

ALEWIFE RESERVATION STORMWATER WETLAND CONSTRUCTION MEETING

September 7, 2011



Agenda

- Welcome – Catherine Daly Woodbury
- DCR Coordination – Dan Driscoll
- Project Background – Catherine Daly Woodbury
- Stormwater Wetland Design and Construction Mitigation – Duke Bitsko
- Construction Activities, Schedule and Sequence – Tom Ritchie
- Post Construction Activities and Project Benefits – Duke Bitsko
- Questions

Project Team

- Department of Conservation and Recreation
 - Dan Driscoll
- Cambridge DPW
 - Catherine Daly Woodbury
- Engineering
 - Kleinfelder/S E A and MWH: Vin Spada, Tom Ritchie
 - Bioengineering Group: Duke Bitsko, Phil Rury
- Construction
 - P. Gioioso & Sons: Joe Gioioso



Project Coordination

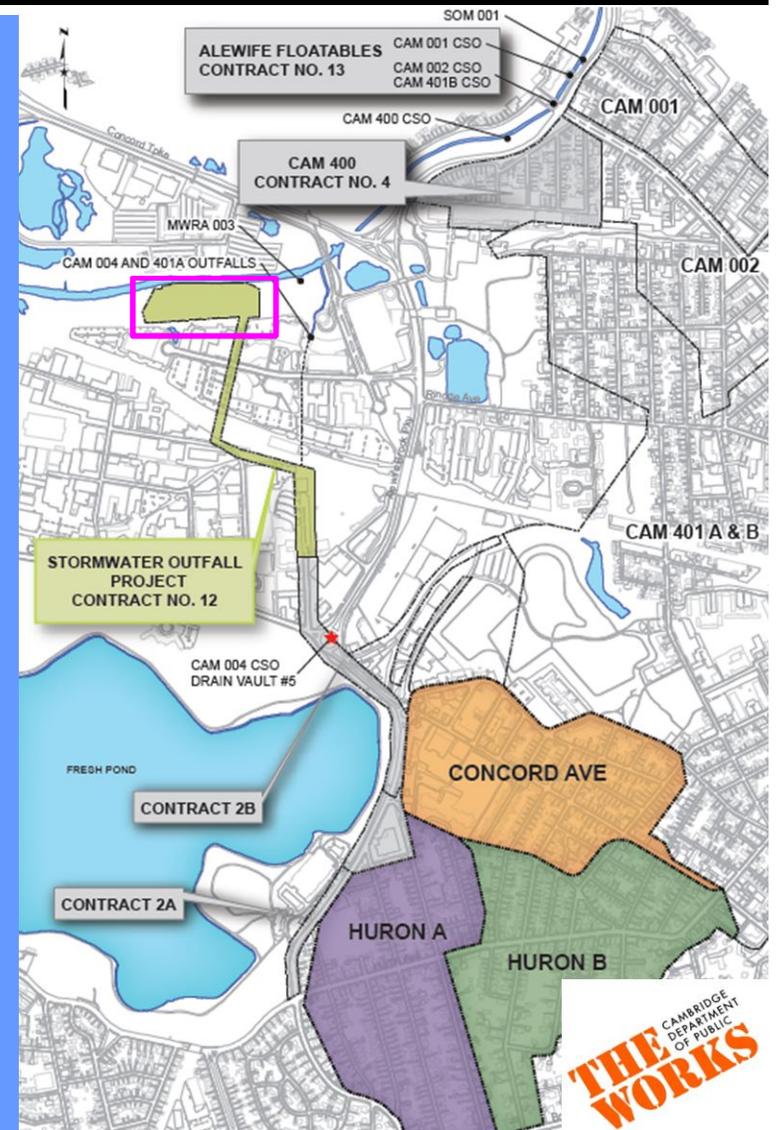
- Project is part of the MWRA Long-Term CSO Control Plan for Alewife Brook
- LTCP will reduce CSO volume to Alewife Brook by 85%
- Designed to meet the goals and objectives of DCR's Master Plan for Alewife Reservation



