

Greater Cambridge Energy Project (GCEP)

Somerville Virtual Open Houses

October 5, 2021 – 7 pm

October 14, 2021 – 12 noon

**Gracias por acompañarnos esta noche.
La interpretación de la presentación de esta noche se llevará a
cabo
en las siguientes salas virtuales:**

**Aquí - se hablará inglés
Sala virtual 1 - español
Sala virtual 2 - portugués
Sala virtual 3 - criollo haitiano
Sala virtual 4 - chino (mandarín)**

**Obrigado pela sua participação hoje.
A interpretação da apresentação de hoje será
nas seguintes salas virtuais:**

**Esta sala – em inglês
Sala Virtual 1 – em espanhol
Sala Virtual 2 – em português
Sala Virtual 3 – em crioulo haitiano
Sala Virtual 4 – em chinês (Mandarim)**

**Mèsi dèske ou te patisipe avèk nou nan rankont aswè a.
W ap jwenn entèpretasyon prezantasyon aswè a nan sal vityèl
swivan yo:**

**Isit la – Se nan lang Anglè n ap pale
Sal Vityèl 1 – Panyòl
Sal Vityèl 2 – Pòtigè
Sal Vityèl 3 – Kreyòl Ayisyen
Sal Vityèl 4 – Chinwa (Mandaren)**

谢谢你今晚参加我们的会议。
今晚演示的口译将在
以下虚拟房间进行：

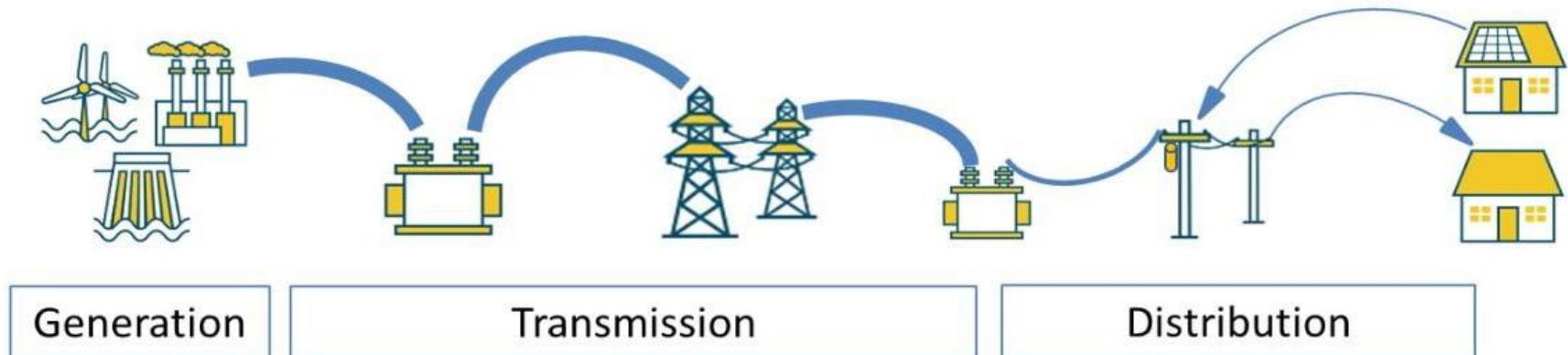
在这里 – 将使用英语
虚拟会议室1 – 西班牙语
虚拟会议室2 – 葡萄牙语
虚拟会议室3 – 海地克里奥尔语
虚拟会议室4 – 中文（普通话）

The Greater Cambridge Energy Project

Getting Electricity to Where It Is Needed

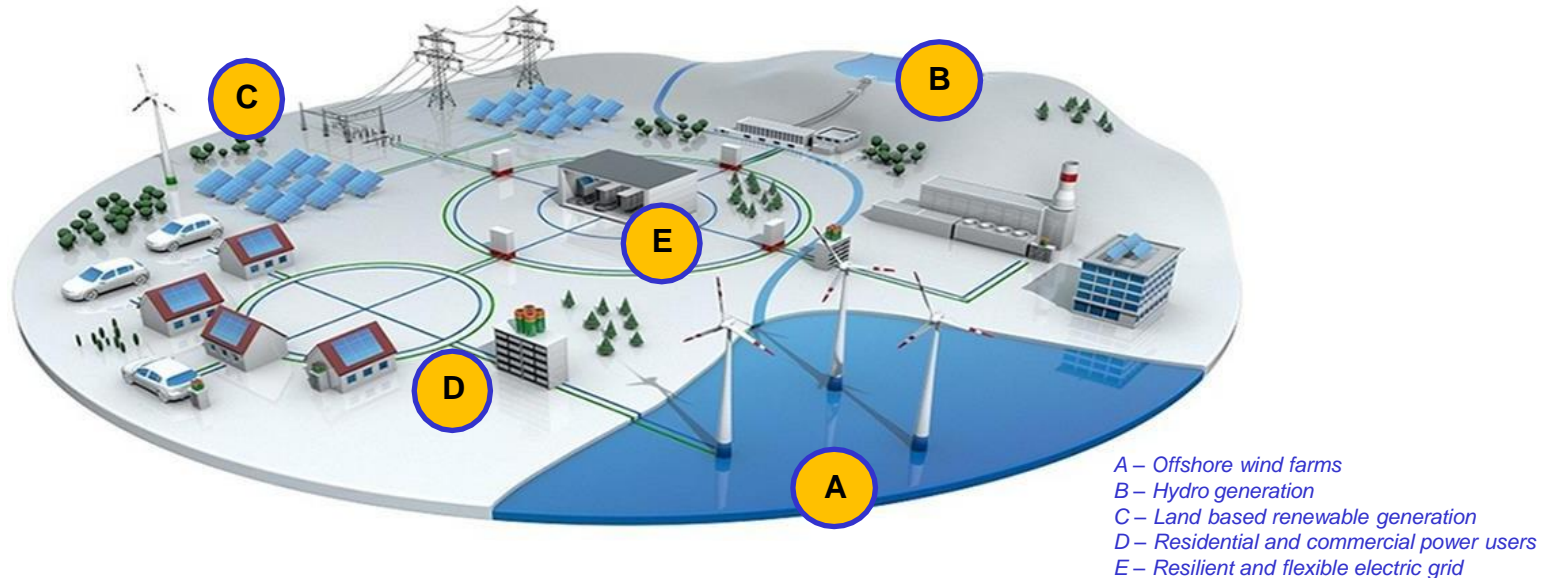
A strong electrical transmission grid is vital to the safety, security and economic prosperity of the region. The transmission system serves a critical role to ensure that electricity flows with a high degree of reliability from wherever the power is generated to where it is needed.

