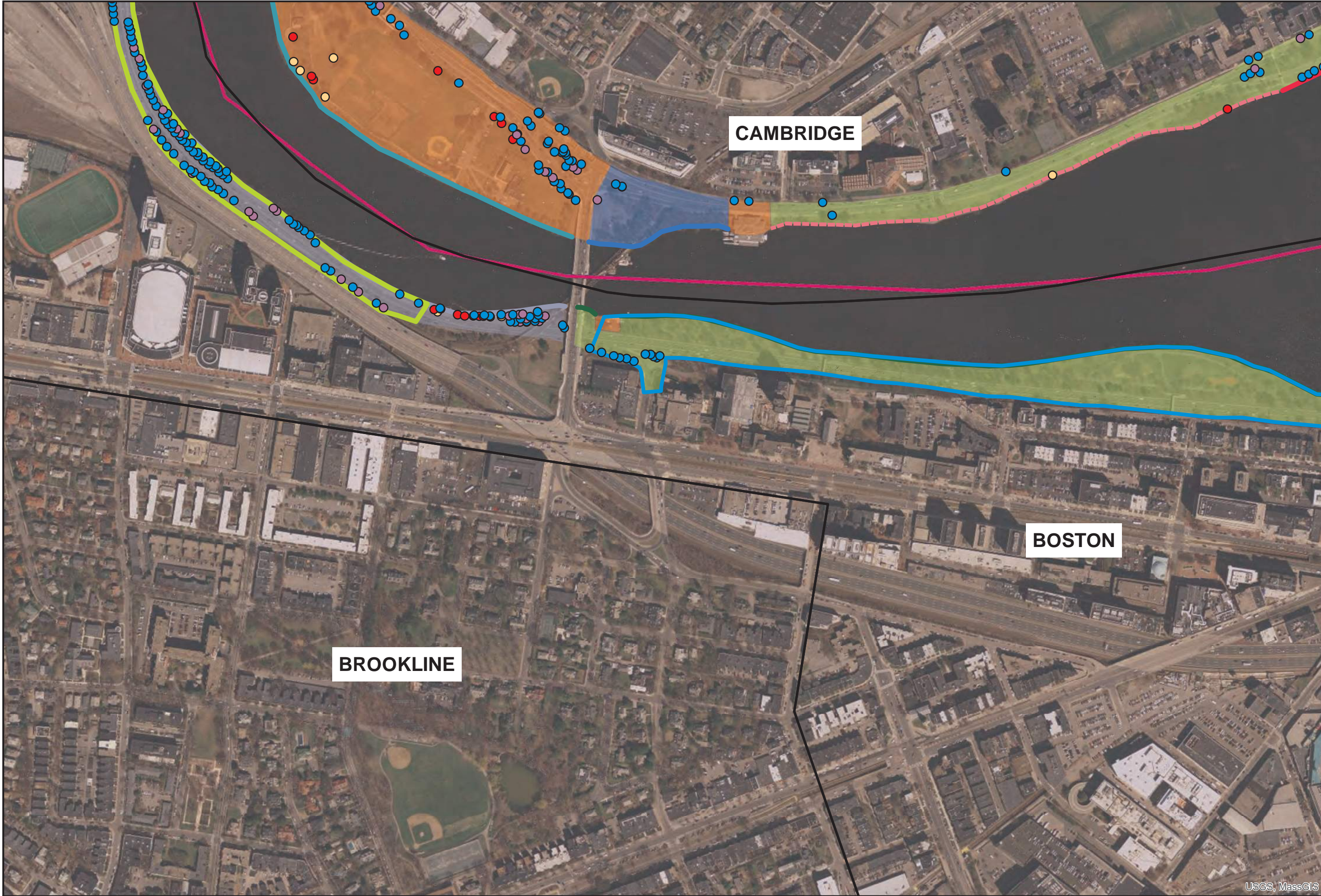
Tree Hazards



NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.

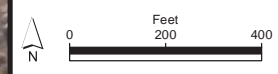


F5



Disclaimer:  
The information shown is for planning purposes only and should not be considered exact. Field inspection and verification is required.  
Coordinate System:  
NAD83 Massachusetts State Plane Mairland (Feet)

**Tree Hazards**  
Weston & Sampson



NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.







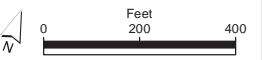
CAMBRIDGE

BOSTON



Disclaimer: The information shown is for planning purposes only and should not be considered exact. Field inspection and verification is required.  
Coordinate System: NAD83 Massachusetts State Plane Mainland (Feet)

Tree Hazards



NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.



**7**

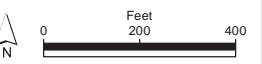


CAMBRIDGE

BOSTON

Disclaimer:  
The information shown is for planning purposes only and should not be considered exact. Field inspection and verification is required.  
Coordinate System:  
NAD83 Massachusetts State Plane Mairland (Feet)

Tree Hazards  
Weston & Sampson



NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.



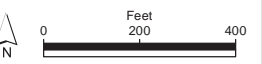
SOMERVILLE

CAMBRIDGE

BOSTON

Disclaimer:  
The information shown is for planning purposes only and should not be considered exact. Field inspection and verification is required.  
Coordinate System:  
NAD83 Massachusetts State Plane Mairland (Feet)

Tree Hazards  
Weston & Sampson



NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.

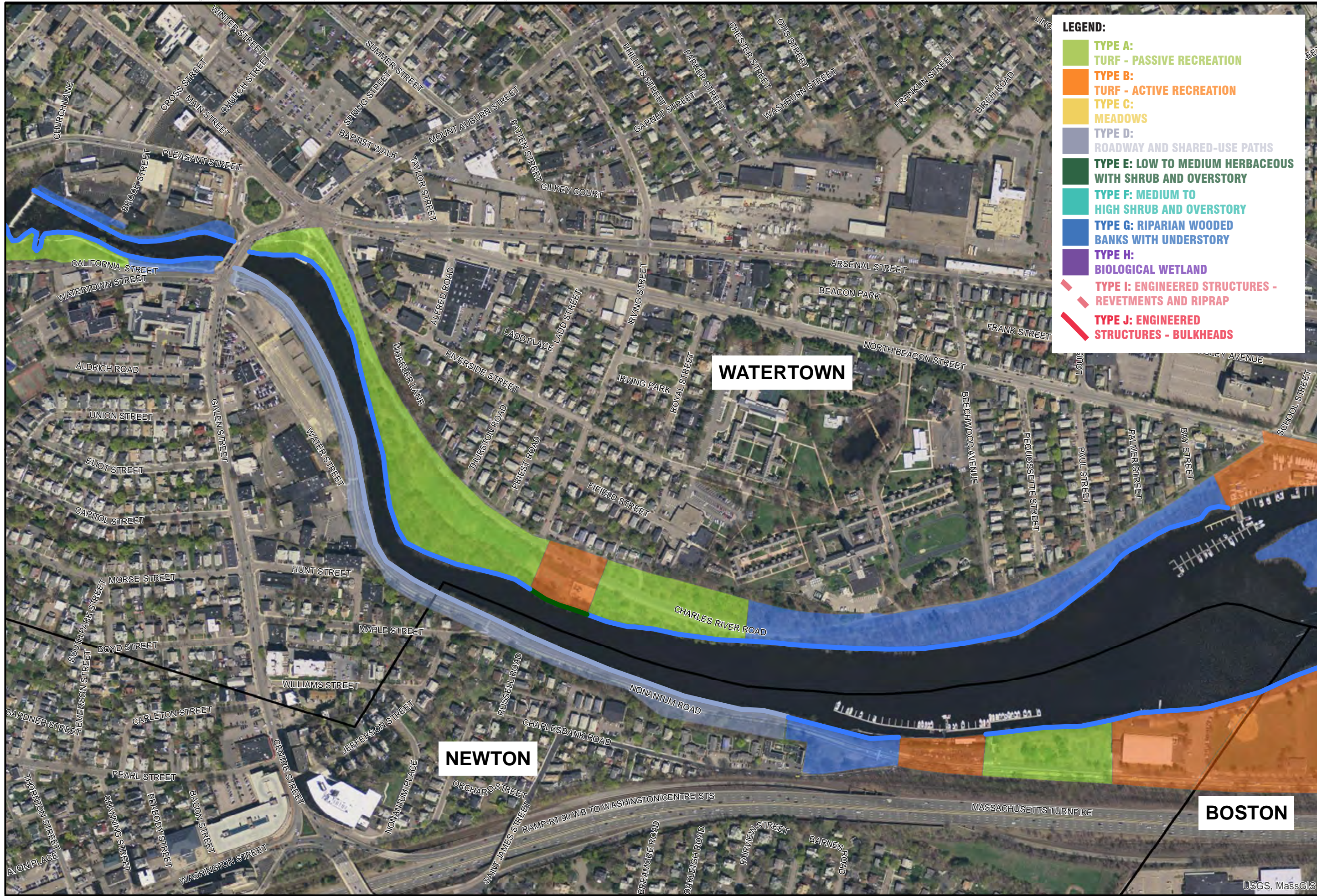


F9

## Legend for Management Areas Map

### LEGEND:

-  **TYPE A:**  
**TURF - PASSIVE RECREATION**
-  **TYPE B:**  
**TURF - ACTIVE RECREATION**
-  **TYPE C:**  
**MEADOWS**
-  **TYPE D:**  
**ROADWAY AND SHARED-USE PATHS**
-  **TYPE E: LOW TO MEDIUM HERBACEOUS  
WITH SHRUB AND OVERSTORY**
-  **TYPE F: MEDIUM TO  
HIGH SHRUB AND OVERSTORY**
-  **TYPE G: RIPARIAN WOODED  
BANKS WITH UNDERSTORY**
-  **TYPE H:**  
**BIOLOGICAL WETLAND**
-  **TYPE I: ENGINEERED STRUCTURES -  
REVETMENTS AND RIPRAP**
-  **TYPE J: ENGINEERED  
STRUCTURES - BULKHEADS**



**LEGEND:**

- TYPE A:**  
TURF - PASSIVE RECREATION
- TYPE B:**  
TURF - ACTIVE RECREATION
- TYPE C:**  
MEADOWS
- TYPE D:**  
ROADWAY AND SHARED-USE PATHS
- TYPE E: LOW TO MEDIUM HERBACEOUS WITH SHRUB AND OVERSTORY**
- TYPE F: MEDIUM TO HIGH SHRUB AND OVERSTORY**
- TYPE G: RIPARIAN WOODED BANKS WITH UNDERSTORY**
- TYPE H:**  
BIOLOGICAL WETLAND
- TYPE I: ENGINEERED STRUCTURES - REVETMENTS AND RIPRAP**
- TYPE J: ENGINEERED STRUCTURES - BULKHEADS**

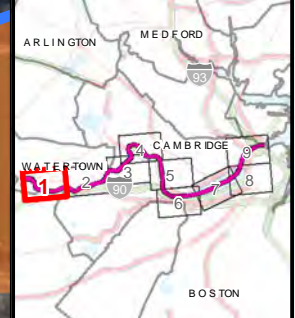
Disclaimer: The information shown is for planning purposes only and should not be considered exact. Field inspection and verification is required.  
Coordinate System: NAD83 Massachusetts State Plane Mairland (Feet)

**Management Areas**

Weston & Sampson



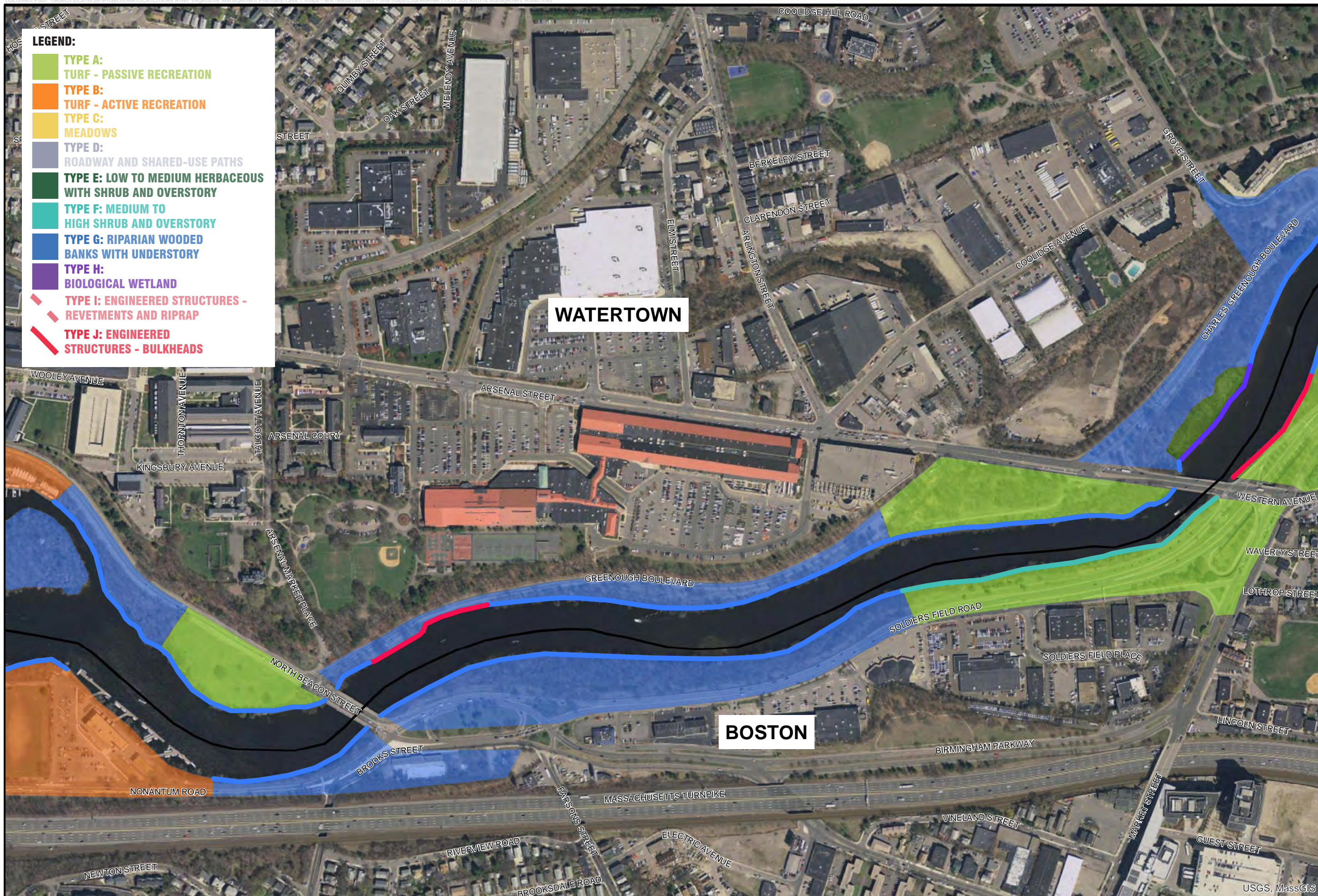
NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.



**D1**

**LEGEND:**

- TYPE A:**  
TURF - PASSIVE RECREATION
- TYPE B:**  
TURF - ACTIVE RECREATION
- TYPE C:**  
MEADOWS
- TYPE D:**  
ROADWAY AND SHARED-USE PATHS
- TYPE E:** LOW TO MEDIUM HERBACEOUS  
WITH SHRUB AND OVERSTORY
- TYPE F:** MEDIUM TO  
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BANKS WITH UNDERSTORY
- TYPE H:**  
BIOLOGICAL WETLAND
- TYPE I: ENGINEERED STRUCTURES -  
REVETMENTS AND RIPRAP**
- TYPE J: ENGINEERED  
STRUCTURES - BULKHEADS**

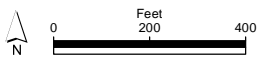


**WATERTOWN**

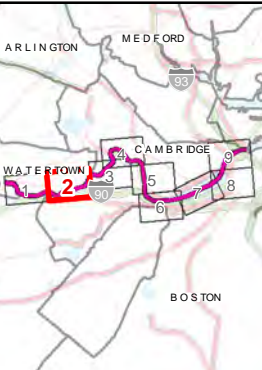
**BOSTON**

Disclaimer:  
The information shown is for planning purposes only and  
should not be considered exact. Field inspection and  
verification is required.  
Coordinate System:  
NAD83 Massachusetts State Plane Mainland (Feet)

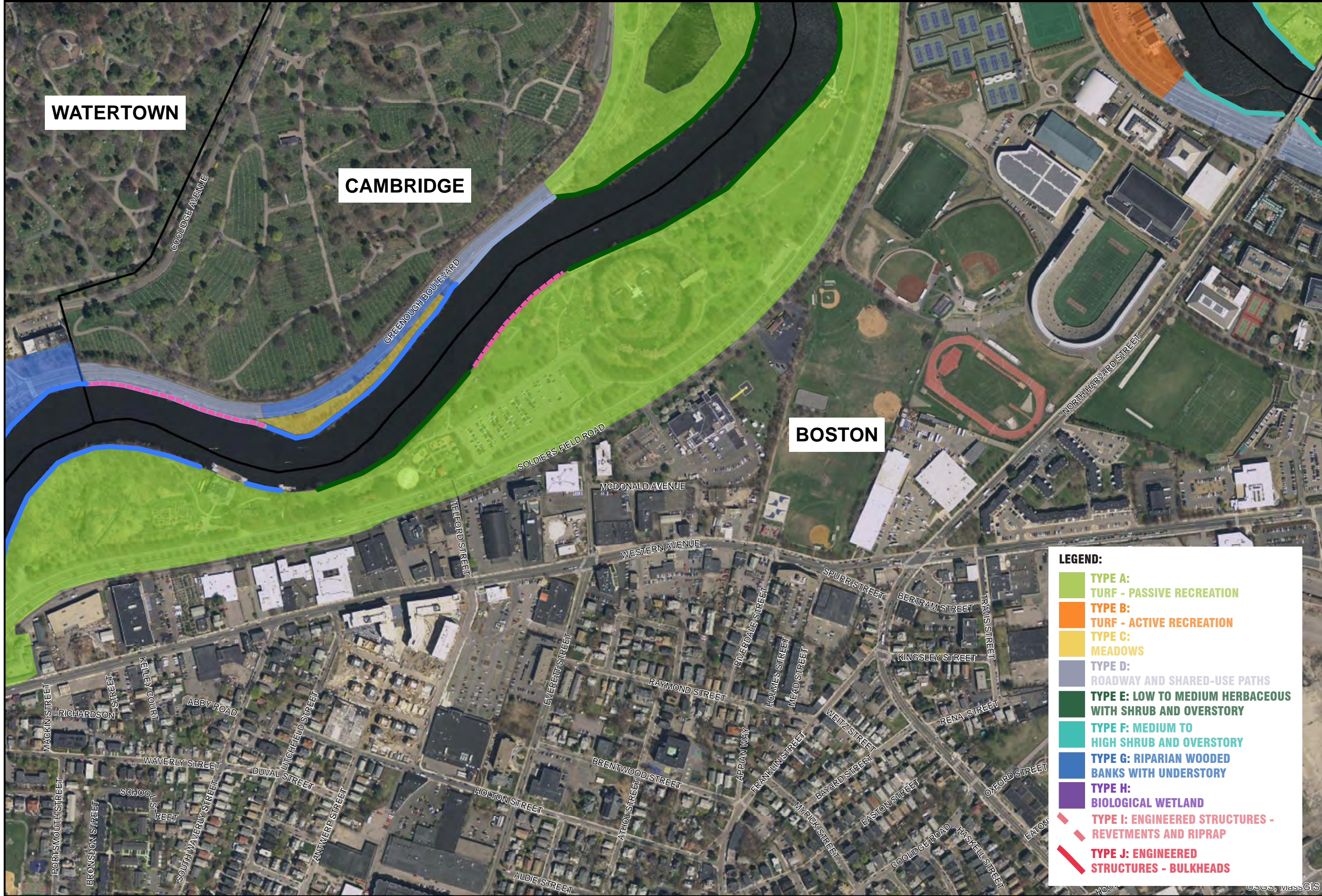
**Management Areas**



**NOTE: Bold page outlines in the  
index below indicate questions or  
unconfirmed outfalls present.**



**D2**



**WATERTOWN**

**CAMBRIDGE**

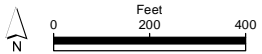
**BOSTON**

**LEGEND:**

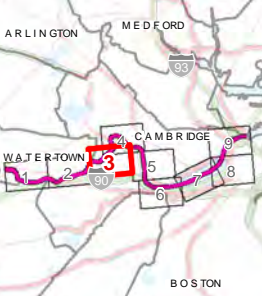
- TYPE A:**  
TURF - PASSIVE RECREATION
- TYPE B:**  
TURF - ACTIVE RECREATION
- TYPE C:**  
MEADOWS
- TYPE D:**  
ROADWAY AND SHARED-USE PATHS
- TYPE E: LOW TO MEDIUM HERBACEOUS WITH SHRUB AND OVERSTORY**
- TYPE F: MEDIUM TO HIGH SHRUB AND OVERSTORY**
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- TYPE H:**  
BIOLOGICAL WETLAND
- TYPE I: ENGINEERED STRUCTURES - REVETMENTS AND RIPRAP**
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Disclaimer: The information shown is for planning purposes only and should not be considered exact. Field inspection and verification is required.  
 Coordinate System: NAD83 Massachusetts State Plane Mairland (Feet)

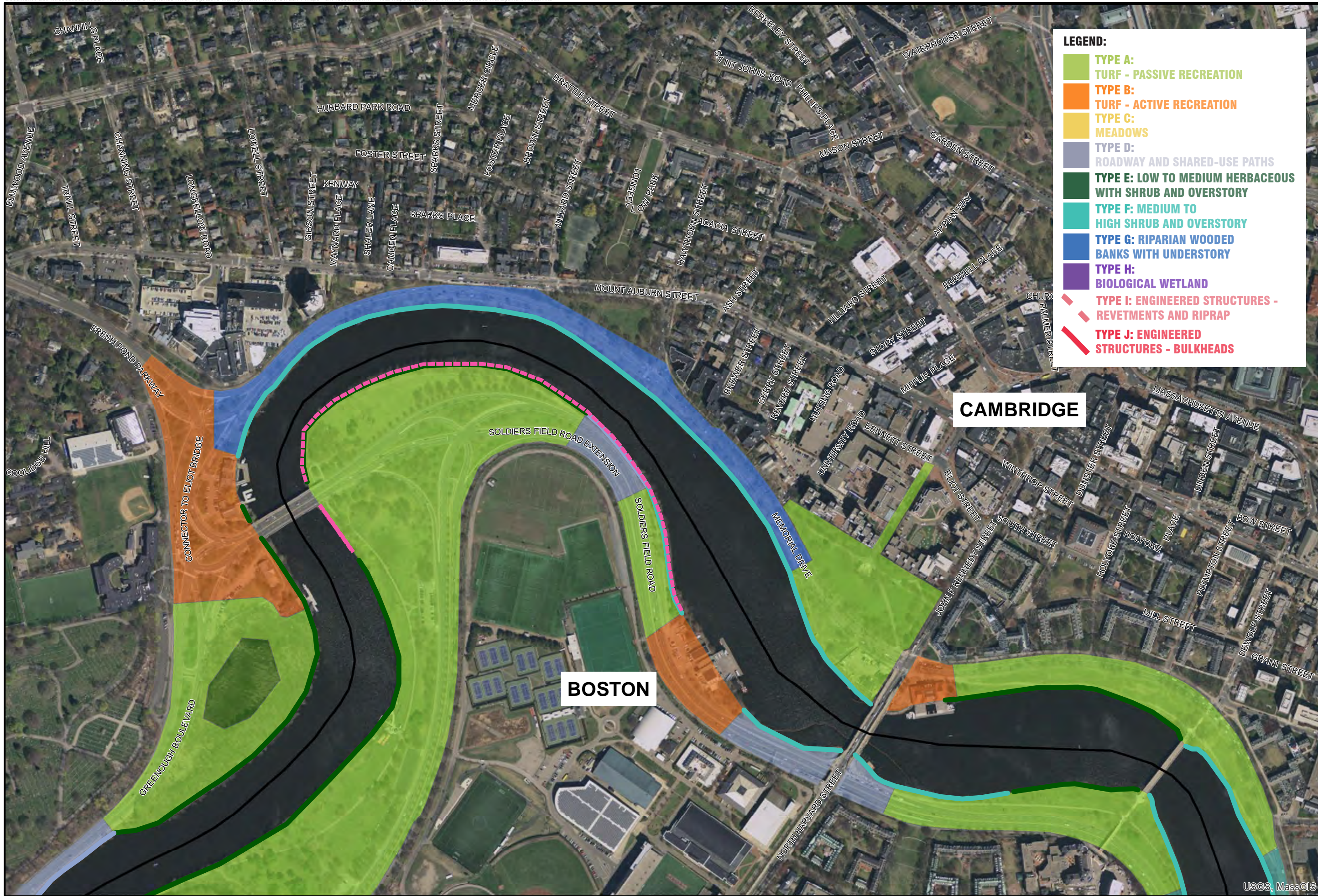
**Management Areas**  
 Weston & Sampson



**NOTE:** Bold page outlines in the index below indicate questions or unconfirmed outfalls present.



**D3**



**LEGEND:**

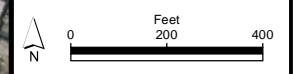
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- TYPE B:**  
TURF - ACTIVE RECREATION
- TYPE C:**  
MEADOWS
- TYPE D:**  
ROADWAY AND SHARED-USE PATHS
- TYPE E: LOW TO MEDIUM HERBACEOUS WITH SHRUB AND OVERSTORY**
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- TYPE H:**  
BIOLOGICAL WETLAND
- TYPE I: ENGINEERED STRUCTURES - REVETMENTS AND RIPRAP**
- TYPE J: ENGINEERED STRUCTURES - BULKHEADS**

**CAMBRIDGE**

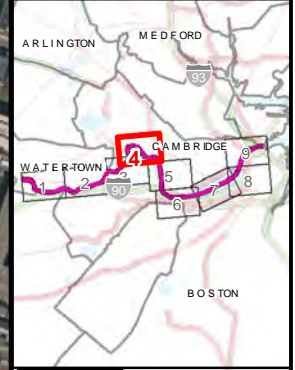
**BOSTON**

Disclaimer:  
 The information shown is for planning purposes only and should not be considered exact. Field inspection and verification is required.  
 Coordinate System:  
 NAD83 Massachusetts State Plane Mairland (Feet)

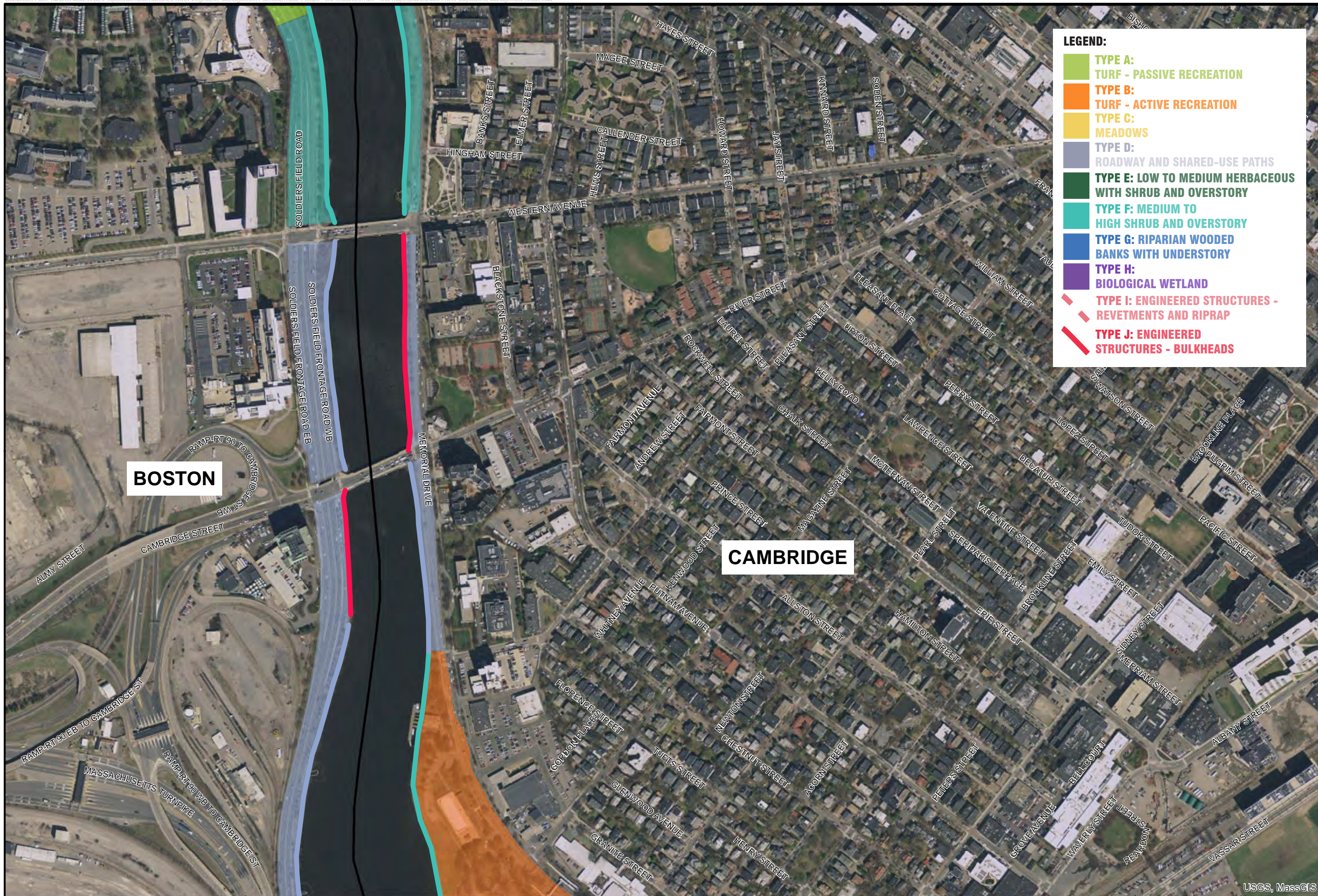
**Management Areas**  
 Weston & Sampson



**NOTE:** Bold page outlines in the index below indicate questions or unconfirmed outfalls present.





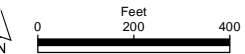


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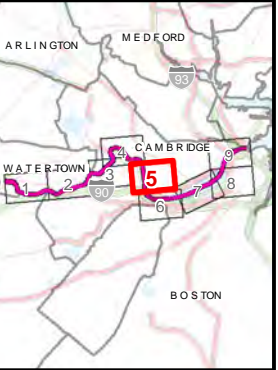
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TURF - PASSIVE RECREATION
- TYPE B:**  
TURF - ACTIVE RECREATION
- TYPE C:**  
MEADOWS
- TYPE D:**  
ROADWAY AND SHARED-USE PATHS
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BIOLOGICAL WETLAND
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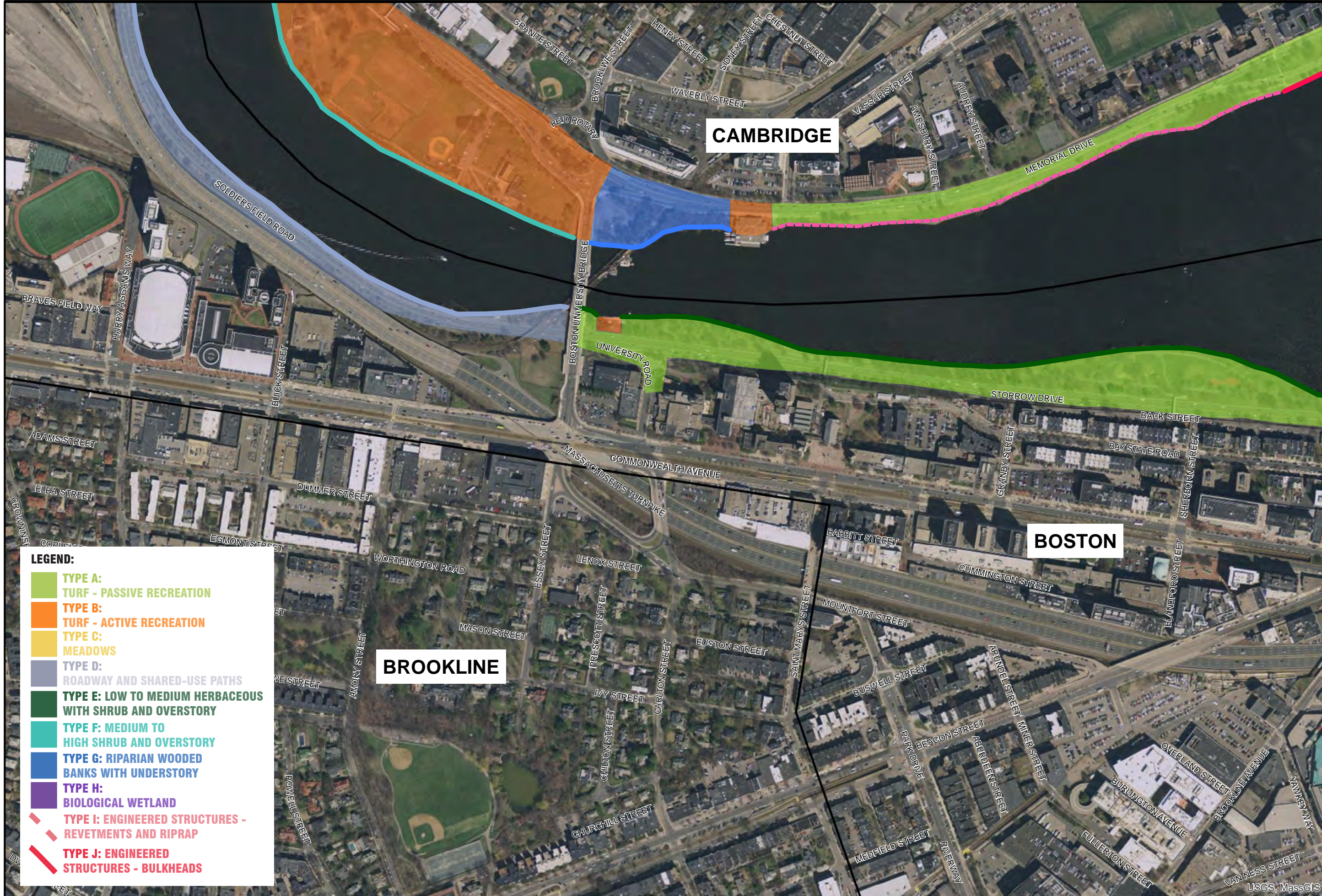
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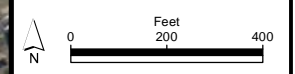
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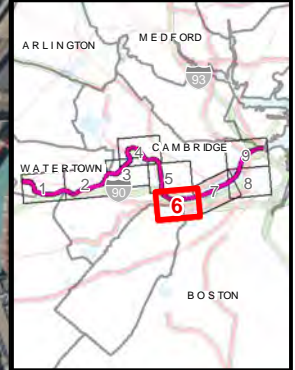


**LEGEND:**

- TYPE A:**  
TURF - PASSIVE RECREATION
- TYPE B:**  
TURF - ACTIVE RECREATION
- TYPE C:**  
MEADOWS
- TYPE D:**  
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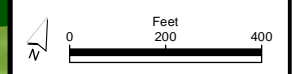


**CAMBRIDGE**

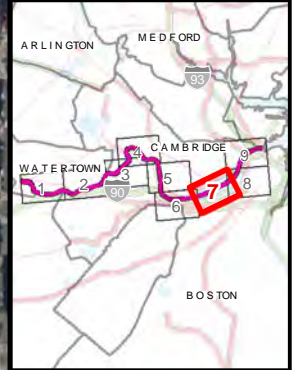
**BOSTON**

**LEGEND:**

- TYPE A:**  
TURF - PASSIVE RECREATION
- TYPE B:**  
TURF - ACTIVE RECREATION
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BIOLOGICAL WETLAND
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- TYPE J: ENGINEERED STRUCTURES - BULKHEADS**



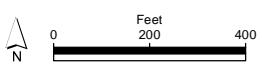
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**LEGEND:**

- TYPE A:**  
TURF - PASSIVE RECREATION
- TYPE B:**  
TURF - ACTIVE RECREATION
- TYPE C:**  
MEADOWS
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ROADWAY AND SHARED-USE PATHS
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SOMERVILLE

CAMBRIDGE

BOSTON

- LEGEND:**
- TYPE A:**  
TURF - PASSIVE RECREATION
  - TYPE B:**  
TURF - ACTIVE RECREATION
  - TYPE C:**  
MEADOWS
  - TYPE D:**  
ROADWAY AND SHARED-USE PATHS
  - TYPE E:** LOW TO MEDIUM HERBACEOUS WITH SHRUB AND OVERSTORY
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  - TYPE I:** ENGINEERED STRUCTURES - REVETMENTS AND RIPRAP
  - TYPE J:** ENGINEERED STRUCTURES - BULKHEADS



Massachusetts Department of Conservation & Recreation

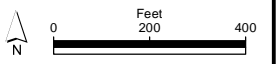
Charles River Vegetative Management Plan

October 2018

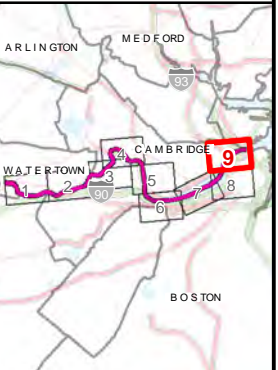
Disclaimer: The information shown is for planning purposes only and should not be considered exact. Field inspection and verification is required.  
Coordinate System: NAD83 Massachusetts State Plane Mainland (Feet)

Management Areas

Weston & Sampson



NOTE: Bold page outlines in the index below indicate questions or unconfirmed outfalls present.



# Section 2

## Proposed Projects Mapping

# FIGURE 1 - PROPOSED TEST PLOT & CONTROL LOCATIONS

Vegetation Management Types:  
C D E F G H I J

Test Plot Locations:  
P#

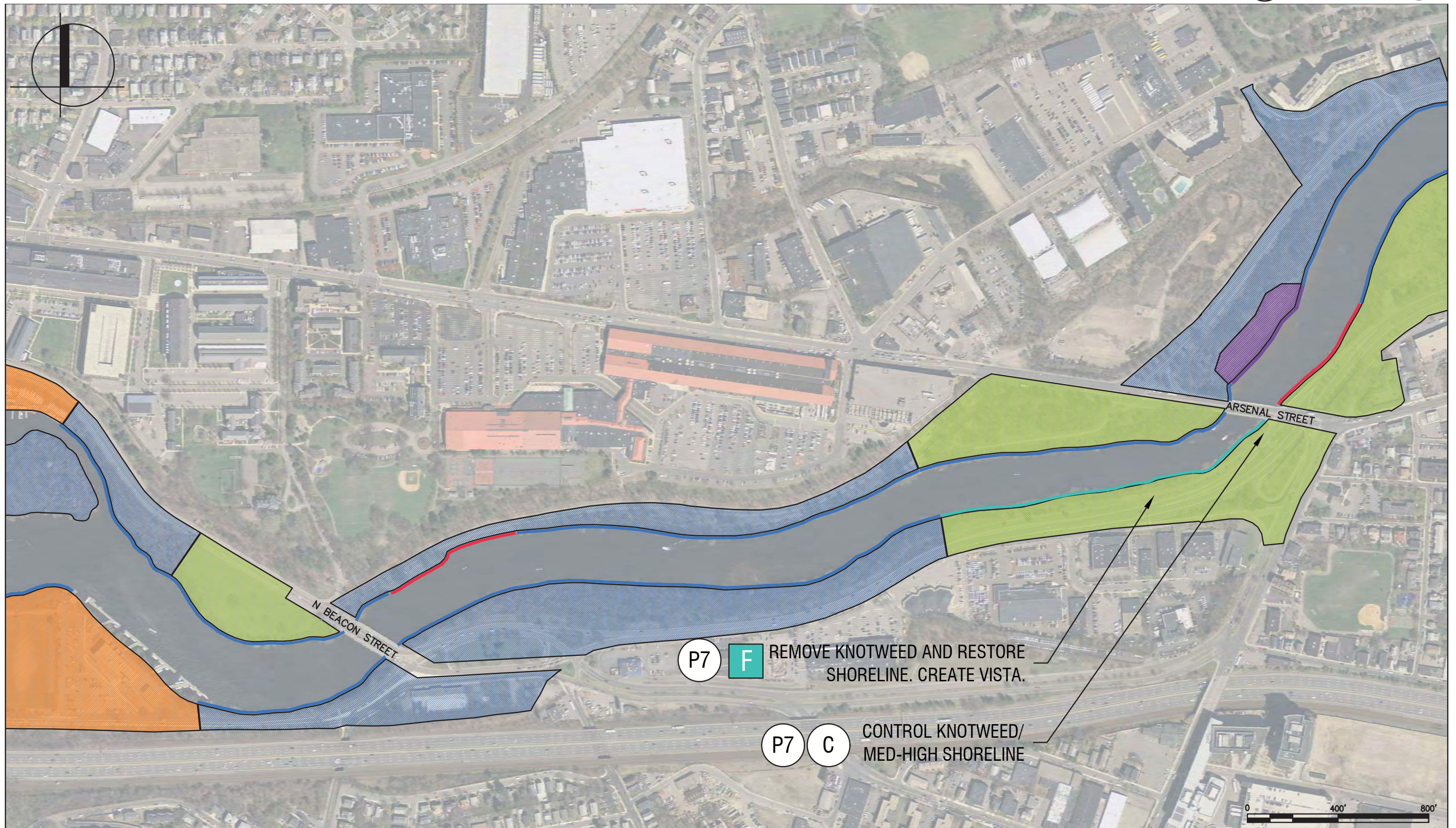
Control Locations:  
P# C



**FIGURE 2 - PROPOSED TEST PLOT & CONTROL LOCATIONS**

Vegetation Management Types:  
**C** **D** **E** **F** **G** **H** **I** **J**

Test Plot Locations: **P#**      Control Locations: **P#** **C**





**FIGURE 3 - PROPOSED TEST PLOT & CONTROL LOCATIONS**

Vegetation Management Types:  
C D E F G H I J

Test Plot Locations: P#  
Control Locations: P# C



**FIGURE 4 - PROPOSED TEST PLOT & CONTROL LOCATIONS**

Vegetation Management Types:

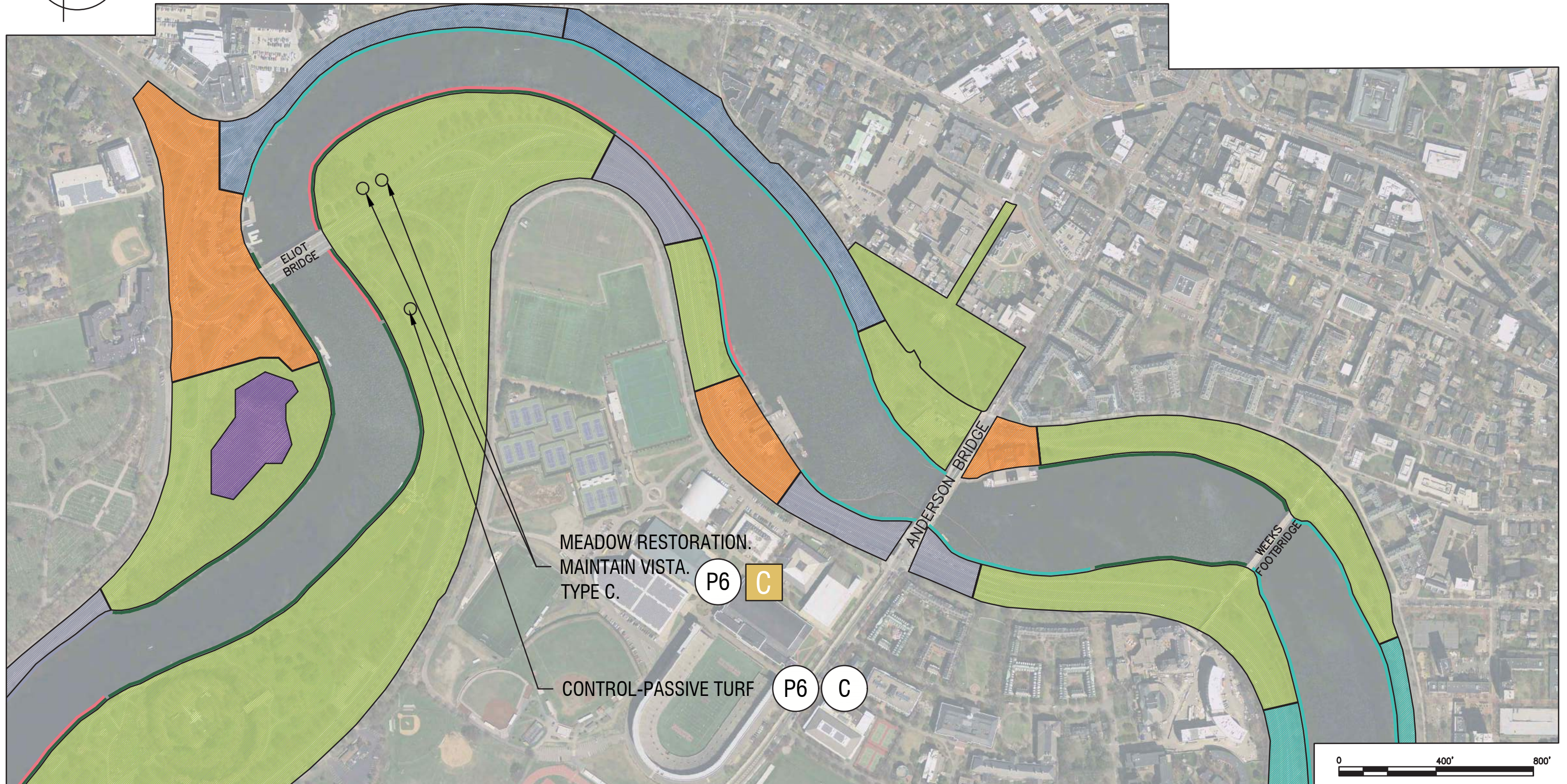
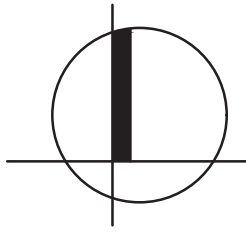
C	D	E	F	G	H	I	J
---	---	---	---	---	---	---	---

Test Plot Locations:

P#
----

Control Locations:

P#	C
----	---



# FIGURE 5 - PROPOSED TEST PLOT & CONTROL LOCATIONS

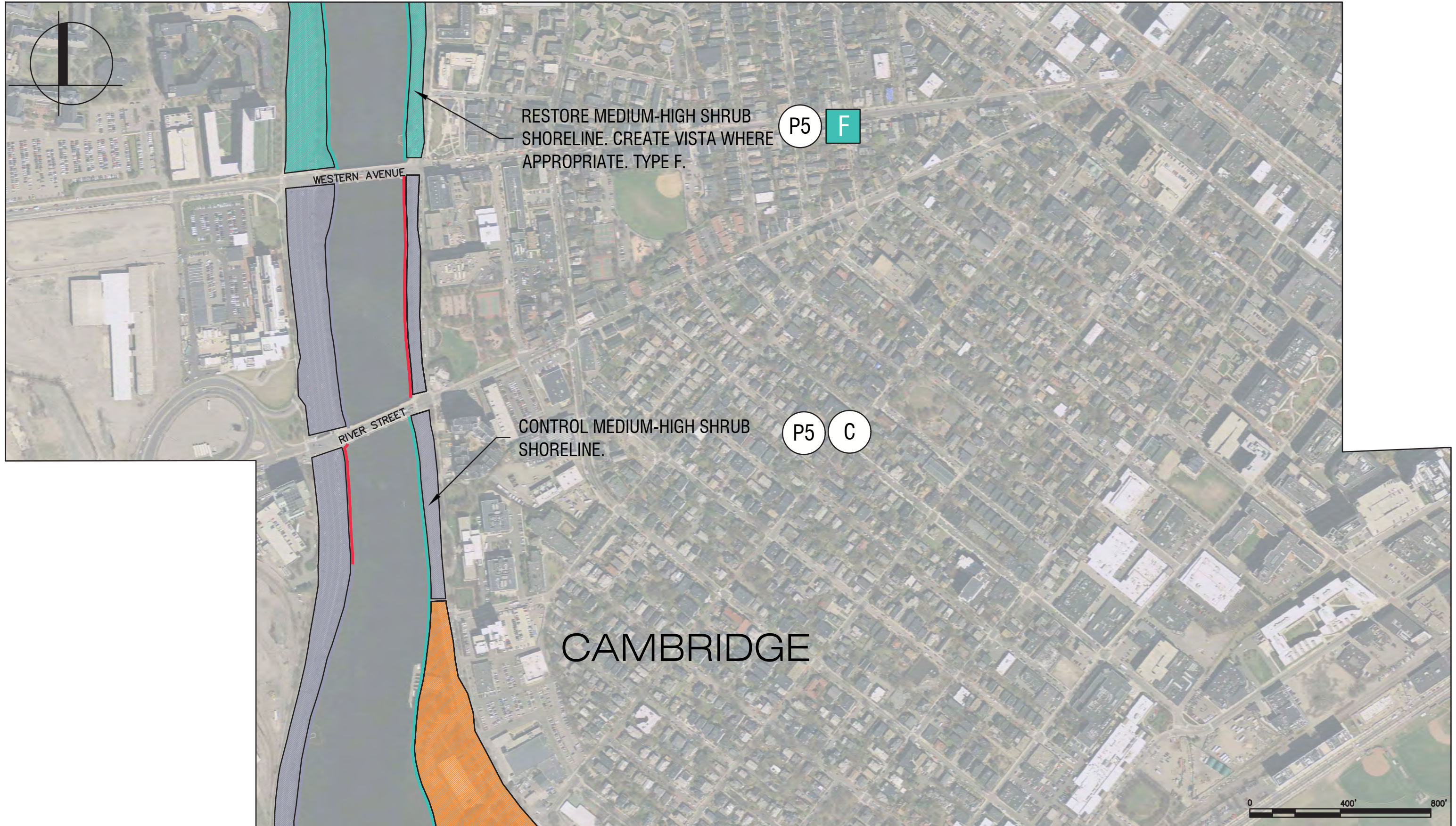
Vegetation Management Types:



Test Plot Locations:



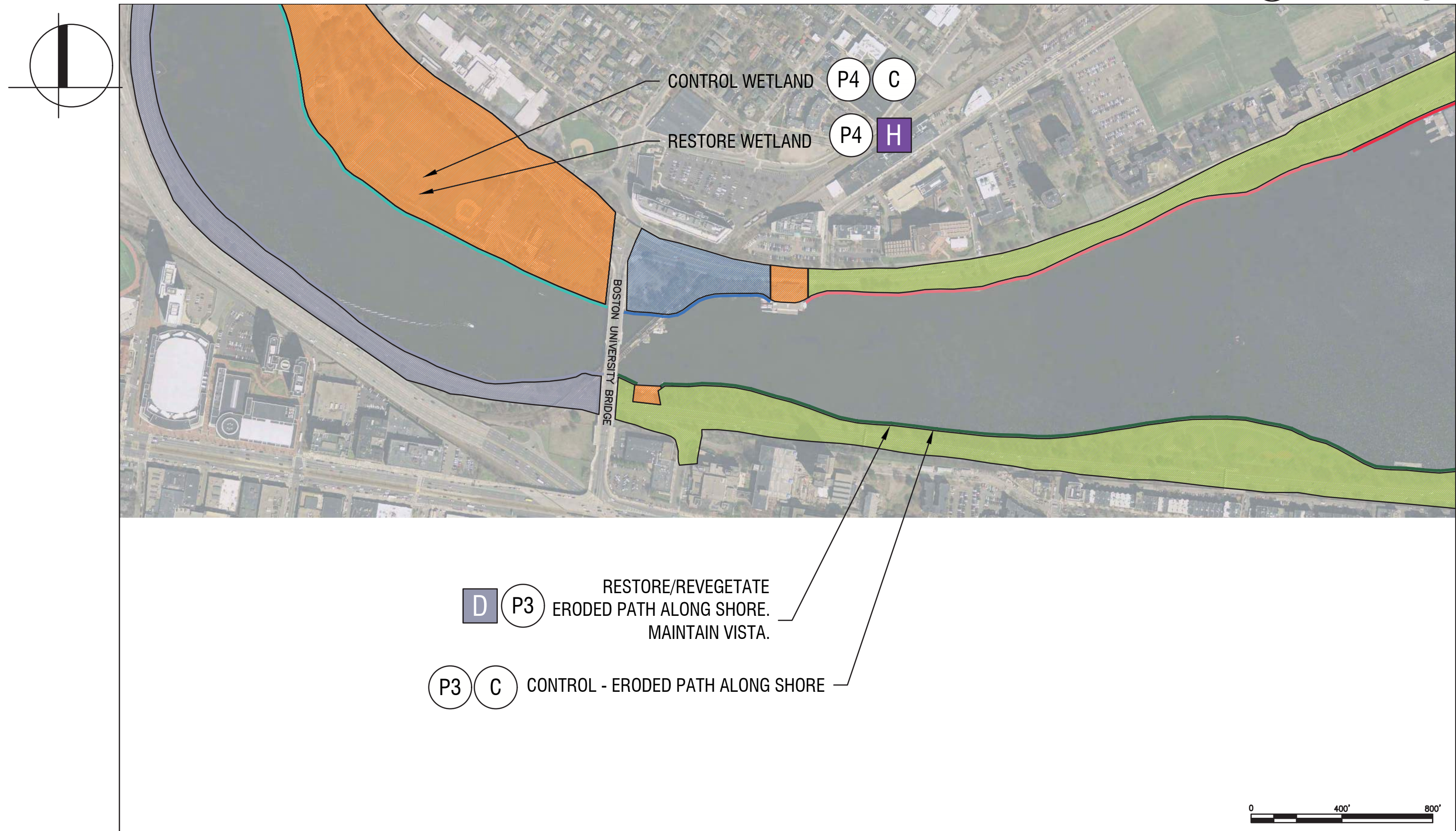
Control Locations:



**FIGURE 6 - PROPOSED TEST PLOT & CONTROL LOCATIONS**

Vegetation Management Types:  
**C** **D** **E** **F** **G** **H** **I** **J**

Test Plot Locations: **P#** Control Locations: **P#** **C**



**D** **P3** RESTORE/REVEGETATE ERODED PATH ALONG SHORE. MAINTAIN VISTA.

**P3** **C** CONTROL - ERODED PATH ALONG SHORE



# FIGURE 7 - PROPOSED TEST PLOT & CONTROL LOCATIONS

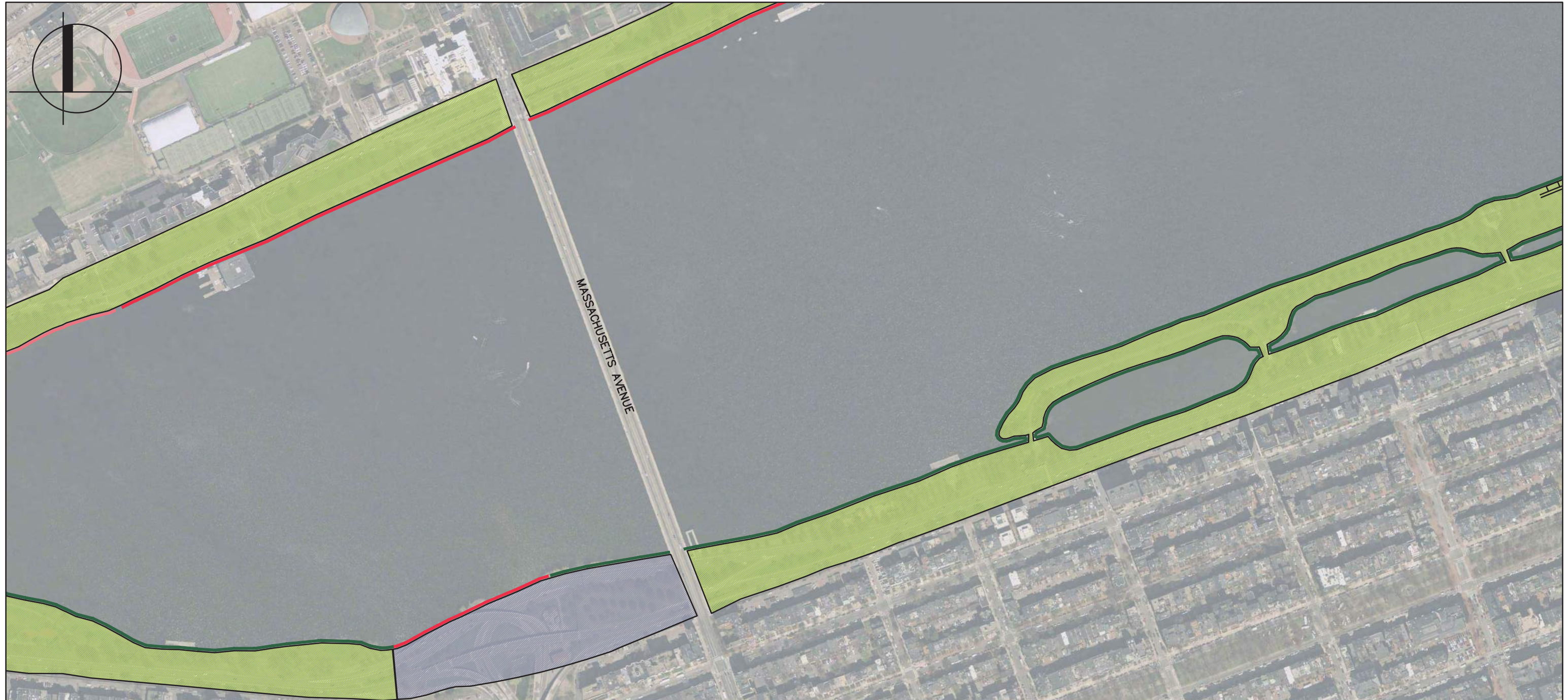
Vegetation Management Types:



Test Plot Locations:



Control Locations:



**CHARLES RIVER VEGETATION MANAGEMENT PLAN**  
DEPARTMENT OF CONSERVATION AND RECREATION



# FIGURE 8 - PROPOSED TEST PLOT & CONTROL LOCATIONS

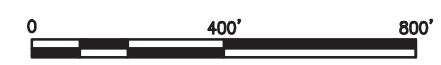
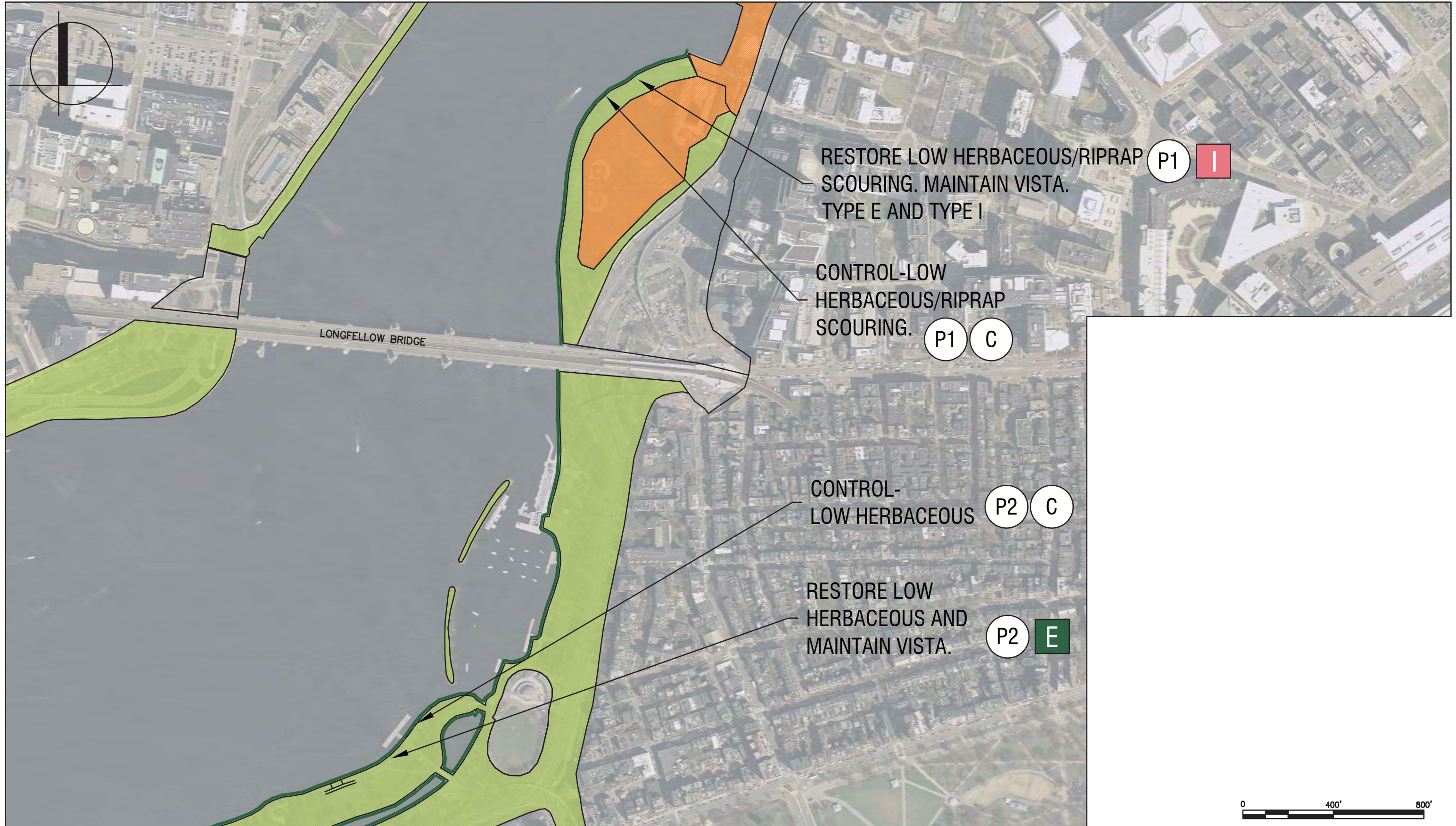
Vegetation Management Types:



Test Plot Locations:



Control Locations:

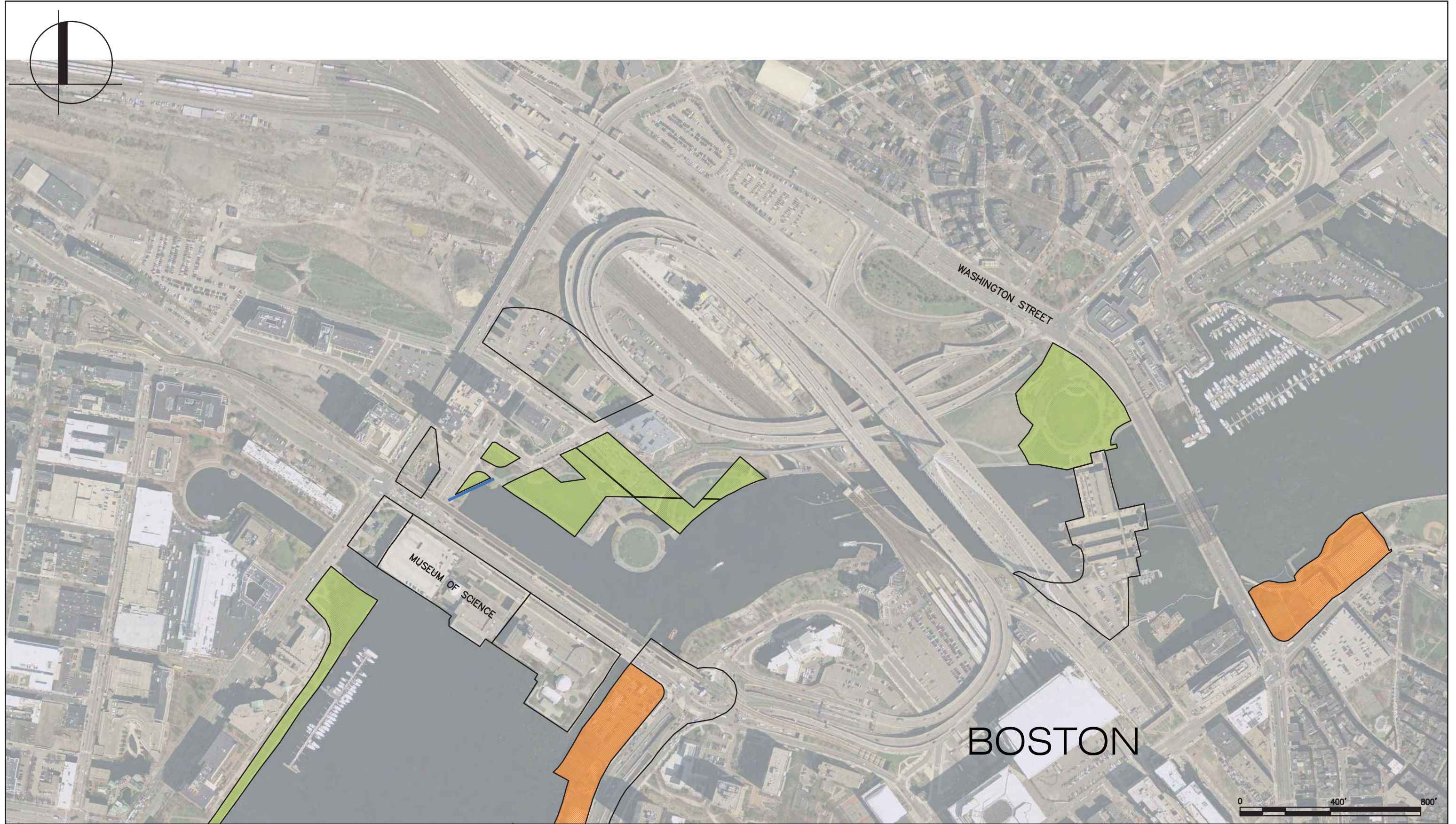


# FIGURE 9 - PROPOSED TEST PLOT & CONTROL LOCATIONS

Vegetation Management Types:  
C D E F G H I J

Test Plot Locations:  
P#

Control Locations:  
P# C

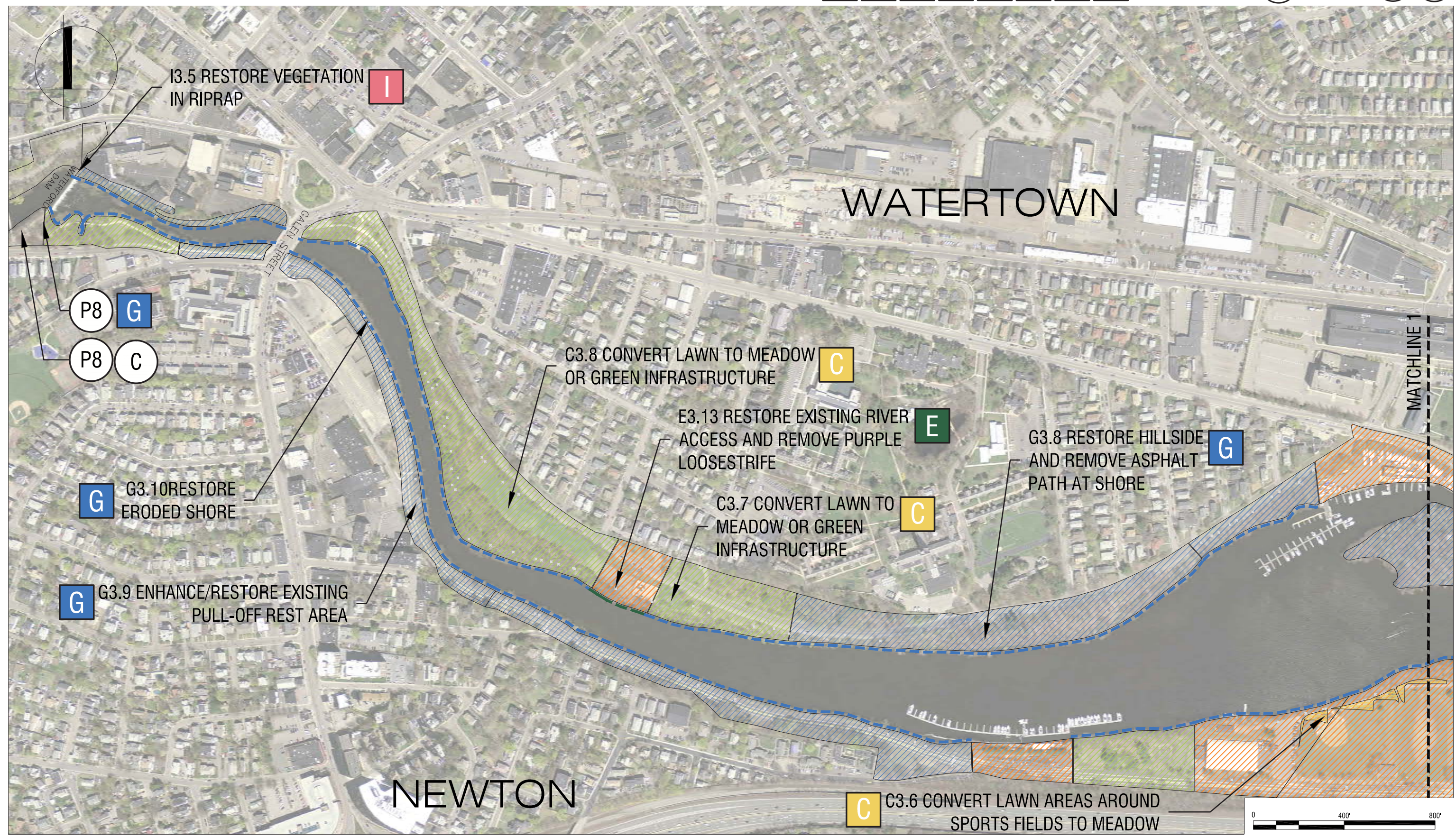


# FIGURE 1 - PROPOSED CAPITAL IMPROVEMENT PROJECTS

Vegetation Management Types:  
**C** **D** **E** **F** **G** **H** **I** **J**

Test Plot Locations:  
 P#

Control Locations:  
 P# C





# FIGURE 2 - PROPOSED CAPITAL IMPROVEMENT PROJECTS

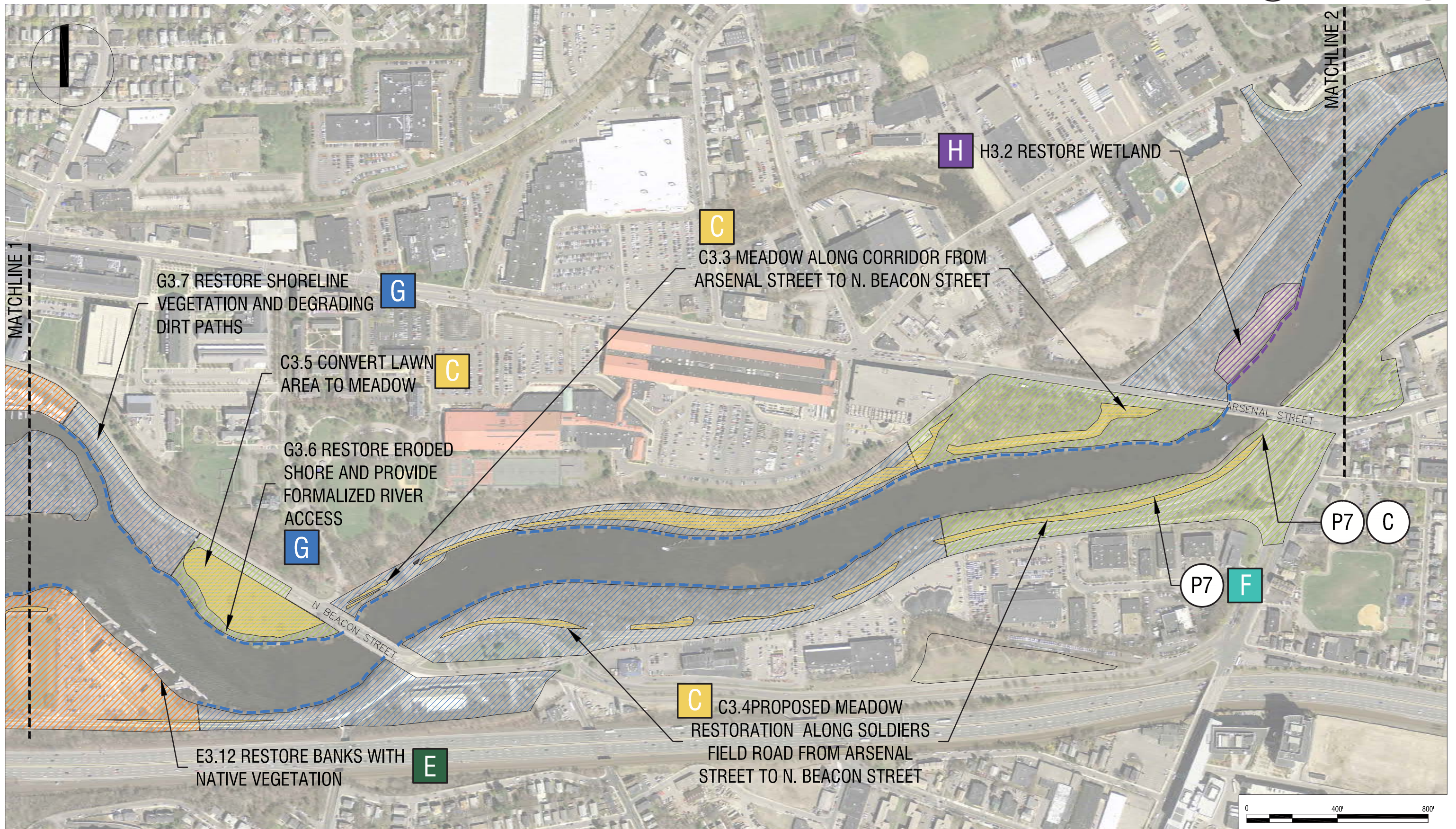
Vegetation Management Types:



Test Plot Locations:



Control Locations:

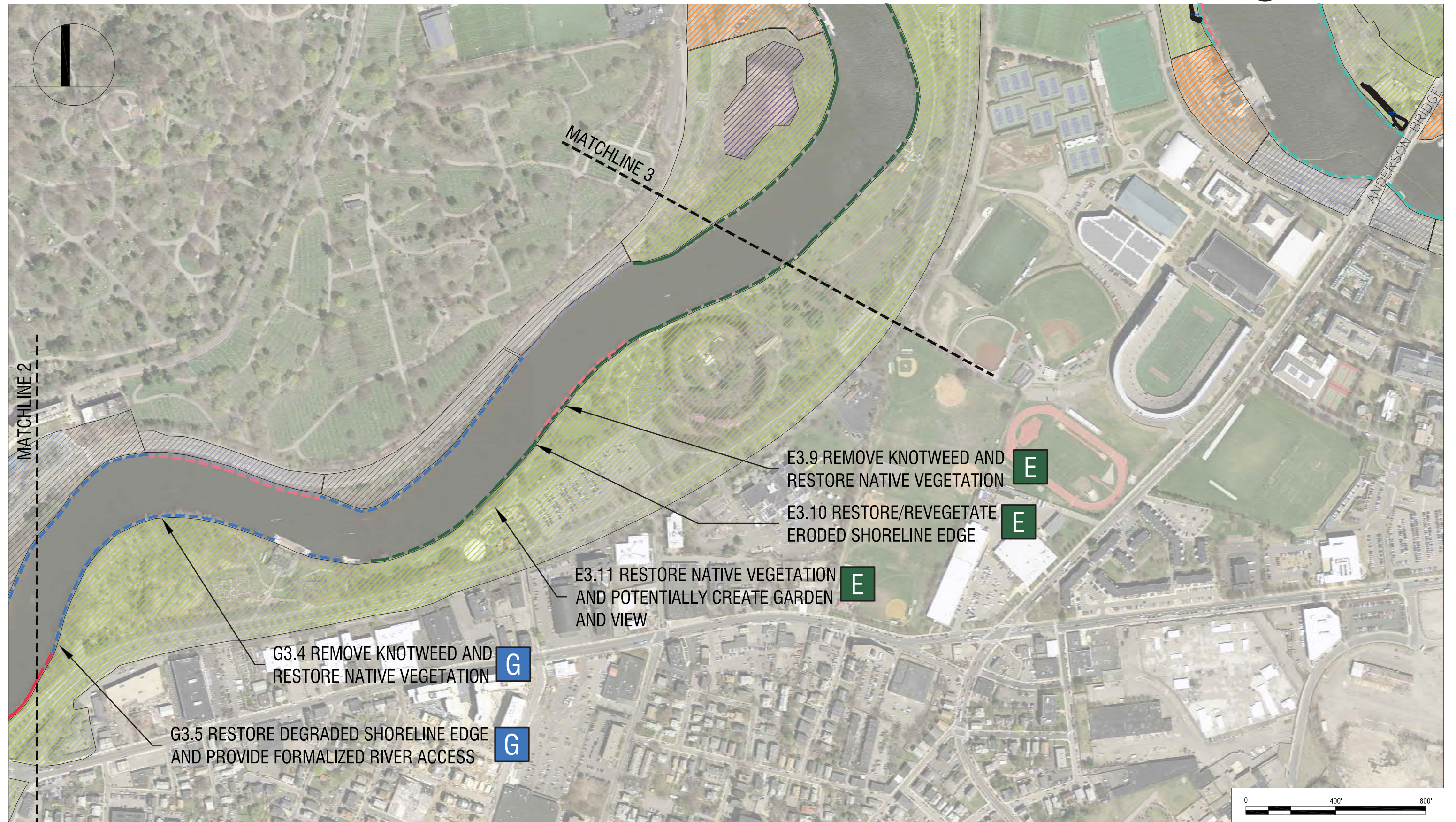


# FIGURE 3 - PROPOSED CAPITAL IMPROVEMENT PROJECTS

Vegetation Management Types:  
C D E F G H I J

Test Plot Locations:  
P#

Control Locations:  
P# C

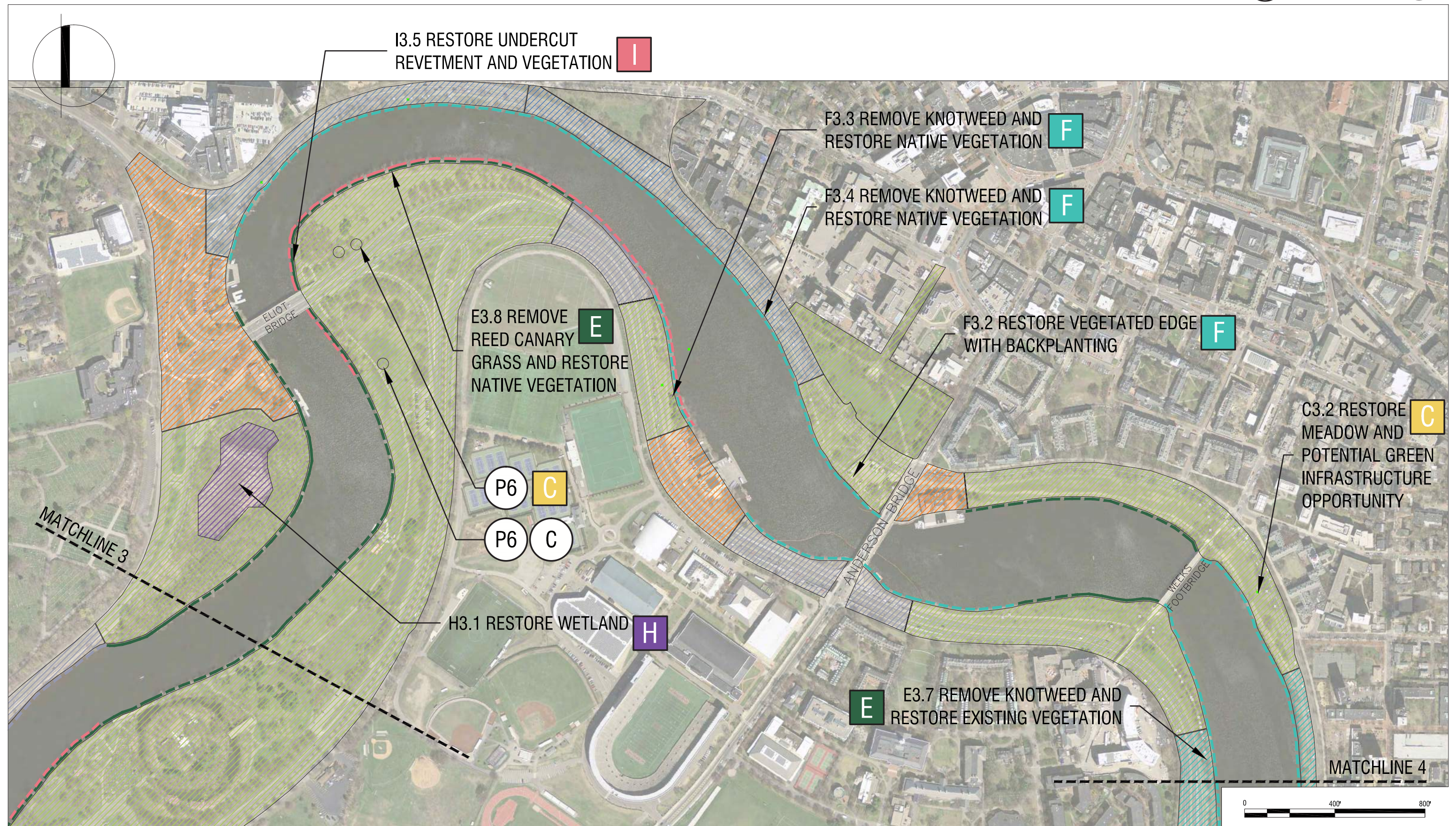


# FIGURE 4 - PROPOSED CAPITAL IMPROVEMENT PROJECTS

Vegetation Management Types:  
**C** **D** **E** **F** **G** **H** **I** **J**

Test Plot Locations:  
 P#

Control Locations:  
 P# C

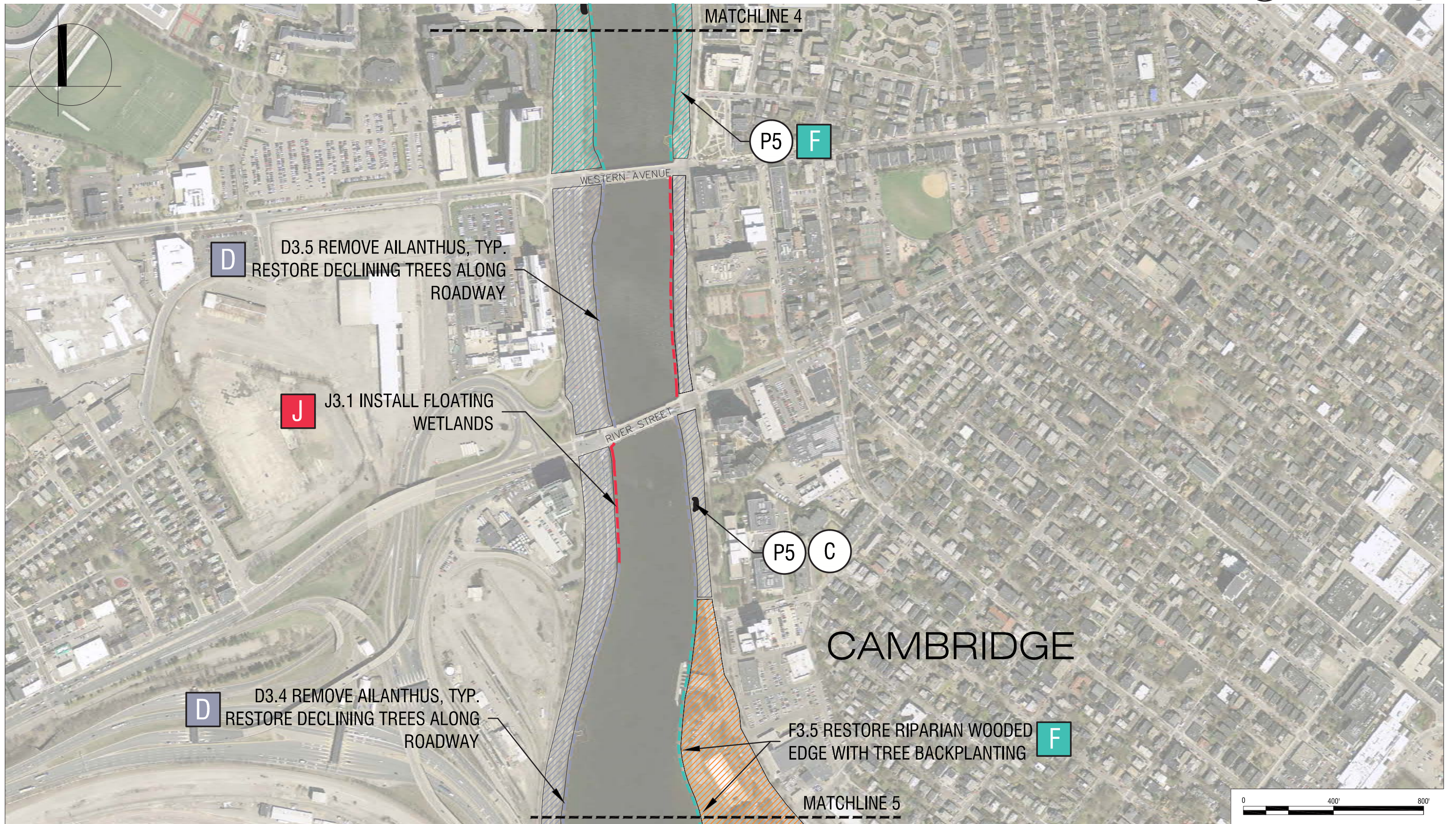


# FIGURE 5 - PROPOSED CAPITAL IMPROVEMENT PROJECTS

Vegetation Management Types: **C** **D** **E** **F** **G** **H** **I** **J**

Test Plot Locations: **P#**

Control Locations: **P#** **C**

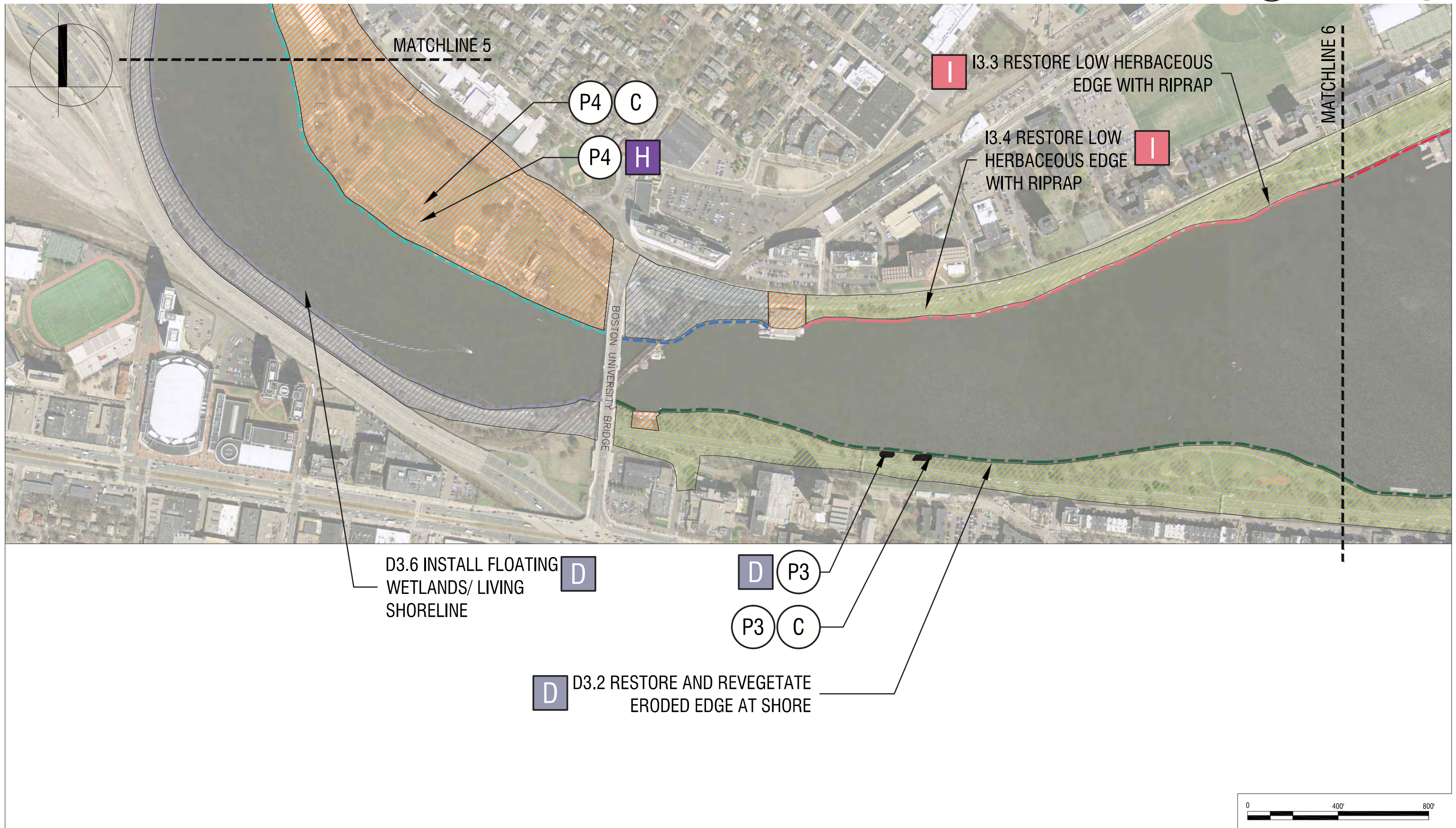


# FIGURE 6 - PROPOSED CAPITAL IMPROVEMENT PROJECTS

Vegetation Management Types:  
**C** **D** **E** **F** **G** **H** **I** **J**

Test Plot Locations:  
**P#**

Control Locations:  
**P#** **C**



# FIGURE 7 - PROPOSED CAPITAL IMPROVEMENT PROJECTS

Vegetation Management Types:  
C D E F G H I J

Test Plot Locations:  
P#

Control Locations:  
P# C

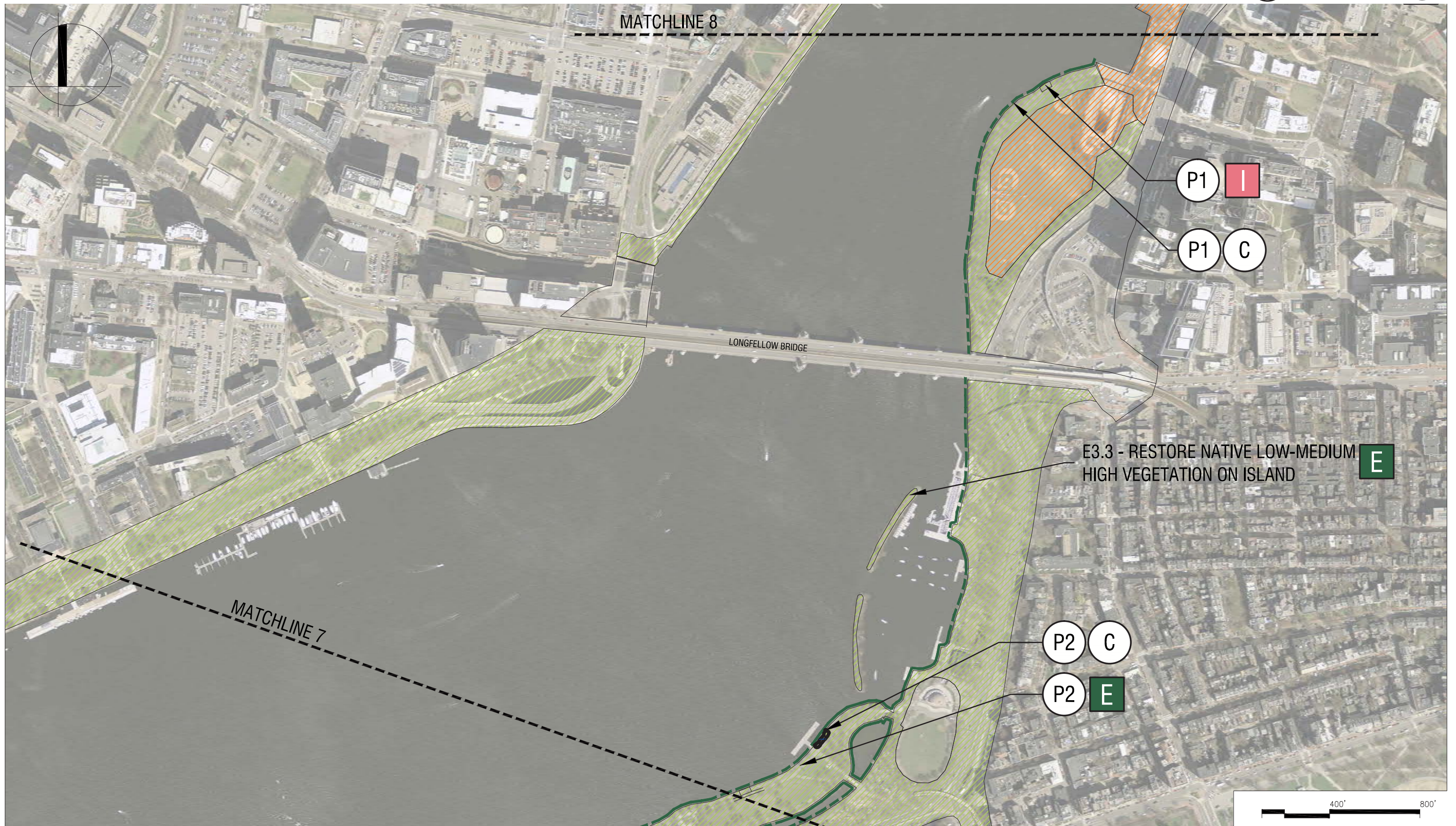


# FIGURE 8 - PROPOSED CAPITAL IMPROVEMENT PROJECTS

Vegetation Management Types:  
**C** **D** **E** **F** **G** **H** **I** **J**

Test Plot Locations:  
 P#

Control Locations:  
 P# C

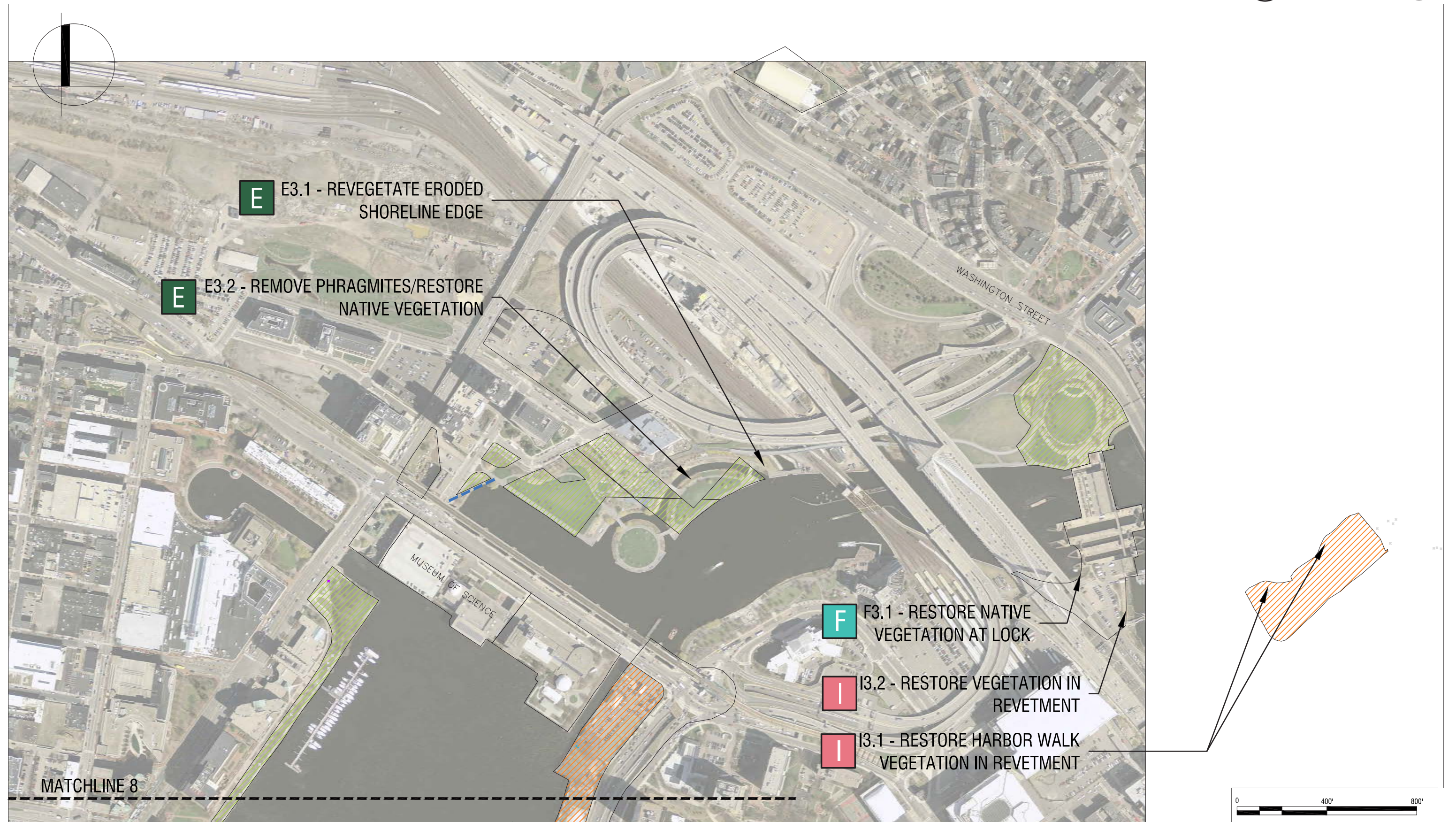


# FIGURE 9 - PROPOSED CAPITAL IMPROVEMENT PROJECTS

Vegetation Management Types:  
**C** **D** **E** **F** **G** **H** **I** **J**

Test Plot Locations:  
 P#

Control Locations:  
 P# C





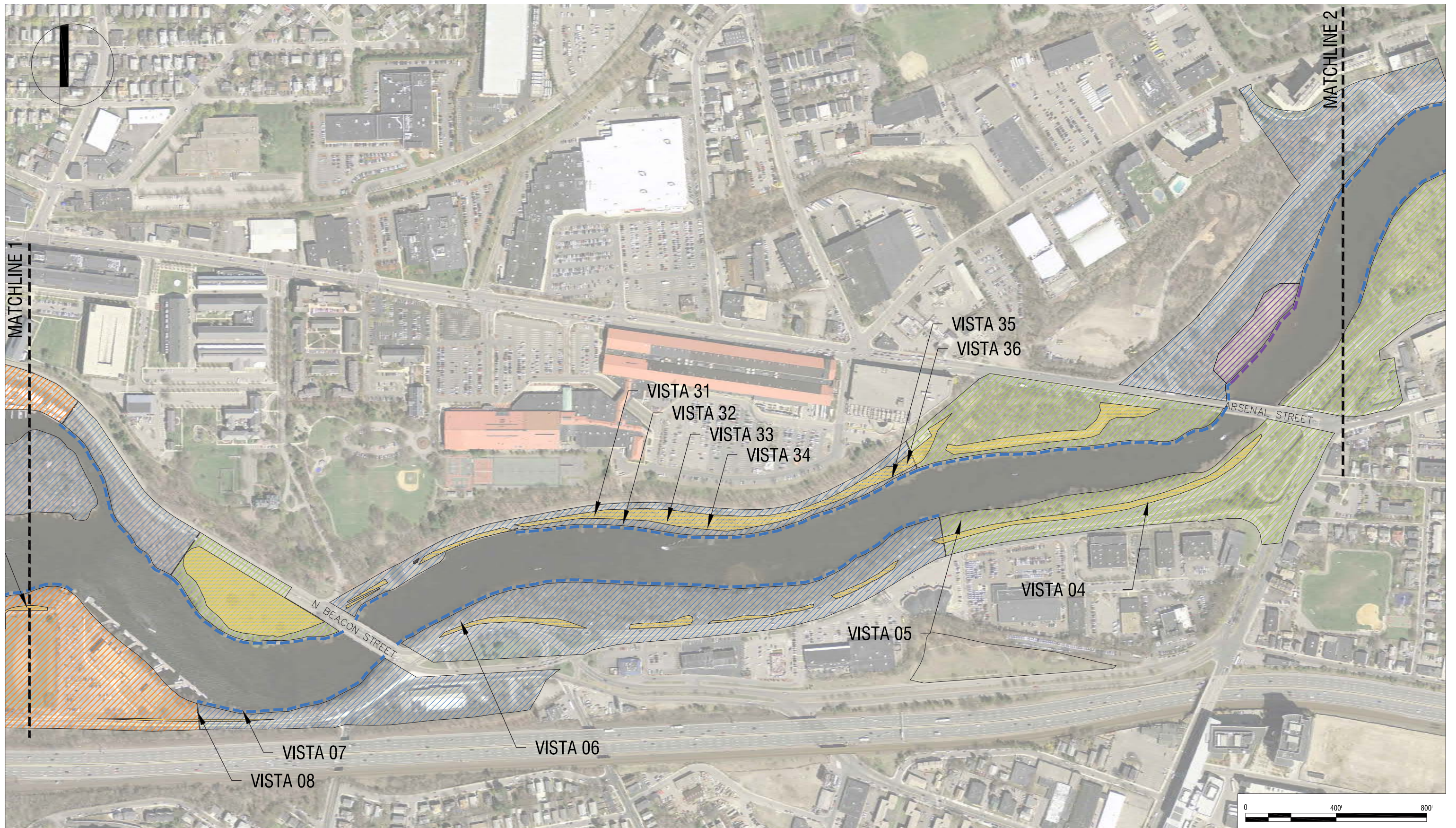
**FIGURE 1 - SECONDARY VISTA LOCATIONS**