Project Background

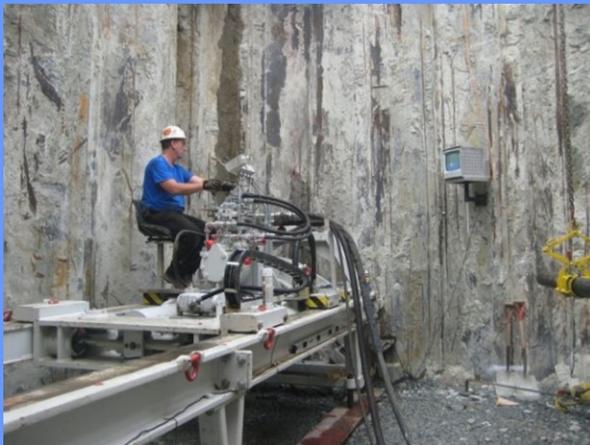
CambridgePark Drive Area Drainage Improvement and Stormwater Wetland Project

- Part of the MWRA's Long Term Control Plan (LTCP) for CSO Control
- Will allow the sewer separation of CAM004 (Huron A, Huron B and Concord Ave)
- Will result in the closure of the CAM004 CSO regulator
- LTCP will reduce volume and frequency of CSOs to the Alewife Brook
 - 50mg annually → 7.3mg
 - 63 activations per year → 7 activations