The Greater Cambridge Energy Project will provide additional electric supply to meet the growing needs of the area and will also serve to reinforce the transmission system serving the region.



A Flexible Electric Grid

Supports energy delivery of remote & local clean energy resources



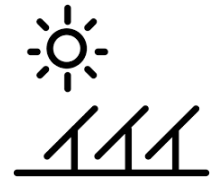
The Greater Cambridge Energy Project, with a new substation and associated transmission and distribution lines, also helps ensure the region has a flexible electric grid that can accommodate clean electric generation sources now and in the future.

- ✓ A resilient transmission network provides redundancy to help ensure system reliability and bring green energy from the generation source to where and when it is needed.
- ✓ Flexible distribution networks help manage changing levels of local distributed generation helping to reduce the risk of overloading distribution equipment.
- ✓ Energy efficiency and demand response efforts help existing users contribute to the overall effort.

While certainly a piece of the solution, Solar and Energy Storage have limitations

Solar

- Not feasible due to scale & duration necessary to meet needs.
- Duration of need far exceeds solar availability.
- Widespread system upgrades still needed for integration.



Energy storage

- Not feasible due to scale and lack of capacity for charging.
- Very large land or customer requirements to add generation for recharging.



Gas/emergency generation

- Not feasible due to scale and increased emissions.
- Peaks occur on hot days when there is limited demand for CHP generation.
- System upgrades still needed.



While part of the total solution, these options, alone or in combination, cannot meet the area's energy needs and more importantly, do not address the need for grid connectivity / redundancy.

Project Overview

New Station, New Transmission Lines, New Distribution Lines

New Underground Substation in Kendall Square

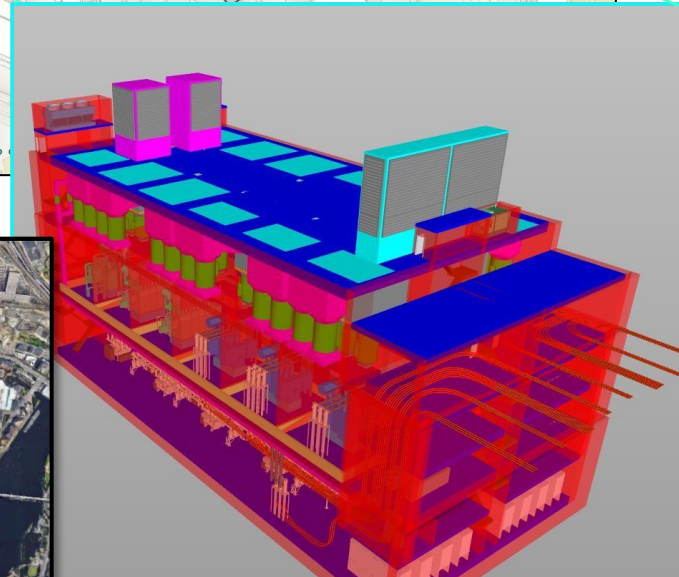
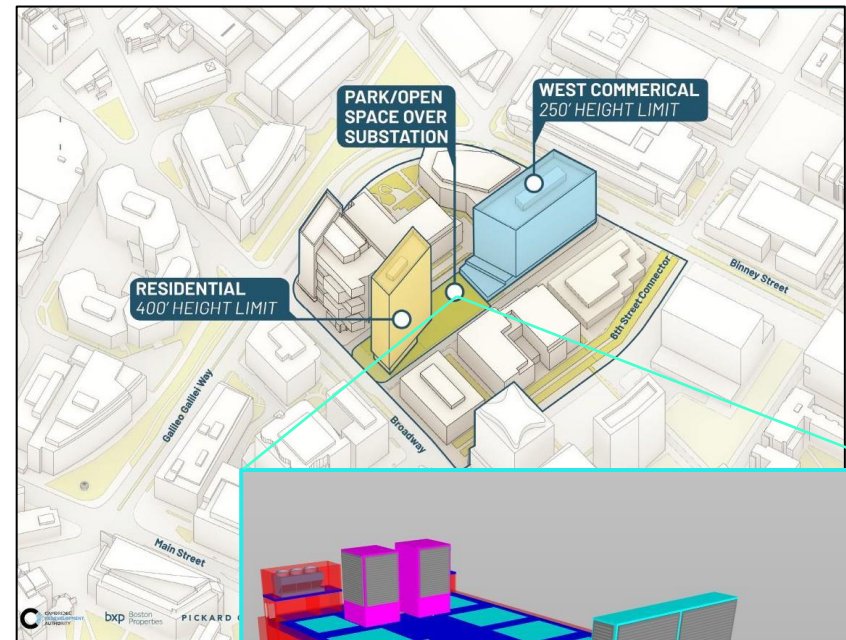
- Integrated into Boston Properties redevelopment plans - public open space above substation between residential and commercial buildings.

New underground transmission lines

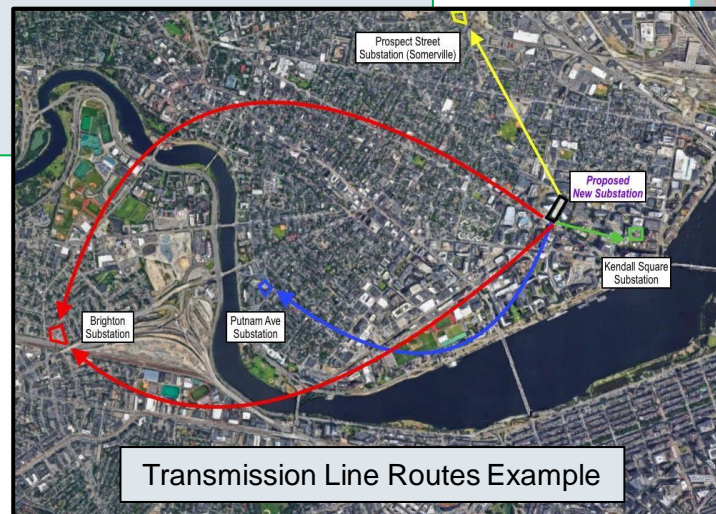
- Five new 115-kilovolt ("kV") underground transmission line duct banks
 - 2 new duct banks between the new Substation and the existing Allston/Brighton Substation
 - 1 new duct bank between the new Substation and the Prospect Street Substation in Somerville
 - 1 new duct bank between the new Substation and the Putnam Avenue Substation in Cambridge, and
 - 1 new duct bank between the new Substation and the East Cambridge Substation in Cambridge

