

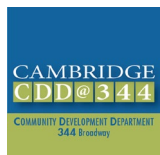
October 5, 2023

City of Cambridge  
Community Development Department

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Transit Advisory Committee Meeting

# Feasibility Study of a Pedestrian & Bicycle Crossing of the Fitchburg MBTA Rail Line



[CambridgeMA.gov/FitchburgCrossing](https://CambridgeMA.gov/FitchburgCrossing)





# Presentation Purpose & Process

## Purpose

- The meeting will update the Transit Advisory Committee on the city's intention to move forward with the over-crossing bridge concept. Next steps will be discussed and how the community can continue to provide ideas on the project.

## Process

- Explain the underpass options studied, and engineering and property constraints.
- The format is a digital presentation with a slide deck and time for questions and answers.

# Meeting Outcome

## Outcome

- Identify and explain opportunities to provide ongoing input and review of the project
- Hear ideas on an overcrossing bridge concept
- Provide information about the federal grant application



# Agenda

Welcome!

1. Schedule and Goals
2. Regional Context, Study Area
3. Design Updates
4. Federal Grant Application
5. Next Steps & Q and A





# Schedule

## Schedule

- **Fall 2022:** Start review of property and technical issues.
- **Spring 2023:** Develop crossing options.
- **Spring-Summer 2023:** Public engagement begins and confirm design direction.
- **Fall 2023:** Submit federal grant application for design. Set up next steps so design can begin with **\$600k ARPA funds** and hopefully beyond with federal funds.
- **2024-2025:** Hear grant decision and continue public engagement, and work with stakeholders on design.

# Background & Goals

Goals of the crossing feasibility study include:

- Create a convenient, comfortable, safe and accessible crossing between Rindge Avenue area and Danehy Park and beyond
- Improve resident connections to green spaces and retail offerings



**Carlton Street Footbridge  
Brookline, MA**

# Regional Context



The next slide has a map showing the important path connections in the region

- Watertown-Cambridge Greenway
- Danehy-New Street Path (in design)
- Linear Park
- Minuteman Bikeway
- Alewife Greenway paths



**The Watertown-Cambridge Greenway  
Watertown, MA**

**LEGEND**

-  Existing multi-use path
-  Multi-use path in planning, design, or under construction





# Study Area

The study area in the North Cambridge and Alewife neighborhoods are close to many destinations

- **Rindge Avenue/Russell Field**
- **Sherman Street**
- **Danehy Park & Fresh Pond Mall**
- **Alewife Brook Parkway & retail**



**MBTA Commuter Rail Pedestrian & Bicycle Crossing Feasibility Study Area**  
Study Area Map | Community Development Department



**402 RINDGE AVE**  
273 UNITS

**364 RINDGE AVE**

**362 RINDGE AVE**  
504 UNITS

**BRICK WORKS CONDOS**  
102 UNITS

**JEFFERSON PARK STATE**  
104 UNITS

**JEFFERSON PARK FEDERAL**  
278 UNITS  
UNDER RECONSTRUCTION

**FRESH POND MALL**

**APPLE CINEMAS**

**DOG PARK**

**DANEHY PARK**

**RINDGE AVENUE**




**SHERMAN STREET**

**NEW STREET**

**MBTA FITCHBURG LINE**

**NORTH CAMBRIDGE CATHOLIC CEMETERY**

**LEGEND**

-  Crossing Study Area
-  Danehy-New Street Multi-Use Path
-  Proposed Sherman Street Extension

0 0.25 Mile (About 4 minutes walking)





# Opportunities: City-Owned Property

## Danehy-New Street Multi-Use Path

- The city-acquired former Watertown branch line up to Fitchburg MBTA line behind Apple Cinemas
- Danehy Park, a large recreation facility and former landfill

## Parcel B

- Passed to City by Brickworks developer
- 16' wide and located behind Jefferson Park

