

# CHAPTER 5

## WETLANDS

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### INTRODUCTION

This chapter provides a detailed explanation of applicable wetland resource areas and an assessment of impacts resulting from the New Quincy Center Redevelopment Project. Details on construction period mitigation measures proposed to limit Project related impacts are detailed in Chapter 10. The Project's comprehensive approach to stormwater management as it relates to nearby wetland resource areas is evaluated separately in Chapter 6.

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### RESOURCE AREAS AND IMPACTS

An inventory of existing wetland resource areas was undertaken for the Project Area and areas surrounding Quincy Center for the EENF. The only regulated resource areas within proximity to the Project are those associated with Town Brook. Town Brook presently contains several resources regulated under the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40; 310 CMR 10.00) (the "WPA") and the City of Quincy Wetlands Protection Regulations & Ordinance (Chapter 18.08; Order No. 401 of 1987). The inland resource areas presently associated with Town Brook include Bank, Land Under Water Bodies and Waterways and Riverfront Area along the open channel sections of the brook. Bank and Land Under Water Bodies and Waterways that underlie Anadromous or Catadromous Fish Runs are also regulated under the WPA. The Town Brook culvert conveys the 100-year flood and 500-year flood, with a small area of surface floodplain (BLSF) adjacent to the open channel sections of the brook south of Mayor Hannon Parkway.

As previously documented in the EENF, construction of the Project is premised upon the earlier completion of several separate and distinct municipal undertakings to upgrade aged infrastructure in downtown Quincy, which will affect the nature and locus of existing wetland resource areas within the Project Area. As one of these undertakings, a section of Town Brook will be re-aligned in accordance with the plans for the Town Brook Enhancement Project which previously underwent MEPA review as a separate project (EEA #14725). The status of this separate project is summarized in Chapter 1. Following completion of this separate project, the existing Town Brook channel and culvert within the Project Area will be decommissioned and elements of the Project will be developed in its place. For reference purposes only, the present alignment of Town Brook within the Project Area is shown in Figure 5.1.

Upon completion of the separate Town Brook Enhancement Project, the new alignment of Town Brook will run a course for approximately 1,200 linear feet through the Urban Revitalization District ("URD") but outside of the Project Area. Accordingly, for the immediate purposes of accurately evaluating and describing Project-related wetlands impacts, the applicable wetland resource areas referenced in this document are those that will exist upon completion of this separate undertaking that will precede the Project. The inland resource areas associated with

the realigned Town Brook include Bank, Land Under Water Bodies and Waterways, Bordering Vegetated Wetlands and Riverfront Area along the open channel sections of the brook. Bank and Land Under Water Bodies and Waterways that underlie Anadromous or Catadromous Fish Runs are also regulated under the WPA.

Additionally, according to the Surface Water Quality Standards (314 CMR 4.00) and the 1990 Designated Outstanding Resource Waters of Massachusetts, the Project Area is not located within an Outstanding Resource Water (ORW). In addition, the Project Area is not located within an Area of Critical Environmental Concern, Zone II or Interim Wellhead Protection Area, or Zone A, B, or C Surface Water Protection Area.

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## **Wetland Resources and Waterways**

As described below, the Project does not propose work within any wetland resource areas within the Project Area. Work associated with the Project is limited to only an area within the outer 100-Foot Buffer Zone to Bank and Bordering Vegetated Wetlands (BVW) under the WPA.

### **Bank – 310 CMR 10.54 WPA**

Section 310 CMR 10.54(2) of the WPA defines a Bank *as the portion of the land surface which normally abuts and confines a water body. It occurs between a water body and a vegetated bordering wetland and adjacent flood plain, or, in the absence of these, it occurs between a water body and an upland. The upper boundary of a Bank is the first observable break in the slope or the mean annual flood level, whichever is lower. The lower boundary of a Bank is the mean annual low flow level.*

By definition, a Bank abuts a stream channel and includes a stream or river that flows through a culvert. The realigned Town Brook will contain Bank outside of the Project Area along the limit of the stream including the culverted sections through the relocated portion along the south side of Mayor Hannon Parkway.