New distribution lines

- 48 new distribution lines



Below Grade Substation Configuration Example



Transmission Line Routes Example

Below Grade Urban Substations

Examples of In-Service and Proposed Underground Substations in North America

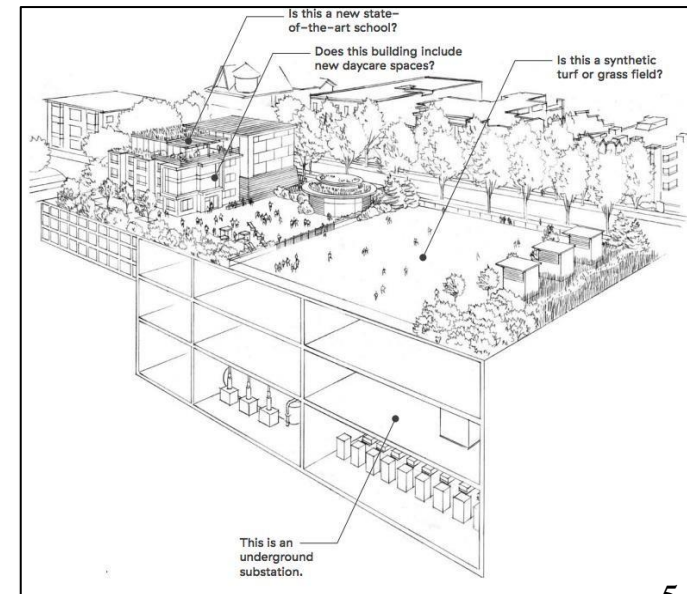


West End Substation, Vancouver
Currently Proposed

<https://www.bchydro.com/energy-in-bc/projects/west-end-substation.html>



Roosevelt Park, Anaheim, CA
In Operation Since: 2006
Size: 130 x 110 feet

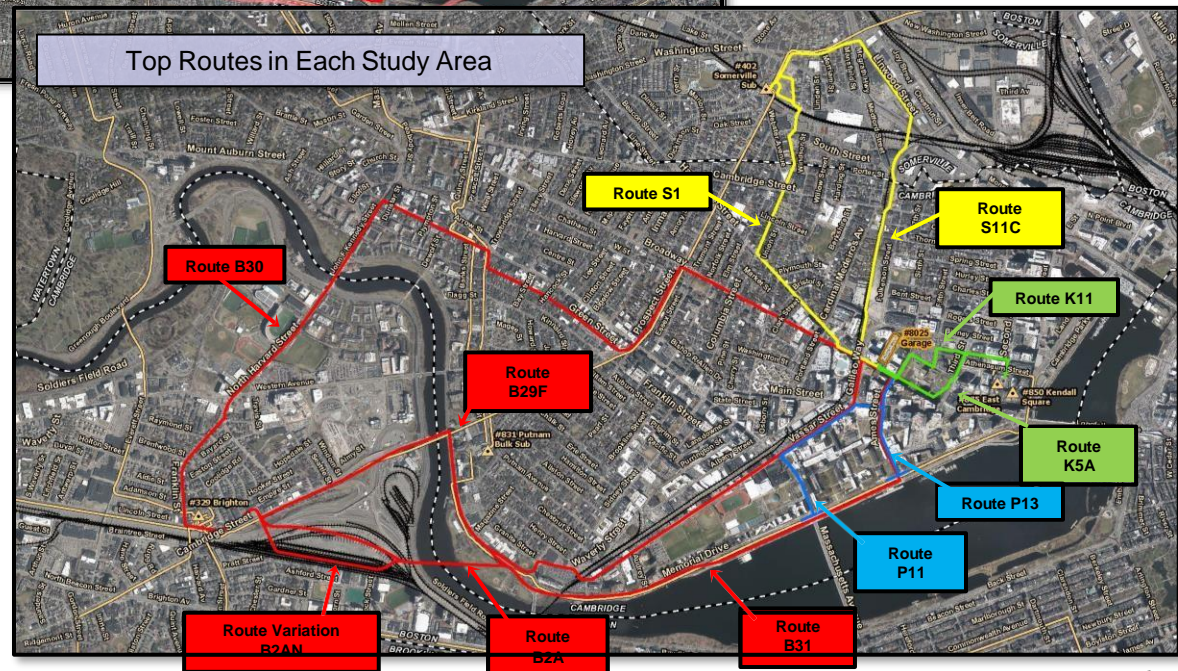
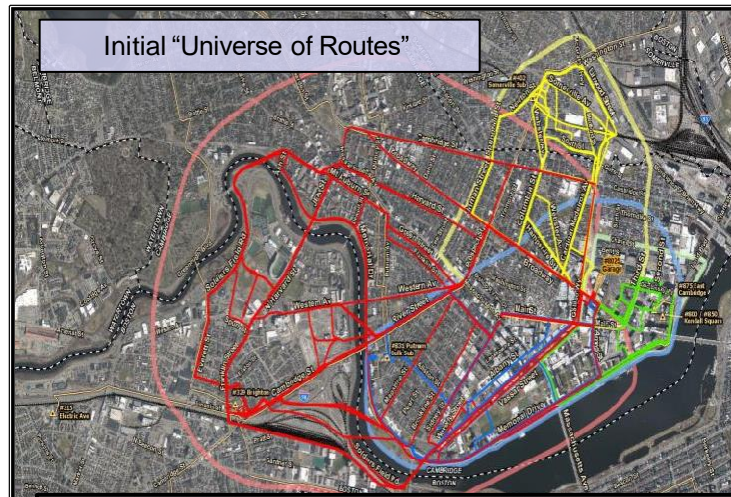


Siting Route Selection - Universe of Routes

Extensive Review, Stakeholder Feedback, Iterative Approach

Eversource Approach to Transmission Line Routing

- Starts with analysis of potential “Universe of routes” between the proposed substation and four existing substations – Kendall Square (green), Putnam (blue), Somerville (yellow) and Brighton (red).
- The “Universe of Routes” are then systematically narrowed down based on system reliability, technical feasibility, environmental and community impacts, stakeholder feedback and cost.
- Options that best balance these criteria are selected for further review.
- Eversource identified the top routes within each of the study areas for final consideration and stakeholder feedback.