Fresh Pond  
Apartments

Brickworks  
Condominiums

Jefferson  
Park

Catholic  
Cemetery



MBTA Fitchburg Commuter Rail

Apple  
Cinemas

Parcel B

Danehy-New Street  
Multi-Use Path

Dog  
Park

Danehy  
Park

LEGEND

 City of Cambridge Owned Land

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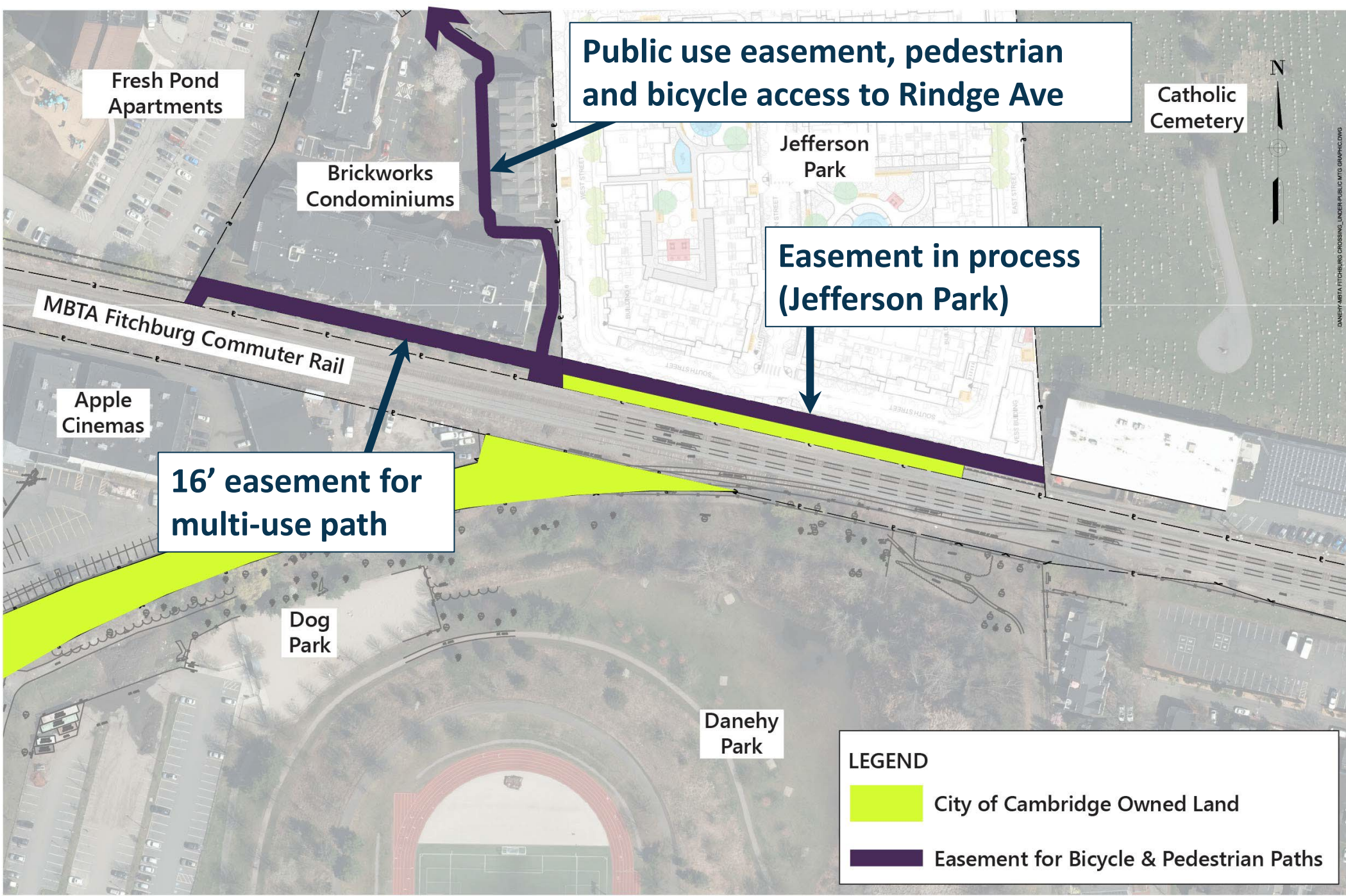
# Opportunities: Easements

## Easement through Brickworks

- Surface easement for walking and biking from Rindge Avenue to railroad right-of-way
- 16' easement along rear of property “for future bike path”

## Easement from Jefferson Park

- In Process - Cambridge Housing Authority intends to give City 16' path easement along southern edge of redevelopment site, adjacent to Parcel B
- Jefferson Park Federal is currently under redevelopment



Fresh Pond  
Apartments

Brickworks  
Condominiums

Public use easement, pedestrian  
and bicycle access to Rindge Ave

Catholic  
Cemetery

Jefferson  
Park

Easement in process  
(Jefferson Park)

MBTA Fitchburg Commuter Rail

Apple  
Cinemas

16' easement for  
multi-use path

Dog  
Park

Danehy  
Park

LEGEND

 City of Cambridge Owned Land

 Easement for Bicycle & Pedestrian Paths

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Fresh Pond  
Apartments

Brickworks  
Condominiums

Jefferson  
Park

Catholic  
Cemetery



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MBTA Fitchburg Commuter Rail

