



GRIFFIN LINE RAIL-WITH-TRAIL FEASIBILITY MEMORANDUM

April 2024 DRAFT



CAPITOL REGION
**EAST COAST
GREENWAY STUDY**

SIMSBURY — BLOOMFIELD — HARTFORD — EAST HARTFORD

CRCOG
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STUDY AREA AND PURPOSE

This technical memorandum evaluates the feasibility of rail-with-trail in the active Griffin Line rail corridor for the 4.4-mile extent between Garden Street in Hartford and Park Avenue in Bloomfield as shown in Exhibit 1. This memorandum was produced as part of the Capitol Region East Coast Greenway Study, which evaluates trail alternatives in a 12-mile gap in the East Coast Greenway (ECG) within the municipalities of Simsbury, Bloomfield, Hartford, and East Hartford. This memorandum explores and documents trail feasibility along the Griffin Line corridor given the existing and expected use of freight rail service in the corridor.

The Griffin Line corridor runs generally in a northwesterly-southeasterly direction within the study area. Between Garden Street and Route 44 (Albany Avenue) the rail line is oriented in an east-west direction. North of Route 44 (Albany Avenue) the corridor shifts direction and changes to a north-south direction. This memorandum uses the following conventions for direction:

- Entire Study Area:
 - Griffin Line defined as running northwest-southeast
 - Locations in reference to side of track: Northeast side & southwest side
- Specific Locations South of Route 44 (Albany Avenue):
 - Griffin Line runs east-west
 - Locations in reference to side of track: North side & south side
- Specific Locations North of Route 44 (Albany Avenue):
 - Griffin Line runs north-south
 - Locations in reference to side of track: East side & west side

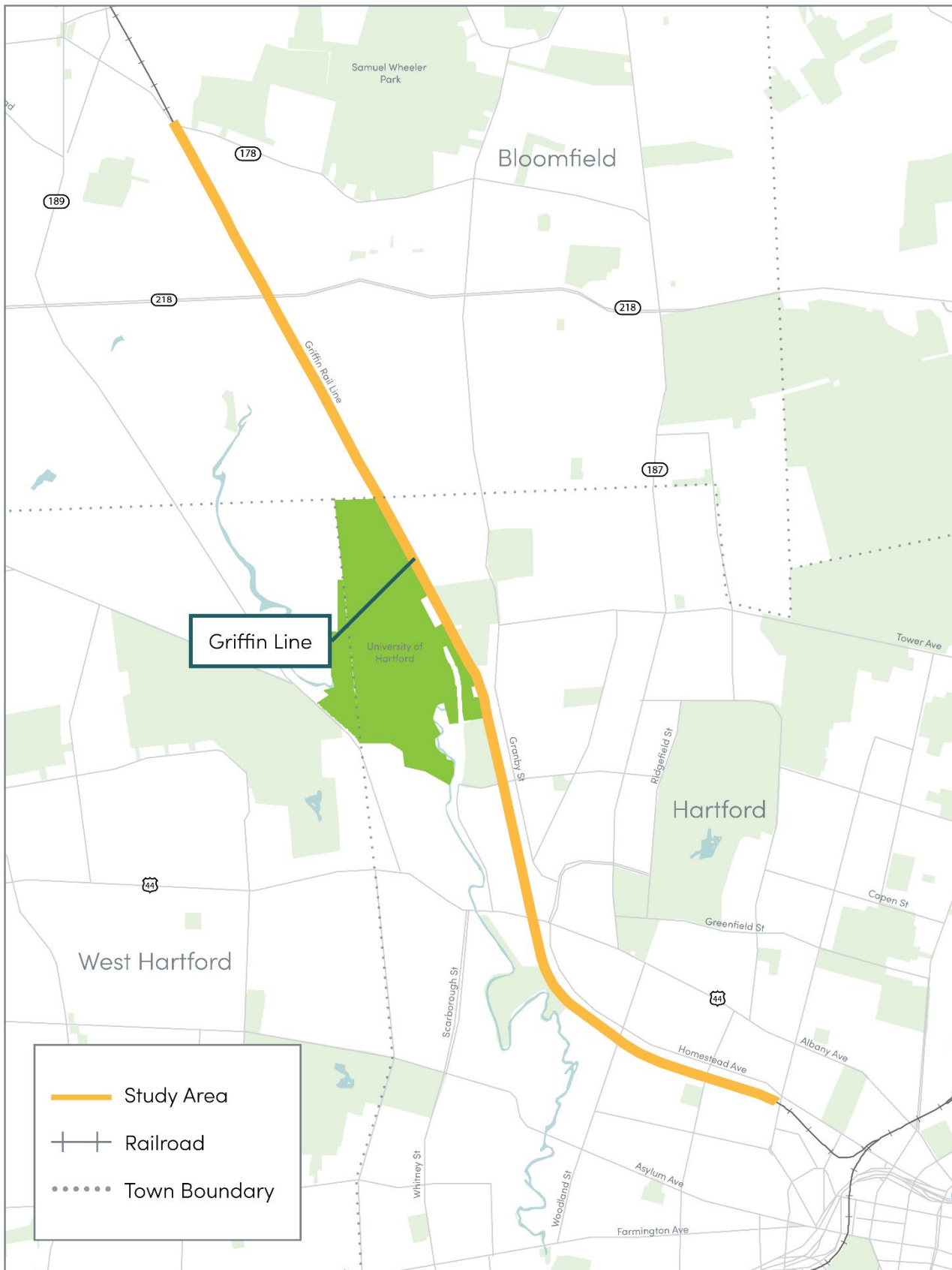
This memorandum distinguishes between the terminology *alternative* and *alignment* in the following way:

- An *alternative* is used to denote a specific design option at a specific location within the study area. For this study, the three *alternatives* considered are:
 - The *Northeast Alternative* is rail-with-trail located on either the north or east side of the railroad in any given location, generally within the railroad right-of-way (ROW).
 - The *Southwest Alternative* is rail-with-trail located on either the south or west side of the railroad in any given location, generally within the railroad ROW.
 - The *Homestead / Mark Twain Alternative* is located outside the railroad ROW between Garden Street and Plainfield Street which utilizes Homestead Avenue, Route 44 (Albany Avenue), and Mark Twain Drive ROW.
- The term *alignment* is used to note an entire route through the study area. It could include varying *alternatives* in different locations. This is primarily used when discussing the *Preferred Alignment*.

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Exhibit 1: Study Area Overview





Rail-*with*-Trail versus Rail-*to*-Trail

This memorandum evaluates the feasibility of various alternatives of rail-*with*-trail which would allow for a trail to coexist within the existing Griffin Line right-of-way (ROW) in tandem with rail service. This contrasts to rail-*to*-trail alternatives which would require the removal and replacement of a railroad with a shared-use trail or other uses (such as a right-of-way for exclusive trail use). This memorandum *does not* evaluate rail-*to*-trail alternatives as it is generally accepted that the corridor could accommodate a shared-use path should the Griffin Line be abandoned. It should be noted that trail alternatives which would first require the abandonment (or railbanking and/or land banking) of the railroad would result in additional procedural requirements including federal review which could add several years to project completion. Appendix B outlines the procedural requirements necessary to undertake this process.



KEY OBJECTIVES

The project aims to transform transportation, recreation, public health, economic development, and quality of life aspects for the people who live, work, or visit the study area and its surroundings. The study area spans 4.4 linear miles between Garden Street in Hartford and Park Avenue in Bloomfield and connects to several important destinations, such as The Hartford Financial Services Group, St. Francis Hospital, Keney Park, the University of Hartford, and 17 different K-12 schools with a total of about 8,000 students.¹ Some critical destinations are shown in Exhibit 2 in a graphic provided by iQuilt. The study area passes through the Hartford neighborhoods of Upper Albany, Blue Hills, Asylum Hill, and Clay-Arsenal. Together, they have approximately 34,000 residents, 13,000 households, and 16,000 employees. Approximately 24% of residents in these neighborhoods live below poverty.² The project will explore different trail options for the Griffin Line, keeping in mind the following objectives:

- **Expand Safe Multi-modal Transportation:** A shared-use path in the study area can offer a safe and convenient way for people to bike or walk to various destinations, such as work, school, or shopping. This can benefit especially those households that do not own a vehicle. About 34% of the households in the nearby Hartford neighborhoods fall into this category.³ This compares with state average of 8.5% of households without access to a vehicle.
- **Recreation and Public Health:** A shared-use path in the study area can promote physical activity and recreation for the nearby residents, which can have a positive impact on their health and well-being. This is especially important considering the high rates of obesity and asthma among the residents of the neighboring areas. Health data shows that adult obesity rates in the surrounding neighborhoods range between 31% and 51%, which is higher than the state's average of 26%.^{4, 5} Similarly, adult asthma rates in the surrounding neighborhoods range between 13% and 17%, also higher than the state's average of 10.5%.^{6, 7} A shared-use path can help reduce these health disparities and improve the quality of life for the adjacent communities.

¹ Global Communications Academy (430 students), Wish Elementary School (280 students), Jumokey Academy (680 students), West Middle School (260 students), Classical High School & Renzulli Academy (550 students), Covenant Preparatory School (40 students), Achievement First Academy (1,150 students), MLK School + Breakthrough Magnet (550 students), Rawson Elementary (250 students), Annie Fischer School (360 students), University High School (430 students), Watkinson School (240 students), University of Hartford Magnet School (480 students), Weaver High School + Kinsella Magnet (700 students), Bulkeley High School – North Campus (600 students), CREC Museum Academy (520 students), and Bloomfield High School (500 students)

² US Census Data, pulled from PolicyMap

³ US Census Data, pulled from PolicyMap

⁴ US Census Data, pulled from PolicyMap

⁵ CDC: Connecticut State Nutrition, Physical Activity, and Obesity Profile

⁶ US Census Data, pulled from PolicyMap

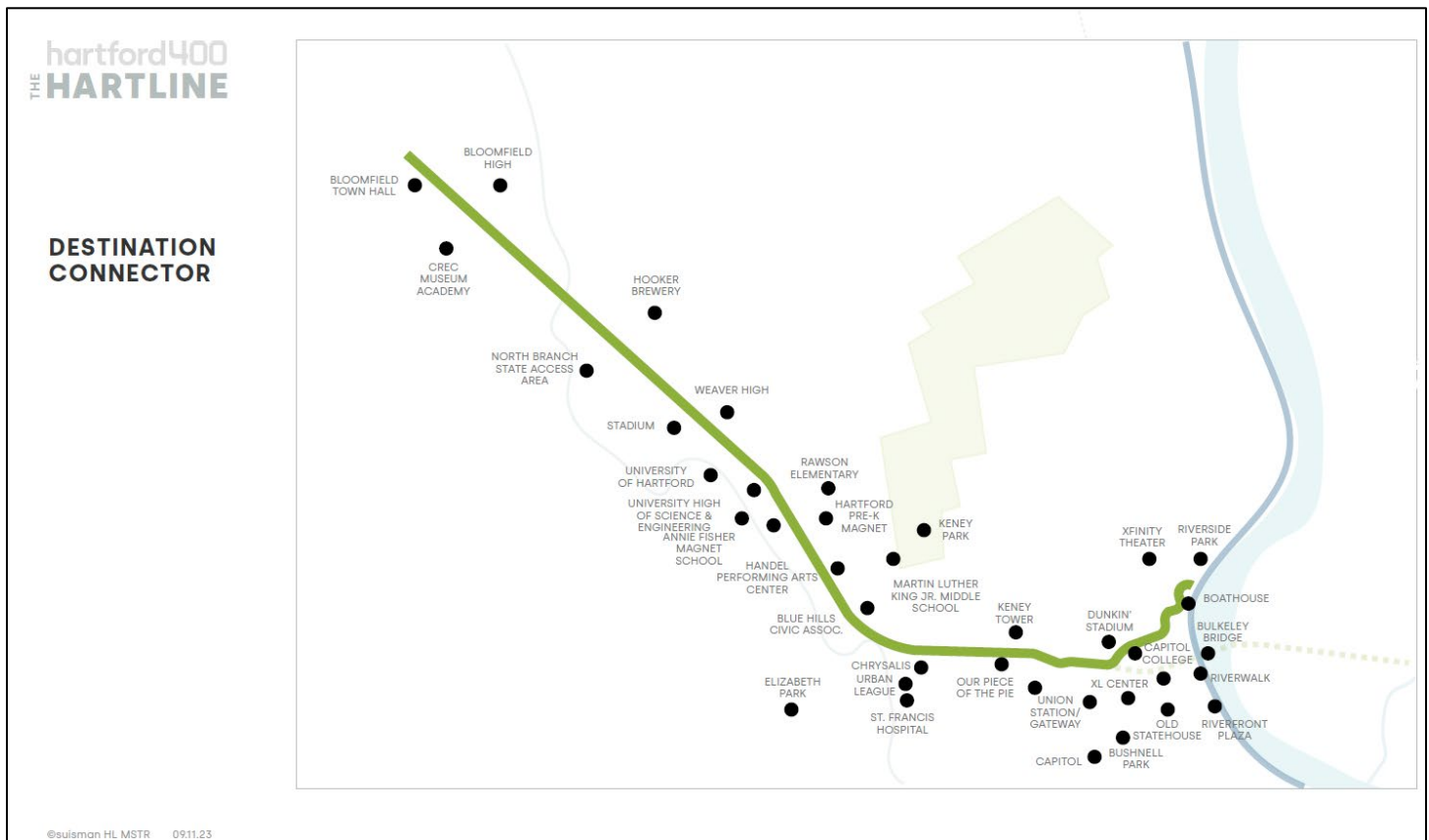
⁷ Connecticut State Department of Public Health: Asthma Program

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- **Quality of Life:** A shared-use path can also serve as a social and cultural hub for the neighboring communities. It can feature areas for gathering, relaxing, and enjoying the scenery. This can enhance the quality of life for the adjacent neighborhoods by creating these valuable spaces for residents.
- **Economic Development Opportunities:** A trail along the Griffin Line corridor can also create a link between several potential redevelopment sites. A shared-use path in this area can attract more investment, business, and tourism to the area. A shared-use path within this area could become a key component of these redevelopment efforts.

Exhibit 2: hARTline planning graphic showing destinations on or proximate to the Griffin Line (Source: iQuilt / Suisman Design)





TRAIL PLANNING CONTEXT

What is now the Griffin Line was originally constructed around 1870 to connect Hartford to Poughkeepsie, New York. While it originally carried passenger trains, sections were abandoned over the course of decades, and eventually, service on the track within Hartford was stopped by the 1980s. Central New England Railroad (CNZR), the current operator, resumed service and rehabilitated the easternmost 8.7 miles of the Griffin Line in 1999. Over the past 30 years, other potential uses for the corridor within the study area have been explored and are summarized below.

Bus Rapid Transit (BRT) Studies (2002–2010)

Three studies regarding the Griffin Line were commissioned by the Capitol Region Council of Governments (CRCOG) between 2002 and 2010.⁸ These three studies recommended the conversion of the existing rail line to bus rapid transit. The existing right-of-way could accommodate bidirectional bus service with minor widening in the most constrained areas. However, more recent studies have assumed that rail service would be maintained on the Griffin Line.

Bloomfield Cross Town Trail Study (2017)

Rail-with-trail alternatives between Tobey Road and Park Avenue within Bloomfield were studied as part of the *Bloomfield Cross Town Trail Study* in 2017 (attached to this report in the Appendix). These areas were included as “Section 4” and “Section 5” of the study. The study reviewed three possible routing options:

- 1) Routing between Tobey Road and Route 218 via Goodman Street. Crossing Route 218 at Tyler Street and continuing north on Tyler Street to the Trolley ROW.
- 2) Routing via Northwest Drive “paper street” between Tobey Road and Route 218. Crossing Route 218 at Northwest Drive and continue north via Savin Road. This option was noted for its “substantive wetlands, floodplains and flood ways associated with Beaman’s Brook” (See Appendix for environmental constraint mapping).
- 3) Routing via Griffin Line ROW. The cross section from the *Cross Town Trail Study* which depicts this option is shown in Exhibit 3. Note the embankment of the railroad in this area over the adjacent surface water, wetlands, floodplain, and floodway. In addition to these environmental constraints, the Griffin Line’s at-grade crossing of Route 218 at an unsignalized location was identified as a significant concern for this alternative. Exhibit 4 shows the unsignalized at-grade rail crossing of Route 218 near Savin Road. Environmental constraints are discussed further in a subsequent section of this memorandum.

⁸ [Bradley Area Transportation Study](#), 2002; [Griffin Busway Feasibility Report](#), 2004; and [Northwest Corridor Study](#), 2010.

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Exhibit 3: Cross Town Trail Study Griffin Line rail-with-trail option south of Route 218. This alignment was not considered in this memo due to constraints described above. (Source: Fuss & O'Neill)

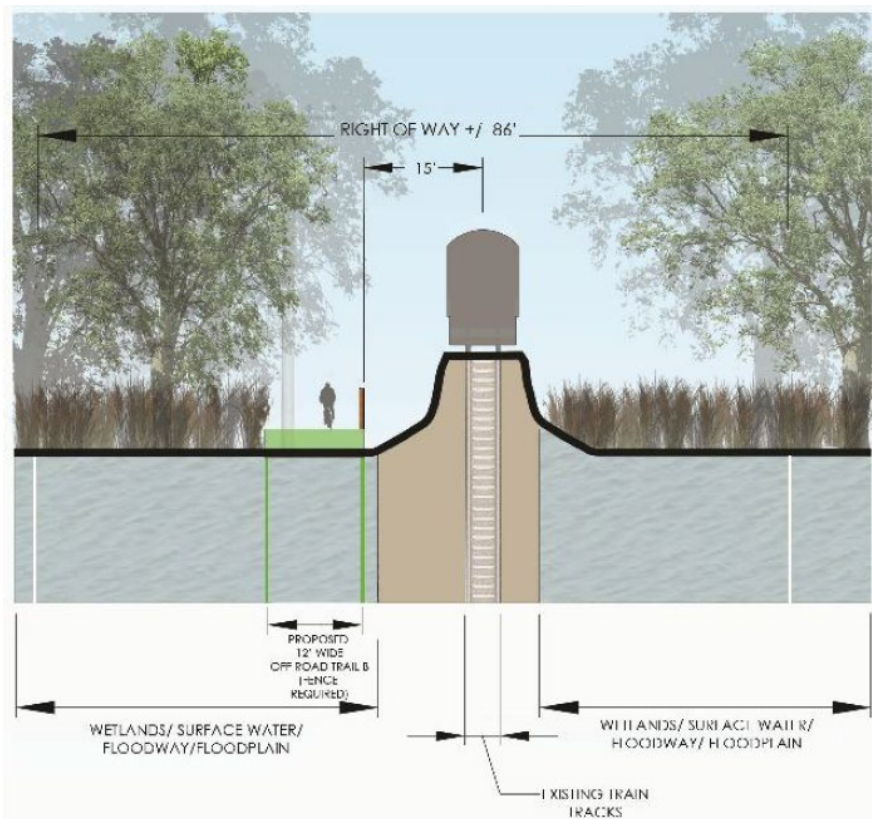


Exhibit 4: Aerial imagery of at-grade crossing of Griffin Line of Route 218. Note that the intersection with Savin Road is an unsignalized intersection, however, the adjacent railroad crossing includes an overhead cantilever flashing-light signal. (Source: ctroads.org / Google Maps)





CT State Rail Plan (2022)

The Connecticut Department of Transportation (CTDOT) released its most recent State Rail Plan in November 2022. This plan identifies all active rail lines in the state and lists planned service changes as well as recent and upcoming improvements. In addition to new locomotives and planned maintenance and upgrades along the Griffin Line, the State Rail Plan indicates that CTDOT and CNZR have plans to acquire right-of-way to Bradley International Airport with supporting federal grant applications to Federal Railroad Administration (FRA) and Federal Transit Administration (FTA).⁹ This ROW would likely be intended for expansion of freight customers rather than passenger service, which would be expected to be maintained on the Hartford Line.

Greater Hartford Mobility Study (2023)

The Greater Hartford Mobility Study, commissioned by CTDOT, looked extensively at the Griffin Line as a multimodal corridor. Several different alternatives were analyzed including rail with trail, passenger light rail, and bus rapid transit (BRT) options. The preferred alternative was the construction of a shared-use trail alongside the existing freight rail, with an estimated implementation cost of \$18.9 million. Other alternatives considered were passenger rail to Bradley International Airport (considered to be fatally flawed due to ROW impacts), passenger rail along the existing corridor (not favored due to poor benefit-to-cost ratio), and a combination rail-bus-trail (not fatally flawed but would require additional right-of-way).

Other Related Planning Efforts

Capitol Region East Coast Greenway Study – Bloomfield Shortlist

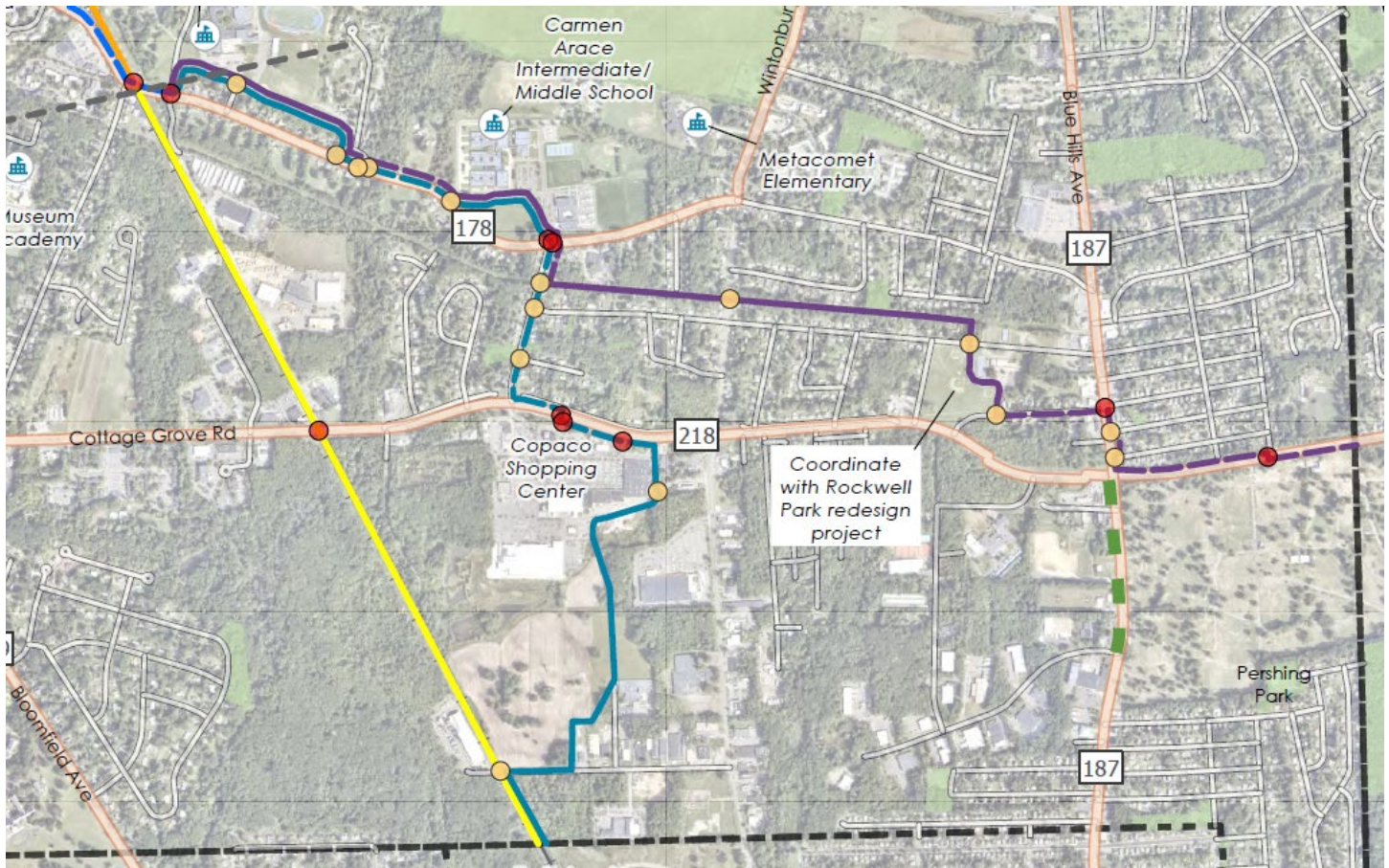
This memo is part of the Capitol Region East Coast Greenway Study which is currently underway at the time of the development of this memo. However, trail alignment alternatives have been evaluated in Bloomfield between Park Avenue and the Hartford City Line with a shortlist being established for two scenarios 1) the ECG continues into Hartford along Griffin Line, and 2) ECG continues east along Route 218 corridor to connect to Riverfront Recapture Trails near the Connecticut River. The two shortlisted options to connect to the Griffin Line to the south included 1) the Griffin Line corridor, and 2) a connection via Park Avenue, Tyler Street, and Copaco Plaza to Tobey Road. This route is highlighted in dark blue in Exhibit 5 below.

⁹ Connecticut State Rail Plan, CTDOT, 2022; https://portal.ct.gov/-/media/DOT/documents/dplansprojectsstudies/plans/State_Rail_Plan/CTSRP2022-2026v20221130.pdf ; Page 4-1.

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Exhibit 5: Bloomfield shortlist map for the “South Bloomfield Analysis Area”



Hartford 400 and hARTline

The iQuilt Partnership (iQuilt) began work in 2020 to organize the Hartford 400 coalition which works to identify key, transformative projects which can be implemented by 2035 in time for Hartford’s fourth centennial celebration. Three transformative projects were identified including the hARTline, River Road, and Midtown.¹⁰ hARTline is an envisioned 6-mile path between the Connecticut River riverfront and the Town of Bloomfield as shown in Exhibit 6. The project includes the following components:

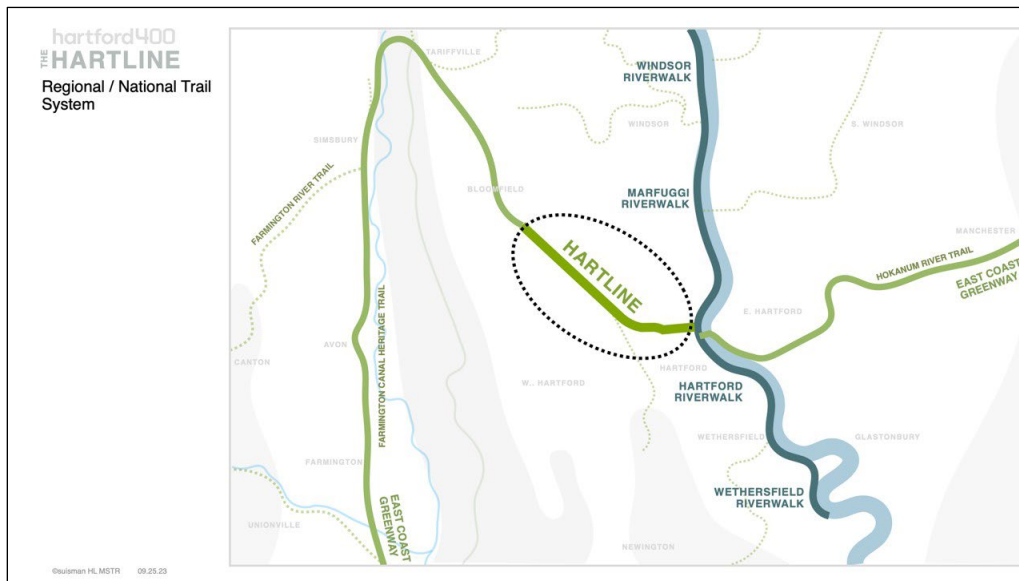
- **Riverlink Bridge:** Upgrading the existing pedestrian bridge between Market Street and the Connecticut River with a more pedestrian-friendly, sloping ramp crossing Market Street and connecting to Pleasant Street.
- **An On-Street, Separated Facility:** A connecting trail between the Riverlink Bridge and the Griffin Line at Edwards Street
- **Trail within the Griffin Line Corridor:** A trail continuing to the northwest between Edwards Street in Hartford to Bloomfield Center

¹⁰ [Hartford 400 | Hartford400](#)

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Exhibit 6: HARTline planning graphic (Source: iQuilt / Suisman Urban Design)



Other Trail Facilities

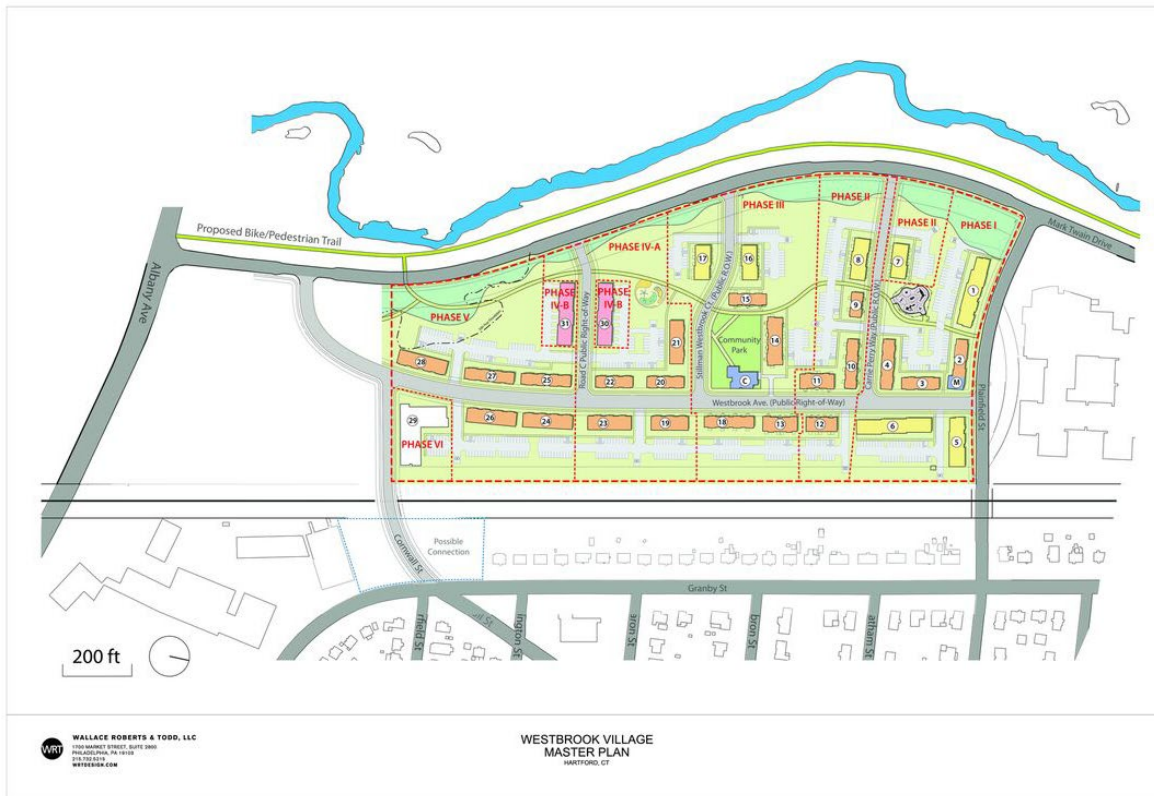
Other trail facilities in the vicinity of the study area may provide critical connections to a trail within the Griffin Line Corridor or provide an alternate route for a trail within the corridor. Two related projects underway include:

- 1) **Shared-Use Path at the Village at Park River:** The Village at Park River is an approximately 29-acre redevelopment of a Hartford Housing Authority-owned parcel to the north of Route 44 bounded by Mark Twain Drive, Plainfield Street and the Griffin Line. The redevelopment of this site has included a pathway which is currently in construction and will extend from Plainfield Street to Albany Avenue. This route is roughly parallel to a Griffin Line route and could serve as a potential route or alternate to a Griffin Line route. Additionally, the site plan at Village at Park River creates a "Cornwall Street Extension" which lines up with the intersection of Granby Street and Cornwall Street. An at-grade crossing of the Griffin Rail Line could expand the street network and provide trail connectivity to the Blue Hills neighborhood in this area. These planning efforts are shown in Exhibit 7.
- 2) **Albany Avenue Sidepath:** A sidepath is currently in design on the north side of Route 44 (Albany Avenue) between Route 189 and Homestead Avenue. This sidepath could intercept and connect to a trail in the Griffin Line corridor and provide east-west connectivity between Blue Hills, Upper Albany, West End neighborhoods as well as West Hartford.

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Exhibit 7: Shared-use path through Village at Park River development



Trail Planning and Other Potential Future Corridor Uses

Based on corridor context as presented above, it is anticipated that any rail-with-trail alternative should also be compatible with other modal configurations to allow flexibility in future use which could be considered at a future time. This compatibility will ensure current trail development does not prevent the reconfiguration of the Griffin Line corridor to other modal options if these are pursued at a future date. Including these other potential configurations does not indicate CTDOT Office of Rail support for other configurations at this time. This study evaluates trail compatibility with the following configurations:

- 1) **Rail-with-Trail:** Single-track freight. This is the existing condition. This could also include geographic expansion of freight rail to the north as noted in the CT State Rail Plan.
- 2) **Rail-with-BRT:** This condition would require the abandonment of the rail line and convert this area to a bus rapid transit corridor.
- 3) **Trail-only Concept:** This condition would require the abandonment of the rail line and would convert the entire ROW to support a multimodal trail. Other space in the ROW could be used for enhanced trail amenities.



EXISTING CONDITIONS

The 8.7-mile-long Griffin Line, also known as the Griffins Industrial Track and the Griffins Secondary, consists of a single standard-gauge railroad track maintained to FRA Class 3 track standards. It runs from its northern terminus on Day Hill Road in Windsor (just north of the Bloomfield town line) to the New Haven – Springfield Line in Hartford, with both at-grade and grade-separated crossings. Owned by the State of Connecticut, freight service on the Griffin Line is provided by the Central New England Railroad (CNZR), a common carrier railroad. There is no passenger rail service on this line currently, however, the railroad has an option to operate passenger service.

Existing conditions are summarized in this section and displayed graphically as part of Appendix A. Appendix A identifies locations along the Griffin Line for which physical constraints may need consideration.

Exhibit 8 shows a CNZR freight train in the corridor in November 2023.

Exhibit 8: Central New England Railroad freight train passing the Woodland Street bridge eastbound.



Easements

The Griffin Line right-of-way (ROW) is encumbered by several known easements which must be considered in any work within the ROW. Known easements include:

- **Eversource:** An easement for transmission lines runs between an existing substation just south of Route 44 (Albany Avenue) in Hartford to the north into Bloomfield and continues beyond the study area extent at Park Avenue in Bloomfield. The easement is generally assumed to be 15 feet off center of the rail line in both directions. This area features transmission structures on both sides of the railroad as shown in Exhibit 9.



- **Metropolitan District Commission (MDC):** The MDC maintains several water, sewer, and/or water mains that run across or adjacent to the Griffin Line within the study area. These are presented in the Appendix.

The ROW may be encumbered by other easements that are not known at this time. A full review of all easements would be required in future stages of trail design in this corridor with a title search and survey.

Exhibit 9: Eversource transmission lines run between just south of Route 44 (Albany Avenue) in Hartford continue north beyond the study area extent at Park Avenue in Bloomfield



Right-of-Way (ROW)

Right-of-way width within the Griffin Line corridor varies throughout. ROW was obtained from municipal property maps in GIS provided by the City of Hartford and Town of Bloomfield. While GIS resources were the best available to the project team for this memorandum, GIS data are subject to errors and will have to be further investigated with survey and title search in future stages of trail design in this corridor. Generally, the ROW was found to be as follows:

- **Between Garden Street and Woodland Street:** The ROW varies from 30-feet to nearly 110-feet in width. Generally, the 30-foot ROW is found just west of Garden Street (behind 20 Sargeant Street) and just east of Woodland Street (behind Austin Organs at 156 Woodland Street).
- **Between Woodland Street and Route 44 (Albany Avenue):** The ROW is consistent at approximately 65 to 70-feet in width.
- **Between Route 44 (Albany Avenue) and Weaver High School at Tower Avenue:** The ROW varies from approximately 80-feet to nearly 110-feet in width.
- **Between Weaver High School at Tower Avenue and the Hartford / Bloomfield border:** The ROW varies from 65-feet to 95-feet. Generally, the ROW is 70-feet in this section.



- **North of the Hartford / Bloomfield border:** The ROW generally is 65-feet. A small portion of the Griffin Line south of Route 218 includes a 100-foot ROW.

Bridges and Adjacent Structures

Road Bridges

Three grade separated road crossings are provided in Hartford at Sigourney Street, Woodland Street, and Route 44 (Albany Avenue) and are shown in Exhibit 10. While grade separated crossings provide operational benefits for both railroad and road traffic in an urban area, these crossings can provide challenges in trail design as trail access is a key benefit for urban trails. Additionally, where the Griffin Line passes beneath these streets, the bridge abutments and piers act as horizontal constraints to rail-adjacent trail development. These constraints are as follows:

- Sigourney Street bridge (reconstructed in 2013) has three spans, with the railroad track beneath the central span (approximately 48-foot span) and the two flanking spans (approximately 20-feet) currently unoccupied. It is expected the Sigourney Street bridge could accommodate a trail in one of the unoccupied spans.
- Woodland Street bridge (reconstructed in 2004) is a single 29-foot span.
- Albany Avenue bridge (reconstructed in 1981) is a single 35-foot span.

Exhibit 10: The three bridges within the study area:

Left: Sigourney Street bridge (view looking east),

Center: Woodland Street bridge (view looking east),

Right: Route 44 (Albany Avenue) bridge (view looking north)



Adjacent Buildings and Site Restrictions

Several adjacent buildings and properties significantly impact potential trail design within the study area. While a trail within existing rail ROW is preferred, the acquisition of easements on adjacent properties may be possible; however, this should be explored with a review of existing buildings and site layouts that could be impacted by such an easement. Ideally, trail design should avoid areas that would require easements that would substantially impact adjacent property site layout (such as significant access modifications or parking reduction) or require demolition of adjacent buildings. Key properties identified in this study include:



- **20 Sargeant Street (Veeder Place):** Building frontage approximately 48-feet (min.) from railroad centerline. A driveway provides access within the parcel approximately 26-feet (min.) from railroad centerline. Project team review suggests opportunities for minor driveway realignment could increase offset from railroad centerline with minimal to no impacts to site access, on-site parking, or buildings.
- **51 Homestead Avenue (Saint Francis Hospital and Medical Center):** Building frontage approximately 49-feet (min.) from railroad centerline. A driveway which includes parking and provides access to a loading dock is 20-feet (min.) from railroad centerline. Project team review suggests that any easement in this area would likely result in 1) an elimination in up-to approximately 47 on-site parking spaces, 2) potentially render loading dock inaccessible, and 3) potentially require relocation of electrical transformer in this area. iQuilt has noted that this site may feature potential redevelopment, and trail planning could be incorporated as part of a future site plan.
- **156 Woodland Street (Austin Organs):** Building frontage approximately 29-feet (min.) from railroad centerline, however, this is highly variable due to the building design and building located on a curve on the railroad.
- **255 Homestead Avenue (Chrysalis Center):** Building frontage approximately 16-feet (min.) from railroad centerline. The closest portion of the building features a canopy structure and associated out-buildings which appear to be utilized as a loading dock. The structure sits above the railroad immediately on top of a retaining wall approximately 6-feet in height.
- **287 Homestead Avenue (The Smith Worthington Saddlery Company):** The closest building frontage is a set of additions off the main part of the building. These areas appear to be utilized as a loading dock and sit approximately 28-feet (min.) from railroad centerline. However, the majority of the building is approximately 60-80 feet from railroad. A rear driveway which serves the building as a loading dock is approximately 14-feet (min.) off railroad centerline and appears to serve many loading dock bays. Any easement in this parcel would likely reduce the driveway width in this area and could impact or eliminate truck access to loading bays on site. City staff has indicated that this parcel is subject to potential redevelopment into a cannabis facility.
- **333 Homestead Avenue (Salvation Army):** The closest building frontage to the rail line is an outbuilding which serves as a garage that is built near the railroad. This building is approximately 10-feet (min.) from railroad centerline. Aside from this outbuilding, the main building features a loading dock that features 6 bays that appears to be actively used by small box trucks. This loading dock is approximately 60-feet (min.) from railroad centerline. The entire site includes a driveway that is built up to the railroad, with this area being 11-feet (min.) from railroad centerline. Any easement in this parcel would likely reduce the driveway width in this area and could impact or eliminate truck access to loading bays on site. City staff and iQuilt have noted that the Salvation Army has recently relocated operations to a facility outside of Hartford. This parcel may be subject to redevelopment opportunities in the near future.