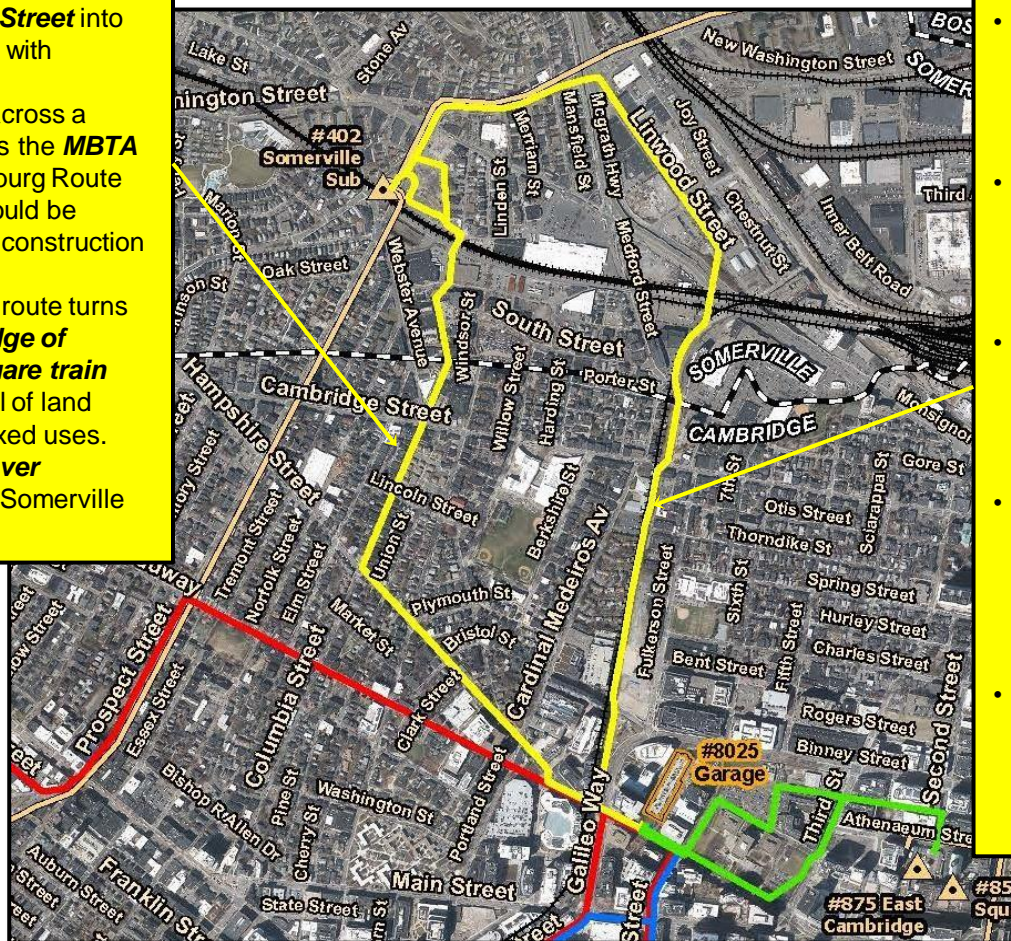


Top Routes in Somerville Study Area

Somerville Routes (Yellow)

Route S1 (approx. 1.34 miles)

- Route heads west onto **Broadway** before turning northwest onto **Hampshire Street**.
- Route follows **Columbia Street** into Somerville to intersection with **Windsor Place**.
- Route then heads north across a private parking lot towards the **MBTA commuter tracks** (Fitchburg Route Main Line) where they would be crossed using trenchless construction technique.
- After crossing the tracks, route turns northwest **around the edge of MBTA's new Union Square train platform**, across a parcel of land being redeveloped for mixed uses.
- The route then crosses **over Prospect Street** into the Somerville substation



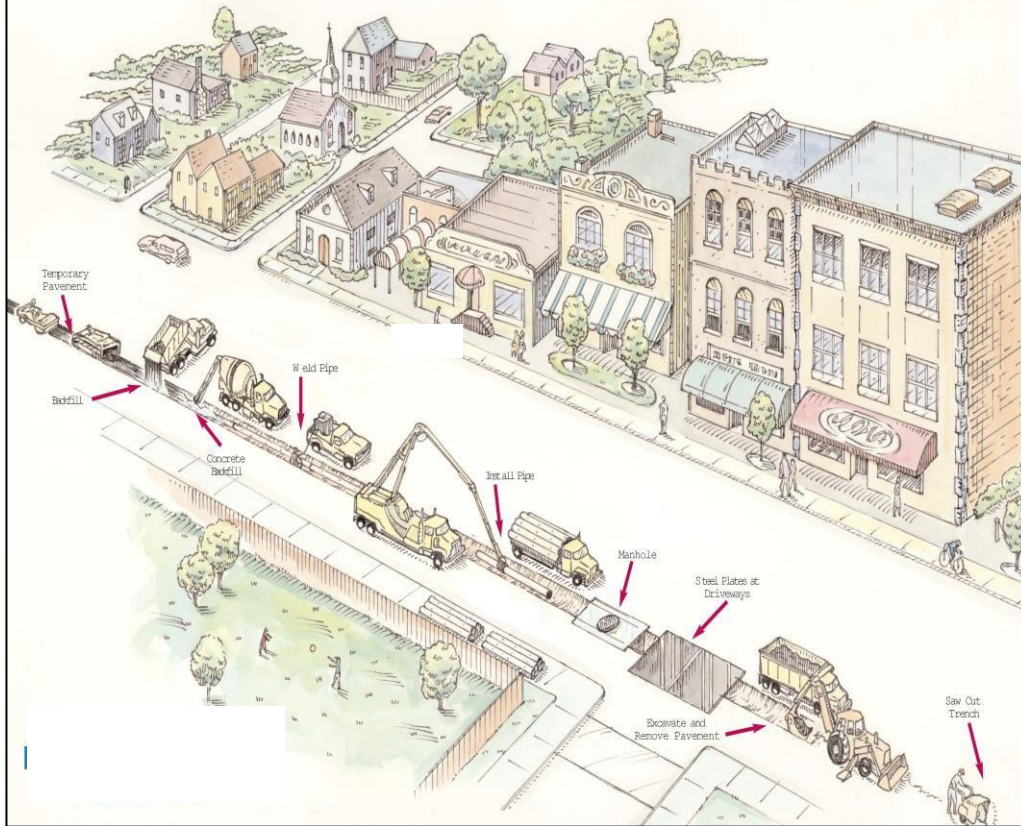
Route S11C (approx. 1.64 miles)

- Route heads west onto **Broadway**, turning north onto a Cambridge owned parcel abutting the east side of the Grand Junction Corridor.
- The route continues north, collocating along the **potential Grand Junction Multi-Use Path**, crossing at grade at **Binney, Cambridge and Medford Streets**.
- After crossing **Medford Street**, the route continues north along the western edge of the MBTA right of way up to the **MBTA commuter tracks**.
- The route would **cross under the MBTA tracks and McGrath Highway** using trenchless construction technique to reach an **Eversource owned parcel of land on Linwood St**.
- The line would then turn northwest onto **Linwood, Washington and Prospect Street** where it connects with the Somerville Substation.

Proposed Line Construction Sequencing

"The Train"

Installation of Underground Electric Transmission Lines



This image is for illustrative purposes only. It is not drawn to scale and does not represent any actual streets.