Vegetation Management Types:  
A B C D E F G H I J



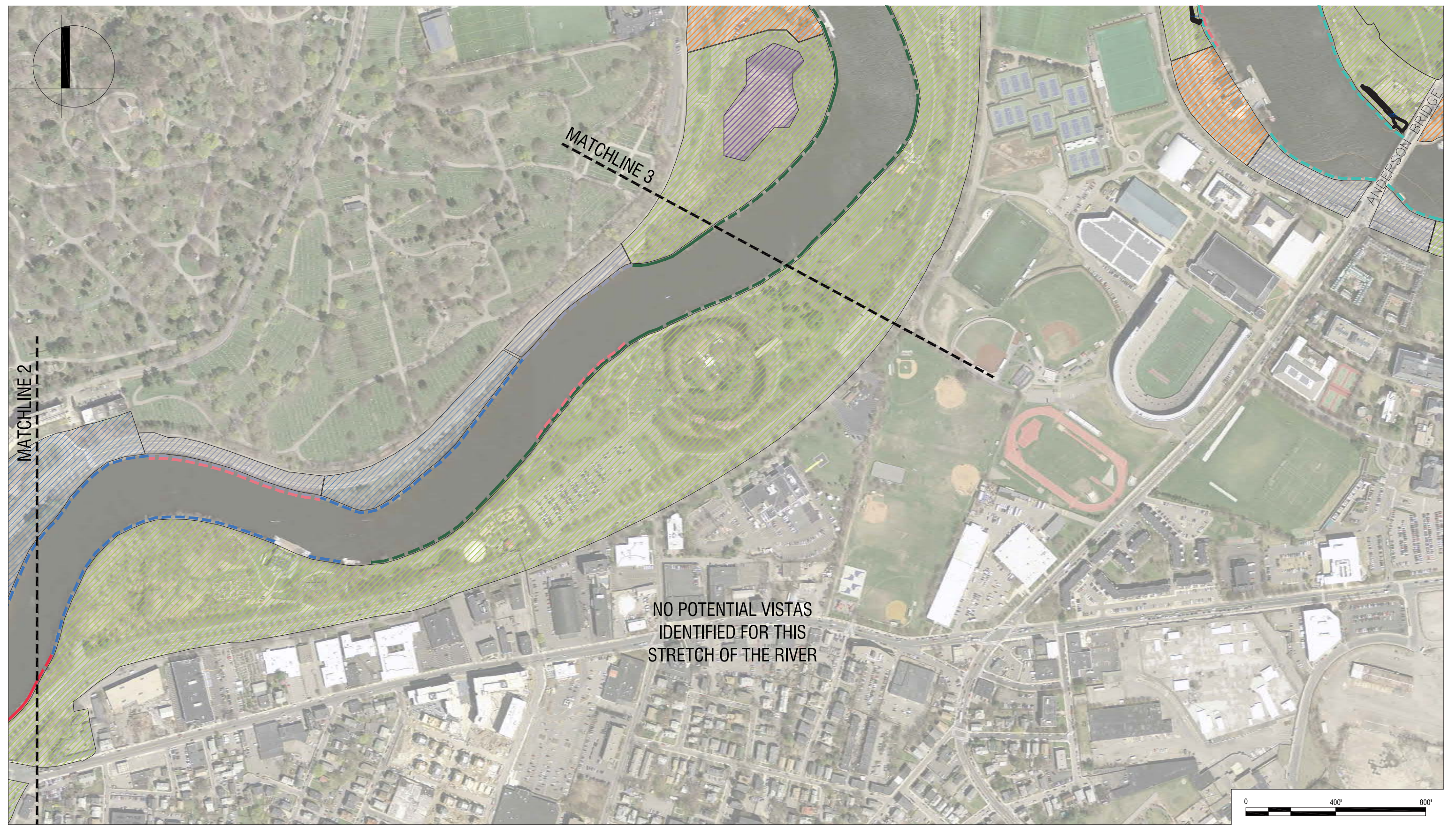
**FIGURE 2 - SECONDARY VISTA LOCATIONS**

Vegetation Management Types:  
**A B C D E F G H I J**



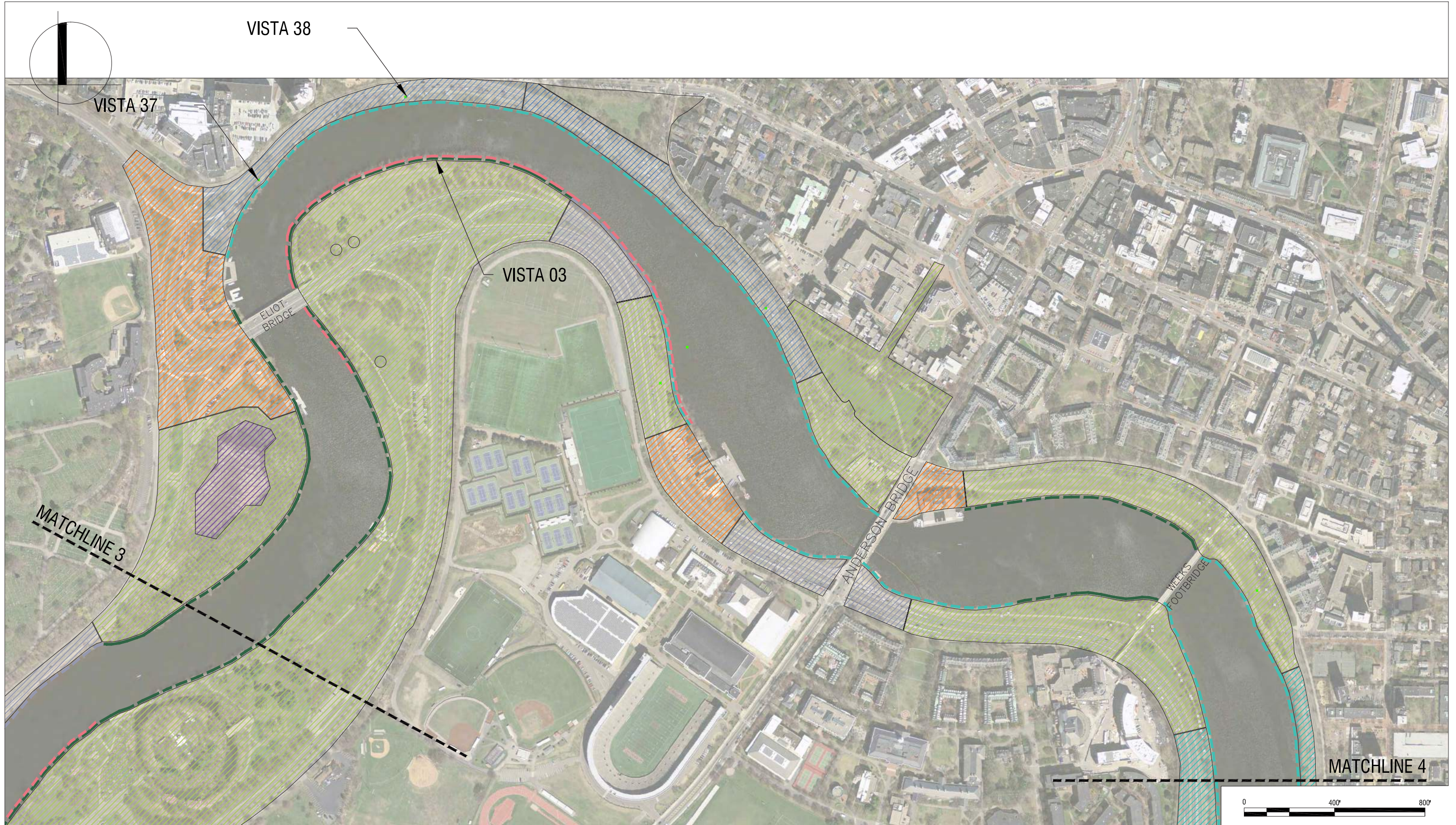
# FIGURE 3 - SECONDARY VISTA LOCATIONS

Vegetation Management Types:



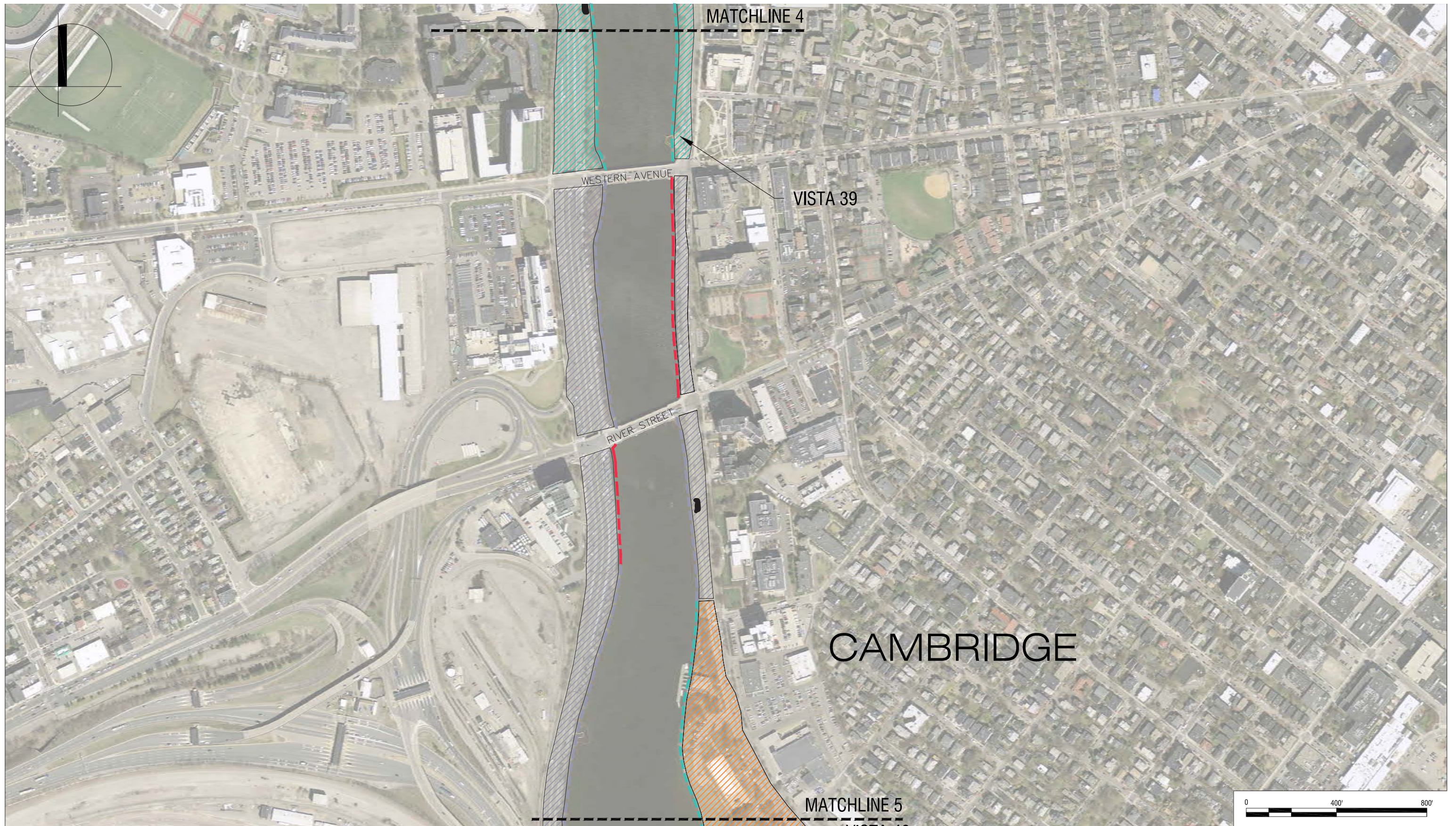
# FIGURE 4 - SECONDARY VISTA LOCATIONS

Vegetation Management Types:  
A B C D E F G H I J



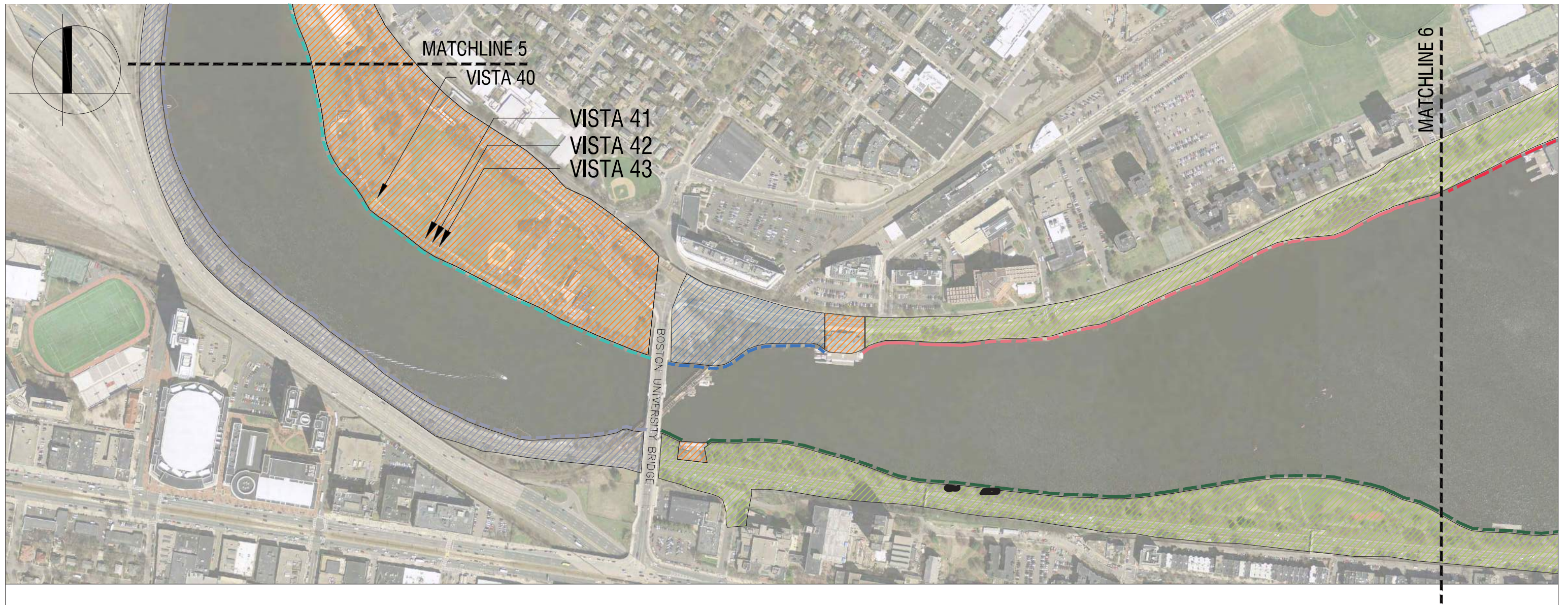
# FIGURE 5 - SECONDARY VISTA LOCATIONS

Vegetation Management Types:



# FIGURE 6 - SECONDARY VISTA LOCATIONS

Vegetation Management Types:



# FIGURE 7 - SECONDARY VISTA LOCATIONS

Vegetation Management Types:



**FIGURE 8 - SECONDARY VISTA LOCATIONS**

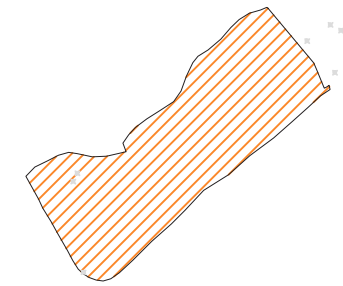
Vegetation Management Types:  
A B C D E F G H I J





# FIGURE 9 - SECONDARY VISTA LOCATIONS

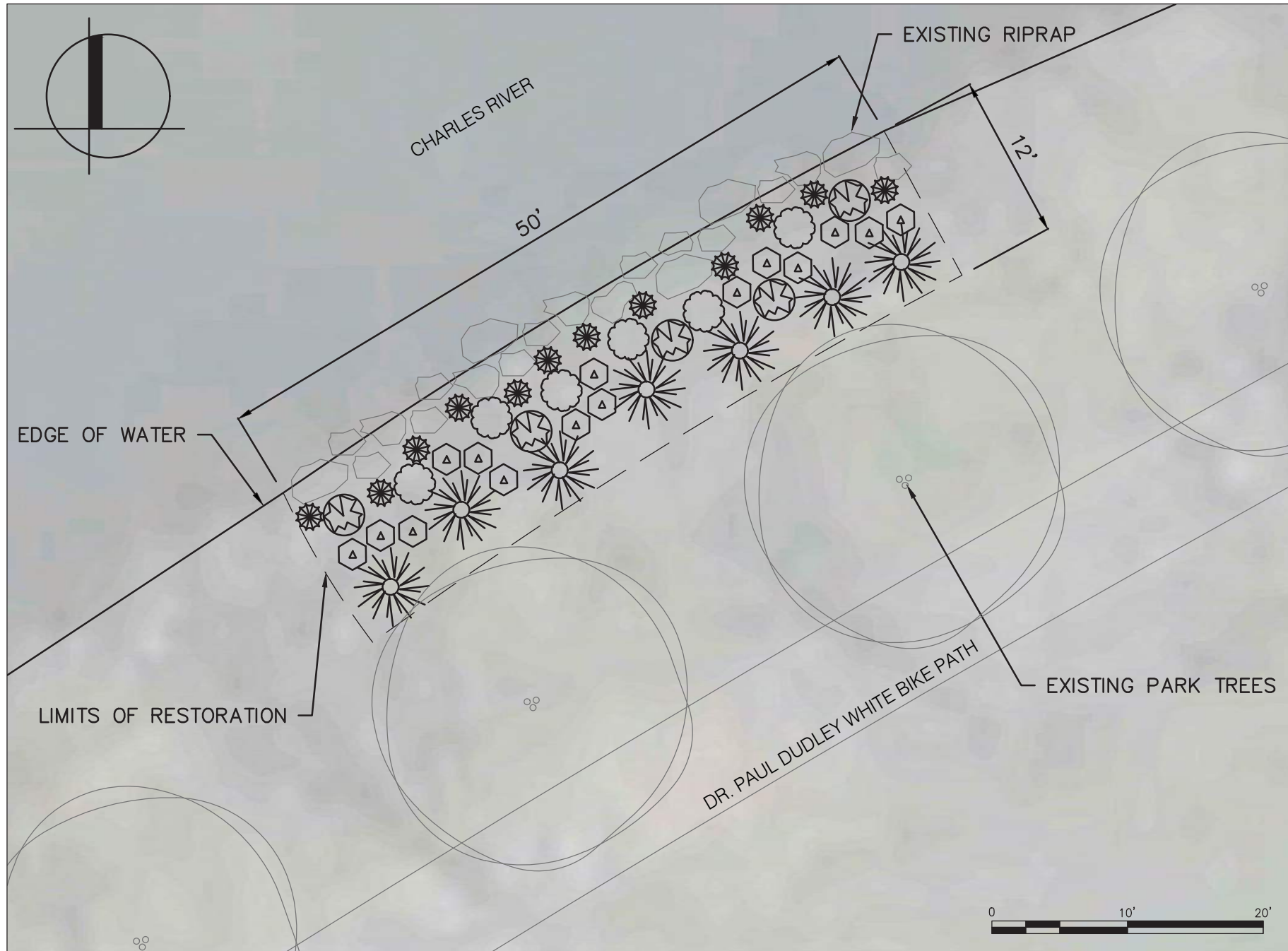
Vegetation Management Types:  
A B C D E F G H I J



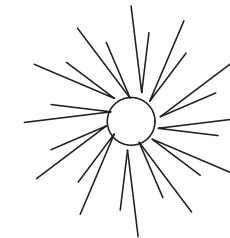
# Section 3

## Test Plot Drawings

# TYPE I: VEGETATION IN RIPRAP RESTORATION



## P1 - PLANT LIST



*JUNIPERUS HORIZONTALIS* - CREEPING JUNIPER (7)



*ONOCLEA SENSIBILIS* - SENSITIVE FERN (5)



*PONTEDARIA CORDATA* - PICKEREL WEED (12)



*SYMPHOTRICHUM NOVAE-ANGLIAE* - NEW ENGLAND ASTER (5)



*VACCINIUM ANGUSTIFOLIUM* - LOW BUSH BLUEBERRY (15)

### NOTES:

1. REFER TO DRAWING ATLAS: SECTION 5, VEGETATION IN RIPRAP DETAIL FOR PLANTING INSTRUCTIONS.
2. REFER TO APPENDIX A - INVASIVE SPECIES CONTROL PLAN FOR INVASIVE SPECIES REMOVAL METHODS. EXISTING NATIVE SPECIES TO REMAIN.
3. ERODED EDGE TO BE BACK-FILLED WITH TOPSOIL.
4. EROSION & SEDIMENT MEASURES (COIR LOG/EROSION CONTROL MATTING) SHALL BE USED TO PREVENT SEDIMENT FROM ENTERING WATERWAY.

P1

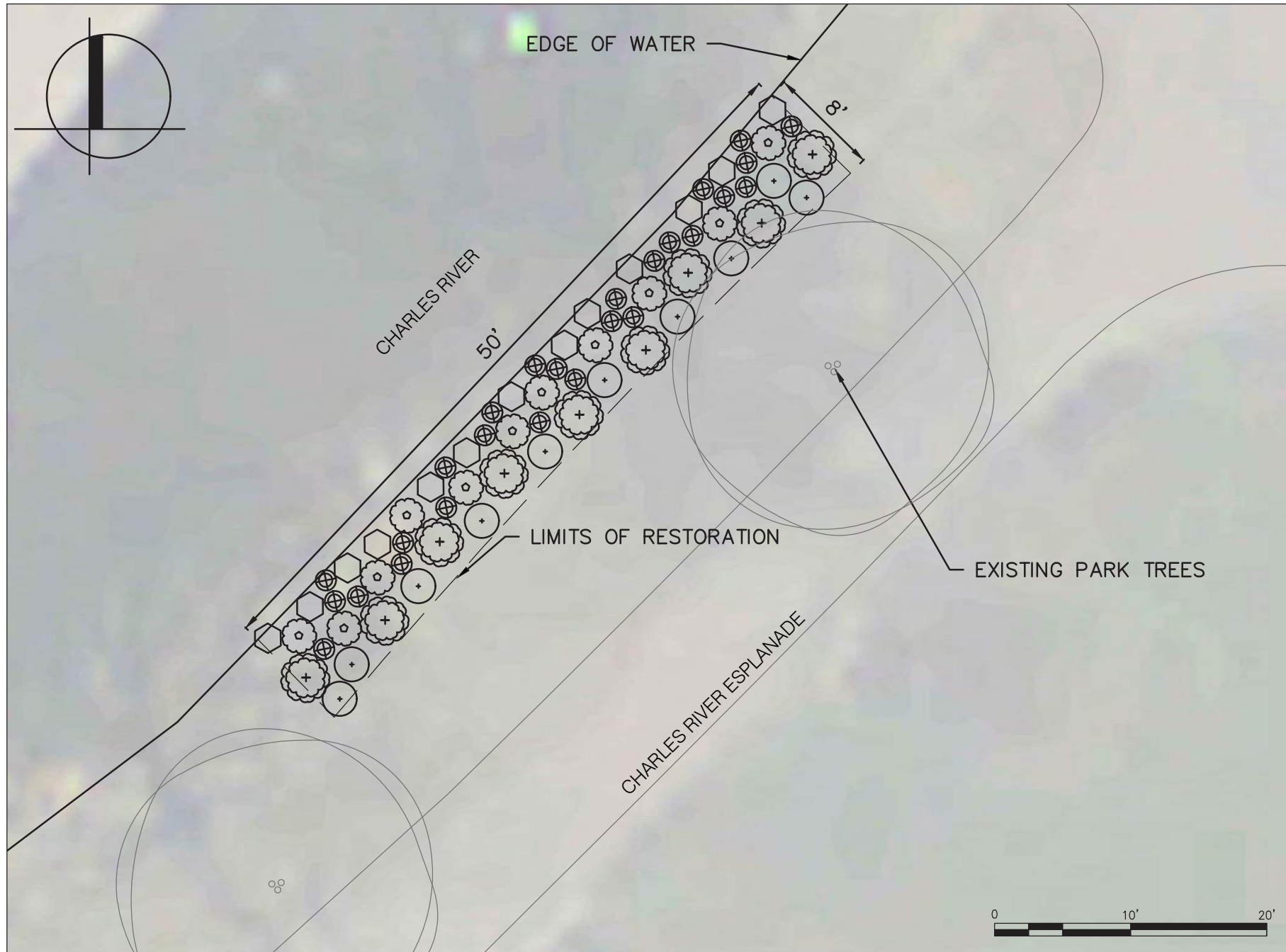


## CHARLES RIVER VEGETATION MANAGEMENT PLAN



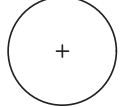

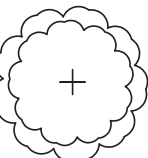
DEPARTMENT OF CONSERVATION AND RECREATION



# TYPE E: LOW TO MEDIUM HERBACEOUS RESTORATION



## P2 - PLANT LIST

-  *ASCLEPIAS TUBEROSA* - BUTTERFLY WEED (11)
-  *CAREX PENNSYLVANICA* - PENNSYLVANIA SEDGE (26)
-  *DESCHAMPSIA CESPITOSA* - TUFTED HAIRGRASS (10)
-  *IRIS VERSICOLOR* - BLUE FLAG IRIS (13)
-  *POTENTILLA FRUITICOSA* - SHRUBBY CINQUEFOIL (9)

### NOTES:

1. REFER TO APPENDIX A - INVASIVE SPECIES CONTROL PLAN FOR INVASIVE SPECIES REMOVAL METHODS. EXISTING NATIVE SPECIES TO REMAIN.
2. WIDTH OF VEGETATIVE EDGE MAY BE INCREASED YEAR BY YEAR AS RESOURCES ALLOW.
3. PRUNE VEGETATION TO MAINTAIN VIEWS.
4. EROSION & SEDIMENT MEASURES (COIR LOG/EROSION CONTROL MATTING) SHALL BE USED TO PREVENT SEDIMENT FROM ENTERING WATERWAY.

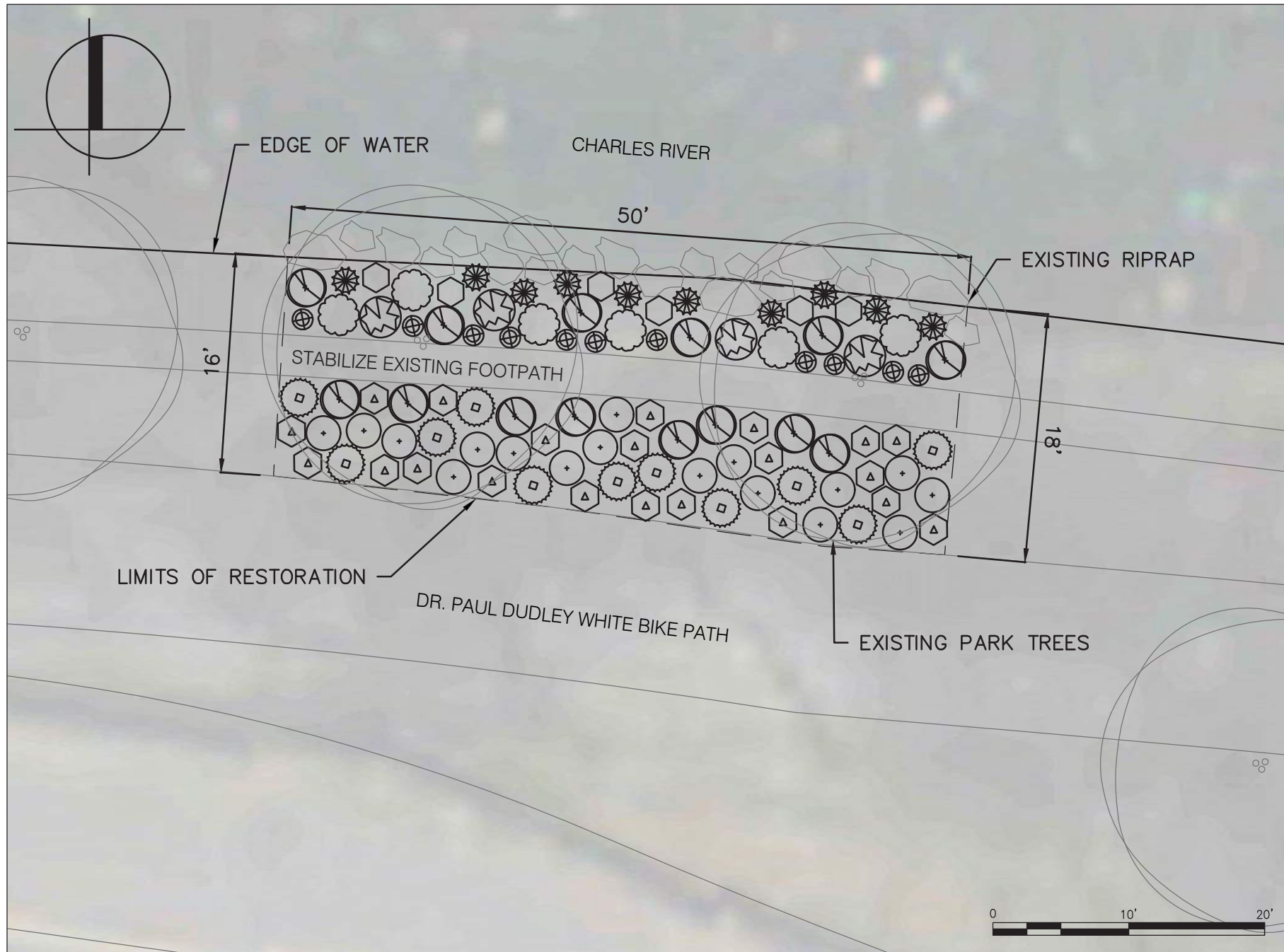


## CHARLES RIVER VEGETATION MANAGEMENT PLAN


DEPARTMENT OF CONSERVATION AND RECREATION



# TYPE E: LOW TO MEDIUM HERBACEOUS WITH SHRUB OR OVERSTORY BUFFER RESTORATION



## P3 - PLANT LIST

-  *CAREX PENNSYLVANICA* - PENNSYLVANIA SEDGE (11)
-  *DENNSTAEDTIA PUNCTILOBULA* - HAY SCENTED FERN (14)
-  *DESCHAMPSIA CESPITOSA* - TUFTED HAIRGRASS (17)
-  *GAYLUSSACIA BACCATA* - BLACK HUCKLEBERRY (11)
-  *IRIS VERSICOLOR* - BLUE FLAG IRIS (6)
-  *ONOCLEA SENSIBILIS* - SENSITIVE FERN (4)
-  *PONTEDARIA CORDATA* - PICKEREL WEED (10)
-  *SYMPHOTRICHUM NOVAE-ANGLIAE* - NEW ENGLAND ASTER (6)
-  *VACCINIUM ANGUSTIFOLIUM* - LOW BUSH BLUEBERRY (21)

### NOTES:

1. REFER TO DRAWING ATLAS: SECTION 5, REVEGETATION WITH EROSION CONTROL DETAIL FOR PLANTING INSTRUCTIONS.
2. REFER TO APPENDIX A - INVASIVE SPECIES CONTROL PLAN FOR INVASIVE SPECIES REMOVAL METHODS. EXISTING NATIVE SPECIES TO REMAIN.
3. EXISTING FOOTPATH TO BE STABILIZED WITH ADA-ACCESSIBLE FOOTING .
4. EROSION & SEDIMENT MEASURES (COIR LOG/EROSION CONTROL MATTING) TO BE USED TO PREVENT SEDIMENT FROM ENTERING WATERWAY.

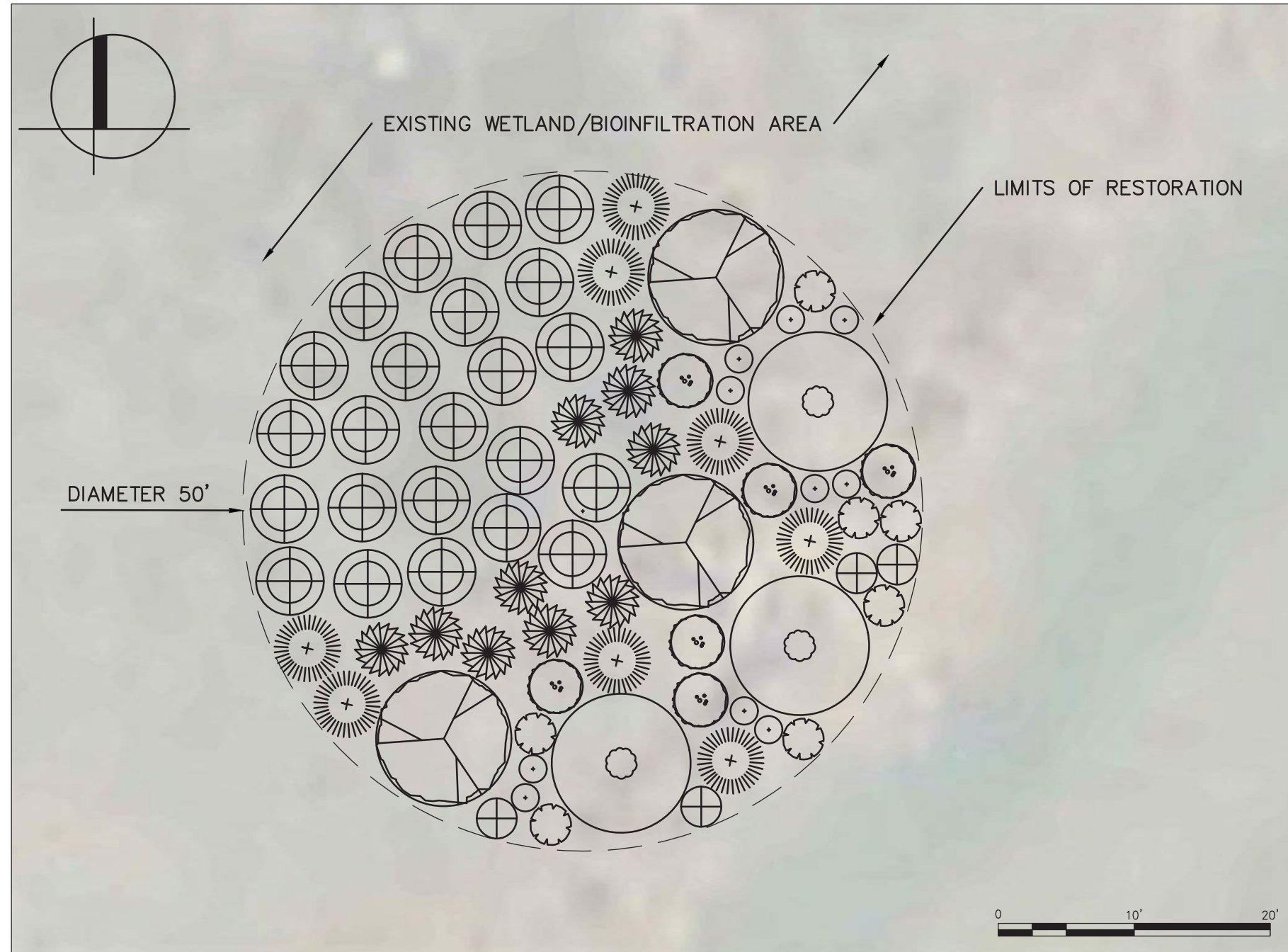


## CHARLES RIVER VEGETATION MANAGEMENT PLAN

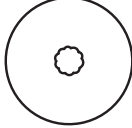






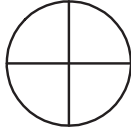

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# TYPE H: BIOLOGICAL WETLAND RESTORATION



## P4 - PLANT LIST

-  *CORNUS STOLONIFERA* - RED OSIER DOGWOOD (3)
-  *ELYMUS VIRGINICUS* - VIRGINIA WILD RYE (10)
-  *EUTROCHIUM FISTULOSUM* - JOE PYEWEEED (7)
-  *JUNCUS EFFUSUS* - COMMON RUSH (10)
-  *LINDERA BENZOIN* - NORTHERN SPICEBUSH (3)
-  *ROSA PALUSTRIS* - SWAMP ROSE (6)
-  *SAMBUCUS CANADENSIS* - AMERICAN BLACK ELDERBERRY (8)
-  *SCIRPUS CYPERINUS* - WOOL GRASS (4)
-  *TYPHA LATIFOLIA* - BROADLEAF CATTAIL (23)

- NOTES:
1. REFER TO APPENDIX A - INVASIVE SPECIES CONTROL PLAN FOR APPROPRIATE PHRAGMITES REMOVAL METHODS.
  2. EXISTING NATIVE SPECIES TO REMAIN.

P4

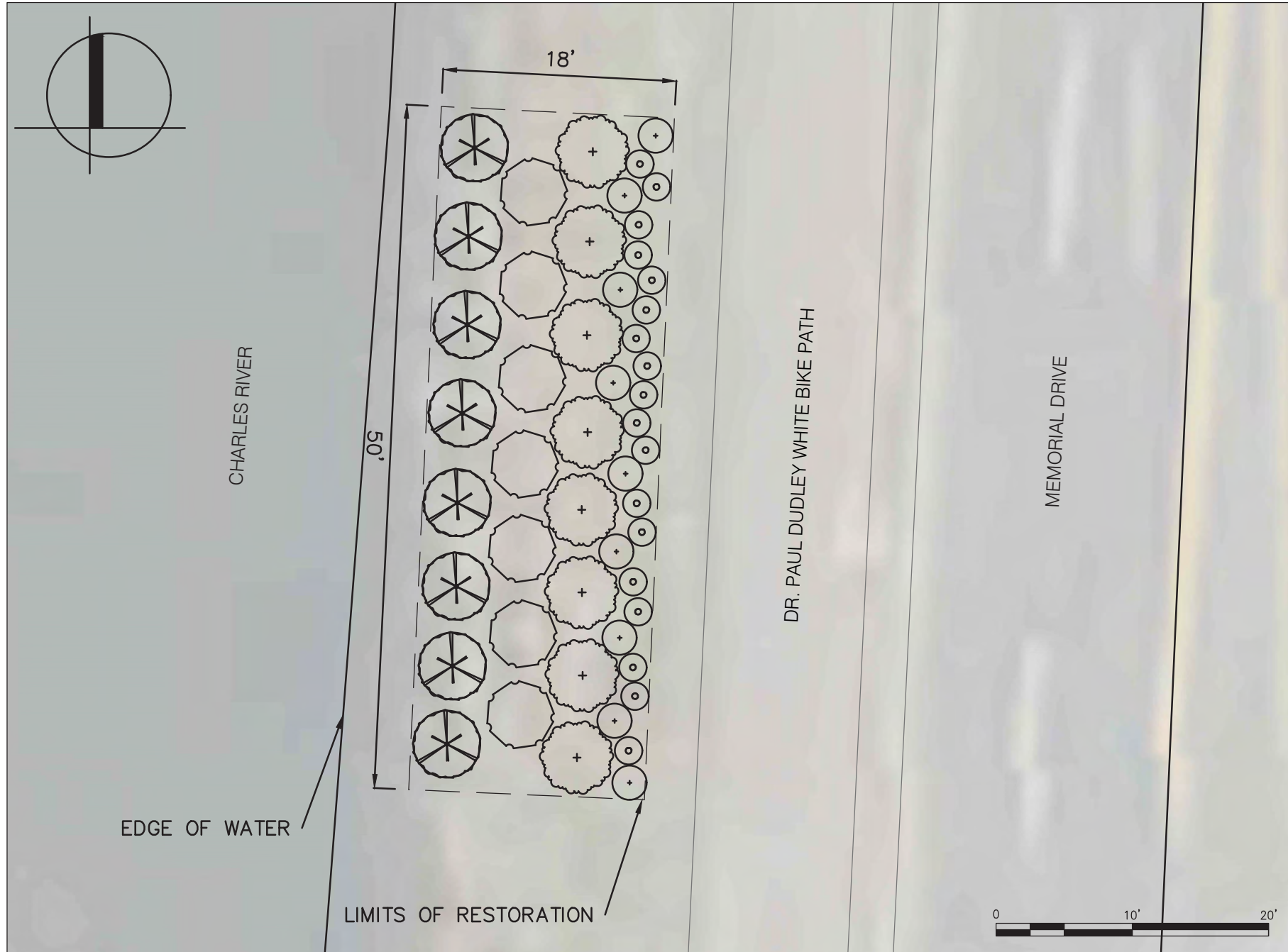


## CHARLES RIVER VEGETATION MANAGEMENT PLAN

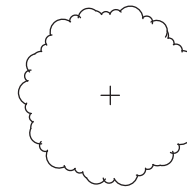
DEPARTMENT OF CONSERVATION AND RECREATION



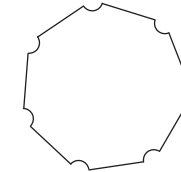
# TYPE F: MEDIUM TO HIGH SHRUB AND OVERSTORY RESTORATION



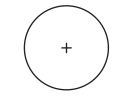
## P5 - PLANT LIST



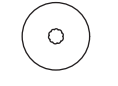
AMELANCHIER STOLONIFERA - RUNNING SERVICEBERRY (8)



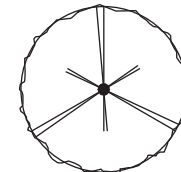
CEPHALANTHUS OCCIDENTALIS - BUTTONBUSH (7)



DESCHAMPSIA CESPITOSA - TUFTED HAIRGRASS (9)



ERAGROSTIS SPECTABILIS - PURPLE LOVE GRASS (18)



PRUNUS MARITIMA - BEACH PLUM (8)

### NOTES:

1. REFER TO DRAWING ATLAS: SECTION 5, MEDIUM TO HIGH SHRUB RESTORATION DETAIL FOR PLANTING INSTRUCTIONS.
2. REFER TO APPENDIX A - INVASIVE SPECIES CONTROL PLAN FOR INVASIVE SPECIES REMOVAL METHODS. EXISTING NATIVE SPECIES TO REMAIN.
3. EROSION & SEDIMENT MEASURES (COIR LOG/EROSION CONTROL MATTING) TO BE USED TO PREVENT SEDIMENT FROM ENTERING WATERWAY.
4. SITE MAY BE APPROPRIATE FOR CONTOUR WATTLING OR TIMBER CRIB WALL CONSTRUCTION. SEE DRAWING ATLAS: SECTION 5 - DRAWING DETAILS.