- **425 Homestead Avenue (Interstate Batteries):** This building is approximately 11-feet from the railroad centerline at its closest point. A trail between the site and the railroad would likely require significant building modification and/or demolition, or a realignment of the railroad further to the south.
- **1535 Albany Avenue (Russell Speeders Carwash):** The carwash driveway (entry into carwash) sits approximately 33-feet (min.) from the railroad centerline. The driveway, however, sits approximately 14-feet above the rail line, which creates a steep slope between the site and the railroad. Complicating obstructions include two transmission pylons which sit at the base of the slope adjacent to the railroad. The site obstructions combined with the two transmission pylons may create difficulties if siting a trail on the east side of the railroad in this area.
- **415 Granby Street (Weaver High School):** Weaver High School recently underwent renovations in 2020. The renovations included modifications to the site layout and adjacent ball fields. While the high school building sits far from the railroad site (relative to other nearby buildings), key considerations should be given to proximity to the football field and track on the south side of the campus and the baseball fields to the north side of campus. Circulatory paths to the football field and stands are approximately 70-feet offset from the railroad centerline, while the existing baseball field bleachers sit approximately 45-feet offset from rail centerline. Additionally, access between the trail and the campus should be considered in coordination with school officials. These design details could be addressed in future stages of the project, and include open access (no fencing), limited access (e.g. fence gates), or no access at all.

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Exhibit 11: **Upper left:** View looking west towards 20 Sargeant Street (Veeder Place) to left of photo. 51 Homestead Avenue is shown in the distance to the right.

Upper right: View looking east toward 51 Homestead Avenue (Saint Francis) to the left of photo.

Lower left: View looking west towards 156 Woodland Street (Austin Organs) to the left of photo. 255 Homestead Avenue is shown in the distance to the right.

Lower right: View looking west towards the Woodland Street bridge and 255 Homestead Avenue (Chrysalis Center) to the right.



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Exhibit 12: **Upper left:** View looking west towards the loading dock at 287 Homestead Avenue (The Smith Worthington Saddlery Company).

Upper right: View looking east towards 333 Homestead Avenue (Salvation Army).

Lower left: View looking west towards 425 Homestead Avenue (Interstate Batteries). Note the transmission pylons in view.

Lower right: View looking north from the parking lot of Weaver High School. Note the adjacent baseball fields to the right and transmission pylons.



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Transmission Pylons and Electrical Substations

The presence of high-voltage transmission lines along both sides of the Griffin Line presents an additional horizontal constraint. These pylons begin at the electric substation south of Route 44 (Albany Avenue) and continue north into central Bloomfield beyond the study area. The foundations are generally 15 to 20 feet from the center of the track as shown in Exhibit 13.

Exhibit 13: View looking north along the Griffin Line from the Plainfield Street crossing shows the transmission line pylons offset 15–20 feet on either side of the track.



In addition, there are two electrical substations within the study area, including one south of Route 44 (Albany Avenue) just west of the railroad and a second, smaller substation, at 273 Granby Street to the east of the railroad. These are shown in Exhibit 14. Alternatives should avoid impacts to the substations, but utility-owned parcels that are underutilized may present opportunities for trail development as well.

*Exhibit 14: **Left:** Electrical substation south of Route 44 (Albany Avenue) (Source: ctroads.org / Google Maps).*

***Right:** Electrical substation at 273 Granby Street (Source: Google Maps Streetview)*



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University of Hartford (UHart)

The University of Hartford (UHart) campus is located primarily in the northwestern corner of Hartford but spans into West Hartford with its main driveway just west of the Hartford city line on Route 189 in West Hartford (a secondary, typically gated access, is maintained at the north end of Mark Twain Drive). Additionally, the University owns large tracts of land between its main campus in Hartford to the north in Bloomfield stretching to Route 218. This area is commonly referred to as the “North Branch State Access Area” and features the North Branch of the Park River and associated floodway, floodplain, and wetlands. In total, the Griffin Line runs adjacent to the University of Hartford-owned property for approximately 1.5 miles. This distance underscores the importance of UHart as a critical stakeholder in the future vision for the Griffin Line.

Exhibit 15: UHart-owned parcels shown in blue.



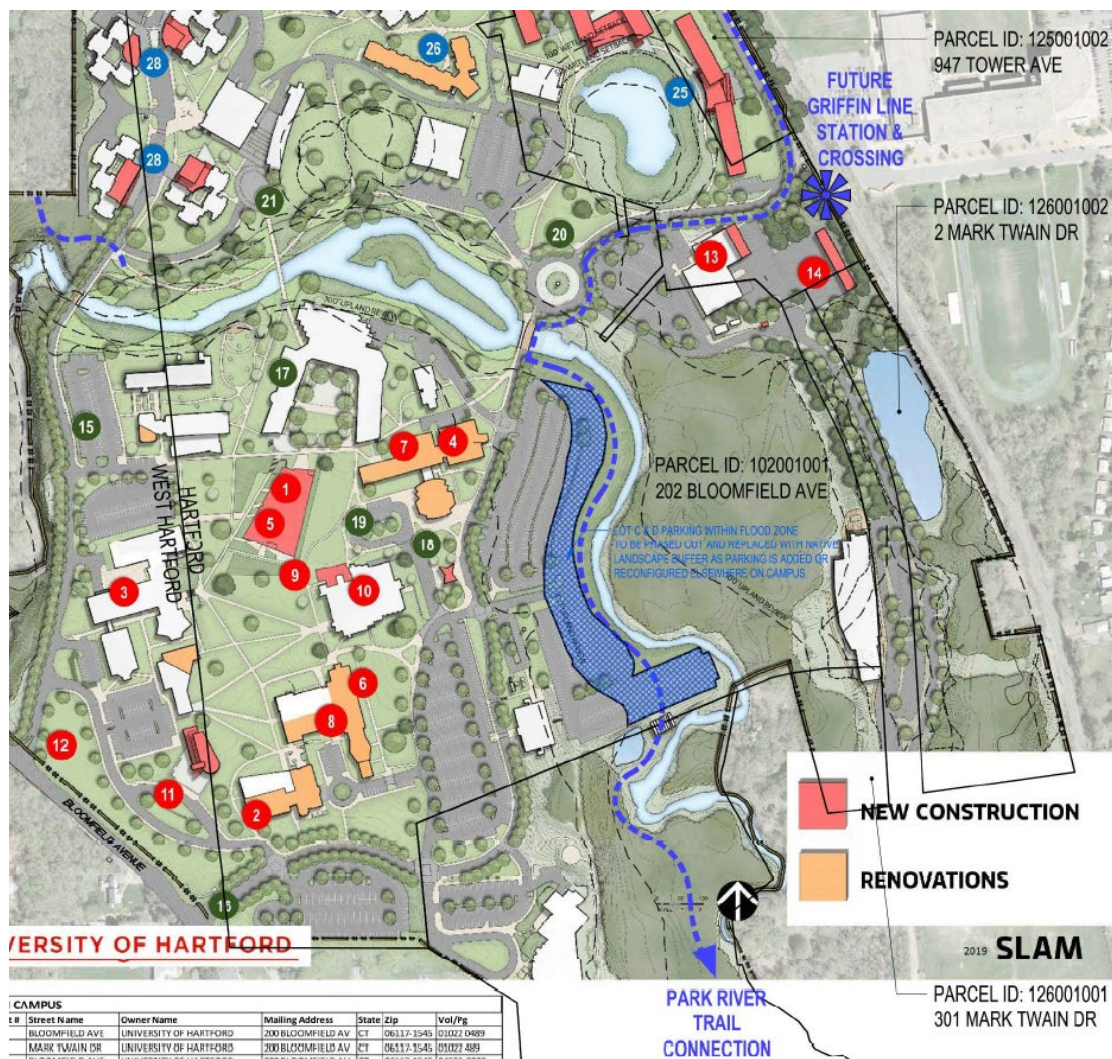
The University has included a north-south regional trail in its planning work in its 2019 Campus Master Plan¹¹. The proposed Park River Trail Connection in the 2019 Campus Master Plan was identified to the west of the Park River. Review of this alignment found that significant challenges to this route could include: 1) proximity to the University of Hartford Magnet School, 2) potential impacts to Watkinson School property including potential impacts to ballfields and community gardens, 3) potential impacts to property owned by The Village for Family & Children, and 4) environmental impacts associated with the adjacent Park River including its floodway, floodplain, and wetlands. Given these challenges for this route, this alignment was removed from consideration as part of the East Coast Greenway study, however, this trail could serve a valuable connection to a trail within the Griffin Line corridor should UHart pursue this alignment in the future.

¹¹ Hartford Planning & Zoning, University of Hartford Master Plan Submission, May 9, 2023 - [LINK](#)

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Exhibit 16: Excerpt from the 2019 Campus Master Plan for the University of Hartford showing trail planning work



Finally, any trail design on the west side of the Griffin Line should consider its design in relation to Hawk Drive, which runs approximately 50-feet offset rail centerline for approximately 1,500-feet in length. This space is also occupied by Eversource transmission pylons and UHart electrical transformers that should be considered in this area. A photo of this area is shown in Exhibit 17

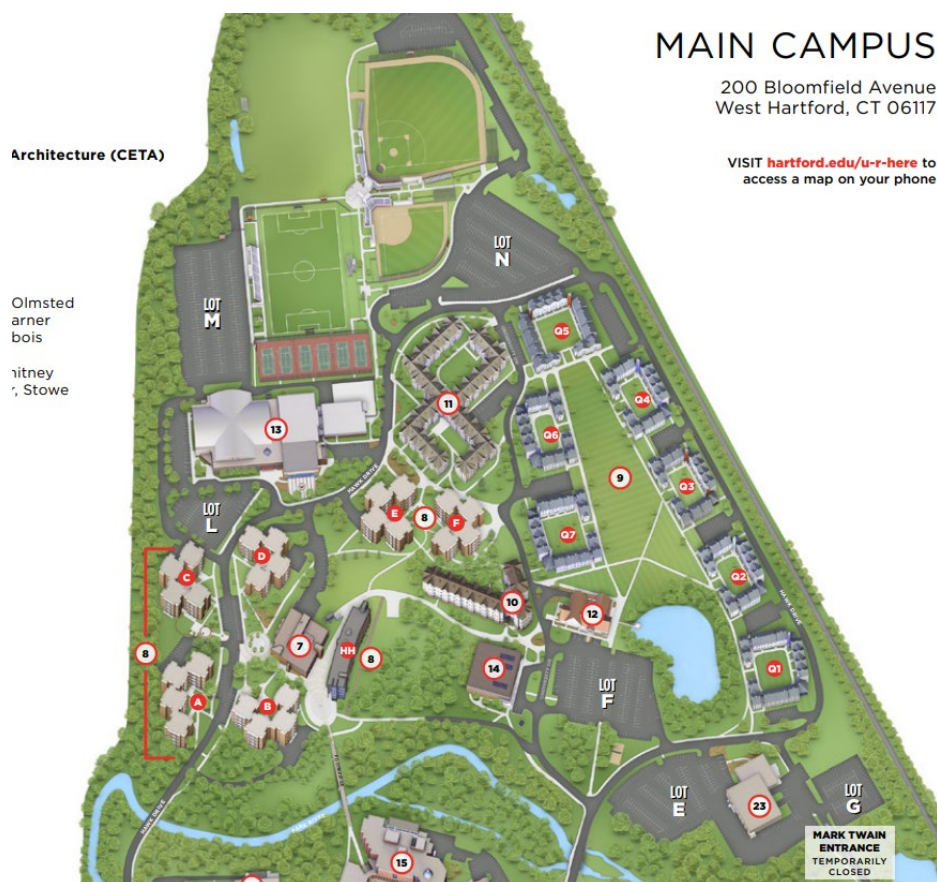
CAPITOL REGION EAST COAST GREENWAY STUDY



Exhibit 17: Hawk Drive on the west side of the Griffin Line. Note the transmission towers which straddle the railroad.



Exhibit 18: University map showing Hawk Drive at right. (Source: University of Hartford)



Environmental Constraints

Various environmental constraints are present along the study area and were reviewed as part of the assessment process. This includes surface water, wetlands, floodplains, and topography constraints. These are summarized below.



Surface Water

- 1) North Branch Park River – The North Branch of the Park River is the most significant surface water constraint, and there are several locations which come close to the Griffin Line corridor. Additionally, the North Branch crosses the Griffin Line just south of Route 218. One other area of note is just West of Woodland Drive where the Park River comes within approximately 175-feet of the rail line.
- 2) Pond east of Mark Twain Drive – The pond is located east of Mark Twain Drive just north of Annie Fisher Montessori Magnet School. The centerline of the railroad is approximately 35-feet offset the closest point of water in this location, and the railroad sits on a steep embankment that elevates the railroad approximately 18-feet compared to the water level. This area is shown in Exhibit 19.

Exhibit 19: Surface water east of Mark Twain Drive just north of Annie Fisher Montessori Magnet School



Wetlands

Wetlands along the study area are primarily found in the following areas:

- 1) South of the pond on Mark Twain Drive between the pond and Annie Fisher School – West side – This is shown in Exhibit 20.
- 2) North of the University of Hartford baseball fields – West side
- 3) Tobey Road to Route 218 – Both sides – The railroad travels through this area on an embankment. Much of the area lower than the embankment are wetlands and/or floodplain within the North Branch State Access Area. See environmental constraints in this area in Exhibit 21.
- 4) Tobey Road to Park Avenue – West side



Floodplains

Floodplains along the study area are primarily found in the following areas:

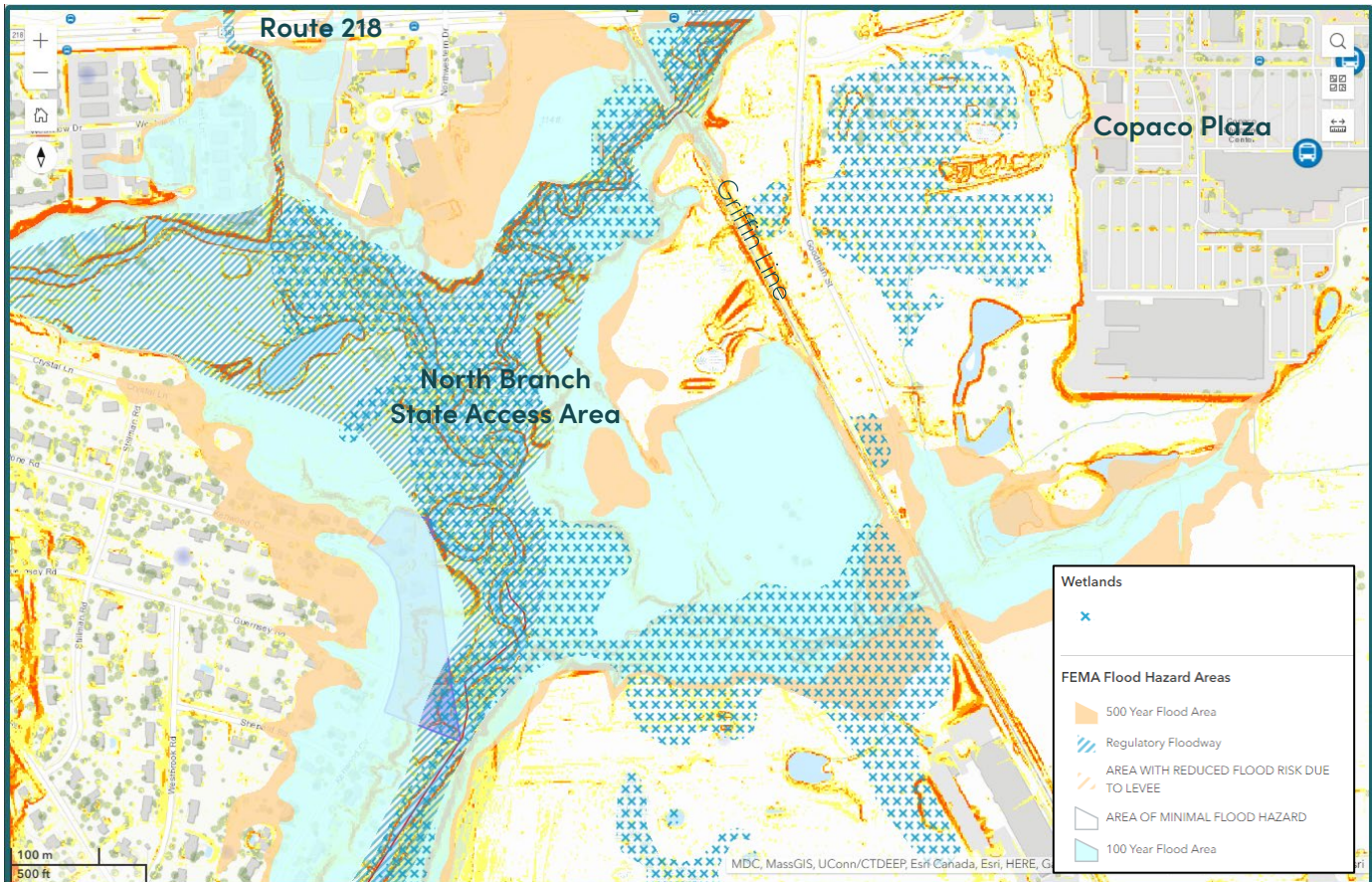
- 1) West of Woodland Street – South side – FEMA mapping indicates floodplain between railroad and apartments on Woodland Drive. However, this may need to be verified as this is a small portion of land between these features.
- 2) South of the Weaver High School football field – East side – There is a culvert in this area which crosses underneath the railroad tracks.
- 3) Tobey Road to Route 218 – Both sides – The railroad travels through this area on an embankment. Much of the area lower than the embankment are wetlands and/or floodplain within the North Branch State Access Area. See environmental constraints in this area in Exhibit 21.

Exhibit 20: The area north of Annie Fisher School features steep embankments adjacent to the railroad with likely floodplains below. View looking east from Mark Twain Drive.





Exhibit 21: Environmental constraints in the North Branch State Access Area.



Topography

Topography and steep slopes can present a challenge to rail-with-trail development as many historic rail corridors were built upon steep embankments or within vertical depressions with very little lateral space to accommodate a trail. Areas that may need to be reviewed include:

- 1) Between Sigourney Street and Woodland Street – Both sides – This area is shown in Exhibit 22.
- 2) South of Route 44 (Albany Ave) – East side
- 3) Near pond on Mark Twain Drive – Both sides
- 4) South of Route 218 – Both sides

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Exhibit 22: View looking toward northeast shows topography between Sigourney Street and Woodland Street.





APPLICABLE STANDARDS & GUIDANCE

Jurisdiction

National standards and guidance are summarized in the document *Rails with Trails: Best Practices and Lessons Learned* (e.g. the “RWT Guide”), published jointly by FRA and the Federal Highway Administration (FHWA).¹² According to this document, there are no national standards specifically for rails with trails, though federal requirements for specific elements of design still apply. For example, traffic control devices must comply with the *Manual for Uniform Traffic Control Devices (MUTCD)*.

State standards and guidance are provided by CTDOT and by the Connecticut General Statutes. Volume 4, Title 13b, Chapters 245 through 245b which provide legislative requirements for railroads. CTDOT has also provided design considerations for potential trails alongside the Griffin Line and released the *Griffin Line Rail with Trail Design Guidelines in 2023* (provided in Appendix)¹³. Finally, the CTDOT Highway Design Manual (HDM) provides some considerations for design elements surrounding railroads, such as vertical clearance requirements for new bridges over railroads.

Design Guidance

Trail Cross-Section

Both State and Federal sources recommend a minimum 10-foot shared-use trail, with a width as narrow as eight feet in constrained areas. This width does not include a two-foot buffer adjacent to any barrier at the edge of the trail (such as a fence). In total, then, the minimum width of a trail in a constrained location between barriers must be at least 12 feet. For trails with high anticipated usage, a greater width is preferred.

Offset

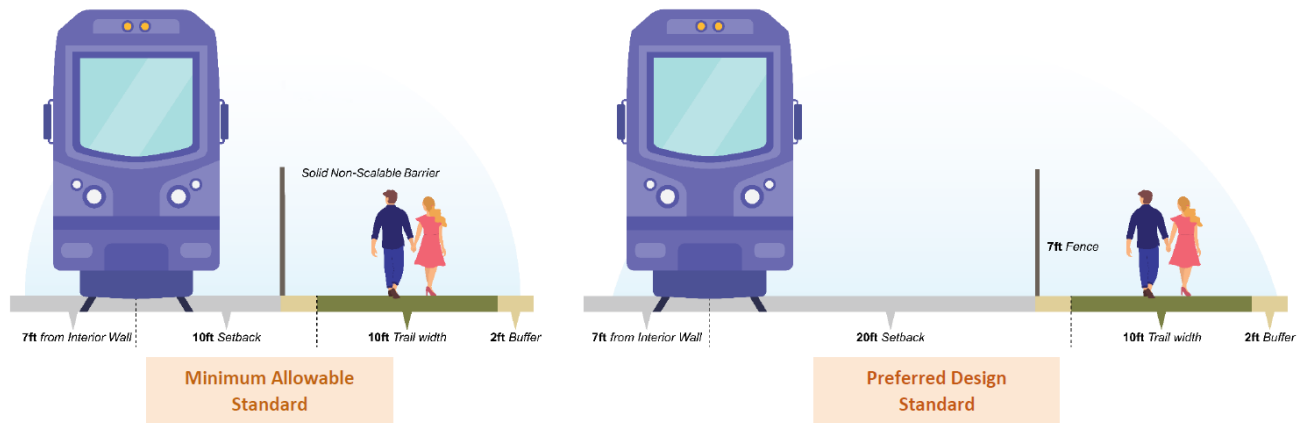
It is crucial that no portion of the trail comes within the railroad’s dynamic envelope, a distance that varies greatly. The RWT Guide describes offsets as low as seven feet between the center of the railroad line and the inner edge of the adjacent trail. CTDOT specifies a minimum of 10 feet between the center of the railroad line and a vertical barrier between rail and trail. When considering a preferred two-foot offset between a trail and adjacent barrier, the offset between the center of the rail to the trail is a minimum of 12-feet. Where possible, CTDOT prefers at least a 20-foot offset to any vertical barrier as illustrated in Exhibit 23.

¹² *Rails with Trails: Best Practices and Lessons Learned*, USDOT, 2021; https://www.railstotrails.org/resourcehandler.ashx?name=rail-with-trails-best-practices-and-lessons-learned&id=26482&fileName=Rails-Tracks-Layout_06_17_21_508.pdf.

¹³ *Griffin Line Rail with Trail Design Guidelines (Draft)*, CTDOT, 2023.



Exhibit 23: CTDOT Trail Design Guidelines for rail-with-trail in the Griffin Line (2023)



Barrier

There are no Federal requirements for barriers between trails and railroad tracks; however, most rails-with-trails include a barrier of some sort, whether landscaping, fencing, or a wall. This barrier serves to reduce the visual and noise impact of a passing train as well as to discourage trespassing. Care should be taken, though, to maintain the visibility of the trail itself for user security.

CTDOT guidance suggests a solid non-scalable barrier when a minimum 10-foot offset is used, and a seven-foot-tall fence for offsets at least 20-feet or more. Given the desire to maintain visibility, as well as the maintenance needs discussed below, it would be preferable to provide wide offsets wherever practical to avoid solid barriers.

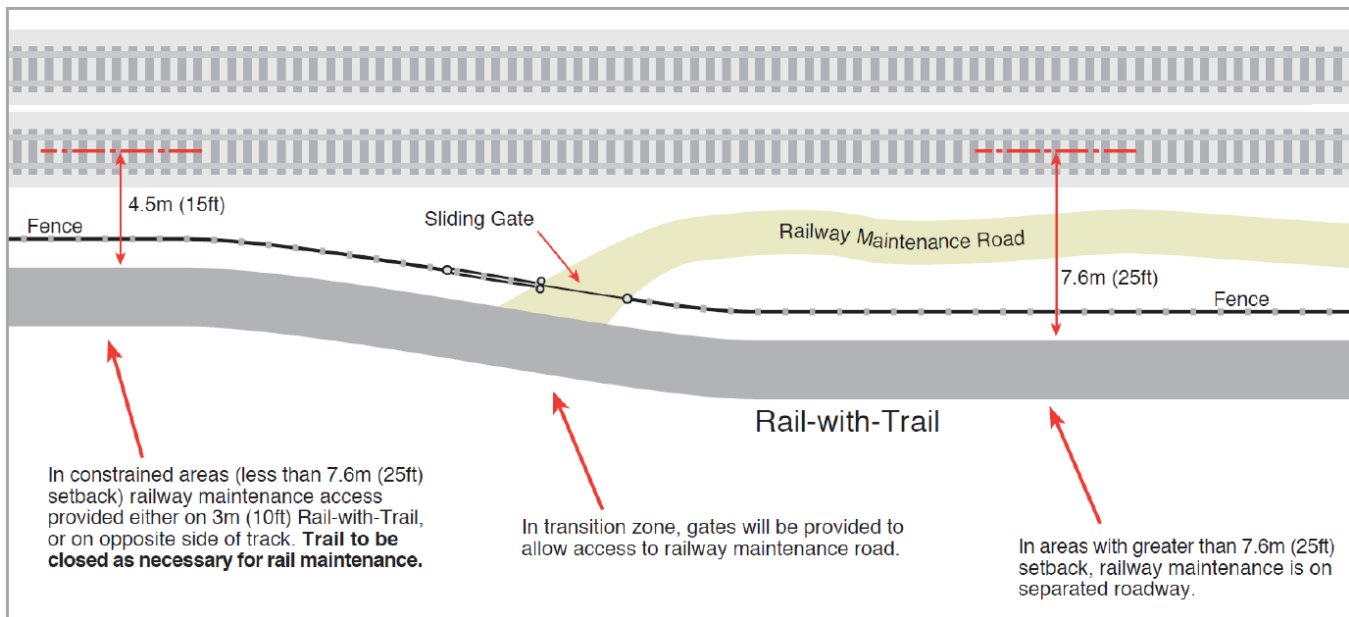
Additionally, Eversource design requirements should be considered in future design stages to ensure compatibility within the transmission corridor. For example, the design of some metal fences may be limited due to the proximity to the transmission lines in this corridor.

Maintenance and Emergency Access to Rail

In locations where the shared-use trail is at least 25 feet from the centerline of the railroad track, rail maintenance and emergency vehicles can drive alongside the track. However, when the separation is below 25 feet, these vehicles may need to use the trail itself to perform their duties. Not only does this require the trail to be closed to other users during this time, but the barrier must also be designed to permit maintenance and emergency access. Alternatively, the rail maintenance road can be provided on the other side of the train track. Maintenance and emergency access considerations are shown in Exhibit 24.



Exhibit 24: Maintenance access considerations (RWT Guide, pg. 50)



At-Grade Crossings

At-grade crossings are subject to a great deal more scrutiny than parallel trails. The *Manual for Uniform Traffic Control Devices* discusses pavement markings, signing, and signalization requirements for railroad grade crossings, including for locations where trails cross active railroad tracks. The *AASHTO Guide for the Development of Bicycle Facilities* also discusses trail design, including at rail crossings. For improved guidance, the Transportation Research Record published an article titled *Rails-Next-to-Trails: A Methodology for Selecting Appropriate Safety Treatments at Complex Multimodal Intersections* in 2018. It is generally preferred to avoid creating new at-grade crossings, when possible, whether by grade separation or by rerouting the trail. This preference is reflected in Connecticut General Statute Section 13b-268 (b), which requires a special act of the General Assembly as a prerequisite for creating a new at-grade crossing.

Grade Separation

Where trails pass beneath cross streets or railroads, the Federal minimum height of the tunnel is eight feet, with ten to twelve feet preferred. When the trail crosses over a railroad, the height requirements are much greater: 20'6" as required by CTDOT HDM Section 9-4.0. These requirements can differ based on the railroad and the needs of the corridor. The RWT Guide suggests a minimum height of 23-feet for non-electrified track, but notes that the clearance provided "should be designed to meet the current and future operational needs of the railroad" (RWT Guide, pg. 69). **Vertical clearance on the corridor is currently constrained by the Woodland Street bridge with an existing vertical clearance of approximately 18-feet** (based on available mapping, photos, and visual inspection during the site visit).



CASE STUDIES

The Rail-to-Trail Conservancy (RTC) documented 442 rail-with-trails across the United States as of September 2023. This section summarizes an analysis of rail-with-trails in New England and the New York region. Rail-with-trail locations were identified from the RTC catalogue and a GIS review of Open Streets Map (OSM) data.

Exhibit 26 highlights attributes of rail-with-trails in the region that are longer than one mile. The following was analyzed to examine each trail:

- **Length:** Rail-with-trail length based on RTC's "September 2023 Rail-with-Trail List."
- **Offset:** Estimated distance from the track centerline to the inner edge of the adjacent trail based on Google Earth measurements.
- **Fence Type:** Description of fence material and height based on a visual review of Google Earth. A low fence is estimated to be 4-feet or shorter; a medium fence is estimated to be between 5 to 6-feet tall; a tall fence is estimated to be 7-feet tall or greater.
- **Corridor Status:** Active, inactive, or abandoned status based on available railroad operator information.
- **Railroad Type:** Description of active railroad services based on available railroad operator information.

Several rail-with-trails were examined as case studies. The case studies summarize general takeaways from the trail design, grade crossings, and safety features.

Connecticut has one existing rail-with-trail example in Derby, however at 0.2-miles in length, this was not included in the case studies table as this portion of trail is solely to pass under Main Street near the Naugatuck River. The trail is adjacent to the Metro-North Waterbury Branch Line owned by CTDOT. This trail is shown in Exhibit 25.

Exhibit 25: Rail-with-Trail example in Derby, CT. This section runs for approximately 0.2-mile. The Derby/Shelton Station is seen in the distance. (Source: CTDOT)



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Exhibit 26: Rail-with-trail Case Studies

Name	State	Length [Mi.]	Min. Offset [Ft.]	Fence Type	Corridor Status	Railroad type
Connecticut River Walk and Bikeway	MA	1.5	18	Medium chain link	Active	Passenger & Freight
Manhan Rail Trail	MA	0.65	10	Medium chain link	Active	Passenger & Freight
Mass Central Rail Trail (Norwottuck Branch)	MA	1.43	65	None	Active	Passenger & Freight
Neponset River Greenway	MA	1.3	9	Medium chain link	Active	Light Rail
Somerville Community Path	MA	1.9	10	High chain link	Active	Light Rail
Southwest Corridor Park (Pierre Lallement Bike Path)	MA	1.8	8	Retaining wall	Active	Passenger & Freight
Blackstone River Greenway	MA + RI	8.7	15	Low chain link	Active	Freight
Down East Sunrise Trail	ME	2.6	10	None	Inactive	N/A
Eastern Promenade Trail	ME	1.33	9	None	Inactive	N/A
Ellsworth Trail	ME	1.3	12	Medium chain link	Active	Passenger (Scenic Tour Trains)
Kennebec River Rail Trail	ME	5.4	12	None	Inactive	N/A
Mountain Division Trail	ME	8.5	12	None	Inactive	N/A
Papermill Trail	ME	1.2	20	None	Inactive	N/A
Cheektowaga Historic Rails to Trails	NY	1.5	40	Medium chain link	Active	Freight
Maybrook Trailway	NY	26.85	10	None	Inactive	N/A
Island Line Rail Trail	VT	1.5	10	Medium chain link	Active	Passenger & Freight



Maybrook Trailway

Location: Hopewell Junction to Brewster, NY

Railroad Status: Inactive

Key Design Features: Paved trail

Other Notes: The Maybrook Trailway is 26.85 miles long within an inactive Metro North two-track corridor. One track has been converted to a paved shared-use path while the other track remains inactive. The rail-with-trail is 10-feet wide for bicycles and pedestrians. There is no fence between the trail and the tracks. In the most constrained areas, the offset from the trail to the track centerline is approximately 10 feet.

Blackstone River Greenway

Location: Worcester, MA to Providence, RI

Railroad Status: Active

Key Design Features: Paved trail; At-Grade crossings

Other Notes: The Blackstone River Greenway is envisioned to be a 48-mile trail from Worcester, Massachusetts to Providence, Rhode Island. There are two segments of rail-with-trail completed so far totaling 8.7 miles along active freight corridors. In Massachusetts, the most constrained offset between the trail and the track is approximately 10 feet with a tall, chain link fence dividing the track and trail. Meanwhile, there are low, wood slat fences where the offset is wider with a tree line. In some sections, the railroad corridor and trail abut the roadway, but the trail remains grade separated from the road. Similarly in Rhode Island, a tree line divides the trail and the tracks between the 24-foot offset, while a tall, chain link fence is used where the offset is tighter. Following the Providence and Worcester railroad, the trail also passes below-grade crossings underneath street bridges and at-grade crossings featuring crosswalks with designated bicycle and pedestrian signage.

Burlington Greenway

Location: Burlington, VT

Railroad Status: Active

Key Design Features: Paved trail

Other Notes: The Burlington Greenway includes 1.5 miles of paved rail-with-trail along an active train corridor. The rail-with-trail passes Burlington Union Station adjacent to tracks serving both freight and passenger trains. The trail is offset from the track centerline by approximately 10 feet, and a low, chain link fence separates the trail from the track. The trail is about 10 feet wide and open to pedestrians and bicyclists.



Manhan Rail Trail

Location: Northampton, MA

Railroad Status: Active

Key Design Features: Paved trail

Other Notes: The Manhan Rail Trail is 0.65 miles long adjacent to an active railroad corridor. The trail is paved and about 11-feet wide. A standard chain link fence divides the trail from the tracks with an approximate 10-foot offset. The Massachusetts Department of Transportation (MassDOT) owns the railroad with active freight service, as well as the Amtrak Vermonter and Valley Flyer passenger lines. This trail is a section of the New Haven & Northampton Canal Greenway envisioned to connect 81 miles of trails between Connecticut and Massachusetts.

Somerville Community Path

Location: Somerville, MA

Railroad Status: Active

Key Design Features: Paved trail; Grade crossings

Other Notes: This rail-with-trail is 1.9 miles along the active Massachusetts Bay Transportation Authority (MBTA) Green Line in Somerville. A tall, chain link fence and short guardrail separate the trail from the track by approximately 10 feet. The trail elevation slopes between the road and railway. While the light rail passes beneath bridges, the trail includes both at-grade and grade-separated crossings across roadways.

CAPITOL REGION EAST COAST GREENWAY STUDY



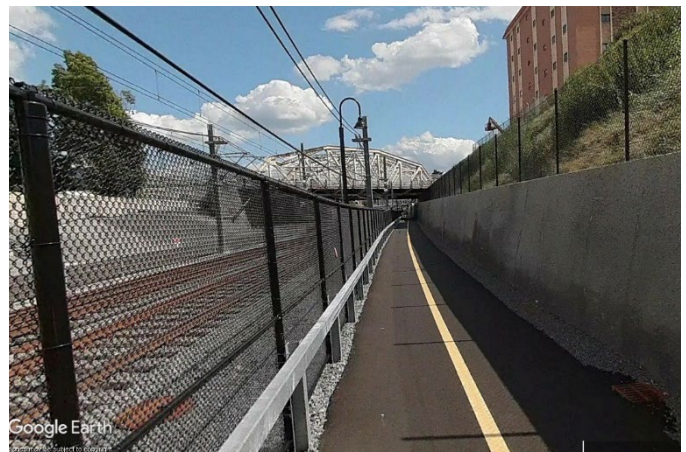
Exhibit 27: Rail-with-trail along active railroad corridors.

Upper left: Blackstone River Greenway (Source: Google Earth)

Upper right: Burlington Greenway (Source: Stephen Mease Photography)

Lower left: Manhan Rail Trail (Source: Google Earth)

Lower right: Somerville Community Path (Source: Google Earth)





ALTERNATIVE ANALYSIS

Alternatives within and adjacent to the Griffin Line study area were identified for analysis. This included alternatives within the ROW, but also included options off the Griffin Line corridor that could be considered as well. Three alternatives in total were reviewed:

- **Northeast Alternative:** This alternative includes rail-with-trail on the north or east side of the railroad. Railroad relocation is necessary between Route 44 (Albany Avenue) and Garden Street in this alternative.
- **Southwest Alternative:** This alternative includes rail-with-trail on the south or west side of the railroad. A 2,500-foot extent between Annie Fisher Magnet School and Hawk Drive (University of Hartford) is located on Mark Twain Drive ROW, and UHart property to avoid environmental constraints in this area.
- **Homestead / Mark Twain Alternative:** This alternative extends between Garden Street and Plainfield Street and utilizes areas outside the Griffin Line ROW. This is accomplished with 1) a shared-use sidepath constructed along Homestead Avenue, 2) use of the planned sidepath in design by the City of Hartford on the north side of Route 44 (Albany Avenue) between Westbourne Parkway and Mark Twain Drive, and 3) a sidepath along Mark Twain Drive.

Tobey Road to Park Avenue

Alternatives between Tobey Road and Park Avenue were previously reviewed as part of the *Cross Town Trail Study* and as part of the broader Capitol Region East Coast Greenway Study. Both these efforts are summarized in the sections above. This memorandum accepts the findings of the *Bloomfield Cross Town Trail Study* which found a rail-with-trail alignment on the Griffin Line between Tobey Road and Route 218 to be not preferred due to environmental constraints and crossing at an unsignalized intersection at Route 218. However, this memo proposes to advance the routing to the east of the Copaco Shopping Center (as shown in Exhibit 5) as the preferred alternative for connections between Tobey Road and Park Avenue. This alternative is preferred regardless of the alternative selected to the south of Tobey Road.



Northeast (NE) Alternative

An alternative on the northeast side of the railroad was initially identified by iQuilt as their preferred location of a trail due to ease of access to properties on the south side of Homestead Avenue. It is envisioned that a trail in this location could be a feature in efforts to redevelop properties in the Homestead Avenue corridor, in addition to providing a non-motorized off-road route for area residents.