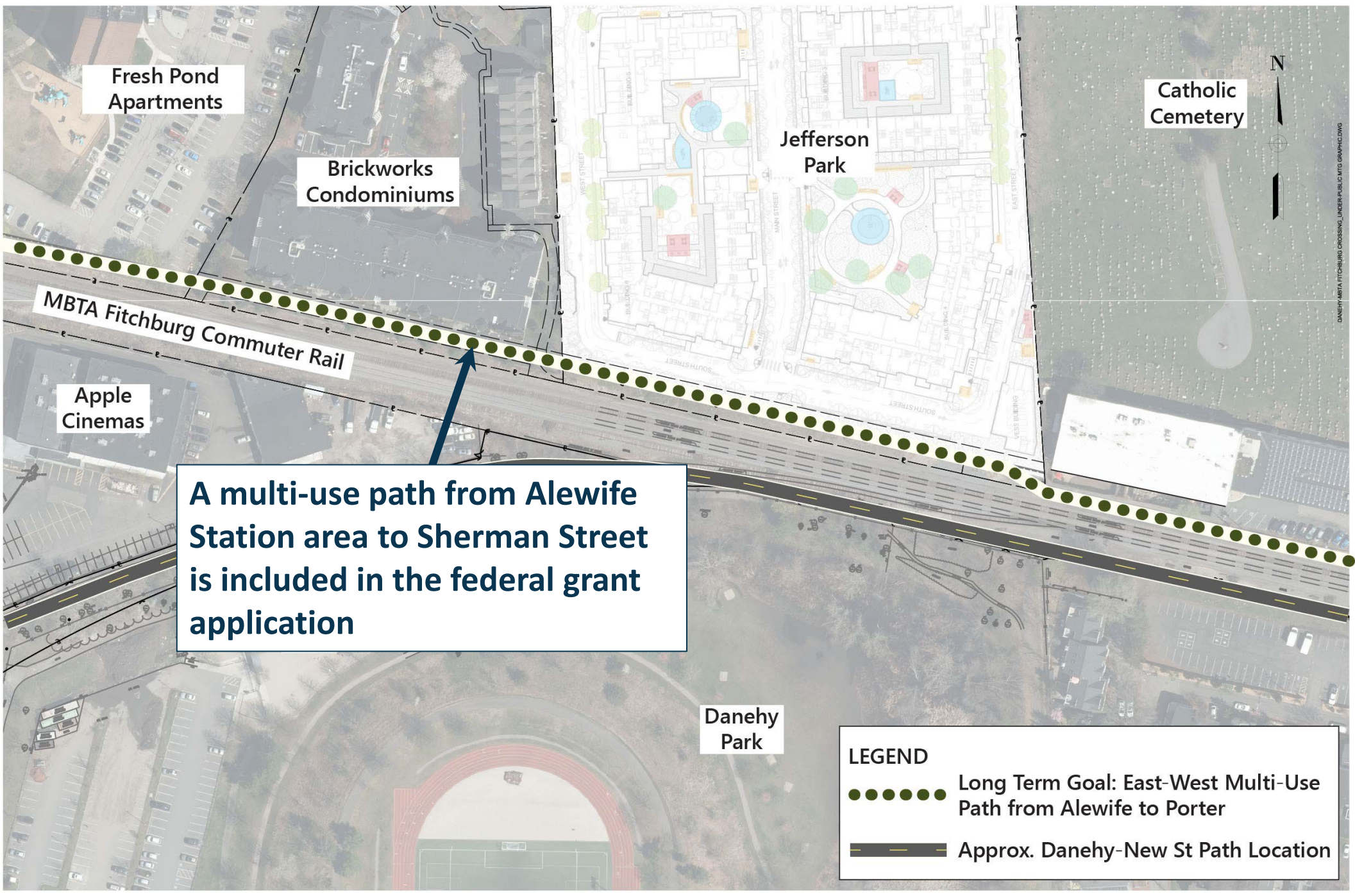
Apple  
Cinemas

**A multi-use path from Alewife Station area to Sherman Street is included in the federal grant application**

Danehy  
Park

**LEGEND**

- Long Term Goal: East-West Multi-Use Path from Alewife to Porter
- — — — — Approx. Danehy-New St Path Location





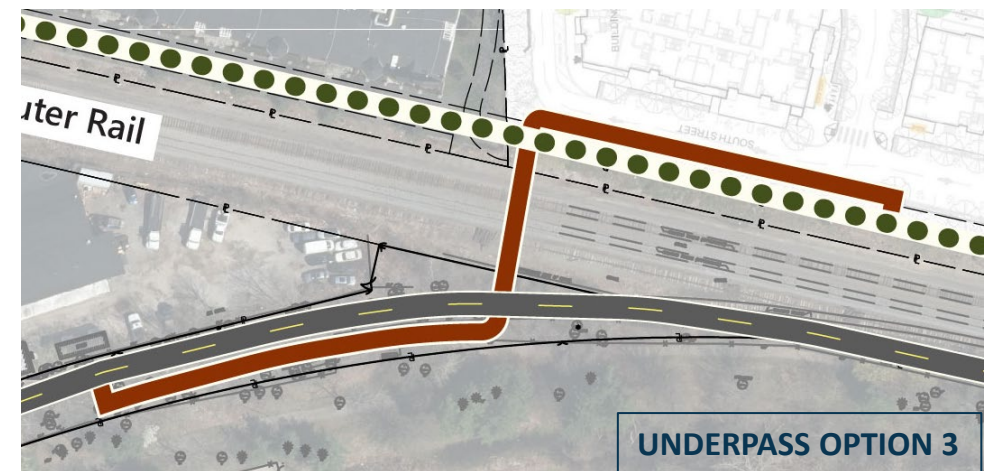
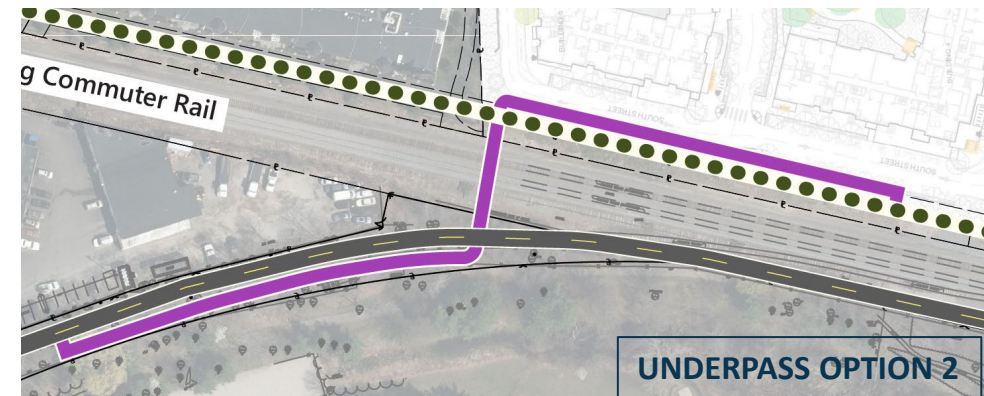
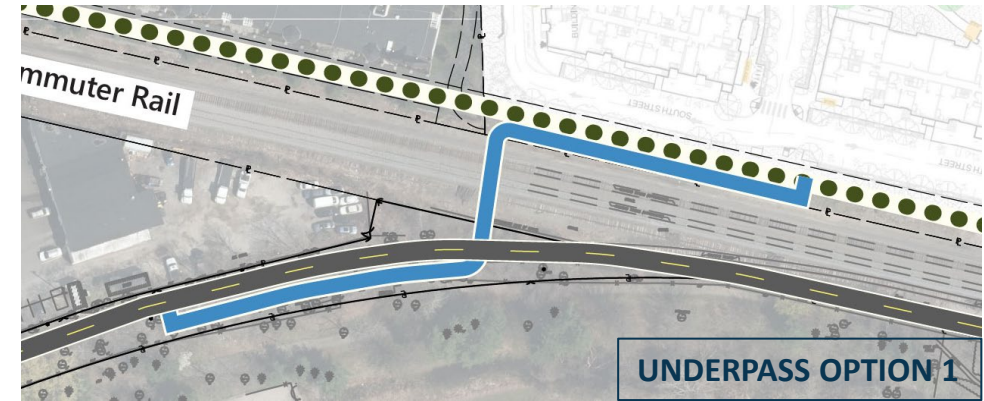
# Design Updates



# Underpass

Options that were reviewed in June and are not preferred include:

- Option 1: Blind corners, uncomfortable sight lines, longer tunnel.
- Option 2: Extremely deep tunnel to avoid box culvert, very long ramps.
- Option 3: Relocation of box culvert, ramps impact Jefferson Park redevelopment plans.