No work associated with the Project is proposed within the resource area Bank, only within the 100-Foot Buffer Zone to Bank. This Buffer Zone impact will be reviewed by the Quincy Conservation Commission under a Notice of Intent application for the Project. Refer to Figure 5.2 for the wetland resource areas under proposed conditions.

### **Bordering Vegetated Wetland – 310 CMR 10.55 WPA**

310 CMR 10.55 of the WPA defines Bordering Vegetated Wetlands *as freshwater wetlands which border on creeks, rivers, streams, ponds and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps and bogs. Bordering Vegetated Wetlands are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants. The boundary of Bordering Vegetated Wetlands is the line within which 50% or more of the vegetational community consists of wetland indicator plants and saturated or inundated conditions exist. Wetland indicator plants are also those classified in the indicator categories of Facultative, Facultative+, Facultative Wetland-, Facultative Wetland, Facultative Wetland+, or Obligate Wetland in the National List of Plant Species That Occur in Wetlands: Massachusetts*



*(Fish & Wildlife Service, U.S. Department of the Interior, 1988) or plants exhibiting physiological or morphological adaptations to life in saturated or inundated conditions.*

Upon the completion of the Town Brook Enhancement Project, new Bordering Vegetated Wetlands (BVW) will be created within the realigned Town Brook banks outside of the Project Area where BVW previously did not exist. No work associated with the Project is proposed within BVW or that would otherwise impair any portion of the resource area. Work is proposed only within the 100-Foot Buffer Zone to BVW. This Buffer Zone impact will be reviewed by the Quincy Conservation Commission under a Notice of Intent application for the Project. The new BVW resource area that will result from the realignment of Town Brook outside the Project Area is depicted in Figure 5.2.

### **Land Under Water Bodies and Waterways – 310 CMR 10.56 WPA**

Section 310 CMR 10.56 (2) of the WPA states that Land Under Water Bodies and Waterways *is the land beneath any creek, river, stream, pond or lake and the boundary is the mean annual low water level.*

Town Brook is identified as a perennial stream and contains Land Under Water Bodies and Waterways (LUWW). Following the realignment of Town Brook, LUWW will be contained within the Banks of the relocated alignment of the brook along Mayor Hannon Parkway outside of the Project Area, as previously described above.

No work associated with the Project is proposed within the resource area LUWW. For reference purposes only, the LUWW resource area that will result from the realignment of Town Brook outside the Project Area is depicted in Figure 5.2. The Project will be reviewed by the Quincy Conservation Commission under a Notice of Intent application for the limited work within the buffer zone to other applicable resource areas described in this Chapter.

### **Bordering Land Subject to Flooding – 310 CMR 10.57 WPA**

Bordering Land Subject to Flooding (BLSF) is defined by the WPA (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.* Section 310 CMR 10.57(2)(a)(3) of the WPA states that *the boundary of Bordering Land Subject to Flooding is the estimated maximum lateral extent of flood water which will theoretically result from the statistical 100-year frequency storm. Said boundary shall be that determined by reference to the most recently available flood profile data prepared for the community within which the work is proposed under the National Flood Insurance Program (NFIP, currently administered by the Federal Emergency Management Agency [FEMA], successor to the U.S. Department of Housing and Urban Development). Said boundary, so determined, shall be presumed accurate. This presumption may be overcome only by credible evidence from a registered professional engineer or other professional competent in such matters.*

The limit of BLSF within the Project Area has been identified based on the effective FEMA Flood Insurance Rate Map, and is shown on Figures 5.1 and 5.2 for reference. According to the May 16, 2006 FEMA Flood Insurance Rate Map for the City of Quincy, Community Panel Numbers 255219-0057D, 255219-0019D, and 255219-0076D, a majority of the Project Area is located

within Zone X, which is classified as an area outside the 0.2% annual chance floodplain (500-year storm event), with land adjacent to the Project Area falling within Zone A, Zone AE and Zone X. Zone AE is present south of Mayor Hannon Parkway outside of the Project Area as shown in Figure 5.1. Zone AE is classified as an area subject to the 100-year flood (1% annual chance flood) with base flood elevations determined. The limit of Zone AE has been identified at Elevation 16, based on NAVD 1988. This area would be regulated as BLSF, however, no proposed fill or other impacts will occur within BLSF. Based on the ground topography near Mayor Hannon Parkway, the Zone AE floodplain does not extend onto the northern side of the Mayor Hannon Parkway as this area is above elevation 16. Survey of the area south of Mayor Hannon Parkway has been completed, identifying the limits of the floodplain on these parcels.