A mapbook detailing this alternative and cross sections at section locations are provided in the Appendix, and key considerations are presented below:

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Exhibit 28: Key considerations at cross section locations for the Northeast Alternative (**Red text** indicates values less than CTDOT preferred offset of 20-feet). Cross sections are located in the Appendix.

Northeast (NE) Alternative Key Considerations				
Cross Section ID	Cross Section Location	Trail Offset from RR Centerline	Easement Required	Other Notes
1	51 Homestead Avenue	15 feet	Yes	Requires railroad realignment.
2	Sigourney Street	36 feet (Alt NE-A)/ 17 feet (Alt NE-B)	No	Trail routed through unoccupied flanking span (Alt. NE-A) or main span with realigned railroad (Alt. NE-B).
3	Between Sigourney Street and Woodland Street	22 feet	No	
4	Woodland Street	15 feet	Yes	Requires railroad realignment. Requires reconstruction of Woodland Street bridge to 40-foot span length (min.). Trail adjacent to retaining wall and building.
5	333 Homestead Avenue	11 feet	No	Requires railroad realignment. Adjacent to building and loading dock / parking lot.
6	367 Homestead Avenue	17 feet	No	
7	425 Homestead Avenue	12 feet	No	Requires railroad realignment. Adjacent building on property side.
8	Route 44 (Albany Avenue)	10 feet	No	Requires railroad realignment. Trail routed under existing bridge with realigned railroad. Requires pylon relocation or reduced trail width through constrained area.
9	Village at Park River	26 feet	No	
10	Weaver High School Football Field	50 feet	No	Utilizes City of Hartford property at Weaver High School.
11	Weaver High School Baseball Field	34 feet	No	Utilizes City of Hartford property at Weaver High School.

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Exhibit 29: Northeast Alternative summary map. See Appendix for detailed mapbook. Numbers show general location of each cross section.



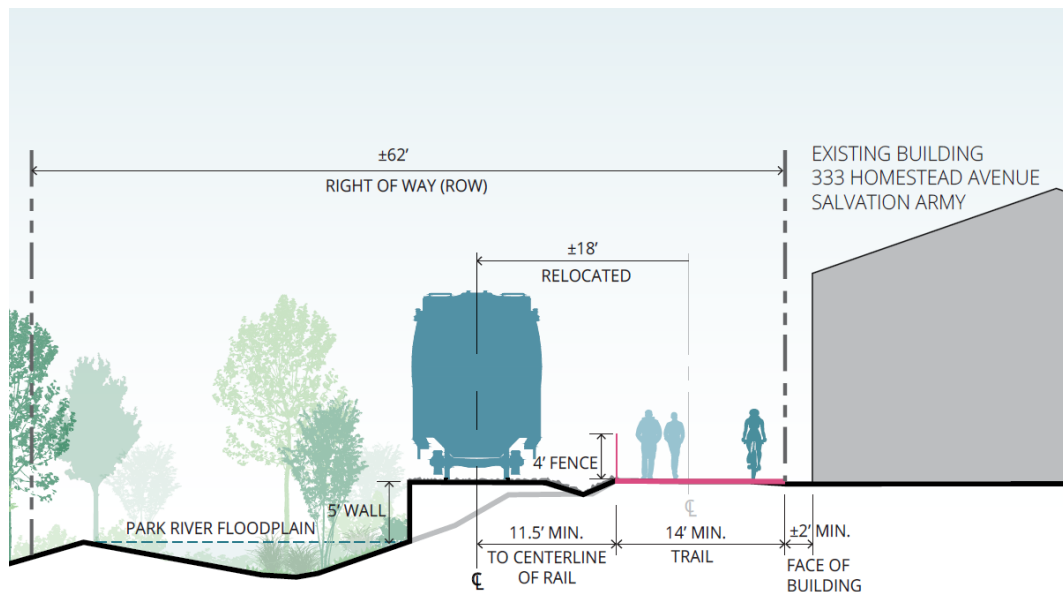


Garden Street to Plainfield Street

The Northeast Alternative would likely require rail realignment for an approximate 1.25-mile extent between Garden Street and Route 44 (Albany Avenue) due to adjacent buildings at many locations along this segment as noted in the Existing Conditions section above. A feasible realignment was evaluated and documented in the Appendix. Constraints on the south side of the railroad including 156 Woodland Street (Austin Organs) and the Park River floodplain limit the extent the rail may be realigned to the south through this entire section. In addition, realignment would likely require the reconstruction of the at-grade crossing at Garden Street.

While the realignment of the railroad would allow for the minimum horizontal clearance for a trail as noted in the cross sections in the Appendix, some locations would require easements for additional ROW. Additionally, this alternative would be relatively constrained compared to the Southwest Alternative presented in the following section. Typical constraints include many of the nearby adjacent buildings to the north side of the ROW. See Exhibit 30 for an example of this typical constraints with adjacent buildings such as near 333 Homestead Avenue.

Exhibit 30: Cross Section excerpt of the Northeast Alternative, Location 5 (at 333 Homestead Avenue). See the Appendix for all cross sections.

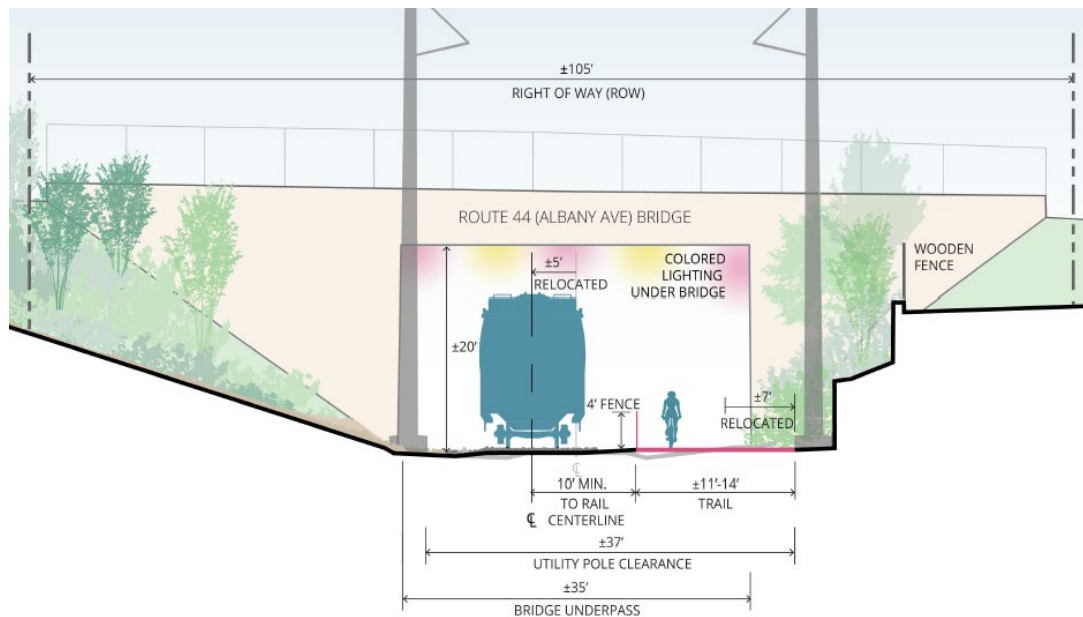


Just south of the Route 44 (Albany Avenue) bridge, Eversource maintains two electrical transmission pylons approximately 14-feet off the existing rail centerline. While realignment of the railroad southwestward in this area would provide for approximately 19-foot offset between rail centerline and these pylons, this would still result in a constrained area between these two features. This constraint could reduce the effective trail width to 5-feet or less in this area (when accounting for 2-foot shy distances from adjacent vertical objects such as the fence and pylon). Therefore, this alternative includes the relocation of these two pylons further east to provide adequate clearance for a trail of sufficient width. This relocation would likely come at a considerable cost and require coordination



with Eversource. See Exhibit 31 for the area near Route 44 (Albany Avenue) bridge which shows railroad relocation in addition to relocation of the transmission pylons.

Exhibit 31: Cross Section excerpt of the Northeast Alternative, Location 8 (at Route 44 bridge). See the Appendix for all cross sections.



Between Route 44 (Albany Avenue) and Plainfield Street, the Northeast Alternative is routed outside the existing pylons and is located within an easement maintained by Eversource. Generally, Eversource maintains an easement 15-foot off center on both sides of the rail in this area. This places a trail approximately 26-feet offset the railroad centerline. There is flexibility in this area to provide additional offset to the railroad, however, this should be weighed against a trail location closer to residential properties fronting Granby Street.

Of note, only three of the cross-section locations for the Northeast Alternative between Garden Street and Plainfield Street (Location 2 under Sigourney Street bridge, Location 3 west of Sigourney Street, and Location 9 north of Route 44) meet CTDOT's preference for a trail offset of 20-feet minimum. All other locations include a trail offset between 10 to 20-feet. While this exceeds CTDOT's minimum allowable standard, a greater offset is preferred. In addition, a reduced offset may require additional barriers and/or fencing to be installed between the trail and the railroad. CTDOT's *Griffin Line Rail with Trail Design Guidelines* provides guidance for a Solid Non-Scalable Barrier in trails with offsets between 10-20 feet.

Plainfield Street to Tobey Road

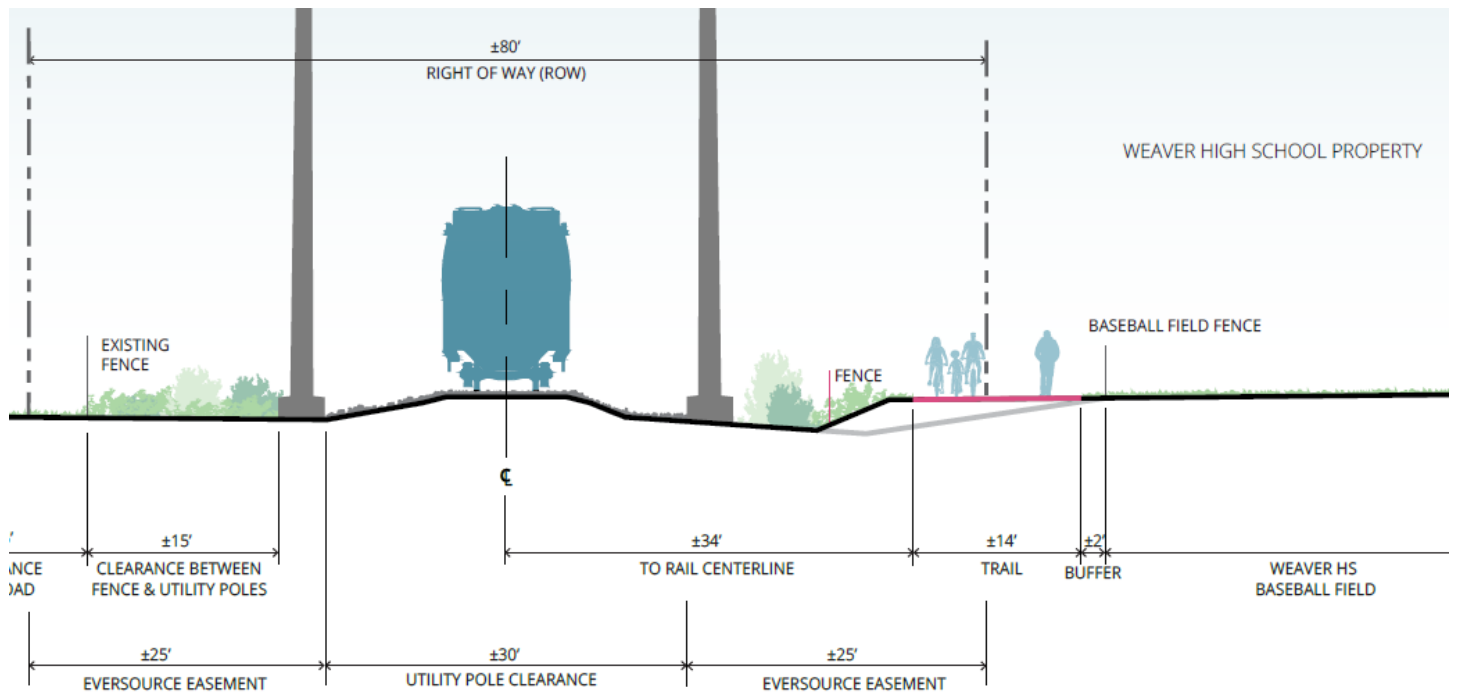
The segment between Plainfield Street and Tobey Road is similar to the section between Route 44 (Albany Avenue) and Plainfield Street. This section is characterized by existing pylons and Eversource easement 15-foot off center on both sides of the rail line. Generally, a trail within the ROW, but within Eversource easement, is feasible outside the pylons located in this area. Coordination with Eversource should be undertaken in future stages of the project, and key considerations are listed in the Preferred Alignment section below.

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Just south of Weaver High School there is a drainage channel which flows towards the North Branch of the Park River. Within this area the Northeast Alternative shifts eastward to traverse this area over an existing culvert on Weaver High School property. The Northeast Alternative continues north through Weaver High School property. It is expected that some form of fencing between the trail and Weaver High School would be preferred by school officials. While the route could be located entirely within Griffin Line ROW, the cross-sections for this alternative demonstrate that use of both Griffin Line ROW and City of Hartford property could allow for a less constrained trail area. See Exhibit 32 for this area.

Exhibit 32: Cross Section excerpt of the Northeast Alternative, Location 11 (at Weaver High School Baseball Fields). See the Appendix for all cross sections.



The Northeast Alternative connects to the preferred route to Bloomfield Center at Tobey Road as described in the prior section. The trail would connect to Tobey Road via a University of Hartford-owned parcel. This location was identified as a potential trailhead and parking location.



Southwest (SW) Alternative

A trail alternative was also evaluated on the southwest side of the railroad tracks. Generally, this area included more flexibility over alternatives to the northeast of the railroad tracks in the segment between Garden Street to Route 44 (Albany Avenue). This is because the rail line in this area favors the north side of the ROW and Homestead Avenue buildings were generally built adjacent to the rail line. North of Route 44 (Albany Avenue) the rail line does not feature nearby industrial uses. This segment is defined by several key considerations including the Village at Park River redevelopment, the Annie Fisher Magnet School, a pond on the east side of Mark Twain Drive which fronts the railroad, and the University of Hartford campus. These considerations are further detailed below.

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Exhibit 33: Key considerations at cross section locations for the Southwest Alternative. (*Red text* indicates values less than CTDOT preferred offset). Cross sections are located in the Appendix.

Southwest (SW) Alternative Key Considerations				
Cross Section ID	Cross Section Location	Trail Offset from RR Centerline	Easement Required	Other Notes
1	51 Homestead Avenue	14-feet <i>*(See Note)</i>	Yes	Realignment of private drive likely required. While the trail is 14-foot offset rail centerline, existing ROW line (and fencing) approximately 15-feet from rail center. Much of trail to be constructed in acquired easement.
2	Sigourney Street	36-feet	No	Trail routed through unoccupied flanking span.
3	Between Sigourney Street and Woodland Street	32-feet	No	
4	Woodland Street	13-feet	Yes	Trail routed under Woodland Street via new culvert through bridge sidewall or reconstructed bridge. Alternative includes at-grade crossing at Woodland Drive signal. Approx. 250-foot constrained area with <20-foot offset from RR centerline (near 156 Woodland Street, Austin Organs).
5	333 Homestead Avenue	36 feet (Alt SW-A)/ 10 feet (Alt SW-B)	No	Potential floodplain based on available mapping in Alt. SW-A location. Boardwalk or other design features may need to be included.
6	367 Homestead Avenue	20-feet	No	Recommended connection to Homestead Avenue with at-grade crossing of RR in this location. Not required for mainline of trail.
7	425 Homestead Avenue	30-feet	No	
8	Route 44 (Albany Avenue)	50-feet	Yes	Trail routed under Route 44 (Albany Avenue) with new culvert to west of existing bridge. Easement from Connecticut Light & Power (Eversource) required for approach to proposed culvert under Route 44.
9	Village at Park River	52-feet	Yes	Easement required from Hartford Housing Authority / Village at Park River. Trail in this location is compatible with masterplan of site redevelopment.
10	Weaver High School Football Field	20-feet	No	Located on embankment between rail line and water body. Likely structure required.
11	Weaver High School Baseball Field	26-feet	No* - See Note	ROW varies in this area. Easements may be required from the University of Hartford in some locations. Additionally, coordination with UHart on continuous connection (no fencing) should be pursued.

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Exhibit 34: Southwest Alternative summary map. See Appendix for detailed mapbook. Numbers show general location of each cross section.





Garden Street to Plainfield Street

This alternative presents an option for rail-with-trail on the southwest side of the railroad tracks. Review of the critical locations in this report found that this alternative is compatible **without** the need for realignment of the existing freight railroad tracks between Garden Street and Plainfield Street as required in the Northeast Alternative. This is a major benefit of this alternative which potentially reduces project complexity and associated costs and project timelines.

However, a trail on the southwest side of the tracks presents design challenges to a key objective of trail planning in this corridor – connectivity to properties fronting Homestead Avenue as an amenity in future redevelopment of these parcels. To mitigate this concern, this alternative features connections to the north side of the railroad tracks on average of every 1/3-mile intervals. These connections are located as follows:

- **Garden Street:** Connection to Homestead Avenue can be achieved with the existing at-grade crossing of Garden Street. A connector trail and/or streetscape fronting Garden Street and Homestead Avenue could be constructed to connect to 51 Homestead Avenue.
- **West of Sigourney Street:** Connection to Homestead Avenue in the vicinity of Sigourney Street is proposed as a new trail bridge over the rail line connecting the main alignment of the Southwest Alternative to Homestead Avenue. This trail bridge would utilize the City of Hartford property at 135 Homestead Avenue and could be incorporated into redevelopment of city-owned property at 319/325 Sigourney Street. A north-side connector trail under Sigourney Street (through the unoccupied bridge span similar to that proposed on the south side) could connect to redevelopment at the city-owned property at 111 Homestead Avenue and Saint Francis-owned property at 51 Homestead Avenue. Key considerations should include ADA compliance and adequate vertical clearance for the railroad below. Initial planning in this memorandum assumed a vertical clearance similar to that of Woodland Street (18-feet), however this should be evaluated further in future design stages of trail development in the corridor in coordination with CTDOT.

Review of other connections to Homestead Avenue in the area of Sigourney Street included:

- o An at-grade trail crossing of Sigourney Avenue – Dismissed due to safety concerns of trail crossing Sigourney Street due to traffic volumes and speeds and potential impacts to a residence at 306 Sigourney Street.
- o Providing secondary connector trail ramping up to the Sigourney Street bridge – While likely feasible, this option was not preferred as this would result in two narrower side-by-side trail alignments with a retaining wall of significant height between 10-20 feet. The primary alignment would be located closer to the railroad tracks. This alignment would serve as the mainline of the trail and be routed under an unoccupied span of the Sigourney Street bridge. Immediately adjacent to this alignment to the south (towards Sargeant Street) would be a connection ramp which would connect to Sigourney Street.



Given the grade separation of 10-20 feet between the two trail alignments near Sigourney Street, there would be the need for a retaining wall of significant size (both height and length) in this area. This retaining wall could be imposing for trail users and distract from the trail environment sought in the corridor.

- **Woodland Street:** Connection to Homestead Avenue is accomplished with ramp connector trails between the trail mainline and the south side of the Woodland Street bridge on either side of the bridge. On the east side of the bridge this utilizes city-owned property at 158 Woodland Street, while the west side of the bridge utilizes privately held property at Woodland Drive. The connection to Homestead Avenue could be improved with a connector trail and/or streetscape on the Woodland Street bridge to connect to Homestead Avenue.
- **Baltimore Street:** Connection to Homestead Avenue is proposed via an at-grade railroad crossing to city-owned property at 395 Homestead Avenue. This connection could be complemented with a connector trail on the north side of the railroad tracks which could connect to multiple parcels on the north side of the railroad tracks. While it is expected that this at-grade crossing may need to clear significant permitting and/or legal hurdles (for example, at-grade crossing within Connecticut require an act of the state legislature), this at-grade crossing *is not* necessary for the completion of the mainline of the trail and could be implemented in a future phase following the completion of the mainline of the trail. Furthermore, additional at-grade crossings are generally viewed as undesirable by CTDOT Office of Rail due to safety concerns.
- **Route 44 (Albany Avenue):** Connection to Homestead Avenue can be accomplished via the Albany Avenue sidepath currently in design by the City of Hartford. The sidepath is anticipated to be located on the northside of Route 44. Ample ROW between Route 44 and private property on the north side of the road allows the space needed for an exit from the proposed culvert and connection to the sidepath planned by the City.

Cross sections in the following pages show critical locations of the trail between Garden Street and Route 44. Note, full cross sections for all locations are available in the Appendix.

- Exhibit 35 shows the southwest alternative near 51 Homestead Avenue. At this location, the alternative would require an easement. The existing fence line would be reconstructed and slightly shifted closer to the railroad.
- Exhibit 36 shows the southwest alternative between Sigourney Street and Woodland Street. The ROW is approximately 100-feet in this location. In this area, the trail would be constructed approximately 32-feet off the railroad center, and up part of the embankment closer to the multi-family housing which fronts Sargeant Street. This would allow the trail to tie into a proposed bridge connecting to the parcels fronting Homestead Avenue as discussed previously.

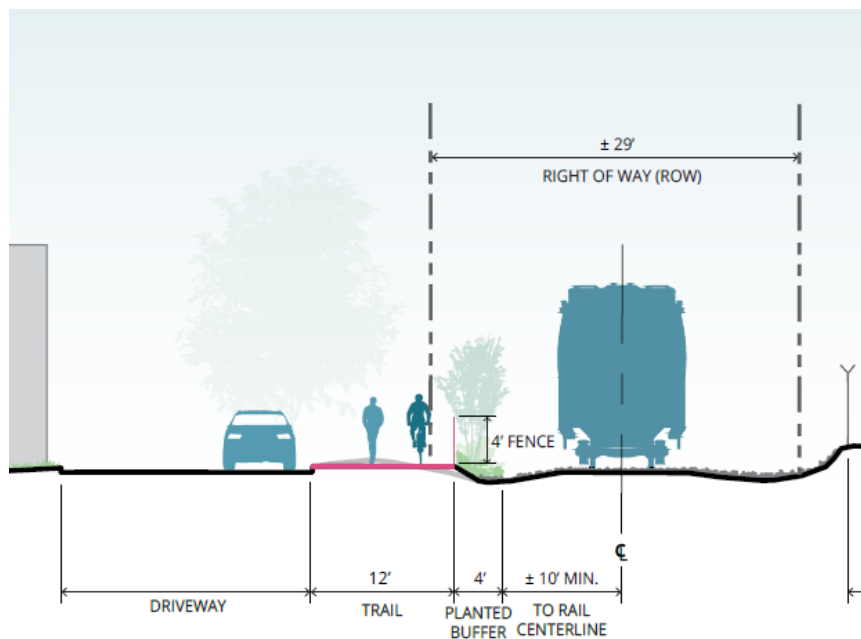
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- Exhibit 37 shows the southwest alternative just east of Woodland Street. At this location there is a constraint with Austin Organs building, however this pinch point is not consistent due to the building layout and geometry of the train tracks. The southwest alternative would then pass under Woodland Street via a new culvert south of the existing bridge span.
- Exhibit 38 shows the southwest alternative in the area of Route 44. This alternative would see a new culvert built under Route 44 just west of the existing bridge span.

Between Route 44 (Albany Avenue) and Plainfield Street, this alternative is proposed to be routed on City of Hartford-owned property as part of the redevelopment of the Village at Park River. The closest features within this site (parking lot) are approximately 100-feet offset the railroad centerline. The area between the parking lot and Griffin Line was utilized as excess site fill during the redevelopment of the site and currently features a berm in this area. This may need to be considered in the siting of a trail in this location. The redevelopment of this site also includes a shared use path through the site development which was considered in alternatives through this area in the Homestead / Mark Twain Alternative.

Exhibit 35: Cross Section excerpt of the Southwest Alternative, Location 1 (at 51 Homestead Avenue). See the Appendix for all cross sections.



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Exhibit 36: Cross Section excerpt of the Southwest Alternative, Location 3 (between Sigourney Street and Woodland Street). See the Appendix for all cross sections.

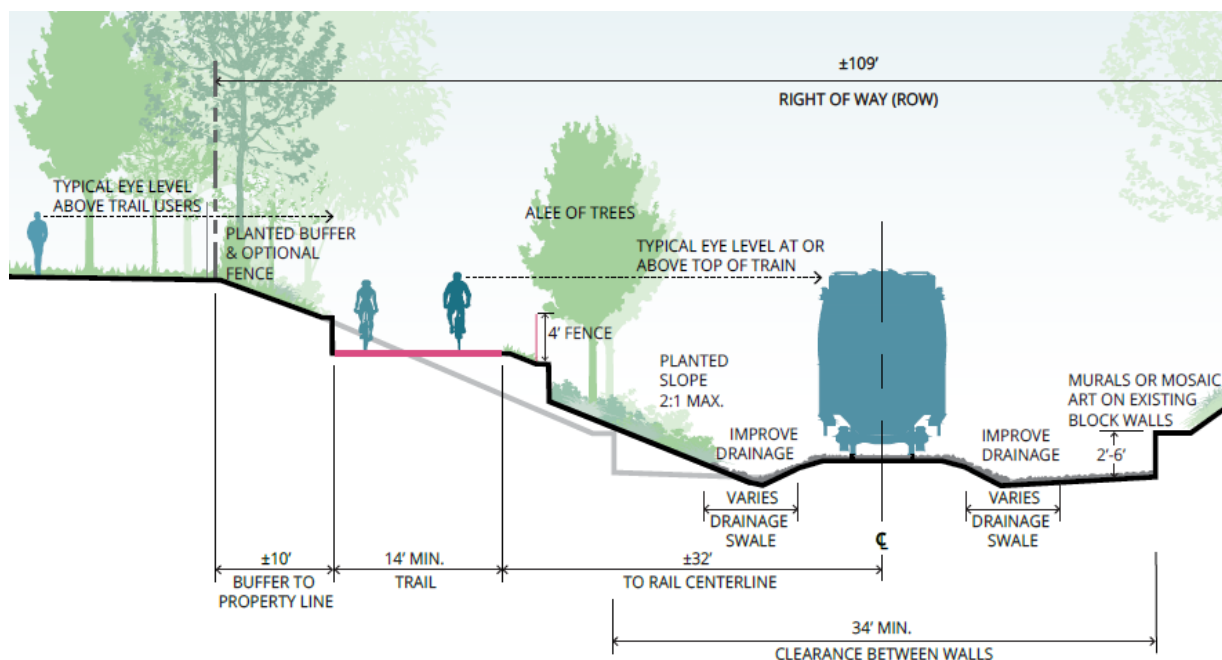


Exhibit 37: Cross Section excerpt of the Southwest Alternative, Location 4 (at Woodland Street). See the Appendix for all cross sections.

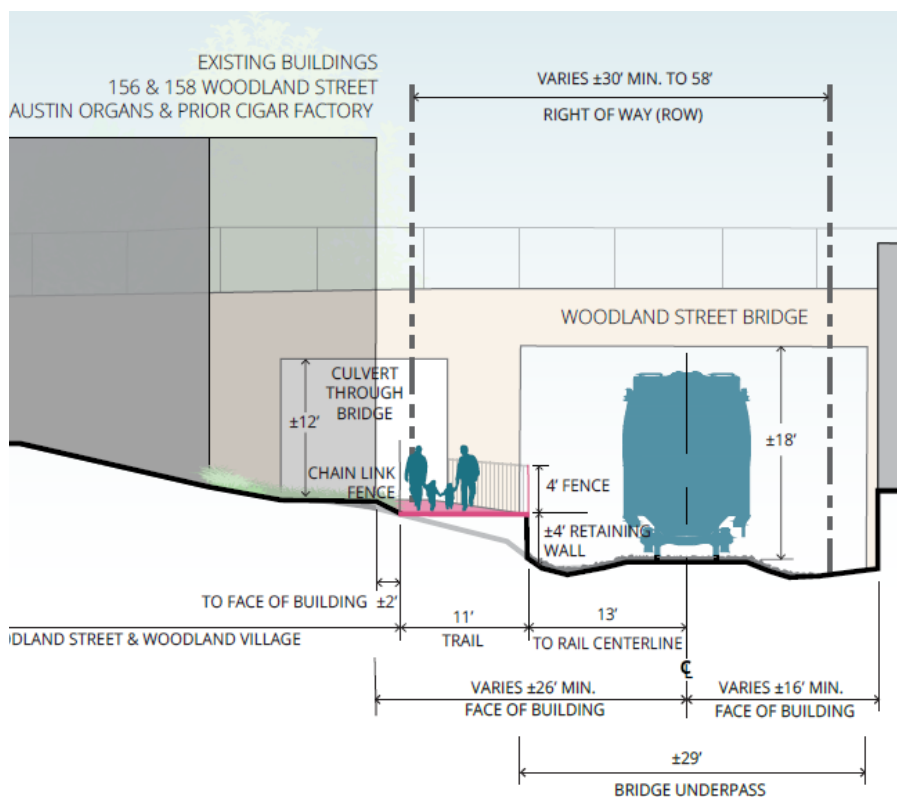
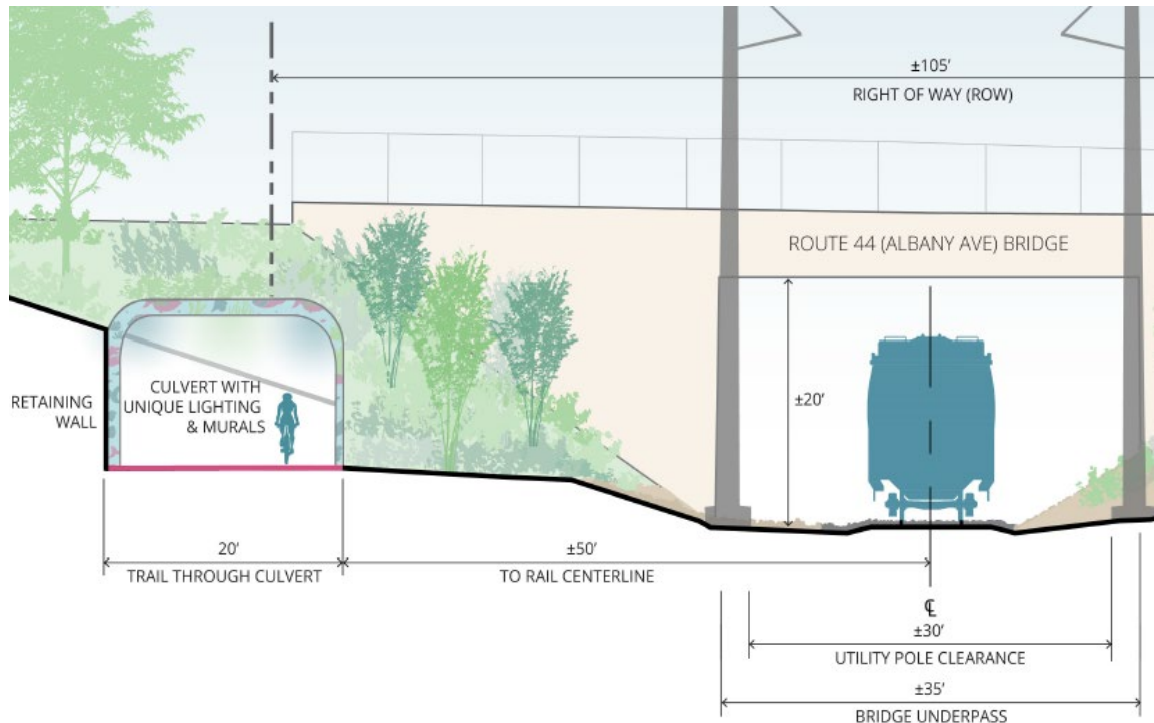




Exhibit 38: Cross Section excerpt of the Southwest Alternative, Location 8 (at Route 44). See the Appendix for all cross sections.



Plainfield Street to Tobey Road

The Southwest Alternative continues along the Griffin Line between the rail line and the Annie Fisher Magnet School until it turns west to follow the ballfields to connect with Mark Twain Drive. This section is characterized by existing pylons and Eversource easement 15-foot off center on both sides of the rail line. Generally, a trail within the ROW, but within Eversource easement, is feasible outside the pylons located in this area. Coordination with Eversource should be undertaken in future stages of the project, and key considerations are listed in the Preferred Alignment section below.

The shift to Mark Twain Drive is necessary due to environmental constraints between the Annie Fisher School and the University of Hartford campus including surface water (pond), wetlands, floodplains, a culvert, and significant slopes adjacent to the rail line. The trail continues as a sidepath on Mark Twain Drive to the access point at the University of Hartford.

Access between Mark Twain Drive and the Griffin Line corridor must traverse University of Hartford property. This entrance to the UHart campus is currently gated at all times for vehicular and non-motorized users. A new trail alignment here could result in a potential new connection into the campus. Additionally, a trail connection between Mark Twain Drive and the Griffin Line could require changes at the "Lot G" parking lot.

This alternative continues north within Griffin Line ROW within the Eversource easement and outside the existing pylons which are approximately 15-foot off center of the rail line. It is recommended that fencing **is not** installed on the UHart side of the path as this would result in a narrow corridor approximately 20-feet in width between the



rail-side fence and a fence along Hawk Drive. A narrow width between two fence lines should generally be avoided in trail development.

North of the UHart campus, the alternative traverses through UHart-owned parcels to Tobey Road in Bloomfield. This area features pockets of wetlands which should be considered during a future design stage.



Homestead / Mark Twain Alternative

In addition to alternatives within the Griffin Line, the Homestead / Mark Twain Alternative identifies a route which is immediately adjacent to, but outside of, the Griffin Line corridor. This alternative was identified to fully compare options for a trail within the corridor. A summary map of this alternative is shown in Exhibit 39. This alternative included:

- **Homestead Avenue:** The concept would include a reconstruction of Homestead Avenue for approximately 1.1-miles between Garden Street and Route 44 (Albany Avenue) to allow for the inclusion of a 12-foot shared-use sidepath on the south side of the street. While this roadway varies in width throughout, the most constrained section near Burton Street is currently 36-ft curb-to-curb within a 50-ft ROW. The proposed cross section for this alternative in this location is shown in Exhibit 40. While separated pedestrian and bicycle facilities may be preferred, the 50-foot ROW in some areas of this roadway may preclude this feature. The concept also includes work to reconfigure traffic signals at Sigourney Street and Woodland Street to accommodate the trail.
- **Route 44 (Albany Avenue):** This alternative would incorporate a portion of the Route 44 (Albany Avenue) sidepath currently in design by the City of Hartford between Westbourne Parkway and Mark Twain Drive.
- **Mark Twain Drive:** This alternative would include the construction of a sidepath on the west side of Mark Twain Drive between the roadway and the Park River. While the concept anticipates that a sidepath could be constructed to the west of the existing curbline, environmental constraints related to the Park River should be considered in siting a sidepath in this location. Alternatively, Mark Twain Drive could be narrowed to allow for the construction of a sidepath which could reduce any environmental impact of this concept. Modifications to Mark Twain Drive is not included in the estimate of this alternative. Additionally, a secondary alignment was identified through the Village at Park River which utilizes the existing shared-use path through that site development and shown in Exhibit 41. Coordination with the developer and residents should be a part of the process if this route should be selected, and consideration for the use of this trail (e.g., front doors of town homes are located on the trail) should be considered.

Alignments outside the Griffin Line corridor between Plainfield Street and Tobey Road were considered but are not included in this alternative. The Southwest Alternative in this area already includes significant routing off the Griffin Line corridor with a sidepath on Mark Twain Drive north of Plainfield Street and utilization of University of Hartford-owned property. If an alternative entirely outside the Griffin Line ROW is preferred, the Southwest Alternative could be modified slightly to be entirely within Mark Twain Drive ROW and UHart-owned property.

A key consideration for any alternative is the number of at-grade crossings required. With each at-grade crossing there is additional safety risk for a trail route as this introduces conflict areas between vehicles and trail users. Additionally, at-grade crossings could limit the appeal for the trail route for trail users (especially for less

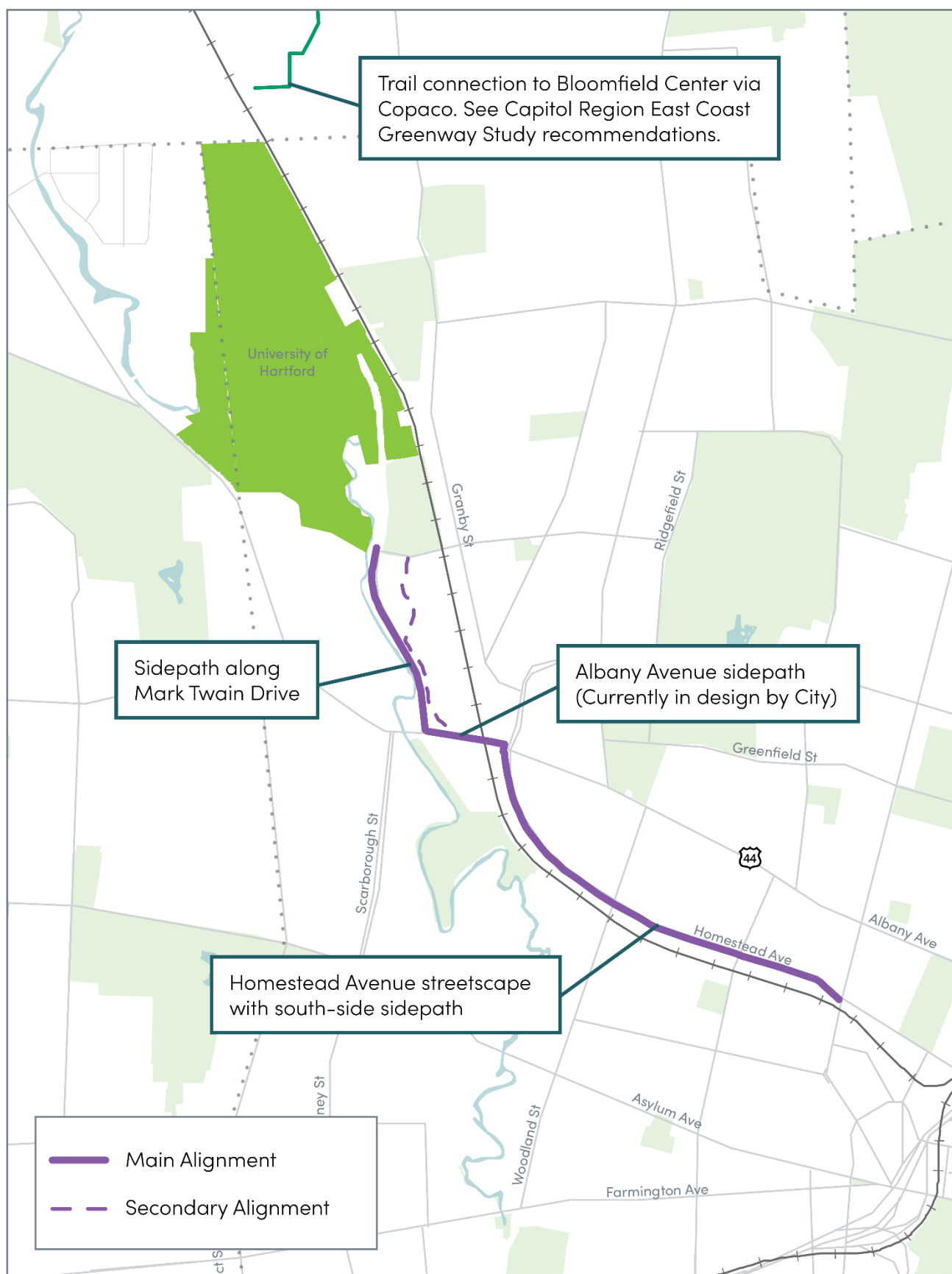


experienced trail users such as children). While both rail-with-trail alternatives have **zero** at-grade crossings between Garden Street and Plainfield Street, this alternative could have **four** at-grade crossings of roadways with additional crossings of driveways. These at-grade crossings should be considered in review of a preferred alternative as they pose safety risk for trail users.