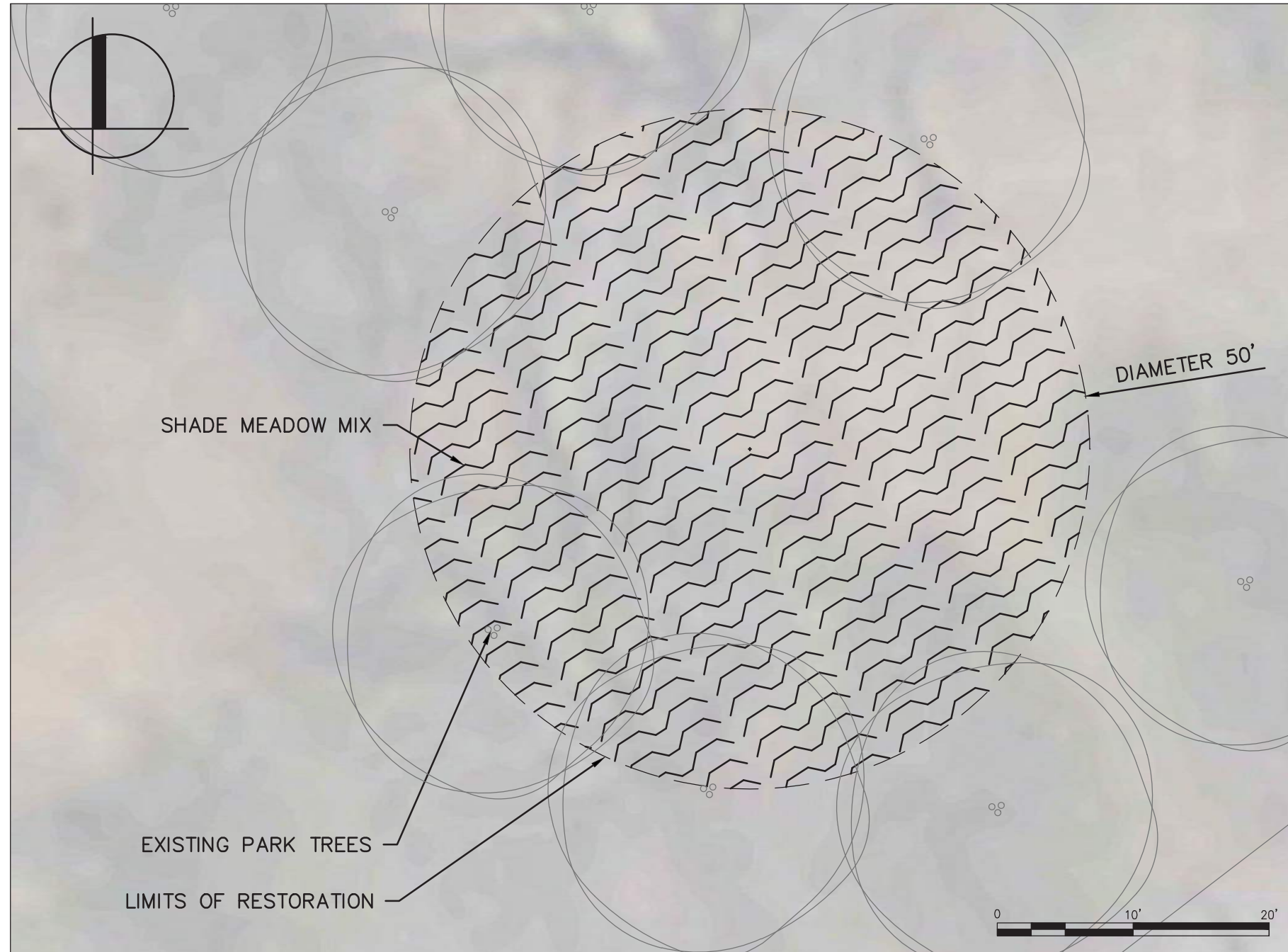


## CHARLES RIVER VEGETATION MANAGEMENT PLAN

DEPARTMENT OF CONSERVATION AND RECREATION



# TYPE C: MEADOW RESTORATION - SHADE



## P6 - PLANT LIST (SHADE MEADOW MIX)

- AQUILEGIA CANADENSIS* - RED COLUMBINE
- ASTER DIVARICATUS* - WHITE WOOD ASTER
- DESCHAMPIA FLEXUOSA* - WAVY HAIRGRASS
- ELYMUS HYSTRIX* - BOTTLEBRUSH
- SOLIDAGO CAESIA* - BLUESTEM GOLDENROD
- SOLIDAGO NEMORALIS* - GREY GOLDENROD
- SYMPHYOTRICHUM CORDIFOLIUM* - BLUE WOOD ASTER
- ZIZIA AUREA* - GOLDEN ALEXANDERS

### NOTES:

1. REFER TO SECTION 4.3 OF THE RVMP FOR PLANTING RECOMMENDATIONS FOR MEADOW ESTABLISHMENT.



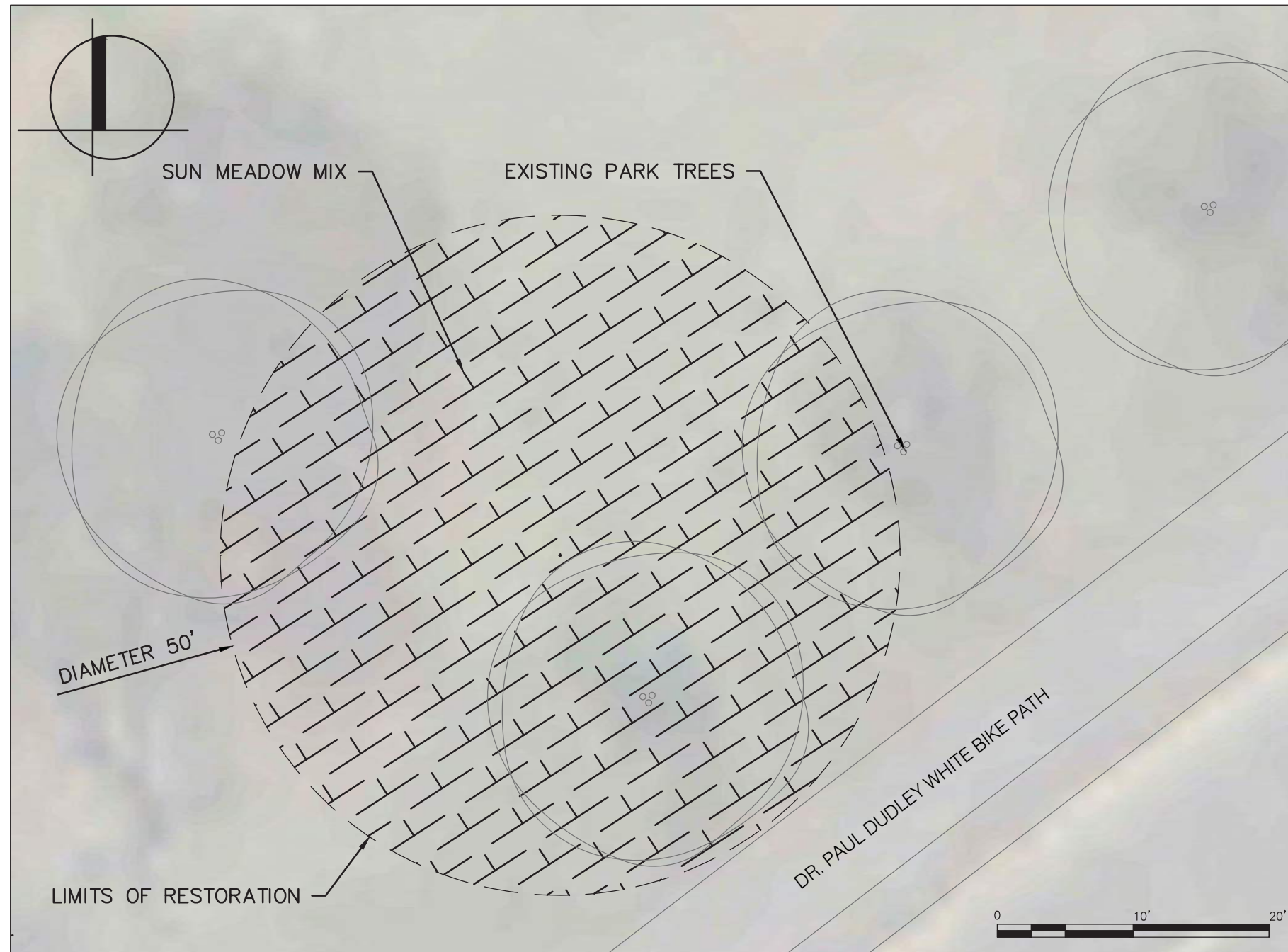
**DEPARTMENT OF CONSERVATION AND RECREATION**

BOSTON, CAMBRIDGE, NEWTON AND WATERTOWN, MA





# TYPE C: MEADOW RESTORATION - SUN



## P6 - PLANT LIST (SUN MEADOW MIX)

- ASCLEPIAS TUBEROSA* - BUTTERFLY WEED
- CAREX UTRICULATA* - COMMON BEAKED SEDGE
- DESMODIUM CANADENSE* - SHOWY TICKTREFOIL
- ELYMUS VIRGINICUS* - VIRGINIA WILDRYE
- HELIOPSIS HELIANTHOIDES* - OX EYE SUNFLOWER
- PANICUM VIRGATUM* - SWITCHGRASS
- SCHIZACHYRIUM SCOPARIUM* - LITTLE BLUESTEM
- SYMPHYOTRICHUM CORDIFOLIUM* - BLUE WOOD ASTER

### NOTES:

1. REFER TO THE SECTION 4.3 OF THE RVMP FOR PLANTING RECOMMENDATIONS FOR MEADOW ESTABLISHMENT.

P6

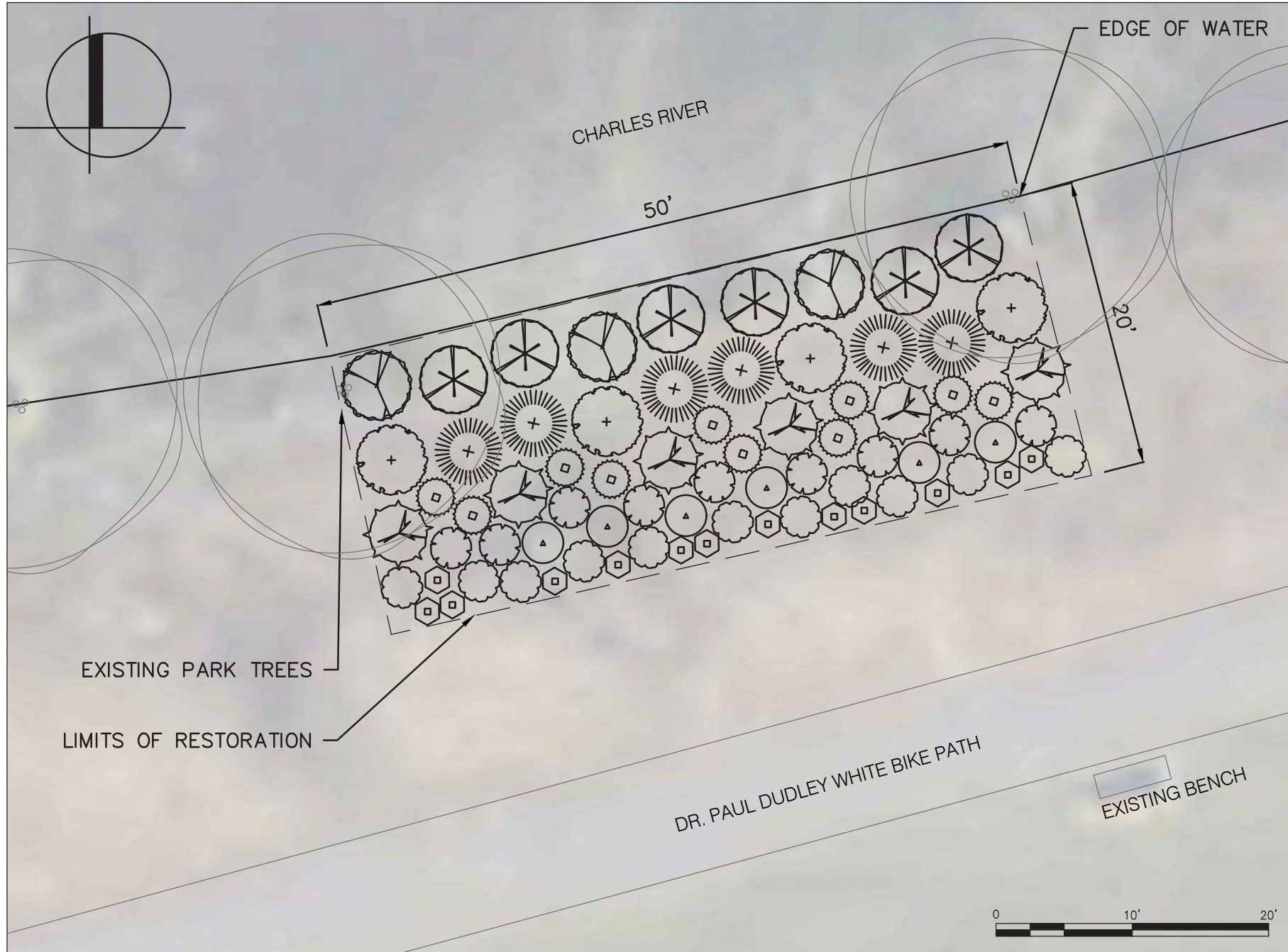


DEPARTMENT OF CONSERVATION AND RECREATION

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# TYPE F: MEDIUM TO HIGH SHRUB AND OVERSTORY RESTORATION



## P7 - PLANT LIST

-  *ARONIA MELANOCARPA* - CHOKEBERRY (3)
-  *CLETHRA ALNIFOLIA* - SUMMERSWEET CLETHRA (4)
-  *ERAGROSTIS SPECTABILIS* - PURPLE LOVE GRASS (13)
-  *EUTROCHIUM FISTULOSUM* - JOE PYEWEEED (9)
-  *GAYLUSSACIA BACCATA* - BLACK HUCKLEBERRY (10)
-  *PRUNUS MARITIMA* - BEACH PLUM (6)
-  *SAMBUCUS CANADENSIS* - AMERICAN BLACK ELDERBERRY (6)
-  *SYMPHOTRICHUM NOVAE-ANGLIAE* - NEW ENGLAND ASTER (12)
-  *RUBUS ALLEGHENIENSIS* - ALLEGHENY BLACKBERRY (6)
-  *RUDBECKIA HIRTA* - BLACK-EYED SUSAN (6)

### NOTES:

1. REFER TO DRAWING ATLAS: SECTION 5, MEDIUM TO HIGH SHRUB RESTORATION DETAIL FOR PLANTING INSTRUCTIONS.
2. REFER TO APPENDIX A - INVASIVE SPECIES CONTROL PLAN FOR INVASIVE SPECIES REMOVAL METHODS. EXISTING NATIVE SPECIES TO REMAIN.
3. EROSION & SEDIMENT MEASURES (COIR LOG/EROSION CONTROL MATTING) TO BE USED TO PREVENT SEDIMENT FROM ENTERING WATERWAY.
4. SITE MAY BE APPROPRIATE FOR CONTOUR WATTLING OR TIMBER CRIB WALL CONSTRUCTION. SEE DRAWING ATLAS: SECTION 5 DETAILS.

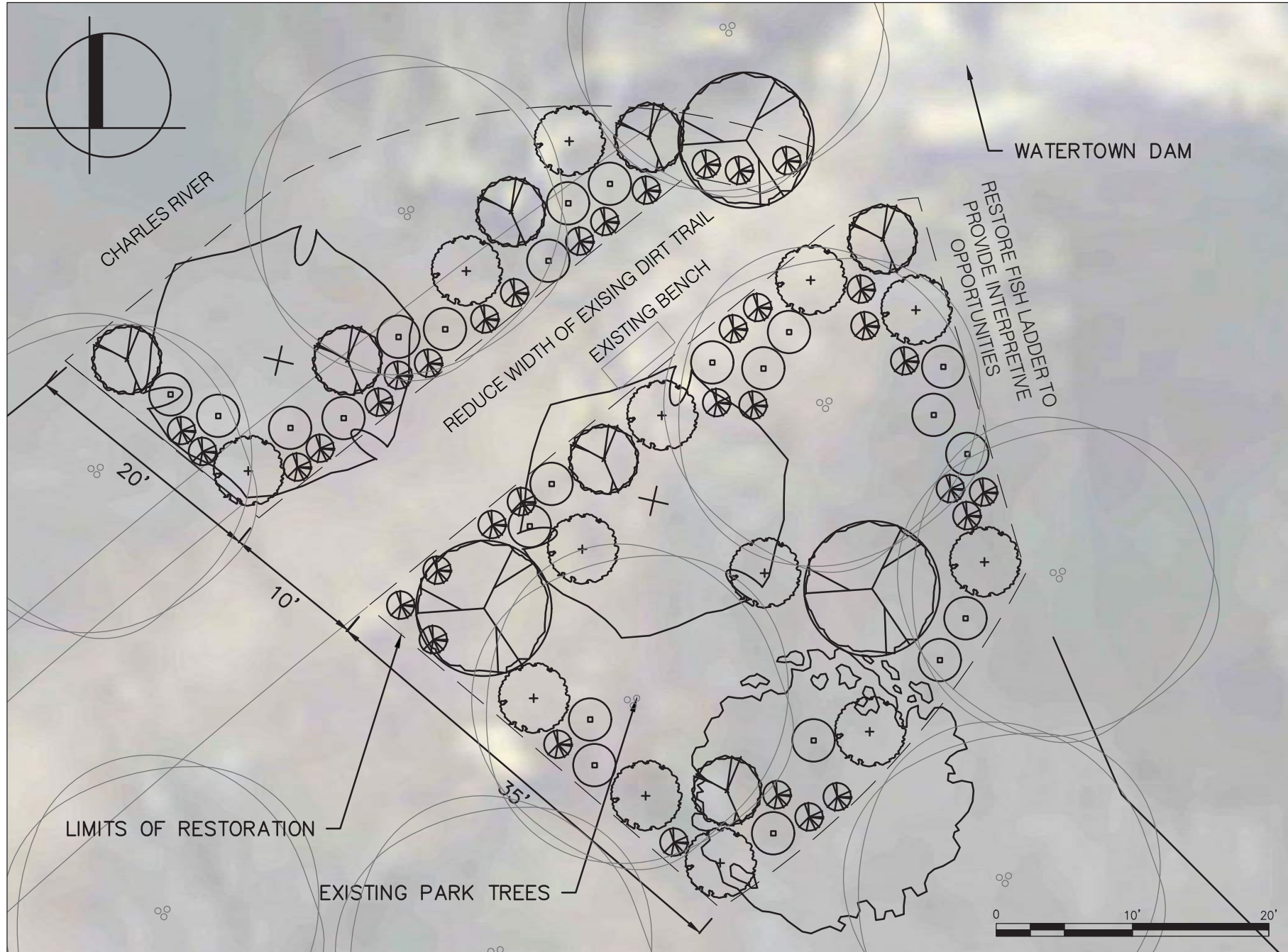


## CHARLES RIVER VEGETATION MANAGEMENT PLAN



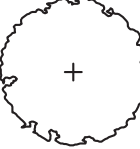

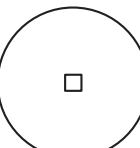
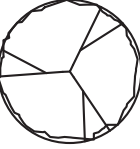

DEPARTMENT OF CONSERVATION AND RECREATION



# TYPE G: RIPARIAN WOODED BANK WITH UNDERSTORY RESTORATION

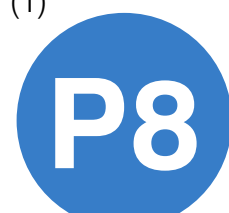


## P8 - PLANT LIST

-  *ADIANTUM PEDATUM* - MAIDENHAIR FERN (35)
-  *ARONIA MELANOCARPA* - CHOKEBERRY (7)
-  *CLETHRA ALNIFOLIA* - SUMMERSWEET CLETHRA (13)
-  *CORNUS FLORIDA* - FLOWERING DOGWOOD (2)
-  *EURYBIA DIVARICATA* - WHITEWOOD ASTER (23)
-  *LINDERA BENZOIN* - NORTHERN SPICEBUSH (3)
-  *OSTRYA VIRGINIANA* - AMERICAN HOPHORNBEAM (1)

### NOTES:

1. REFER TO DRAWING ATLAS: SECTION 5, RIPARIAN WOODED BANK RESTORATION DETAIL FOR PLANTING INSTRUCTIONS.
2. REFER TO APPENDIX A - INVASIVE SPECIES CONTROL PLAN FOR INVASIVE SPECIES REMOVAL METHODS. EXISTING NATIVE SPECIES TO REMAIN.
3. EROSION & SEDIMENT MEASURES (COIR LOG/EROSION CONTROL MATTING) TO BE USED TO PREVENT SEDIMENT FROM ENTERING WATERWAY.



## CHARLES RIVER VEGETATION MANAGEMENT PLAN

DEPARTMENT OF CONSERVATION AND RECREATION



# TYPE I: VEGETATION IN RIPRAP RESTORATION



EXISTING



PROPOSED



# TYPE E: LOW TO MEDIUM HERBACEOUS RESTORATION



EXISTING



PROPOSED

P2



**TYPE E:  
LOW TO MEDIUM HERBACEOUS  
WITH SHRUB OR OVERSTORY BUFFER RESTORATION**



**EXISTING**



**PROPOSED**

**P3**



# TYPE H: BIOLOGICAL WETLAND RESTORATION



EXISTING



PROPOSED

P4



# TYPE F: MEDIUM TO HIGH SHRUB AND OVERSTORY RESTORATION



EXISTING



PROPOSED

P5

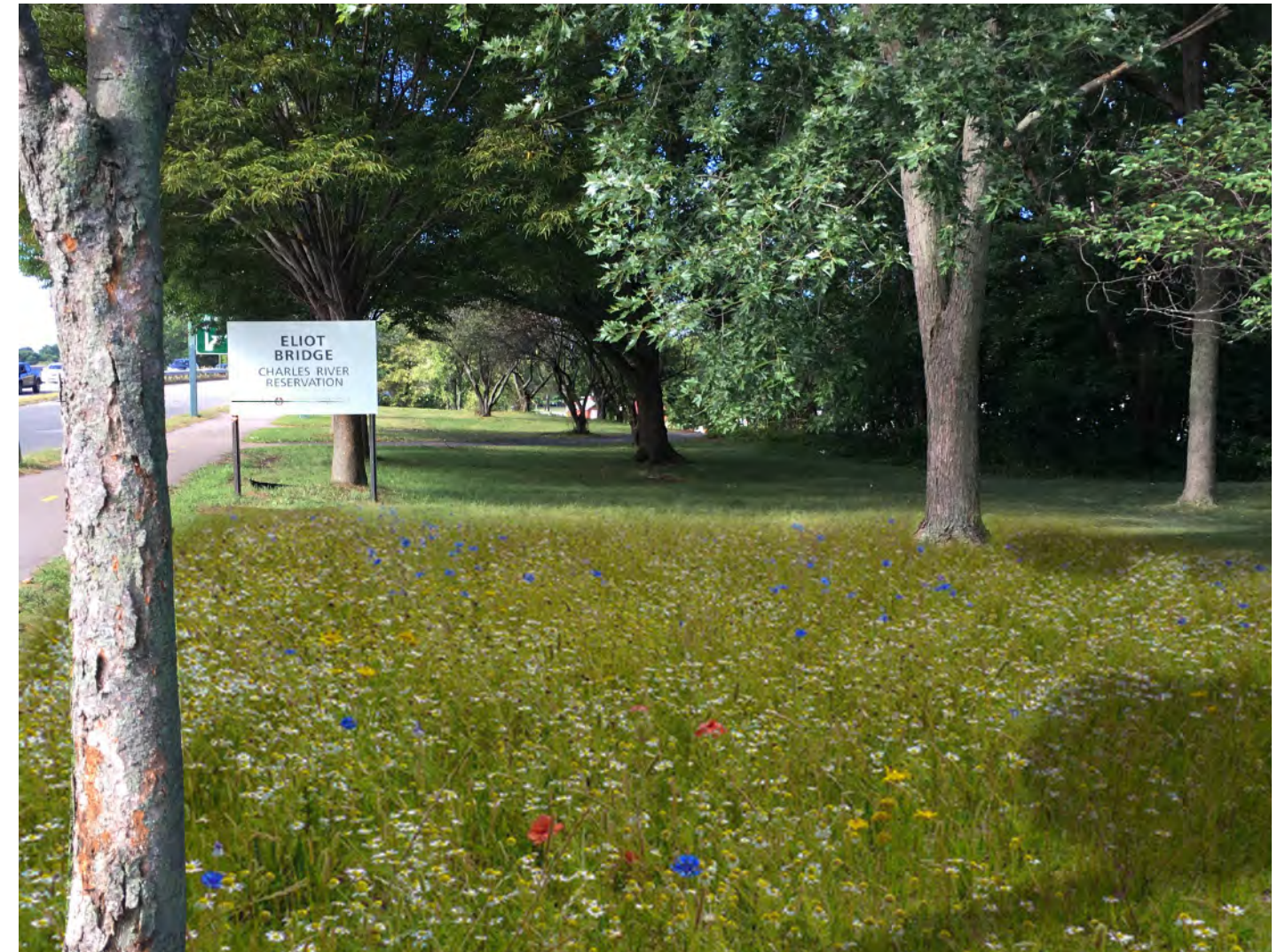




# TYPE C: MEADOW RESTORATION - SHADE



EXISTING



PROPOSED

P6



DEPARTMENT OF CONSERVATION AND RECREATION

BOSTON, CAMBRIDGE, NEWTON AND WATERTOWN, MA



# TYPE C: MEADOW RESTORATION



EXISTING



PROPOSED

P6



**TYPE F:  
MEDIUM TO HIGH SHRUB  
AND OVERSTORY RESTORATION**



**EXISTING**



**PROPOSED**

**P7**



# TYPE G: RIPARIAN WOODED BANK WITH UNDERSTORY RESTORATION



EXISTING



PROPOSED

P8



## Section 4

### Proposed Plant Lists

Department of Conservation and Recreation  
Riverbank Vegetation Management Plan  
Charles River Reservation  
Boston, Cambridge, Newton, and Watertown  
Contract No. P18-3241-SIA

## SUSTAINABLE REPLACEMENT PLANT LISTS

The following plant lists have been developed for the Department of Conservation and Recreation (DCR) Riverbank Vegetation Management Plan at the Charles River Reservation.

### Type A: Turf – Passive Recreation

#### Low-Mow Grass Seed Mixes

The following low-mow grass seed mixes (or equal substitutions) are recommended to be utilized for overseeding passive recreation areas.

- Natural Perfection Mix, by Lavoie Horticulture- A low-mow mix that includes native fescues intended to be mowed 1x per year after seed establishment, with no requirement for fertilizer or water after establishment.
- Fleur De Lawn (PT 755)- Developed by Oregon State University, a mix of low-growing flowers, clovers and grasses. The clovers naturally self-feed the lawn with nitrogen and the low growing flowers provide pollinator habitat. Maintain as high as 5” for a mini-meadow look, or 3” for a more manicured lawn.

#### Conversion to Meadows

See Type C Below

#### Trees for use in Turf Areas

*Amelanchier canadensis* - Serviceberry  
*Acer rubrum* – Red Maple  
*Celtis occidentalis* – Hackberry  
*Cercis canadensis* - Eastern Redbud  
*Cladastris lutea* - Yellowwood  
*Cornus florida* – Flowering Dogwood  
*Crataegus crusgalli* (var. *inermis*) – Cockspur Hawthorn  
*Fagus grandifolia* – American Beech  
*Liquidambar styraciflua* – Sweet Gum  
*Liriodendron tulipifera* – Tulip Tree  
*Nyssa sylvatica*- Tupelo  
*Quercus acutissima* – Sawtooth Oak  
*Quercus coccinea* – Scarlet Oak  
*Tilia americana* - Basswood  
*Tilia tomentosa* - Silver Linden  
*Ulmus americana* ‘Homestead’ – Homestead Elm  
*Ulmus americana* ‘Valley Forge’ – American Elm

### Type B: Turf – Active Recreation

See Type A Lists Above

## Type C: Meadows

### Grasses, Sedges, Rushes

*Andropogon gerardii* – Big Bluestem  
*Andropogon virginicus* – Broom Sedge Bluestem  
*Avena sativa* – Common Oat  
*Carex lurida* – Lurid Sedge  
*Carex utriculata* – Common Beaked Sedge  
*Danthonia spicata* – Poverty Grass  
*Deschampsia cespitosa* – Tufted Hairgrass  
*Elmus virginicus* – Virginia Wildrye  
*Elymus riparius* – Riverbank Wildrye  
*Glyceria striata* – Fowl Mannagrass  
*Juncus canadensis* – Canada Rush  
*Juncus effusus* – Soft Rush  
*Juncus tenuis* – Path Rush  
*Panicum virgatum* – Switchgrass  
*Schizachyrium scoparium* – Little Bluestem  
*Scirpus cyperinus* – Woolgrass  
*Shorghastrum nutans* – Indiangrass

### Perennials

*Asclepias tuberosa* – Butterfly Weed  
*Asclepias incarnata* – Swamp Milkweed  
*Aster novae-angliae* – New England Aster  
*Aquilegia canadensis* – Red Columbine  
*Apocynum cannabinum* – Dogbane  
*Aquilegia sp.* – Columbine  
*Bidens frondosa* – Devil's Pitchfork  
*Chamaecrista fasciculata* – Partridge Pea  
*Coreopsis rosea* – Rose Coreopsis  
*Coreopsis tinctorial* – Plains Coreopsis  
*Desmodium canadense* – Showy Ticktrefoil  
*Eupatorium dubium* 'Little Joe' – Little Joe Pyeweed  
*Eupatorium perfoliatum* – Common Boneset  
*Euthamia graminifolia* – Grass-leaved Goldenrod  
*Geranium x. magnificum* – Purple Cranesbill  
*Gratiola aurea* – Golden Pert  
*Heliopsis helianthoides* – Ox Eye Sunflower  
*Hieracium spp.* – Hawkweed  
*Hypericum mutilum* – Dwarf St. John's Wort  
*Iris versicolor* – Blue Flag Iris  
*Lechea spp.* – Pinweed  
*Lupinus perennis* – Wild Blue Lupine  
*Monarda fistulosa* – Wild Bergamot  
*Penstemon digitalis* – Beard Tongue  
*Pycnanthemum flexuosum* – Appalachian Mountain Mint  
*Solidago nemoralis* – Grey Goldenrod  
*Symphytrichum cordifolium* – Blue Wood Aster  
*Verbena hastata* – Blue Vervain  
*Zizia aurea* – Golden Alexander

Shade – Tolerant Meadow

*Aster divaricatus* - White Wood Aster  
*Aquilegia canadensis* – Red Columbine  
*Deschampsia flexuosa* – Wavy Hairgrass  
*Elymus hystrix* – Bottlebrush  
*Solidago caesia* – Bluestem Goldenrod  
*Solidago nemoralis* – Grey Goldenrod  
*Symphotrichum cordifolium* – Blue Wood Aster  
*Zizia aurea* – Golden Alexanders

**Type D: Roadway and Shared-Use Paths**

\* Salt and pollution tolerant trees and shrubs

Street Trees

*Celtis occidentalis* – Hackberry  
*Gledetsia triacanthos* - Honeylocust  
*Ulmus americana* 'Homestead' – Homestead Elm  
*Ulmus americana* 'Valley Forge' – American Elm

Shoreline Trees

*Betula papyrifera* – Paper Birch  
*Juniperus virginiana* – Eastern Red Cedar  
*Prunus serotina* – Black Cherry  
*Quercus macrocarpa* – Bur Oak  
*Quercus rubra* – Red Oak

Shrubs

*Ilex glabra* - Inkberry  
*Myrica pennsylvanica* – Bayberry  
*Prunus maritima* – Beach Plum  
*Salix spp.* – Native Shrub Willows  
*Spiraea alba* – Meadowsweet  
*Spiraea tomentosa* – Steeplebush

Vines

*Parthenocissus quinquefolia* – Virginia Creeper

**Type E: Low to Medium Herbaceous with Shrub and Overstory**

Shrubs

*Arctostaphylos uva-ursi* – Bearberry  
*Comptonia peregrina* – Sweet Fern  
*Gaylussacia baccata* – Maleberry  
*Gaylussacia brachysera* – Box Huckleberry  
*Juniperus horizontalis* – Creeping Juniper  
*Potentilla fruticosa* – Shrubby Cinquefoil  
*Spiraea alba* – Meadowsweet  
*Spiraea tomentosa* – Steeplebush  
*Vaccinium angustifolium* - Lowbush blueberry

Perennials/Ferns

*Asclepias tuberosa* – Butterfly weed  
*Campanula rotundifolia* – Harebell



*Capnoides sempervirens* – Pink corydalis  
*Dennstaedtia punctilobula* - Hay-scented Fern  
*Delphinium exaltatum* – Tall Larkspur  
*Gratiola aurea* – Golden Pert  
*Lupinus perennis* – Wild lupine  
*Lycopus americanus* – American Water Horehound  
*Kalmia angustifolia* – Sheep-Laurel  
*Iris versicolor* – Blue Flag Iris  
*Melampyrum lineare* – Common Cow-Wheat  
*Nuttallanthus canadensis* – Blue Toadflax  
*Onoclea sensibilis* – Sensitive Fern  
*Phlox divaricata* - Woodland Phlox  
*Plantago aristata* – Bracted Plantain  
*Rosa virginiana* – Virginia Rose  
*Rubus flagellaris* – Northern Dewberry  
*Rudbeckia hirta* – Blackeyed Susan  
*Sabatia kennedyana* – Plymouth Rose Gentian  
*Verbena hastata* – Blue Vervain

#### Grasses

*Carex pensylvanica* – Pennsylvania sedge  
*Deschampsia cespitosa* -Tufted Hair Grass  
*Elymus hystrix* – Bottlebrush Grass  
*Eragrostis spectabilis* – Purple Love Grass  
*Sporobolus heteropolis* – Prairie Dropseed

#### Vines/ Groundcovers

*Parthenocissus quinquefolia* – Virginia Creeper

### **Type F: Medium to High Shrub with Overstory**

#### Trees

*Amelanchier arborea* – Tall Shadbush  
*Betula papyrifera* – Paper Birch  
*Carya spp.* – Hickories  
*Juniperus virginiana* – Eastern Red Cedar  
*Quercus berberidifolia* – Scrub Oak

#### Shrubs

*Amelanchier stolonifera* – Running Serviceberry  
*Aronia melanocarpa* – Black Chokeberry  
*Cephalanthus occidentalis* – Buttonbush  
*Cornus sericea* – Red-twig Dogwood  
*Corylus americana* – American Hazelnut  
*Lindera benzoin* – Spice Bush  
*Prunus maritima* – Beach Plum  
*Rhus typhina* – Staghorn Sumac  
*Rubus allegheniensis* - Common Blackberry  
*Sambucus canadensis* - Elderberry  
*Vaccinium angustifolium* – Lowbush Blueberry  
*Vaccinium corymbosum* – Highbush Blueberry  
*Viburnum acerifolium* – Mapleleaf Viburnum  
*Viburnum lentago* – Nannyberry

## Type G: Riparian Wooded Banks with Understory

### Trees

*Acer saccharinum* – Silver Maple  
*Amelanchier laevis* – Alleghany Serviceberry  
*Alnus rubra* – Red Alder  
*Alnus serrulata* – Hazel Alder  
*Betula alleghaniensis* – Swamp Birch  
*Carya ovata* – Shagbark Hickory  
*Larix laricina* – Eastern Larch  
*Nyssa sylvatica* - Black Tupelo  
*Ostrya virginiana* – American Hop Hornbeam  
*Pinus strobus* – White Pine  
*Populus deltoides* – Eastern Cottonwood  
*Prunus serotina* – Black Cherry  
*Quercus coccinea* – Scarlet Oak  
*Quercus macrocarpa* – Bur Oak  
*Quercus palustris* – Pin Oak  
*Quercus rubra* – Red Oak  
*Quercus velutina* – Black Oak  
*Sassafras albidum* – Sassafras  
*Tilia americana* – American Basswood

### Shrubs

*Aronia melanocarpa* – Black Chokeberry  
*Clethra alnifolia* – Summersweet  
*Corylus americana* – American Hazelnut  
*Hypericum densiflorum* – St. Johnswort  
*Lindera benzoin* – Spice Bush  
*Prunus virginiana* – Choke Cherry  
*Rubus allegheniensis* - Common Blackberry  
*Viburnum lentago* – Nannyberry

### Perennials

*Adiantum pedatum* – Maidenhair Fern  
*Apocynum cannabinum* – Dogbane  
*Asplenium platyneuron* – Ebony Spleenwort  
*Asplenium trichomanes* – Maidenhair Spleenwort  
*Cornus canadensis* – Bunchberry  
*Dendrolycopodium dendroideum* – Tree Clubmoss  
*Dryopteris marginalis* – Marginal Shield Fern  
*Eurybia divaricata* - Whitewood Aster  
*Gaultheria procumbens* – Eastern Teaberry  
*Maianthemum canadense* – Canada Mayflower  
*Osmunda cinnamomeum* – Cinnamon Fern  
*Phytostegia virginiana* – Obedient Plant  
*Pteridium aquilinum* - Bracken fern

### Vines/ Groundcovers

*Parthenocissus quinquefolia* – Virginia Creeper

## Type H: Biological Wetland

### Shrubs (Edge)

*Cornus stolonifera* – Red Osier Dogwood  
*Ilex verticillata* – Common Winterberry  
*Lindera benzoin* – Spicebush  
*Sambucus canadensis* – American Black Elderberry  
*Spiraea tomentosa* - Steeplebush  
*Vaccinium corymbosum* – Highbush Blueberry  
*Viburnum trilobum* – Highbush Cranberry

### Perennials

*Asclepias incarnata* – Swamp Milkweed  
*Asclepias syriaca* – Common Milkweed  
*Chamaedaphne calyculata* - Leatherleaf  
*Doellingeria umbellata* - Flat-Topped Aster  
*Eutrochium fistulosum* – Joe Pye Weed  
*Filipendula ulmaria* – Meadowsweet  
*Justicia americana* – American Water-Willow  
*Lysimachia quadrifolia* – Whorled Loosestrife  
*Osmunda regalis* - Royal Fern  
*Rosa palustris* – Swamp Rose  
*Symplocarpus foetidus* - Skunk Cabbage  
*Thelypteris palustris* - Marsh Fern  
*Triadenum virginicum* - Swamp St. John's-wort  
*Typha latifolia* – Broad-leaved Cattail  
*Woodwardia virginica* - Virginia Chain Fern

### Grasses

*Calamagrostis canadensis* – Bluejoint Grass  
*Carex crinita* – Fringed Sedge  
*Carex lurida* – Lurid Sedge  
*Carex lupulina* – Hop Sedge  
*Carex vulpinoidea* – Fox Sedge  
*Carex scoparia* – Blunt Broom Sedge  
*Carex stricta* – Tussock Sedge  
*Elymus virginicus* – Virginia Wildrye  
*Juncus effusus* – Soft Rush  
*Leersia oryzoides* – Rice Cutgrass  
*Panicum clandestinum* – Deertongue  
*Panicum virgatum* – Switch Panicgrass  
*Poa palustris* – Fowl Bluegrass  
*Setaria parviflora* – Marsh Bristlegrass  
*Sparganium americanum* – Eastern Bur Reed  
*Scripus cyperinus* – Woolgrass  
*Thalictrum spp.* - Meadow Rue

## Type I: Engineered Structures – Riprap & Revetments

### Trees

*Betula allegheniensis* – Yellow Birch  
*Nyssa sylvatica* - Black Tupelo  
*Quercus macrocarpa* – Bur Oak  
*Quercus rubra* – Red Oak

Shrubs

*Arctostaphylos uva-ursi* – Bearberry  
*Cephalanthus occidentalis* - Buttonbush  
*Rhus typhina* - Staghorn Sumac  
*Vaccinium angustifolium* - Lowbush Blueberry  
*Viburnum lentago* – Nannyberry  
*Viburnum trilobum* - Highbush Cranberry

Perennials/Ferns

*Bidens frondosa* – Devil's Pitchfork  
*Calamagrostis canadensis* – Bluejoint Grass  
*Eutrochium purpureum* - Joe-Pye Weed  
*Iris versicolor* - Blue Flag Iris  
*Matteuccia struthiopteris* - Ostrich Fern  
*Osmundastrum cinnamomeum* - Cinnamon Fern  
*Onoclea sensibilis* – Sensitive Fern  
*Pontedaria cordata* – Pickerelweed  
*Symphotrichum novae-angliae* – New England Aster

**Type J: Engineered Structures – Bulkheads**

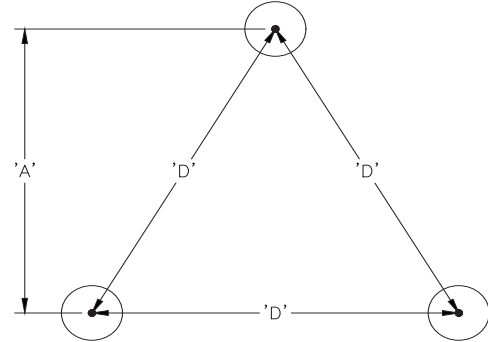
See Type A Lists Above

# Section 5

## Proposed Details

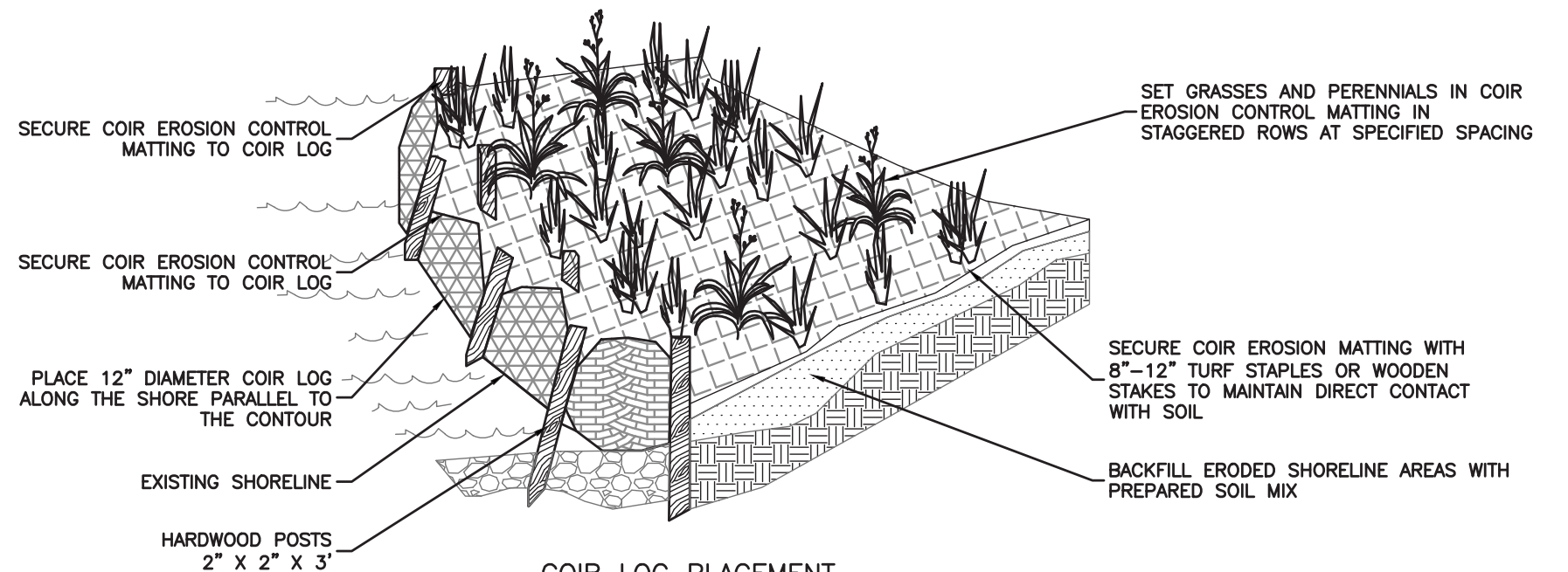
# REVEGETATION WITH EROSION CONTROL

NOTE:  
GRASSES AND PERENNIALS TO BE  
INSTALLED WITH TRIANGULAR SPACING



PLANT (TYP.)

PLANT SPACING ' D '	ROW ' A '
8" O.C.	6.93" O.C.
10" O.C.	8.66" O.C.
12" O.C.	10.4" O.C.
18" O.C.	15.6" O.C.
24" O.C.	20.8" O.C.
36" O.C.	30.0" O.C.
48" O.C.	31.5" O.C.



## COIR LOG PLACEMENT

1. EXCAVATE A SHALLOW 4" TRENCH ON SLOPE CONTOUR AT SHORELINE.
2. PLACE THE ROLL IN THE TRENCH AND ANCHOR WITH 2"x2" POSTS PLACED ON BOTH SIDES OF THE ROLL AND SPACED LATERALLY ON 2' TO 4' CENTERS. TRIM THE TOP OF THE POSTS EVEN WITH THE EDGE OF THE ROLL, IF NECESSARY.
3. NOTCH THE POSTS AND TIE TOGETHER, ACROSS THE ROLL, WITH 9-GAUGE GALVANIZED WIRE OR 1/8" DIAMETER BRAIDED NYLON ROPE.
4. PLACE SOIL EXCAVATED FROM THE TRENCH BEHIND THE ROLL AND HAND TAMP. VEGETATION SHALL BE PLACED IMMEDIATELY ADJACENT TO THE ROLL TO PROMOTE ROOT GROWTH INTO THE FIBER. HERBACEOUS VEGETATION MAY BE PLANTED INTO THE FIBER ROLL.

## RECOMMENDED PLANTS

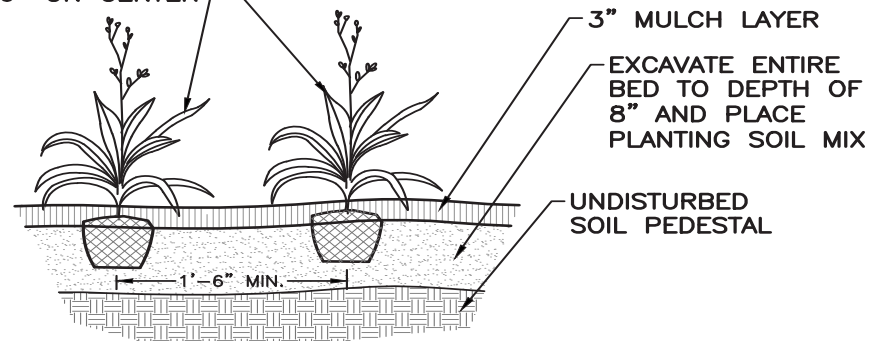
### Shrubs

- *Vaccinium angustifolium* / Lowbush Blueberry

### Perennials/Ferns

- *Campanula rotundifolia* / Harebell
- *Dennstaedtia punctilobula* / Hay-Scented Fern
- *Lupinus perennis* / Wild Lupine
- *Iris versicolor* / Blue-Flag Iris

PERENNIAL PLANTING — SPACE  
1'-6" ON CENTER



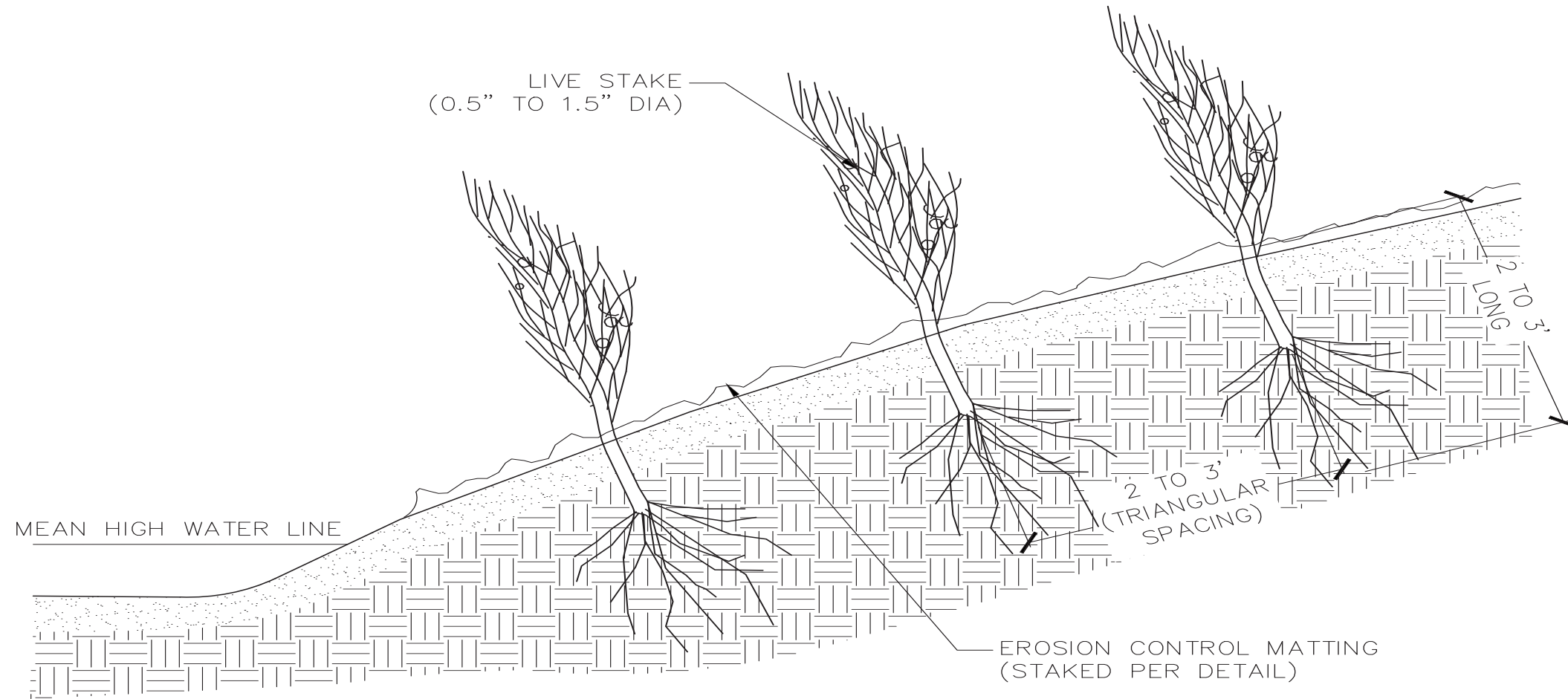
NOTE:  
GROUNDCOVERS AND PERENNIALS TO  
BE INSTALLED WITH TRIANGULAR SPACING

## CHARLES RIVER VEGETATION MANAGEMENT PLAN

DEPARTMENT OF CONSERVATION AND RECREATION



# LIVE STAKING

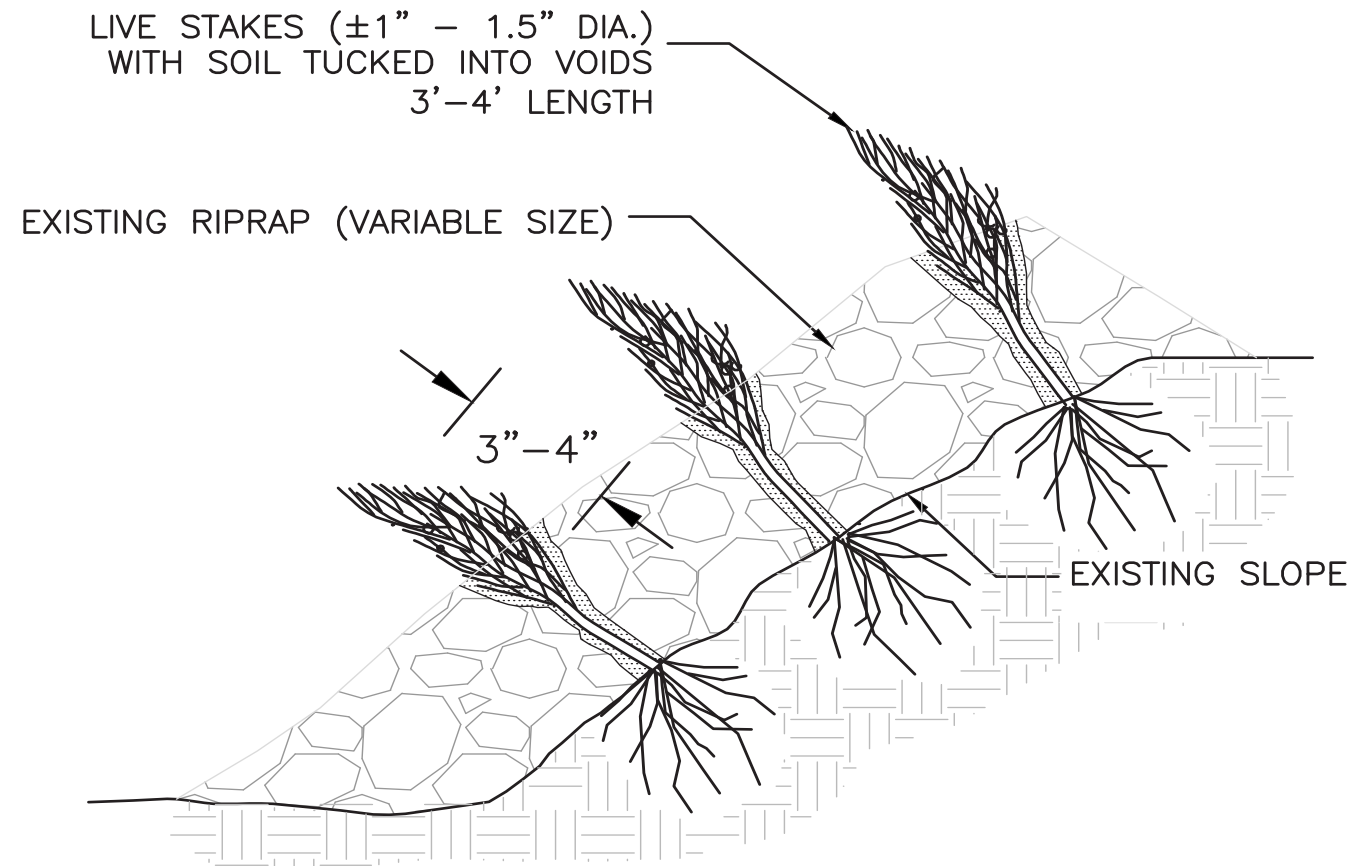


## Recommended Plants

- *Cornus sericea* / Redosier Dogwood
- *Sambucus canadensis* / Black Elderberry
- *Salix eriocephala* / Salix 'Bankers'



# VEGETATION IN RIPRAP



NOTES:

1. STAKES SHALL BE INSTALLED PERPENDICULAR TO THE SLOPE.
2. SPACING SHALL BE BETWEEN TWO TO FOUR STAKES PER 9 SQUARE FEET.
3. EXISTING INVASIVE SPECIES SHALL BE REMOVED PRIOR TO INSTALLATION.
4. EXISTING RIP RAP MAY BE ADJUSTED TO ACCOMMODATE PLANTINGS.