Figure 5.1 indicates the extent of BLSF present along the westerly boundary of the Project Area. Zone A is identified within the MBTA tracks west of the site and is classified as an area subject to the 100-year flood where base flood elevations have not been determined. This area would be regulated as BLSF at an undetermined elevation, however, no proposed fill or other impacts will occur within BLSF.

The work associated with the Project will not occur within BLSF. For clarification purposes, the existing building shown on Figures 5.1 and 5.2 in the northwest corner of the Project Area shown within BLSF will be maintained as part of the Project and, therefore, there will be no impact to BLSF in this location or elsewhere within the Project Area. The Project will be reviewed by the Quincy Conservation Commission under a Notice of Intent application for the limited work within the buffer zone to other applicable resource areas described in this Chapter.

### **Riverfront Area – 310 CMR 10.58 WPA**

*The Riverfront Area is the area of land between a river's mean annual high-water line measured horizontally outward from the river and a parallel line located 200 feet away. Under 310 CMR 10.58 (2)(a), the Mean Annual High Water line of a river is the line that is apparent from visible markings or changes in the character of soils or vegetation due to the prolonged presence of water and that distinguishes between predominantly aquatic and predominantly terrestrial land. Field indicators of bankfull conditions shall be used to determine the mean annual high-water line. Bankfull field indicators include but are not limited to: changes in slope, changes in vegetation, stain lines, top of pointbars, changes in bank materials, or bank undercuts.*

Section 310 CMR 10.58(2)(a) further states that *where a river runs through a culvert more than 200 feet in length, the riverfront area stops at a perpendicular line at the upstream end of the culvert and resumes at the downstream end.*

Town Brook is identified as a perennial stream and contains Riverfront Area, including the relocated open channel sections along Mayor Hannon Parkway, as previously described above. The Town Brook alignment, as applicable to the Project, is approximately 1,200 linear feet and is six feet high by eleven feet wide in the culverted sections and variable width in the open channel sections. The Riverfront Area following the completion of the Town Brook Enhancement Project is depicted in Figure 5.1 within the limits of the Study Area. The extent of Riverfront near the Project Area is limited to 25 feet from the mean annual high water line of the brook as established pursuant to the Densely Developed Area Designation (DDA #008) decision by the Secretary of the EEA of August 5, 2011.



No work associated with the Project is proposed within this resource area. The Project will be reviewed by the Quincy Conservation Commission under a Notice of Intent application for the limited work within the buffer zone to other applicable resource areas described in this Chapter.

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### **Wildlife Habitat and Rare Species**

Banks and Land Under the Water Bodies and Waterways that underlie Anadromous or Catadromous Fish Runs are regulated under the WPA. This resource area is referred to as a "Fish Run" and is located within the limits of Town Brook as will be realigned and is known to support rainbow smelt (*Osmerus mordax*) and American eel (*Anguilla rostrata*). The Fish Run coincides with the realigned Town Brook alignment following the completion of the Town Brook Enhancement Project. Section 310 CMR 10.60 of the WPA outlines the standards for wildlife habitat and Section 310 CMR 10.35 outlines the standards for Fish Runs.

No work associated with the Project will occur within this resource area.

A review of the current Mass GIS data layer for the Massachusetts Natural Heritage Atlas (effective October 1, 2008) under the Natural Heritage and Endangered Species Program (NHESP) indicates that site is not located within Estimated Habitat for Rare Wildlife or Priority Habitat for Rare Species.

No certified or potential vernal pools under the jurisdiction of the Wetlands Protection Act or the Massachusetts Endangered Species Act (321 CMR 10.00) occur on or near the Project Area. Refer to Figure 5.3 for the NHESP map.