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Exhibit 39: Homestead / Mark Twain Alternative summary map.



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Exhibit 40: Proposed cross section for Homestead Avenue east of Burton Street for the Homestead / Mark Twain Alternative.

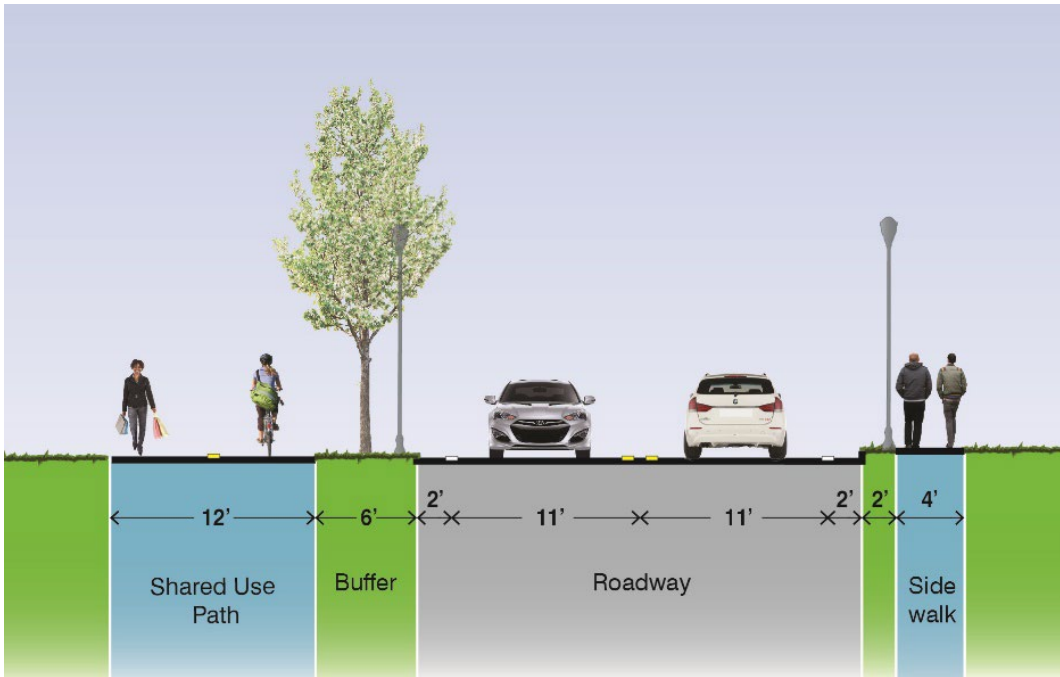


Exhibit 41: Shared use path through the Village at Park River redevelopment currently partially finished.





Alternative Comparison

In order to select a preferred alternative, a comparison of all three alternatives is presented. These alternatives are reviewed against the following criteria:

- **Order-of-Magnitude Costs:** Rough, order-of-magnitude costs are prepared for planning purposes only. Higher cost trails may be harder to fund and complete.
- **Potential Economic Benefits:** Considerations for how a trail may or may not impact economic development opportunities in the corridor.
- **Anticipated Project Complexity / Duration:** While a construction schedule is not set as part of this memorandum, it is generally assumed that additional project elements and stakeholders could increase project duration by several years or more. A trail which can be completed within a reasonable time horizon is preferred.
- **Rail & Traffic Safety for Trail Users:** A safe trail design for all users, especially trail users, is paramount. In the context of trail design within the railroad ROW, key considerations could include at-grade crossings of the railroad, and any separation and/or barriers proposed to prevent trespassing on the railroad. However, safety of a potential trail within the railroad ROW should be compared to alternatives of a trail routing alternatives within a roadway ROW. In many cases, alternatives within the roadway ROW will include additional at-grade crossings which could pose greater safety risk to trail users compared to rail-with-trail alternatives. Findings reported in the *RWT Guide* suggest that the vast majority (81%) of fatalities within rail corridors are related to individuals who intended suicide (Pg. 20 of RWT guide). This statistic underscores the differences in safety considerations when comparing trail options within a railroad corridor versus roadway corridor.
- **Trail Connectivity to Adjacent Properties, Neighborhoods and Destinations:** Considerations for how well alternatives interconnect to adjacent properties, especially properties with redevelopment potential, and the surrounding neighborhoods.
- **Impacts to Railroad Operations during Construction:** Considerations for railroad operations during construction could include periodic or prolonged closure of the railroad to allow for realignment. Any interruption in rail service and operations is viewed as highly unfavorable by CTDOT Office of Rail.
- **Impacts to Railroad Operations post-Construction:** Considerations for railroad operations following construction. For example, trails in close proximity to railroads may need to be shut down during maintenance activities.
- **On-Going Operations, Maintenance and Security Costs:** Considerations for on-going operations, maintenance, and security for the trail, especially for locations that may not be visible from adjacent streets.



Order-of-Magnitude Costs

Order-of-magnitude cost estimates for each alternative are detailed in the Appendix and summarized in Exhibit 42. These are derived based on a base cost for development of a 14-foot trail plus major infrastructure items required for each alternative.

Cost estimates for the Homestead Avenue alternative are based on the assumption that major reconstruction to reduce roadway widths to accommodate lateral space for a trail would be required. This would require major infrastructure modifications to curb lines and associated impacts to drainage. In addition, signalized intersections at Sigourney Street and Woodland Street would require substantive modifications. Order-of-magnitude costs for this section are based on general streetscape costs for major reconstruction recently completed or underway in the city (Maple Avenue, Farmington Avenue, Jewell Street etc.). Mark Twain Drive does not carry the same costs for major reconstruction or streetscape improvements as it is assumed that a trail to the west of the current curbline could be constructed with minimal impact to the Mark Twain Driveway roadway.

Each alternative is broken into two segments, Garden Street to Plainfield Street and Plainfield Street to Tobey Road. This matches alternative descriptions above and reflects a preferred alignment that could utilize the existing at-grade crossing at Plainfield Street to align with the most logical route.

Exhibit 42: Order-of-Magnitude Cost Estimates for Each Alternative (for planning purposes only)

	Northeast Alternative	Southwest Alternative	Mark Twain Drive / Homestead Avenue
Garden Street to Plainfield Street	\$31 - \$38 M	\$26 - \$33 M *	\$24 - \$30M
Plainfield Street to Tobey Road	\$4 - \$6 M *	\$4 - \$6 M	No Alignment Identified**
Total	\$35 - 44 M	\$30 - 39 M	N/A**

Notes:

* Denotes selected alternative of the Preferred Alignment. Preferred Alignment total cost approximately **\$30-39M**.

** The Mark Twain Drive / Homestead Avenue alternative only covers the area between Garden Street and Plainfield Street. Thus, no total cost is reported. The Southwest Alternative could be utilized for an off-corridor alternative in this area utilizing property owned by the University of Hartford.

Economic Development Considerations

Economic development considerations were explored by E-Consult Solutions Inc. (ESI), a consulting firm specializing in the evaluation of economic and fiscal outcomes of programs and developments across various government agencies. ESI documented several items for consideration when determining a preferred alignment through the Griffin Line corridor. A *quantitative* analysis of the two alternatives was first proposed, however, following discussions with ESI this was modified to a *qualitative* review as presented here. This was based on discussions that there would be very negligible differences between the two trail alignments. These considerations are presented in a separate memorandum within the Appendix and summarized below:



	Southwest Alternative	Northeast Alternative
Trail usage as a driver of economic impact	<i>Pros:</i> • Trail could play supporting role in economic development.	<i>Pros:</i> • Trail could play supporting role in economic development.
	<i>Cons:</i> • Active rail line could discourage rail use.	<i>Cons:</i> • Active rail line could discourage rail use.
Property value impacts	<i>Pros:</i> • Could modestly boost values of complementary uses (residential, job centers, pedestrian friendly commercial areas)	<i>Pros:</i> • Could modestly boost values of complementary uses (residential, job centers, pedestrian friendly commercial areas)
	<i>Cons:</i> • No impact to industrial or large-footprint commercial areas.	<i>Cons:</i> • No impact to industrial or large-footprint commercial areas.
The trail's role in Homestead Avenue's economic development	<i>Pros:</i> • N/A	<i>Pros:</i> • Direct access to properties on Homestead Avenue
	<i>Cons:</i> • No direct access to Homestead Avenue. Access can be mitigated with frequent crossing points.	<i>Cons:</i> • Adjacent vacant or underutilized properties on Homestead Avenue may discourage trail usage
Trade-offs involved in removing rail access to nearby properties	<i>Pros:</i> • N/A	<i>Pros:</i> • N/A
	<i>Cons:</i> • N/A	<i>Cons:</i> • Trail on north side removes future potential for cargo transport by rail for industrial parcels on Homestead Avenue

Other Considerations

All other considerations noted above are discussed in Exhibit 43 below. This includes comparison of the following:

- Anticipated Project Complexity / Duration
- Rail & Traffic Safety for Trail Users
- Trail Connectivity to Adjacent Properties, Neighborhoods and Destinations
- Impacts to Railroad Operations during Construction
- Impacts to Railroad Operations post-Construction
- On-Going Operations, Maintenance and Security Costs

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Exhibit 43: Other Considerations for Each Alternative (Continues on following pages)

	Extent	Southwest Alternative	Northeast Alternative	Mark Twain Drive / Homestead Avenue
Anticipated Project Complexity / Duration	<i>Garden Street to Plainfield Street</i>	• ROW and site work at 20 Sargent St could add complexity to project. • Woodland Street bridge could add complexity to the project. However, alternative to cross at-grade at Woodland Drive provides interim option. • Trail bridge and at-grade rail crossing could add complexity to the project. However, these connector trails could be programmed in a future phase.	• Realignment of railroad and relocation of transmission towers could add several years to project duration. • Woodland Street bridge replacement (with wider span) could add complexity to the project. Additionally, this may require repayment of original grant money to FHWA.	• Streetscape project may disrupt traffic flows and business access. Accommodations of traffic flow and access may add complexity to the project and could add to project duration.
	<i>Plainfield Street to Tobey Road</i>	• Significant coordination with the University of Hartford is required. Securing permanent easements and acceptance of design considerations (e.g., no fence on university side) may be difficult. • Coordination with Eversource required for trail construction in Eversource easement.	• Locating the trail behind Granby Street residences may require additional outreach and coordination. • Coordination with Eversource required for trail construction in Eversource easement.	

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Exhibit 43: Other Considerations for Each Alternative (Continued)

	Extent	Southwest Alternative	Northeast Alternative	Mark Twain Drive / Homestead Avenue
Rail & Traffic Safety for Trail Users	<i>Garden Street to Plainfield Street</i>	• Greater separation from RR vs. Northeast Alternative. Some sections of trail (approx. 1,200 LF or 13% of segment) are within 10-20 feet of rail center. • Mid-height (4-6-foot) fencing mitigates trespassing concern on railroad. • At-grade rail crossing for connector trail to Baltimore Street poses risks which will be mitigated in design.	• Significant lengths of trail (approx. 5,150 LF or 57% of segment) within 10-20 feet of rail center. • Mid-height (4-6-foot) fencing mitigates trespassing concern on railroad.	• Four at-grade crossings (Sigourney, Woodland, Albany, and Mark Twain Drive) pose highest risk for traffic / rail safety to trail users.
	<i>Plainfield Street to Tobey Road</i>	• Alternative includes sidepath along Mark Twain Drive. At-grade crossings of roadways likely required.	• Limited traffic & rail safety concerns.	

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Exhibit 43: Other Considerations for Each Alternative (Continued)

	Extent	Southwest Alternative	Northeast Alternative	Mark Twain Drive / Homestead Avenue
Impacts to Railroad Operations during Construction	<i>Garden Street to Plainfield Street</i>	Trail construction would require significant coordination with active railroad.	Railroad may require periodic or prolonged closure during realignment.	None
	<i>Plainfield Street to Tobey Road</i>	Limited anticipated impacts.	Limited anticipated impacts.	
Impacts to Railroad Operations post-Construction	<i>Garden Street to Plainfield Street</i>	Railroad maintenance activities may require closure and/or use of trail.	Railroad maintenance activities may require closure and/or use of trail.	None
	<i>Plainfield Street to Tobey Road</i>	Limited anticipated impacts.	Limited anticipated impacts.	
Trail Connectivity to Adjacent Properties, Neighborhoods and Destinations	<i>Garden Street to Plainfield Street</i>	Connector trails to northside of railroad provide good connectivity to Homestead Avenue and parcels with redevelopment opportunities.	Alignment adjacent to Homestead Avenue properties allows for direct connection to trail in select locations.	While trail is well connected within neighborhood, this design does not serve as a destination for the neighborhood.
	<i>Plainfield Street to Tobey Road</i>	Connectivity integrated into UHart campus.	- Connectivity to Blue Hills neighborhood at electric substation, Weaver High School and/or Willow Creek Apartments - Connectivity to UHart maintained through connector trails and/or loop trail	

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Exhibit 43: Other Considerations for Each Alternative (Continued)

	Extent	Southwest Alternative	Northeast Alternative	Mark Twain Drive / Homestead Avenue
On-Going Operations, Maintenance and Security Costs	<i>Garden Street to Plainfield Street</i>	- Trail may have time-of-day restrictions (e.g. closed at dusk) which could limit benefit for trail users. - Trail may require special security considerations / patrols. - Trail may require special maintenance operations to ensure state of good repair.	- Trail may have time-of-day restrictions (e.g. closed at dusk) which could limit benefit for trail users. - Trail may require special security considerations / patrols. - Trail may require special maintenance operations to ensure state of good repair.	- On street facility open 24/7. - No requirement for special maintenance and security operations.
	<i>Plainfield Street to Tobey Road</i>	- Much of trail is located within street ROW and could be open 24/7. - Partnership with UHart could limit the need for additional security considerations / patrols. - Routine maintenance agreements with UHart (e.g., snow removal) could be explored.	- Trail may have time-of-day restrictions (e.g. closed at dusk) which could limit benefit for trail users. - Trail may require special security considerations / patrols. - Trail may require special maintenance operations to ensure state of good repair.	
Other	<i>Garden Street to Plainfield Street</i>			Parking would be eliminated on Homestead Avenue to allow for trail development in Homestead ROW.
	<i>Plainfield Street to Tobey Road</i>			

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Summary Comparison

Based on the information summarized above, a relative qualitative ranking is provided in Exhibit 44 and Exhibit 45. These comparison charts are only meant to convey the strengths and weaknesses of each alternative.

●●● : High performing alternative

●● : Moderate performing alternative

● : Low performing alternative

Alternatives which rank similarly were assigned the same qualitative score if applicable.

Exhibit 44: Summary Alternative Chart for Study Area between Garden Street and Plainfield Street

	Southwest Alternative	Northeast Alternative	Mark Twain Drive / Homestead Avenue
Order-of-Magnitude Costs	●●●	●	●●●
Potential Economic Benefits	●●	●●	●
Anticipated Project Duration / Complexity	●●●	●	●●
Rail & Traffic Safety for Trail Users	●●●	●●●	●
Trail Connectivity to Adjacent Properties, Neighborhoods and Destinations	●●●	●●●	●
Impacts to Railroad Operations during Construction	●●	●	●●●
Impacts to Railroad Operations post-Construction	●●	●●	●●●
On-Going Operations, Maintenance and Security Costs	●●	●●	●●●

Exhibit 45: Summary Alternative Chart for Study Area between Plainfield Street and Tobey Road

	Southwest Alternative	Northeast Alternative
Order-of-Magnitude Costs	●●●	●●●
Potential Economic Benefits	●	●
Anticipated Project Duration / Complexity	●	●●●
Rail & Traffic Safety for Trail Users	●●	●●●
Trail Connectivity to Adjacent Properties, Neighborhoods and Destinations	●●	●●●
Impacts to Railroad Operations during Construction	●●●	●●●
Impacts to Railroad Operations post-Construction	●●●	●●●
On-Going Operations, Maintenance and Security Costs	●●●	●●



AGENCY AND STAKEHOLDER COORDINATION

Site Visit

A site visit was conducted on November 21, 2023, between Garden Street and Route 44 (Albany Avenue) with the following stakeholders:

- CTDOT – Office of Rail
- City of Hartford
- iQuilt Partnership
- CRCOG
- Central New England Railroad (CNZR)
- FHI Studio (Consultant Team)

Key takeaways and discussion points included:

- Narrow ROW at 20 Sargeant Street would require additional easement.
- iQuilt noted that 51 Homestead Avenue (St. Francis Hospital-owned parcel) will likely be targeted for redevelopment at some point in the near future. A trail could be incorporated as part of that site development within what is now private property. A city easement should be obtained to ensure access if this is the case.
- Secondary spans at Sigourney Street bridge could likely accommodate a trail. Similar modifications have been completed elsewhere in the state.
- The retaining wall between Sigourney Street and Woodland Street on the south side of the tracks has a plaque. This should be noted as a consideration to explore if this is a historic resource.
- A freight train passed stakeholders around 156 Woodland Street (Austin Organs) and demonstrated freight train movements through corridor. Some participants agreed that 20-foot offset is likely as close as desired to freight movements. The freight train is noisy, could kick off debris, and generally vibrates the entire ground the closer you are to the tracks.
- A culvert tunnel punch-through of the south side of the bridge at Woodland Street could be considered based on CTDOT feedback. This would require coordination with the owner of the bridge.
- The bridge at Woodland Street was completed in the mid-2000's and within its projected lifespan. If the bridge is rebuilt, the project may be required to refund FHWA for the federal share of the project. In addition, it may not qualify for additional federal grants for reconstruction.
- West of Woodland Street, the significant proximity of the adjacent buildings was noted. While the south side is generally clear, it appears that a drainage swale is in this area. While there may be evidence that



this area may be considered a wetland, it was generally observed by stakeholders to be of questionable quality. This should be considered during future design stages of the project.

- Near 367 Homestead Avenue, there is generally good clearance to the embankment which leads down to the Park River floodplain. This is narrower at an undersized culvert in this area, and it appears that some of this embankment has been washed out. This should be considered during future design phases of the project.
- The transmission pylons south of Route 44 (Albany Avenue) were noted as a significant obstruction.
- Participants accepted a potential culvert to the west of the existing Route 44 (Albany Avenue) bridge. This was noted as working well with the existing terrain.
- City DPW noted a concern for liability if fencing of at least moderate height is not included between a trail and rail, especially with children on the trail.
- The railroad recently upgraded the tracks to welded rail. However, there are many areas where the old tracks and ties are being stored within the corridor and have yet to be removed. There was a discussed concern about the pollution this poses within the corridor, such as lead and arsenic. This is especially a concern for participants due to the nearby Park River.
- Emergency access points should be considered throughout the corridor.
- City DPW wants to install drainage infrastructure to address flooding in the Granby Street corridor. This would need to cross the Griffin Line to be able to discharge to the Park River.

Exhibit 46: Stakeholder site walk on November 21, 2023





Feedback on Draft Memorandum

CTDOT Office of Rail

CTDOT Office of Rail provided comment to the draft report and a virtual meeting was held on Friday, March 8th, 2024 with CRCOG, the consultant team, and CTDOT Office of Rail representatives to discuss the draft report.

Where possible, edits were incorporated into this memorandum. Other comments included:

- CTDOT Office of Rail maintains general concern for rail-with-trail alternatives as presented in the memorandum. CTDOT Office of Rail indicated preference for alternatives outside the railroad right-of-way such as the alternative within Homestead Avenue and Mark Twain Drive as explored in this memorandum.
- CTDOT Office of Rail maintains general concern and opposition to any proposed at-grade rail crossings for safety reasons.
- CTDOT Office of Rail maintains general concern and opposition to any consideration for removal of rail service, including review in this report to indicate future compatibility with potential other future corridor uses.

City of Hartford and the iQuilt Partnership

City of Hartford and iQuilt staff provided comment to the draft report during two virtual meetings held on February 29th and March 12th, 2024. Where possible, edits were incorporated into this memorandum. City and iQuilt staff expressed continued interest in rail-to-trail alternatives which would see full removal of rail service and rail infrastructure from the corridor. Much analysis requested related to a rail-to-trail alternative was beyond the scope of this memorandum.



RECOMMENDATIONS

Overview

Based on the alternatives analysis, the Preferred Alignment is selected as follows:

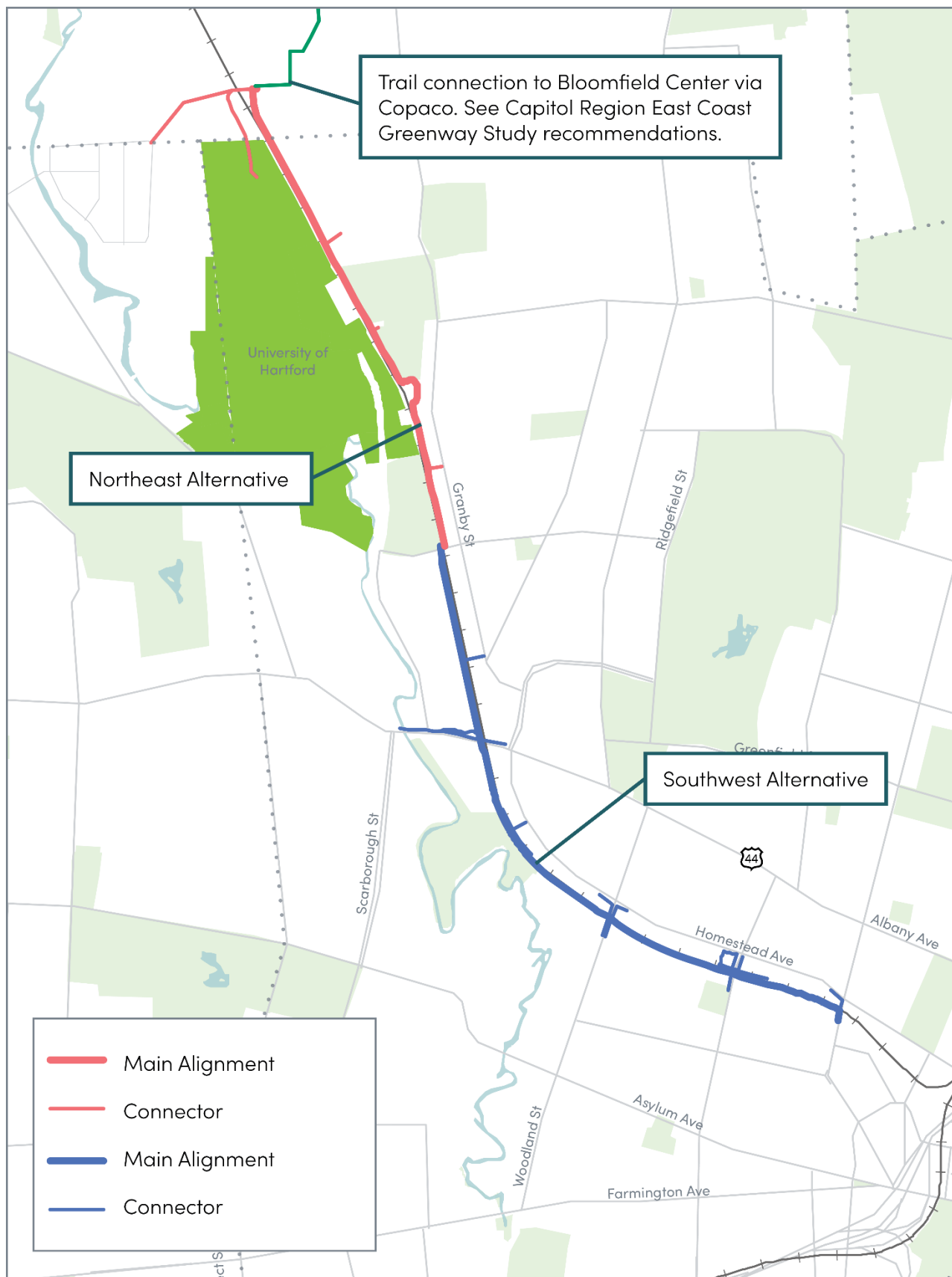
- **Garden Street to Plainfield Street:** Southwest Alternative
- **Plainfield Street to Tobey Road:** Northeast Alternative

This option is shown in the summary map in Exhibit 47, while a detailed mapbook and concept plans are provided in the Appendix. While additional design details should be refined in the design stage of the project, Key Features of the Preferred Alignment are summarized below.

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Exhibit 47: Preferred Alternative summary map. See Appendix for detailed mapbook.



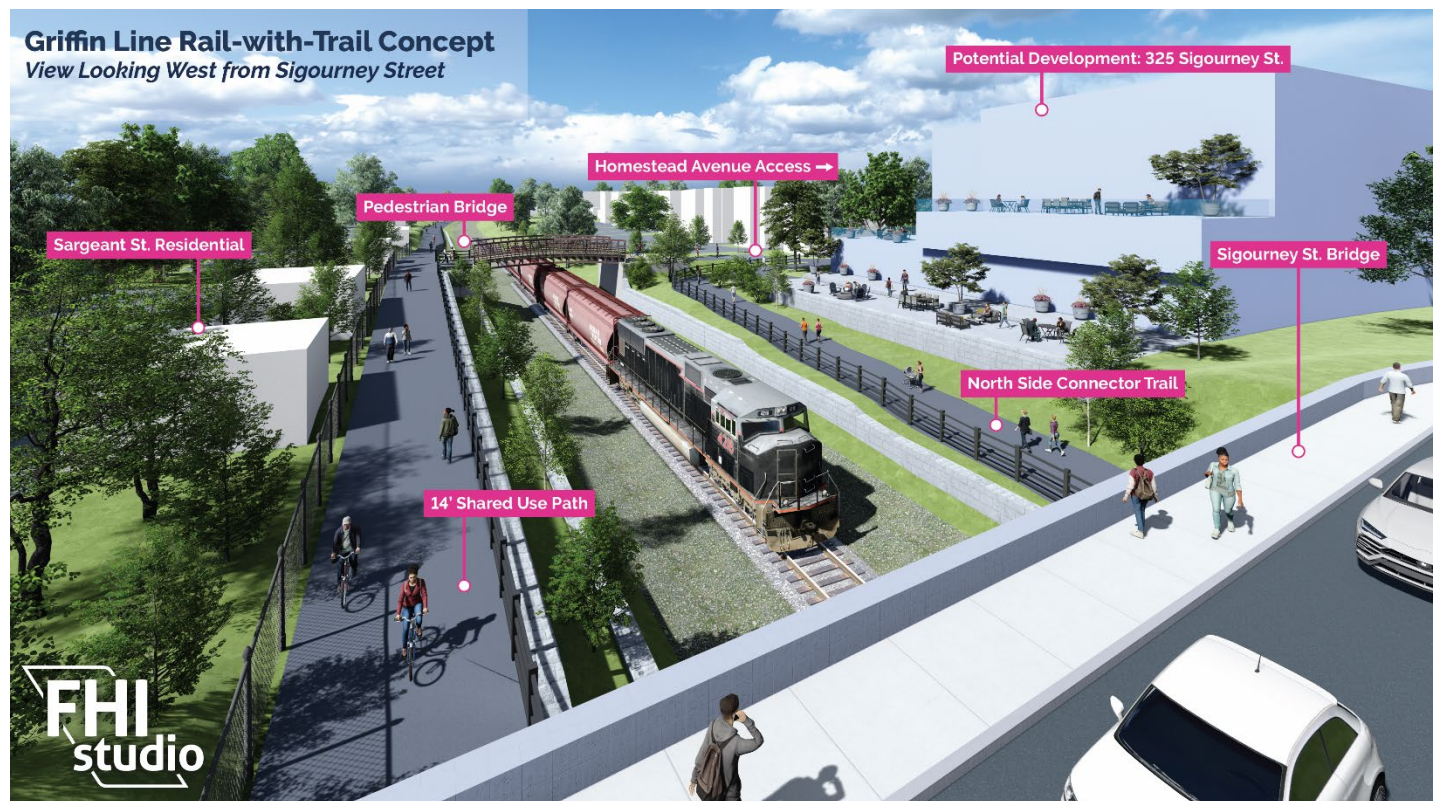


Key Features

Trail Bridge West of Sigourney Street

A trail bridge west of Sigourney Street is proposed to link the main alignment of the trail located on the south side of the tracks in this location with potential development opportunities on the north side of the tracks along Homestead Avenue. A trail bridge allows seamless connection to these properties as well as to a North Side Connector Trail. A 3D rendering is shown in Exhibit 48 while Exhibit 49 shows the existing conditions in this area.

Exhibit 48: 3D rendering of view looking west from Sigourney Street with Preferred Alignment features



CAPITOL REGION EAST COAST GREENWAY STUDY



Exhibit 49: Existing photo of Griffin Line west of Sigourney Street



CAPITOL REGION EAST COAST GREENWAY STUDY



North Side Connector Trail

A North Side Connector Trail is proposed in several locations to provide access between key properties along Homestead Avenue to the main alignment of the trail on the south side of the railroad. This connector trail connects to several key properties along Homestead Avenue between Garden Street and Route 44 (Albany Avenue) including:

- 51 Homestead Avenue (Saint Francis Hospital-owned property)
- 111 Homestead Avenue (City of Hartford-owned property)
- 319/325 Sigourney Street (City of Hartford-owned property, trail fronting this property is shown in Exhibit 50)
- 333 Homestead Avenue (Salvation Army)
- 367/395 Homestead Avenue (City of Hartford-owned property)
- 419 Homestead Avenue (Interstate Battery)

Exhibit 50: 3D rendering showing northside connector trail looking west towards proposed trail bridge.





Fencing between Trail and Rail Line

Fencing between 4 to 5-feet in height is proposed throughout the study area. While no federal requirement for fencing design requirements for rail-with-trail exists, this matches best practices noted in FRA's and FHWA's *Rails with Trails: Best Practices and Lessons Learned* (e.g. the "RWT Guide") as well as of other trails as described within the Case Studies section of this memorandum (refer to Exhibit 51). Additionally, the RWT Guide notes that only 4% of rail-with-trail since 2000 has been installed *without* fencing or other type of barriers (*RWT Guide*, pg. 51)

The RWT Guide notes the following corridor characteristics should be considered when specifying fence design:

- Trail setback
- Type, speed, frequency of rail service on adjacent track with higher fencing being more appropriate for higher speed trains.
- Degree of trespassing concern – areas with infrequent legal crossings are more prone to trespassing and thus may be more appropriate for higher fences.
- Railroad maintenance requirements – taller fences may, in fact, *impede* maintenance activities.

In addition, the RWT Guide recognizes that:

While fencing can provide safety benefits and reduce trespassing, it also can reduce visibility. It is often important to maintain visual access to the trail corridor from adjacent land uses so that portions of the trail do not become isolated from public view. This is especially true in areas where perceived or actual levels of crime are high. Fence design in these instances should not block visual access to the trail corridor; a shorter height or transparent fencing style, such as chain-link, may be appropriate.

Furthermore, the RWT Guide recognizes that vegetation, drainage ditches and/or vertical separation, where trails are located 10-feet or more higher than the adjacent rail line, all can reduce the concern for trespassing on the rail line, and similarly reduce the need for tall fencing or any fencing at all (*RWT Guide*, pg. 56). Many areas of the Preferred Alignment incorporate these design elements.

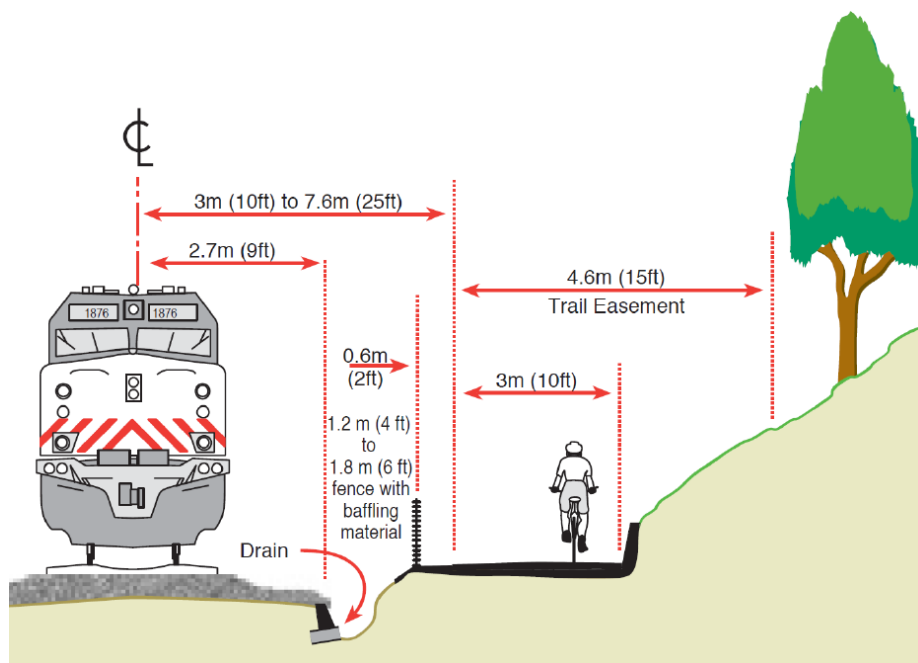
Efforts should be made during the design phase to choose an aesthetically pleasing fence design and one that does not preclude views within the corridor. Use of vegetation and plantings should be considered during the design stage which will further enforce the separation between the railroad and the adjacent trail. Not only can vegetation be a useful tool in mitigating trespassing concerns, but use of vegetation can also improve trail aesthetics to make the trail more inviting for users. Areas of the trail such as those shown in Exhibit 52 and Exhibit 53 will likely have fencing on both sides of the trail, underscoring the need to carefully design this element to ensure an inviting trail environment. The fencing separating the CTfastrak guideway and its adjacent shared use path was used as a design precedent. Furthermore, maintenance of needs of the adjacent railroad should be considered, and the RWT Guide notes that walls and solid barriers specifically may "impede access by railroad maintenance forces" (*RWT Guide*, pg. 53)

CAPITOL REGION EAST COAST GREENWAY STUDY



North of Plainfield Street, black, chain link-type fencing may be acceptable between the trail and railroad as the context of this area is substantially more rural in character, and the proposed fencing may be located further from the trail. The details for this fencing should be coordinated with Eversource to ensure compatibility within the transmission easement.

Exhibit 51: Diagram of trail fencing suggested by FRA and the FHWA in the Rail-with-Trail Guide



CAPITOL REGION EAST COAST GREENWAY STUDY



Exhibit 52: 3D rendering of mainline of the Preferred Alignment on the south side of the railroad. Note the fencing proposed between the trail and railroad.





Exhibit 53: Artistic rendering of Preferred Alternative looking west towards the Woodland Street bridge. Note the new culvert proposed to allow for the trail alignment. Austin Organs is shown on the left side of the photo.



At-Grade Crossing to Baltimore Street

Where feasible, the Preferred Alignment seeks to avoid at-grade crossings of the railroad. Grade separated crossings are preferred as there is no risk of conflict between trail users and the railroad. However, grade separated crossings are not feasible in all locations. This includes the connector trail proposed to Homestead Avenue at Baltimore Street. Grade separation was explored but determined as not feasible (a curvet was found to conflict within the flood plain while a bridge would have a very long runout for vertical clearance at ADA design standards).

This at-grade crossing may require substantial permitting and design considerations during the next phase of the project, including, but not limited to, an Act of the Connecticut Legislature. However, this at-grade crossing is not critical to the completion of the mainline of the trail alignment and can be phased after construction of the remaining pieces of the trail if desired. CTDOT Office of Rail has indicated that any additional at-grade crossings are highly undesirable.

Potential Deviations from Federal & State Guidelines

Deviations from Federal and State (CTDOT) guidelines are summarized below:

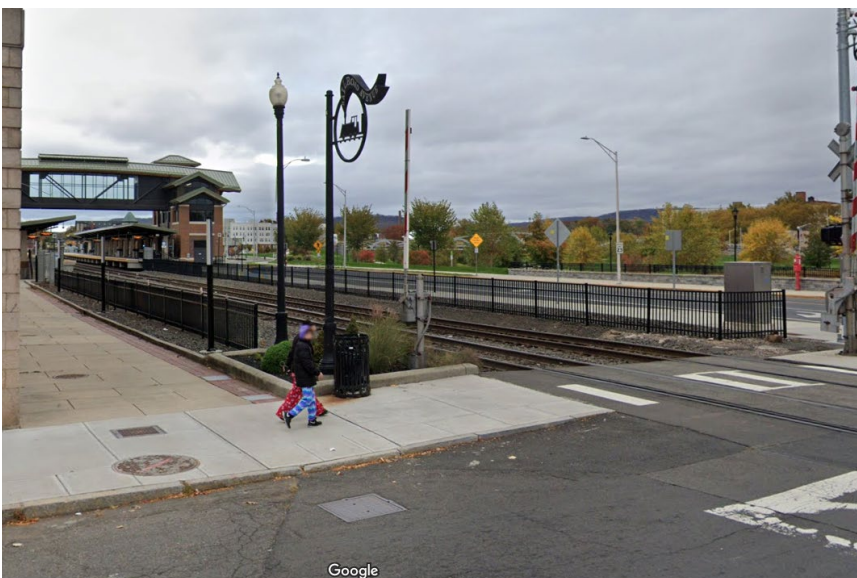
- **Trail Bridge Vertical Clearance to Railroad:** Section 9-4.0 of the CTDOT Design Manual requires that 20'-6" is maintained between the top of the rail to the bottom of the structure. Due to the proximity of the trail



underpass of Sigourney Street to the east, vertical clearance of the railroad may be limited to ADA design constraints. Initial planning work suggests a 20'-0" vertical clearance may be easily obtained, with additional vertical clearance possible with design tradeoffs that could be considered in a future design stage (such as bridge relocation further west, narrow trail segments with small switchback, use of north-side trail to east of proposed bridge [city-owned property allows for additional switchback to clear underpass of Sigourney Street Bridge], etc.). 20-foot vertical clearance is in excess of the existing clearance of the Woodland Street bridge of approximately 18-feet. Vertical clearance should be evaluated in further detail in the design stage of the trail compared to other requirements, including federal requirements.

- **Fencing Height:** CTDOT released initial guidelines for rail-with-trail constraints within the Griffin Line in 2023. The guidelines indicated a 7-foot fence be standard for trails setback 20+ feet from the railroad and a solid non-scalable barrier be standard for trails between 10 to 20-feet of the railroad (refer to Appendix and except graphic in Exhibit 23). As discussed above, these guidelines are in excess of similar rail-with-trail facilities in other jurisdictions as well as incompatible with the goals of rail-with-trail in the Griffin Line corridor. These requirements would result in unnecessary, imposing fencing which would visually constrain the corridor instead of connecting it to the surrounding community. As a result of the review of similar facilities, a shorter 4 to 5-foot fence is proposed along the extent of the corridor. Not only does this more closely align with rail-with-trail facilities completed by other agencies, but this also matches or exceeds fencing design between pedestrian areas of train stations and the adjacent railroads at some train stations in Connecticut including recently completed projects such as the CTrail Meriden Station shown in Exhibit 54.