**RECOMMENDED PLANTS**

**Trees**

- *Betula allegheniensis* / Yellow Birch
- *Nyssa sylvatica* / Black Tupelo

**Shrubs**

- *Arctostaphylos uva-ursi* / Bearberry
- *Cephalanthus occidentalis* / Buttonbush
- *Vaccinium angustifolium* / Lowbush Blueberry

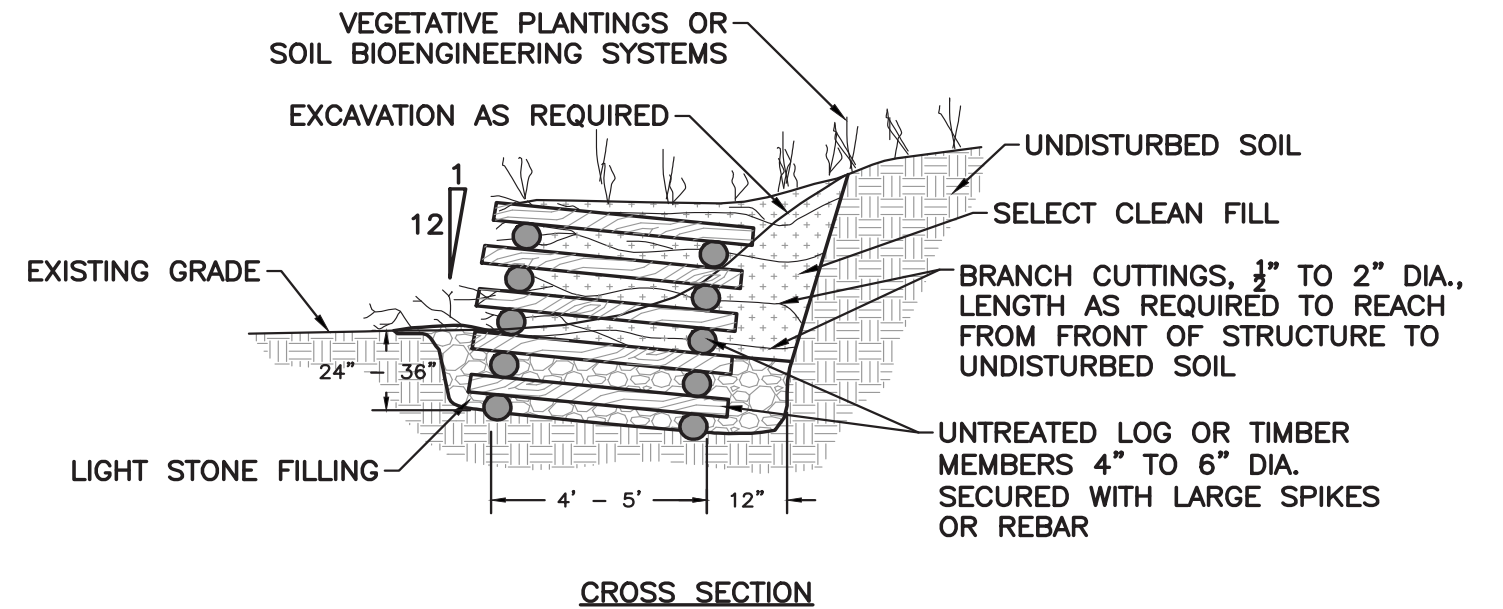
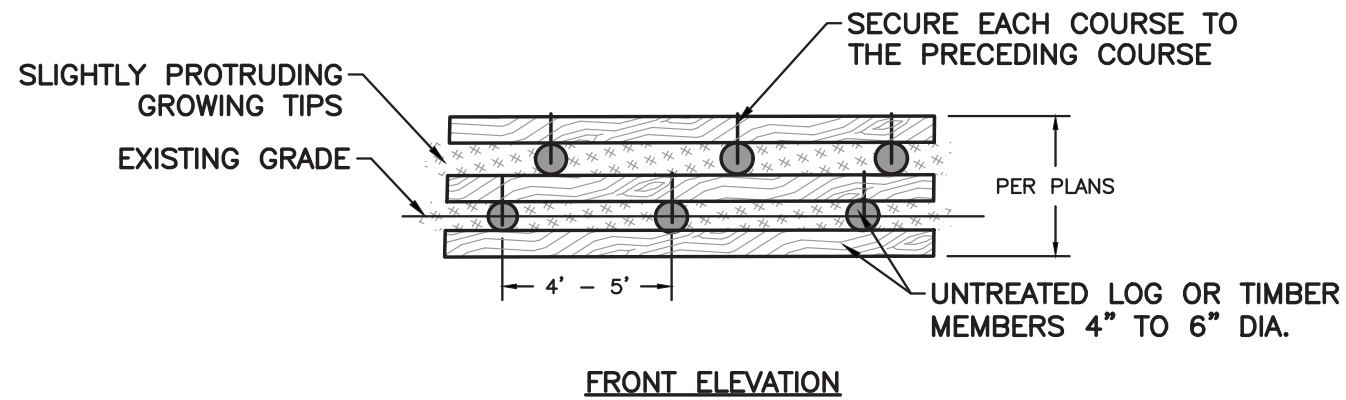
**Perennials/Ferns**

- *Eutrochium purpureum* / Joe-Pye-Weed
- *Osmunda regalis* / Royal Fern
- *Pontedaria cordata* / Pickerelweed





# TIMBER CRIB WALL



## NOTES:

1. EACH COURSE SHALL BE SECURED TO THE PRECEDING COURSE WITH SPIKES OR REBAR. SEE CONTRACT DOCUMENTS FOR SIZE AND LENGTH.
2. BACKFILL IN AND AROUND TIMBER CRIB WITH RIPRAP (LIGHT FILL) FROM BOTTOM OF EXCAVATION TO THE LOWER GROUND LEVEL, OR WHEN IN STREAM CHANNEL UP TO BASEFLOW.
3. EACH TRANSVERSE LOG COURSE CONTAINS LIVE CUTTINGS FOLLOWED BY A LAYER OF TAMPED BACKFILL.
4. EACH FACE LOG COURSE (FRONT AND REAR), AND THE AREA BEHIND THE STRUCTURE SHALL BE BACKFILLED AND HAND TAMPED.

## RECOMMENDED PLANTS

- *Cornus sericea* / Redosier Dogwood
- *Sambucus canadensis* / Black Elderberry
- *Salix eriocephala* / Salix 'Bangers'

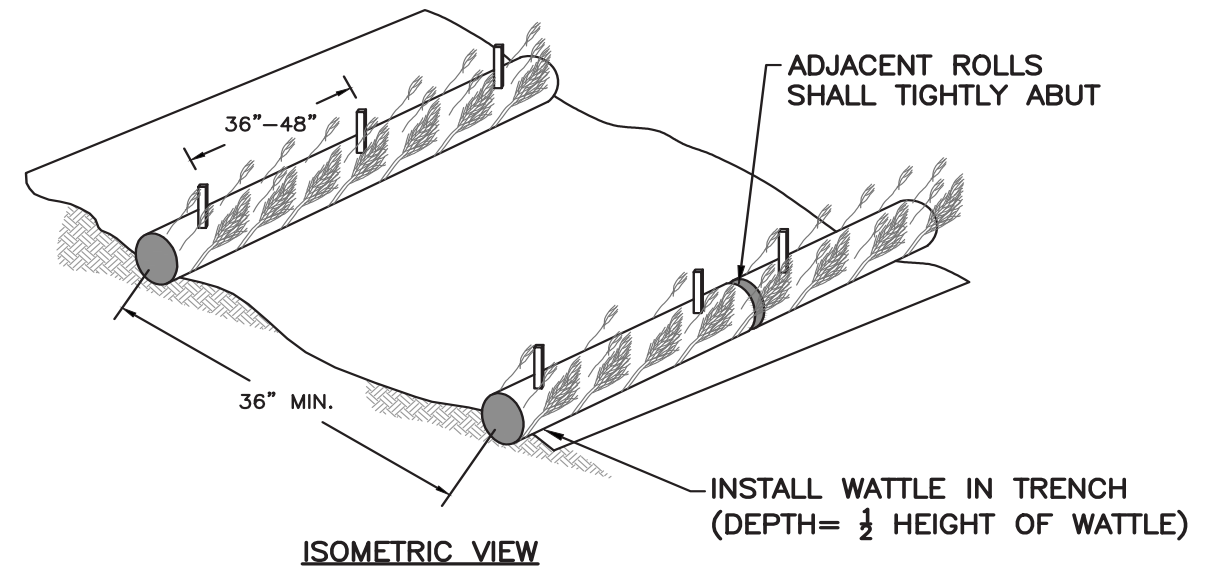
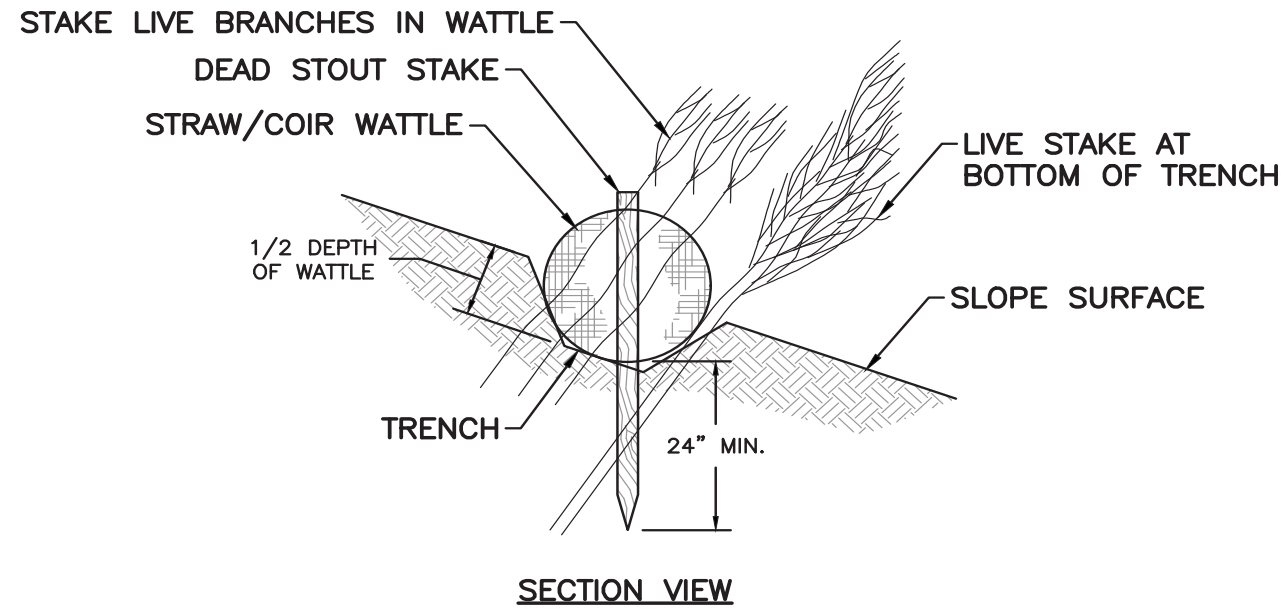


## CHARLES RIVER VEGETATION MANAGEMENT PLAN

DEPARTMENT OF CONSERVATION AND RECREATION



# CONTOUR WATTLING



## NOTES:

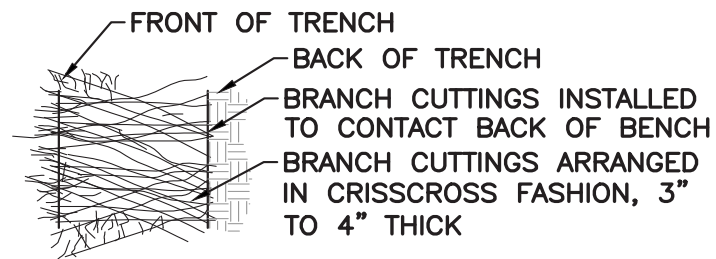
1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A TRENCH WITH A DEPTH OF  $\frac{1}{2}$  THE HEIGHT OF THE COIR/STRAW WATTLE ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SPOIL SHOULD BE PLACED UP-SLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 18"-24" STAKES EVERY 3'-4' AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2"-3" OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO SLOPE FACE.

## RECOMMENDED PLANTS

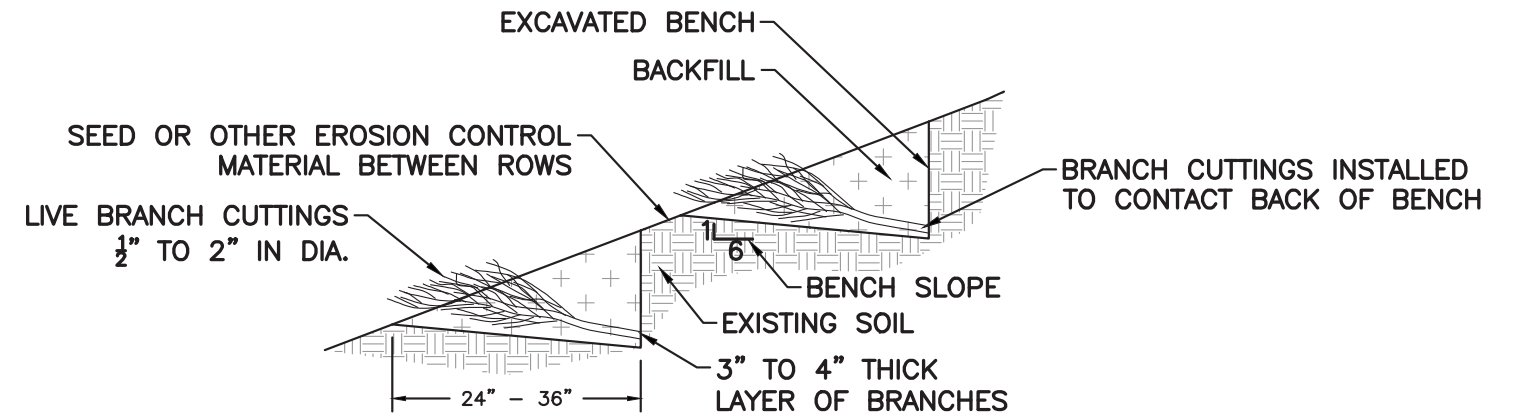
- *Cornus sericea* / Redosier Dogwood
- *Sambucus canadensis* / Black Elderberry
- *Salix eriocephala* / Salix 'Bangers'



# BRUSH LAYERING



PLAN VIEW



CROSS SECTION OF BRUSH LAYER ON CUT SLOPE

**NOTES:**

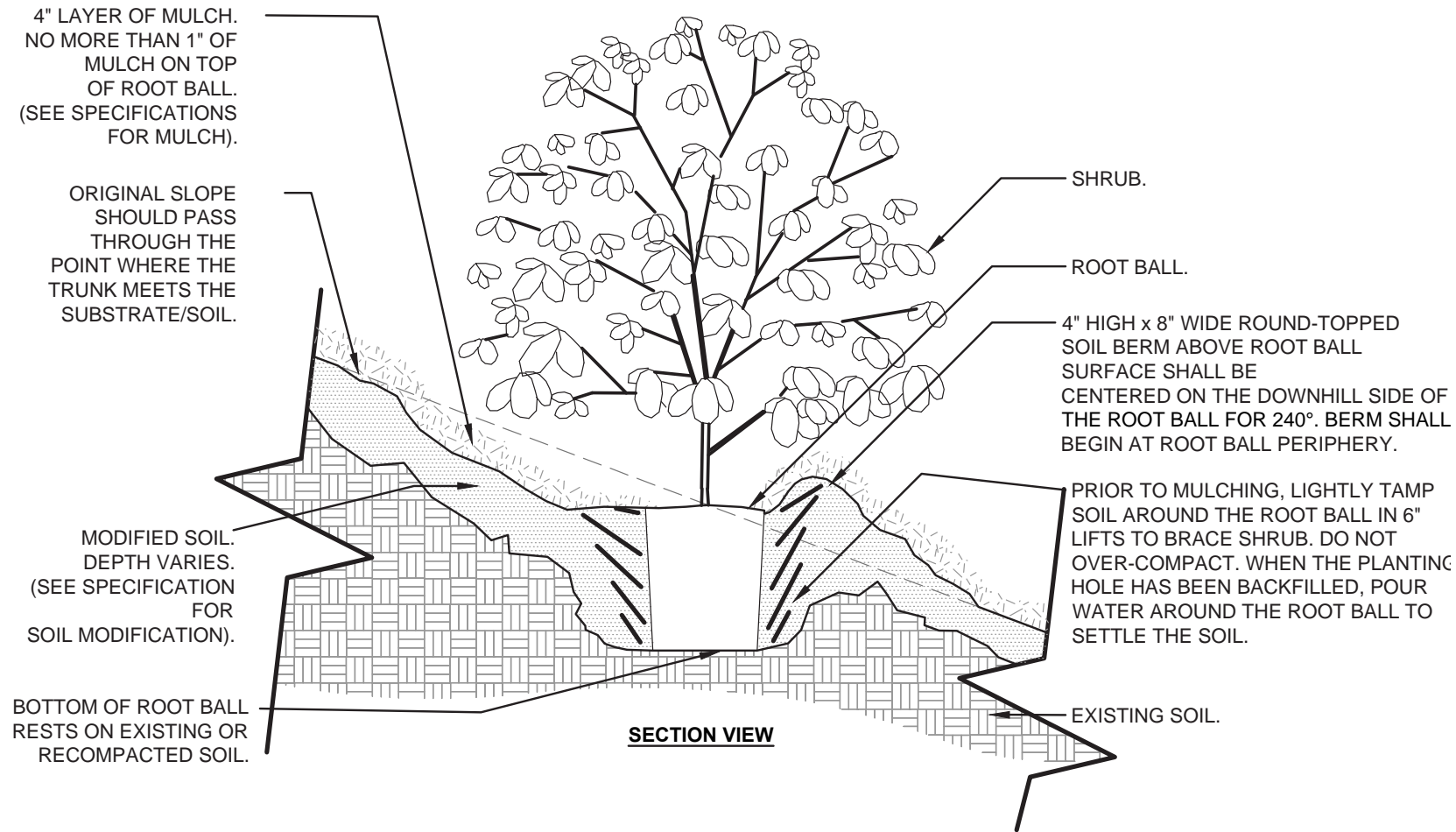
1. BENCH SHALL BE ANGLED SO OUTSIDE EDGE IS HIGHER THAN BACK OF BENCH.
2. LIVE BRANCH CUTTINGS SHALL BE PLACED ON THE BENCH IN A CRISSCROSS OR OVERLAP CONFIGURATION 3" TO 4" THICK AT THE BUTT ENDS.
3. GROWING TIPS SHALL BE ALIGNED OUT OF THE SLOPE FACE AND SHALL EXTEND SLIGHTLY BEYOND THE FILL AREA.
4. FILL EACH LOWER BENCH WITH SOIL EXCAVATED FROM THE BENCH ABOVE. TOP BENCH TO BE BACKFILLED WITH INITIAL EXCAVATION.
5. PLACE BACKFILL ON TOP OF BRANCHES AND HAND TAMP IN 6" LIFTS TO REDUCE AIR POCKETS.
6. SEED OR OTHER EROSION CONTROL MATERIAL SHALL BE USED BETWEEN THE ROWS AS STATED IN THE CONTRACT DOCUMENTS.
7. BRUSHLAYER BENCHES SHALL BE FROM 3' TO 5' VERTICAL APART, DEPENDING ON SLOPE, AS SHOWN ON THE PLANS MEASURED BETWEEN FRONT EDGE OF BENCHES.

**RECOMMENDED PLANTS**

- *Cornus sericea* / Redosier Dogwood
- *Sambucus canadensis* / Black Elderberry
- *Salix eriocephala* / Salix 'Bankers'



# MEDIUM TO HIGH SHRUB RESTORATION



- NOTES:
1. SHRUBS SHALL BE OF QUALITY AS PRESCRIBED IN THE ROOT OBSERVATIONS DETAIL AND SPECIFICATION.
  2. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS RELATED TO THIS DETAIL.

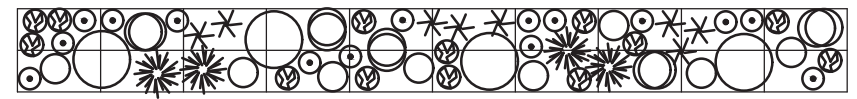
CLUSTERED PLANTING AREA 1

PLANT TYPE	QUANTITY
SALIX PETIOLARIS (4 per 1000 sf.)	
VIBURNUM CASSINOIDES (5 per 1000 sf.)	
AMELANCHIER STOLINIFERA (4 per 1000 sf.)	
CORNUS SERICEA (7 per 1000 sf.)	
CALAMAGROSTIS CANADENSIS (8 per 1000 sf.)	
ASTER SIMPLEX (15 per 1000 sf.)	
ASCLEPIAS INCARNATA (12 per 1000 sf.)	

CLUSTERED PLANTING AREA 2

PLANT TYPE	QUANTITY
SALIX PETIOLARIS (4 per 1000 sf.)	
VIBURNUM CASSINOIDES (5 per 1000 sf.)	
AMELANCHIER STOLINIFERA (4 per 1000 sf.)	
CORNUS SERICEA (7 per 1000 sf.)	
CALAMAGROSTIS CANADENSIS (8 per 1000 sf.)	
ASTER SIMPLEX (15 per 1000 sf.)	
ASCLEPIAS INCARNATA (12 per 1000 sf.)	

100' SECTION



PLANT MATERIAL LEGEND

- |  |   |  |  |
|--|---|--|--|
|  | SALIX PETIOLARIS (4 PER 1000 SF.)       |  | CALAMAGROSTIS CANADENSIS (8 PER 1000 SF) |
|  | VIBURNUM CASSINOIDES (5 PER 1000 SF.)   |  | ASTER SIMPLEX (15 PER 1000 SF)           |
|  | AMELANCHIER STOLINIFERA (4 PER 1000 SF) |  | ASCLEPIAS INCARNATA (12 PER 1000 SF)     |
|  | CORNUS SERICEA (7 PER 1000 SF)          |  |  |

## RECOMMENDED PLANTS

### Trees

- *Betula papyrifera* / Paper Birch
- *Juniperus virginiana* / Eastern Red Cedar

### Shrubs

- *Amelanchier stolonifera* / Dwarf Serviceberry
- *Cornus sericea* / Redosier Dogwood
- *Prunus maritima* / Beach Plum
- *Rhus typhina* / Staghorn Sumac
- *Salix petiolaris* / Meadow Willow
- *Vaccinium corymbosum* / Highbush Blueberry
- *Viburnum cassinoides* / Witherrod Viburnum

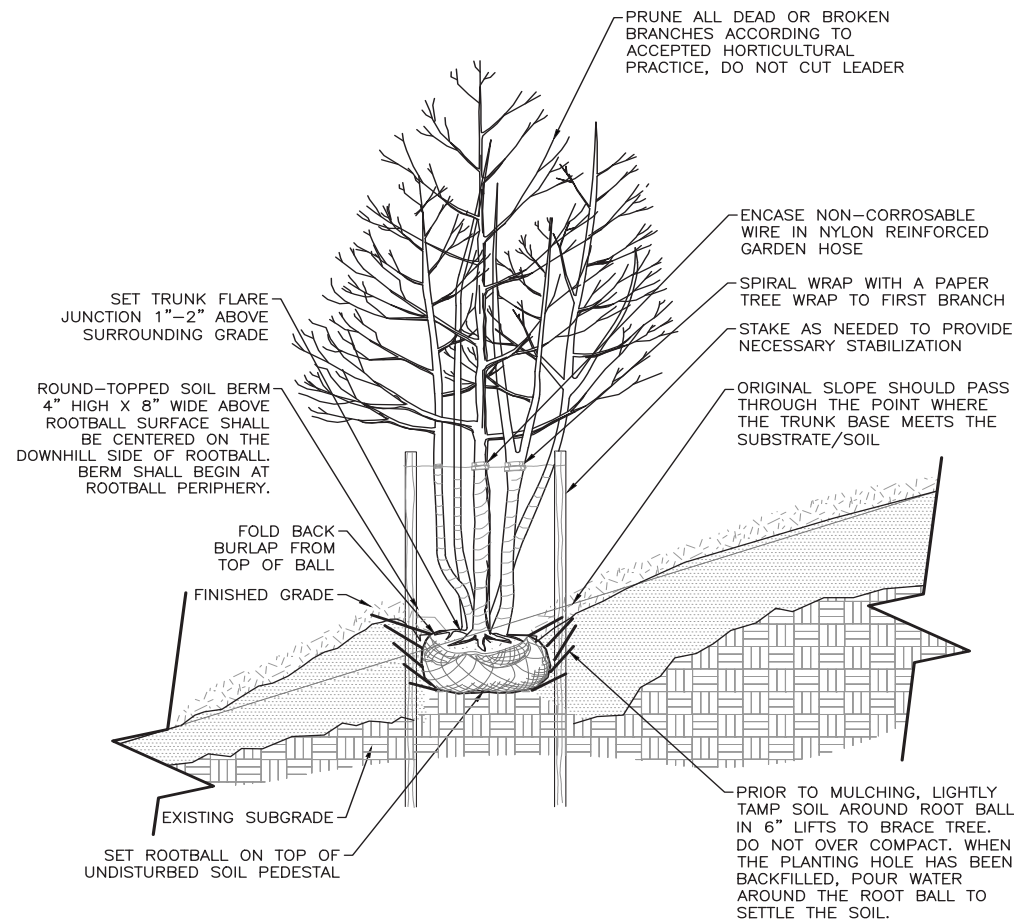


## CHARLES RIVER VEGETATION MANAGEMENT PLAN

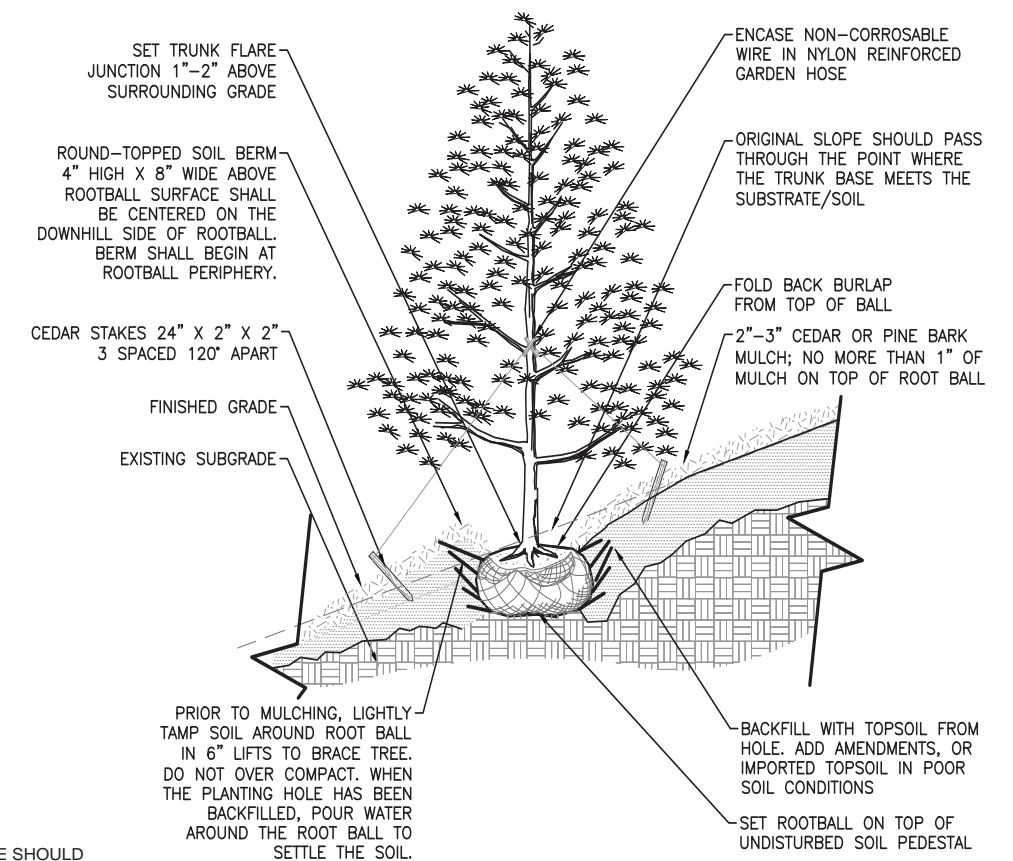
DEPARTMENT OF CONSERVATION AND RECREATION



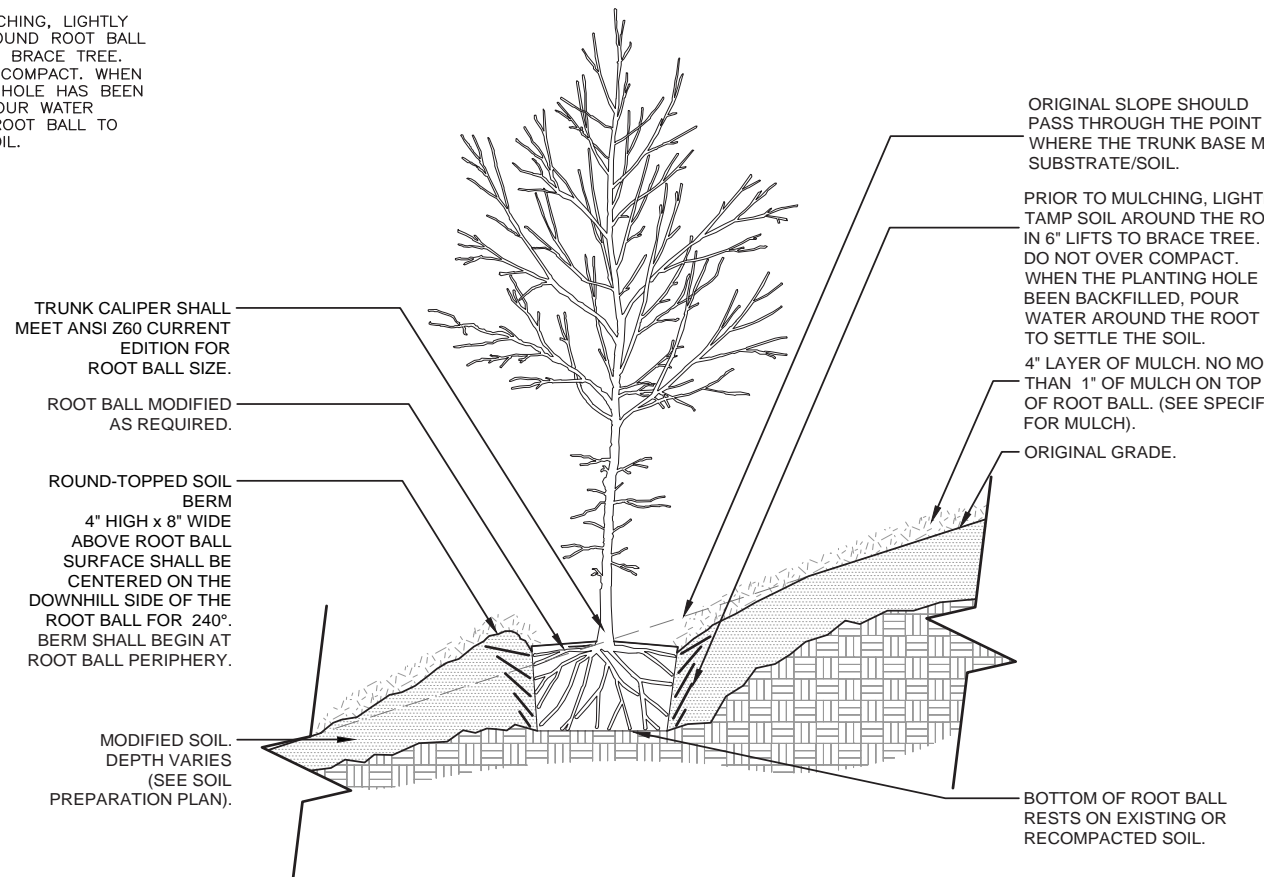
# RIPARIAN WOODED BANK RESTORATION



**MULTISTEM TREE**



**EVERGREEN TREE**



**DECIDUOUS TREE**

## RECOMMENDED PLANTS

### Trees

- *Betula allegheniensis* / Yellow Birch
- *Nyssa sylvatica* / Black Tupelo
- *Quercus macrocarpa* / Bur Oak
- *Quercus rubra* / Red Oak

### Shrubs

- *Clethra alnifolia* / Summersweet
- *Viburnum lentago* / Nannyberry



## CHARLES RIVER VEGETATION MANAGEMENT PLAN

DEPARTMENT OF CONSERVATION AND RECREATION



# APPENDICES

# Appendix A

## Invasive Species Control

Department of Conservation and Recreation  
Riverbank Vegetation Management Plan  
Charles River Basin  
Boston, Cambridge, Newton, and Watertown  
Contract No. P18-3241-SIA

## INVASIVE/NUISANCE SPECIES SELECTED CONTROL METHODS

### Target Invasive/Nuisance Plant Species

Target species for management in the study area have been identified for their tendency to outcompete other species, degrade habitat and/or contribute to erosion and water quality problems. Moreover, these species can obstruct views. The following discussion briefly describes invasive plants that are proposed for management. Plant species are listed in alphabetical order by their scientific (i.e., Latin) names followed by their common names.

#### *Acer platanoides* - Norway Maple (MIPAG - Invasive)

The Norway Maple was originally introduced to the North America in the mid-1700s, and quickly became popular as a street tree. Widely planted throughout the U.S., the Norway maple can be found from Canada south to the Carolinas along the east coast and inland to the Midwest. Easily identified from other maples by the milky white sap which oozes from the leaves and stems when cut, this large deciduous tree invades forests and quickly adapts to dense shady conditions.



Figure 1: *Acer platanoides*<sup>1</sup>

Norway Maple has a dense canopy and shallow root system, making it difficult for other species to grow in the understory (Connecticut Invasive Plant Working Group, 2000).

### Control Schedule and Methods

#### 1. Manual –

- a. Hand-pulling: seedlings are easily pulled from moist soils. Larger plants must be dug up with all of the root system included.
- b. Cutting: large trees should be followed by stump grinding and cutting any regrowth. Removal of large trees will prevent further spreading/seed sources
- c. Girdling: cut through the bark and cambium in a circle around trunk. Most effective in the spring. Monitor girdled trees and assess whether these trees are suitable for habitat trees or should be removed due to potential hazards.
- d. Trunk cutting should occur prior to spring sap flow. First stump cutting should be 2-3' from the ground to allow any coppice growth prior to first treatments to emerge and receive a follow up treatment. Second cuts may be flush with the ground to allow for stump grinding.<sup>22</sup>

#### 2. Chemical –

<sup>22</sup> Source: UMass Extension Invasive Plant Certification Program Handout, March 2019.



- a. Trees up to 4 inches in diameter: apply triclopyr mixed with a horticultural oil to the bark, a foot from the base of the trunk. Apply herbicide in early spring or from June 1 – September 30.
- b. Cut stump method: cut the tree and immediately apply herbicide to the outer ring of the stump (Pennsylvania Department of Conservation and Natural Resources, n.d.).

### ***Acer pseudoplatanus* – Sycamore Maple**

**Not observed during field assessment but listed as an early detection priority species for DCR properties in the Commonwealth and/or were supplied during the stakeholder meeting (MIPAG - Invasive)**

Native to Europe and western Asia, Sycamore Maple is a deciduous tree that can reach up to 100 feet in height. Its wide palmate leaves have five lobes and are typically a dark green above and lighter green below. Flowers become present in May and are a yellowish-green color and roughly 1 inch long. While sycamore maple is shade intolerant, it endures pollution, salt and soil extremes. The tree produces an abundance of viable seeds and will outcompete native species. It can be found from Maine to Michigan and south to North Carolina. (Pennsylvania Department of Conservation and Natural Resources, n.d.).



Figure 2: *Acer pseudoplatanus*<sup>6</sup>

#### Control Schedule and Methods

1. Manual –
  - a. Hand-pulling: seedlings are easy to pull in moist soils.
  - b. Digging: dig out larger plants, removing the entire root system.
2. Mechanical -
  - a. Cutting: cut down large trees and grind off the stump or clip off re-growth.
  - b. Girdling: cut through cambium and bark in a circle around the trunk in the spring.
3. Chemical –
  - a. Glyphosate or triclopyr is recommended. Trees up to four inches in diameter can be controlled by applying triclopyr mixed with a horticultural oil to the bark, a foot from the base of the trunk. Apply in the early spring or from June 1 to September 30.
  - b. Cut stump method: cut tree and immediately apply herbicide around outer ring of stump. (Pennsylvania Department of Conservation and Natural Resources, n.d.).

### ***Actinidia arguta* – Hardy Kiwi**

**\*Not observed during field assessment but listed as an early detection priority species for DCR properties in the Commonwealth and/or were supplied during the stakeholder meeting**

**+Early detection priority species (MIPAG - Likely Invasive)**

Hardy Kiwi is a deciduous, fast growing, twining woody vine that can reach 25 - 30 feet, but may climb as high as 100 feet into large trees. Hardy kiwi can be characterized by its dark green leaves, and greenish-white flowers accompanied by grape-sized fruits. Vines can aggressively climb and kill trees (Lower Hudson Partnership for Regional Invasive Species Management, 2014).



Figure 3: *Actinidia arguta*<sup>7</sup>

<sup>6</sup>Source: [https://upload.wikimedia.org/wikipedia/commons/thumb/c/cd/Acer\\_pseudoplatanus\\_005.jpg/1200px-Acer\\_pseudoplatanus\\_005.jpg](https://upload.wikimedia.org/wikipedia/commons/thumb/c/cd/Acer_pseudoplatanus_005.jpg/1200px-Acer_pseudoplatanus_005.jpg)

## Control Schedule and Methods

1. Manual -
  - a. Cutting: cut large vines in winter/early spring. Without chemical application vines are likely to grow back from cut stems.
2. Chemical -Foliar treatment: treat in late summer to early fall with Rodeo/Garlon 3A/glyphosate
  - a. Foliar treatment: treat in late summer to early by applying herbicide to leaves.
  - b. Cut-and-dab application of glyphosate on vine stems. Cut stems and apply herbicide immediately afterward.

(Lower Hudson Partnership for Regional Invasive Species Management, 2014).

### ***Aegopodium podagraria* – Ground Elder/ Bishops Weed/ Goutweed (MIPAG - Invasive)**

Widely planted as a groundcover, ground elder is highly invasive plant, which will grow 8 inches tall in a thick mat when unrestricted. Individual leaflets are up to 3 inches long, oval and serrated. Small white flowers bloom from May-June in umbel inflorescences typical of the carrot family. This plant is commonly sold in nurseries as an aggressive ground cover, and spreads via rhizomes.



Figure 4: *Aegopodium podagraria*

Ground Elder forms dense patches and grows aggressively. Displaces native species, inhibits the establishment of native tree species, and reduces species diversity. (Plant Conservation Alliance, 2005).

## Control Schedule and Methods

1. Manual -
  - a. Hand-pulling: small patches can be eliminated through persistent hand pulling. Be sure to remove underground rhizomes. Bag and dispose off-site to prevent reestablishment.
2. Mechanical –
  - a. Mowing: frequent mowing at short heights can control or slow the spread of goutweed. Mow early in the year, just after plant has reached full leafout. Cover entire colony with black plastic sheeting after to exhaust energy reserves.
3. Chemical – systemic herbicides are most effective for control. Contact herbicides are ineffective as goutweed readily leafs out after defoliation.
  - a. Be careful not to damage or kill nearby native plants when using herbicides. (Plant Conservation Alliance, 2005).

<sup>1b</sup>Source: [https://treetrek.weebly.com/uploads/2/0/7/0/20706756/form-1\\_48\\_orig.jpg](https://treetrek.weebly.com/uploads/2/0/7/0/20706756/form-1_48_orig.jpg)

### *Allanthus altissima* – Tree of Heaven (MIPAG - Invasive)

A native of China, Tree of Heaven is a fast-growing deciduous tree originally introduced to North America in the late 1700s. Found across the country, Tree of Heaven is listed as invasive in at least 30 states. Due to prolific seed production and an aggressive root system, the tree will easily crowd out native vegetation and form dense thickets. The leaf resembles that of the native staghorn sumac, but the blades are smooth with a glandular tooth at the base. Sumac leaflets are serrated along the entire margin, with a single leaflet at the end of the leaf. Tree of Heaven can grow up to 80 feet tall (United States Forest Service, n.d.).

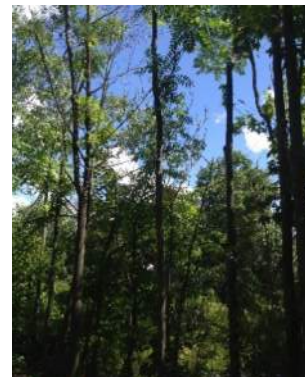


Figure 5: *Allanthus altissima*

#### Control Schedule and Methods

1. Manual – difficult to control manually/mechanically. Trees re-sprout vigorously, and massive root suckering occurs.
  - a. Hand-pulling: very young seedlings can be pulled or dug if soil conditions allow (moist soil is best). Remove the entire root system.
  - b. Cutting: cut trees while small, in early summer when root reserves are at their lowest. Cut regrowth frequently and repeatedly and apply herbicide to cut surfaces. Provide shade from competitive native plants and trees after control efforts.
2. Biological –
  - a. Native vascular wilt fungus (*Verticillium nonalfalfae*), was observed causing significant mortality to tree of heaven in Pennsylvania in 2002.
  - b. A weevil (*Euchryptorrhynchus brandti*) has been observed successfully carrying and transmitting the above fungus to trees of heaven. Check with local regulators to determine if biological controls are permitted in this region. (United States Forest Service).
3. Chemical – herbicides are generally the most effective way to control regrowth from cut trees and to kill root systems of mature tree of heaven.
  - a. Basal Bark Spraying: does not require cutting and has proven to be an effective control method. Best results when applied when tree of heaven is fully leafed but before it begins to show fall color. Most appropriate for treating small patches or isolated trees (especially trees with trunk diameters between 4 - 8 inches).
4. Mechanical –
  - a. Grubbing: for young trees or saplings, hand grubbing may be effective. Usually not feasible for dense stands or mature trees. Remove the entire root system (United States Forest Service, n.d.).

<sup>2</sup>Source: <https://newfs.s3.amazonaws.com/taxon-images-1000s1000/Apiaceae/aegopodium-podagraria-le-ahaines-d.jpg>

### *Alliaria petiolata* – Garlic Mustard (MIPAG - Invasive)

Garlic Mustard is a self-pollinating biennial noxious weed that can produce 500 - 1000 seeds per plant. It was introduced to North America in the mid-19<sup>th</sup> century, and is considered invasive along the East Coast, Midwest, and into Canada. Since the plant does not have any natural predators, it has a competitive advantage over native species and even produces a phytotoxin to interfere with the mycorrhizal relationships of nearby plants and trees. Garlic mustard first-year leaves resemble those of the violet but can be distinguished by looking closely at the leaf and root system. Violets have blooms with five petals, smooth leaves, and lack a taproot (King County Noxious Weed Control Program, 2010).



Figure 6: *Alliaria petiolata*<sup>3</sup>

#### Control Schedule and Methods

##### 1. Manual –

- a. Hand-pulling: effective for small infestations or where large groups of volunteers are available.
  - i. If plants are removed before budding begins, they can be spread out to dry. Do not put pulled plants in piles where roots can stay moist.
  - ii. Once flowering has begun, all plants must be bagged to contain seeds. Seeds can remain viable in the soil for 7 years and can still ripen after plants are uprooted. Put pulled plants in plastic or large paper bags. Dispose of plants by burning, after allowing plants to dry thoroughly.
  - iii. Do not compost garlic mustard, as this will spread the seeds. Most compost piles do not produce enough heat to destroy all seeds.
- b. Mulching: several inches of mulch (wood chips) is highly effective. Edges must be monitored to prevent plants from escaping/spreading seeds.
- c. Cutting: cut a few inches above soil surface soon after flower stalks have elongated, but before flowers have opened. Can be effective in preventing seed production. Monitor site regularly as some plants may send out new flower stalks. Cutting first year rosettes is not recommended as it will promote renewed growth.

##### 2. Chemical – for use in extensive infestations that are too large for manual methods

- a. Apply a 1 – 2% solution of glyphosate to foliage of individual plants and dense patches in fall and/or early spring. Garlic mustard emerges when most native plants are still dormant.

##### 3. Mechanical –

- a. Weed torch: spot killing newly germinated patches in spring. Only use weed torch when conditions are wet and contact local fire control agency prior to using this method (may require a permit).
- b. Mowing: will not effectively control garlic mustard unless repeated throughout the entire growing season. Flowering plants need to be removed from sites prior to mowing, so this method is not generally effective (King County Noxious Weed Control Program, 2010; Michigan State University; Wisconsin Department of Natural Resources, 2006).

<sup>3</sup>Source: [https://www.nwcb.wa.gov/images/weeds/garlic-mustard/\\_fullsize/garlicmustard4.jpg](https://www.nwcb.wa.gov/images/weeds/garlic-mustard/_fullsize/garlicmustard4.jpg)

***Amorpha fruticosa* – False Indigo Bush**  
**(MIPAG – Considered but not currently meeting criteria)**

Indigo bush is a deciduous, woody perennial that is native to eastern and central North America. It can grow up to 12 feet tall, with elliptical leaves that are 1 to 2 inches long and covered with glands and downy hairs. The lower stems of *A. fruticosa* are capable of producing new stems when buried in sediment. Flowers are borne in clusters in late summer and are blue-violet. *A. fruticosa* is found in riparian areas, forest edges, rights-of-way, and meadows. It grows densely and can outcompete other species (DiTomaso & Kyser et al., 2013).



Figure 7: *Amorpha fruticosa*<sup>4</sup>

**Control Schedule and Methods**

1. Mechanical –
  - a. Dig: dig and sever the root 3 to 4 inches below the crown. Repeat as necessary to control growth.
  - b. Repeated defoliation limits regrowth
  - c. Cutting: mowing usually encourages growth, as *A. fruticosa* vigorously resprouts from crowns.
2. Chemical –
  - a. Cut stump: cut stems as close to soil line as possible. Apply glyphosate or similar chemical as soon as possible after cutting.