# Public Meeting #1 Follow-up

## Additional Underpass Study: Option 4

- The design team investigated if an underpass that includes “more open sightlines” and similar to the Beacon Street at Sacramento Street underpass in Somerville could be replicated at Jefferson Park.
- The design team also looked at another precedent underpass example in Orange, CA.



# Beacon Street underpass existing conditions

## Stairs

- 3 feet wide – which is too narrow for two people to walk side-by-side.

## Ramping

- 4 feet wide - with 2x 180-degree switchbacks, which are difficult for bicyclists to traverse.





# Site constraints at Jefferson Park

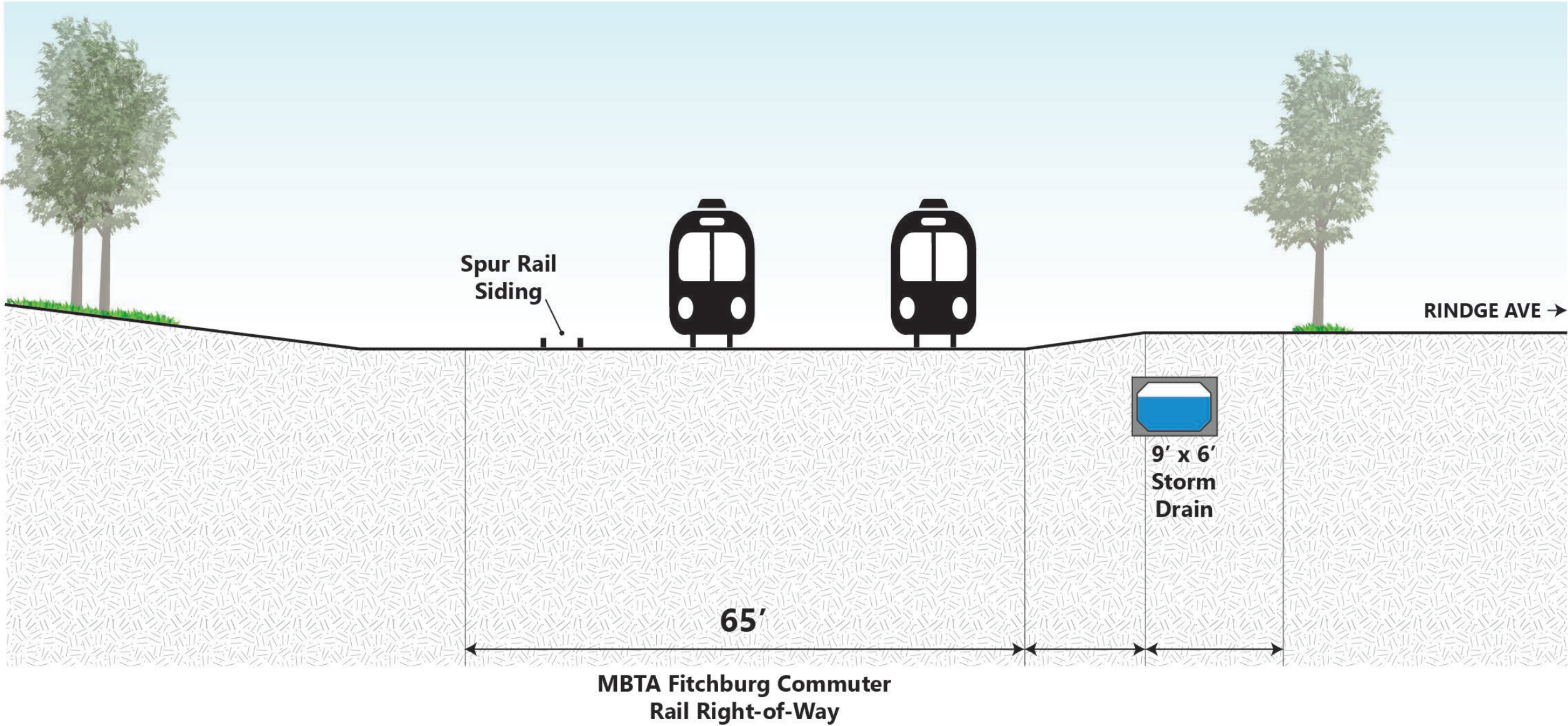
- Lack of space means that turns in the staircase are required on the north side of underpass option 4, and pinch point in headroom.
- The narrow width of Parcel B requires use of MBTA land, which they have indicated isn't available.
- The location of the box culvert storm drain is a significant engineering constraint.
- The result is no clear sight line through the tunnel, like at the Yerxa Road underpass.