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### **PROJECTED RELATED IMPACTS TO WETLAND RESOURCE AREAS**

The Project will have no direct impacts on wetland resource areas. Work within the buffer zone to certain resource areas associated with the Project will be limited to the area on the northern side of the Mayor Hannon Parkway near Mechanic Street. Impacts will only occur within the outer areas of the previously developed 100-Foot Buffer Zone to Bank and BVW. No work for the Project is proposed within BLSF (100-year floodplain), the Riverfront Area, or any other wetland resource area.

Figure 5.2 show the Project with the appropriate Resource Areas identified and associated regulated Buffer Zones for clarity. As this Figure demonstrates, only a limited amount work associated with the Project, is proposed within the 100-Foot Buffer Zone to Bank and BVW. A Notice of Intent will be filed appropriately with the Quincy Conservation Commission in connection with this proposed work.

The portion of the Project Area that contains BLSF is located along the MBTA tracks within the right-of-way to the railroad where no work is proposed. The tracks are located below the existing grade of the Project Area and no Project-related impacts are proposed to BLSF in this area.




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## WETLAND IMPACT ALTERNATIVES

Due to the limited impacts associated with the Project being limited to areas within the 100-Foot Buffer Zone to Bank and BVW, specific alternatives are not required to be examined under the WPA. The work proposed within this area is located within a previously developed and impervious area. As such, any alternative design will have the same impact assessment area. Alternatives have been evaluated as requested by the Certificate on the EENF to further expand open space within the overall Project Area as discussed in Chapter 2.

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## PROPOSED WETLAND MITIGATION

As there is no direct impact to the wetland resource areas in connection with the Project, the mitigation focus is on Project-related measures that can be implemented to improve the nature of existing stormwater runoff that ultimately discharges into Town Brook. Chapter 6 provides a detailed description of the approach to stormwater management proposed for the Project within the Project Area, as well as the components of proposed mitigation for the Project to ensure protection of Town Brook.

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## REQUIRED PERMITS AND REGULATORY COMPLIANCE

Local, and federal permits and approvals are required prior to the start of construction. Table 5.1 below summarizes the permits and approvals anticipated to be required for the Project, and the status of each, as related to wetland resource areas only. The Project will require an Order of Conditions from the Quincy Conservation Commission and a National Pollution Discharge Elimination System Construction General Permit.

<b>Table 5.1 New Quincy Center Anticipated Permits and Approvals</b>		
<b>Agency</b>	<b>Permit</b>	<b>Status</b>
<b>City of Quincy</b>		
Quincy Conservation Commission	Notice of Intent/ Order of Conditions	To be filed
<b>Federal</b>		
U.S. Environmental Protection Agency	NPDES Construction General Permit	To be filed prior to the start of construction

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## **Order of Conditions**

Local Conservation Commissions and the Massachusetts Department of Environmental Protection administer the Wetlands Protection Act. Certain resource areas are protected because they fulfill the public interest to protect public and private water supply, protect fisheries, protect groundwater supply, provide flood control, protect land containing shellfish, prevent storm damage, protect wildlife habitat, and prevent pollution. These interests are protected by a “no net loss of wetlands” policy. Projects that affect wetland resource areas are required to avoid impacts where possible, minimize unavoidable impacts, and mitigate for unavoidable impacts. Performance standards define the levels of environmental impacts that cannot be exceeded.

Projects proposed in wetland resource areas or in the buffer zone must obtain a local Order of Conditions under the state and local jurisdiction. Wetland resources areas near the project area include Bank, LUWW, BVW, RA, BLSF and Fish Run, with Town Brook serving as a floodway conveyance for the 100-year and 500-year storm events.

The City of Quincy has a local Wetland Protection Regulation (Chapter 18.08) and Wetlands Protection Ordinance (Order No. 401 of 1987). Work within resource areas and the 100-Foot Buffer Zone will require the filing of a Notice of Intent. The resource areas regulated under the local Regulations and Ordinance are similar to those within the WPA. Work will be located within the Buffer Zones associated with Bank and BVW only with no direct or temporary impacts proposed within wetland resource area or the Riverfront Area. The NOI(s) will be filed with the Quincy Conservation Commission.