Our work crews will be working in local streets for each phase of the Project: **vault installation, trench digging, cable installation, cable pulling/cable splicing, and final restoration.**

Typical Construction Sequence:

1. Vault Installation
2. Saw cut and excavate trench.
3. Install Pipe and backfill.
Temporarily restore road surface.
4. Cable Pulling and splicing.
5. Permanent Restoration.

Work in proximity to individual residences will typically take a few weeks and crews will coordinate with residents to minimize impact to their daily activity.

Working with municipal staff, traffic plans and restoration expectations will be outlined in advance and field engineer resources will help ensure tight construction coordination.

While engineering is still underway, we do anticipate limited work will be required at the remote substations.

- Line termination equipment will be needed at the Brighton, Kendall and Somerville substations.
- Current limiting equipment will also be required and is planned to be placed inside the existing North Cambridge substation.
- All work will be within the existing fence lines and will not create substantial visible changes when viewed from outside the substation property.

Proposed Schedule

Working Toward In-Service Date of 2028

Pending receipt of all necessary permits and approvals, construction of the Project is anticipated to commence in Q2 2024, continuing over a 48-month period, with an overall targeted completion by the end of Q4 2028



**Assumes 24 month from filing to decision.*



For More Information:



1-800-793-2202



ProjectInfo@eversource.com

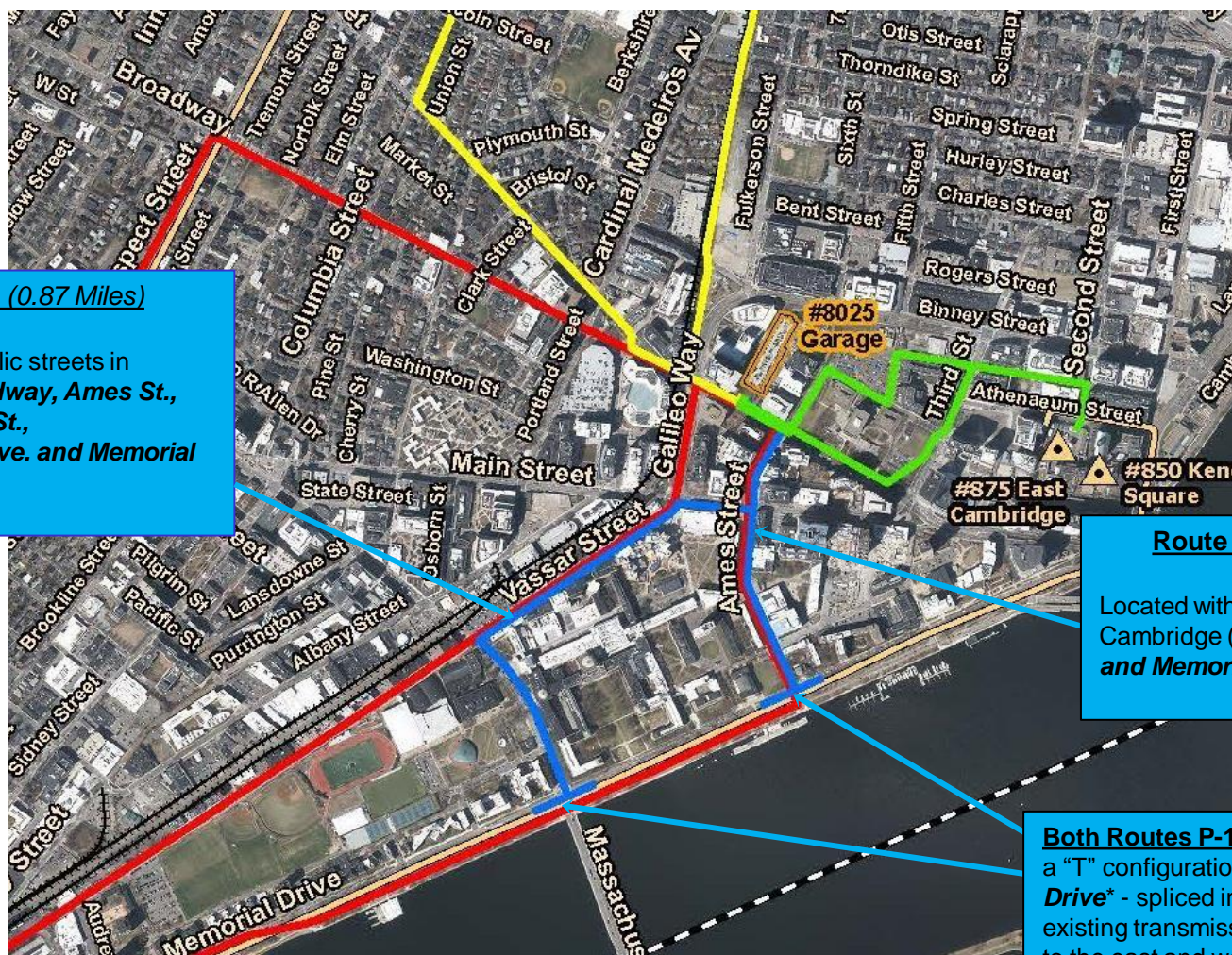
You can also keep up-to-date on happenings in your community by providing your contact information via phone, email or by scanning the QR code with your smart device.



APPENDIX

Top Routes in Putnam Study Area

Putnam Routes (Blue)



Route P-11 (0.87 Miles)

Located within public streets in Cambridge (**Broadway, Ames St., Main St., Vassar St., Massachusetts Ave. and Memorial Drive***).