DANEHY CONNECTOR PATH & PARK

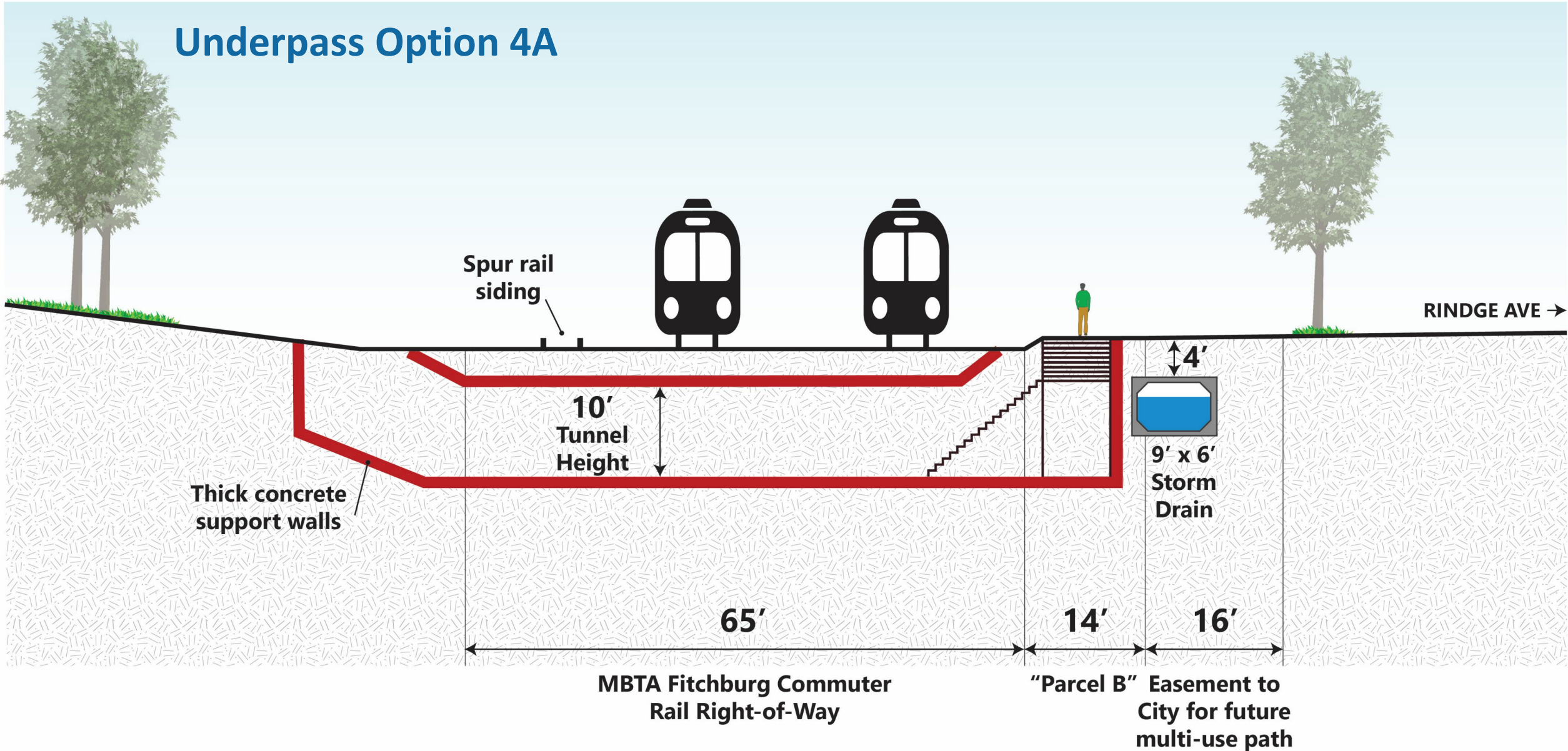
MBTA FITCHBURG COMMUTER RAIL LINE

"PARCEL B"