***Anthriscus sylvestris* – Wild Chervil**  
**(MIPAG - Likely Invasive)**

Wild Chervil is rapidly spreading weed in the parsley family. It can grow up to 4 feet tall with fern-like leaves arranged in a compound umbel pattern. Flowers are small, white, and arranged in clusters. Leaves are fern-like, dark green, and finely divided. Commonly found along roadways and pastures, wild chervil can tolerate a wide variety of conditions and will out-compete native species along forest edges for water, light, and nutrients. (Bosworth, 2000).



Figure 8: *Anthriscus sylvestris*<sup>5</sup>

**Control Schedule and Methods**

1. Manual –
  - a. Hand-pulling: Removing flower stalks without removing entire rosette and taproot encourages crown to resprout in the following year.
  - b. Digging: dig up seedling plants, including the root, before flowering. This method is labor intensive. Wear gloves when handling as wild chervil can irritate skin. Mature taproots can reach 6 feet deep.
2. Mechanical –
  - a. Mowing before seed set will eliminate seed propagation but will have no impact on vegetative spread from root buds. Can deplete root reserves if done repeatedly before plant sets seed.
3. Chemical – control with herbicide can be enhanced with tillage one week after application, followed by a mid-September seeding of perennial native grasses. Broadleaf selective herbicides are usually more effective than nonselective products like glyphosate because they

<sup>4</sup>Source: <https://newfs.s3.amazonaws.com/taxon-images.jpg>

<sup>5</sup>Source: [https://upload.wikimedia.org/wikipedia/commons/8/8f/Anthriscus\\_sylvestris\\_Japan5.JPG](https://upload.wikimedia.org/wikipedia/commons/8/8f/Anthriscus_sylvestris_Japan5.JPG)

let the grass to suppress any surviving plants and prevent chervil seed germination. (King Country Noxious Weed Control Program, 2018)

### *Artemisia vulgaris* – Mugwort

#### (MIPAG - Not on any list)

Mugwort can be weedy or invasive in the northeast, but it is not currently listed by MIPAG (Uva et al., 1997). The leaves are hairless and dark green above and silvery-white below. The underleaf emits a sage-like odor and is covered with dense wooly hairs. The plant is between 2 and 6 feet tall, with erect growth emerging from rhizomes by which the plant reproduces. The leaves are clustered around branching stems and the plant has a somewhat pyramidal in shape. The flowers are small, yellowish, and disk-like in shape (Ohio State University, 2020).



Figure 9: *Artemisia vulgaris*

#### Control Methods

1. Manual –
  - a. Hand pull small, immature infestations. Care must be taken to remove extent of rhizomatous zone.
2. Mechanical -
  - a. Repeated tilling is required for large areas of growth.
3. Chemical –
  - a. Glyphosate foliar spray may be used in the fall.
  - b. Imazapyr or mix of triclopyr/glyphosate/clopyralid can be sprayed on foliar during rapid growth phase (early spring/summer).

### *Atropa belladonna* – Deadly Nightshade

**\*Not observed during field assessment but listed as an early detection priority species for DCR properties in the Commonwealth and/or were supplied during the stakeholder meeting (MIPAG - Not on any list)**

Deadly Nightshade is a thick-rooted perennial native to Eurasia and the Mediterranean. It can grow up to 4 feet tall and blooms from summer to early fall. Blooms are bell-shaped and dull purple with tinges of green. The plant has shiny black berries, which are very toxic to humans. Deadly nightshade is commonly found in woods and thickets and can rapidly colonize disturbed sites such as roadsides and waste areas (Hassler, 2015).



Figure 10: *Atropa belladonna*<sup>8</sup>

#### Control Schedule and Methods

1. Manual –
  - a. Hand-pulling works well for small infestations. Pull up entire plant and root system. If stem breaks off, grub out and remove the root.
  - b. Covering: spread landscaping fabric or cardboard over the nightshade and then cover with 4 - 6 inches of mulch. Leave for at least one growing season.
2. Mechanical –
  - a. Mowing: good for large populations. Repeated mowing every 3 - 4 weeks throughout the growing season, starting when plants begin to flower.

<sup>7</sup>Source: [https://en.wikipedia.org/wiki/Artemisia\\_vulgaris](https://en.wikipedia.org/wiki/Artemisia_vulgaris)

<sup>8</sup>Source: <https://cdn.britannica.com/92/183192-004-987E79DE.jpg>

***Berberis spp.* – Barberry**  
(MIPAG - Invasive)

Barberry is a deciduous shrub with spiny, arching branches. Small, oval-shaped leaves turn red in the fall, and bright red berries remain on stems into winter. Barberry can grow up to 6 feet tall. Commonly found along roadsides, stream banks, old fields, and woodland edges, it tolerates a wide range of conditions and adapts to shade. Where barberry forms dense stands, it can outcompete many native tree species and herbaceous plants (Pennsylvania Department of Conservation and Natural Resources; Michigan Department of Natural Resources, 2012).



Figure 11: *Berberis spp.*

**Control Schedule and Methods**

1. Manual –
  - a. Hand-pulling: small plants can be pulled by hand.
  - b. Dig up larger plants. Remove entire root system, bag and dispose of any plant material (including fallen fruits).
2. Chemical – systemic herbicides. Basal bark or cut stump application. Late summer may be the best time to apply, during fruiting. Early spring applications may avoid impacting nontarget species (Pennsylvania Department of Conservation and Natural Resources, 2018).

***Calystegia sepium* – Hedge Bindweed**  
(MIPAG - Not on any list)

Widely spread throughout North America, Hedge Bindweed is characterized as a perennial vine that can reach lengths of up to 10 feet. Bindweed stems twine tightly around surrounding vegetation and climbs aggressively, often killing off the species it grows on. Hedge bindweed alternate leaves are triangular in shape, with squared-off basal lobes. Its buds produce 5-lobed white corollas. Hedge bindweed of a wide range of soils and can be found on roadsides and urban waste areas (Hodges, 2003).



Figure 12: *Calystegia sepium*

**Control Schedule and Methods**

1. Manual –
  - a. Hand-pulling: young plants can be removed by hand (up to 3 - 4 weeks following seed germination). After this bindweed is harder to control manually.
  - b. Deep cultivation: using wide sweeps to cut roots and rhizomes 16 - 18 inches below the surface in dry soil.
  - c. Covering: using landscape fabric or cardboard to prevent light from getting to bindweed. This method may need to be left in place for over three years, and the site must be monitored after treatment for any sprouting seedlings.
2. Biological –
  - a. Biocontrol agents have been seen to reduce bindweed biomass/foilage, but not to reduce the regrowth in the following year. Therefore, this method of control must need to be repeated yearly and/or combined with other control methods.
    - i. Fungus (*Phomopsis convolvulus*)
    - ii. Insect (*Tyta luctuosa*)

- b. Shading out: some experiments have shown shade from shrubs and trees to reduce growth of bindweed.
- 3. Chemical –
  - a. Organic option: regular vinegar (found in grocery stores) has had marginal control of bindweed, according to some research.
  - b. Glyphosate: most effective when applied when bindweed has a few flowers but is not in full bloom. Multiple treatments necessary, and will ideally be avoided in times of drought, as the herbicide needs to move into the root system to be effective. Fall treatment is typically found to be most effective (Hodges, 2003).

### ***Celastrus orbiculatus* – Asiatic Bittersweet (MIPAG - Invasive)**

Asiatic Bittersweet is native to Japan, Korea, and China, but was introduced into the U.S. around the mid-1800s. It was introduced as an ornamental plant and has since turned into one of the most dominant invasive species and poses a significant threat to native species. Asiatic bittersweet is fast growing, and commonly shades out the surrounding plants. It is also known to girdle trees. It has alternate, rounded glossy leaves that produce small greenish yellow flowers in May and June. In addition to flowers, oriental bittersweet produces a bright yellow-orange fruit clustered in the leaf axils. While Asiatic bittersweet prefers full sun, it has the ability to flourish in shaded conditions. It can be found in grasslands, open woods, roadsides, and fence rows (Natural Resources Conservation Service, n.d.).



Figure 13: *Celastrus orbiculatus*<sup>9</sup>

#### Control Schedule and Methods

1. Manual/Mechanical – minor infestations may be hand-pulled. Remove entire plant (including the root system). For climbing vines, cut near the ground to kill upper sections and relieve tree canopy. Rooted sections remain alive and must be pulled, repeatedly cut to the ground, or treated with herbicide. If left untended, cut plants will resprout from the base.
2. Chemical – Systemic herbicides (e.g., Glyphosate and triclopyr) is recommended for cut and dab treatments will absorb into plant tissues and roots, killing whole plant within approximately 1 week. Glyphosate is not effective for bittersweet as a foliar spray.<sup>1</sup>
  - a. Chemical control is most effective when stems are first cut by hand or mowed, and herbicide is applied immediately to the cut stem.
  - b. Repeated applications likely to be necessary. Fall and winter applications avoid or minimize impacts to native species. In areas with wildflowers or native plants, application should be conducted before their emergence, carefully targeted, or delayed until late summer or autumn. If native grasses present among the bittersweet, triclopyr should be used as it is selective for broad-leaved plants. Follow-up monitoring recommended.
  - c. For dense, low patches: option to cut entire patch to the ground early in growing season, apply chemical solution a month later. This method has been shown to produce complete rootkill and no off-target damage or root uptake by adjacent vegetation.
  - d. Basal Bark Method: remove foliage in a band a few feet from the ground and apply chemical solution (Garlon 4) to exposed stems. Can be done year-round, but temperatures should be above 50°F for several days.

<sup>9</sup>Source: [http://woodyplants.wdfiles.com/local--files/celastrus-orbiculatus/celastrus\\_orbiculatus\\_leaf.jpg](http://woodyplants.wdfiles.com/local--files/celastrus-orbiculatus/celastrus_orbiculatus_leaf.jpg)



Employing a combination of the above methods has been seen to generally yield best results and may reduce potential impacts on native organisms.

Safety Requirements: When bittersweet grows high on trees, there is a danger of the increased weight leading to uprooting and blow-over during heavy snowfall/high winds. Upland meadows, young forests, thickets, and beaches are areas most vulnerable to invasion and dominance. (Michigan Department of Natural Resources, 2012).

### ***Centaurea biebersteinii* – Spotted Knapweed (MIPAG - Likely Invasive)**

Spotted Knapweed, originating in Eastern Europe, is easily spotted by its thread-like pink and purple ray florets. It typically grows 2 - 3 feet tall with ribbed stems and alternate leaves sparsely distributed along the stem. Spotted knapweed outcompetes surrounding vegetation with toxic roots that damage the root systems of other plants. It is typically found in disturbed areas (roadsides, dry waste areas, vacant lots, etc.) in clay soils and gravel (Illinois Wildflowers, 2018).



Figure 14: *Centaurea biebersteinii*<sup>10</sup>

#### Control Schedule and Methods

1. Manual –
  - a. Hand-pulling: remove entire plant and root system, when soils are moist.
2. Chemical – for larger populations, this may be the most effective choice. 3% solution of triclopyr herbicide mixed with water can be applied to leaves in early spring or fall. Should be repeated several times a year for 2 or more years (Pennsylvania Department of Conservation and Natural Resources, n.d.).

### ***Centaurea nigrescens* – Tyrol Knapweed (MIPAG - Unlisted)**

Tyrol Knapweed is a perennial forb native to western Asia and southwestern Europe that is very similar to its relative spotted knapweed. They prefer sandy, loamy or coarse, well drained soils in grasslands and open forests. Florets are typically purple, with an outer ring slightly longer than the inner. The bracts are oblong and a dark brown to black color. Their stems range from 19 inches to 5 feet. Tyrol Knapweed aggressively outcompetes other species and can contribute to increased soil erosion (Midwest Invasive Species Information Network, 2017).



Figure 15: *Centaurea nigrescens*<sup>11</sup>

#### Control Schedule and Methods

1. Manual –
  - a. Hand-pulling: be sure to remove the entire tap root to prevent regrowth.
2. Mechanical –
  - a. Mow or cut: cut before flowering so that seeds do not disperse. This method will not immediately kill the plants, but repeated treatment can exhaust root reserves. Mow only when plants are in late bud to early bloom stage (mowing after they set seed can help them spread). Mow 2 - 4 times a year for several years.
3. Chemical –

<sup>10</sup>Source: [https://c1.staticflickr.com/9/8042/8016078891\\_d4928b3b5b\\_b.jpg](https://c1.staticflickr.com/9/8042/8016078891_d4928b3b5b_b.jpg)

<sup>11</sup>Source: <https://news.s3.amazonaws.com/taxon-images-1000s1000/Asteraceae/centaurea->

- a. Most effective when combined with hand pulling and/or mowing or cutting. Follow by reseeding an area with natives to prevent recolonization by knapweed or other invasive plants.
  - b. Apply a 3% solution of triclopyr herbicide mixed with water in early spring or fall to knapweed leaves.
4. Biological –
- a. Gall flies (*Urophora affinis* and *Urophora quadrifasciata*) limit knapweed spread, by feeding on developing seed heads. Consult with local regulators to determine if biological controls are a viable strategy in this location (Wisconsin Department of Natural Resources, 2018).

### ***Chelidonium majus* – Celandine**

**\*Not observed during field assessment but listed as an early detection priority species for DCR properties in the Commonwealth and/or were supplied during the stakeholder meeting (MIPAG – Invasive, listed as *Ranunculus ficaria*)**

Native to Europe and western Asia, Celandine is a short-lived perennial known for its tendency to aggressively self-seed. They typically grow in groups ranging from 1 to 2 feet wide. The plant has yellow flowers and grey-green leaves. Along with flowers, celandine also produces smooth, slender seed capsules that release seeds when ripe. Due to its tolerance for poor soils, it is commonly found on rocky slopes, woodlands, waste areas, and on roadsides. It is a prolific seed producer and has naturalized in the eastern and upper midwestern U.S. as well as the Pacific Northwest (Pennsylvania Department of Conservation and Natural Resources, n.d.).



Figure 16: *Chelidonium majus*<sup>12</sup>

#### Control Schedule and Methods

1. Manual – celandine has a shallow root system and can be easily uprooted. Efficiently removed by hand. Sap may cause skin irritation.
2. Chemical – administer before seed set. Seedlings are very sensitive to herbicide application.

### ***Convolvulus arvensis* – Morning Glory/Bindweed (MIPAG - Unlisted)**

Originally introduced as an ornamental plant, Morning Glory has since become abundant in most parts of the United States. It has slender, trailing stems varying between 8 to 80 inches and typically produces a white flower throughout the stem. Stems twine up and around other plant species, outcompeting them for sunlight and nutrients (Hodges, 2003).



Figure 17: *Convolvulus arvensis*<sup>13</sup>

#### Control Schedule and Methods

1. Manual –
  - a. Hand-pulling: young plants can be removed by hand (up to 3 - 4 weeks following seed germination). After this bindweed is harder to control manually.

<sup>12</sup>Source: [https://bugwomanlondon.files.wordpress.com/2015/03/flower\\_october\\_2008-1.jpg](https://bugwomanlondon.files.wordpress.com/2015/03/flower_october_2008-1.jpg)

<sup>13</sup>Source: <https://sbwildflowers.files.wordpress.com/2010/03/convolvulus-arvensis-plant.jpeg>

- b. Deep cultivation: using wide sweeps to cut roots and rhizomes 16 - 18 inches below the surface in dry soil.
- c. Covering: use landscape fabric or cardboard. This method may need to be left in place for over three years, and the site must be monitored after treatment for any sprouting seedlings.
2. Biological –
  - a. Shading out: some experiments have shown shade from shrubs and trees to reduce growth of bindweed.
3. Chemical –
  - a. Glyphosate: most effective when applied when bindweed has a few flowers but is not in full bloom. Multiple treatments necessary, and will ideally be avoided in times of drought, as the herbicide needs to move into the root system to be effective (United States Forest Service, 2018).

### ***Cynanchum spp.* – Swallow-wort (MIPAG - Invasive)**

Swallow-wort is a perennial herbaceous vine that spreads up to 6 feet in length. This plant will twine around any surrounding support including fences and nearby vegetation. Flowers form in branched clusters, and depending on the species of swallow-wort, can be maroon to pale pink or dark purple. They prefer sand, loam, or clay-based soils, making them suitable for forests, fields, and roads. Due to their high density, swallow-wort commonly displaces surrounding native vegetation (New Hampshire Department of Agriculture, 2018).



Figure 18: *Cynanchum spp.*

#### Control Schedule and Methods

1. Manual –
  - a. Digging: dig up plants so that root crown and rhizomes can be removed, before the seeds mature. Burn or send bagged plant debris to landfill.
2. Mechanical –
  - a. Mowing: can reduce spread but must be done every year in order to be successful. Can prevent seed dispersal if done before seed pods mature.
3. Chemical –Utilize Tricolpyr in a cut and dab application. GLYPHOSATE will not control pale or black Swallow-wort.<sup>1</sup>

### ***Cuscuta spp.* – Dodder (parasitic)**

#### **Early detection priority species (MIPAG - Not on any list)**

Dodder, native to Asia, is an annual-sprouting parasitic plant. Dodder commonly infest crops, ornamentals, native plants, and weeds. If attached to more than one host, they can spread diseases between plants. Their stems are thread-like and yellowish in color. They have small white to pink flowers that grow in small dense clusters. They are easily recognized by their intertwining bright yellow growth (University of California Department of Agriculture & Natural Resources, 2017).



Figure 19: *Cuscuta spp.*<sup>14</sup>

#### Control Schedule and Methods

<sup>14</sup>Source: <https://oaklandnaturalareas.files.wordpress.com/2014/08/imgp3365.jpg>

1. Manual –
  - a. Hand-pulling: if you find dodder seedlings before they attach to a host, remove immediately.
  - b. Pruning: after dodder has attached to a host, prune that part of the host plant  $\frac{1}{4}$  to  $\frac{1}{8}$  of an inch below the infected area, to prevent regeneration from the piece of dodder left in host plant. (Pruning shrubs and trees is usually not advised as it is not effective unless the dodder is confined to 1 - 2 branches that can be removed without compromising the health of the host plant).
  - c. Remove all parts of dodder from the site, dispose of appropriately.
2. Chemical – pre-emergent herbicides such as trifluralin should be applied before seed germination. Close mowing, spot removal, or burning of host plants will help control dodder that escaped herbicide application.
3. Biological – still being studied, although *Fusarium tricinctum* and *Alternaria* (which target swamp dodder), and *A. alternate* and *Geotrichum candidum* (which target field dodder), as well as *Collectotrichum gloeosporioides* have been implicated as possible future methods of control.
  - a. Planting nonhost species: such as grasses and many monocots, as well as plants that grow mainly during winter (e.g., legumes, crucifers, and transplanted trees and shrubs) will limit the spread of dodder.

Some broadleaf weeds (e.g., lambsquarter, pigweed, puncturevine, field bindweed, and Russian thistle) are host plants for dodder, and should also be incorporated into a successful management and control plan (University of California Department of Agriculture & Natural Resources, 2017).

### ***Elaeagnus umbellata* – Autumn Olive (MIPAG - Invasive)**

Autumn Olive is a 10 - 16-foot large deciduous shrub, brought to the United States from Japan in the early 1800s. Autumn olive tolerates poor soils is commonly found in disturbed areas, thickets, forest margins, meadows, fields, roadsides, and fencerows in the central and Eastern United States. Autumn olive can be identified by its speckled thorny stems typically a silver or golden-brown color. Leaves are leathery with wavy margins and a silver scaled underside. Their small red fruits are edible and are accompanied by a dull yellow flower. This invasive has root nodules that fix atmospheric nitrogen and can thereby negatively impact native plant communities that are adapted to low nutrient levels (Michigan Department of Natural Resources, 2012).



Figure 20: *Elaeagnus umbellata*<sup>15</sup>

### Control Schedule and Methods

1. Manual – pulling and digging can be effective at eliminating small seedlings and sprouts. Remove entire root system.
2. Chemical – Cut stump method is the most effective form of control. Apply Glyphosate (20 - 50% solution) late in the growing season (July – September) for best results (Jackson, 2018).

### ***Euonymus alatus* – Burning Bush (MIPAG - Invasive)**

Native to forests, woodlands, and scrub areas in eastern Russia, Japan, China and Korea, Burning Bush entered the United States in the mid-1800s as an ornamental shrub. It is popularly used a shrub in residential settings. Forming dense thickets, burning bush crowds out native plants. It is easily spread by birds, who favor its seeds. At maturity, burning bush is 15 to 20 feet tall, with green leaves that turn bright red in the fall. The shrub has small yellowish-green flowers and small red fruits. Burning bush is not particular in its habitat, and will establish itself in woodlands, fields, roadsides, and disturbed areas (Missouri Botanical Garden, 2018).



Figure 21: *Euonymus alatus*

#### Control Schedule and Methods

1. Manual –
  - a. Hand-pulling: seedlings up to 2 feet tall can be pulled easily by hand, especially from moist soil.
  - b. Digging: large plants can be dug up with a spading fork, pulled with a weed wrench, or cut. Stump must be ground out or regrowth clipped. Make sure to remove the entire root system.
  - c. Be sure the plant is dead before placing in compost or mulch pile. Dry it out in the sun or bag in heavy duty black plastic. If flowers and/or seeds on the plant, put flowers and seed heads into the bag head first to avoid dispersing seed.
2. Chemical – glyphosate can be painted on cut stumps. Cut stem and basal bark treatments have been seen to be effective control measures.

### ***Euphorbia cyparissias* – Cypress Spurge (MIPAG – Likely Invasive)**

Cypress Spurge is a 1-foot-tall herbaceous perennial plant native to Europe. Habitats in the United States pioneer cemetery prairies, open woodlands, roadsides, vacant lots, and pastures. Despite it being a listed invasive, cypress spurge is still cultivated in gardens, parks and cemeteries. Small side stems cover the upper half of the central stem, with the lower half being unbranched. The stems are light green and thread-like, with 10 - 18 greenish-yellow flowers blooming at the end of each stem. It can be found in areas that vary in sun exposure, and in soil that contains loam or sand. In preferable conditions, it can spread aggressively and outcompete other species (Illinois Wildflowers, 2018; Invasive Plant Atlas of the United States, 2018).



Figure 22: *Euphorbia cyparissias*

#### Control Schedule and Methods

1. Manual/Mechanical – frequent and repeated hand-pulling or mowing required to control resprouting of cypress spurge.
2. Biological – since 2002, there have been 7 European insects released in the U.S. to control cypress spurge.
  - a. Spurge hawkmoth (*Hyles euphorbiae*)

<sup>15</sup>Source: [https://extension.unh.edu/sites/default/files/styles/2x\\_blog\\_main/public/field/image/ripe-autumn-olive-berries-2786605\\_1920.jpg](https://extension.unh.edu/sites/default/files/styles/2x_blog_main/public/field/image/ripe-autumn-olive-berries-2786605_1920.jpg)

- b. Flea beetle (*apthona spp.*)
- c. Stem and Root boring beetle (*Oberea erthrocephala*)
- d. Gall midge (*Spurgia esulae*)

Check with local regulators to determine if biological controls an appropriate control strategy for this location.

Seed-producing stands should take priority in control efforts, as they have the greatest capacity for spreading (United States Forest Service, 2018).

### ***Euphorbia esula* – Leafy Spurge**

**Not observed during field assessment but listed as an early detection priority species for DCR properties in the Commonwealth and/or were supplied during the stakeholder meeting (MIPAG - Invasive)**

Leafy Spurge was introduced to the United States in the early 1800s and has spread rapidly and formed dense populations in many states. It is classified as a perennial forb that can grow anywhere from 8 - 35 inches and grows in thick clumps. At maturity, they are shrubby, dense leaved, and have staminate flowers. Leafy spurge prefers ungrazed grasslands but will occur in most habitats. It can quickly displace native plants due to its rapid growth habit and ability to thrive in a variety of conditions. In Massachusetts, it is most commonly found in grasslands and coastal areas (Minnesota Department of Natural Resources, 2018).



Figure 23: *Euphorbia esula*<sup>16</sup>

### Control Schedule and Methods

1. Mechanical - Difficult due to widely spreading rhizomes and roots. Seed formation can be prevented by repeated cutting/mowing, although root system will remain viable. Cut plants within 4 inches from the ground before seed set, repeat throughout growing season. Dispose of flowering parts to prevent re-germination from seeds ripening in place (United States Forest Service, 2018).

### ***Frangula alnus* – Glossy Buckthorn (MIPAG - Invasive)**

Glossy Buckthorn is a commonly planted hedge native to Eurasia. While it was originally recommended for conservation plantings, it soon became apparent that it was invasive. Buckthorn has species-specific allelopathy, which impacts native plant community structure. It also creates dense thickets, shading out other species. Its fruits are widely dispersed by birds, and seeds can remain viable in the ground for many years. It is categorized as a shrub and can grow up to 20 feet tall with a trunk 10 inches in diameter. Glossy buckthorn has simple, shiny leaves, and untoothed margins. Their greenish white flowers are clustered – each flower has 5 petals. These flowers are accompanied by pea-sized fruits with 3 - 4 seeds. While glossy buckthorn prefers in sunny and moist sites, it can be found in pastures, fence rows, roadsides, and open woodlands (Pennsylvania Department of Conservation and Natural Resources, 2018).



Figure 24: *Frangula alnus*

<sup>16</sup>Source: <http://www.freenatureimages.eu/plants/Flora%20D-I/Euphorbia%20esula,%20%20Leafy%20spurge/Euphorbia%20esular.JPG>

## Control Schedule and Methods –

1. Manual –
  - a. Hand-pulling: seedlings less than 3 feet tall can be pulled by hand.
  - b. Cutting: saplings can be removed with a weed wrench, but large base diameter plants should be cut. Stump should be dug out or treated with herbicide.
  - c. Girdling feasible but must be monitored for efficacy.
  - d. Buckthorn baggies – cut buckthorn to 6” above the ground and cover with a black plastic bag. Secure bag to stem with twine and leave in place for a full year. Can be combined with cut-and-dab treatment (Alden, 2018).
2. Chemical – herbicide applications are most effective in fall or early winter. Use a systemic herbicide. Cut-and-dab method and basal bark methods generally achieve good results (Pennsylvania Department of Conservation and Natural Resources, 2018).

***Glaucium flavum* – Horned Poppy**  
**(MIPAG - Invasive)**

Horned Poppy is a 2-foot-tall perennial. It tolerates a wide variety of soils but prefers well-drained conditions. Horned poppy is also able to tolerate different pH levels. All parts of this plant are toxic. It has leathery, wavy, blueish-gray leaves and yellow flowers (Plants For A Future, 2012).

Figure 25: *Glaucium flavum*<sup>17</sup>

## Control Schedule and Methods

1. Manual –
  - a. Hand-pull (spring-summer)
2. Biological –
  - a. Shade out with native plantings (Weedbusters, 2018).

***Heracleum mantegazzianum* – Giant Hogweed**

**Early detection species**  
**(MIPAG - Likely Invasive)**

Native to southwest Asia, Giant Hogweed was introduced to the United States as a garden plant in the mid-1900s. It has a hollow stem with purple blotches. Hogweed stems and leaves produce pustulate bristles and with white florets and dry elliptic fruits. Giant Hogweed is commonly found along roadsides, vacant lots, and along streams and rivers, and can easily outcompete native species. The sap of Giant Hogweed is poisonous and can cause sensitivity to ultraviolet light (e.g., ultraviolet sun rays).

Figure 26: *Heracleum mantegazzianum*<sup>18</sup>

## Control Schedule and Methods

Ensure that no seeds introduced to the area. If site is along a stream or water body, coordinate with other properties upstream to limit seeds flowing downstream. Heat flowers/seed heads/seeds by the sun in plastic bags for at least a week, and then dispose of properly.

Safety Precautions: do not touch the plant with bare hands, as the sap can cause burns and scarring if it comes in contact with skin. Wear appropriate protective clothing and eyewear. Wash equipment with soap and water immediately after use (Kraus, 2017).

<sup>17</sup>Source: [https://www.west-crete.com/flowers/photos/glaucium\\_flavum-1large.jpg](https://www.west-crete.com/flowers/photos/glaucium_flavum-1large.jpg)

<sup>18</sup>Source: [https://upload.wikimedia.org/wikipedia/commons/9/9f/Heracleum\\_mantegazzianum\\_2015-06-16\\_040.jpg](https://upload.wikimedia.org/wikipedia/commons/9/9f/Heracleum_mantegazzianum_2015-06-16_040.jpg)

1. Manual –
  - a. Removal of roots will usually kill the plant after one treatment. Ideal for small infestations or single plants. Cut taproot about 6 inches below ground level in early spring. Remove cut piece(s) and leave out to decompose. Return to the site 2 weeks or more after first root cut, cut any roots missed the first time, and remove any seedlings that have started to grow. Survey site in July for missed plants.
  - b. Hand-pull: pull young plants in April-May when soil is loose/moist. Will not work for mature plants (taproot is too large).
  - c. Flower/seed head removal: can be as effective as cutting the whole mature plant. Cut off flower and seed head to keep from spreading seeds. Seed heads should be cut after the seeds have formed and white flowers are no longer visible. Cut seed heads before seeds mature and become dry to prevent seeds shedding while removing seed heads. It is appropriate to cut the plant in the flowering stage if done in conjunction with other control methods.
2. Mechanical -
  - a. Plowing: one of the best mechanical control methods. Must be done for multiple years. Best results if plants are controlled mechanically or chemically before plowing.
  - b. Cut and cover: effective when done correctly, and in small areas. Cut plants to ground level, cover soil with black plastic. Check the following year to make sure seedlings don't poke through. Plastic can be removed after a few years, and area planted with native plants.
  - c. Bury plants and seeds using a skid loader. Very effective. Use skid loader to invert infested area upside down to smother and compost most of the plants. Bury topsoil to a minimum depth of 20 inches and cover with clean soil.
3. Chemical –
  - a. Systemic herbicides are effective and cost efficient. Spot-spray leaves between late April and early June. Follow-up treatment in July or August. Spot-spray during dry, calm weather (Kraus, 2017).

***Iris pseudacorus* – Yellow Iris  
(MIPAG - Invasive)**

Yellow Iris is a 3-4-foot herbaceous perennial with leaves at 1.5 - 3 feet. It is known for its yellow showy flowers with flowers on each stem. Yellow iris is native to most countries in Europe, as well as Western Asia and North Africa. It was brought to the United States in the mid-1800s. Yellow iris has been found to displace native species. It can be found on the banks of lakes, ponds, rivers, streams, and even immersed in water. Yellow iris flourishes in freshwater wetlands but can tolerate a number of different habitats (Invasive Plant Atlas of New England, 2018).



Figure 27: *Iris pseudacorus*<sup>19</sup>

**Control Schedule and Methods**

1. Manual –
  - a. Hand-pulling: appropriate for individual plants or small infestations. Skin protection is suggested as resins in iris leaves and rhizomes can irritate the skin. Seedlings can be easily pulled in damp/wet soil, while mature plants can be dug up. Remove entire rhizome, as leaving pieces can result in growth of more irises. Monitor location for new leaves and continue to remove rhizomes.

<sup>19</sup>Source: [http://www.bakerenvironmentalnursery.com/wp-content/uploads/2015/04/Iris\\_pseudacorus.jpg](http://www.bakerenvironmentalnursery.com/wp-content/uploads/2015/04/Iris_pseudacorus.jpg)



- i. Dispose of any rhizome away from wet sites. Composting is not recommended as rhizomes can continue growing after 3 months without water (King County Noxious Weed Control Program, 2009).

### ***Lepidium latifolium* – Broad-Leaved Pepperweed**

#### **Early detection species (MIPAG - Invasive)**

Broad-Leaved Pepperweed is a 5-foot-tall herbaceous perennial. The plant emerges from minimally branched roots and has waxy grayish-green foliage. It is native to southeast Europe, North Africa, and southwest Asia. It first emerged in the United States in 1924. It is mostly found near the coast or coastal islands, and often occurs at the upper edges of saltmarshes above the hightide line. Broad-leaved pepperweed grows in dense stands, which permits it to outcompete surrounding native plants. Pepperweed seeds remain viable even in saltwater, allowing distribution to occur by tidal currents (United States Forest Service, 2014).



Figure 28: *Lepidium latifolium*<sup>20</sup>

#### **Control Schedule and Methods**

1. Manual – hand-pull or grub small patches. Remove as much of root as possible - bag and dispose of debris in a landfill or burn.
2. Mechanical – equipment should be cleaned to prevent the movement of seeds or root fragments to uninfested areas.
  - a. Tillage: disk in fall, and when plants resprout and form flower buds in the spring, mow. Allow plants to resprout and reach flower bud stage once more before applying herbicide. Further spraying likely needed in future. This method has been seen to have up to 95% reduction of pepperweed biomass when done correctly.
3. Chemical –
  - a. Herbicide use should be timed to be at the period when carbohydrate root reserves are at their lowest (during the early flowering or bud stage). If young plants/seedlings found, apply herbicides as soon as possible.
  - b. Precautions should be taken if nontarget plants are present (United States Forest Service, 2014).

### ***Lonicera japonica* – Japanese Honeysuckle** **(MIPAG - Invasive)**

Japanese Honeysuckle is native to China, Japan, and North Korea. Honeysuckle first arrived in the United States in 1806 as a horticultural plant. It can reach about 30 feet in length, with hollow, glabrous stems. The leaves are opposite and dark green, with white or yellow flowers depending on the maturity of the plant. Japanese honeysuckle overcomes surrounding native plants by covering trees and understory shrubs (Pennsylvania Department of Conservation and Natural Resources, n.d.).



Figure 29: *Lonicera japonica*<sup>21</sup>

#### **Control Schedule and Methods**

1. Manual –
  - a. Hand-pulling: good for small patches. Entire vine and root system must be removed.

<sup>20</sup>Source: <http://www.cherrug.se/nature/Plantae>

<sup>21</sup>Source: [http://farm6.static.flickr.com/5030/5643120564\\_e2d3073ce9\\_o.jpg](http://farm6.static.flickr.com/5030/5643120564_e2d3073ce9_o.jpg)

2. Mechanical –
  - a. Mowing: not recommended (stimulates growth).
3. Chemical – several systemic herbicides are effective, including glyphosate and triclopyr. Apply a 2% glyphosate or triclopyr and water mix to the leaves from spring through fall (fall is best). Use a 25% solution for the cut stump method.

***Lonicera morrowii*, *L. tatarica*, *L.x bella*, *L. maackii* - Shrub Honeysuckles (MIPAG - Invasive)**

Non-native Shrub Honeysuckles grow to heights of 6 to 20 feet. Stems are thornless with a hollow brown pith, and leaves are opposite and egg-shaped. Shrub honeysuckle flowers bloom from May to June, and are fragrant, tubular and less than an inch long. Flower colors range from white to yellow to pink to red, while the berries are small and red or yellow. Non-native shrub honeysuckles are native to eastern Asia, Europe and Japan. Currently, they can be found in a variety of habitats from the Great Plains to Southern New England, and south to Tennessee. The plants are relatively shade-intolerant, and often occur in disturbed woodlands, roadsides and abandoned fields where more light is available. Shrub honeysuckles leaf out earlier than many species, shading out some herbaceous ground covers (Minnesota Department of Natural Resources, 2018).



Figure 30: *Lonicera* spp.<sup>22</sup>

**Control Schedule and Methods**

1. Manual –
  - a. Hand-pulling: good for small patches. Entire vine and root system must be removed.
2. Mechanical –
  - a. Mowing: not recommended (stimulates growth).
3. Chemical – several systemic herbicides are effective, including glyphosate and triclopyr. Apply a 2% glyphosate or triclopyr and water mix to the leaves from spring through fall (fall is best). Use a 25% solution for the cut stump method (Pennsylvania Department of Conservation and Natural Resources, n.d.).
- 4.

***Lythrum salicaria* - Purple Loosestrife (MIPAG - Invasive)**

Purple Loosestrife is an herbaceous wetland perennial that can grow 1.5 - 5 feet tall. The leaves are normally opposite and in pairs, however the leaves can be alternate and found in whorls of three. Leaves are lance-shaped and 1 - 4 inches long. The flowers are purple to pink. They are numerous and borne on spikes that are from 4 - 16 inches long. Each flower has 5 - 7 petals. The flowers are in bloom from July to September. The fruits are capsules, each containing numerous reddish-brown seeds. Purple loosestrife was first reported in North America in the early 1800s.

Purple loosestrife invades and destroys habitat along rivers, streams, and wetlands. It grows in dense patches that choke out native plants and deter wildlife. Purple loosestrife is a prolific seed producer and its light seeds are carried by wind and often take hold in nearby wetlands (Minnesota Department of Natural Resources, 2018).



Figure 31: *Lythrum salicaria*

<sup>22</sup>Source: <http://davisla4.files.wordpress.com/2014/05/lonicera-morrowii.jpg>

## Control Schedule and Methods

1. Manual –
  - a. Hand-pulling: recommended for isolated stems and small populations. Pull out entire root to prevent regeneration from root pieces. Broken stems can resprout, so care must be taken to minimize disturbance to the soil and native vegetation in the area.
2. Chemical – Glyphosate is commonly used to control purple loosestrife, but as some trade names (e.g., 1% to 2% solutions of Rodeo) are non-specific systemics, care should be taken to avoid damage to other plants in the area and adjacent waterways and/or wetlands when spraying. Use a targeted spraying method - spraying may increase loosestrife density if other vegetation is killed off. Spraying should be done in late August, or after the peak bloom period.
3. Biological – root-mining weevil (*Hylobius transversovittatus*), and two leaf-feeding beetles (*Galerucella californiensis* and *Galerucella pusilla*) were approved in 1997 by the USDA for use as biological control agents. Check with local regulators to determine if biological control methods are suitable for this location (Minnesota Department of Natural Resources, 2018).

## *Microstegium vimineum* – Japanese Stiltgrass

### Early detection species

### (MIPAG – Likely Invasive)

Japanese Stiltgrass is native to Japan, Korea, China, Malaysia, India, and the Caucasus Mountains. In the United States, it is sporadically distributed throughout most of the East and in the Caribbean, from New York south to Texas, Florida, Puerto Rico, and the Virgin Islands. Japanese stiltgrass was first noted in North America around 1918. Japanese stiltgrass is mostly associated with forest edges, wetlands, and disturbed areas. Shade, low elevation, and moist to mesic soils are important for a successful Japanese stiltgrass invasion, with overstory type less important in determining Japanese stiltgrass presence or absence (United States Forest Service, 2018).



Figure 32: *Microstegium vimineum*<sup>23</sup>

## Control Schedule and Methods

1. Manual –
  - a. Hand-pulling: for very small infestations, pull before flowering.
2. Mechanical -
  - a. Cutting: for larger areas, cut to the ground with a weed-whacker in September, shortly before they produce seeds late enough to prevent regrowth before the first frost.
3. Chemical –
  - a. Use systemic herbicides or grass-specific herbicides. Spot-spraying areas with a dilute solution of Fusion (1/2%) plus a surfactant has proved successful at targeting stiltgrass without harming other species. Plants should be sprayed between June and August (Pennsylvania State University Department of Horticulture, 2008).

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<sup>23</sup> Source: <https://news.s3.amazonaws.com/taxon-images-1000s1000/Poaceae/microstegium-vimineum-ha-ahaines-a.jpg>

***Miscanthus sinensis* – Chinese Silvergrass**  
**(MIPAG - Considered, but not currently meeting criteria)**

Chinese Silvergrass is a highly variable robust perennial grass that can grow to 6.5 - 10 feet in height. It is usually found in large tufts. The branches are very flexible and spread or droop. The leaves are elongate and measure 3 feet in length by 1 inch in width. Chinese silver grass is native to China, Japan and Korea. In the United States it has been reported from Massachusetts to Florida, west to Louisiana and Missouri, as well as from California and Colorado. In New England this plant has been reported in Massachusetts, Connecticut and Rhode Island. Chinese silver grass is typically found in coastal grassland, open disturbed areas, roadside, vacant lots, yards and gardens. It relies on disturbance to become established (Invasive Plant Atlas of New England, 2018).



Figure 33: *Miscanthus sinensis*<sup>24</sup>

**Control Schedule and Methods**

1. Manual – Small patches or individual plants can be grubbed. Ensure that all of the roots are removed as this species can regrow from root fragments. Carefully monitor area after removal.
2. Chemical – spot treatments have been shown to be effective. A 2% solution of glyphosate mixed with water should be applied in late spring or fall (Southeast Exotic Pest Plant Council, 2018).

***Phalaris arundinacea* – Reed Canary Grass**  
**(MIPAG – Invasive)**

Reed Canary Grass occurs throughout most of the continental United States with the exception of Texas, Louisiana, Mississippi, Florida, Georgia, and South Carolina. In North America, reed canary grass is found in many wetland plant communities including wet meadows, prairie potholes, marshes, riparian areas, and peatlands (i.e., fens and bogs). It may occur as an occasional species, a codominant species, or a dominant species, sometimes forming monotypic stands. Leaves are typically green but may be variegated. Reed canary grass spikelets are 3-flowered and occur on a narrow panicle (King County Noxious Weed Program, 2015).



Figure 34: *Phalaris arundinacea*

**Control Schedule and Methods**

3. Manual –
  - a. Digging with hand tools can be done only on small clumps in soft soil, where there is a reasonable chance of removing all roots and rhizomes.
  - b. Cutting small patches with hand clippers as close to the ground as possible to prevent seeding or as part of an integrated approach. Cutting alone will not kill the grass.
  - c. Clean tools after use and dispose of material properly
  - d. Covering: cover with shade cloth and secure tightly. Monitor edges and seams for emerging plants.
  - e. Sheet mulch using several layers of thick, clean cardboard, cover cardboard with at least 4 inches of wood mulch.
4. Mechanical –
  - a. Mow or cut using appropriate tools for infestation location and size.

<sup>24</sup>Source: <https://www.jumbograshecke.com/wp-content/uploads/2015/11/Sichtschutz-f%C3%BCr-Terrasse-Balkon-in-Gartengestaltung.jpg>

5. Biological -
  - a. Planting shade: establish desirable trees and shrubs to shade out reed canary grass.
6. Chemical -
  - a. Glyphosate or Imazapyr spot spraying can be used. Cover with sheet mulching to increase efficacy (United States Forest Service, 2018).

### ***Phragmites australis* – Common Reed (MIPAG – Invasive)**

Common Reed is one of the most widely distributed flowering plants. It occurs on every continent except Antarctica and is cosmopolitan in temperate zones. Common reed is widely distributed in North America and occurs in all US states except Alaska. This robust perennial grass that may reach 20 feet, and produces stout, erect, hollow aerial stems. Stems are usually leafy, persistent, and without branches. Leaves are aligned on one side of the stem, flat at maturity. Numerous changes can occur when common reed replaces other vegetation. Common reed has been called an "ecosystem engineer." Plant diversity, soil properties, sedimentation rates, bird and fish habitat use, and food webs may be altered when marshes are converted to dense, monotypic common reed stands (Natural Resources Conservation Service, n.d.).



Figure 35: *Phragmites australis*

### Control Schedule and Methods

1. Manual -
  - a. Pulling/cutting: this method is only effective in small stands. Treatments must be repeated yearly. Cut stems below the lowest leaf, leaving a 6 inches or shorter stump in during the flowering stage of boot stage of the phragmites life cycle (typically July) – other times may increase stand density. The boot stage is when the seedhead is fully developed and can be easily seen in the swollen section of the leaf sheath, below the flag leaf.<sup>24</sup>
  - b. Remove material from the site and compost or allow to decay on upland areas.
  - c. Cutting the perimeter of a stand can prevent expansion.
  - d. Black plastic is can be used to inhibit regrowth of *Phragmites*. Heavy tarps or other mats should be used, as phragmites can pierce through typical black plastic. After cutting a stand, anchor a black plastic sheet over the cut area using sandbags or rocks. Black plastic may be combined with the chemical treatments listed below. Allow chemical treatment to absorb into the plant for one week before laying down black plastic. Leave in place for full growing season. Plastic must be monitored to ensure stalks to not penetrate the material, as this can reduce the effectiveness of the method.
2. Chemical -
  - a. Glyphosate and Imazapyr are known to control common reed effectively when properly used. These chemicals are nonselective and will kill other broadleaf vegetation in the area. Chemical treatment is recommended during the month of June for absorption into the leaves. Care should be taken to avoid a dosage that is too concentrated, or breaking the stems during treatment, as these both will prevent the herbicide from reaching the rhizomes. Application should take place during the flowering or boot stage of the

phragmites life cycle. The boot stage is when the seed head is fully developed and can be easily seen in the swollen section of the leaf sheath, below the flag leaf.<sup>25</sup>

- b. Cut and Wipe - The cut-and-wipe method combines mechanical and chemical treatments. The goal is to avoid large ground disturbances caused by digging up roots. Instead, a chemical treatment is applied to cut stems and/or roots, which require a higher concentration of the active ingredient than is used in small scale spray applications. A 25 - 35% solution of the active ingredient should be used. Stems should be cut as close to the ground as possible and herbicide should be applied directly to the cut surface. This application should be done as soon as possible after the plant is cut to ensure effectiveness of the herbicide. The herbicide should be applied manually with a rag or sponge. Thoroughly wet the cut surface so that the herbicide absorbs into the plant tissues. Apply chemicals during dry conditions to reduce the chance of point-source pollution.
- c. Disposal: be sure the plant is dead before placing in compost/mulch pile (Natural Resources Conservation Service, n.d.).

Three consecutive removal and treatment efforts are often recommended to successfully eradicate the common reed in wetland areas. If herbicides are used, replanting is not advised for one year. Residual herbicides may be leftover in the soil, which may harm newly planted wetland species. The site may be monitored to observe if native vegetation begins to reemerge without intervention. If the stand of *Phragmites* is relatively young native plant seed banks may still exist within the soil.

3. Combined Manual and Chemical –
  - a. Cutting: Cut stems below the lowest leaf, leaving a 6 inches or shorter stump in during the flowering stage of boot stage of the *Phragmites* life cycle (refer to Manual control methods described above).
  - b. Evaluate and reassess site for reemergence of *Phragmites* in the spring.
  - c. Utilize cut stem treatment and monitoring recommendations as described in above Chemical section.

### ***Polygonum perfoliatum* – Mile-A-Minute Vine**

**Not observed during field assessment but listed as an early detection priority species for DCR properties in the Commonwealth and/or were supplied during the stakeholder meeting**

**Early detection species**

**(MIPAG – Invasive)**

Mile-A-Minute Vine is a rapidly growing herbaceous annual vine. Its stems can grow up to 23 feet in length and as much as 6 inches per day. Its dense foliage can quickly cover surrounding vegetation. A characteristic cup-shaped ocrea (or bract) surrounds the stem at the base of the petiole; those of the upper leaves are conspicuously expanded. Stems, petioles and veins on the underside of the foliage are armed with curved, retrorse barbs. This vine has the potential to overgrow and outcompete



Figure 36: *Polygonum perfoliatum*<sup>25</sup>

<sup>25</sup>Source: <http://www.agriculture.gov.au/SiteCollectionImages/mile-minute-leaves-triangular-heart-shape.jpg>

native vegetation. Trees and other plants could suffer damage due to the weight of this vine (Invasive Plant Atlas of New England, 2018).

#### Control Schedule & Methods

1. Manual –
  - a. Hand-pulling: best when soil is wet. Wear thick gloves. Remove prior to fruit formation
2. Mechanical –
  - a. Mowing: repeated mowing will prevent the plant from flowering and can reduce or eliminate fruit and seed production. Monitor site for several years to ensure that no seeds germinate.
3. Chemical – systemic herbicide, especially when used with a surfactant that will help penetrate the leaves waxy coating. Apply in summer, before fruits appear.
4. Biological – Weevil (*Rhinocominus latipes*) is being used on test plots in PA. Will not completely eliminate the plant but will keep it in check and reduce fruit production (Invasive Plant Atlas of New England, 2018).

#### ***Polygonum cuspidatum* – Japanese Knotweed (MIPAG – Invasive)**

Knotweed is an herbaceous perennial that appears woody and reaches 3-10 feet in height. The round stems are hollow and covered with scales. The shoots grow from spreading rhizomes that can reach 65 feet in length. The leaves are broadly oblong-ovate or ovate-lanceolate, 3-6 inches long and 2 - 4.75 inches wide. Knotweed is native to China, Japan and Korea. In the United States it is found from Maine to Georgia and west from South Dakota to Oklahoma. This plant has been reported from all the states of New England, being introduced sometime after 1830. It forms dense, persistent thickets that exclude other vegetation. Its vegetative reproduction has proved quite successful. Established populations are difficult to eradicate (Invasive Plant Atlas of New England, 2018).



Figure 37: *Aegopodium podagraria*

#### Control Schedule and Methods

1. Mechanical –
  - a. Cutting alone is not effective. Stems cut easily, and knotweed can be mowed. Cutting too early in the season can result in regrowth. Early June is the most effective time for cutting - Cutting later than June reduces the window to chemically treat the knotweed. Wait until after the plant has bloomed to cut.
2. Prevent the spread of rhizome pieces in soil and on excavation equipment.
3. Encourage or establish native groundcover to provide competition.
4. Chemical -
  - a. Herbicides can be applied to the plant foliage or surrounding soil.
  - b. Minimize drift in herbicide application so the applicator can achieve success with lower application volume when spraying.