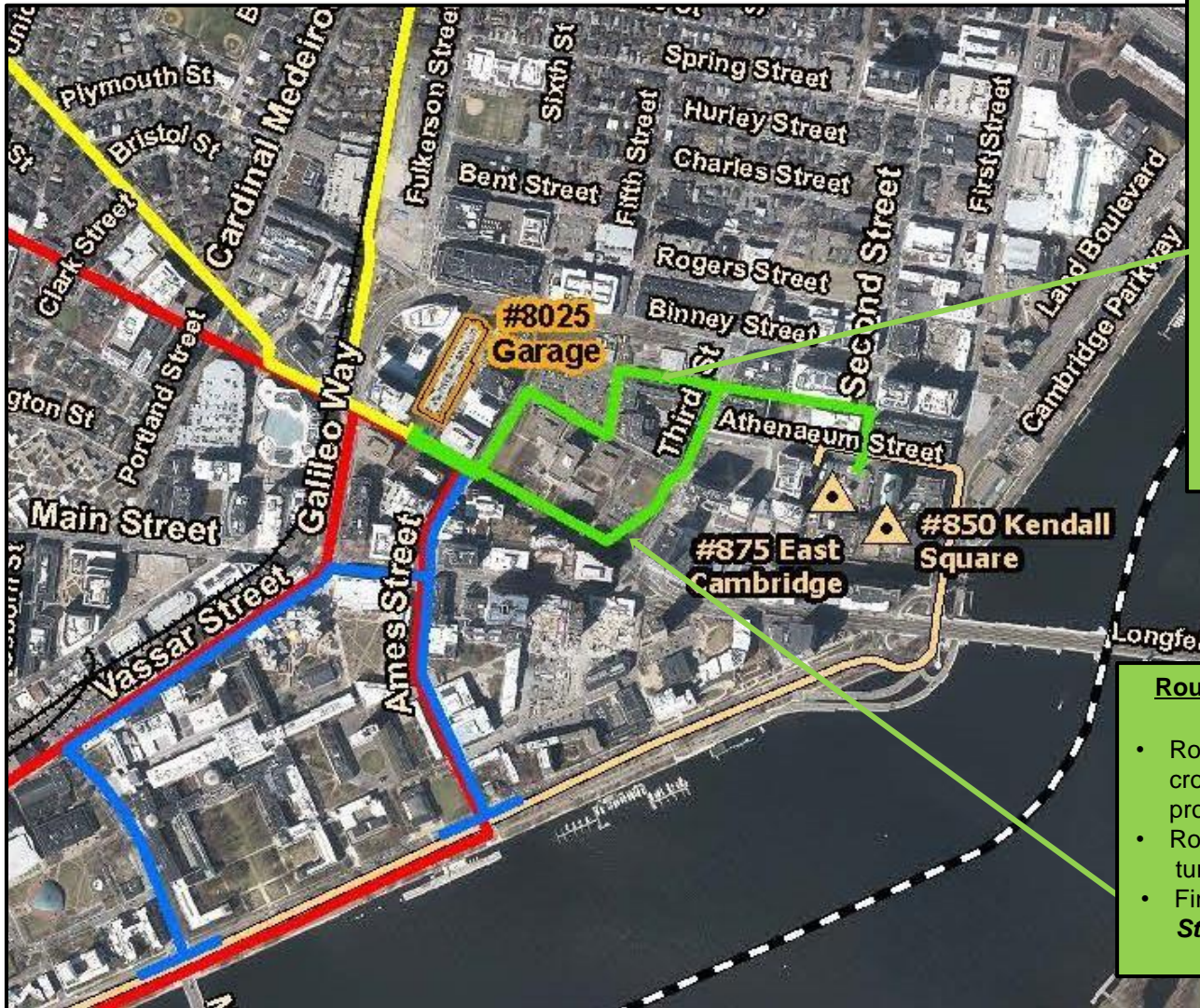
Route P-13 (0.49 Miles)

Located within public streets in Cambridge (**Broadway, Ames St. and Memorial Drive***).

Both Routes P-11 and P-13 end in a "T" configuration on **Memorial Drive*** - spliced into an existing transmission line(s) to the east and west.

Top Routes in Kendall Study Area

Kendall Routes (Green)



Route K11 (approx. 0.61 miles)

- Route heads east from new substation onto **Broadway** before turning north across abutting Volpe Center property to **Potter Street***.
- From **Potter Street***, route heads north onto **5th Street*** and east onto **Munroe*** before crossing over Third and onto **Linskey Way**.
- Route follows **Linskey** easterly before turning south onto **Second Street** to the Kendall Substation.

Route K5A (approx. 0.63 miles)

- Route follows **Broadway** before crossing corner of Volpe property
- Route follows **Third Street** turning east onto **Linskey Way**
- Finally turns south onto **Second Street** to the Kendall Substation

Top Routes in Brighton Study Area

Brighton Routes (Red) - Two Lines Needed

Route B-30 (3.43 Miles)

Located in Cambridge and Boston. Route crosses Memorial Drive* as it approaches the Anderson Memorial Bridge. Sufficient Space for transmission line within bridge deck

Route B-29F (3.01 Miles)

- Route follows Vassar St. before connecting with Memorial Drive* to the River St. Bridge. Sufficient Space for transmission line within bridge deck.
- Where River St. Bridge transitions onto Soldiers Field Road*, roadway is under MassDCR jurisdiction.
- On Boston side of the Charles River the route follows Cambridge St. to the Brighton Substation

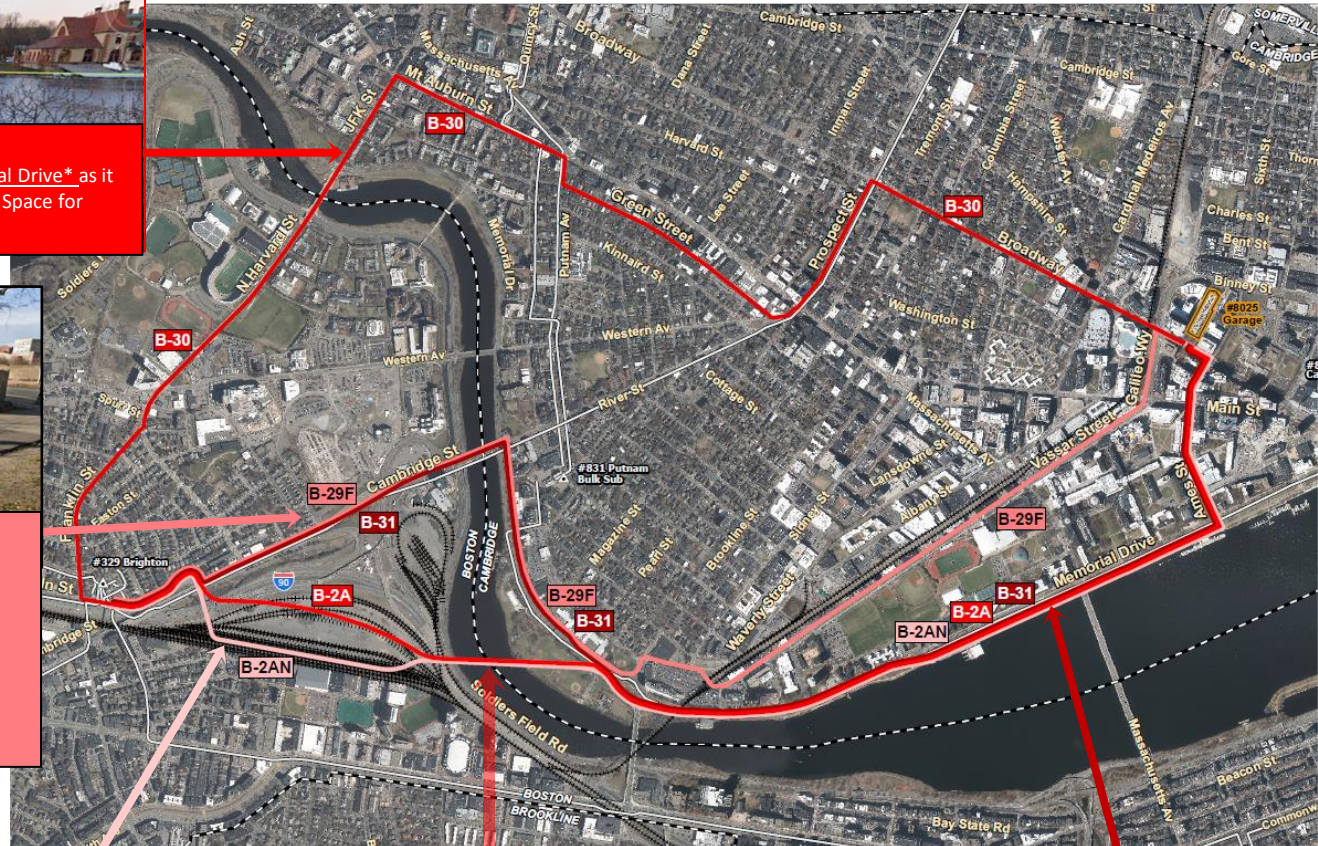
Route B-2AN (2.94 Miles)