JEFFERSON PARK  
CAMBRIDGE HOUSING AUTHORITY



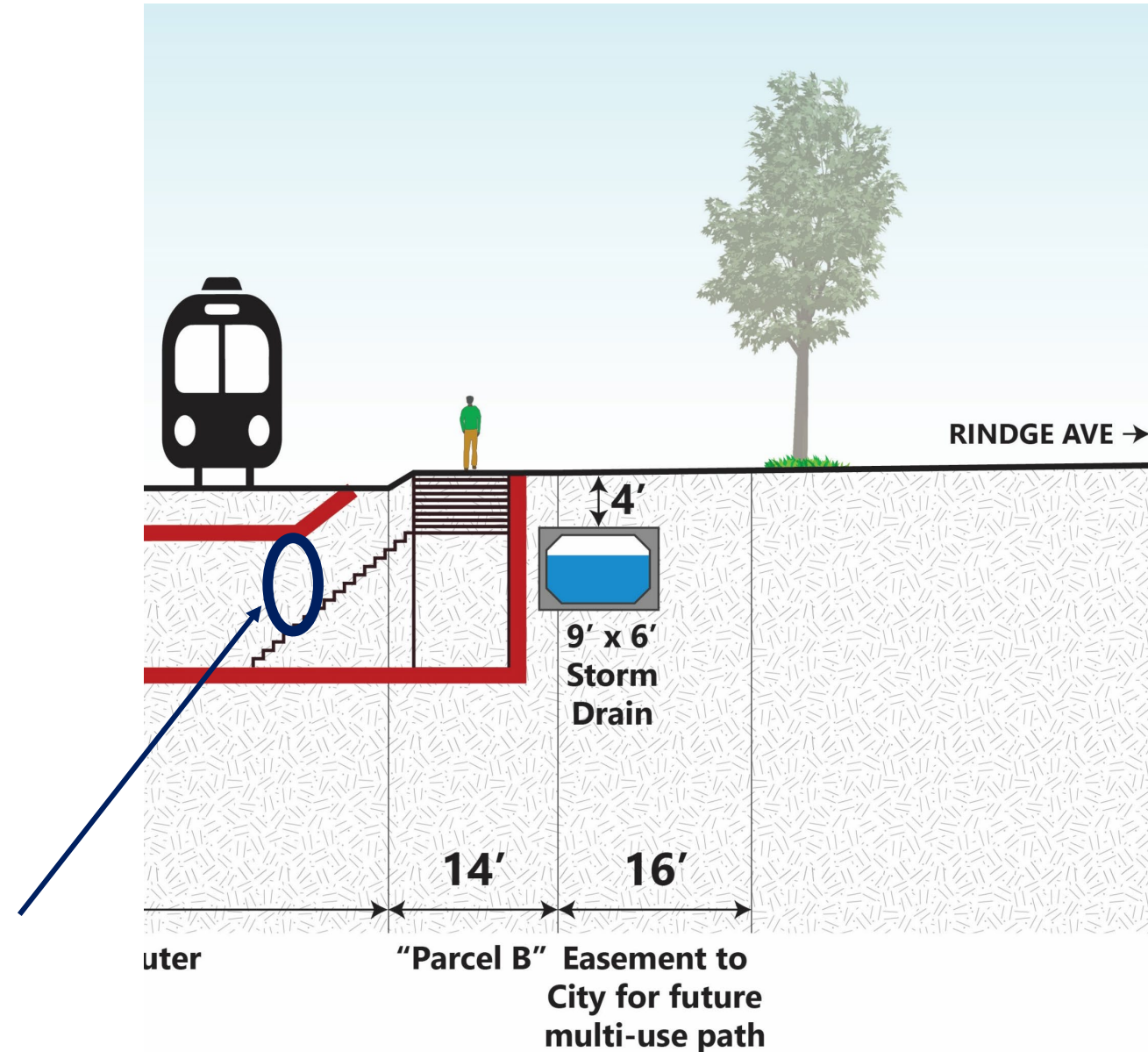
# Underpass Option 4A



# Underpass Option 4A

## Primary design issues

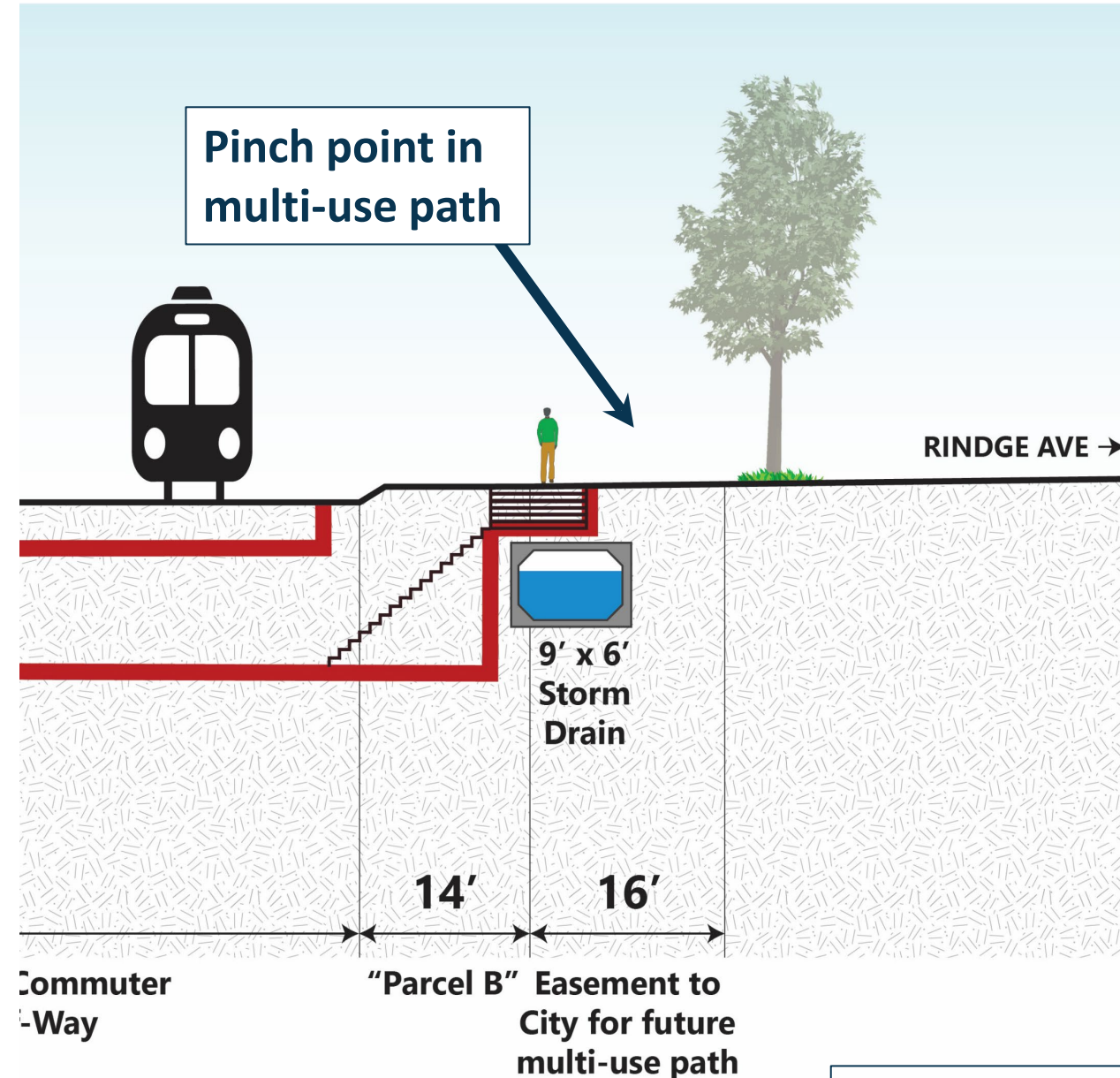
- Requires the use of MBTA right-of-way, which the MBTA has indicated is not available.
- Turn in staircase required, resulting in limited sightlines through the tunnel.
- Pinch point between stairs and roof of tunnel: 6'-6"



# Underpass Option 4B

## Primary design issues

- Requires the use of MBTA right-of-way, which the MBTA has indicated is not available.
- Encroaches into Easement area.
- Results in a pinch point in future multi-use path area, from 14' to about 8'.