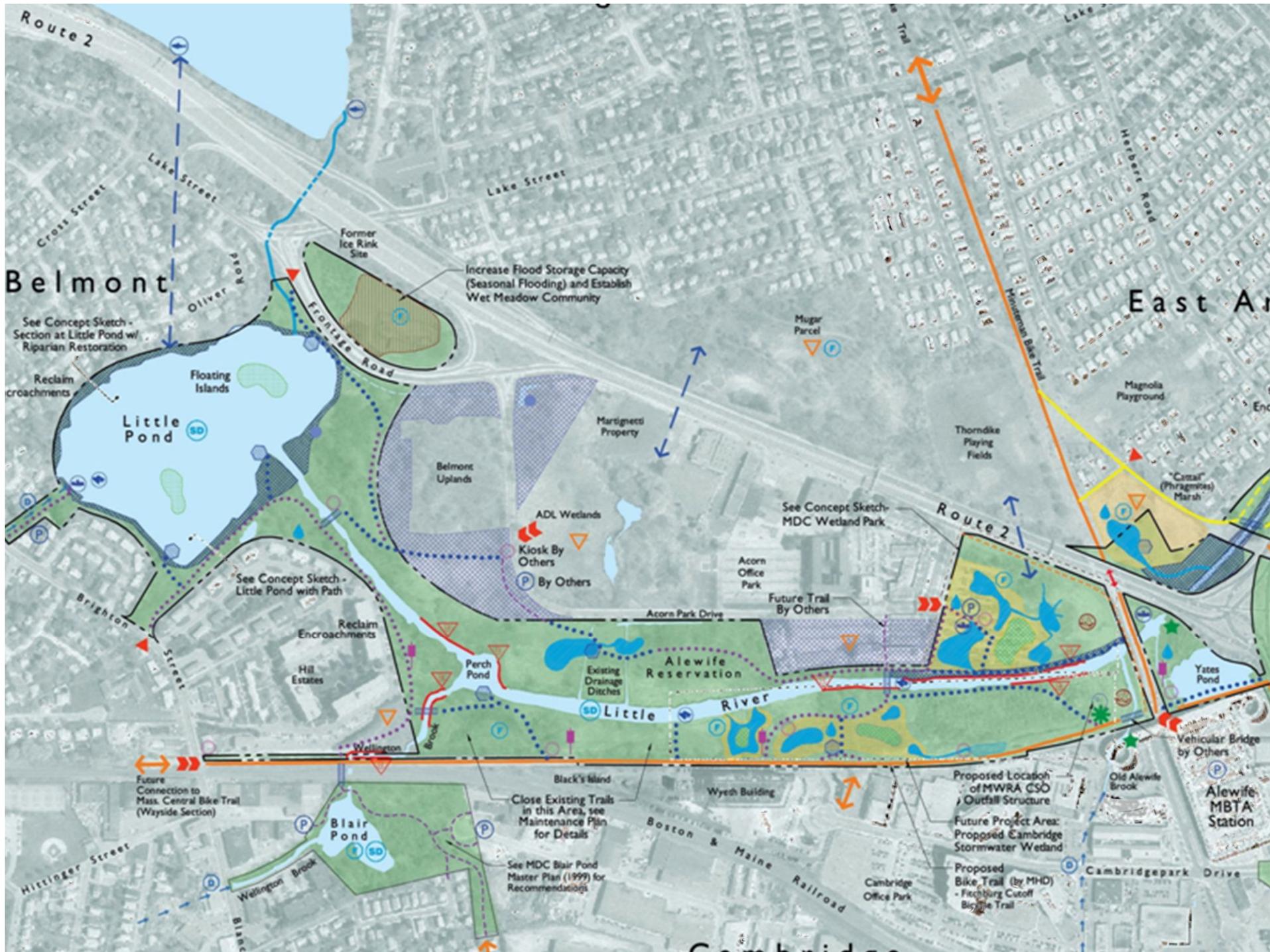


Pre Construction Activities

- Relocate/lower existing utilities
- Wetland reflagging
- Survey of Limit of Work (LOW) area
- Installation of LOW fence and erosion control
- Wildlife assessment









Stormwater Treatment Wetland

Final “polish” of stormwater before discharge into Little River:

- *Sedimentation (in forebay)*
- *Adsorption to sediments*
- *Physical filtration by plants*
- *Microbial breakdown & plant uptake*

Treatment wetlands are effective at removing suspended solids, heavy metals and nutrients from urban stormwater

Retains up to 10.3 acre-feet of stormwater to reduce peak flows to Little River during major storm events

Habitat Creation



- Deep, emergent and high marsh
- Wet meadow, broadleaf floodplain and open water
- Scrub/shrub and riparian woodland
- Over 115,000 new wetland plants
- Over 3,800 new upland plants

Site Amenities



- Multi-use connector path (Mass DOT)
- Trails and boardwalks (1,600 linear feet)
- Overlooks (3)
- Amphitheatre
- Benches and bike racks
- DCR Kiosk and interpretive signage

Construction Impacts and Mitigation

- Erosion and sedimentation control
- Wildlife impacts
- Multi-Use Path detour and signage

Erosion/Sedimentation Control

BMP Devices (temporary)

- Sediment control basins
- Flood protection berm
- Cover crop seed mix and/or matting
- Compost filter socks
- Turbidity curtain (Little River)

Erosion/Sedimentation Control



Erosion/Sedimentation Control

Compost
Filter
Socks



Wildlife Impact and Risk Assessment

Wildlife Impact/Risk Assessment Conclusions:

- October start maximizes use of food resource
- Minimal breeding season/migratory bird risks
- Avoid Little River disturbance during Alewife run

Licensed Wildlife Trappers were consulted:

- Predicted resident wildlife will leave work area when clearing and grubbing commence
- Relocate wildlife outside of the work area