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## **National Pollution Discharge Elimination System Construction General Permit**

Under the NPDES provisions of the Clean Water Act, the U.S. Environmental Protection Agency regulates water quality, sediment, and pollutant discharge of stormwater runoff from construction sites. Construction projects that propose the alteration of one or more acres of land must obtain coverage under the NPDES Stormwater Construction General Permit (CGP). The Project Proponents must submit a one page registration form known as a Notice of Intent to the EPA and must develop and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP details construction activities, erosion control measures, and inspection schedules to be implemented during construction to ensure that the construction activities do not have an adverse impact on wetlands and waterways. A Construction General Permit will be obtained prior to the start of construction for related impacts to the buffer zones to Bank and LUWW.

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## **CONCLUSION**

The Project will not result in any direct impact on regulated wetland resource areas and have only limited impacts within the outer 100-Foot Buffer Zone to Bank and Bordering Vegetated Wetlands. The comprehensive stormwater management system proposed in conjunction with the Project is addressed in Chapter 6 and details the Project compliance with the Massachusetts



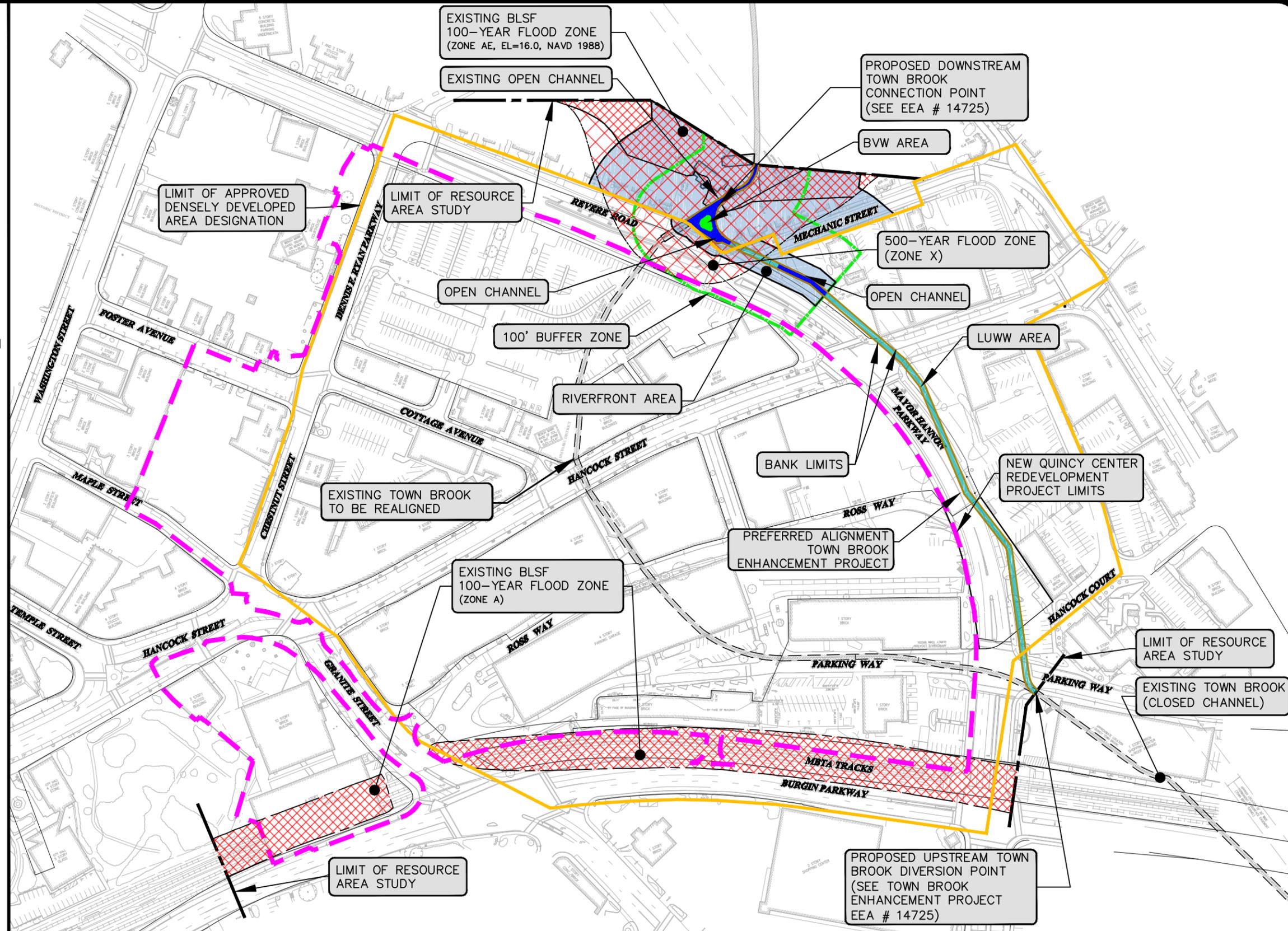
Stormwater Management Standards. A Notice of Intent(s) will be required for Project-related work within the regulated areas. Work within the outer 100-Foot Buffer Zone will take place within areas that are currently developed and consist of parking lots and buildings.