# Underpass Options

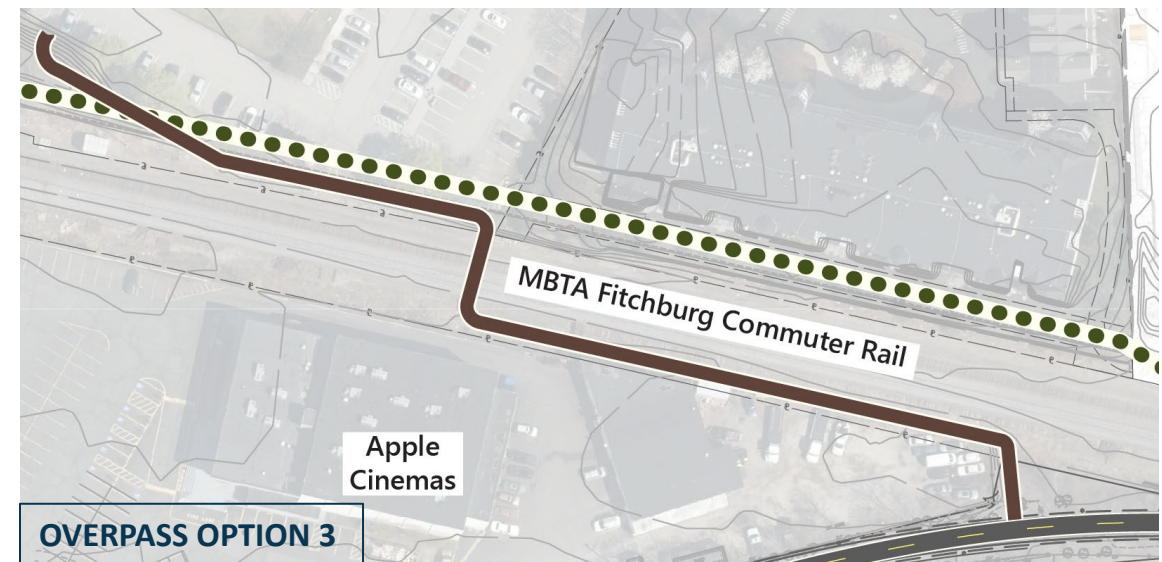
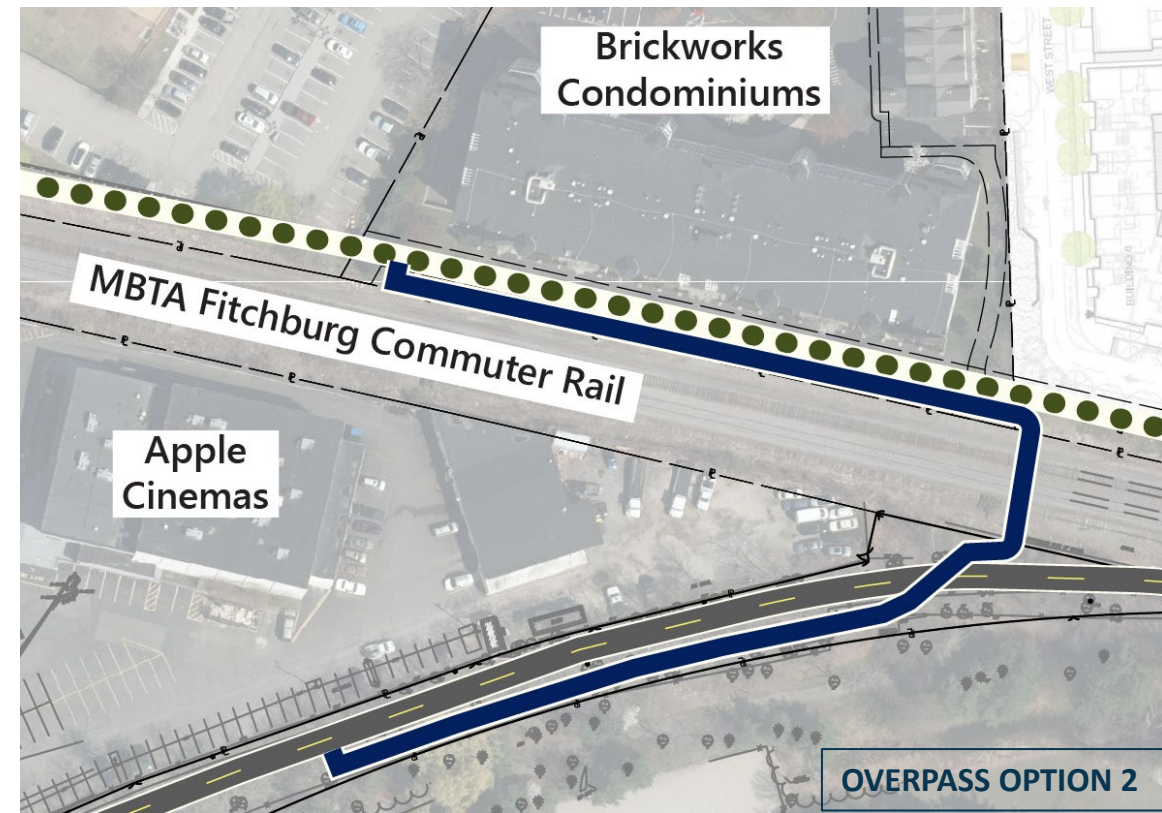
## Other design issues

- **Requires well designed and maintained pumps station(s) during heavy rains.**
- **Digging in former landfill raises possibility of contamination issues and poor fill.**
- **Concerns by Housing Authority and Police with underpass safety, plus issues with MBTA with space available.**

# Overpass

Options that were reviewed in June and are not preferred include:

- Option 2: Ramping needed on MBTA property or on easement at south edge of Brickworks property which may not be allowed
- Option 3: Relies heavily on ramping and support pylons in MBTA and/or private property



# OVERPASS OPTION 1

362 Rindge Ave

Brickworks Condominiums

Jefferson Park

Catholic Cemetery



Approx. 400' of ADA compliant ramping on north side

MBTA Fitchburg Commuter Rail




Apple Cinemas

Bridge structure is about 23' above train tracks

Dog Park

Danehy Park

## LEGEND

-  Overpass Option 1
-  Long Term Goal: Alewife to Porter Sq Path
-  Approx. Danehy-New St Path Location