American Woodcock



Wildlife & Flora Impact Mitigation

Preconstruction Wildlife Reconnaissance

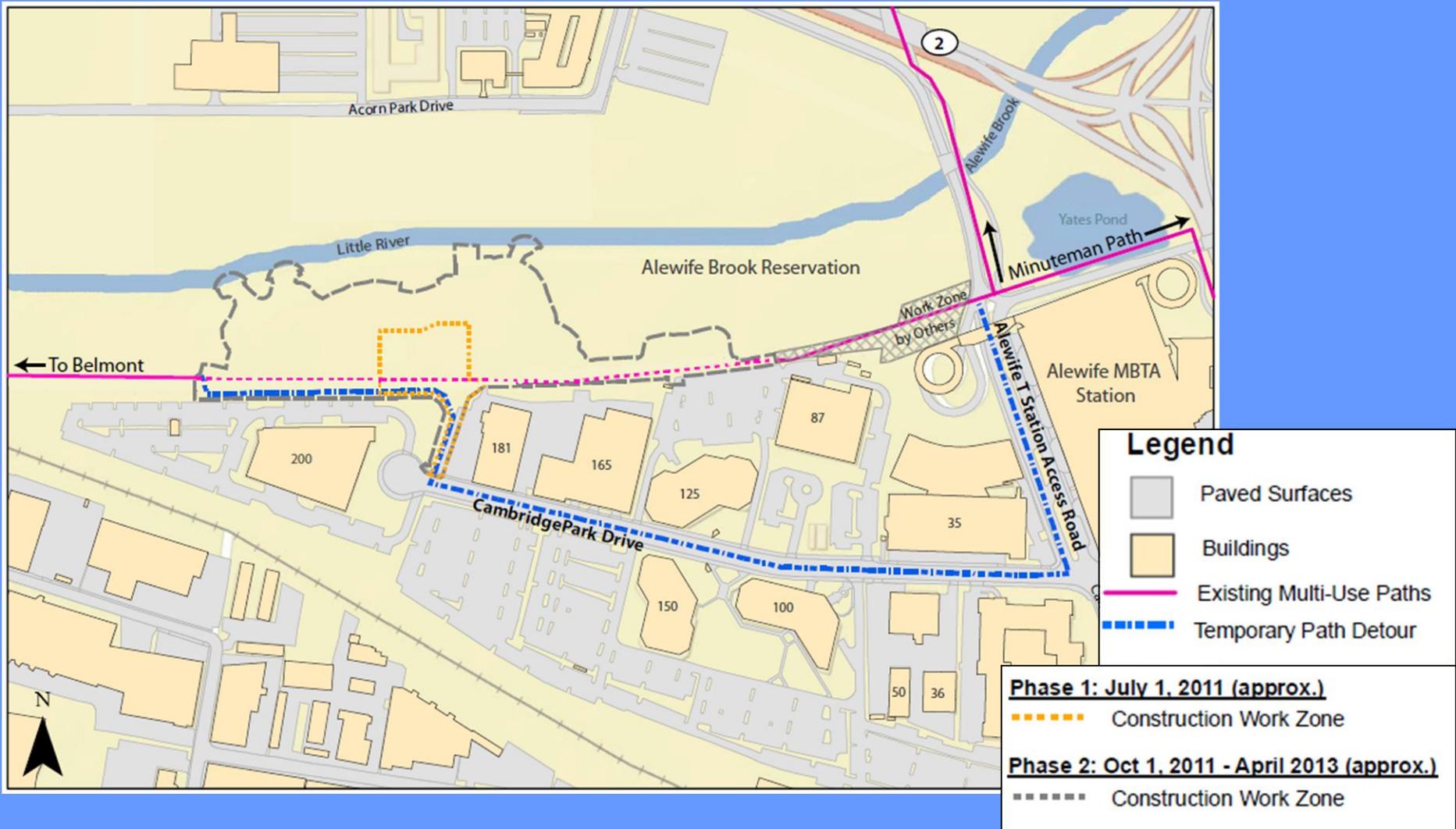
- Search work area for burrows, dens, nest sites
- Provide “gaps” in construction fencing
- Site monitoring to detect any fauna at risk

Preconstruction Rare Plant Reconnaissance

- Botanist will search entire impact area



Multi-Use Path Detour



Construction Activities

- Pre Wetland Activities
 - Utilities relocation (ongoing)
 - Species identification
 - Erosion control and impact mitigation
 - Clearing – begins October 1
 - Species relocation
- Wetland Construction
 - Grubbing
 - Earthwork: soil excavation and berms
 - Cover crop planting
 - Boardwalk and amphitheater construction
 - Wetland soils, plantings and seeding
 - Final path paving

Construction Equipment

- Clearing
 - Mower
 - Skidder



- Earthwork
 - Bulldozer
 - Excavator
 - Dump Trailer



Construction Schedule

- Wetland Construction Start – October 2011
 - Fall/Winter 2011-2012
 - Species identification/relocation; erosion control
 - Site clearing
 - Install berms and French drains
 - Excavate and shape Oxbow, Main Outlet and Forebay elements
 - Spring 2012
 - Install timber overlook, piping and plantings
 - Excavate and install plantings for central area east of access road
 - Fall 2012
 - Excavate remaining central area; install boardwalk and plantings
 - Install amphitheater
 - Remove outlet barriers after vegetation is established
 - Spring 2013
 - Any remaining planting
- Anticipated Completion – April 2013

Construction Sequence

- Fall/Winter 2011-2012
 - Species identification and relocation
 - Erosion control and site clearing
 - Install berms and French drains
 - Excavate Oxbow, Main Outlet and Forebay areas