Exhibit 54: Fencing between pedestrian areas leading up to the Meriden Train Station and the adjacent railroad tracks. (Source: Google Maps Streetview)



CAPITOL REGION EAST COAST GREENWAY STUDY



Coordination with Eversource

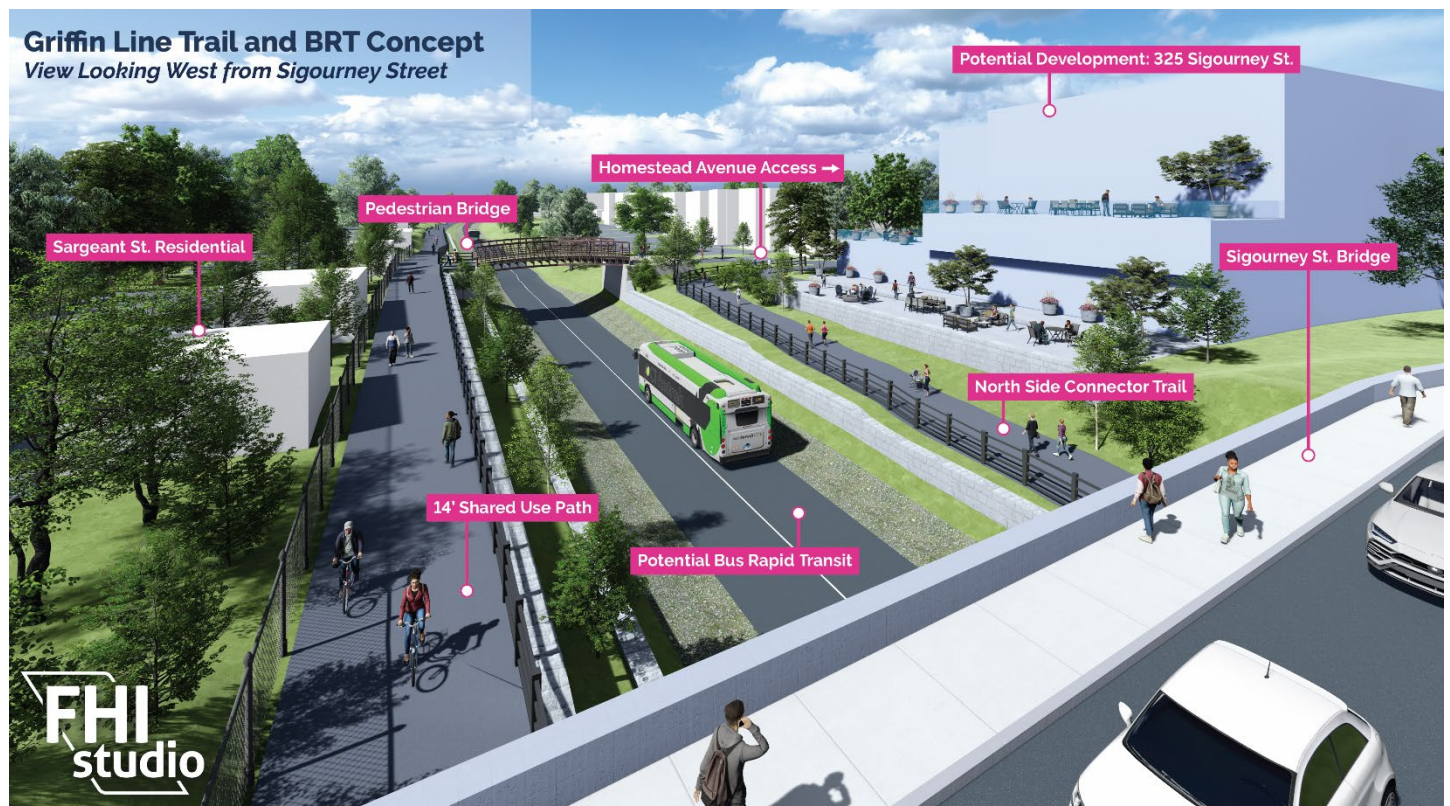
Coordination with Eversource will continue in future design stages of the development of any trail within their easements. Future considerations could include: 1) design requirements and offsets for Eversource access to pylon locations, 2) design requirements for any features under transmission corridors such as metal fencing, and 3) agreements for trail closures during Eversource maintenance activities.

Compatibility with Other Potential Future Corridor Uses

The Greater Hartford Mobility Study (GHMS, 2023) evaluated several future uses for the Griffin Line including rail options such as geographic expansion of freight services north of the current terminus at Day Hill Road in Bloomfield and passenger rail service and bus rapid transit options. While passenger rail service was eliminated from consideration as part of that study, the study identified bus rapid transit as feasible within this corridor. Additionally, iQuilt and the City of Hartford have expressed interest to see the corridor closed entirely to non-motorized uses and have advocated for the complete abandonment of the railroad and conversion of the entire right-of-way to a trail-only concept which could allow for additional space within the ROW for enhanced trail amenities.

Exhibit 55 and Exhibit 56 shows how the Recommended Alignment could be compatible with either of those future uses should they come to fruition.

Exhibit 55: 3D rendering of view looking west from Sigourney Street with Preferred Alignment and a potential Bus Rapid Transit alignment within the corridor.



CAPITOL REGION EAST COAST GREENWAY STUDY



Exhibit 56: 3D rendering of view looking west from Sigourney Street with Preferred Alignment and rail abandonment. This concept would allow the entire corridor to support a shared use path and could allow for additional trail amenities.





APPENDIX

GRIFFIN LINE RAIL-WITH-TRAIL FEASIBILITY MEMORANDUM



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Appendix M: MDC Asset Mapping Proximate to Griffin Line

Appendix N: Rail-With-Trail List (Source: Rails to Trails Conservancy)



APPENDIX A: CONSTRAINT MAPPING

The following maps present potential constraints in the study area based on a minimum cross section defined as follows:

- Between Garden Street and Route 44 (Albany Avenue): 14-foot trail with inner edge 10-foot off center of railroad.
- Between Route 44 (Albany Avenue) and Park Ave (Bloomfield): 14-foot trail with inner edge 20-foot off center of railroad to clear transmission pylons which are in located in this area.

The Northeast and Southeast locations were analyzed with the minimum cross section to evaluate areas with constraints. The analysis split each of these alternatives into 100-foot lengths for review. The constraints evaluated included:

- Right-of-way: Potential trail may require areas outside of the existing ROW
- Impervious surface: This analysis utilizes a statewide impervious surface layer. This could identify areas where driveways and/or other impervious ground surfaces may be impacted by trail development.
- Buildings: This analysis indicates locations where a building may preclude trail development.
- Wetland: This analysis highlights locations where a wetland may be impacted by trail development.
- 100 Year Flood Zone: This analysis highlights locations where trail development may occur within the 100-year floodplain.
- Slope: This analysis highlights locations where there may be steep slopes. Frequently, rail corridors feature steep embankments which lead to the tracks. These areas may be difficult to support rail-with-trail design.
- Total Constraints: These maps show the total number of constraints above on a single map.



APPENDIX B: RAILBANKING PROCESS

Both rail-to-trail and rail-with-trail create shared-use paths within a railroad corridor. In general, they provide infrastructure for active transportation within the existing right-of-way and are often road-separated. Rail-to-trails are built over former railbed, while rail-with-trails are constructed alongside existing tracks. Procurement for either type of path depends on the railroad corridor's status, safety operations, and right-of-way constraints. A railroad corridor status may be defined as the following:

- 1) **Active corridor:** Trains pass, regardless of frequency.
- 2) **Inactive corridor:** Train operations have ceased, but the railroad still owns the land or has use of the land through easements.
- 3) **Abandoned corridor:** Railroad operations permanently cease.

Railbanking allows a railroad company to lease their **inactive** corridor for interim use; the railroad can resume operations in the future. Railbanking is permitted during the legal rail abandonment process. It is a voluntary agreement between the railroad and the leasing party, and the use is approved by the Surface Transportation Board (STB), the independent federal agency charged with economic regulation of the national freight rail network. Once approved, the railroad may or may not remove their tracks from the corridor.

Rail Abandonment Process¹⁰

A railroad may seek abandonment by initiating a formal review process with the STB. The STB will then publish in the Federal Register to notify the public. Interested parties can submit comments, Offers of Financial Assistance (OFA), or alternative uses of the corridor. OFA are offers from other companies to purchase all or part of the corridor to help maintain the railroad. The STB evaluates these public submissions and impacts to the railroad system before approving abandonment.

The STB allows exemptions to streamline the abandonment process. A railroad may qualify for an individual exemption or class exemption. Individual exemptions are evaluated case-by-case. Class exemptions are used when the corridor has been inactive for at least two years, and there are no formal complaints filed against the corridor due to it being inactive. Exemptions are frequently approved when the railroad cites that maintaining the corridor is an economic burden. When an exemption is granted, there is no required public notice and the timeline for final approval is accelerated.

¹⁰ This overview is informed in part by the Parks & Trails New York State's guide "Getting on Track Working with Railroads to Build Trails in New York State." The Parks & Trails New York State guide provides a thorough overview of the federal STB abandonment process and railbanking opportunities.

CAPITOL REGION EAST COAST GREENWAY STUDY



Railbanking Process

When exploring railbanking, the abandonment approval schedule is significant. During the abandonment process, interested parties may request a Public Use Condition (PUC) and/or an Interim Trail Use (ITU) to initiate railbanking. The deadline to request a PUC or ITU is within 45 days of the abandonment application filing. The STB has 20 days from the application filing to publish notice in the Federal Register, so public notice may be limited to only 25 days. If a PUC or ITU is approved, both prompt a 180-day period where the railroad cannot dispose of the corridor, and the railroad can negotiate a sale, donation, or railbanking of the corridor instead. Ultimately, railbanking is a voluntary agreement. Early coordination with the railroad would be beneficial to be aware of the railroad's timeline and meet filing deadlines.

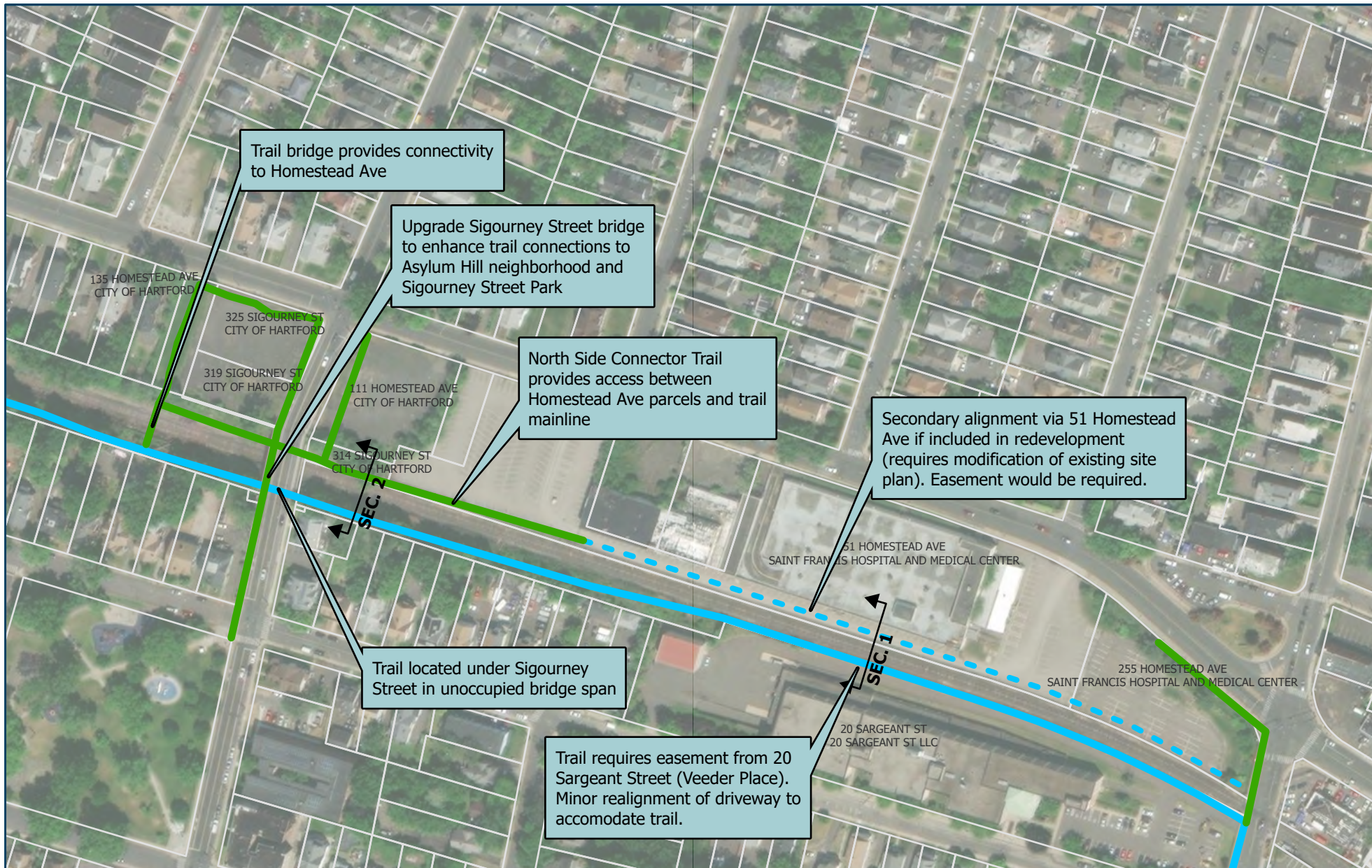
Railbanking maintains the railroad's land ownership and its easements throughout the corridor. For trail organizations, this is an opportunity to construct a continuous trail more easily. It is important to understand the rail abandonment process to work with railroads and pursue railbanking.

Implications for Griffin Line

Railbanking is a unique opportunity to construct new trails within inactive corridors. The Griffin Line is an active corridor, so the abandonment process and potential for railbanking would require close coordination with the railroad. If the railroad were to file for abandonment, the Griffin Line would not readily qualify for a class exemption since it has been active. In consideration of the lengthy STB process and coordination with the Griffin Line, railbanking could be a lengthy process, perhaps taking years to complete. However, there would likely be reduced costs of trail development on an abandoned railroad in comparison to rail-with-trail alternatives presented in this memo. For example, the base trail cost (as provided in Appendix F) is approximately \$1.6–\$2.0 per mile. The need for significant bridge and other structural work substantially increased costs for rail-with-trail alternatives. At approximately 3-miles in length between Garden Street and Tobey Road, total costs of \$6 Million (based on base trail cost) **plus** additional costs for railroad removal and engineering would be reasonable for trail development within an abandoned right-of-way. This compares with the preferred rail-with-trail alignment cost of \$30–39 Million as reported in this memo for the same 3-mile section.



APPENDIX C: ALTERNATIVE OVERVIEW MAPS



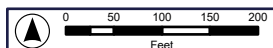
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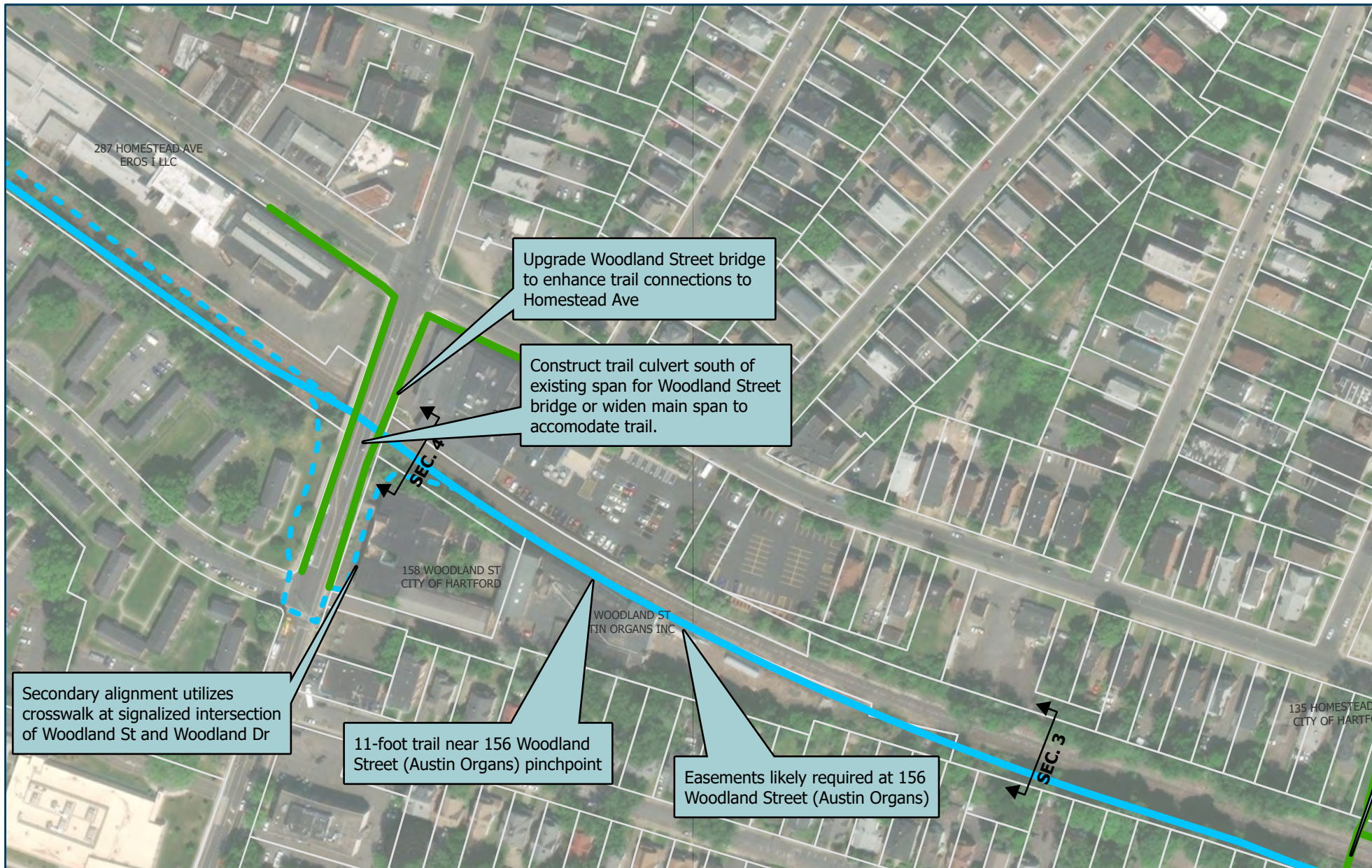
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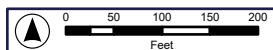
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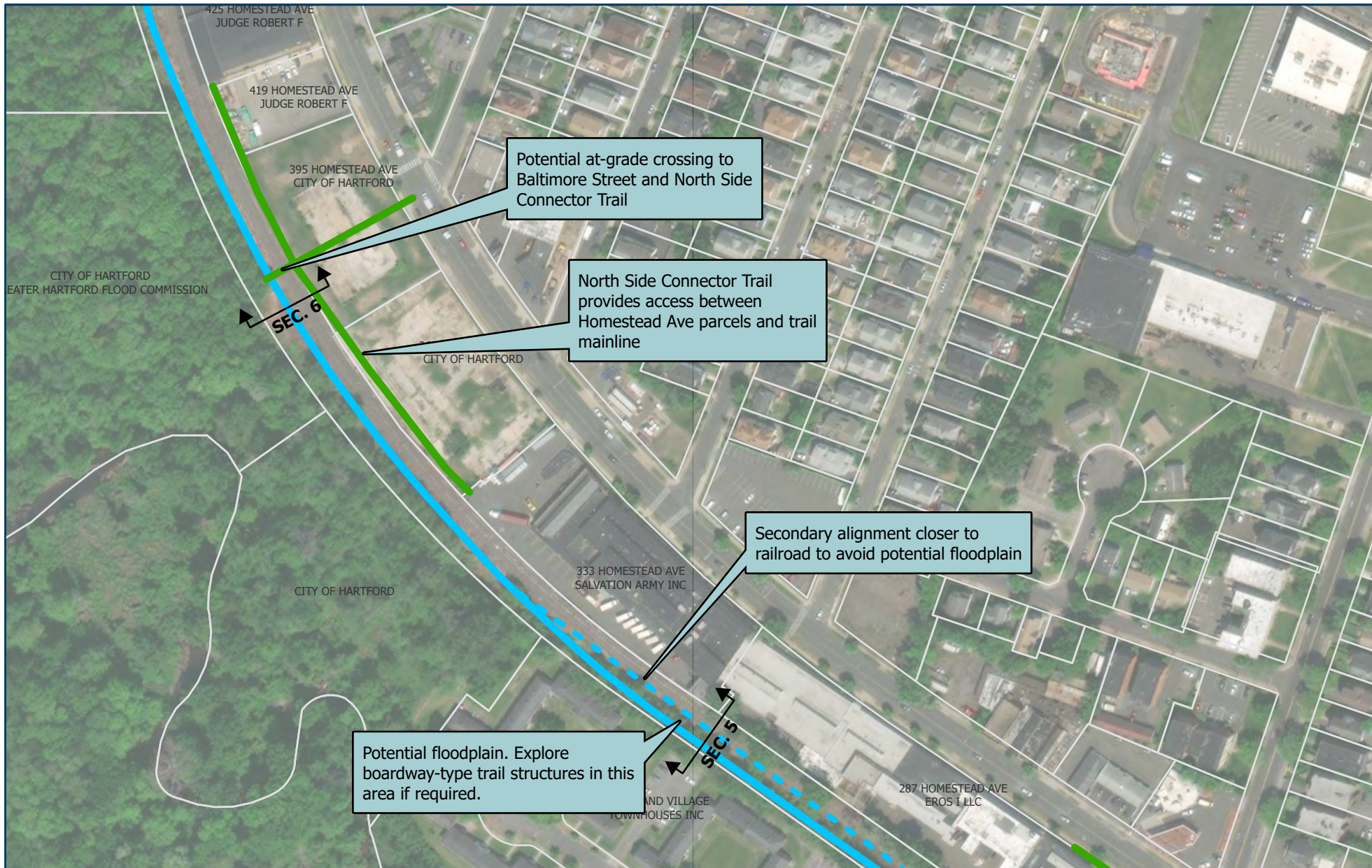
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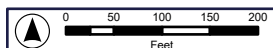
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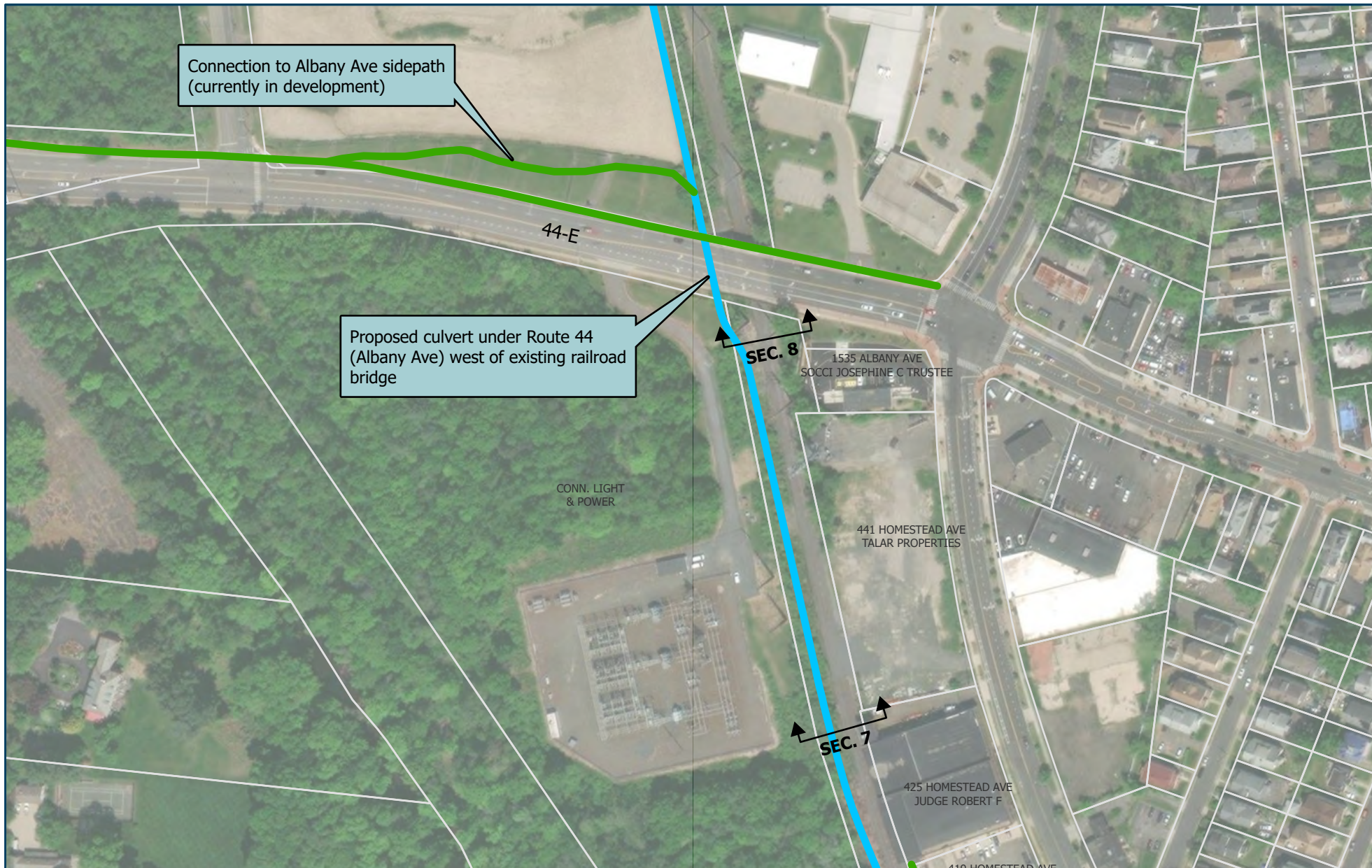
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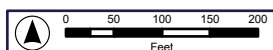


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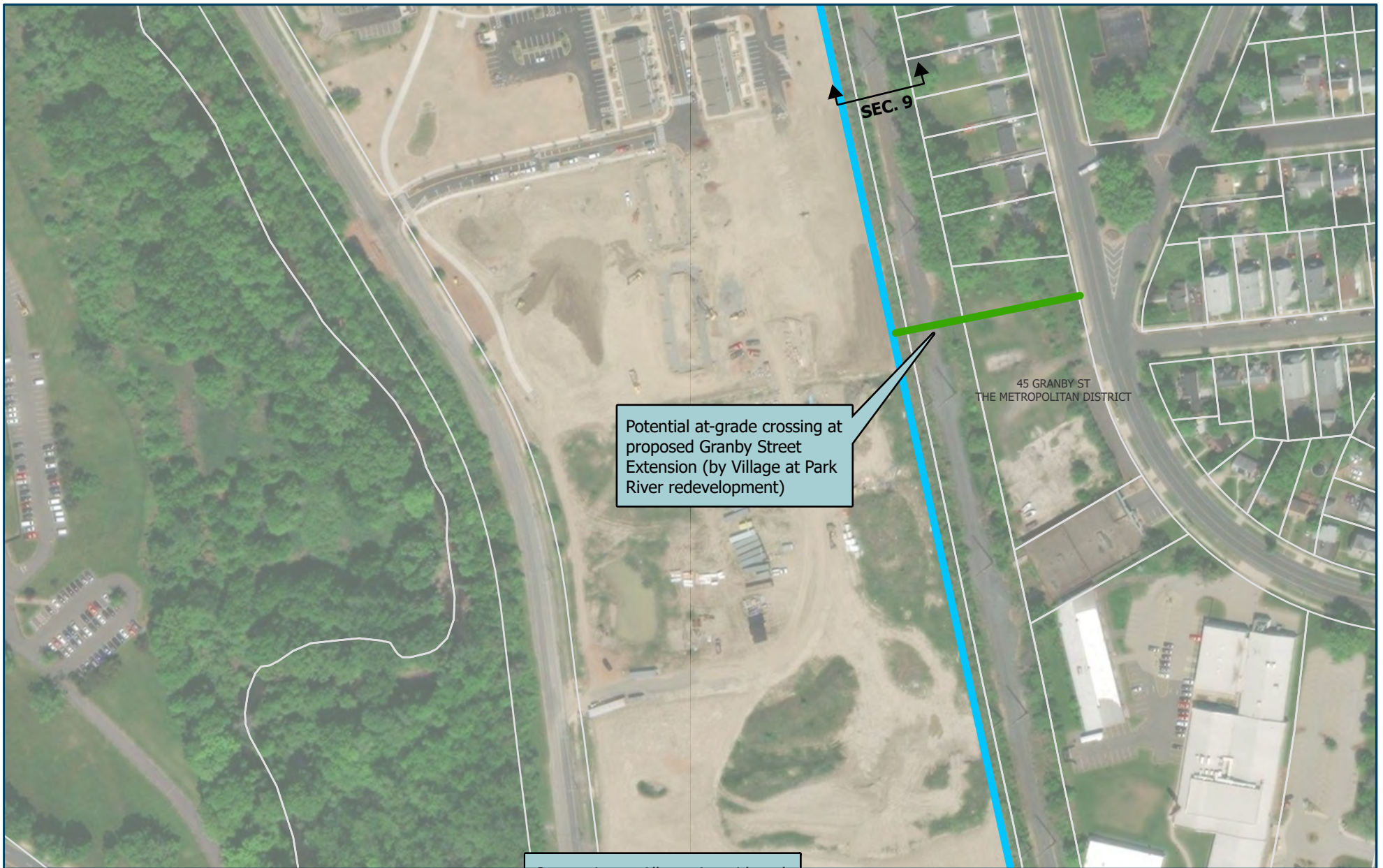
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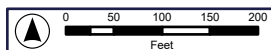
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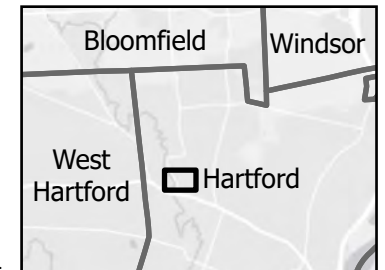
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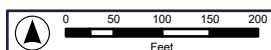
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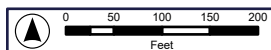
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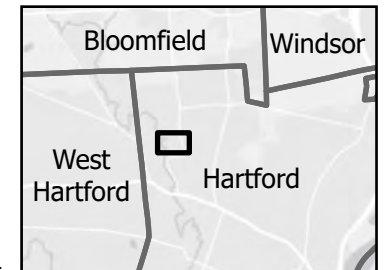
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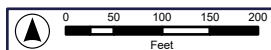
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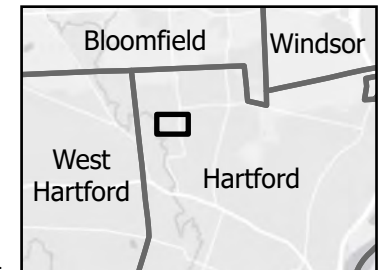
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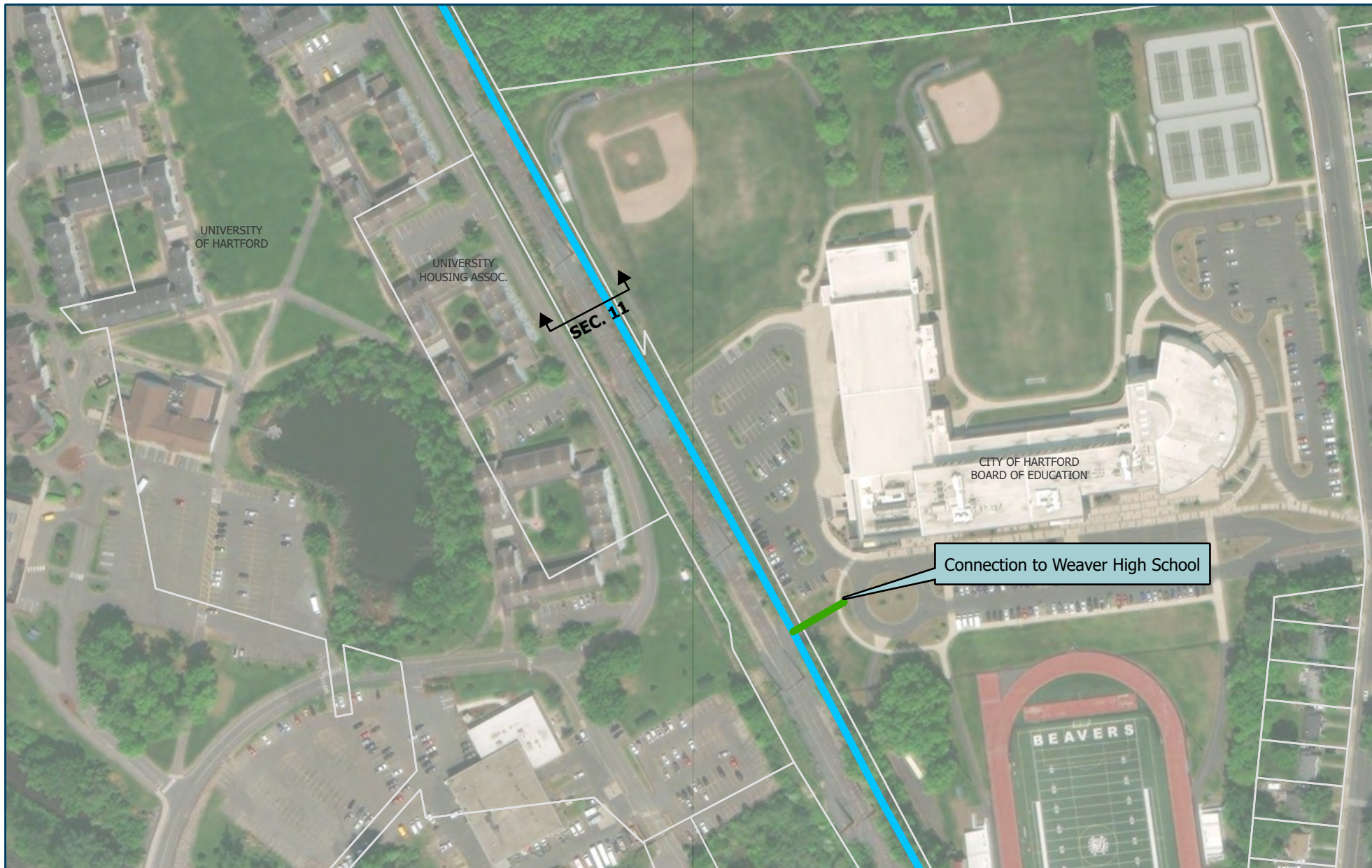
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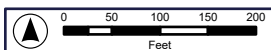
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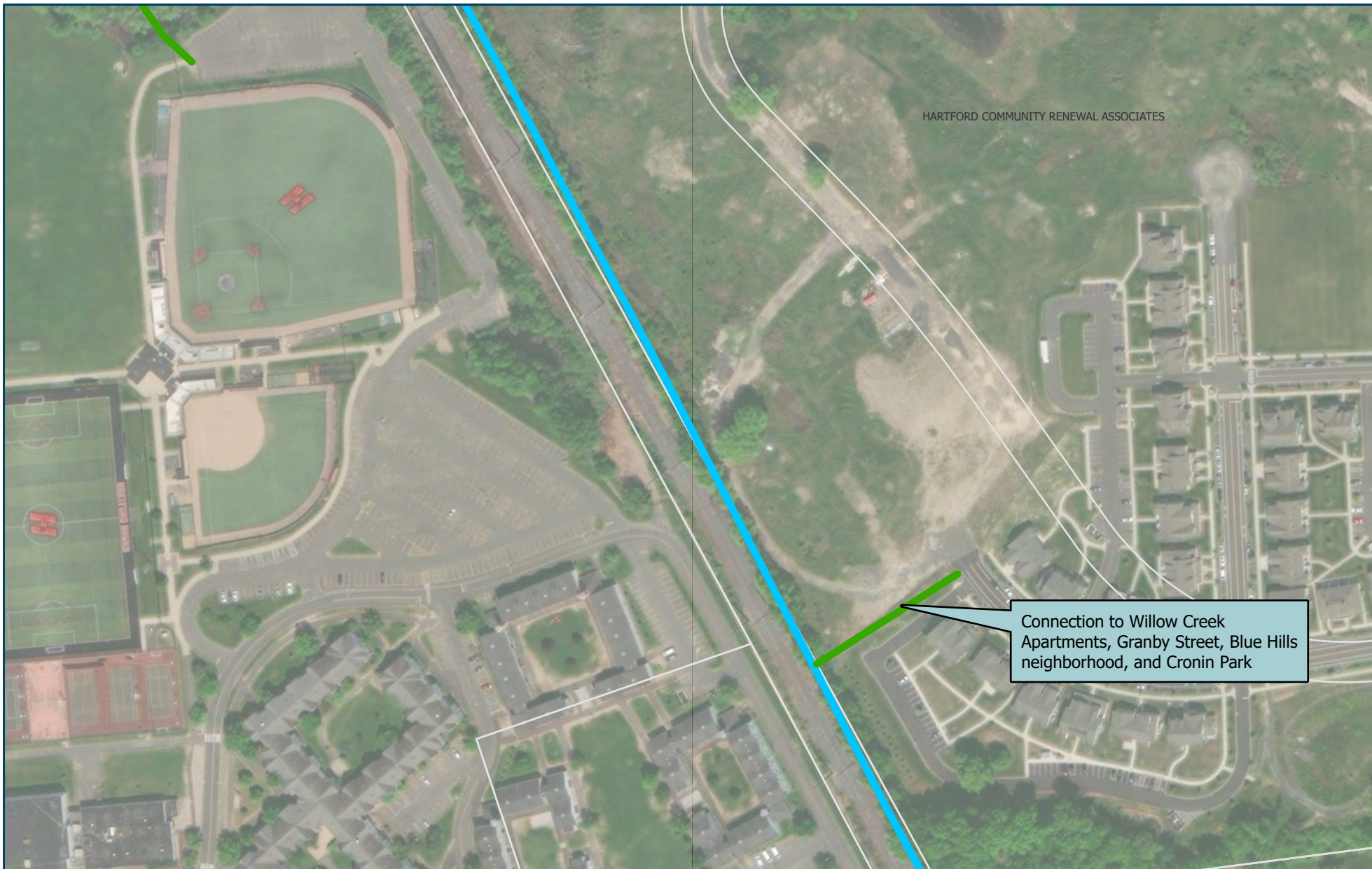