- Follows the same alignment for Route B2A East, including an HDD crossing of the Charles River onto the MassDOT Allston Multimodal Project area.
- Route follows the southern parcel boundary of Harvard University's property parallel to the existing MBTA rail facilities. This variation would potentially be advanced should MassDOT decide not to move forward with the Allston Multimodal Project.

HDD Crossing

Route B-31 (3.26 Miles)

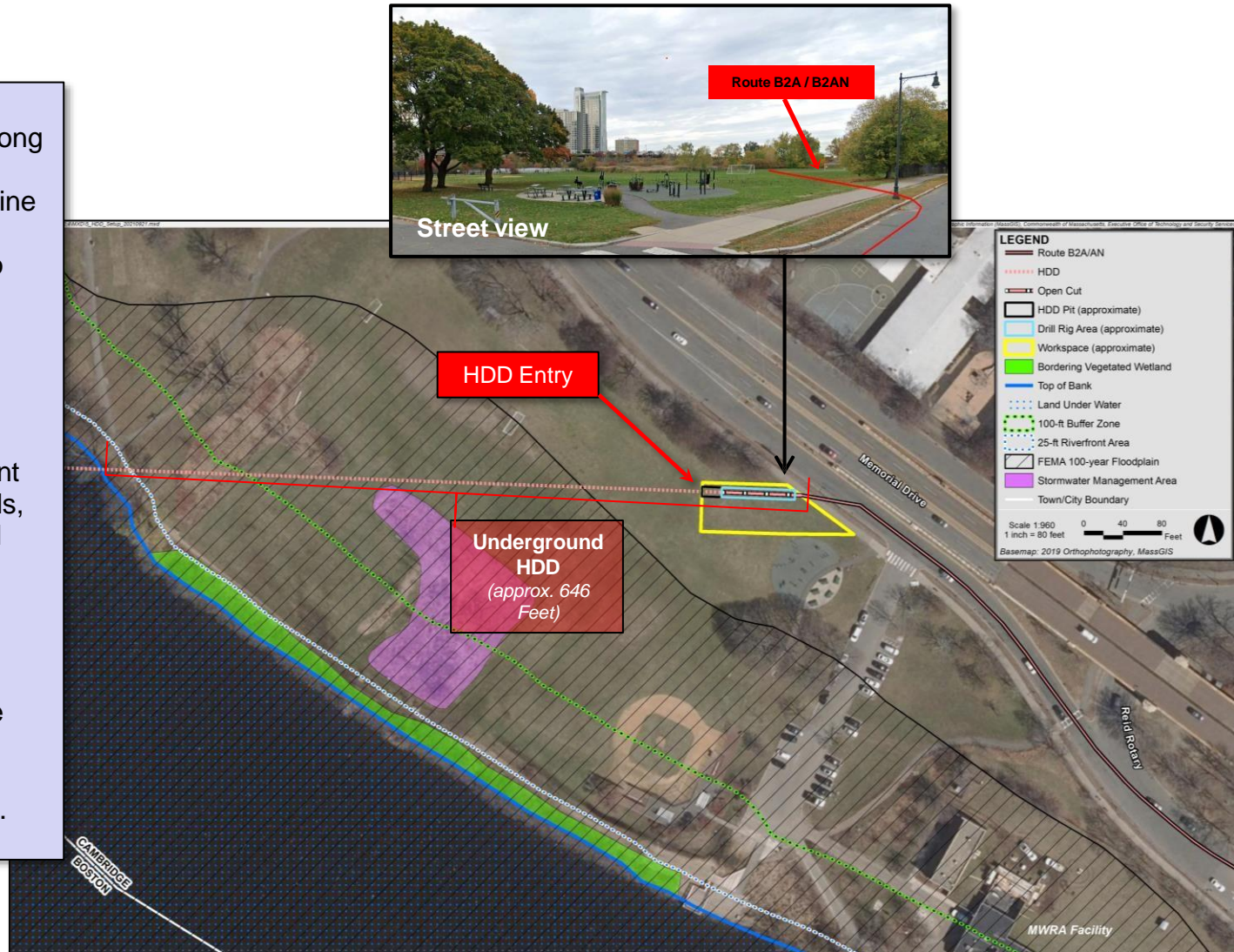
- Involves work on Memorial Drive*, from its intersection with Ames St. through the BU Bridge and rotary up to the River St. Bridge.
- Where River St. Bridge transitions onto Soldiers Field Road* the roadway is under MassDCR jurisdiction.
- On the Boston side of the Charles River, the route follows Cambridge St. to the Brighton Substation.