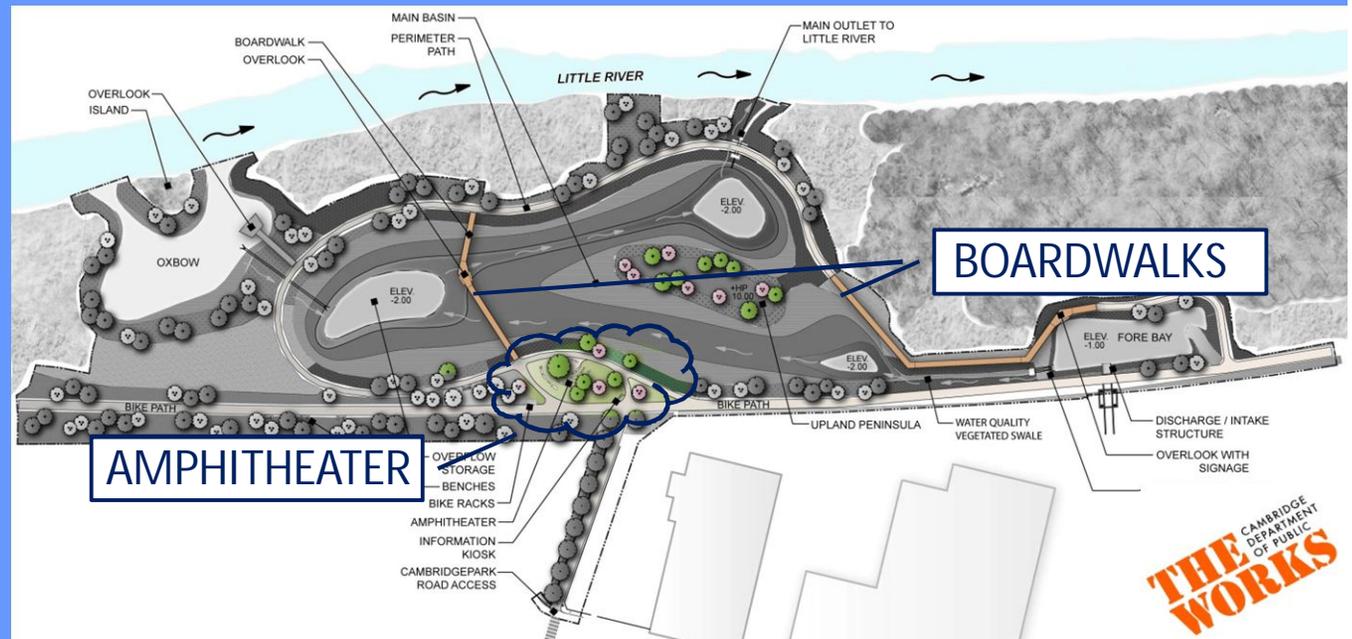
Construction Sequence

- Spring 2012
 - Install timber overlook
 - Planting of Forebay, Oxbow and Main Outlet areas
 - Excavate central wetland and begin planting



Construction Sequence

- Fall 2012
 - Construct amphitheater
 - Install boardwalks
 - Complete planting of central wetland and upland area
 - Complete Multi Use Path
- Spring 2013
 - Complete plantings



Post-Construction Activities

- Observe plant growth
- Replace vegetation as needed
- Identify invasive species for removal



Alewife Reservation Project Benefits

Fully integrated with DCR Alewife Reservation and Greenway Master Plan:

- Water Quality Improvements: 3.4 acre treatment wetland, and future closure of the CAM004 regulator
- Ecological enhancements of fish and wildlife habitat quality
- Mitigation of invasive plant species
- Improved site amenities
- Educational and recreational opportunities



THE WORKS
CAMBRIDGE
DEPARTMENT
OF PUBLIC

Lines of Communication

Contact Information

- Primary Contact: Catherine Daly Woodbury
 - cwoodbury@cambridgema.gov
 - 617 349 4818
- 24-Hour Emergency Reporting
 - Cambridge DPW at 617-349-4800
- DCR Primary Contact: Dan Driscoll
 - Dan.Driscoll@state.ma.us
 - 617 626 1438

Web site Information

- www.cambridgema.gov/theworks/cityprojects.aspx, under *Cambridge Park Drive Area Drainage Improvements and Stormwater Wetland Project*



Questions?