NOTES:

- EXISTING WETLAND RESOURCE AREAS FIELD VERIFIED BY LUCAS ENVIRONMENTAL, LLC IN SEPTEMBER 2010.
- 100-YEAR FLOOD PLAIN LIMITS (BLSF) AS DEPICTED ON THE FEMA FLOOD INSURANCE RATE MAPS 2552190019D, 2552190057D AND 2552190076D, DATED MAY 16, 2006, NAVD 1988. OBTAINED FROM FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA). ZONE AE (EL. 16) LIMITS HAVE BEEN COMPILED BASED ON FIELD SURVEY AND INTERPOLATED/ASSUMED CONTOUR INFORMATION.
- MASSGIS LIMITS SHOWN ALONG MBTA TRACKS SHOWN FOR REFERENCE ONLY. ACTUAL FLOOD ZONE LIMITS ARE CONTAINED WITHIN LIMITS OF WALLS. NO FILL OR IMPACTS ARE PROPOSED WITHIN THIS AREA.
- PROJECT IMPACTS HAVE BEEN CALCULATED ASSUMING THE PROPOSED ALIGNMENT OF THE TOWN BOOK ENHANCEMENT PROJECT (EEA #14725) IS CONSTRUCTED PRIOR TO ANY CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT.
- PROPOSED TOWN BROOK ALIGNMENT AND RESOURCE AREAS SHOWN FOR REFERENCE ONLY. THE ENHANCEMENT OF TOWN BROOK IS NOT A PART OF THIS PROJECT.
- 25' RIVERFRONT AREAS BASED ON DOWNTOWN QUINCY DENSELY DEVELOPED AREA (DDA #008) DESIGNATION APPROVED IN AUGUST 2011.
- EXISTING RIVERFRONT AREA OUTSIDE PROPOSED DDA BOUNDARY TO REMAIN 200'.

LEGEND

-  NEW QUINCY CENTER REDEVELOPMENT PROJECT LIMITS
-  LIMIT OF DENSELY DEVELOPED AREA DESIGNATION
-  100-YEAR FLOOD ZONE (BLSF)
-  500-YEAR FLOOD ZONE
-  BANK LIMITS
-  LAND UNDER WATER BODIES AND WATERWAYS PROPOSED TOWN BROOK CLOSED CHANNEL
-  100' BUFFER ZONE
-  TOWN BROOK EXISTING OPEN CHANNEL SEGMENT
-  PROPOSED TOWN BROOK OPEN CHANNEL SEGMENT
-  RIVERFRONT AREA



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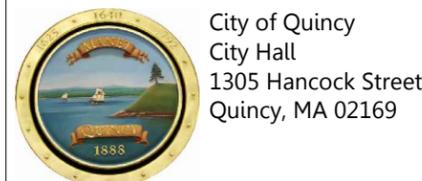
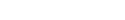