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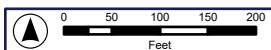
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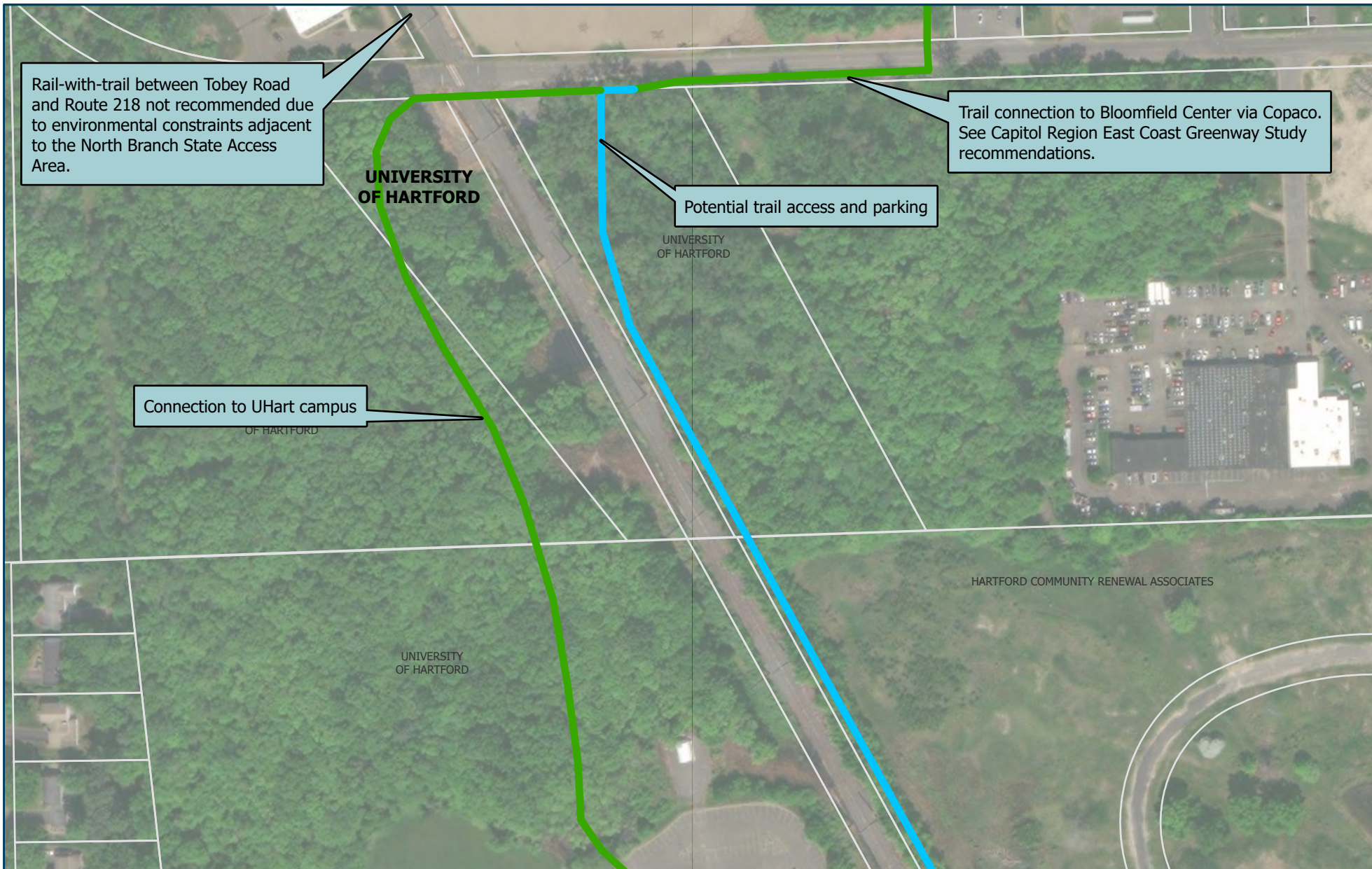


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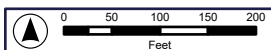


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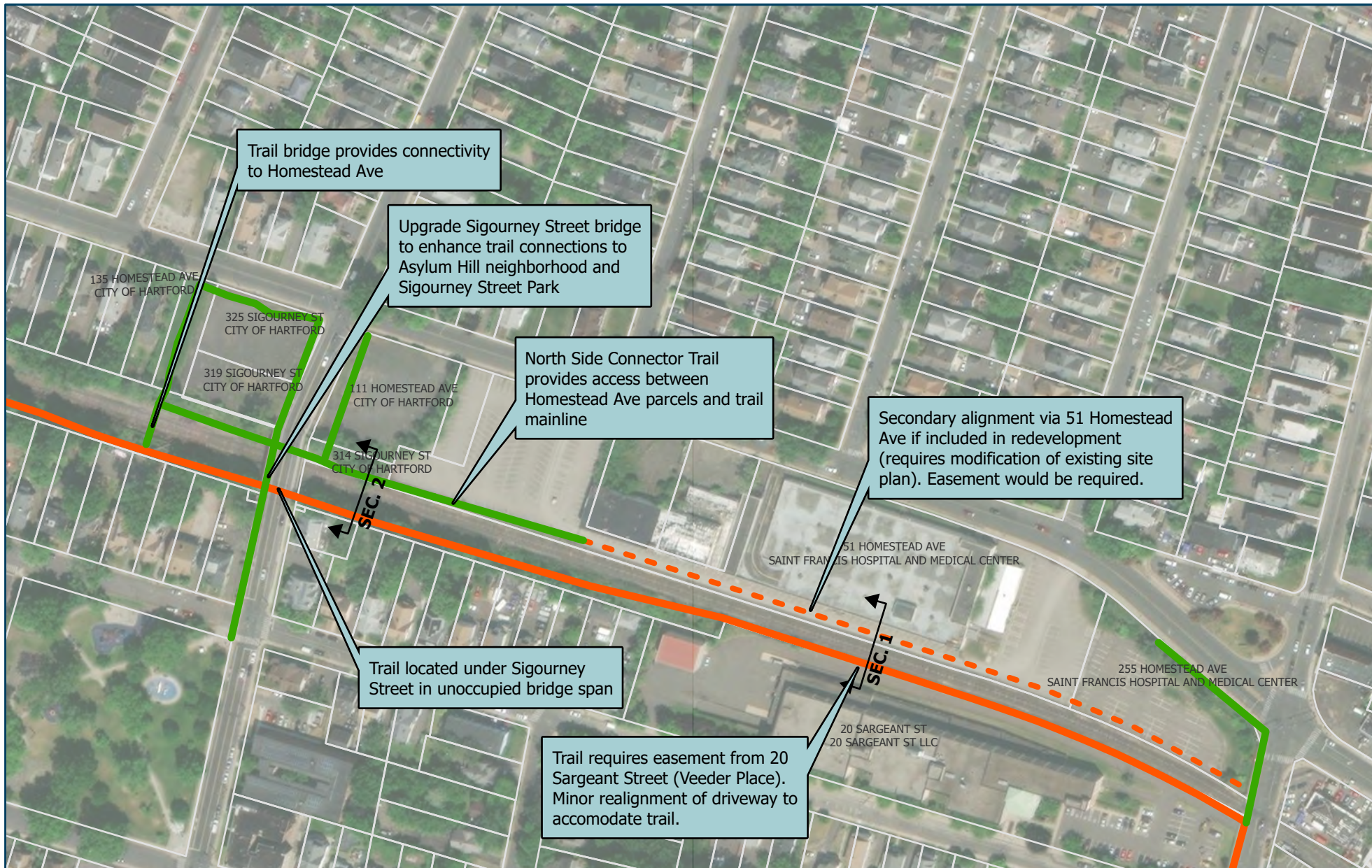
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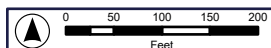
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Southwest (SW) Alternative Mapbook

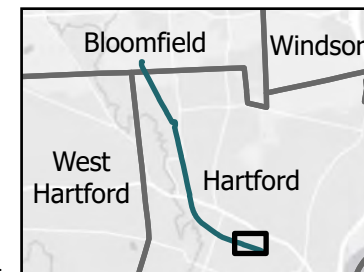
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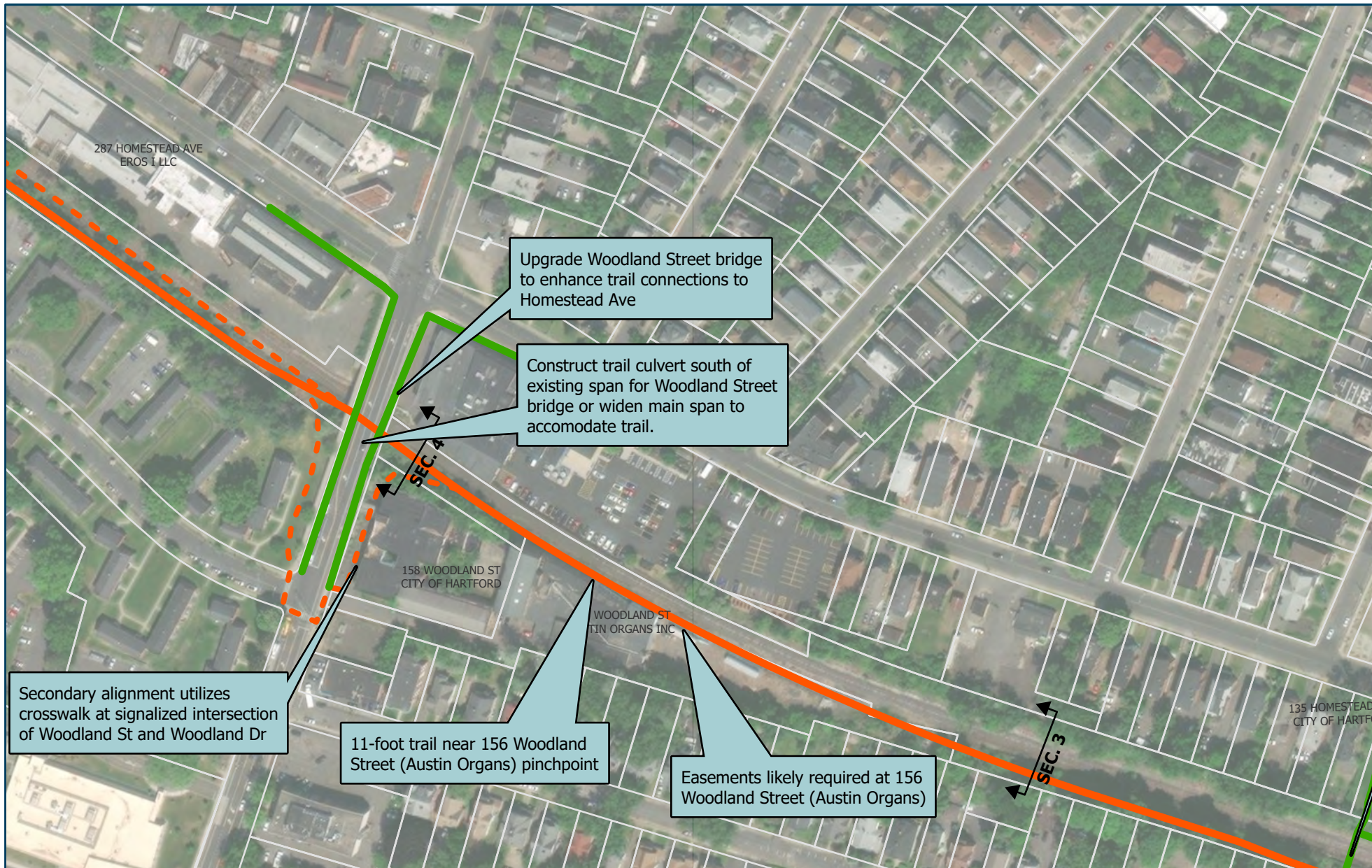
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East Coast Greenway Study

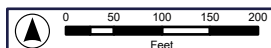
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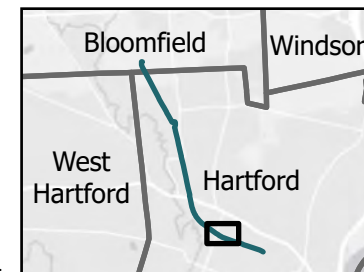
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East Coast Greenway Study

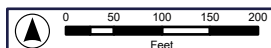
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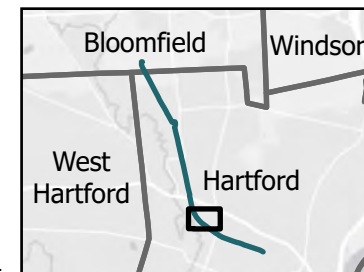
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- - Southwest (SW) Alternative - Secondary Options
- Neighborhood Connections

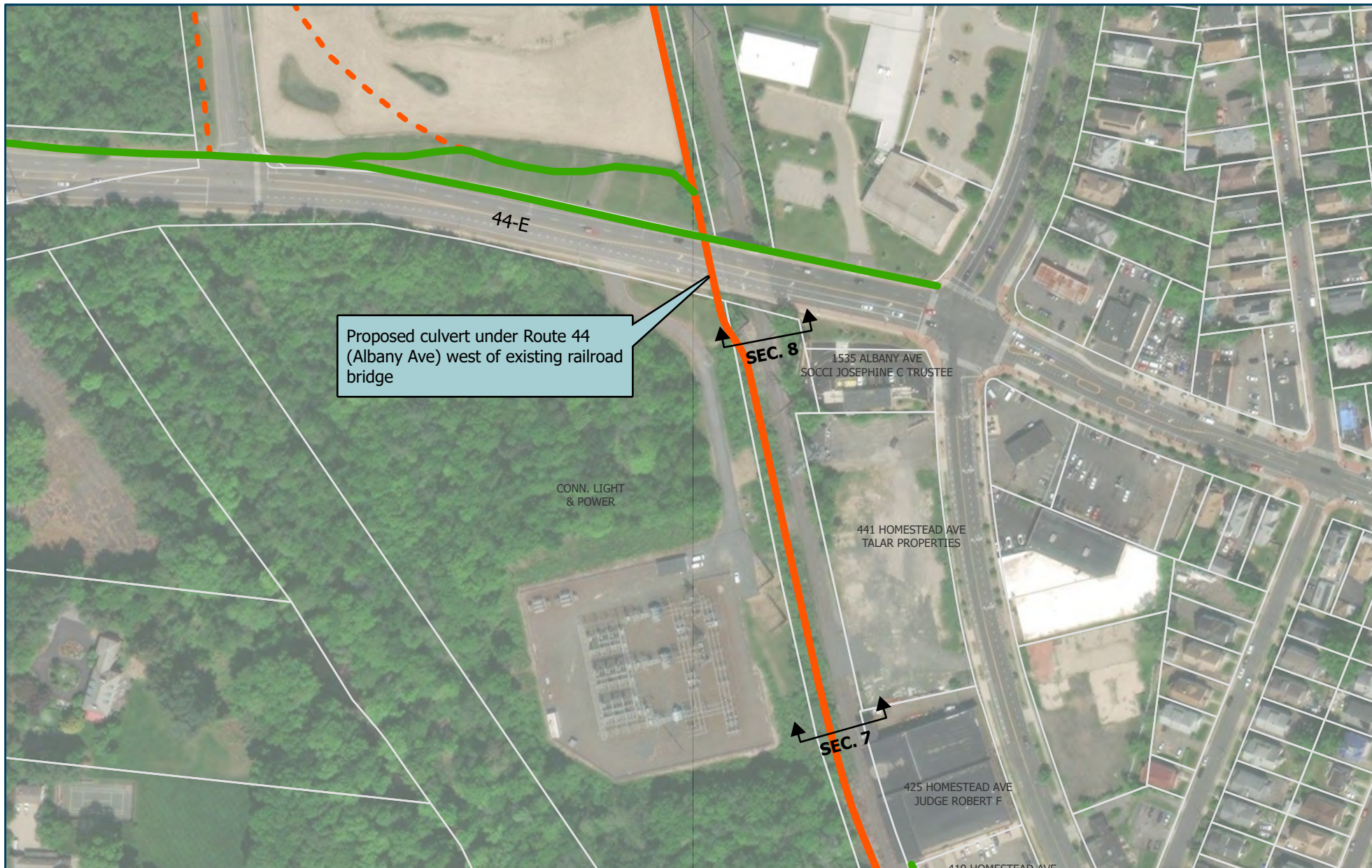
Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024



1 inch = 200 feet

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Capitol Region
East Coast Greenway Study

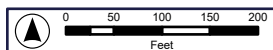
CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

FHI
studio

Southwest (SW) Alternative Mapbook

- Southwest (SW) Alternative - Primary Option
- - Southwest (SW) Alternative - Secondary Options
- Neighborhood Connections

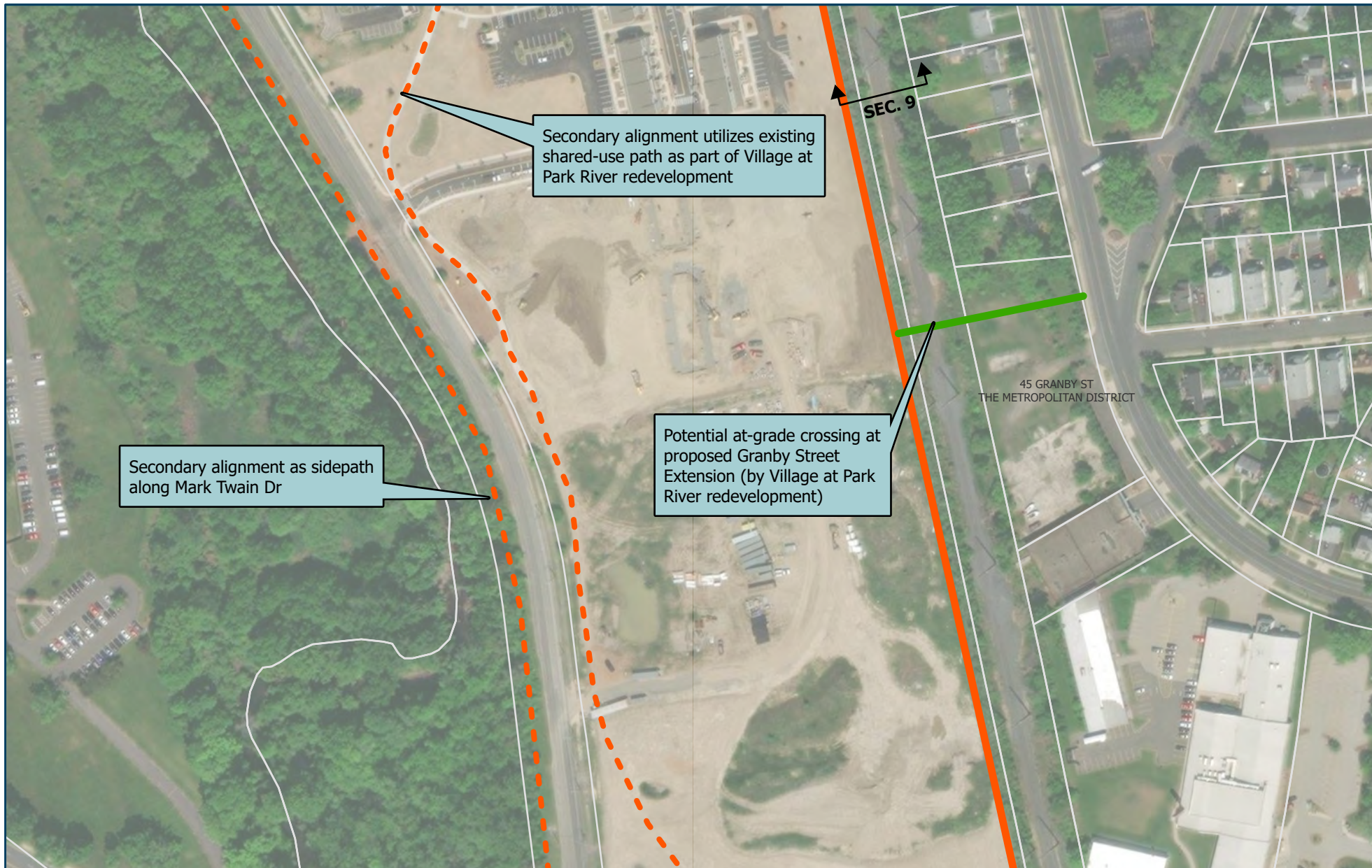
Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024



1 inch = 200 feet

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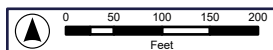
Capitol Region
East Coast Greenway Study

CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

FHI
studio

Southwest (SW) Alternative Mapbook

- Southwest (SW) Alternative - Primary Option
- - Southwest (SW) Alternative - Secondary Options
- Neighborhood Connections



1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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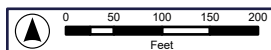
Capitol Region
East Coast Greenway Study

CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

FHI
studio

Southwest (SW) Alternative Mapbook

- Southwest (SW) Alternative - Primary Option
- - - Southwest (SW) Alternative - Secondary Options
- Neighborhood Connections

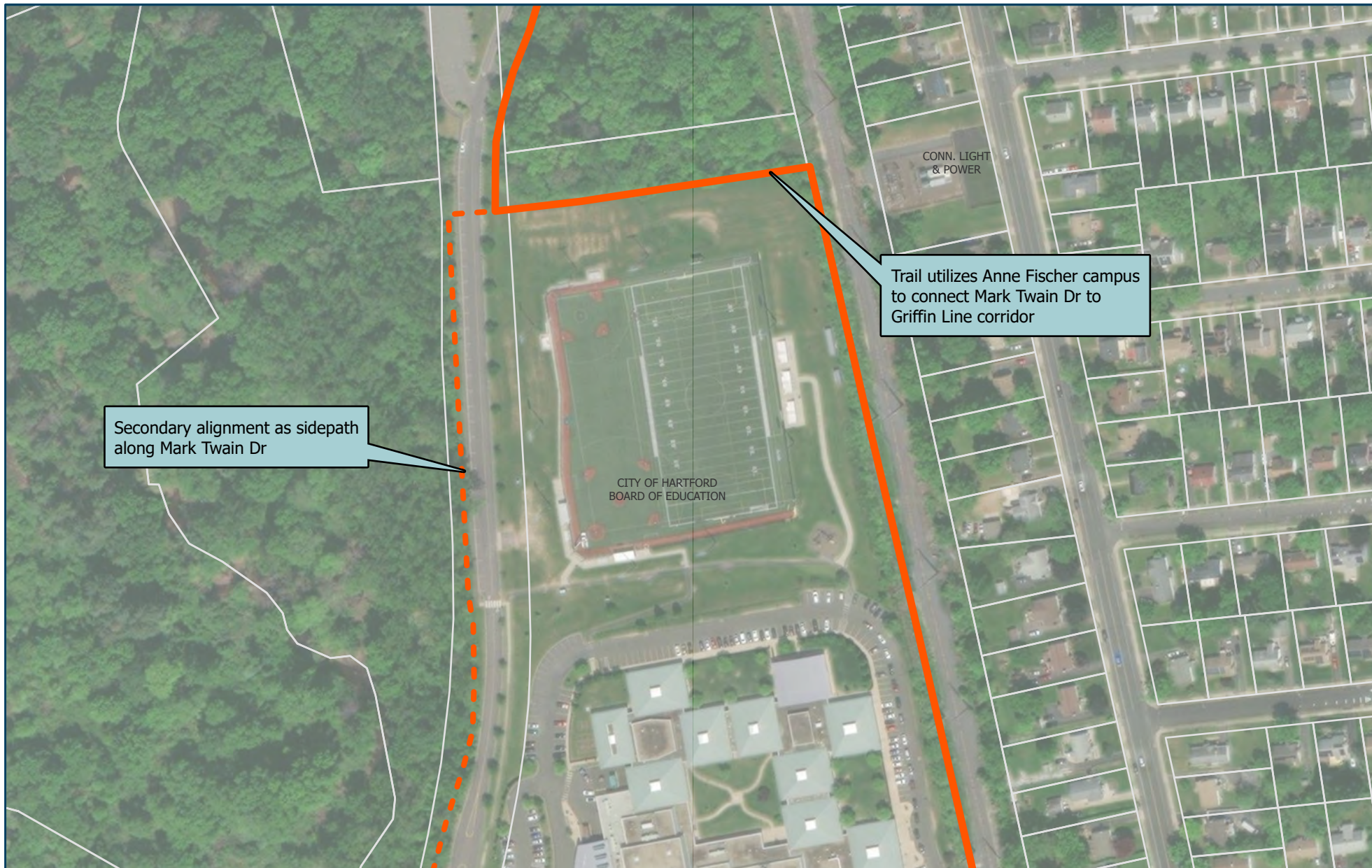


1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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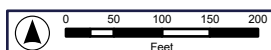
Capitol Region
East Coast Greenway Study

CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

FHI
studio

Southwest (SW) Alternative Mapbook

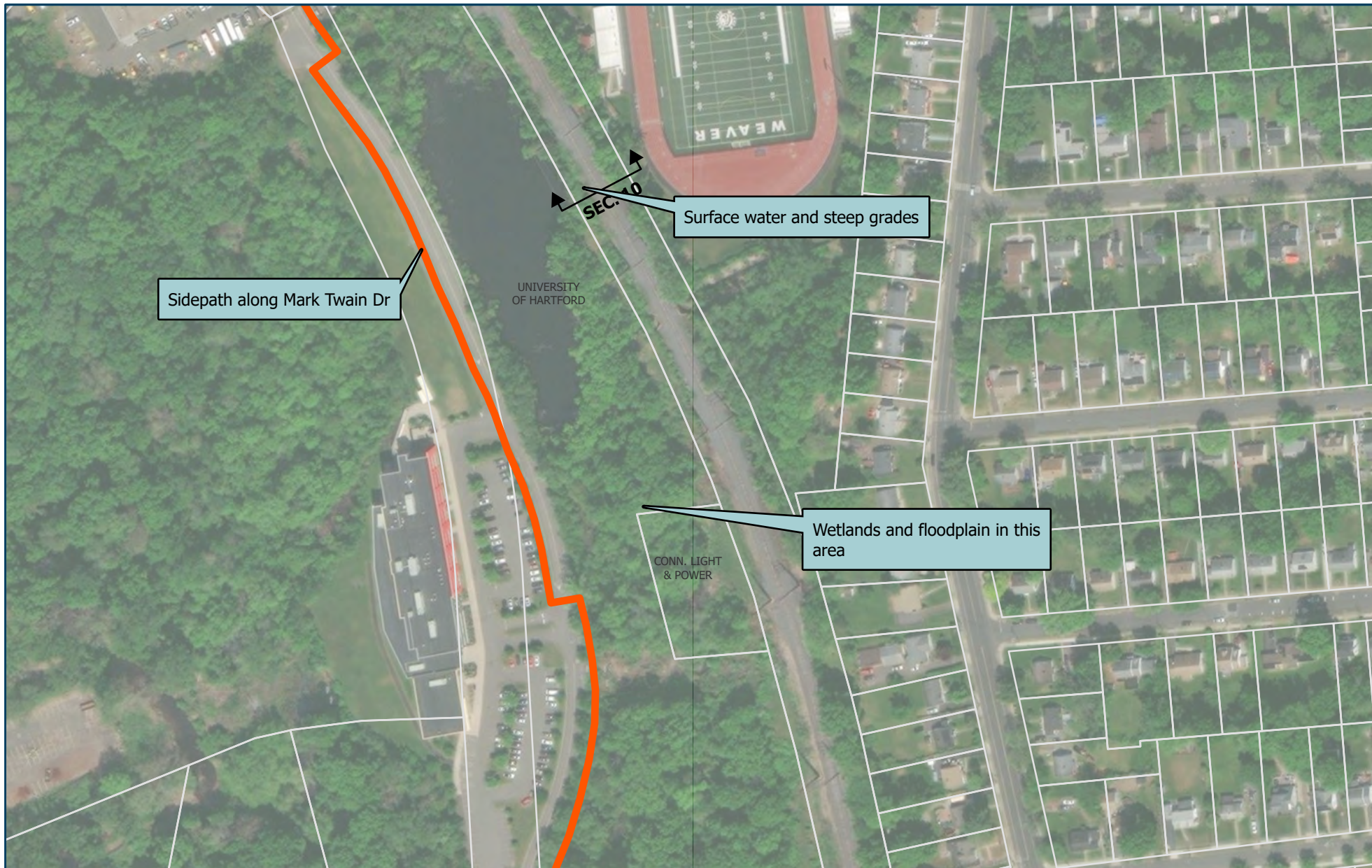
- Southwest (SW) Alternative - Primary Option
- - Southwest (SW) Alternative - Secondary Options
- Neighborhood Connections



1 inch = 200 feet

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Capitol Region
East Coast Greenway Study

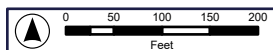
CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

FHI
studio

Southwest (SW) Alternative Mapbook

- Southwest (SW) Alternative - Primary Option
- - Southwest (SW) Alternative - Secondary Options
- Neighborhood Connections

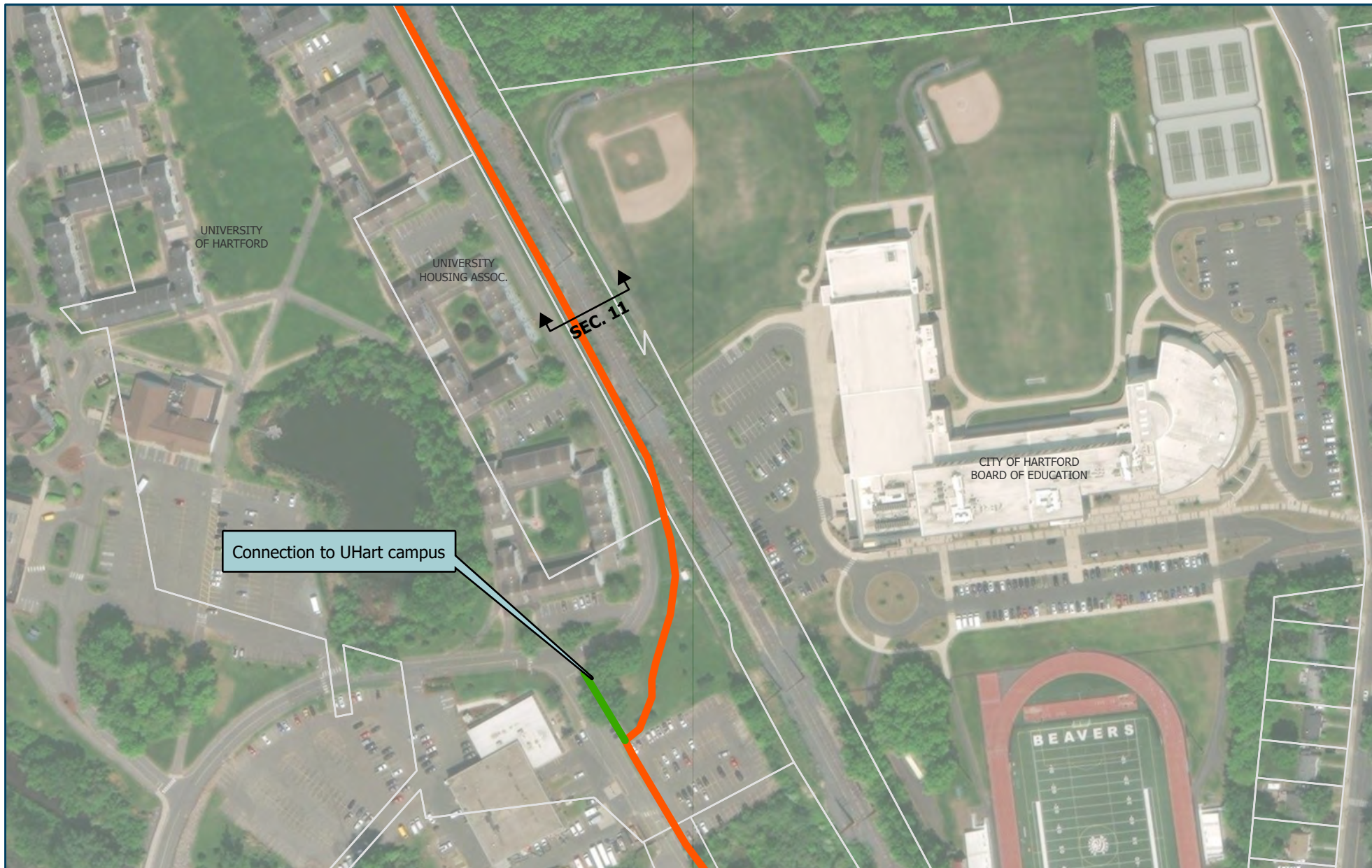
Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024



1 inch = 200 feet

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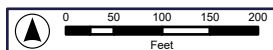
Capitol Region
East Coast Greenway Study

CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

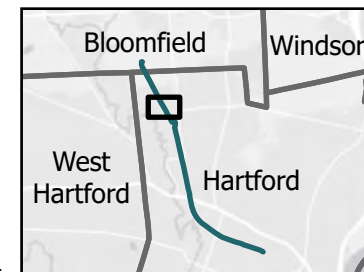
FHI
studio

Southwest (SW) Alternative Mapbook

- Southwest (SW) Alternative - Primary Option
- Southwest (SW) Alternative - Secondary Options
- Neighborhood Connections



1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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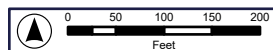
Capitol Region
East Coast Greenway Study

CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

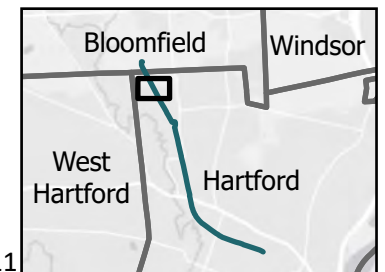
FHI
studio

Southwest (SW) Alternative Mapbook

- Southwest (SW) Alternative - Primary Option
- Southwest (SW) Alternative - Secondary Options
- Neighborhood Connections

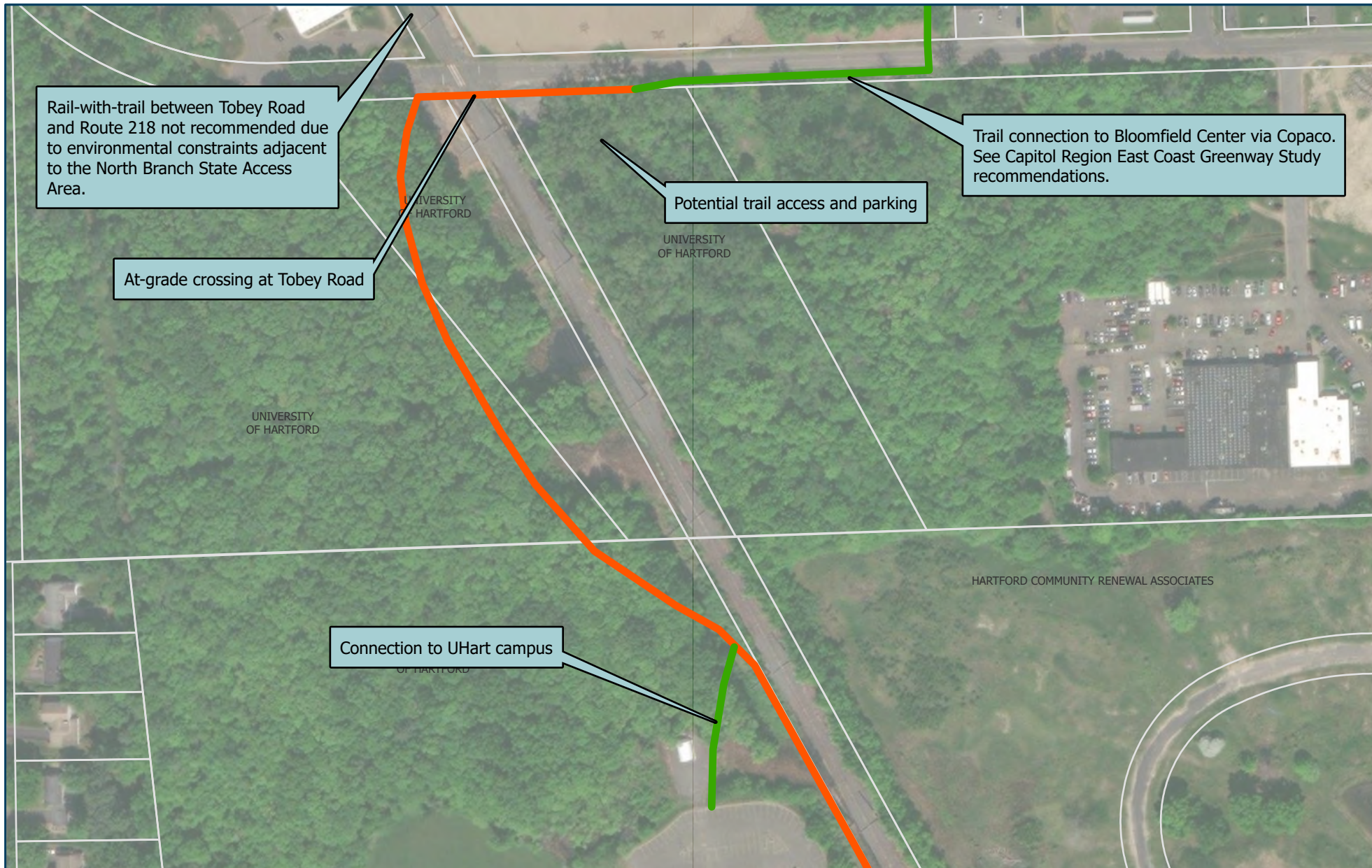


1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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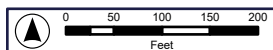
Capitol Region
East Coast Greenway Study

CRCOG
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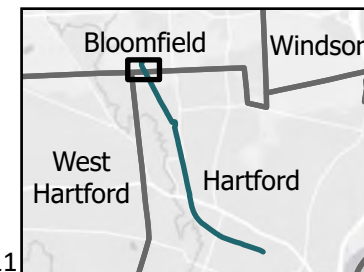
FHI
studio