Crossing the Charles River

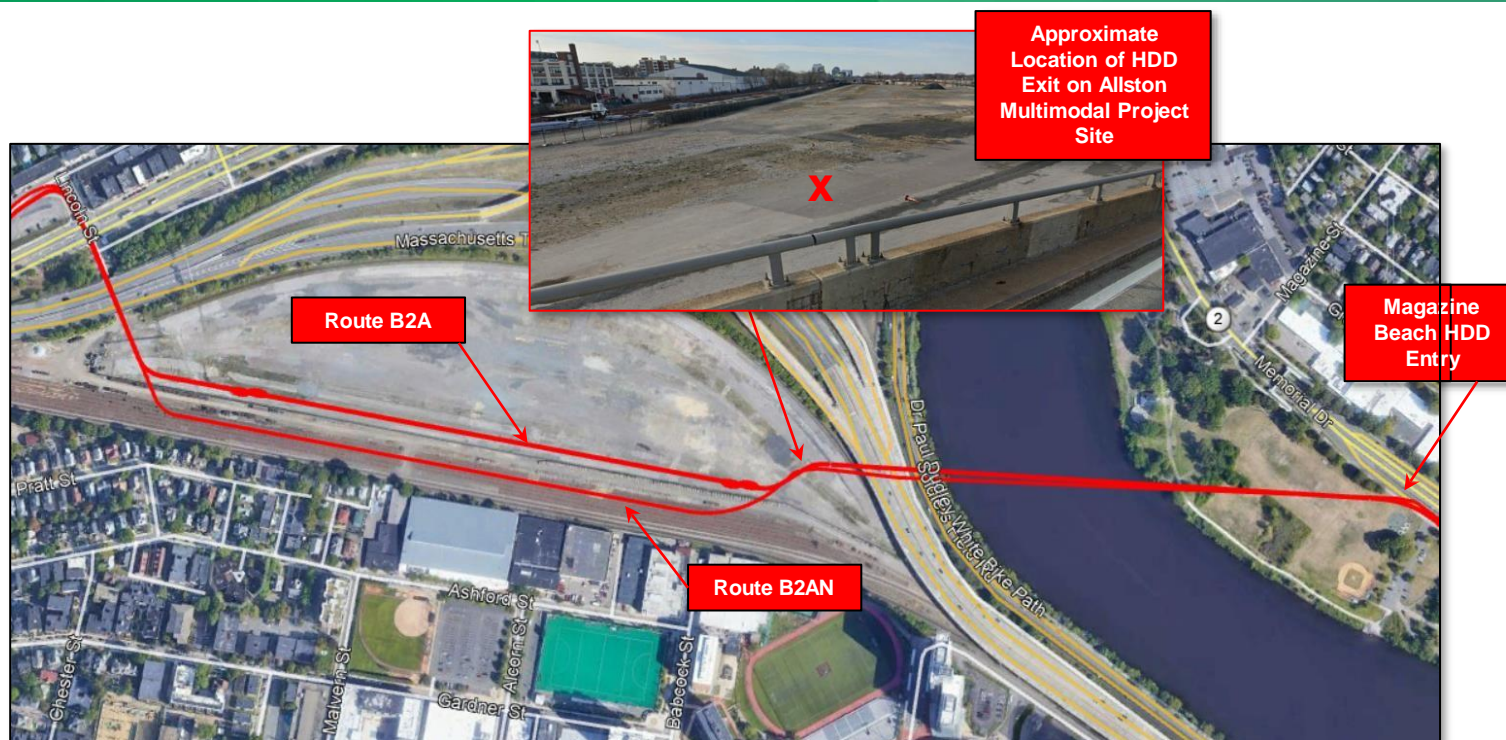
HDD Under Charles River at Magazine Beach

- Conventional open trench construction along Memorial Drive and a limited area of Magazine Beach grassed area before transitioning to Horizontal Directional Drill (HDD).
- HDD minimizes disturbance to the Charles River, adjacent shoreline and wetlands, and DCR recreational facilities (Magazine Beach, Paul Dudley White Bike Path).
- All workspaces will be fully restored to their existing condition following construction.



Top Routes in Brighton Study Area

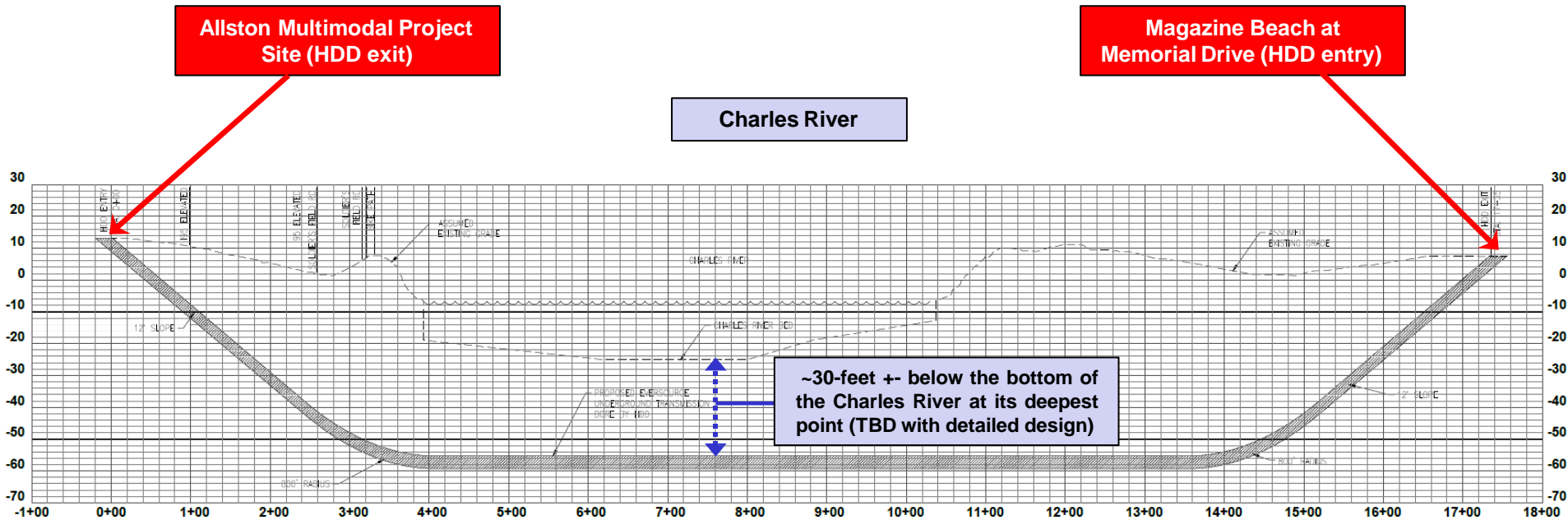
HDD Exit at Allston Multimodal Site



- The HDD exit would be located on the Allston Multimodal Project Site, within an area that is presently disturbed.
- Route B2A follows the general alignment of future roadways being considered as part of the Allston Multimodal Project.
- If the Allston Multimodal Project is not advanced, Route Variation B2AN would likely be constructed further south towards the railyard to avoid constraining the landowner's (Harvard) ability to develop the land in the future.
- Because there is greater available workspace on the west side of the Charles River and less potential for impacts to vegetation and presently undisturbed land, the Allston Multimodal Project Site will be used to assemble the HDPE pipe prior to pulling through to the entry point.

HDD Beneath Charles River

Conceptual Profile View



2