***Pueraria montana* spp. *lobata* – Kudzu**

Not observed during field assessment but listed as an early detection priority species for DCR properties in the Commonwealth and/or were supplied during the stakeholder meeting

**Early detection species****(MIPAG – Likely Invasive)**

Kudzu originated in China and was brought to the United States from Japan in the late 1800s. It is distributed throughout much of the eastern United States and is most common in the South. Kudzu is a climbing or trailing, herbaceous to semi-woody, non-native, deciduous, perennial vine or liana. The compound leaves are 2 to 8 inches long. Flowers are 0.8 to 1 inch long and are borne on 4- to 8-inch-long axillary racemes. Seeds are produced in 1.6- to 2-inch long pods. Kudzu is typically found in open, disturbed areas such as abandoned fields, roadsides, and forest edges. It spreads aggressively and will outcompete other species for sunlight. Spread is most rapid in open areas and is slowed as kudzu encounters the shade of a forest edge. Kudzu



Figure 38: *Pueraria montana* spp. *lobata*<sup>26</sup>

<sup>26</sup>Source: <http://www.agriculture.gov.au/SiteCollectionImages/mile-minute-leaves-triangular-heart-shape.jpg>

monocultures typically contain thousands of individual plants per acre (Alabama Cooperative Extension System, 2014).

**Control Schedule and Methods****1. Manual**

- a. Mowing/Digging: young colonies can be eliminated in 3-4 years if roots are thoroughly dug out/cut back during the hottest parts of summer, and constant monitoring and maintenance occurs. Use a shovel or pick axe to expose base of root crowns and cut the root below the root crown with an axe or small handsaw.
- b. Cut all vines to the ground before mowing.

**2. Chemical**

- a. Systemic chemicals are the most effective. Utilize cut stem treatments.
- b. As kudzu may be twined around desirable trees and other plant species, manually remove the vines from these plants before applying herbicide to the kudzu.

Old kudzu infestations (those that have been established for over 10 years) may have roots that are too deep for manual removal. In these cases, root crowns likely exist, and surface control techniques (burning, grazing, mowing, or disking) are not likely to be very effective. Mark large roots, as they need heavier herbicide application than young roots. Treat with herbicide in late summer when nutrients are being transported to roots and flowers appear.



For kudzu climbing up large trees, cut any vines just above the ground and follow the cut stump method using a glyphosate herbicide. Plant native grasses in the fall after treatment, to discourage reestablishment of kudzu or other invasives and to provide erosion control.

A bioherbicide regimen, in tandem with mowing and revegetation, was seen to eliminate 91% of kudzu after one year, and 95% after 2 years (Alabama Cooperative Extension System, 2014).

### ***Rhamnus cathartica* - Common Buckthorn (MIPAG – Invasive)**

Native to northern Africa, western Asia, and Europe, Common Buckthorn is a deciduous, thicket-forming shrub that grows between 16 - 25 feet tall. After first being introduced as an ornamental in the early 1800s, Common Buckthorn has naturalized in many settings (prairies, fields, roadsides, wood edges, pastures, and open woods). It colonizes quickly via self-seeding, and seeds can remain viable in the soil for many years. Buckthorn rapidly colonizes wet areas and creates dense shade that prevents native plants from growing. Furthermore, this invasive has species-specific allelopathy, which impacts native plant community structure. Birds are attracted to the berry-like fruits and contribute to the spread of this invasive (Missouri Botanical Garden, 2018).



Figure 39: *Rhamnus cathartica*

#### Control Schedule and Methods

1. Manual –
  - a. Hand-pulling: seedlings less than 3 feet tall can be pulled by hand.
  - b. Cutting: saplings can be removed with a weed wrench, but large base diameter plants should be cut. Stump should be dug out or treated with herbicide.
2. Chemical – herbicide applications are most effective in fall or early winter. Use a systemic herbicide. Cut-and-dab method and basal bark method generally achieve good results (Pennsylvania Department of Conservation and Natural Resources, n.d.).

***Rosa multiflora* – Multiflora Rose  
(MIPAG – Invasive)**

Multiflora Rose is native to Korea and Japan and was first introduced to the US as a rootstock for cultivated roses. It can grow 15 feet tall, and small, fragrant roses bloom in June. This rose has naturalized in many rural areas and forms dense thickets which allow it to outcompete native species. In one year, a single Multiflora Rose can produce a million seed. The plant spreads through root sprouts with self-seeding arching stems that root in the ground. Multiflora Rose grows best in well-drained soils in full sun but has better tolerance for shade than most other types of roses Missouri Botanical Garden, 2018).



Figure 40: *Rosa multiflora*<sup>27</sup>

**Control Schedule and Methods**

1. Manual –
  - a. Cutting: effective for small initial populations and environmentally sensitive areas. Repeated cutting will control but not eradicate multiflora rose.
  - b. Hand-pulling: effective when plants are small, and all roots are removed to prevent resprouting.
2. Chemical – Glyphosate is most effective when applied from early summer to early fall (after flowering).
3. Biological – not yet available. Researchers are looking into several species, including rose-rossette disease via a native mite, and the European rose chalcid (a seed infesting wasp). However, these biological controls may impact other rose species and cultivars.
4. Mechanical –
  - a. Mowing: can provide partial control for disturbed areas with large populations of multiflora rose by limiting top growth/spread. Mowing 3 - 6 times a year can be effective (Pennsylvania State University Department of Horticulture, 2007).

***Salix atrocinerea/S. cinerea* – Large Gray Willow/Rusty Willow**

**Not observed during field assessment but listed as an early detection priority species for DCR properties in the Commonwealth and/or were supplied during the stakeholder meeting  
(MIPAG – Invasive)**

Rusty Willow is a deciduous shrub or small tree that is generally found to grow to 6 feet tall but can reach 30 feet in height. Dark grey-brown bark becomes fissured with age. Fruit produces small seeds - flowering and seed production can begin as early as 2 - 3 years after germination. This invasive can grow on a wide range of soils and conditions (DiTomaso & Kyser et al., 2013).



Figure 41: *Salix spp.*<sup>27</sup>

**Control Schedule and Methods**

1. Mechanical –
  - a. Girdling: cut through the bark and cambium layers.
2. Chemical -
  - a. Bore and fill: best method of herbicide application for willows. Kills the tree in place, limits disturbance, retains habitat, and contains chemicals to the target plant. Suitable for willows with branches larger than 50mm in diameter.
  - b. Cut stem/stump method: apply in summer-fall. Use for smaller trees and branches.

<sup>27</sup>Source: [http://www.florafinder.com/LargePhotos/D4/Rosa\\_multiflora-D20FFEA164.jpg](http://www.florafinder.com/LargePhotos/D4/Rosa_multiflora-D20FFEA164.jpg)

***Solanum dulcamara* – Bittersweet Nightshade**  
**(MIPAG - Not on any list)**

This perennial vine grows from a rhizomatous root system and can reach 10 feet in height. Oval-shaped, dark green leaves are alternately arranged, and have a purple tinge. Flowers are arranged in cymes and bloom between late summer and early fall. Berries ripen to bright red and can persist after the leaves fall off. *S. dulcamara* easily forms dense, large colonies that outcompete other plant species. Furthermore, it has been seen to grow out into creeks and create a false gravel bed, which impacts fish as they travel upstream (King County Noxious Weed Control Program, 2014). Bittersweet nightshade is native to North Africa, most of Europe, and eastern Asia.

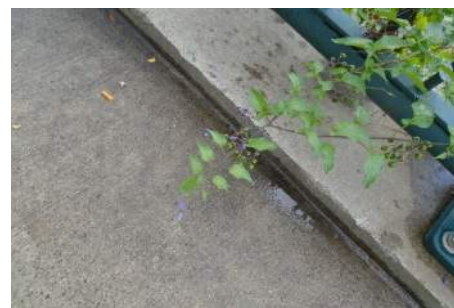


Figure 42: *Solanum dulcamara*

Toxic to people, animals. Consumption has caused death of livestock and children in extreme cases. Toxin amount is variable in plants and may not always cause symptoms (Invasive Plant Atlas of New England, 2018).

Control Schedule and Methods –

1. Manual – hand-pull close to the ground and remove roots, taking care not to break and/or leave pieces (as these can re-sprout). Most effective with young plants and new infestations.
  - a. Most effective after rain or in loose soils, and on small infestations.
  - b. If removing dense patches, replant area with native plants and mulch around new plantings to minimize re-colonization.
2. Mechanical – Bittersweet nightshade can be cut to the ground and covered with a heavy-duty geotextile fabric or other sheet mulching materials for at least 2 years. Check several times a year for emerging stems, cut any that appear to the ground and cover area.
3. Chemical –
  - a. Herbicide: can be very effective for control of large infestations. Plants should only be cut back after the herbicide has been in place for long enough for the nightshade to be brown and dead. Most effective when temperatures are between 50°F - 85°F for several days, and rain is not expected for 24 hours.
  - b. Should be applied before wildflowers/native plants in the area emerge, or after they go dormant.
  - c. Establish new, native vegetation in cleared areas.
  - d. Re-treatment in the following 1 - 2 years or more may be necessary to better control for nightshade. Continue monitoring for at least three years after initial treatment, and after any disturbance to the soil (King County Noxious Weed Control Program, 2014).

<sup>29</sup>Source: [https://www.vdberk.co.uk/site/assets/files/5297/salix\\_cinerea.jpg](https://www.vdberk.co.uk/site/assets/files/5297/salix_cinerea.jpg)

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Invasive/Nuisance Species Removal and Management Schedule

Scientific Name	Common Name	Type	MIPAG Invasive (Y/N)	Bloom Time	Spreading Method	Best Date for Manual Removal	Best Date for Mechanical Removal	Best Date for Biological Removal	Best Date for Chemical Removal	Suggested Removal Method
Site-Based Management Species:										
Acer platanoides	Norway Maple	Tree	Y	April-May	Seed	Hand Pulling: Year Round Girdling: Spring	Cutting: Fall or Winter Girdling: Spring	N/A	Early Spring or June 1-September 30	Cut and herbicide
Ailanthus altissima	Tree of Heaven	Tree	Y	April-May	Seed & Aggressive Suckering	Spring or Early Summer	Spring	TBD	Summer	Cut and herbicide
Celastrus orbiculatus	Asiatic Bittersweet	Vine	Y	May-June	Aggressive Vine	When Soils are Moist	Fall and Winter	N/A	Fall and Winter	Cut and herbicide
Convolvulus arvensis	Morning Glory/ Bindweed	Vine	N	June - September	Seed and Aggressive Vining and Roots	Spring-Fall	N/A	Spring-Fall	Early June	Deep Cultivation and Covering
Frangula alnus	Glossy Buckthorn	Shrub	Y	Spring - Fall	Seed (bird and water dispersal)	Early Spring-Late Summer	Fall or Early Winter	N/A	Fall or Early Winter	Cut and dab
Phalaris arundinacea	Reed Canary Grass	Grass	Y	August	Via Rhizomes & Seed	Late Spring (throughout season for covering)	Late Spring	Spring-Fall	Late Summer	Herbicide and cover
Phragmites australis	Common Reed	Grass	Y	August	Via Rhizomes & Seed	Pulling/Cutting: July Black Plastic: Spring through Fall	Late Summer or Early Fall	N/A	Late Summer or Early Fall	Cut stem treatment
Polygonum cuspidatum	Japanese Knotweed	Herbaceous	Y	August-September	Via Rhizomes, Low seed germination	N/a	June	N/A	Late Summer (6 weeks after cutting)	Cut and herbicide
Rhamnus cathartica	Common Buckthorn	Shrub	Y	April-May	Seed & Vegetative	Hand-pulling: Spring	Spring through Fall	N/A	Fall or Early Winter	Cut and dab

\*Note: See Appendix A for references used.

LEGEND:

Manual is Best Method	Mechanical is Ideal Method	Biological is Ideal Method	Chemical is Best Method
Example	Example	Example	Example

\*Colors indicate best removal method for each species.

Invasive/Nuisance Species Removal and Management Schedule

Scientific Name	Common Name	Type	MIPAG Invasive (Y/N)	Bloom Time	Spreading Method	Best Date for Manual Removal	Best Date for Mechanical Removal	Best Date for Biological Removal	Best Date for Chemical Removal	Suggested Removal Method
Weed-Based Management Early Detection Priority Species:										
<i>Actinidia arguta</i>	Hardy Kiwi	Woody Vine	Likely Y	Spring	Seed and Aggressive Vining	Winter or Early Spring	Late summer to early fall	N/A	Late summer to early fall	Cut and dab
<i>Anthriscus sylvestris</i>	Wild Chervil	Herbaceous	Likely Y	Late May - Early June	Seeds and Lateral Budding	April through Early May	Late June	N/A	Mid May through Early June	Digging
<i>Lepidium latifolium</i>	Broad-leaved Pepperweed	Herbaceous	Y	Late spring to Summer	Seeds	Early Spring (before flowering)	Fall and Spring	N/A	Spring	Till and Herbicide
<i>Microstegium vimineum</i>	Japanese Stiltgrass	Grass	Likely Y	August - September	Seed	Spring - July	Early September	N/A	June - August	Cut and Herbicide
<i>Polygonum perfoliatum</i>	Mile-a-minute vine	Vine	Y	June	Aggressive Vine, Seeds	Spring through June	Spring through fall	N/A	June	Repeated Mowing
<i>Pueraria montanas</i> spp. Lobate	Kudzu	Herbaceous Vine	Likely Y	June - September	Rhizomes and Stolons	Spring	Late Summer- Early Fall	N/A	Late Summer- Early Fall	Cut Stem Treatments

\*Note: See Appendix A for references used.

LEGEND:

Manual is Best Method	Mechanical is Ideal Method	Biological is Ideal Method	Chemical is Best Method
Example	Example	Example	Example

\*Colors indicate best removal method for each species.

Invasive/Nuisance Species Removal and Management Schedule

Scientific Name	Common Name	Type	MIPAG Invasive (Y/N)	Bloom Time	Spreading Method	Best Date for Manual Removal	Best Date for Mechanical Removal	Best Date for Biological Removal	Best Date for Chemical Removal	Suggested Removal Method
Low-priority Weed-Based Management Species:										
Acer pseudoplatanus	Sycamore Maple	Tree	Y	May	Seeds	Spring	Spring	Early Spring or June 1 - September 30	Early Spring or June 1 - September 30	
Aegopodium podagraria	Goutweed	Herbaceous	Y	May - June	Rhizomes	Spring to Early Summer	Spring	N/A	Summer	Mow and Cover
Alliaria petiolata	Garlic Mustard	Herbaceous	Y	April - June	Self-pollinating Seeds	Early Spring (before buds emerge)	Spring through Fall	N/A	Early Spring or Late Fall	Mowing
Berberis thunbergii	Japanese Barberry	Shrub	Y	April-May	Seed & Vegetative	Early Spring to Late Summer	Late Summer	N/A	Late Summer	Cut Stump
Berberis vulgaris	European Barberry	Shrub	Y	April-May	Seed & Vegetative	Early Spring to Late Summer	Late Summer	N/A	Late Summer	Cut Stump
Calystegia sepium	Hedge Bindweed	Herbaceous Vine	N	Summer	Vegetative	Hand Pulling: Spring Deep Cultivation: Late spring-early summer	Spring	Spring-Fall	Early Summer or Fall	Hand-pull and Cover
Centaruea biebersteinii	Spotted Knapweed	Herbaceous	Likely Y	June - October	Seed	May-June, repeat throughout season	N/A	N/A	Early Spring or Fall	Hand-pull
Centaruea nigrescens	Tyrol Knapweed	Herbaceous	N	June - October	Seed	Late Spring-Early Summer	Spring through Early June	Spring	Spring through Early June	Mowing and Herbicide
Chelidonium majus (Ranunculus ficaria)	Celandine	Ephemeral	Y	Late April to Early May		Early Spring to Late Summer	N/A	N/A	Early May	Hand-pull
Cynanchum louiseae	Black Swallowwort	Herbaceous Vine	Y	Early June	Aggressive Vine	June	Mowing: Late Spring - Fall Cutting: Early June	N/A	Early June	Cut and dab
Cuscuta spp.	Dodder	Herbaceous	N	June - October	Parasitic	Immediately/throughout year	Immediately/throughout year	N/A	May	Mow/hand pull and herbicide
Elaeagnus umbellata	Autumn Olive	Shrub	Y	February - June	Seed	Spring	July through September	N/A	July through September	Cut Stump Method
Euonymus alatus	Burning Bush	Shrub	Y	May - June	Seed	Spring	Spring	N/A	Early Summer	Cut Stump Method
Euphorbia cyparissias	Cypress Spurge	Herbaceous	Likely Y	April to June	Seed and Vegetative (Rhizomes)	Early Spring - Fall	Early Spring - Fall	TBD	N/A	Mowing
Euphorbia esula	Leafy Spurge	Herbaceous	Y	June	Seed and Vegetative	N/A	Spring through June	N/A	N/A	Cutting/ Mowing
Glaucium flavum	Horned Poppy	Herbaceous	Y	Late Spring to Mid Summer	Seed	Spring through Summer	N/A	Year Round	N/A	Hand-pull

Heracleum mantegazzianum	Giant Hogweed	Herbaceous	Likely Y	Mid-May through July	Seed	Remove Roots: Mid Spring- late summer Hand-Pull: April- May Flower/Seedhead Removal: May through Fall	Mid-Spring to Late Summer	N/A	Late April - Early July, follow-up in July or August	Digging, hand-pulling and flower/seedhead removal
Hesperis matronalis	Dame's Rocket	Herbaceous	Y	Late May - June	Seed	Late Spring-Early Summer	N/A	N/A	Fall	Digging/ hand-pulling
Iris pseudacorus	Yellow Iris	Herbaceous	Y	April - June	Rhizomes and Seeds	Spring-Summer	N/A	N/A	N/A	Hand-pull
Lonicera japonica	Japanese Honeysuckle	Woody Vine	Y	Early Summer	Vegetative and Seed	Spring-Fall	Fall	N/A	Fall	Cut Stump Method
Lonicera spp.	Shrub Honeysuckles	Shrub	Y	Early Summer	Seed	When Soils are Moist	Fall	N/A	Fall	Cut Stump Method
Lythrum salicaria	Purple Loosestrife	Herbaceous	Y	July - September	Seed	Spring-Early Summer (before flowering)	N/A	TBD	Late August	Hand-pull
Miscanthus sinensis	Chinese Silver Grass	Grass	N	July - Fall	Seed and Rhizomes	Spring - summer	N/A	N/A	Late Spring or Fall	Hand-pull and spot treat with herbicide
Rosa multiflora	Multiflora Rose	Shrub	Y	June	Seed & Vegetative	Spring	Throughout Year (3-6 times)	N/A	Early summer to early fall	Cut and Cover
Salix atrocinerea/ S. cinera	Large Gray Willow/ Rusty Willow	Shrub/ Tree	Y	Spring	Seed	N/A	Spring - Summer	N/A	Bore/Fill: Year-round Cut stem/stump: Summer - Fall	Bore and Fill
Solanum dulcamara	Bittersweet Nightshade	Herbaceous Vine	N	Late May - September	Rhizomes	When Soils are Moist	Throughout Growing Season	N/A	When rain not expected for 24 hours, and temperatures have been between 50-85F for several days	Cut and Cover

\*Note: See Appendix A for references used.

LEGEND:

Manual is Best Method	Mechanical is Ideal	Biological is Ideal	Chemical is Best Method
Example	Example	Example	Example

\*Colors indicate best removal method for each species.

Invasive/Nuisance Species Removal and Management Schedule

Scientific Name	Common Name	Type	MIPAG Invasive (Y/N)	Bloom Time	Spreading Method	Best Date for Manual Removal	Best Date for Mechanical Removal	Best Date for Biological Removal	Best Date for Chemical Removal	Suggested Removal Method
Nuisance Species:										
Amorpha fruticosa	False Indigo Bush	Shrub	N	Late Summer	Seeds	Anytime throughout year	Midsummer	N/A	Spring/Summer or Winter	Cut Stump Method

\*Note: See Appendix A for references used.

LEGEND:

Manual is Best Method	Mechanical is Ideal	Biological is Ideal	Chemical is Best Method
Example	Example	Example	Example

\*Colors indicate best removal method for each species.

Appendix B  
Maintenance Plan



# TYPE A: TURF - PASSIVE RECREATION

*Objective:* Minimize mowing practices where possible (which are resource and energy consumptive) and increase pollinator and animal habitat while still allowing for passive recreation where most desirable.

*2018 Predominant Plant Community:* Non-native cool season grasses and warm season weeds.

*Plant Community Objective:* Native mix of cool season and warm season low-mow grasses with flowering forbs to provide pollinator habitat.

THE MAINTENANCE PRACTICES IN THIS MANAGEMENT AREA SHALL INCLUDE THE FOLLOWING:



Routine and Periodic Vegetation Management											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
A	Turf - Passive Recreation	A.1.1	DCR	Staff	Routine	Biweekly/ As Needed	Mowing	3" Mow Height or greater, Mow only with a sharp blade, Change direction of mowing weekly to avoid compaction, wash out mowers from site to site whenever possible to prevent weed distribution	Spring & Fall-biweekly, Summer- every 3 weeks or as needed	n/a	Mowers
A	Turf - Passive Recreation	A.1.2	DCR	Staff	Routine	Biweekly/ As Needed	String Trimming	Keep string small, Avoid impacting bark of trees	Spring & Fall-biweekly, Summer- every 3 weeks or as needed	n/a	String Trimmers
A	Turf - Passive Recreation	A.1.3	DCR	Staff	Routine	Weekly/ As Needed	Snow Management- Salt Application	Avoid application of salt to nearby roadways and paths wherever possible. Seek alternate winter safety applications such as sand.	Winter- in storms as needed.	n/a	Sander
A	Turf - Passive Recreation	A2.1	DCR or Nonprofit	Contractor	Periodic	Annually	Overseed weed impacted areas	Where compaction is significant and weeds impact the site, soil test, aerate, soil amend with organic amendments, topdress with compost, and overseed with low-mow seed mix. (see plant lists in Drawing Atlas)	September-October- Take on one project- area per year	1-Aug	Compost Spreader, Slice Seeder, Watering Truck/ Temporary Irrigation Equipment, Backpack Sprayer with Herbicide, Applicator with Pesticides License (Project Care)





# TYPE A: TURF - PASSIVE RECREATION

*Objective:* Minimize mowing practices where possible (which are resource and energy consumptive) and increase pollinator and animal habitat while still allowing for passive recreation where most desirable.

*2018 Predominant Plant Community:* Non-native cool season grasses and warm season weeds.

*Plant Community Objective:* Native mix of cool season and warm season low-mow grasses with flowering forbs to provide pollinator habitat.

TEST PLOT PROJECTS SHALL INCLUDE THE FOLLOWING:



Test Plot Projects											
Key-Type	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
A	Turf—Passive Recreation	P6	DCR	Contractor	Test Plot Project	One-time project, Monthly maintenance during establishment	Test Plot P6 - Eliot Bridge, Southside-Concert Passive Lawn to Meadow and Ongoing Care	See Test Plot Project P6 Guidelines in Drawin Atlas, including 2 years of maintenance	Installation: September - October 2019 Ongoing Care: October 2019 - November 2021	1-Aug-19	Backpack Herbicide Sprayer, Applicator With Pesticide License, Slide Seeder, Watering Truck/Temporary Irrigation Equip, String Trimmer (Project Care)



# TYPE A: TURF - PASSIVE RECREATION

*Objective:* Minimize mowing practices where possible (which are resource and energy consumptive) and increase pollinator and animal habitat while still allowing for passive recreation where most desirable.

*2018 Predominant Plant Community:* Non-native cool season grasses and warm season weeds.

*Plant Community Objective:* Native mix of cool season and warm season low-mow grasses with flowering forbs to provide pollinator habitat.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:



Potential Future Capital Improvement Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
A	Turf - Passive Recreation	A3.0	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	Take on one project area per year. Convert pass-through turf areas to meadows with mown edges	Herbicide existing grass, let die and mow to short height. Let seed bank sprout an additional time, then herbicide and cut back. Slice seed appropriate meadow mix (See plant lists in Drawing Atlas) Water and weed through fall establishment. Organically maintain.	September-October- Take on one project- area per year as located on the future projects under Type C- Meadows, Section 4.5.5	1-Aug	Backpack Herbicide Sprayer, Applicator With Pesticide License, Slide Seeder, Watering Truck/ Temporary Irrigation Equip, String Trimmer (Project Care)



# TYPE B: TURF - ACTIVE RECREATION



**Objective:** Move to sustainable turf management practices that are organically based to improve water quality. Reestablish low shoreline riparian buffer wherever turf currently is immediately adjacent to the river.

**2018 Predominant Plant Community:** Non-native cool season grasses and warm season weeds.

**Plant Community Objective:** Native mix of cool season and warm season low-mow grasses with flowering forbs to provide pollinator habitat.

THE MAINTENANCE PRACTICES IN THIS MANAGEMENT AREA SHALL INCLUDE THE FOLLOWING:

Routine and Periodic Vegetation Management											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
B	Turf—Active Recreation	B1.1	DCR	staff	Routine	Biweekly/ As Needed	Mowing	3" Mow Height or greater, Mow only with a sharp blade, Change direction of mowing weekly to avoid compaction, wash out mowers from site to site whenever possible to prevent weed distribution	Spring & Fall-biweekly, Summer-every 3 weeks or as needed	n/a	Mowers
B	Turf—Active Recreation	B.1.2	DCR	staff	Routine	Biweekly/ As Needed	String Trimming	Keep string small, Avoid impacting bark of trees	Spring & Fall-biweekly, Summer-every 3 weeks or as needed	n/a	String Trimmers
B	Turf—Active Recreation	B.1.3	DCR	staff	Routine	Weekly/ As Needed	Snow Management- Salt Application	Avoid application of salt to nearby roadways and paths wherever possible. Seek alternate winter safety applications such as sand.	Winter- in storms as needed.	n/a	Sander
B	Turf—Active Recreation	B.1.4	DCR	contractor	Routine	Monthly/ As Needed	Lawn Care, Fertilizer & Turf Care Applications-North Point Parks	Change contract to an organic, sustainable lawn care program that includes soil testing. Utilized Compost Tea for fertilizers. Only complete lawn care applications when required as determined by soil testing. Apply Compost and overseed to edge out weed competition.	Spring, Summer and Fall- Ongoing	1-Mar	Knowledge in Organic Land Care, Compost Spreader
B	Turf—Active Recreation	B2.1	DCR or Nonprofit	Contractor	Periodic	Annually	Overseed weed impacted areas	Where compaction is significant and weeds impact the site, soil test, aerate, soil amend with organic amendments, topdress with compost, and overseed with low-mow seed mix. (see plant lists in Drawing Atlas)	September-October-Take on one project-area per year	1-Aug	Compost Spreader, Slice Seeder, Watering Truck/ Temporary Irrigation Equipment, Backpack Sprayer with Herbicide, Applicator with Pesticides License (Project Care)
B	Turf—Active Recreation	B2.2	DCR	staff	Periodic	Annually	Winterize/ Startup all Irrigation Systems	Shutdown and blow-out all irrigation systems for winterization. Startup new irrigation systems in spring. Create seasonal adjustment schedules so lawns are not overwatered. Overwatering can result in nutrient movement and erosion of shorelines.	November & May	n/a	Compressor, Irrigation Specialist for necessary repairs

# B TYPE B: TURF - ACTIVE RECREATION



*Objective:* Move to sustainable turf management practices that are organically based to improve water quality. Reestablish low shoreline riparian buffer wherever turf currently is immediately adjacent to the river.

*2018 Predominant Plant Community:* Non-native cool season grasses and warm season weeds.

*Plant Community Objective:* Native mix of cool season and warm season low-mow grasses with flowering forbs to provide pollinator habitat.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:

Potential Future Capital Improvement Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
B	Turf—Active Recreation	B3.1	DCR	Contractor	Potential Future Capital Improvement Project	One-time project	Replace all traditional irrigation controllers with 'Smart Controller' devices that access weather data and adjust watering schedules automatically.	Objective is to reduce amount of potable water necessary on the sites with irrigation.	Anytime during growing season (so system can be tested at installation)	1-Aug-19	Irrigation Specialist

# C TYPE C: MEADOWS



**Objective:** Establish diverse, low-maintenance meadows in areas where turf is no longer necessary for recreational purposes in order to reduce unnecessary inputs and maintenance while promoting ecologically diverse landscapes for pollinators, birds and other wildlife.

**2018 Predominant Plant Community:** Non-native cool season grasses and warm season weeds.

**Plant Community Objective:** A diverse mix of native mix of cool and warm season grasses and flowering forbs to provide pollinator habitat.

THE MAINTENANCE PRACTICES IN THIS MANAGEMENT AREA SHALL INCLUDE THE FOLLOWING:

Routine and Periodic Vegetation Management											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
C	Meadows	C1.1	DCR	STAFF	Routine	Biweekly/ As Needed	Mow 3' wide strip along path or roadway edges of all meadow areas.	Mow strip- Mow to 3" height or greater, Mow only with a sharp blade, Change direction of mowing weekly to avoid compaction, wash out mowers from site to site whenever possible to prevent weed distribution	Spring & Fall- biweekly, Summer- every 3 weeks or as needed	n/a	Mowers
C	Meadows	C1.3	DCR	STAFF	Routine	Weekly/ As Needed	Snow Management- Salt Application	Avoid application of salt to nearby roadways and paths wherever possible. Seek alternate winter safety applications such as sand.	Winter- in storms as needed.	n/a	Sand Application Equipment
C	Meadows	C2.1	DCR	STAFF	Periodic	Annually	Mow 1x per year in late fall or very early spring to prevent habitat disturbance	Mow to 6" height, Wash out mower from site to site to prevent weed seed distribution	Early March	1-Feb	Heavy Duty Mower

# G TYPE C: MEADOWS



*Objective:* Establish diverse, low-maintenance meadows in areas where turf is no longer necessary for recreational purposes in order to reduce unnecessary inputs and maintenance while promoting ecologically diverse landscapes for pollinators, birds and other wildlife.

*2018 Predominant Plant Community:* Non-native cool season grasses and warm season weeds.

*Plant Community Objective:* A diverse mix of native mix of cool and warm season grasses and flowering forbs to provide pollinator habitat.

TEST PLOT PROJECTS SHALL INCLUDE THE FOLLOWING:

Test Plot Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
C	Meadows	P6	DCR	Contractor	Test Plot Project	One-time project, Monthly maintenance during establishment	Test Plot P6- Eliot Bridge, Southside- Convert Passive Lawn to Meadow and Ongoing Care	See Test Plot Project P6 Guidelines in Drawing Atlas, including 2 years of maintenance	Installation: September- October 2019 Ongoing Care: October 2019 - November 2021	1-Aug	Backpack Herbicide Sprayer, Applicator With Pesticide License, Slide Seeder, Watering Truck/ Temporary Irrigation Equip, String Trimmer (Project Care)

# C TYPE C: MEADOWS



**Objective:** Establish diverse, low-maintenance meadows in areas where turf is no longer necessary for recreational purposes in order to reduce unnecessary inputs and maintenance while promoting ecologically diverse landscapes for pollinators, birds and other wildlife.

**2018 Predominant Plant Community:** Non-native cool season grasses and warm season weeds.

**Plant Community Objective:** A diverse mix of native mix of cool and warm season grasses and flowering forbs to provide pollinator habitat.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:

Potential Future Capital Improvement Projects											
Key-Type	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
C	Meadows	C3.0	DCR	Contractor	Potential Future Capital Improvement Project	Annually	Take on one project per year, cataloged below. Convert pass-through turf areas to meadows with mown edges	Herbicide existing grass, let die and mow to short height. Let seed bank sprout an additional time, then herbicide and cut back. Slice seed appropriate meadow mix (see plant lists.) Water and weed through fall establishment. Maintain 2 years through establishment.	Take on one project per year, September - October (only), 2 years post ongoing care	1-Aug	Backpack Herbicide Sprayer, Applicator With Pesticide License, Slide Seeder, Watering Truck/ Temporary Irrigation Equip, String Trimmer (Project Care)
C	Meadows	C3.1	DCR	Contractor	Potential Future Capital Improvement Project	One-time project, Monthly maintenance during establishment	Western side of Arsenal, Southside-Convert Passive Lawn next to Roadway to Meadow and Ongoing Care	See Test Plot Project P6 Guidelines in Drawing Atlas	September - October (only), 2 years post ongoing care	1-Aug	''
C	Meadows	C3.2	DCR	Contractor	Potential Future Capital Improvement Project	One-time project, Monthly maintenance during establishment	North side of River, East of Weeks Footbridge: Restore Meadow and potential Green Infrastructure Opportunity.	See Test Plot Project P6 Guidelines in Drawing Atlas	September - October (only), 2 years post ongoing care	1-Aug	''
C	Meadows	C3.3	DCR	Contractor	Potential Future Capital Improvement Project	One-time project, Monthly maintenance during establishment	Arsenal Street to North Beacon Street, North side of River: Convert existing lawn to meadow (with lawn shoulders) along entire corridor.	See Test Plot Project P6 Guidelines in Drawing Atlas	September - October (only), 2 years post ongoing care	1-Aug	''

# G TYPE C: MEADOWS

**Objective:** Establish diverse, low-maintenance meadows in areas where turf is no longer necessary for recreational purposes in order to reduce unnecessary inputs and maintenance while promoting ecologically diverse landscapes for pollinators, birds and other wildlife.

**2018 Predominant Plant Community:** Non-native cool season grasses and warm season weeds.

**Plant Community Objective:** A diverse mix of native mix of cool and warm season grasses and flowering forbs to provide pollinator habitat.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:



Potential Future Capital Improvement Projects											
Key-Type	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
C	Meadows	C3.4	DCR	Contractor	Potential Future Capital Improvement Project	One-time project, Monthly maintenance during establishment	Arsenal Street to North Beacon Street, South side of River: Convert existing lawn to meadow between bike path and Soldiers Field Road	See Test Plot Project P6 Guidelines in Drawing Atlas	September - October (only), 2 years post ongoing care	1-Aug	''
C	Meadows	C3.5	DCR	Contractor	Potential Future Capital Improvement Project	One-time project	Squibnocket Park, North side of River: Convert existing lawn area to meadow.	See Test Plot Project P6 Guidelines in Drawing Atlas	September - October (only), 2 years post ongoing care	1-Aug	''
C	Meadows	C3.6	DCR	Contractor	Potential Future Capital Improvement Project	One-time project	Daly Field Athletic Complex: Convert lawn areas around north sides of sports fields to meadow.	See Test Plot Project P6 Guidelines in Drawing Atlas	September - October (only), 2 years post ongoing care	1-Aug	''
C	Meadows	C3.7	DCR	Contractor	Potential Future Capital Improvement Project	One-time project	East of Farren Playground, North Side: Convert lawn to meadow or green infrastructure.	See Test Plot Project P6 Guidelines in Drawing Atlas	September - October (only), 2 years post ongoing care	1-Aug	''
C	Meadows	C3.8	DCR	Contractor	Potential Future Capital Improvement Project	One-time project	At Braille Trail, North Side of river: Convert lawn to meadow or green infrastructure.	See Test Plot Project P6 Guidelines in Drawing Atlas	September - October (only), 2 years post ongoing care	1-Aug	''



# D

## TYPE D: ROADWAY AND MULTI-USE PATHS

*Objective:* Transition roadway & multi-use path shoulders from tall weeds + turf to low-mow lawn or meadows that are maintained organically  
*2018 Predominant Plant Community:* Non-native cool season grasses and warm season weeds that get tall and need continual cutting along roadways (including Chicory and Mugwort).

*Plant Community Objective:* Native mix of cool season and warm season low-mow grasses with flowering forbs to provide pollinator habitat.  
 THE MAINTENANCE PRACTICES IN THIS MANAGEMENT AREA SHALL INCLUDE THE FOLLOWING:



Routine and Periodic Vegetation Management											
Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	FREQUENCY	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required	
D	Roadway and Multi-Use Paths	D1.1	DCR	STAFF	Routine	Biweekly/ As Needed	Mow 3' wide strip along path or roadway edges/ path edges. Allow other grass areas along roadways and paths to grow all season and only mow 1x per year in late fall. If remaining grass area is less than 4' wide, mow it.	Only Mow 3' wide strip near roadway and path edges, at a 3" mow height. Mow only with a sharp blade, Change direction of mowing weekly to avoid compaction, wash out mowers from site to site whenever possible to prevent weed distribution	Spring & Fall- biweekly, Summer- every 3 weeks or as needed	n/a	Mowers
D	Roadway and Multi-Use Paths	D1.2	DCR	STAFF	Routine	Monthly/ As Needed	String Trimming	String trip under guardrail and in small strip areas to avoid weed overgrowth. Always string trim before invasive plants or annual weeds go to seed. String trim mown areas around trees. Keep string small. Avoid impacting bark of trees.	Spring, Summer and Fall- as needed, approximately monthly	n/a	String Trimmers
D	Roadway and Multi-Use Paths	D1.3	DCR	STAFF	Routine	Weekly/ As Needed	Snow Mangement- Salt Application	Avoid application of salt to roadways and paths wherever possible. Seek alternate winter safety applications such as sand.	Winter- in storms as needed.	n/a	Sand Application Equipment
D	Roadway and Multi-Use Paths	D1.4	DCR	Contractor or New Trained Specialist Staff	Routine	Monthly	Weed Based Management of Early Detection Invasive Species & Species with Small Populations	Remove Invasives per detailed summary in Section 5.1.3. Most interventions will be small in area. Recommend any replacement plantings (if necessary) to include in future Capital Projects (Section 4.6.5)	Monthly assesment and ongoing removals at most effective timer per species -See Section 5.1.2 for schedule by species	1-Apr	Invasive Plants Expert (with ability to monitor, track and adjust management strategies for success), Applicator With Pesticide License,
D	Roadway and Multi-Use Paths	D2.2	DCR or Nonprofit	Contractor	Periodic	Annually	Overseed (slice seed) short perennial forbs (Max 2' height) into lawn area that are allowed to grow long and only mowed 1x per year.	Slice seed appropriate salt tolerant flowers and forbs into areas after they are mown 1x in fall.	September- October- Take on one project- area per year	1-Aug	Backpack Herbicide Sprayer, Applicator With Pesticide License, Slide Seeder, Watering Truck/ Temporary Irrigation Equip, String Trimmer (Project Care)

# D

## TYPE D: ROADWAY AND MULTI-USE PATHS

*Objective:* Transition roadway & multi-use path shoulders from tall weeds + turf to low-mow lawn or meadows that are maintained organically  
*2018 Predominant Plant Community:* Non-native cool season grasses and warm season weeds that get tall and need continual cutting along roadways (including Chicory and Mugwort).

*Plant Community Objective:* Native mix of cool season and warm season low-mow grasses with flowering forbs to provide pollinator habitat.  
**TEST PLOT PROJECTS SHALL INCLUDE THE FOLLOWING:**



Test Plot Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
D	Roadway and Multi-Use Paths	P3	DCR	Contractor	Test Plot Project	One-time project, 2 years of Biannual care	Test Plot P3- Between Esplanade Outdoor Gym and Boston University Bridge, Southside- Restore/ Revegetate Eroded Path Along the Shore and Ongoing Care	See Test Plot Project P3 Guidelines in Drawing Atlas including 2 Year Maintenance Guidelines	September: October 2019  Ongoing Care: May 2019 - May 2021	1-Aug-19	Invasive Plant Expert, Applicator with Pesticide License



# TYPE D: ROADWAY AND MULTI-USE PATHS

*Objective:* Transition roadway & multi-use path shoulders from tall weeds + turf to low-mow lawn or meadows that are maintained organically  
*2018 Predominant Plant Community:* Non-native cool season grasses and warm season weeds that get tall and need continual cutting along roadways (including Chicory and Mugwort).

*Plant Community Objective:* Native mix of cool season and warm season low-mow grasses with flowering forbs to provide pollinator habitat.  
**POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:**



Potential Future Capital Improvement Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
D	Roadway and Multi-Use Paths	D3.0	DCR or Nonprofit	STAFF or Contractor	Potential Future Capital Improvement Projects	Two Times Per Year with follow-up care	Site Based Invasives Removal (Targeting Invasive Species with Large Populations)	Take on two sites for removal each year, including those cataloged below. In year one of this plan, one site will be the test plot location as identified. Remove Invasives per detailed schedule and summary in Section 5.1.3 and replant with recommended plant list species.	For invasives removal, See Section 5.1.2 for schedule by species. Replant in fall or early spring only.	1-Apr	Invasive Plant Expert, Applicator With Pesticide License, Slice Seeder, Watering Truck/ Temporary Irrigation Equip, String Trimmer, Experience with Riparian Planting
D	Roadway and Multi-Use Paths	D3.1	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project		Near Stoneman Playground: Remove invasives. Restore eroded edge at path with salt tolerant low-medium shrubs.	" "	" "	" "	Invasive Plant Expert, Applicator with Pesticide License
D	Roadway and Multi-Use Paths	D3.2	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project		South side, east of BU footbridge: Remove Invasives. Restore and revegetate eroded edge at shore.	" "	" "	" "	Invasive Plant Expert, Applicator with Pesticide License
D	Roadway and Multi-Use Paths	D3.4	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	Along roadway from BU Bridge to River Street Bridge: Remove ailanthus and restore declining trees along roadway.	" "	" "	" "	
D	Roadway and Multi-Use Paths	D3.5	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	Along roadway from River Street Bridge to Western Avenue Bridge: Remove ailanthus and restore declining trees along roadway.	" "	" "	" "	



# TYPE D: ROADWAY AND MULTI-USE PATHS

*Objective:* Transition roadway & multi-use path shoulders from tall weeds + turf to low-mow lawn or meadows that are maintained organically  
*2018 Predominant Plant Community:* Non-native cool season grasses and warm season weeds that get tall and need continual cutting along roadways (including Chicory and Mugwort).

*Plant Community Objective:* Native mix of cool season and warm season low-mow grasses with flowering forbs to provide pollinator habitat.  
 POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:



Potential Future Capital Improvement Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
D	Roadway and Multi-Use Paths	D3.6	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	West of BU Bridge: Install floating wetlands/ living shoreline along roadway.	" "	" "	" "	
D	Roadway and Multi-Use Paths	D3.7	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	Annually	Convert median areas, small grass areas, and small marginalized lawn areas to low-mow seed mix	Herbicide existing grass, let die and mow to short height. Let seed bank sprout an additional time, then herbicide and cut back. Slice seed appropriate salt tolerant low mow mix (see plant lists.) Water and weed through fall establishment.	September-October- Take on one project- area per year	1-Aug	Backpack Herbicide Sprayer, Applicator With Pesticide License, Slide Seeder, Watering Truck/ Temporary Irrigation Equip, String Trimmer (Project Care)



# TYPE E: LOW TO MEDIUM HERBACEOUS WITH SHRUB OR OVERSTORY



*Objective:* Reestablish low-herbaceous native plants along shoreline to maintain visibility of river and reduce maintenance cutting required.

*2018 Predominant Plant Community:* False Indigo and other tall Non-native species (including Knotweed and Phragmites) that grow well in full sun as indicated in Section 2.1

*Plant Community Objective:* Native mix of riparian herbaceous plants and shrubs that naturally grow to a maximum of 3' height.

THE MAINTENANCE PRACTICES IN THIS MANAGEMENT AREA SHALL INCLUDE THE FOLLOWING:

Routine and Periodic Vegetation Management											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
E	Low to Medium Herbaceous with Shrub or Overstory	E1.1	Esplanade Association	Volunteers	Routine	Weekly, Ongoing	Vista Clearing & Invasives Management: Lower Basin Only- Continual Cutting of the shoreline edge to maintain vistas.	Shift maintenance practices to cut species at times as indicated in Section 5.1.2 instead of cutting the entire bank all at once in sections. Add on additional Contractor service to provide selective herbicides immediate following cutting events as indicated below.	Summer & Fall	n/a	Hand Pruners
E	Low to Medium Herbaceous with Shrub or Overstory	E1.2	Esplanade Association	Contractor	Routine	Weekly, Ongoing	Invasives Management: Lower Basin Only- Professional herbicide application after cutting of invasive species	Hire professional applicator to treat invasive species with herbicide immediately after cutting events	Summer & Fall	1-May	Herbicide applicator with License, Invasive Species ID Specialist
E	Low to Medium Herbaceous with Shrub or Overstory	E1.3	DCR	Contractor or New Trained Specialist Staff	Routine	Monthly	Weed Based Management of Early Detection Invasive Species & Species with Small Populations	Remove Invasives per detailed summary in Section 5.1.3. Most interventions will be small in area. Recommend any replacement plantings (if necessary) to include in future Capital Projects (Section 4.7.5)	Monthly assessment and ongoing removals at most effective timer per species -See Section 5.1.2 for schedule by species	1-Apr	Invasive Plants Expert (with ability to monitor, track and adjust management strategies for success), Applicator With Pesticide License,
E	Low to Medium Herbaceous with Shrub or Overstory	E2.1	DCR	Contractor	Periodic	Monthly	Site Based Management of Invasive Species (Large Populations)	Hire Contractor to cut species at times as indicated in Section 5.1.2 with herbicide application instead of cutting the entire bank all at once before the 4th of July and Head of the Charles. Add on additional Contractor service to provide selective herbicides immediate following cutting events.	Summer & Fall, by species instead of as a clear cut at two times of the year before events	1-Jun	Riparian Invasives Removal Experience, Herbicide applicator with License, Invasive Species ID Specialist



# TYPE E: LOW TO MEDIUM HERBACEOUS WITH SHRUB OR OVERSTORY



*Objective:* Reestablish low-herbaceous native plants along shoreline to maintain visibility of river and reduce maintenance cutting required.

*2018 Predominant Plant Community:* False Indigo and other tall Non-native species (including Knotweed and Phragmites) that grow well in full sun as indicated in Section 2.1

*Plant Community Objective:* Native mix of riparian herbaceous plants and shrubs that naturally grow to a maximum of 3' height.

THE MAINTENANCE PRACTICES IN THIS MANAGEMENT AREA SHALL INCLUDE THE FOLLOWING:

Routine and Periodic Vegetation Management											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
E	Low to Medium Herbaceous with Shrub or Overstory	E2.1	DCR	STAFF	Periodic	Bi Annually	Vista Clearing: Middle Basin and Lower Basin	Cut nuisance shoreline species (mostly False Indigo) to min 18" height up to 2' away from river's edges to create views for events. Invasive plants will be separately cut and treated by a contractor (see above) and left at 1" height, so invasives should not be impacted. All cut materials must be raked and bagged with no cut materials entering the river.	Late June and October before events	n/a	Flail mower with labor by hand to rake and bag cut materials.



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*Plant Community Objective:* Native mix of riparian herbaceous plants and shrubs that naturally grow to a maximum of 3' height.

TEST PLOT PROJECTS SHALL INCLUDE THE FOLLOWING:

Test Plot Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
E	Low to Medium Herbaceous with Shrub or Overstory	P2	DCR	Contractor	Test Plot Project	One-time project, 2 years of Biannual care	Test Plot P2- Esplanade dock, Southside- Restore Low Herbaceous Planting at west side of dock ramp and Ongoing Care	Backplanting and Restoration Planting. See Test Plot Project P2 Guidelines in Drawing Atlas including 2 Years of Maintenance	Installation: April - May 2019  Ongoing Care: May 2019 - May 2021	March 1 2019	Riparian Invasives Removal Experience, Herbicide applicator with License, Riparian landscape installation experience



# TYPE E: LOW TO MEDIUM HERBACEOUS WITH SHRUB OR OVERSTORY



*Objective:* Reestablish low-herbaceous native plants along shoreline to maintain visibility of river and reduce maintenance cutting required.

*2018 Predominant Plant Community:* False indigo and other tall Non-native species (including Knotweed and Phragmites) that grow well in full sun as indicated in section 2.1

*Plant Community Objective:* Native mix of riparian herbaceous plants and shrubs that naturally grow to a maximum of 3' height.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:

Potential Future Capital Improvement Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
E	Low to Medium Herbaceous with Shrub or Overstory	E3.0	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Projects	Two Times Per Year with follow-up care	Site Based Invasives Removal (Targeting Invasive Species with Large Populations)	Take on two sites for removal each year, including those cataloged below. In year one of this plan, one site will be the test plot location as identified. Remove Invasives per detailed schedule and summary in Section 5.1.3 and replant with recommended plant list species.	For invasives removal, See Section 5.1.2 for schedule by species. Replant in fall or early spring only.	1-Apr	Invasive Plant Expert, Applicator With Pesticide License, Slice Seeder, Watering Truck/ Temporary Irrigation Equip, String Trimmer, Experience with Riparian Planting
E	Low to Medium Herbaceous with Shrub or Overstory	E3.1	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	Duck Boat ramp channel: Revegetate eroded shoreline edge	" "	" "	" "	" "
E	Low to Medium Herbaceous with Shrub or Overstory	E3.2	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	North Point Park channel: Remove phragmites and restore native vegetation	" "	" "	" "	" "
E	Low to Medium Herbaceous with Shrub or Overstory	E3.3	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	Island/break water at Community Boating: Restore native low-medium high vegetation.	" "	" "	" "	" "
E	Low to Medium Herbaceous with Shrub or Overstory	E3.4	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	Near Stoneman Playground: Remove phragmites and restore native low-medium high vegetation.	" "	" "	" "	" "
E	Low to Medium Herbaceous with Shrub or Overstory	E3.5	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	At Charlesgate Overpass: Remove phragmites and restore native vegetation.	" "	" "	" "	" "





# TYPE E: LOW TO MEDIUM HERBACEOUS WITH SHRUB OR OVERSTORY

*Objective:* Reestablish low-herbaceous native plants along shoreline to maintain visibility of river and reduce maintenance cutting required.