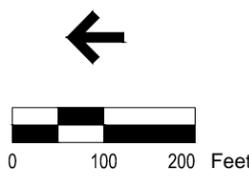
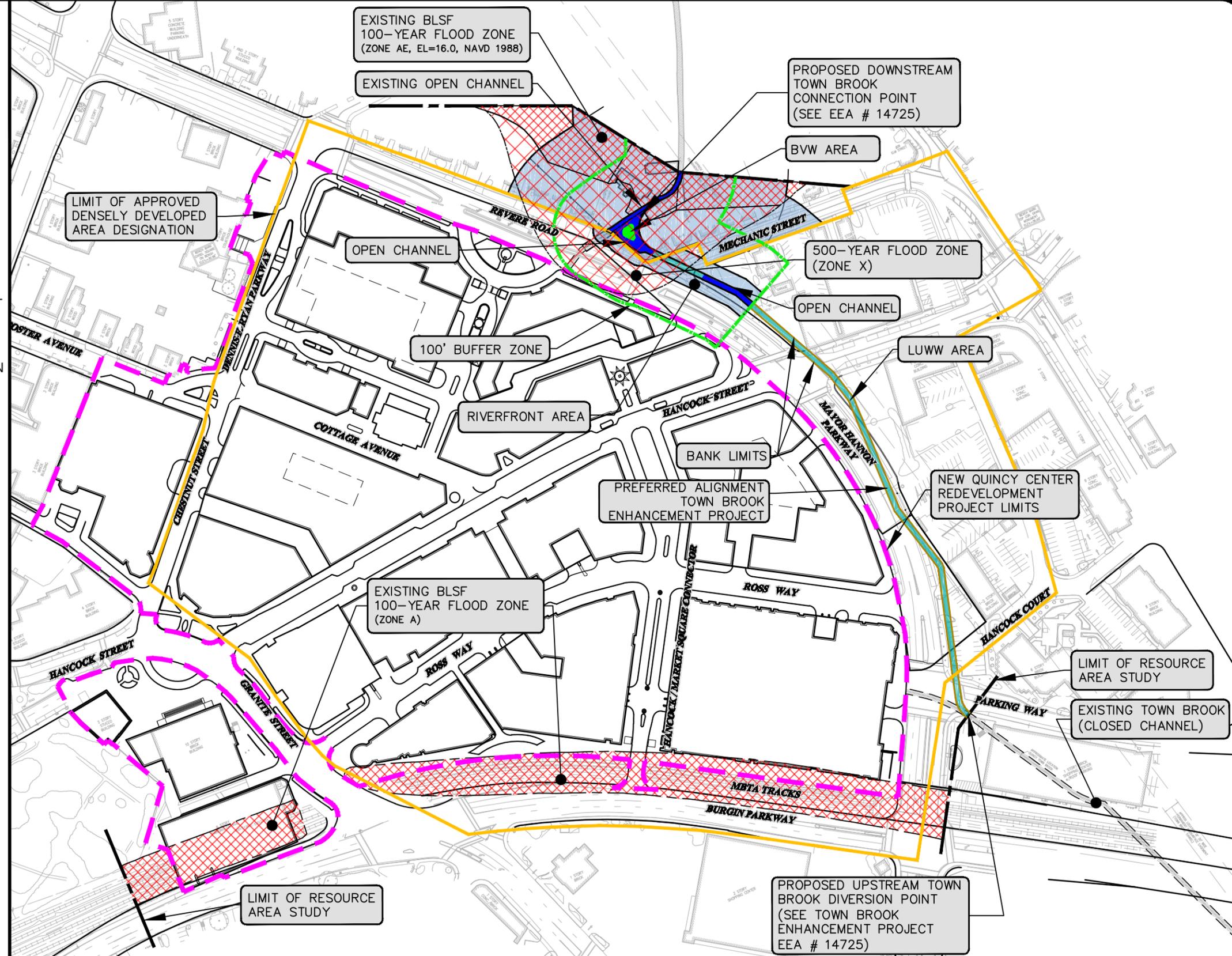
Figure 5.1 April 30, 2012  
Wetland Resource and Riverfront Areas Existing Conditions  
Draft Environmental Impact Report  
New Quincy Center Redevelopment  
Quincy, Massachusetts