Southwest (SW) Alternative Mapbook

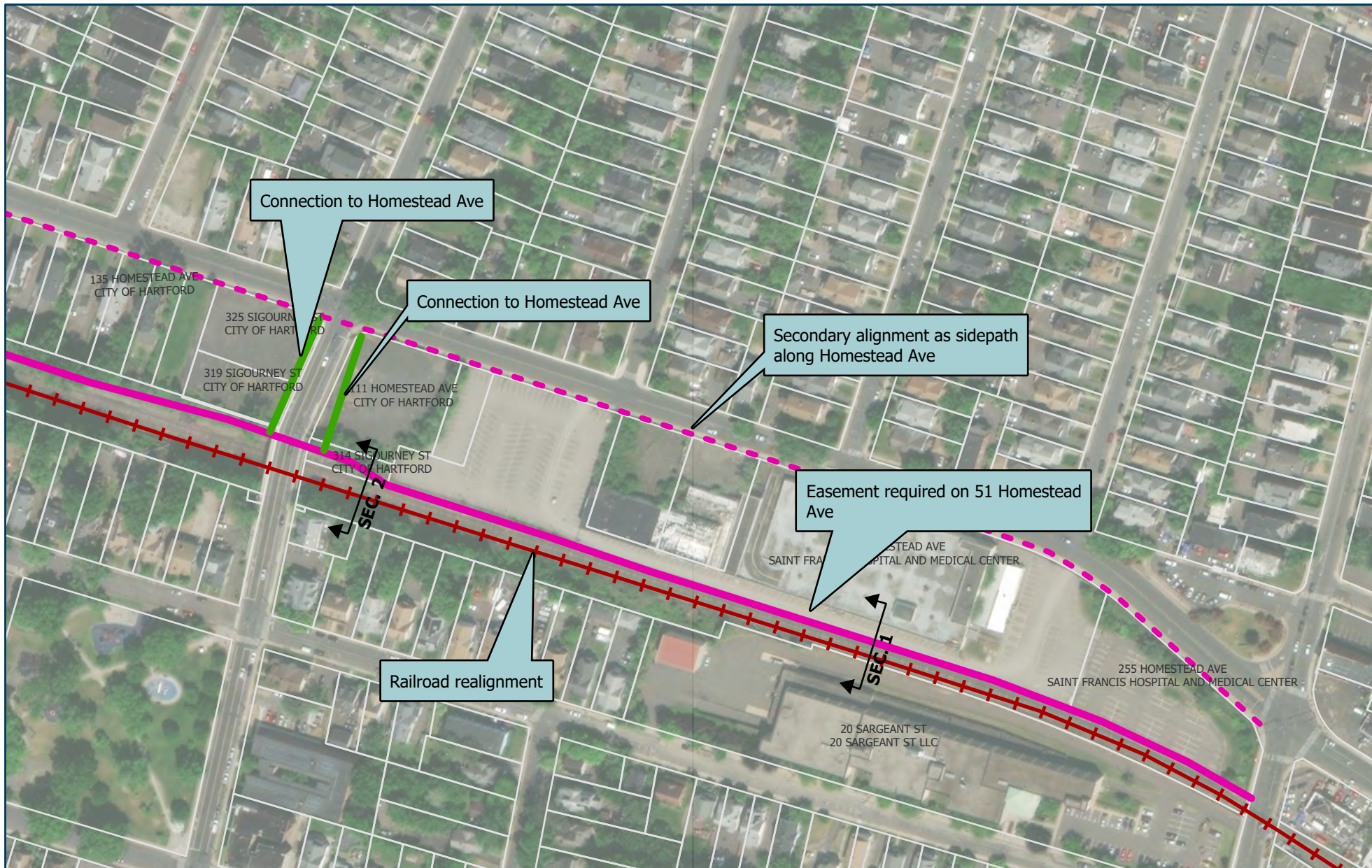
- Southwest (SW) Alternative - Primary Option
- - Southwest (SW) Alternative - Secondary Options
- Neighborhood Connections



1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

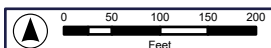


Capitol Region
East Coast Greenway Study

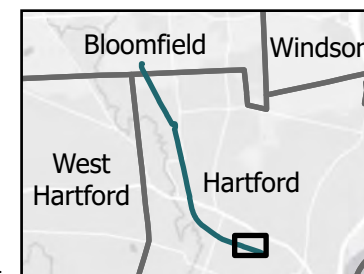


Northeast (NE) Alternative Mapbook

- Northeast (NE) Alternative - Primary Option
- - - Northeast (NE) Alternative - Secondary Options
- - - Northeast (NE) Alternative - Required Rail Realignment (1.3 Mi)
- Neighborhood Connections

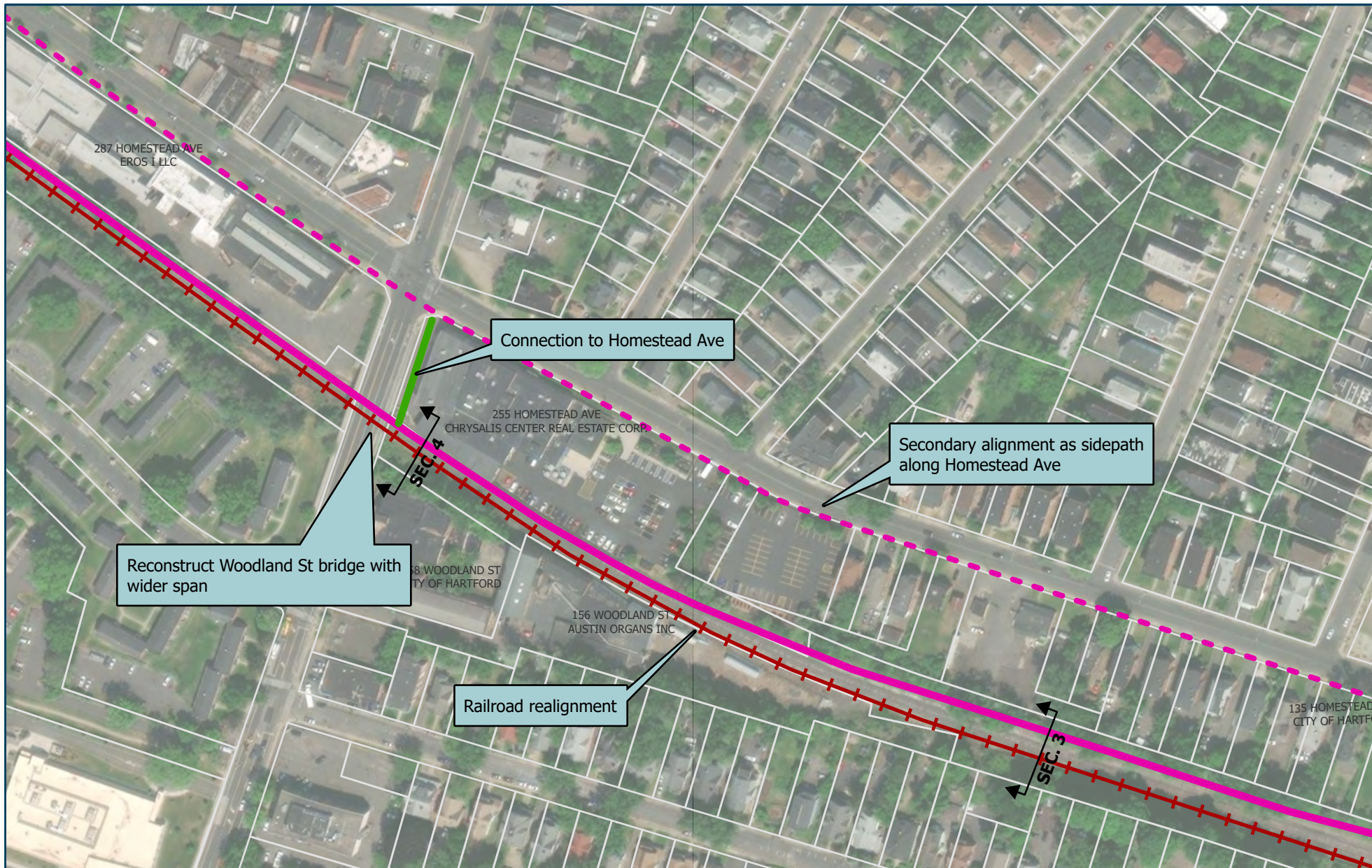


1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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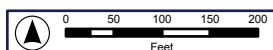


Capitol Region
East Coast Greenway Study

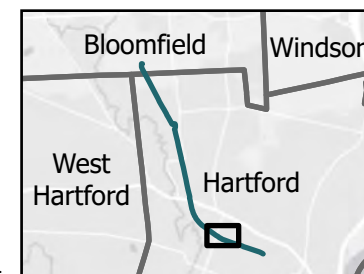


Northeast (NE) Alternative Mapbook

- Northeast (NE) Alternative - Primary Option
- - - Northeast (NE) Alternative - Secondary Options
- - - Northeast (NE) Alternative - Required Rail Realignment (1.3 Mi)
- Neighborhood Connections



1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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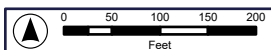
Capitol Region
East Coast Greenway Study

CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

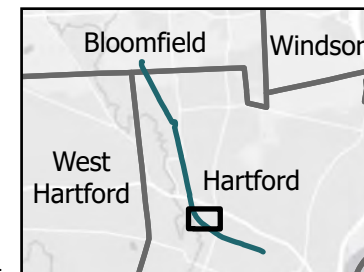
FHI
studio

Northeast (NE) Alternative Mapbook

- Northeast (NE) Alternative - Primary Option
- - - Northeast (NE) Alternative - Secondary Options
- + + + Northeast (NE) Alternative - Required Rail Realignment (1.3 Mi)
- Neighborhood Connections

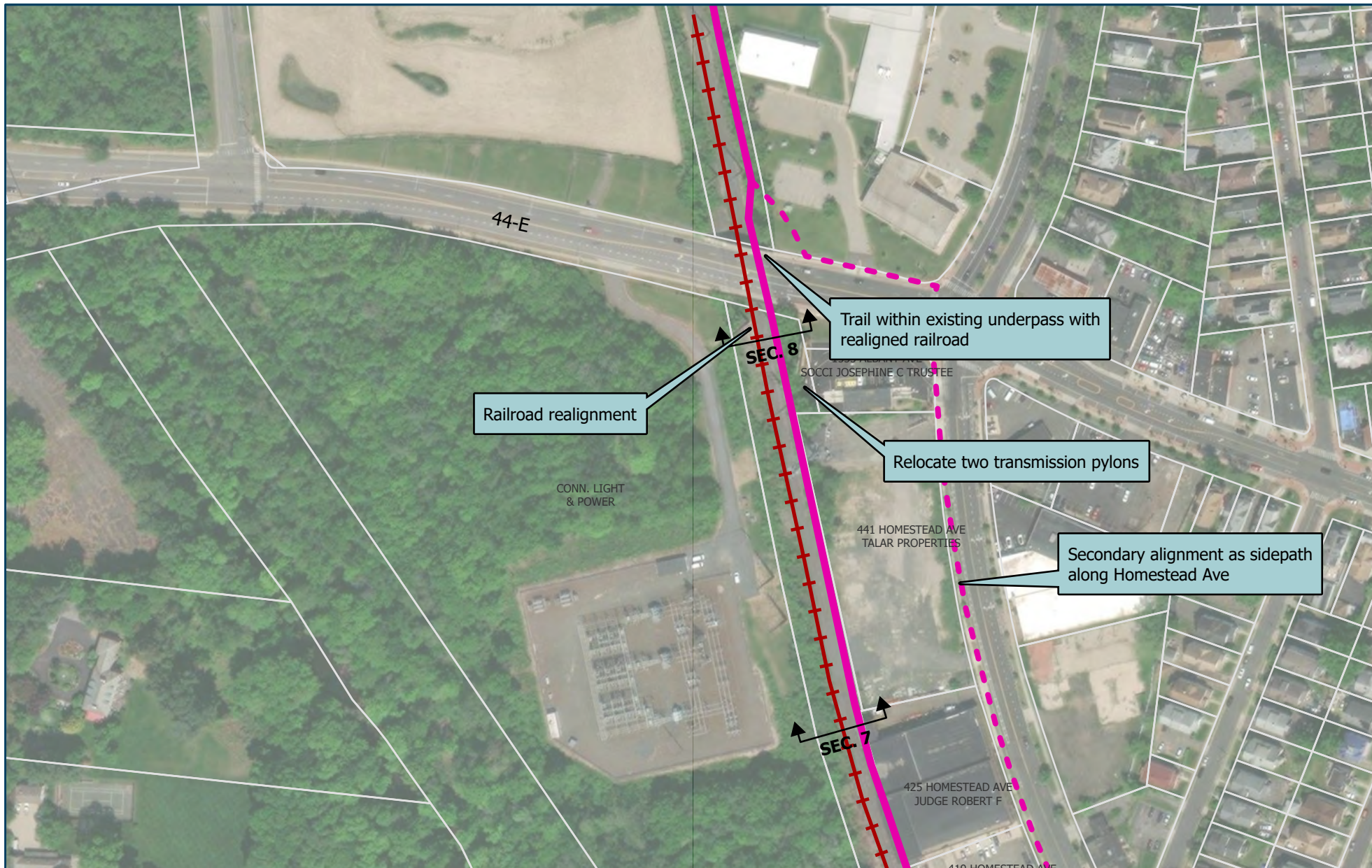


1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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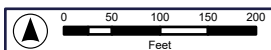
Capitol Region
East Coast Greenway Study

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studio

Northeast (NE) Alternative Mapbook

- Northeast (NE) Alternative - Primary Option
- - - Northeast (NE) Alternative - Secondary Options
- - - Northeast (NE) Alternative - Required Rail Realignment (1.3 Mi)
- Neighborhood Connections

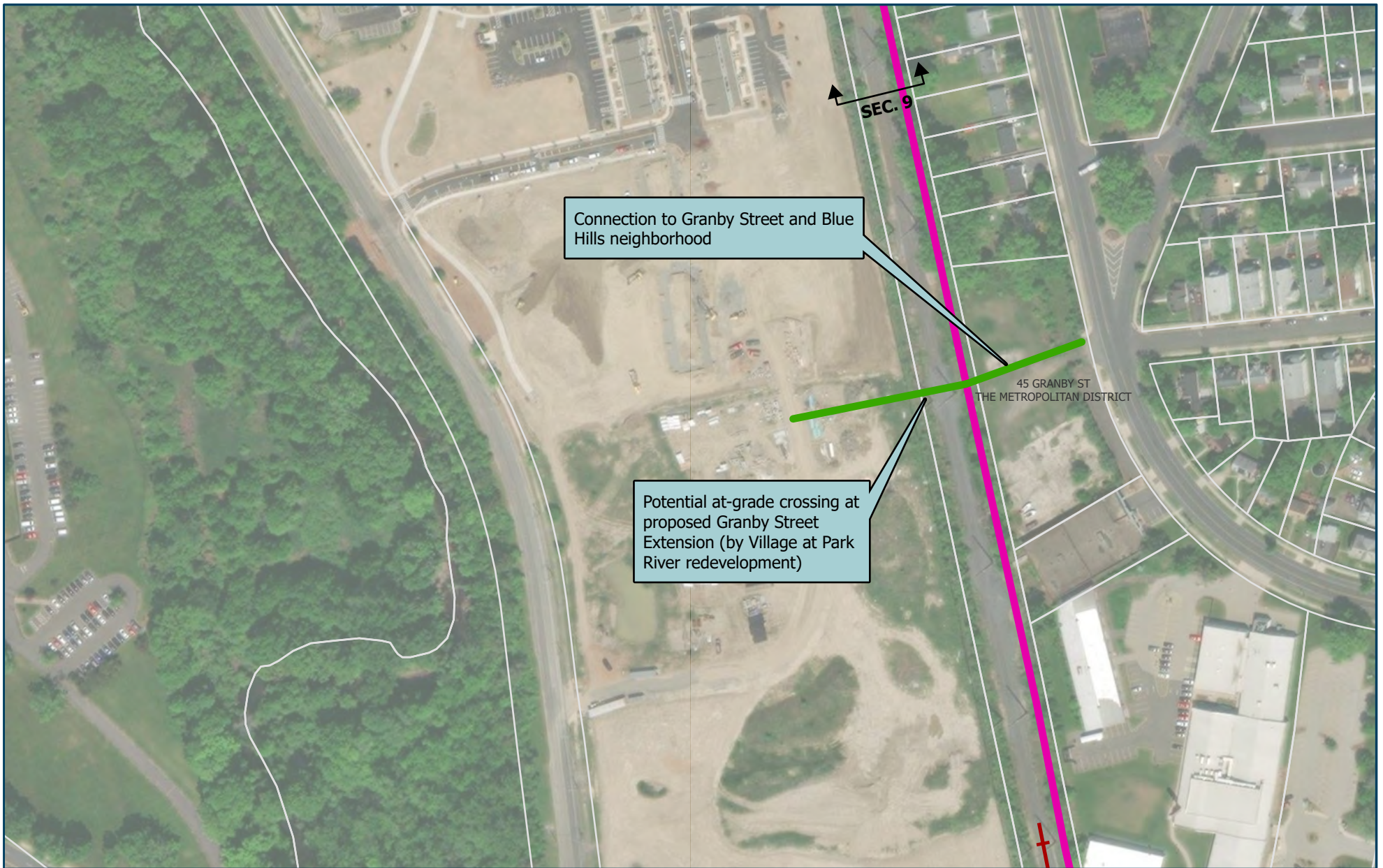


1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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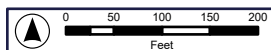
Capitol Region
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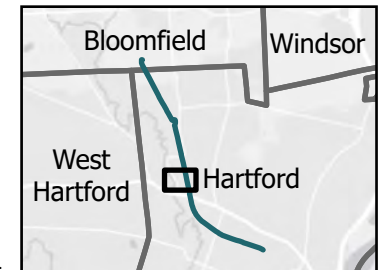
FHI
studio

Northeast (NE) Alternative Mapbook

- Northeast (NE) Alternative - Primary Option
- Northeast (NE) Alternative - Secondary Options
- Northeast (NE) Alternative - Required Rail Realignment (1.3 Mi)
- Neighborhood Connections



1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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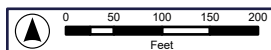
Capitol Region
East Coast Greenway Study

CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

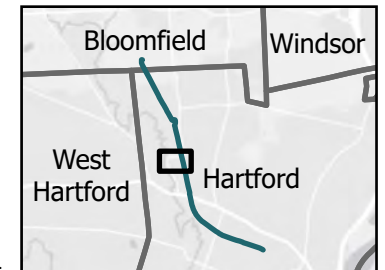
FHI
studio

Northeast (NE) Alternative Mapbook

- Northeast (NE) Alternative - Primary Option
- Northeast (NE) Alternative - Secondary Options
- Northeast (NE) Alternative - Required Rail Realignment (1.3 Mi)
- Neighborhood Connections



1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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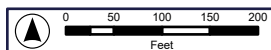
Capitol Region
East Coast Greenway Study

CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

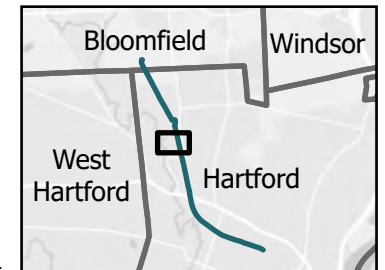
FHI
studio

Northeast (NE) Alternative Mapbook

- Northeast (NE) Alternative - Primary Option
- Northeast (NE) Alternative - Secondary Options
- Northeast (NE) Alternative - Required Rail Realignment (1.3 Mi)
- Neighborhood Connections

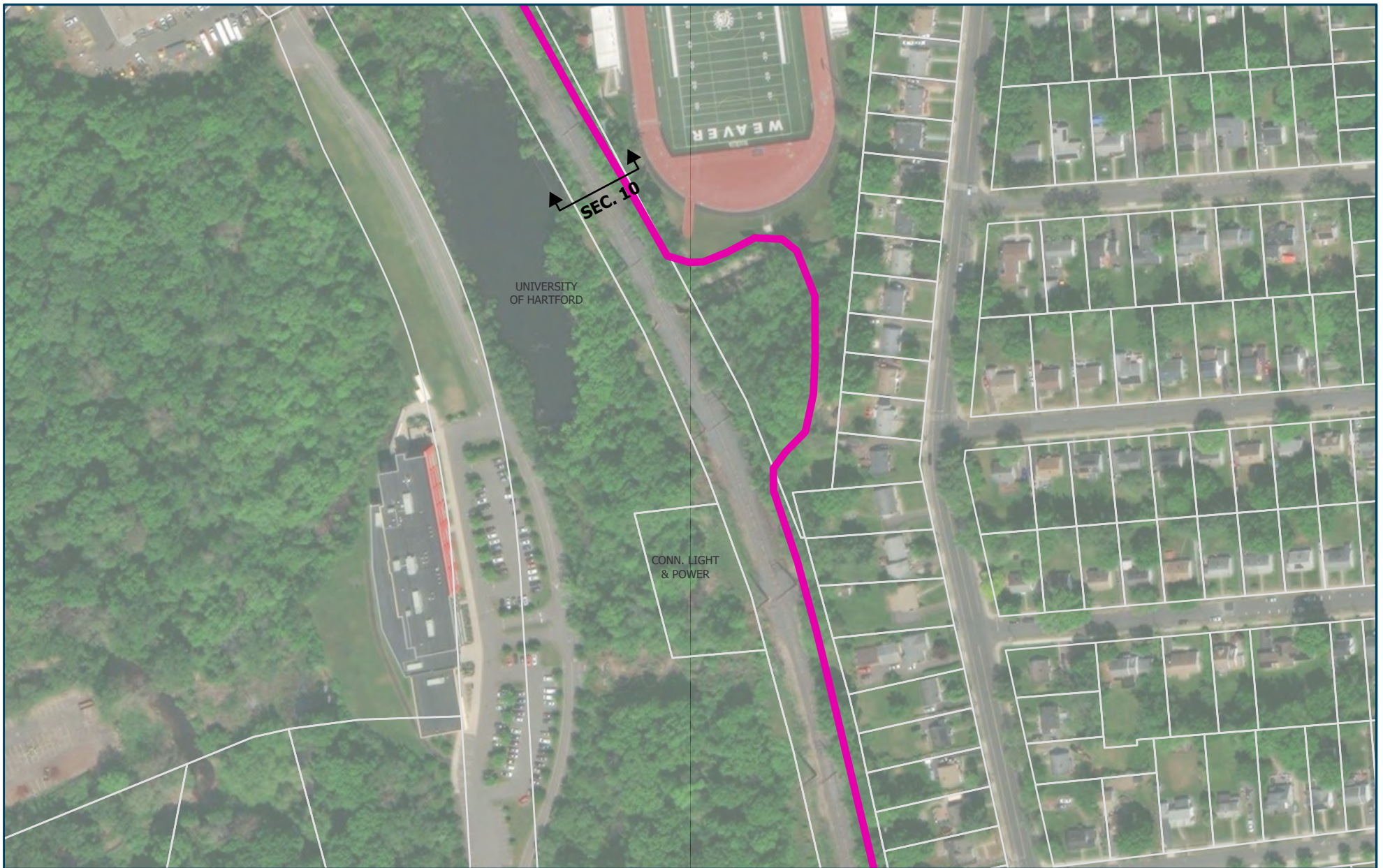


1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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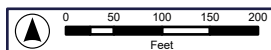
Capitol Region
East Coast Greenway Study

CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

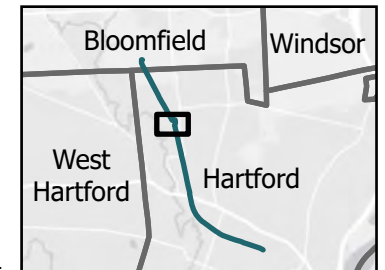
FHI
studio

Northeast (NE) Alternative Mapbook

- Northeast (NE) Alternative - Primary Option
- Northeast (NE) Alternative - Secondary Options
- Northeast (NE) Alternative - Required Rail Realignment (1.3 Mi)
- Neighborhood Connections

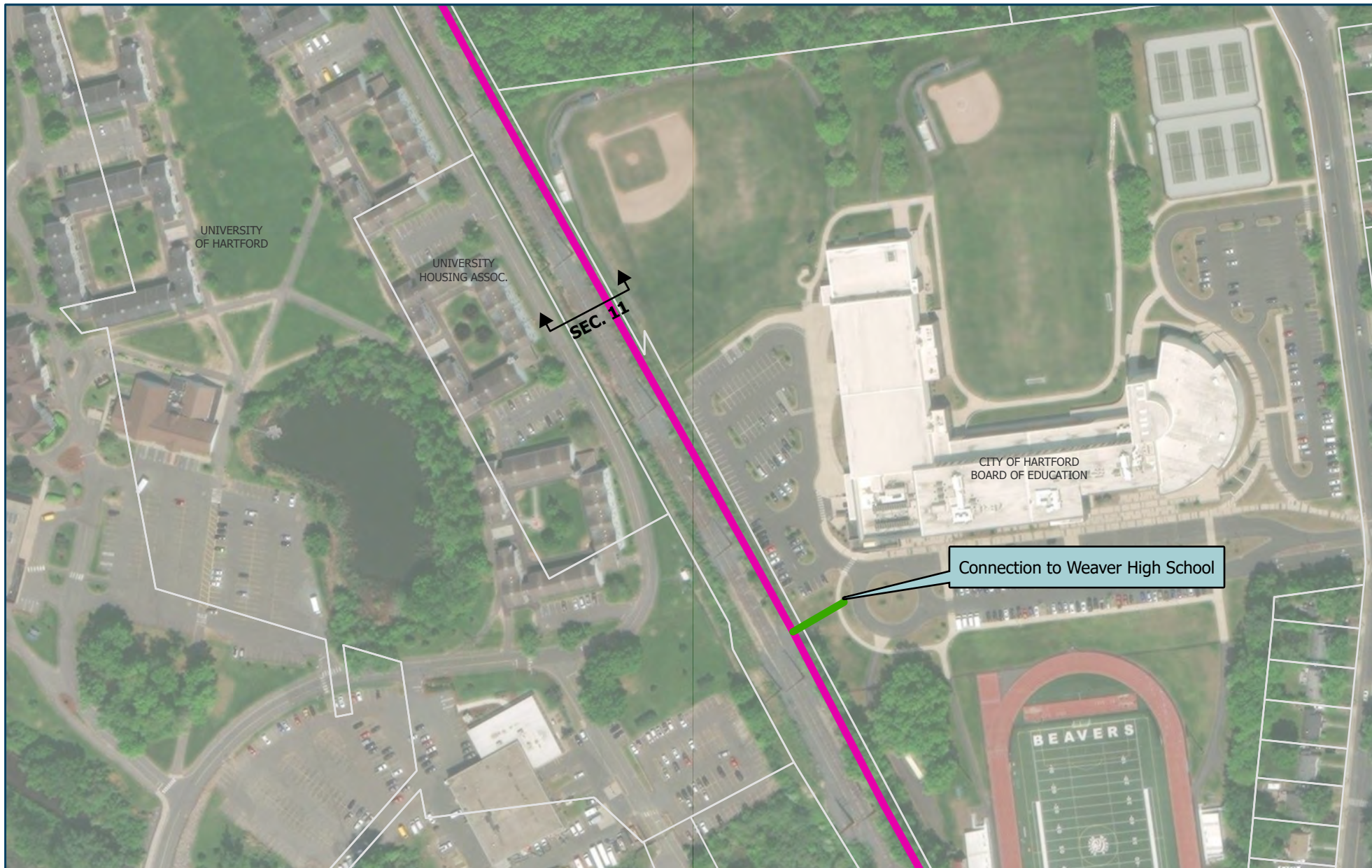


1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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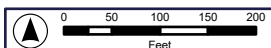
Capitol Region
East Coast Greenway Study

CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

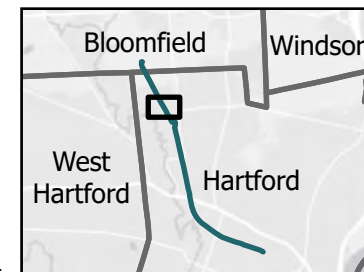
FHI
studio

Northeast (NE) Alternative Mapbook

- Northeast (NE) Alternative - Primary Option
- Northeast (NE) Alternative - Secondary Options
- Northeast (NE) Alternative - Required Rail Realignment (1.3 Mi)
- Neighborhood Connections

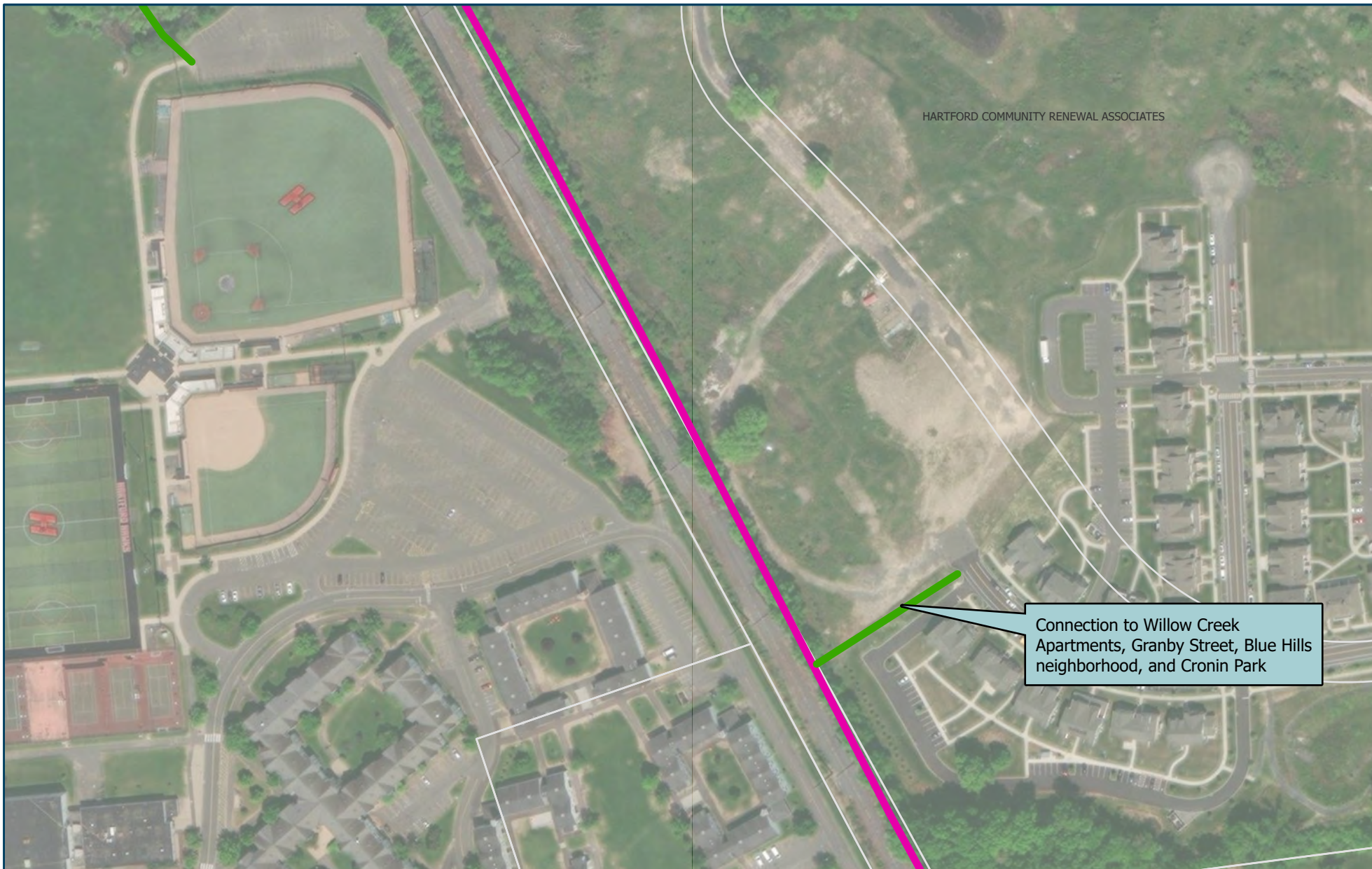


1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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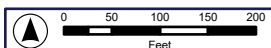
Capitol Region
East Coast Greenway Study

CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

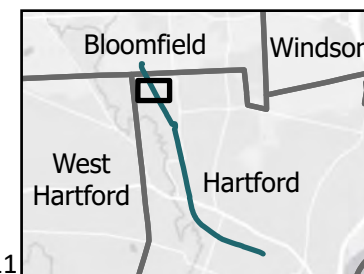
FHI
studio

Northeast (NE) Alternative Mapbook

- Northeast (NE) Alternative - Primary Option
- Northeast (NE) Alternative - Secondary Options
- Northeast (NE) Alternative - Required Rail Realignment (1.3 Mi)
- Neighborhood Connections

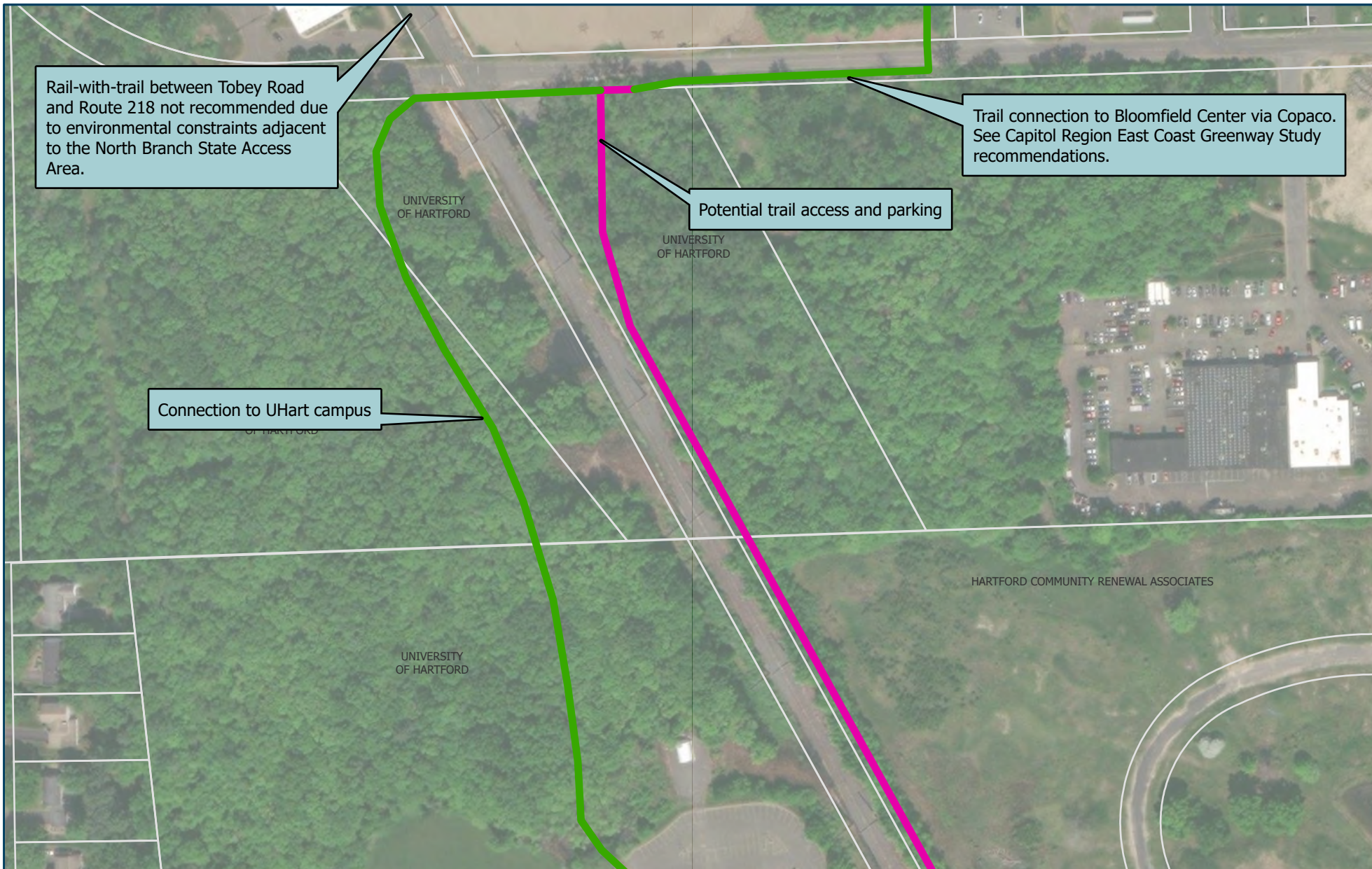


1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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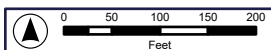
Capitol Region
East Coast Greenway Study

CRCOG
CAPITOL REGION COUNCIL OF GOVERNMENTS

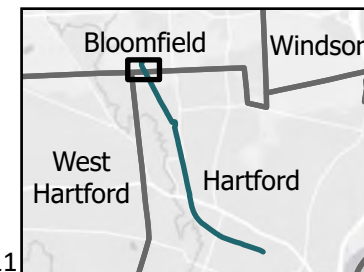
FHI
studio

Northeast (NE) Alternative Mapbook

- Northeast (NE) Alternative - Primary Option
- Northeast (NE) Alternative - Secondary Options
- Northeast (NE) Alternative - Required Rail Realignment (1.3 Mi)
- Neighborhood Connections



1 inch = 200 feet



Data Source: FHI Studio, CT ECO
Map Produced 1/12/2024

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APPENDIX D: RAIL RELOCATION ALIGNMENT

Location 4
Track shifted
south by 13'

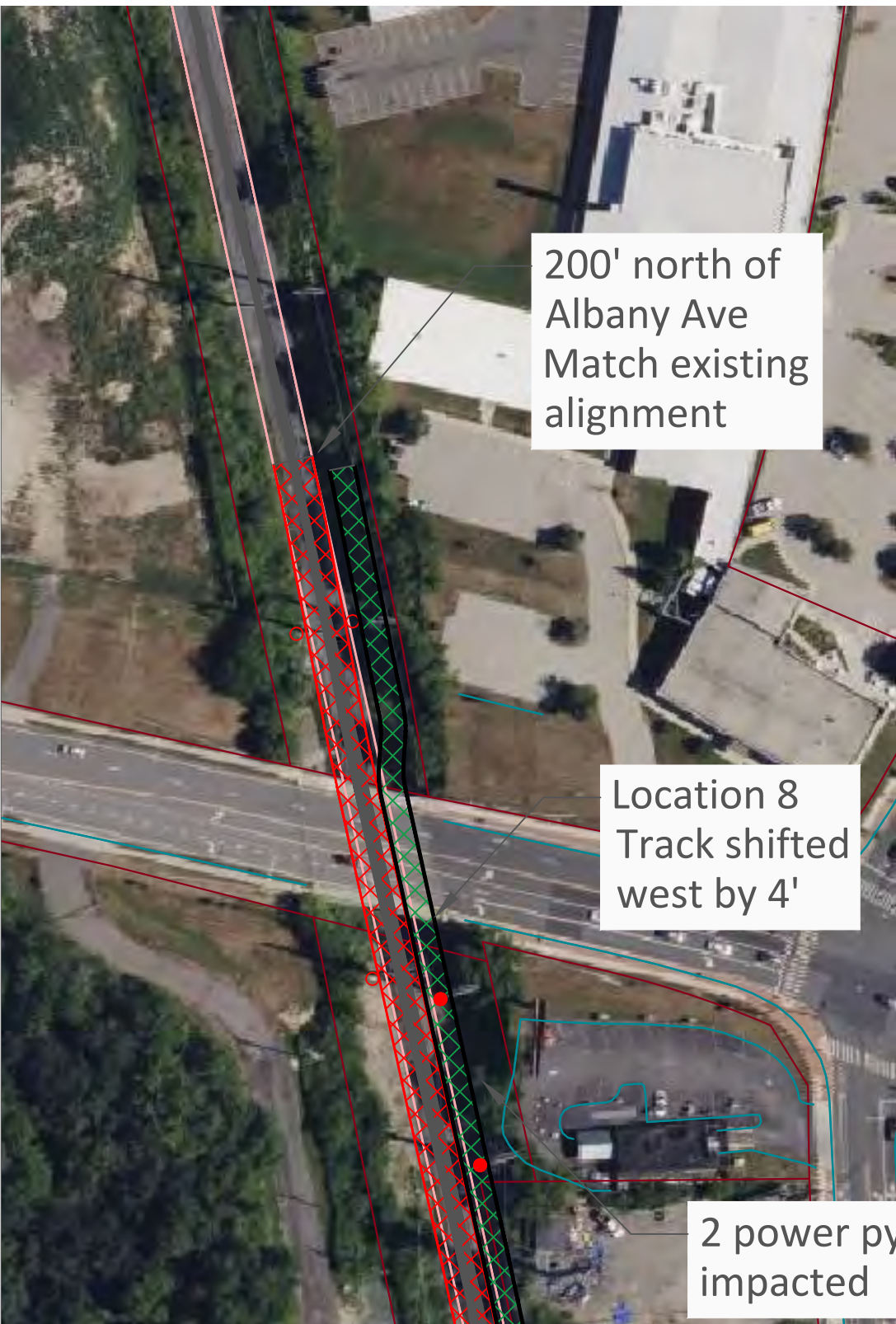
Location 3
Track shifted
south by 7'