*2018 Predominant Plant Community:* False indigo and other tall Non-native species (including Knotweed and Phragmites) that grow well in full sun as indicated in section 2.1

*Plant Community Objective:* Native mix of riparian herbaceous plants and shrubs that naturally grow to a maximum of 3' height.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:



Potential Future Capital Improvement Projects

	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
E	Low to Medium Herbaceous with Shrub or Overstory	E3.6	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	Near clearing west of Charlesgate Overpass: Remove phragmites and restore native vegetation.	" "	" "	" "	" "
E	Low to Medium Herbaceous with Shrub or Overstory	E3.7	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	South side, west of Western Avenue: Remove knotweed and restore existing vegetation.	" "	" "	" "	" "
E	Low to Medium Herbaceous with Shrub or Overstory	E3.8	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	East of Eliot Bridge, South side of River: Remove Reed Canary Grass and restore native vegetation.	" "	" "	" "	" "
E	Low to Medium Herbaceous with Shrub or Overstory	E3.9	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	Adjacent to parking lot at Herter Park: Remove knotweed and restore native vegetation.	" "	" "	" "	" "
E	Low to Medium Herbaceous with Shrub or Overstory	E3.10	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	Adjacent to parking lot at Herter Park: Restore and revegetate eroded shoreline edge.	" "	" "	" "	" "
E	Low to Medium Herbaceous with Shrub or Overstory	E3.11	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	Adjacent to playground at Herter Park: Restore native vegetation and potentially create garden and view.	" "	" "	" "	" "



# TYPE E: LOW TO MEDIUM HERBACEOUS WITH SHRUB OR OVERSTORY



*Objective:* Reestablish low-herbaceous native plants along shoreline to maintain visibility of river and reduce maintenance cutting required.

*2018 Predominant Plant Community:* False indigo and other tall Non-native species (including Knotweed and Phragmites) that grow well in full sun as indicated in section 2.1

*Plant Community Objective:* Native mix of riparian herbaceous plants and shrubs that naturally grow to a maximum of 3' height.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:

Potential Future Capital Improvement Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
E	Low to Medium Herbaceous with Shrub or Overstory	E3.12	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	At Community Rowing: Restore banks with native vegetation.	" "	" "	" "	" "
E	Meadows	E3.13	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	At Farren Playground, North Side: Restore existing river access and remove Purple Loosestrife	" "	" "	" "	" "



# TYPE F: MEDIUM TO HIGH SHRUB AND OVERSTORY



*Objective:* Shift species composition to shade out invasives and increase vegetative buffer width for shoreline stabilization.

*2018 Predominant Plant Community:* False Indigo dominates the shoreline. Invasives that thrive in compacted urban soils in mostly full-sun conditions are found scattered throughout.

*Plant Community Objective:* Increase ratio of native to non-native species in overstory and shrub layer by replacing invasives with natives.

THE MAINTENANCE PRACTICES IN THIS MANAGEMENT AREA SHALL INCLUDE THE FOLLOWING:

Routine and Periodic Vegetation Management											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
F	Medium to High Shrub and Overstory	F1.1	DCR	Contractor or New Trained Specialist Staff	Routine	Monthly	Weed Based Management of Early Detection Invasive Species & Species with Small Populations	Remove Invasives per detailed summary in Section 5.1.3. Most interventions will be small in area. Recommend any replacement plantings (if necessary) to include in future Capital Projects (Section 4.8.5)	Monthly assessment and ongoing removals at most effective timer per species -See Section 5.1.2 for schedule by species	1-Apr	Invasive Plants Expert (with ability to monitor, track and adjust management strategies for success), Applicator With Pesticide License,
F	Medium to High Shrub and Overstory	F2.1	DCR	Staff or Contractor	Periodic	Annually	Monitoring of Primary and Secondary Vistas	Review Vistas locations as indicated in the drawings to see if pruning is required top open view. Utilize Vista assessment sheets. See Section 5.3.2	July, when vegetation is dense, after 4th of July events.	1-May	Riparian Invasives Removal Experience, Herbicide applicator with License, Invasive Species ID Specialist



# TYPE F: MEDIUM TO HIGH SHRUB AND OVERSTORY



*Objective:* Shift species composition to shade out invasives and increase vegetative buffer width for shoreline stabilization.

*2018 Predominant Plant Community:* False Indigo dominates the shoreline. Invasives that thrive in compacted urban soils in mostly full-sun conditions are found scattered throughout.

*Plant Community Objective:* Increase ratio of native to non-native species in overstory and shrub layer by replacing invasives with natives.

THE MAINTENANCE PRACTICES IN THIS MANAGEMENT AREA SHALL INCLUDE THE FOLLOWING:

Routine and Periodic Vegetation Management											
Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required	
F	Medium to High Shrub and Overstory	F2.2	DCR	Contractor	Periodic	Annually	Vista Pruning to create intermittent perforations at benches and key viewsheds as identified in the maps	Open midstory views at bench and DCR marker locations from 3' - 8' ht above finish grade of benches and DCR markers to improve visibility to the river at intermittent locations where the vegetation is thick as indicated on the proposed project maps in the Drawing Atlas. Vista pruning practices are detailed in Section 3.6.3 Remove invasives per Section 5.1.2 while opening vistas.	Ongoing throughout the growing season, cut by species instead of as a clear cut at two times of the year before events	1-Apr	Riparian Invasives Removal Experience, Herbicide applicator with License, Invasive Species ID Specialist



# TYPE F: MEDIUM TO HIGH SHRUB AND OVERSTORY



*Objective:* Shift species composition to shade out invasives and increase vegetative buffer width for shoreline stabilization.

*2018 Predominant Plant Community:* False Indigo dominates the shoreline. Invasives that thrive in compacted urban soils in mostly full-sun conditions are found scattered throughout.

*Plant Community Objective:* Increase ratio of native to non-native species in overstory and shrub layer by replacing invasives with natives.

TEST PLOT PROJECTS SHALL INCLUDE THE FOLLOWING:

Test Plot Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
F	Medium to High Shrub and Overstory	P5	DCR	Contractor	Test Plot Project	One-time project, 2 years of Biannual care	Test Plot P4- North of Western Avenue, Northside- Restore Medium-High Shrub Shoreline and Ongoing Care	See Test Plot Project P5 Guidelines in Drawing Atlas including 2 years of maintenance.	Installation: April - May 2019 Ongoing Care: May 2019 - May 2021	March 1 2019	Invasive Plant Expert, Applicator With Pesticide License, Slice Seeder, Watering Truck/ Temporary Irrigation Equip, String Trimmer, Experience with Riparian Planting
F	Medium to High Shrub and Overstory	P7	DCR	Contractor	Test Plot Project	One-time project, 2 years of Biannual care	Test Plot P7- Western side of Arsenal, Southside- Remove Knotweed at Shore, Replant with Medium to high Species and Ongoing Care	See Test Plot Project P7 Guidelines in Drawing Atlas including 2 Years of Maintenance.	Installation: April - May 2019 Ongoing Care: May 2019 - May 2021	March 1 2019	Invasive Plant Expert, Applicator With Pesticide License, Slice Seeder, Watering Truck/ Temporary Irrigation Equip, String Trimmer, Experience with Riparian Planting



# TYPE F: MEDIUM TO HIGH SHRUB AND OVERSTORY



*Objective:* Shift species composition to shade out invasives and increase vegetative buffer width for shoreline stabilization.

*2018 Predominant Plant Community:* False Indigo dominates the shoreline. Invasives that thrive in compacted urban soils in mostly full-sun conditions are found scattered throughout.

*Plant Community Objective:* Increase ratio of native to non-native species in overstory and shrub layer by replacing invasives with natives.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:

Potential Future Capital Improvement Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
F	Medium to High Shrub and Overstory	F3.0	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Projects	Two Times Per Year with follow-up care	Site Based Invasives Removal (Targeting Invasive Species with Large Populations)	Take on two sites for removal each year, including those cataloged below. In year one of this plan, one site will be the test plot location as identified. Remove Invasives per detailed schedule and summary in Section 5.1.3 and replant with recommended plant list species.	For invasives removal, See Section 5.1.2 for schedule by species. Replant in fall or early spring only.	1-Apr	Invasive Plant Expert, Applicator With Pesticide License, Slice Seeder, Watering Truck/ Temporary Irrigation Equip, String Trimmer, Experience with Riparian Planting
F	Medium to High Shrub and Overstory	F3.1	DCR or Nonprofit	Contractor	Project (Future)	One-time project	West of Lock (south side): Restore native vegetation on slope.	" "	" "	" "	" "
F	Medium to High Shrub and Overstory	F3.2	DCR or Nonprofit	Contractor	Project (Future)	One-time project	West of Anderson Bridge, North side of River: Restore vegetated edge with backplanting	" "	" "	" "	" "



# TYPE F: MEDIUM TO HIGH SHRUB AND OVERSTORY



*Objective:* Shift species composition to shade out invasives and increase vegetative buffer width for shoreline stabilization.

*2018 Predominant Plant Community:* False Indigo dominates the shoreline. Invasives that thrive in compacted urban soils in mostly full-sun conditions are found scattered throughout.

*Plant Community Objective:* Increase ratio of native to non-native species in overstory and shrub layer by replacing invasives with natives.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:

Potential Future Capital Improvement Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
F	Medium to High Shrub and Overstory	F3.4	DCR or Nonprofit	Contractor	Project (Future)	One-time project	West of Anderson Bridge, North side of River: Remove knotweed and restore native vegetation.	" "	" "	" "	" "
F	Medium to High Shrub and Overstory	F3.5	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	Adjacent to Veteran's Memorial Pool: Restore riparian wooded edge with tree backplanting.	" "	" "	" "	" "



# TYPE G: RIPARIAN WOODED BANKS WITH UNDERSTORY



**Objective:** Shade/Cool the river, provide erosion control, improve water quality, shift toward layered native plant communities, perforate with mid-story vistas for recreation resources.

**2018 Predominant Plant Community:** Overstory of mixed native and non-native tree species consisting of a diversity of trees (Red Maple, Oaks, Beech, Ash, White Pine, Tree of Heaven and Norway Maple) with a shade-tolerant woody understory of primarily invasive species (Buckthorn, Barberry, Multiflora Rose) with some native and non-native shade-tolerant woody understory (Poison Ivy, Bittersweet)

**Plant Community Objective:** Increase ratio of native to non-native species in overstory and shrub layer, by replacing non-native plants with native shade trees and shrubs.

THE MAINTENANCE PRACTICES IN THIS MANAGEMENT AREA SHALL INCLUDE THE FOLLOWING:

Routine and Periodic Vegetation Management											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
G	Riparian Wooded Banks with Understory	G1.1	DCR	Contractor or New Trained Specialist Staff	Routine	Monthly	Weed Based Management of Early Detection Invasive Species & Species with Small Populations	Remove Invasives per detailed summary in Section 5.1.3. Most interventions will be small in area. Recommend any replacement plantings (if necessary) to include in future Capital Projects (Section 4.9.5)	Monthly assesment and ongoing removals at most effective timer per species - See Section 5.1.2 for schedule by species	1-Apr	Invasive Plants Expert (with ability to monitor, track and adjust management strategies for success), Applicator With Pesticide License
G	Riparian Wooded Banks with Understory	G2.1	DCR	STAFF or Contractor	Periodic	Annually	Monitoring of Primary and Secondary Vistas	Review Vistas locations as indicated in the drawings to see if pruning is required top open view. Utilize Vista assessment sheets. See Section 5.3.2	July, when vegetation is dense, after 4th of July events.	1-May	Riparian Invasives Removal Experience, Herbicide applicator with License, Invasive Species ID Specialist
G	Riparian Wooded Banks with Understory	G2.2	DCR	Staff	Periodic	Annually	Vista Pruning to create intermittent perforations at benches and key viewsheds as identified in the maps	Open midstory views at bench and DCR marker locations from 3' - 8' ht above finish grade of benches and DCR markers to improve visibility to the river at intermittent locations where the vegetation is thick as indicated on the proposed project maps in the Drawing Atlas. Vista pruning practices are detailed in Section 3.6.3 Remove invasives per Section 5.1.2 while opening vistas.	Summer- Monitor, Winter- Vista Pruning	n/a	Invasive Species Winter ID Specialist





# TYPE G: RIPARIAN WOODED BANKS WITH UNDERSTORY



*Objective:* Shade/Cool the river, provide erosion control, improve water quality, shift toward layered native plant communities, perforate with mid-size trees.  
*2018 Predominant Plant Community:* Overstory of mixed native and non-native tree species consisting of a diversity of trees (Red Maple, Oaks, Beech, etc.) with a  
 shade-tolerant woody understory of primarily invasive species (Buckthorn, Barberry, Multiflora Rose) with some native and non-native shade-tolerant woody understory (Poison Ivy, Bittersweet)  
*Plant Community Objective:* Increase ratio of native to non-native species in overstory and shrub layer, by replacing non-native plants with native shade trees and shrubs.

TEST PLOT PROJECTS SHALL INCLUDE THE FOLLOWING:

Test Plot Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
G	Riparian Wooded Banks with Understory	P8	DCR	Contractor	Test Plot Project	One-time project, 2 years of Biannual care	Test Plot P8- Watertown Dam, South Side- Restpre riparian wooded bank.	See Test Plot Project P8 Guidelines in Drawing Atlas including 2 Years of Maintenance.	Installation: April - May 2019  Ongoing Care: May 2019 - May 2021	March 1 2019	" "



# TYPE G: RIPARIAN WOODED BANKS WITH UNDERSTORY



*Objective:* Shade/Cool the river, provide erosion control, improve water quality, shift toward layered native plant communities, perforate with mid-size trees.  
*2018 Predominant Plant Community:* Overstory of mixed native and non-native tree species consisting of a diversity of trees (Red Maple, Oaks, Beeches, etc.) with a  
 shade-tolerant woody understory of primarily invasive species (Buckthorn, Barberry, Multiflora Rose) with some native and non-native shade-tolerant woody understory (Poison Ivy, Bittersweet).  
*Plant Community Objective:* Increase ratio of native to non-native species in overstory and shrub layer, by replacing non-native plants with native shade trees and shrubs.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:

Potential Future Capital Improvement Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
G	Low to Medium Herbaceous with Shrub or Overstory	G3.0	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Projects	Two Times Per Year with follow-up care	Site Based Invasives Removal (Targeting Invasive Species with Large Populations)	Take on one sites for removal each year, including those cataloged below and vista sites cataloged in the maps. In year one of this plan, one site will be the test plot location as identified. Remove Invasives per detailed schedule and summary in Section 5.1.3 and replant with recommended plant list species.	For invasives revmoval, See Section 5.1.2 for schedule by species. Replant in fall or early spring only.	1-Apr	Arborist (for proper pruning), Inasvie Plant Expert, Applicator With Pesticide License, Slice Seeder, Watering Truck/ Temporary Irrigation Equip, String Trimmer, Experience with Riparian Planting
G	Low to Medium Herbaceous with Shrub or Overstory	G3.4	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	East of Arsenal Bridge, South side of River: Remove knotweed and restore native vegetation.	" "	" "	" "	" "
G	Low to Medium Herbaceous with Shrub or Overstory	G3.5	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	East of Arsenal Bridge, South side of River: Restore degraded shoreline edge and provide formalized river access.	" "	" "	" "	" "
G	Low to Medium Herbaceous with Shrub or Overstory	G3.6	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Project	One-time project	Squibnocket Park, North side of River: Restore eroded shore and provide formalized river access.	" "	" "	" "	" "





# TYPE H: BIOLOGICAL WETLAND



*Objective:* Re-establish diverse native wetlands capable of providing habitat, water cleansing, and educational value.

*2018 Predominant Plant Community:* Monoculture of Phragmites.

*Plant Community Objective:* Establish a diverse mix of native wetland species.

THE MAINTENANCE PRACTICES IN THIS MANAGEMENT AREA SHALL INCLUDE THE FOLLOWING:

Routine and Periodic Vegetation Management											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
H	Biological Wetland	H1.1	DCR	Contractor or New Trained Specialist Staff	Routine	Monthly	Weed Based Management of Early Detection Invasive Species & Species with Small Populations	Remove Invasives per detailed summary in Section 5.1.3. Most interventions will be small in area. Recommend any replacement plantings (if necessary) to include in future Capital Projects (Section 4.10.5)	Monthly assessment and ongoing removals at most effective timer per species -See Section 5.1.2 for schedule by species	1-Apr	Invasive Plants Expert (with ability to monitor, track and adjust management strategies for success), Applicator With Pesticide License,



# TYPE H: BIOLOGICAL WETLAND



*Objective:* Re-establish diverse native wetlands capable of providing habitat, water cleansing, and educational value.

*2018 Predominant Plant Community:* Monoculture of Phragmites.

*Plant Community Objective:* Establish a diverse mix of native wetland species.

TEST PLOT PROJECTS SHALL INCLUDE THE FOLLOWING:

Test Plot Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
H	Biological Wetland	P4	DCR	Contractor	Test Plot Project	One-time project, 2 years of Monthly care through establishment	Test Plot P4- At Magazine Beach. Restore Phragmites dominated wetland and ongoing care.	See Test Plot Project P4 Guidelines in Drawing Atlas including 2 years of maintenance.	TBD	TBD	Invasive Species Specialist, Herbicide Applicators License



# TYPE H: BIOLOGICAL WETLAND



*Objective:* Re-establish diverse native wetlands capable of providing habitat, water cleansing, and educational value.

*2018 Predominant Plant Community:* Monoculture of Phragmites.

*Plant Community Objective:* Establish a diverse mix of native wetland species.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:

Potential Future Capital Improvement Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
H	Biological Wetland	H3.0	DCR or Nonprofit	Contractor	Potential Future Capital Improvement Projects	As Resources Allow for Capital Expenditure	Site Based Invasives Removal (Targeting Invasive Species with Large Populations)	As resources allow, remove invasives and restore sites cataloged below. In year one of this plan, one site will be the test plot location as identified. Remove Invasives per detailed schedule and summary in Section 5.1.3 and replant with recommended plant list species.	For invasives removal, See Section 5.1.2 for schedule by species.		Wetlands Scientist and Invasive Plant Expert, Applicator With Pesticide License, Experience with Wetland Planting
H	Biological Wetland	H3.1	DCR	Contractor	Potential Future Capital Improvement Project	One-time project	Hell's Half Acre, West of Eliot Bridge, North side of River: Phragmites Removal, Restore wetland.	" "	" "	" "	" "
H	Biological Wetland	H3.2	DCR	Contractor	Potential Future Capital Improvement Project	One-time project	East of Arsenal Bridge, North side of River: Phragmites Removal, Restore wetland.	" "	" "	" "	" "



# TYPE I: ENGINEERED STRUCTURES - REVTMENTS AND RIPRAP



*Objective:* Establish shoreline plantings on revetments and riprap to provide habitat value.

*2018 Predominant Plant Community:* N/A

*Plant Community Objective:* Low to medium native shoreline plants to preserve views.

THE MAINTENANCE PRACTICES IN THIS MANAGEMENT AREA SHALL INCLUDE THE FOLLOWING:

Routine and Periodic Vegetation Management										
Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
Engineered Structures—Revetments and Riprap	I2.1	DCR	Contractor or New Trained Specialist Staff	Routine	Monthly	Weed Based Management of Early Detection Invasive Species & Species with Small Populations	Remove Invasives per detailed summary in Section 5.1.3. Most interventions will be small in area. Recommend any replacement plantings (if necessary) to include in future Capital Projects (Section 4.10.5)	Monthly assessment and ongoing removals at most effective timer per species -See Section 5.1.2 for schedule by species	1-Apr	Invasive Plants Expert (with ability to monitor, track and adjust management strategies for success), Applicator With Pesticide License,



# TYPE I: ENGINEERED STRUCTURES - REVTMENTS AND RIPRAP



*Objective:* Establish shoreline plantings on revetments and riprap to provide habitat value.

*2018 Predominant Plant Community:* N/A

*Plant Community Objective:* Low to medium native shoreline plants to preserve views.

TEST PLOT PROJECTS SHALL INCLUDE THE FOLLOWING:

Test Plot Projects										
Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
Engineered Structures—Revetments and Riprap	P1	DCR	Contractor	Test Plot Project	One-time project and Bimonthly Care	Test Plot P1- Teddy Ebersol's Red Sox Fields near Lederman Park, Southside- Restore Low Herbaceous Rip Rap/ Scouring and ongoing care. Maintain vista.	See Test Plot Project P1 Guidelines in Drawing Atlas with 2 years of maintenance.	April - May 2019	March 1 2019	Erosion Control Contractor





# TYPE I: ENGINEERED STRUCTURES - REVTMENTS AND RIPRAP



*Objective:* Establish shoreline plantings on revetments and riprap to provide habitat value.

*2018 Predominant Plant Community:* N/A

*Plant Community Objective:* Low to medium native shoreline plants to preserve views.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:

Potential Future Capital Improvement Projects										
Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
Engineered Structures—Revetments and Riprap	13.0	DCR	Contractor	Potential Future Capital Improvement Projects	As Resources Allow for Capital Expenditure	Site Based Invasives Removal (Targeting Invasive Species with Large Populations)	As resources allow, remove invasives and restore sites cataloged below. In year one of this plan, one site will be the test plot location as identified. Remove Invasives per detailed schedule and summary in Section 5.1.3 and replant with recommended plant list species.	For invasives removal, See Section 5.1.2 for schedule by species. Replant in fall or early spring only.		Invasive Plant Expert, Applicator With Pesticide License, Watering Truck/ Temporary Irrigation Equip, String Trimmer, Experience with Riparian Planting
Engineered Structures—Revetments and Riprap	13.1	DCR	Contractor	Potential Future Capital Improvement Project	One-time project and Bimonthly Care	East of Charlestown Bridge: Restore Harbor walk vegetation in revetment	" "	" "	" "	" "
Engineered Structures—Revetments and Riprap	13.2	DCR	Contractor	Potential Future Capital Improvement Project	One-time project and Bimonthly Care	Below MASS State Police parking lot: Restore Harbor walk vegetation in revetment	" "	" "	" "	" "
Engineered Structures—Revetments and Riprap	13.3	DCR	Contractor	Potential Future Capital Improvement Project	One-time project and Bimonthly Care	Small open space west of Pierce Boathouse: Restore low herbaceous edge with riprap	" "	" "	" "	" "



# TYPE I: ENGINEERED STRUCTURES - REVETMENTS AND RIPRAP



*Objective:* Establish shoreline plantings on revetments and riprap to provide habitat value.  
*2018 Predominant Plant Community:* N/A  
*Plant Community Objective:* Low to medium native shoreline plants to preserve views.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:

Potential Future Capital Improvement Projects										
Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
Engineered Structures—Revetments and Riprap	13.4	DCR	Contractor	Potential Future Capital Improvement Project	One-time project and Bimonthly Care	East of Eliot Bridge, South side of River: Restore undercut revetment and vegetation	" "	" "	" "	" "
Engineered Structures—Revetments and Riprap	13.5	DCR	Contractor	Potential Future Capital Improvement Project	One-time project and Bimonthly Care	At Waterford Dam, North side of river: Restore vegetation in riprap	" "	" "	" "	" "



# TYPE J: ENGINEERED STRUCTURES - BULKHEADS



*Objective:* Improve landscape with formalized plantings (tree/shrub/herbaceous)

*2018 Predominant Plant Community:* N/A

*Plant Community Objective:* Consider floating wetlands to promote biodiversity and water cleansing along water's edge of bulkhead where possible.

POTENTIAL FUTURE CAPITAL IMPROVEMENT PROJECTS SHALL INCLUDE THE FOLLOWING:

Potential Future Capital Improvement Projects											
	Management Area	Mgmt Item #	Responsible Party	Resources Utilized	Management Category	Frequency	Description	Guideline	Timeframe	Procure by this date at the latest	Tools/ Machinery/ Skills Required
J	Engineered Structures - Bulkhead	J3.1	DCR	Contractor	Potential Future Capital Improvement Project	One-time project	East of River Street Bridge, South side of river: Install floating wetlands along bulkhead.	Floating wetland installation will create a vegetative shoreline buffer along the rivers edge, improving water quality and habitat.			Floating wetland installation specialist, Wetland Scientist

Department of Conservation and Recreation  
Riverbank Vegetation Management Plan  
Charles River Reservation  
Boston, Cambridge, Newton, and Watertown  
Contract No. P18-3241-SIA

## TURF DAMAGE REMEDIATION PLAN

The following plan has been developed for the Department of Conservation and Recreation (DCR) Riverbank Vegetation Management Plan at the Charles River Reservation. \*This plan may be amended to accommodate specific turf conditions in the study area

**Soil Testing:** Soil samples will be taken, and testing performed once every five years to determine nutrient deficiencies. Testing results will be analyzed, and a site-specific organic fertilization strategy will be developed that responds to soil conditions as well as the immediate proximity to the Charles River.

**Fertilizer / Lime:** Appropriate organic, slow release fertilizer shall be applied mid-spring and late October on as needed. The chemical profile of the fertilization will be drafted in response to the soil testing results. Given the adjacency to the Charles River a low or no-phosphorus ratio will be used. Lime will be applied as needed to maintain an optimal pH of 6.0 – 6.7.

**Aeration:** Deep tine aeration will be performed in early fall. Aeration reduces ground hardness and compaction of soil, allowing roots to breathe and grow more easily, and makes turf more resilient.

**Mowing:** DCR will perform their typical mowing regime March through October and as needed from October to November. Mowing schedules should not be reduced when fields are resting or otherwise inactive, as regular mowing helps to ensure thick and vigorous turf growth.

**Irrigation:** Newly seeded areas will be watered regularly through germination.

**Seeding:** Seeding will take place September 15- October 15th. Given the compaction of the soils in this area slice seeding will be performed. The seed mix shall have a high salt tolerance and suitable for full sun exposure, be drought tolerant and disease resistant. The seed shall require low to average fertility and maintenance programs. For all areas of passive turf use, a low- mow polyculture or fescue mix is suggested. The seed mixes identified on the RVMP recommended plant lists should be utilized.

**Pesticides:** Unless there is a serious pest problem impacting the grass, pesticides will NOT be used.

**Excess Thatch Removal:** Thatch shall be removed every five years when the soil samples are taken.

## Appendix C

### Field Data Sheets, Forms, & Photographs

## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #:	Photo Number(s):
Inspectors Name:	Date:
GPS Location:	Side of River: <input type="checkbox"/> North <input type="checkbox"/> South

**Invasive Plants Present (Species, Density, Height):**

**Erosion Control Issues:**

**Trees (Species, Comments)**

**Open Space Area (Possible Vistas, Geese Issues?):**

**Other Comments:**

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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P1 Test Plot	Photo Number(s): 1301, 1302, 1305, 1309, 1312, 1315
Inspectors Name: Rachelle McKnight	Date: 10/08/2008
GPS Location: See Proposed Projects Mapping	Side of River: <input type="checkbox"/> North <input checked="" type="checkbox"/> South

**Invasive/Nuisance Plants Present (Species, Density, Height):** False Indigo (35%), Bindweed (<5%), Asiatic Bittersweet (<5%), | Indigo at 3.5' ht., Ash at 6' ht.

**Erosion Control Issues:** Scouring behind riprap. Slope is 4% on ground. Shore slope ranges from 15% to 80%.

**Trees (Species, Comments):** 2 mature London Plane Trees in good condition – 2 ash grown into bank in water (leave in place).

**Open Space Area (Possible Vistas, Geese Issues?):** Vista already established, low shrubs.

**Other Comments:** Pedestrian path in grass adjacent to shared use path.  
  
Pink Aster (10%), Jewelweed (<5%), Plantago (5%), Artemesia (5%), Sensitive Fern (10%), Leucanthemum (5%), Viola (ground coverage), Goldenrod (5%), Persicaria (5%)

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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P1 Control	Photo Number(s): 1322, 1325, 3126, 1330, 1333, 1340
Inspectors Name: Rachelle McKnight	Date: 10/08/2018
GPS Location: See Proposed Projects Mapping	Side of River: <input type="checkbox"/> North <input checked="" type="checkbox"/> South

**Invasive/Nuisance Plants Present (Species, Density, Height):** False Indigo (80%), Artemesia (<5%), Bittersweet Nightshade (<5%), Bindweed (<5%)

**Erosion Control Issues:** Scouring behind riprap. Path slope is 1% (flat). Shore slopes range from 21% to vertical.

**Trees (Species, Comments):** 1 large Little Leaf linden.

**Open Space Area (Possible Vistas, Geese Issues?):** Low shrubs – open vista, maybe geese.

**Other Comments:** Dirt pedestrian path adjacent to multi use path.

Pink Aster (<10%), Oxeye Daisy (<5%), Leucanthemum (<5%)

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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P2 Test Plot	Photo Number(s): (DSC1352-DSC1374)
Inspectors Name: Rachelle McKnight	Date: 10/08/2018
GPS Location: See Proposed Project Mapping	Side of River: <input type="checkbox"/> North <input checked="" type="checkbox"/> <b>South</b>

**Invasive/Nuisance Plants Present (Species, Density, Height):** Indigo (%), Iris pseudocaris (5-10%); phragmites (10%); bindweed (80%); dodder (60-70%). Shore had been cut at time of visit.

**Erosion Control Issues:** Some riprap, minimal wave action in this part of the river.

5%-8% slope at the lawn. 20 – 30% slope or at shore. Shore stabilized by rocks and densely established grasses.

**Trees (Species, Comments)**

One honey locust in fair condition.

**Open Space Area (Possible Vistas, Geese Issues?):**

Shore vegetation low enough to permit access by geese.

**Other Comments:** Artemesia, primrose, aster, oxeye daisy, and smartweed present. Unknown plants see photos

Start of control is the end of the left wing of the dock – end is 50' to the east. There are a lot of riprap and rocks in the soil, which may it difficult for new plants to establish.

Trash gathers at the edges of the water.

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Site Photos



## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P2 Control	Photo Number(s): 0524,0526,0530,0532,0534,0536
Inspectors Name: Claire Fisher and Rachelle McKnight	Date: 09/13/2018
GPS Location: See Proposed Project Mapping	Side of River: <input type="checkbox"/> North <input checked="" type="checkbox"/> <b>South</b>

**Invasive/Nuisance Plants Present (Species, Density, Height):** Indigo (90%), Iris pseudocaris (5-10%); phragmites (10%); bindweed (80%); dodder (60-70%). Shore had been cut at time of visit; percentages are estimates from Eric DiTommaso on what was there prior to cutting.

**Erosion Control Issues:** Some riprap, minimal wave action in this part of the river.  
  
5% - 8% slope at the lawn. 20% – 30% slope or at shore. Shore stabilized by rocks and densely established grasses.

**Trees (Species, Comments)**  
  
Two Norway Maples - both in poor condition. Historic Society prohibits removal.

**Open Space Area (Possible Vistas, Geese Issues?):**  
  
Shore vegetation low enough to permit access by geese.

**Other Comments:** Artemesia, primrose, aster, poison ivy, oxeye daisy, smartweed present  
Start of control is the end of the right wing of the dock, end of control is 50' to the west. There are a lot of riprap and rocks in the soil.  
Trash gathers at the edges of the water.

Site Photos



## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P3 Test Plot	Photo Number(s): 10:47am (0860,0862,0864,0870,0871)
Inspectors Name: Claire Fisher and Rachelle McKnight	Date: 09/1/4/2018
GPS Location: See Proposed Project Mapping	Side of River: <input type="checkbox"/> North <input checked="" type="checkbox"/> <b>South</b>

**Invasive Plants Present (Species, Density, Height):**  
False indigo (70-80%), Purple loosestrife (<5%), yellow iris (<5%)

**Erosion Control Issues:** Erosion from trail and runoff, pedestrians accessing river.  
16'-18' from path edge to water. Slopes from path between 16% and 35%.

**Trees (Species, Comments)**  
Slippery elm and pin oak present.

**Open Space Area (Possible Vistas, Geese Issues?):**  
Geese possible on the site.

**Other Comments:**  
Willow, buttonbush, goldenrod, aster, artemisia.  
Good place for stepping stones for river access and to stabilize trail.

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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P3 Control	Photo Number(s): 1468, 1469, 1472, 1473, 1475, 1476
Inspectors Name: Rachelle McKnight	Date: 10/09/2018
GPS Location: Proposed Project Mapping	
Side of River: <input type="checkbox"/> North <input checked="" type="checkbox"/> South	

**Invasive/Nuisance Plants Present (Species, Density, Height):** Bindweed (10%), Indigo (60%), Iris pseducarus (10%),

**Erosion Control Issues:** Path to shore slope ranges from 5% to 22%. Shore slopes range from 27% to 60%. Path is eroded all the way to the shore. Very little vegetation. Could revegetate all the way back up to the path.

**Trees (Species, Comments):** 1 large Pin Oak in fairly good condition. Roots are heavily compacted due to foot traffic. Elm at shore.

**Open Space Area (Possible Vistas, Geese Issues?):** Geese issues possible, though not much grass. Open vista.

**Other Comments:** Riprap at edge of shore, mulch found, shore drops off vertically to riprap in some places. Site heavily cut during field work and esplanade likely weeded invasives. Trash in water near the riprap. Aster (<10%), Goldenrod (<10%)

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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P4 Test Plot	Photo Number(s): 1490, 1493, 1497, 1498, 1501, 1503
Inspectors Name: Rachelle McKnight	Date: 10/09/2018
GPS Location:	Side of River: <input type="checkbox"/> North <input type="checkbox"/> South

**Invasive/Nuisance Plants Present (Species, Density, Height):** Phragmites (90%)

**Erosion Control Issues:** Infiltration basin – how will restoration efforts effect the ability of the ground to absorb water? Slopes < 10%.

**Trees (Species, Comments):** Alnus at edge, 2 dead small trees in center, Alnus at far edge is dying.

**Open Space Area (Possible Vistas, Geese Issues?):** Raingarden – previous efforts underway – black fabric down with concrete blocks.

**Other Comments:** Previous restoration efforts – plans to simply cut at the wrong time of the year. Restore with Verbena hastata. Adjacent species include alnus, thistle, loostrife, carex, smartweed, aster, asclepias, daisy, rudbeckia, tradescanths, primrose, goldenrod, woolgrass, joe pye weed, horsetail.

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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P4 Control	Photo Number(s): 1509, 1511, 1513, 1516, 1517, 1519
Inspectors Name: Rachelle McKnight	Date: 10/09/2018
GPS Location: See Proposed Project Mapping	Side of River: <input type="checkbox"/> North <input type="checkbox"/> South

**Invasive/Nuisance Plants Present (Species, Density, Height):** Phragmites (90%), Goldenrod (<10%), Horsetail (<10%)

**Erosion Control Issues:** Raingarden, infiltration area. Check to be sure infiltration will work.

**Trees (Species, Comments):** Populus at edge all doing well, ash are declining, silver maple doing well.

**Open Space Area (Possible Vistas, Geese Issues?):** Raingarden / Infiltration area

**Other Comments:** Adjacent to restoration area. Possibly just remove *Phragmites* tassles in the spring to control until a strategy that works is developed. Adjacent plants include rose mallow, aster, white daisy, smartweed, pink plant, yarrow, thistle.

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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P5 Test Plot	Photo Number(s): 01537 -01545
Inspectors Name: Kate Kennen, Shelby Chapman-Hale	Date: 10/9/18
GPS Location: See Proposed Project Mapping	Side of River: <input checked="" type="checkbox"/> North <input type="checkbox"/> South

**Invasive/Nuisance Plants Present (Species, Density, Height):**  
 Indigo (65%), Norway Maple (<5%), Tree of Heaven (10%), Bindweed (<10%), Dodder (<5%)

**Erosion Control Issues:**  
 Slope: Top-32%, Mid-36%, Mid-42% - 50%

**Trees (Species, Comments)**  
 No trees at the site

**Open Space Area (Possible Vistas, Geese Issues?):**  
 Viewshed managed by the DCR (cut). No geese.

**Other Comments:**  
 Rye grass, about 75%  
 Tansy, Artemesia, Ragweed, Prickly Lettuce, Burdock, Jewelweed, wild carrot, Pokeweed, Primrose, and Persicaria all present  
  
 Spiny White Caterpillar  
 Grass understory (looks seeded)

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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P5 Control	Photo Number(s): 01521 – 10525
Inspectors Name: Claire Fisher and Rachelle McKnight	Date: 09/13/2018
GPS Location: See Proposed Project Mapping	Side of River: <input type="checkbox"/> North <input type="checkbox"/> South

**Invasive/Nuisance Plants Present (Species, Density, Height):** 70% False indigo, Tree of heaven seedlings (20%), Artemisia vulgaris (<10%), Bittersweet nightshade (<10%)

**Erosion Control Issues:** Slope is 13% from bike path to bank; bank is 44%

**Trees (Species, Comments)**

None present

**Open Space Area (Possible Vistas, Geese Issues?):**

Managed to maintain open vistas for the HOTCR

**Other Comments:** Ragweed, butter and eggs, persicaria present

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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P6 Test Plot	Photo Number(s): (0815,0817,0818,0819,0821)
Inspectors Name: Claire Fisher and Rachelle McKnight	Date: 09/14/2018
GPS Location: See Proposed Mapping	Side of River: <input type="checkbox"/> North <input checked="" type="checkbox"/> South

Invasive Plants Present (Species, Density, Height): N/A
---

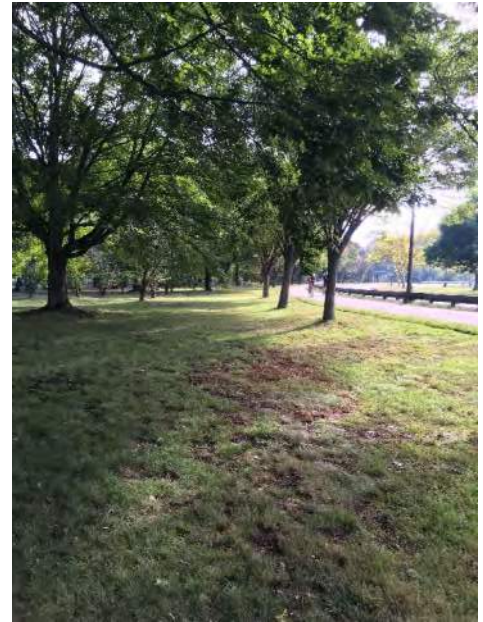
Erosion Control Issues: N/A
-----------------------------

<b>Trees (Species, Comments)</b> Shade: Silver maple, quanzan cherry                      Sun: Zelkova
---

<b>Open Space Area (Possible Vistas, Geese Issues?):</b> Geese by the water edge
---

<b>Other Comments:</b> Shade: Q. cherry are declining                      Sun: Zelkova, persecaria and fescue Shade: Tolerant fescue                      Recommend slice seeding, broadcast seed application
--

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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P6 Control	Photo Number(s): (0779, 0781,0783,0786,0793,0801)
Inspectors Name: Claire Fisher and Rachelle McKnight	Date: 09/14/2018
GPS Location: See Proposed Project Mapping	Side of River: <input type="checkbox"/> North <input checked="" type="checkbox"/> South

<b>Invasive Plants Present (Species, Density, Height):</b> N/A
--

<b>Erosion Control Issues:</b> Site is flat and not at river edge.
--

<b>Trees (Species, Comments)</b>  N/A
---

<b>Open Space Area (Possible Vistas, Geese Issues?):</b>  Geese issues – wet areas may be appropriate for conversion to rain gardens
--

<b>Other Comments:</b> Control – turf area  Several locations might be ideal for replanting with wetland grasses.  Turf – smartweed, euphorbia, plantain, blue fescue.
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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P7 Test Plot	Photo Number(s): 1451, 1453, 1455, 1456, 1460, 1461
Inspectors Name: Rachelle McKnight	Date: 10/09/2018
GPS Location: See Proposed Project Mapping	Side of River: <input type="checkbox"/> North <input checked="" type="checkbox"/> South

**Invasive Plants Present (Species, Density, Height):** Knotweed (50%), Ailanthus (10%)

**Erosion Control Issues:** Steep slope to shore – 10% in grass, 44% at top of slope, steeper as slope approaches river.

**Trees (Species, Comments):** Acer negundo – 1 on top of slope, one down at bottom of slope. Cloud Tree – 1 in fair condition, needs pruning, Apple – 1 in good condition, Robina pseudoacacia – 1.

**Open Space Area (Possible Vistas, Geese Issues?):** Vista could be established by pruning sumac in front of bench.

**Other Comments:** Busy area along commercial corridor. Heavily trafficked. Knotweed growing in lawn.

Sumac (15%), Poke (<10%), Goldenrod (15%), Mullen (<10%), Groundcover (<10%), Burdock (<10%), Artemisia, Butter & Eggs, Persicaria, Deadly nightshade

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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P7 Control	Photo Number(s): 1437-1449
Inspectors Name: Rachelle McKnight	Date: 10/09/2018
GPS Location: See Proposed Project Mapping	Side of River: <input type="checkbox"/> North <input checked="" type="checkbox"/> South

**Invasive Plants Present (Species, Density, Height):** Knotweed (60%), Common Buckthorn (15%)

**Erosion Control Issues:** Grass area sloped at 2%-5%. Shore slopes range from 17% to 64%. Very steep slope to shore – nothing but invasives holding the shore in place.

**Trees (Species, Comments):** Ash in fair condition – EAB, Alnus viridis down toward toe of slope.

**Open Space Area (Possible Vistas, Geese Issues?):** Possible vista but just view of bridge.

**Other Comments:** Serious mosquito issues, 20'-40' down to the shore – couldn't measure all the way down. Don't know slopes past the first 2-3'. Adjacent species include goldenrod, sumac, burdock, artemesia, yarrow. Goldenrod (10%), Sumac (20%).

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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P8 Test Plot	Photo Number(s): 1401, 1409, 1428, 1429, 1431, 1435
Inspectors Name: Rachelle McKnight	Date: 10/08/2018
GPS Location: See Proposed Project Mapping	Side of River: <input type="checkbox"/> North <input checked="" type="checkbox"/> South

**Invasive Plants Present (Species, Density, Height):** Glossy Buckthorn (15%), Common Buckthorn (15%), Indigo (<10%), Asiatic Bittersweet (15%), Monus Alba (<5%), Solanum (<5%), Norway Maple (<2%)

**Erosion Control Issues:** Sand, overly wide path, access to shore not formalized (3 locations), insufficient woodland buffer. Path slopes 4% away from river. Shore slopes range from 20% to 30%. Slopes to wall range from 2% to 16%.

**Trees (Species, Comments):** Silver Maple (stem), Cherry (poor), Acer negundo, Red Maple, London Plane/Sycamore (huge leaves – orange bark, Ash, Hickory, Catalpa (1), Inkberry (1), Norway Maple (3), Elm, Burr Oak

**Open Space Area (Possible Vistas, Geese Issues?):** Vista to the fish ladder and to river could be improved/pruned. Restore other buffer areas.

**Other Comments:** Fish ladder fence is very poor – not an amenity. Can't see into the fish ladder, which is a shame. Site signage, but not great access otherwise. Perfect site to improve due to proximity to the bridge.

Burdock (5%-10%), Poison Ivy (<10%)

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## Field Data Sheet

### MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION	
Plot #: P8 Control	Photo Number(s): 1387, 1391, 1394, 1395, 1396, 1399
Inspectors Name: Rachelle McKnight	Date: 10/08/2018
GPS Location: See Proposed Project Mapping	Side of River: <input type="checkbox"/> North <input checked="" type="checkbox"/> South

**Invasive/Nuisance Plants Present (Species, Density, Height):** Common Buckthorn (<5%), Glossy Buckthorn (<5%), Asiatic Bittersweet (15%-20%), Indigo (10%), Morus (<5%)

**Erosion Control Issues:** Vegetative buffer very narrow at the shore. Sandy soils are washing down into the river. Pathway unnecessarily wide (+ 10'). Riprap at shore, stacked stone. Path Slope is 3%. Shore slopes range from 10% to 32%.

**Trees (Species, Comments):** Mature Trees – Silver Maple, Hickory, Ash | Juvenile Stems – Alder, Elm, Cherry, Morus alba, Zelcova

**Open Space Area (Possible Vistas, Geese Issues?):** Ideal for vistas – one is open to bridge but needs to be weeded/pruned.

**Other Comments:** Mulch & other debris left over from footbridge construction; lots of riprap.  
White Aster (<2%), Tradescantia (<2%), Poison Ivy (15%)

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CHARLES RIVER VEGETATIVE MANAGEMENT PLAN

ANNUAL REPORT

STREET / AREA NAME

CITY / TOWN, MA

**Prepared for:**

Massachusetts Department of Conservation and Recreation

**Prepared by:**

**Date**

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1.0 VISUAL ASSESSMENT PROTOCOL

A monitoring program will be conducted at various locations along the Charles River to determine the success of various projects aimed at improving conditions along the river bank. These projects fall into four different categories, including:

- Invasive species management
- Vegetation health improvement
- Ground stability and erosion control
- Vistas

Project areas may include some or all of the above mentioned project types. Annual visual assessments at each area will be conducted. For to facilitate the comparison of annual report results, fixed location sample plots will be established at each site, unless the project area is relatively small (roughly 300 square feet), at which point the entire area can be considered a monitoring plot.

After each monitoring event, proper documentation will be kept for reference and to be used for future monitoring and control of each site. Depending on the type of project at the site, work to be completed and documented during the visual assessment is provided in the table below.

Summary of Work to be Completed During Monitoring Efforts	
Invasive Species Monitoring	Monitor Bank Restoration Areas for the presence of more than 10% coverage of invasive species.
Vegetation Health	Monitor shoreline vegetation for pests and diseases.
Stability Monitoring	Evaluate the success of bio-stabilization techniques. Record breaches, insufficient vegetation, erosion, sloughing, or other failures.
Vista Monitoring	Evaluate vegetation encroachment and utilization of vistas to determine if ongoing maintenance is warranted.

At any time during the monitoring period, if 10% of invasive species or more are found within any plot, work will be conducted to remove all invasive species from the entire project area. Removal operations will be conducted by DCR employees. Any chemical removal of invasive species will be conducted by a trained certified pesticide applicator.

The information gathered during the visual survey events will be incorporated into annual reports completed at the end of each growing season. The annual reports will detail the following:

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Invasive Species

- Invasive species identification.
- Methods of invasive species control (if necessary).
- Timing and frequency of control.
- Success of control methods.
- Anticipated follow-up monitoring efforts.

Vegetation Health

- Plant community description.
- Presence of pests and diseases.
- Anticipated actions.

Ground stability and erosion control

- Description of erosion control project.
- Current site condition with respect to ground stability or erosion issues.
- Anticipated actions

Vistas

- Description of vista.
- Site condition issues.
- Anticipated actions.

Photographs taken from fixed locations for each project will be provided with each annual report. Photos are to be used as a tool to show present site conditions and to be able to make comparisons to previous annual reports. The photographs will be used to describe the progression of the site from year to year.

## 2.0 CONCLUSIONS

Based on this annual visual assessment report of the site, the following conclusions have been made:

### Invasive species management

PROVIDE CONCLUSIONS. What is the abundance invasive species found at the site? Did previous management strategies reduce and/or eliminate invasive plant populations?

### Vegetation health improvement

PROVIDE CONCLUSIONS. Has the plant community shifted from an undesirable mosaic of invasive and nuisance species to a biodiverse, native plant rich environment? Are there any notable pests and diseases that need to be addressed and/or monitored?

### Ground stability and erosion control

PROVIDE CONCLUSIONS. Are there still erosion/bank stability concerns? Did site interventions effectively control erosion?

### Vistas

PROVIDE CONCLUSIONS. Does the vista provide adequate observation areas for the public to view the Charles River? Are management/pruning strategies working?

### 3.0 RECOMMENDATIONS

Based on the conclusions presented in Section 3.0, above, the following action items may be recommended to improve site conditions along the Charles River:

#### Invasive species management

PROVIDE RECOMMENDATIONS. If invasive species are found in abundance at the site, consider re-application of herbicide, mechanical, or biological controls. Replant vacant areas with native species.

#### Vegetation health improvement

PROVIDE RECOMMENDATIONS. If a shift to a more desirable plant community is not occurring, assess the site at length to determine what environmental factors may be contributing to poor establishment. Evaluate pest and disease presence and determine a control and/or monitoring strategy.

#### Ground stability and erosion control

PROVIDE RECOMMENDATIONS. If ground stability and erosion control measures are failing, evaluate whether the strategy be changed or be improved upon. Multiple erosion control measures may be used at problematic sites to improve outcomes.

#### Vistas

PROVIDE RECOMMENDATIONS. Maintain vista to ensure public enjoys the setting. Reduce maintenance of vista if the site is not being utilized. Evaluate whether additional locations may be desirable for vista creation.

APPENDIX A

Project Location Map

Department of Conservation and Recreation  
Riverbank Vegetation Management Plan  
Charles River Reservation  
Boston, Cambridge, Newton, and Watertown  
Contract No. P18-3241-SIA

**GROUND STABILITY MONITORING FORM**

Inspection Form

Inspected By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

YES	NO	DOES NOT APPLY	ITEM
			Do any erosion/siltation control measures require repair or clean out to maintain adequate function?
			Is there any evidence that sediment is leaving the site and entering the river?
			Are any temporary soil stockpiles or construction materials located in non-approved areas?

Specific location, current weather conditions, and action to be taken:

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Other Comments:

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Pending the actions noted above I certify that the site is in compliance with the Charles River Vegetation Management Plan – Erosion Control Monitoring Plan.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_