NOTES:

- EXISTING WETLAND RESOURCE AREAS FIELD VERIFIED BY LUCAS ENVIRONMENTAL, LLC IN SEPTEMBER 2010.
- 100-YEAR FLOOD PLAIN LIMITS (BLSF) AS DEPICTED ON THE FEMA FLOOD INSURANCE RATE MAPS 2552190019D, 2552190057D AND 2552190076D, DATED MAY 16, 2006, NAVD 1988. OBTAINED FROM FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA). ZONE AE (EL. 16) LIMITS HAVE BEEN COMPILED BASED ON FIELD SURVEY AND INTERPOLATED/ASSUMED CONTOUR INFORMATION.
- MASSGIS LIMITS SHOWN ALONG MBTA TRACKS SHOWN FOR REFERENCE ONLY. ACTUAL FLOOD ZONE LIMITS ARE CONTAINED WITHIN LIMITS OF WALLS. NO FILL OR IMPACTS ARE PROPOSED WITHIN THIS AREA.
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- PROPOSED TOWN BROOK ALIGNMENT AND RESOURCE AREAS SHOWN FOR REFERENCE ONLY. THE ENHANCEMENT OF TOWN BROOK IS NOT A PART OF THIS PROJECT.
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LEGEND

-  LIMIT OF DENSELY DEVELOPED AREA DESIGNATION
-  NEW QUINCY CENTER REDEVELOPMENT PROJECT LIMITS
-  100-YEAR FLOOD ZONE (BLSF)
-  500-YEAR FLOOD ZONE
-  BANK LIMITS
-  LAND UNDER WATER BODIES AND WATERWAYS
-  PROPOSED TOWN BROOK CLOSED CHANNEL
-  100' BUFFER ZONE
-  TOWN BROOK EXISTING OPEN CHANNEL SEGMENT
-  PROPOSED TOWN BROOK OPEN CHANNEL SEGMENT
-  RIVERFRONT AREA



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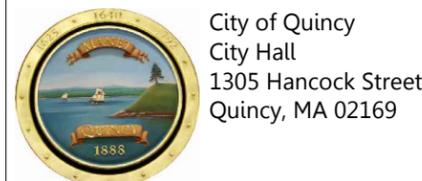
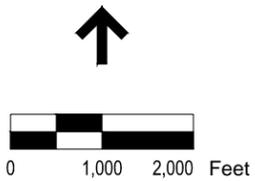


Figure 5.2 April 30, 2012  
Wetland Resource and Riverfront Areas  
Proposed Conditions  
Draft Environmental Impact Report  
New Quincy Center Redevelopment  
Quincy, Massachusetts



PROJECT LOCATION

-  NHESP PRIORITY HABITATS OF RARE SPECIES
-  NHESP ESTIMATED HABITATS OF RARE WILDLIFE
-  NHESP CERTIFIED VERNAL POOL
-  NHESP POTENTIAL VERNAL POOL



NOTES:

AERIAL PHOTOS AND NATURAL HERITAGE ENDANGERED SPECIES MAPPING FROM THE OFFICE OF GEOGRAPHIC INFORMATION (MassGIS). COMMONWEALTH OF MASSACHUSETTS INFORMATION TECHNOLOGY DIVISION.

This Figure Prepared in Coordination With:



City of Quincy  
 City Hall  
 1305 Hancock Street  
 Quincy, MA 02169

 *Hancock Adams Associates*  
 1400 Hancock Street  
 Quincy, MA 02169



  
 Stephenson  
 Design Group  
 51 Sleeper Street  
 Suite 600  
 Boston, MA 02210

Figure 5.3 April 30, 2012  
 Natural Heritage and Endangered  
 Species Map  
 Draft Environmental Impact Report  
 New Quincy Center Redevelopment  
 Quincy, Massachusetts