0 500 Feet

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# OVERPASS OPTION 1 DESIGN IDEAS

362 Rindge Ave

Brickworks Condominiums

Jefferson Park

Catholic Cemetery



Reviewing options for path on south side of tracks to Sherman Street

MBTA Fitchburg Commuter Rail

Apple Cinemas





Possible staircase or ramp into Danehy Park

Dog Park

Possible at-grade path connection into Danehy Park

Danehy Park

**LEGEND**

-  Overpass Option 1
-  Long Term Goal: Alewife to Porter Sq Path
-  Approx. Danehy-New St Path Location
-  Connections into Danehy Park under study

0 500 Feet

DANEHY-MBTAFITCHBURG CROSSING\_UNDER-PUBLIC-INTG\_GRAPHIC.DWG

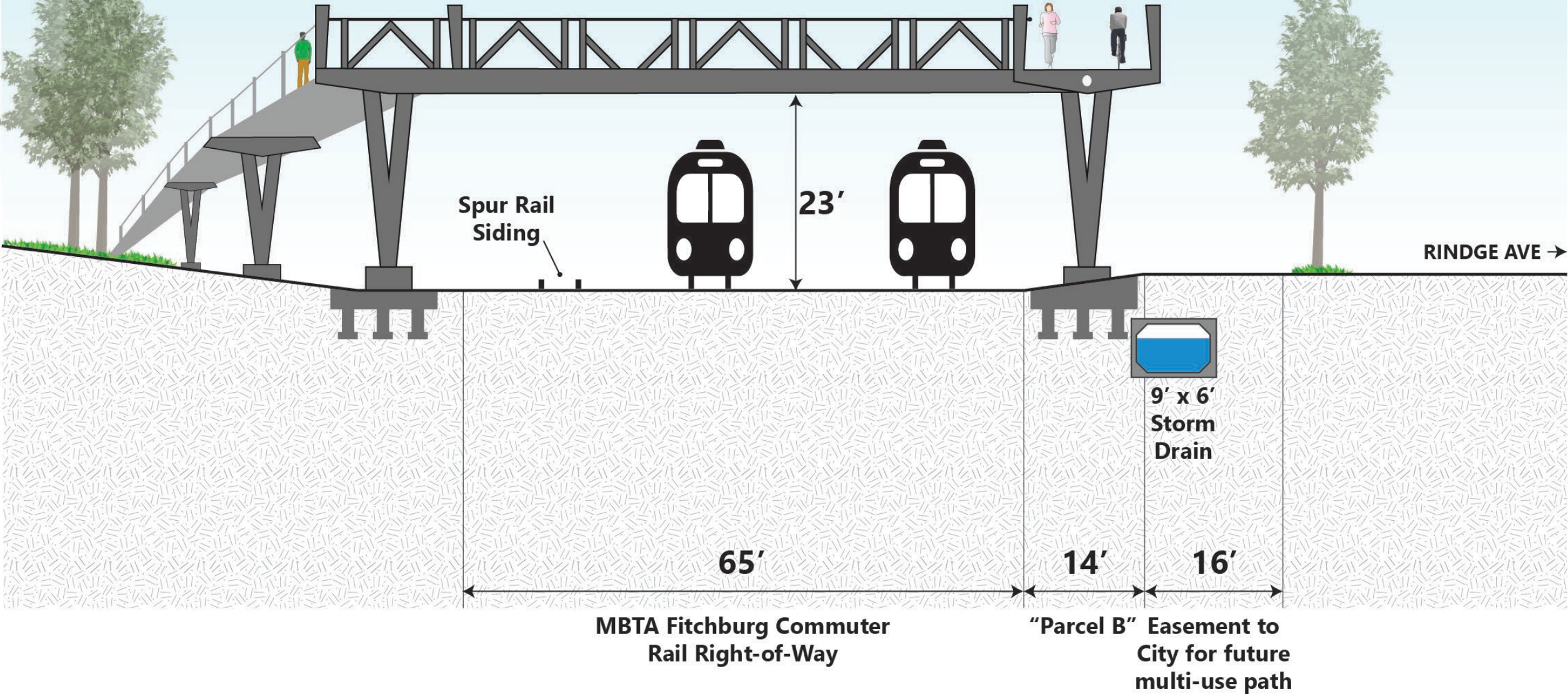
DANEHY CONNECTOR PATH & PARK

MBTA FITCHBURG COMMUTER RAIL LINE

"PARCEL B"

JEFFERSON PARK  
CAMBRIDGE HOUSING AUTHORITY

### Approximate Bridge Location



Spur Rail Siding

23'

RINDGE AVE →

9' x 6'  
Storm  
Drain

65'

14'

16'

MBTA Fitchburg Commuter  
Rail Right-of-Way

"Parcel B" Easement to  
City for future  
multi-use path

# Design Direction

Based on detailed review of options and constraints, plus discussions with MBTA and others, our plan is to move forward with further developing the bridge design option.



# Grant Application

- Applies for federal Reconnecting Communities and Neighborhoods grant.
- \$2.4 million in funds for crossing design.
- Submitted 20 letters of support.





# Next Steps

- Review options for future construction funding, add project to MassDOT State Transportation Improvement Plan.
- Coordinate with CRA on Rindge Commons path project.
- Hold regular coordination meetings with the MBTA.
- Review precedent project examples.



# Precedent Project Examples

## Carlton Street Footbridge

Brookline, MA

- Span Length: 70'-6"
- Width: ~ 11'



# Precedent Project Examples

Frances Appleton Bridge

Boston, MA

- **Span Length: 220'**
- **Width: 14'**

What other precedent examples should we look at?





# Stay in Touch

## Project Website

<https://www.cambridgema.gov/Departments/communitydevelopment/fitchburgcommutererrailinecrossingstudy>

[cambridgema.gov/fitchburgcrossing](https://www.cambridgema.gov/fitchburgcrossing)

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# Thank You