Location 2
Track shifted
south by 7'

Location 1
Track shifted
south by 8'

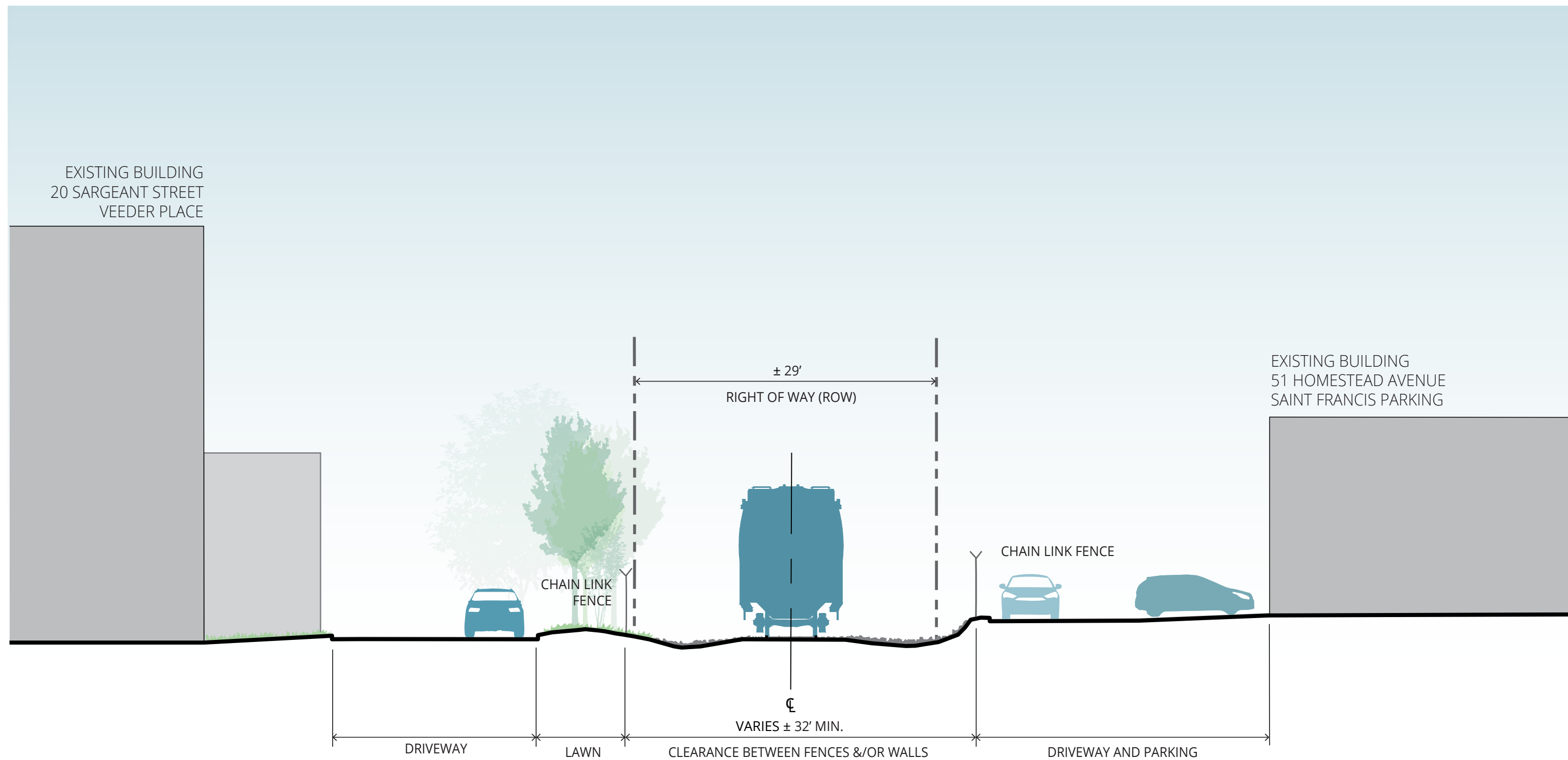
Garden St
Match existing
alignment



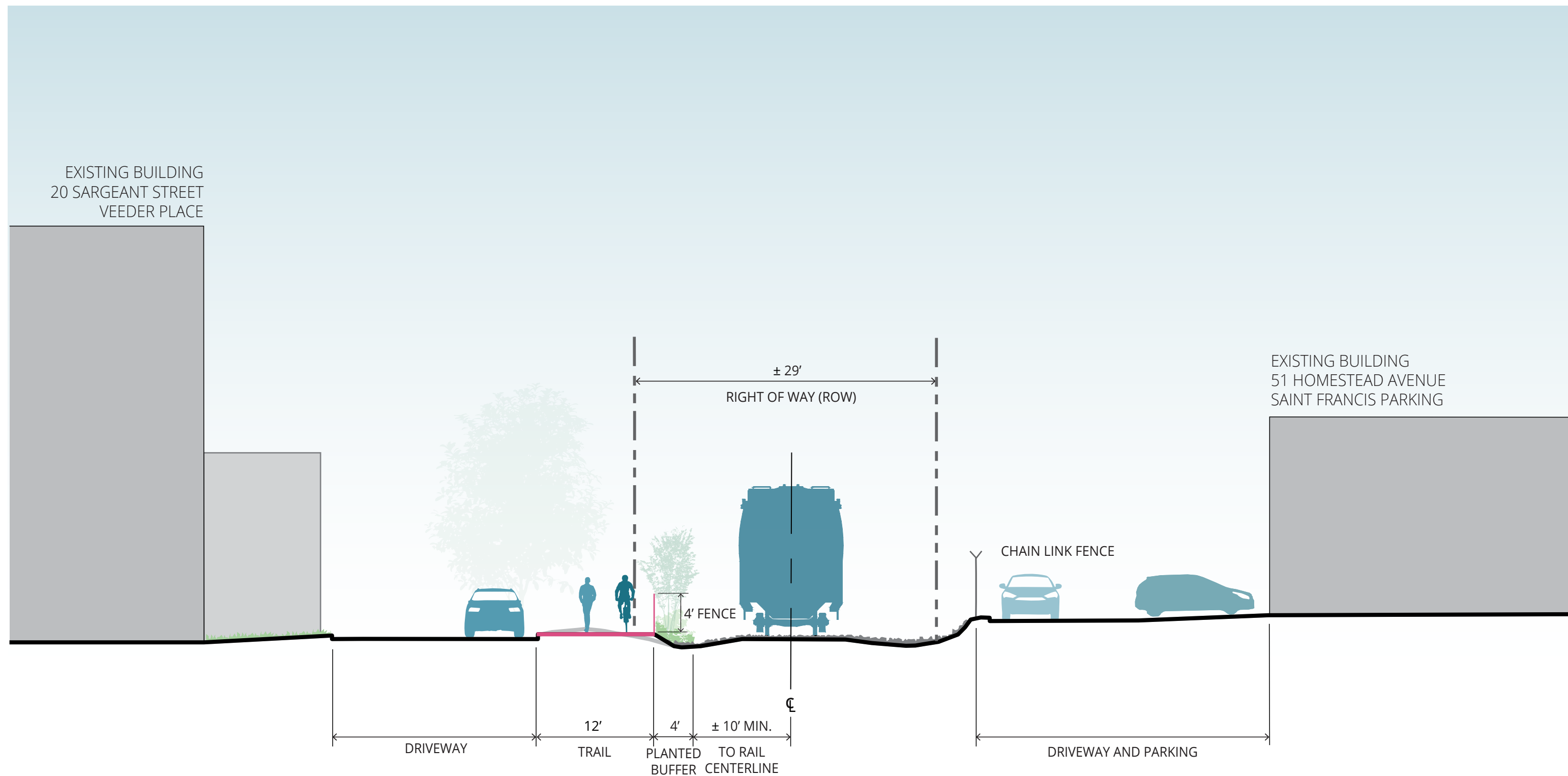




APPENDIX E: CROSS SECTIONS



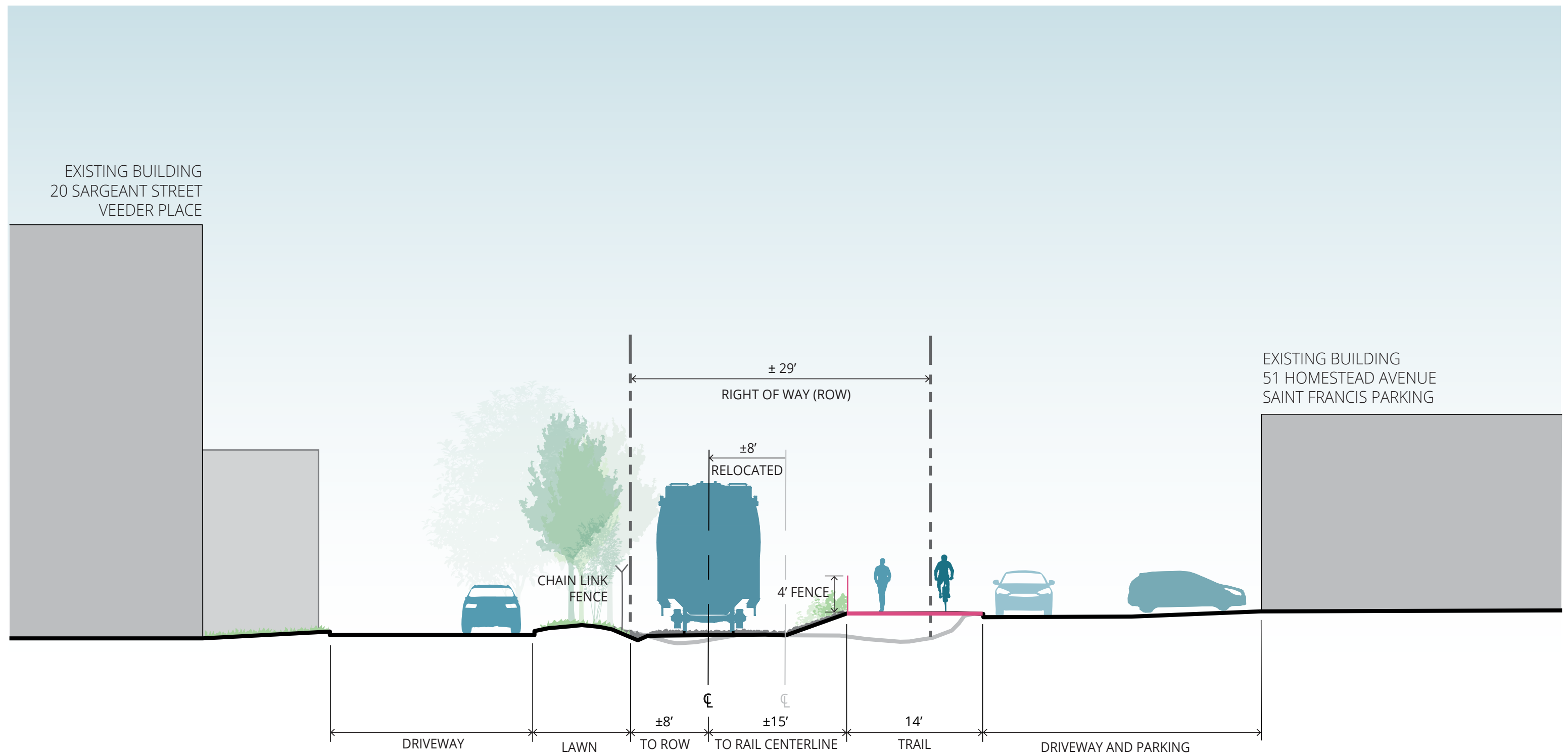
EXISTING CONDITIONS
LOCATION #1
FACING NORTHWEST AT 51 HOMESTEAD AVENUE



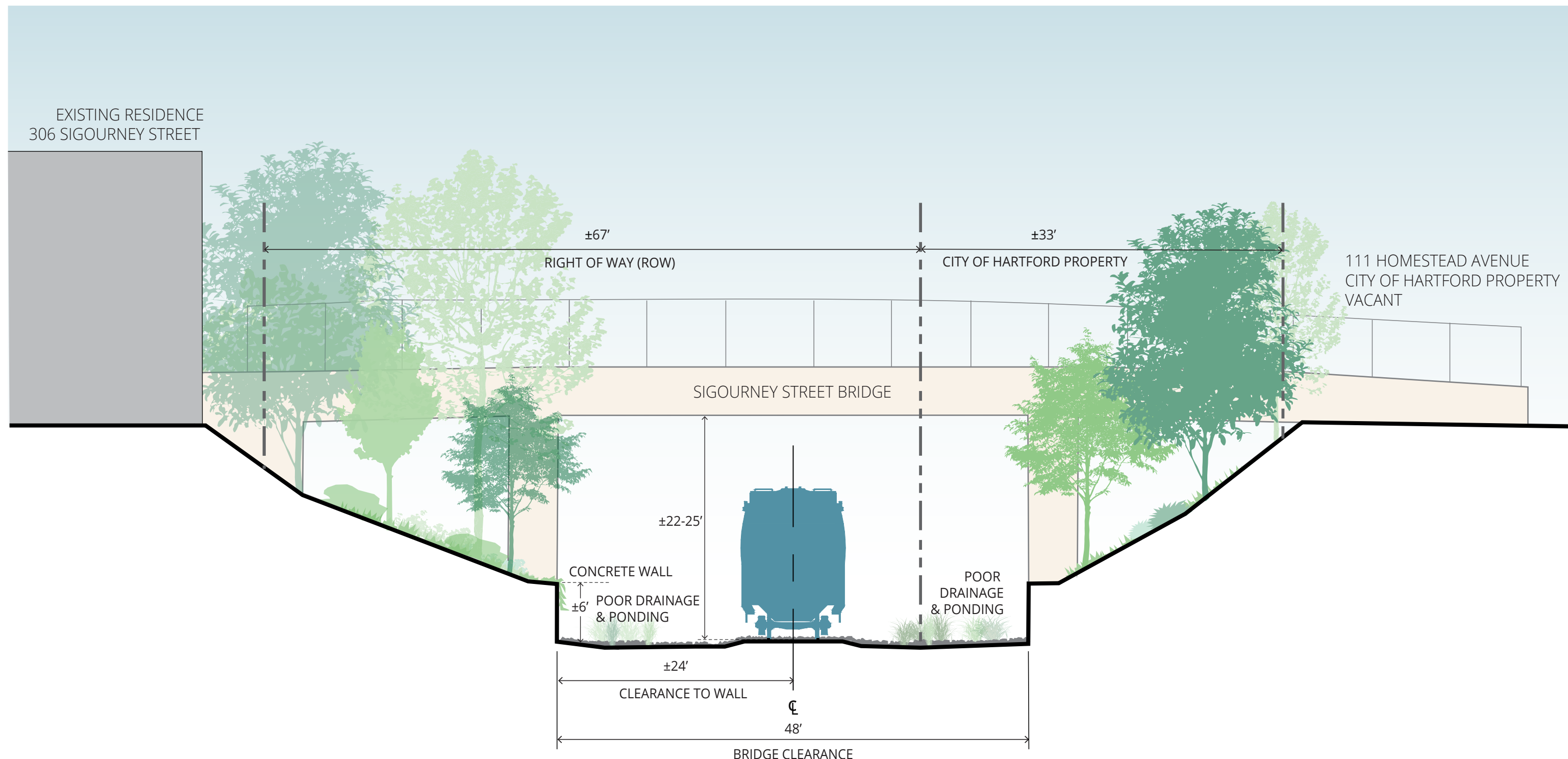
SOUTHWEST (SW) ALTERNATIVE (PREFERRED ALIGNMENT)

LOCATION #1

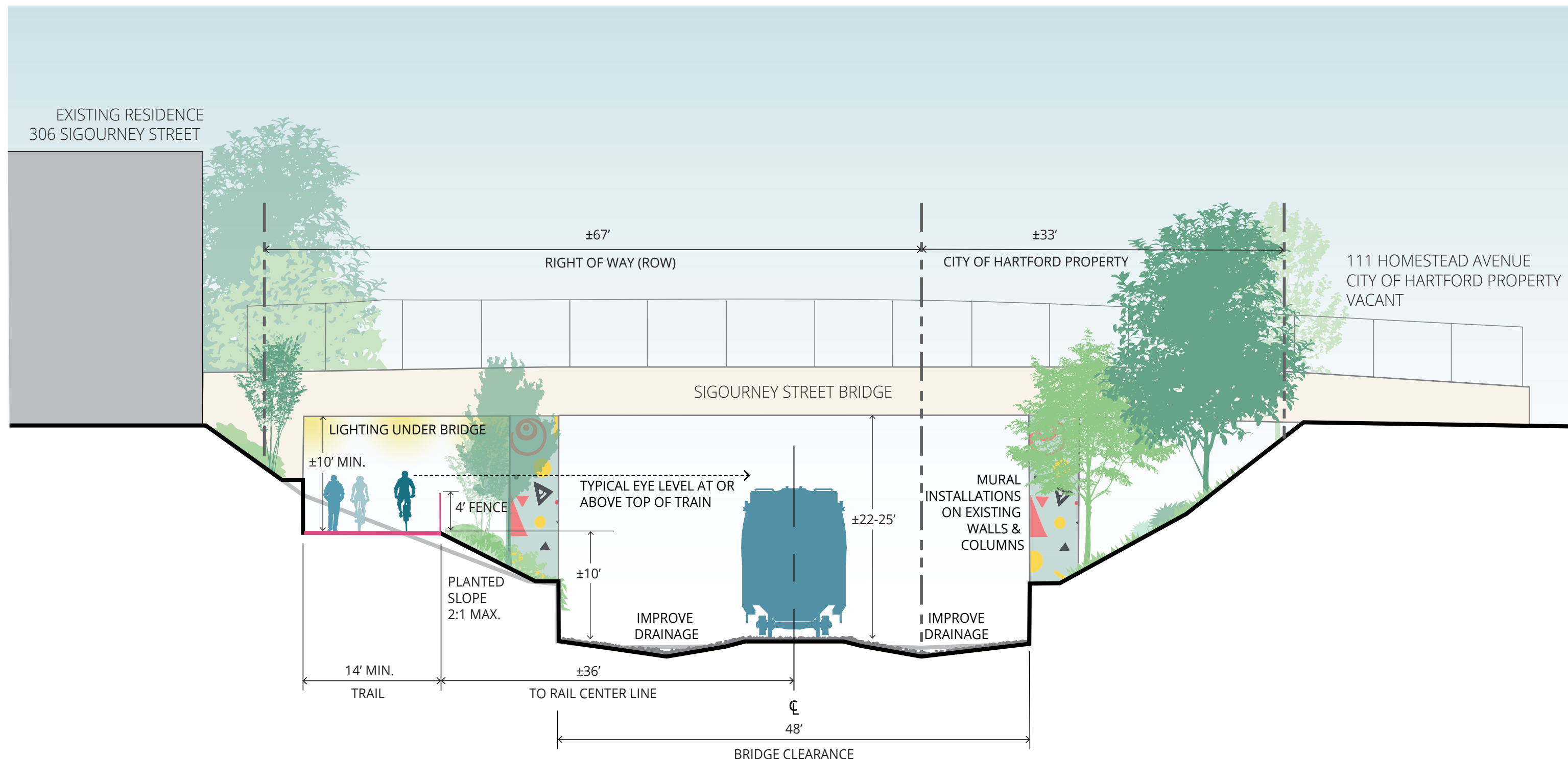
FACING NORTHWEST AT 51 HOMESTEAD AVENUE



NORTHEAST (NE) ALTERNATIVE
LOCATION #1
FACING NORTHWEST AT 51 HOMESTEAD AVENUE



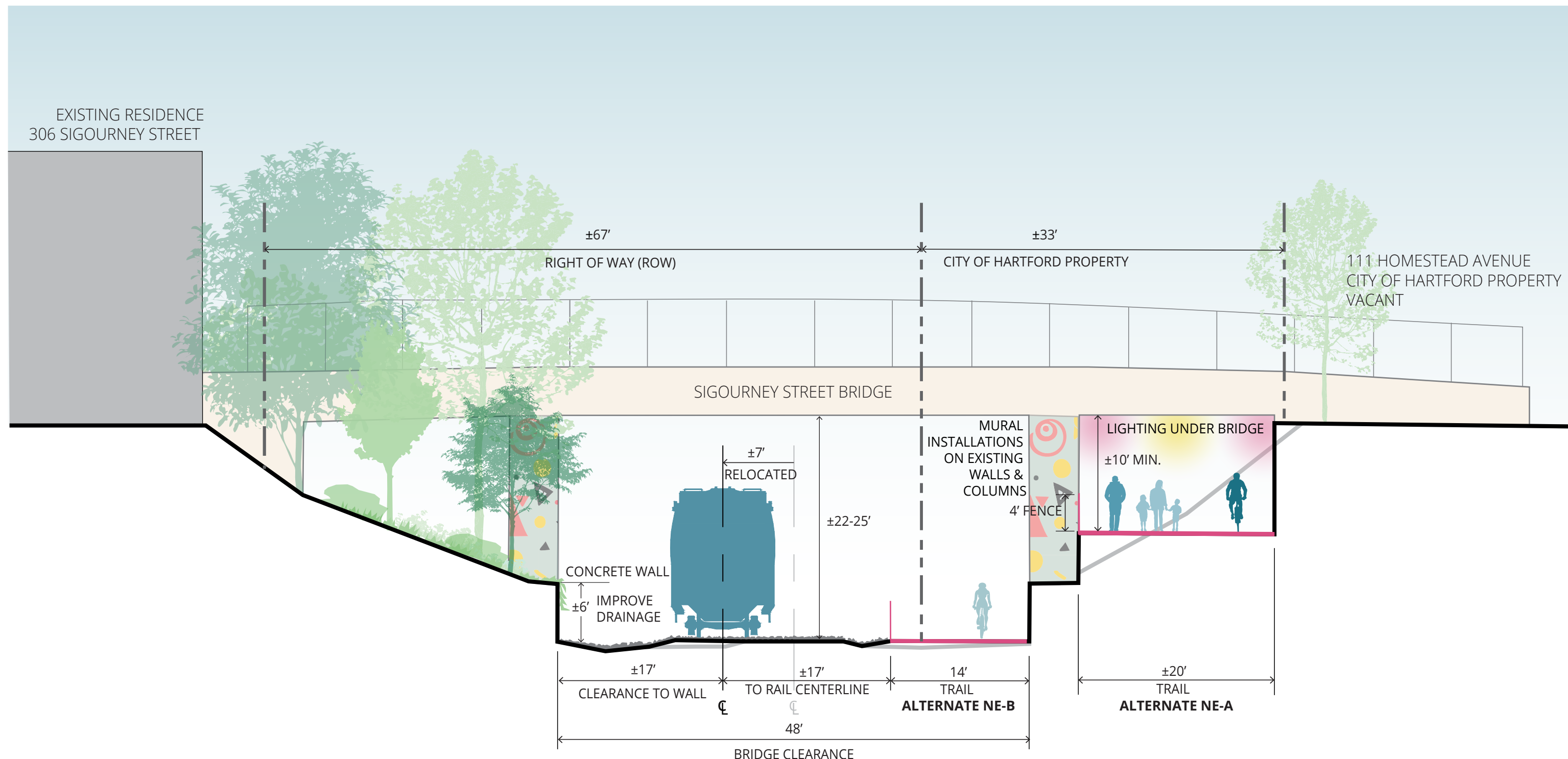
EXISTING CONDITIONS
LOCATION #2
FACING NORTHWEST AT SIGOURNEY STREET



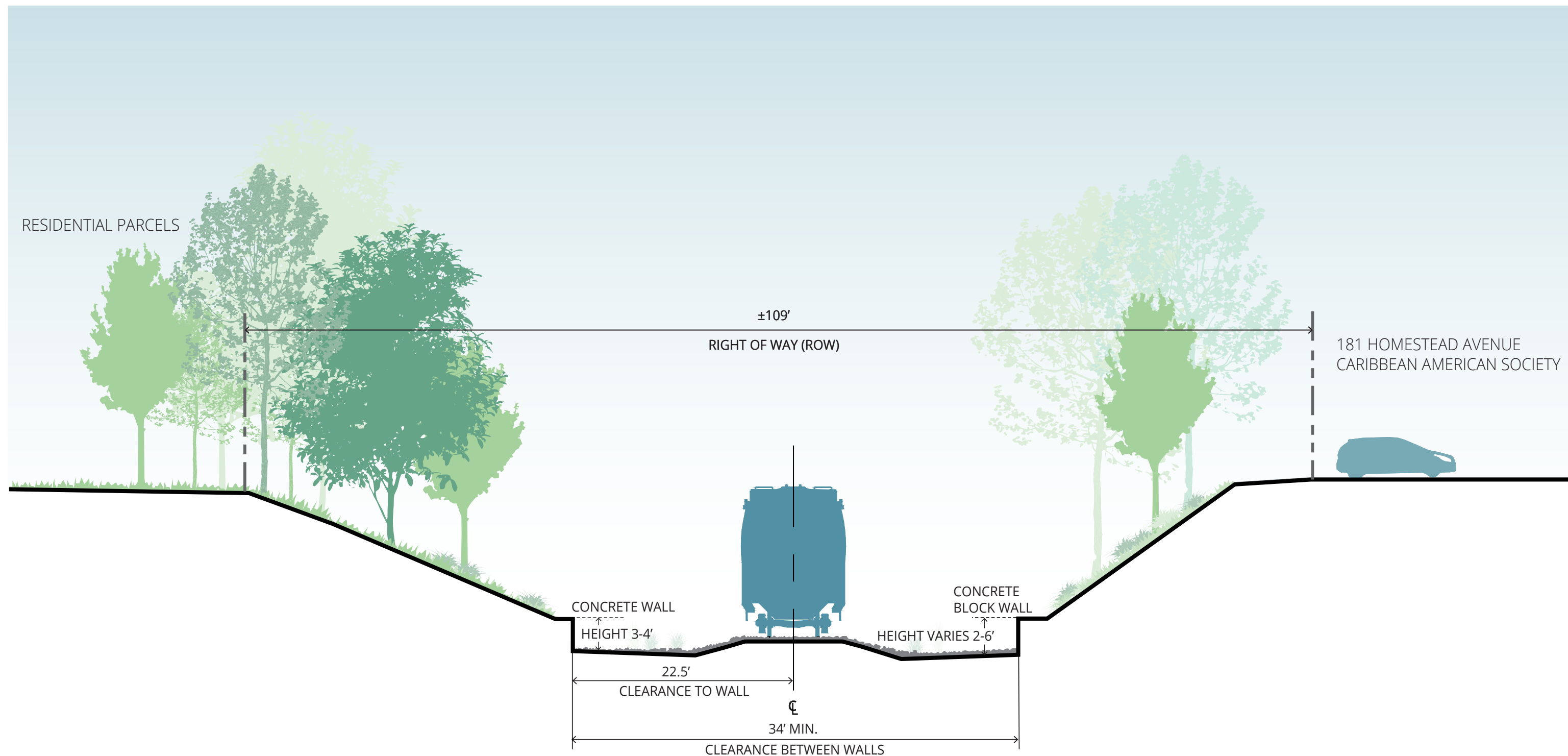
SOUTHWEST (SW) ALTERNATIVE (PREFERRED ALIGNMENT)

LOCATION #2

FACING NORTHWEST AT SIGOURNEY STREET



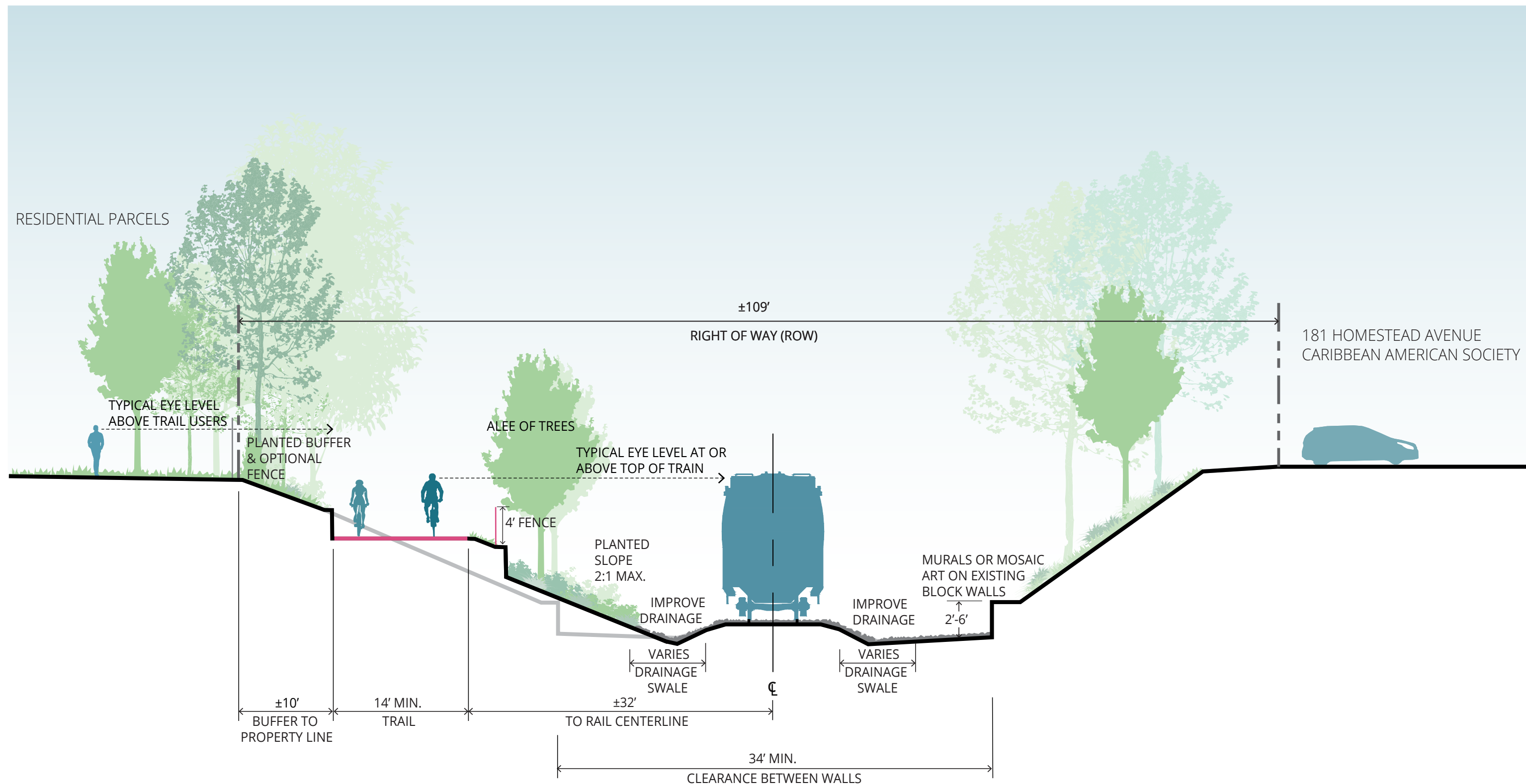
NORTHEAST (NE) ALTERNATIVE
LOCATION #2
FACING NORTHWEST AT SIGOURNEY STREET



EXISTING CONDITIONS

LOCATION #3

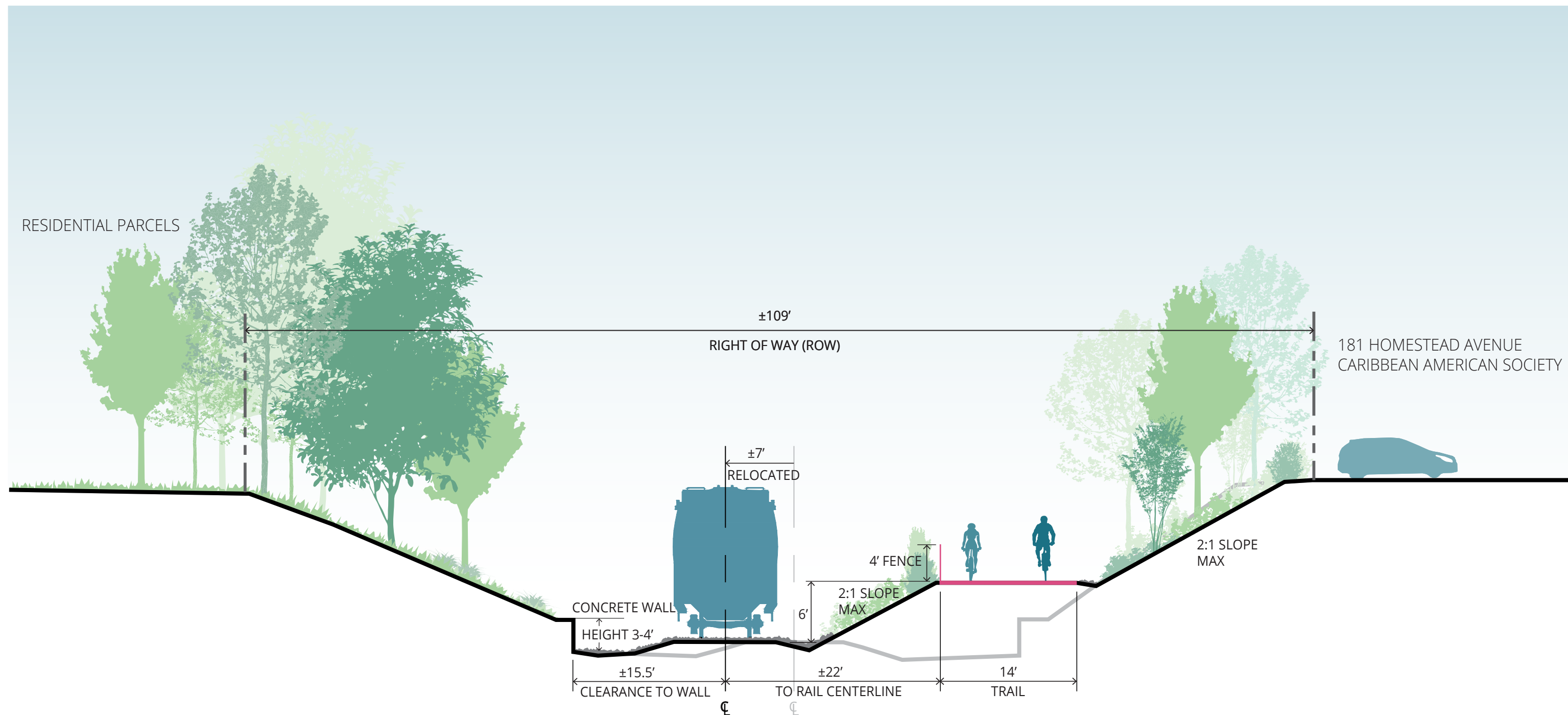
FACING NORTHWEST BETWEEN SIGOURNEY STREET AND WOODLAND STREET



SOUTHWEST (SW) ALTERNATIVE (PREFERRED ALIGNMENT)

LOCATION #3

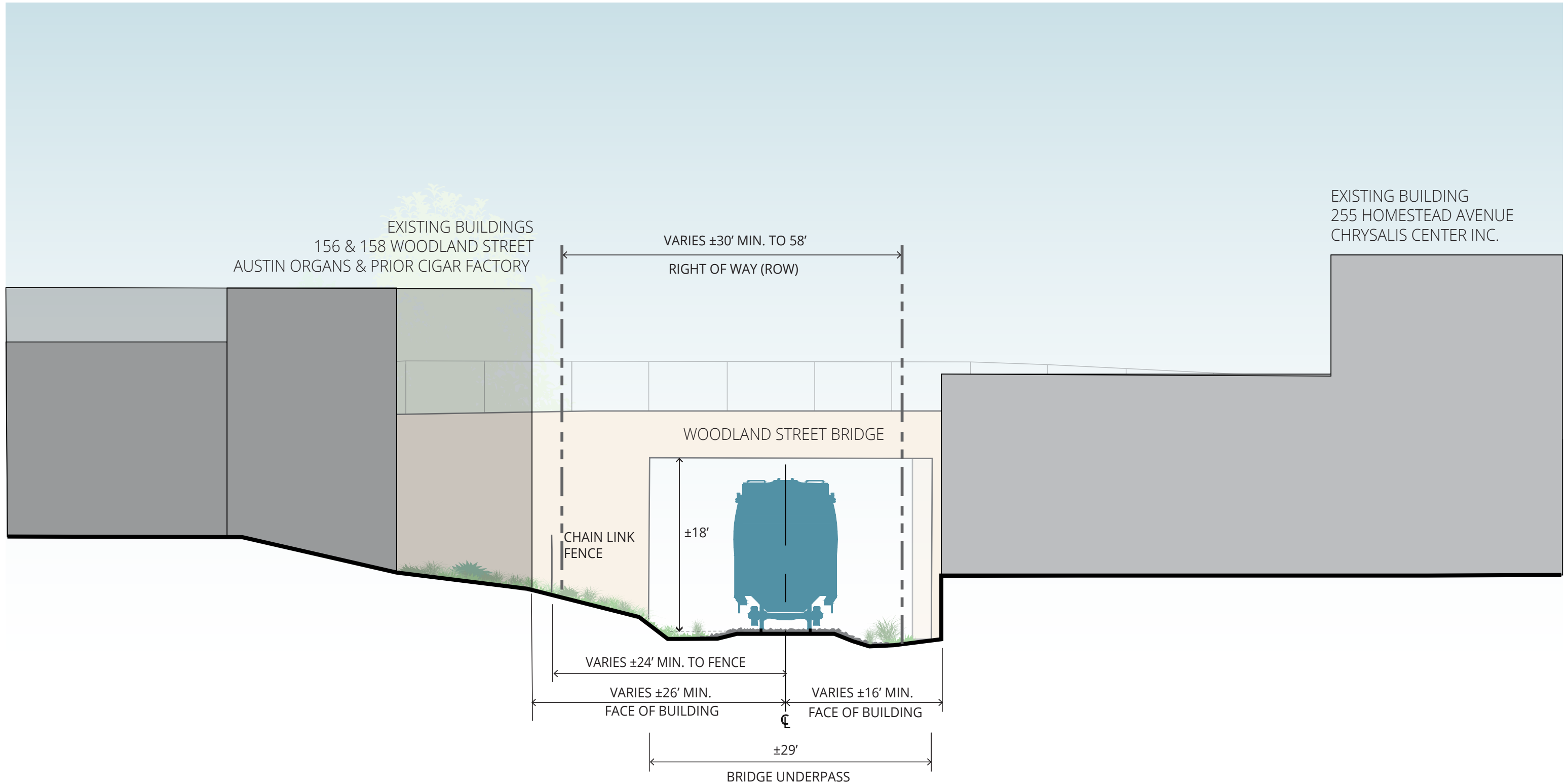
FACING NORTHWEST BETWEEN SIGOURNEY STREET AND WOODLAND STREET



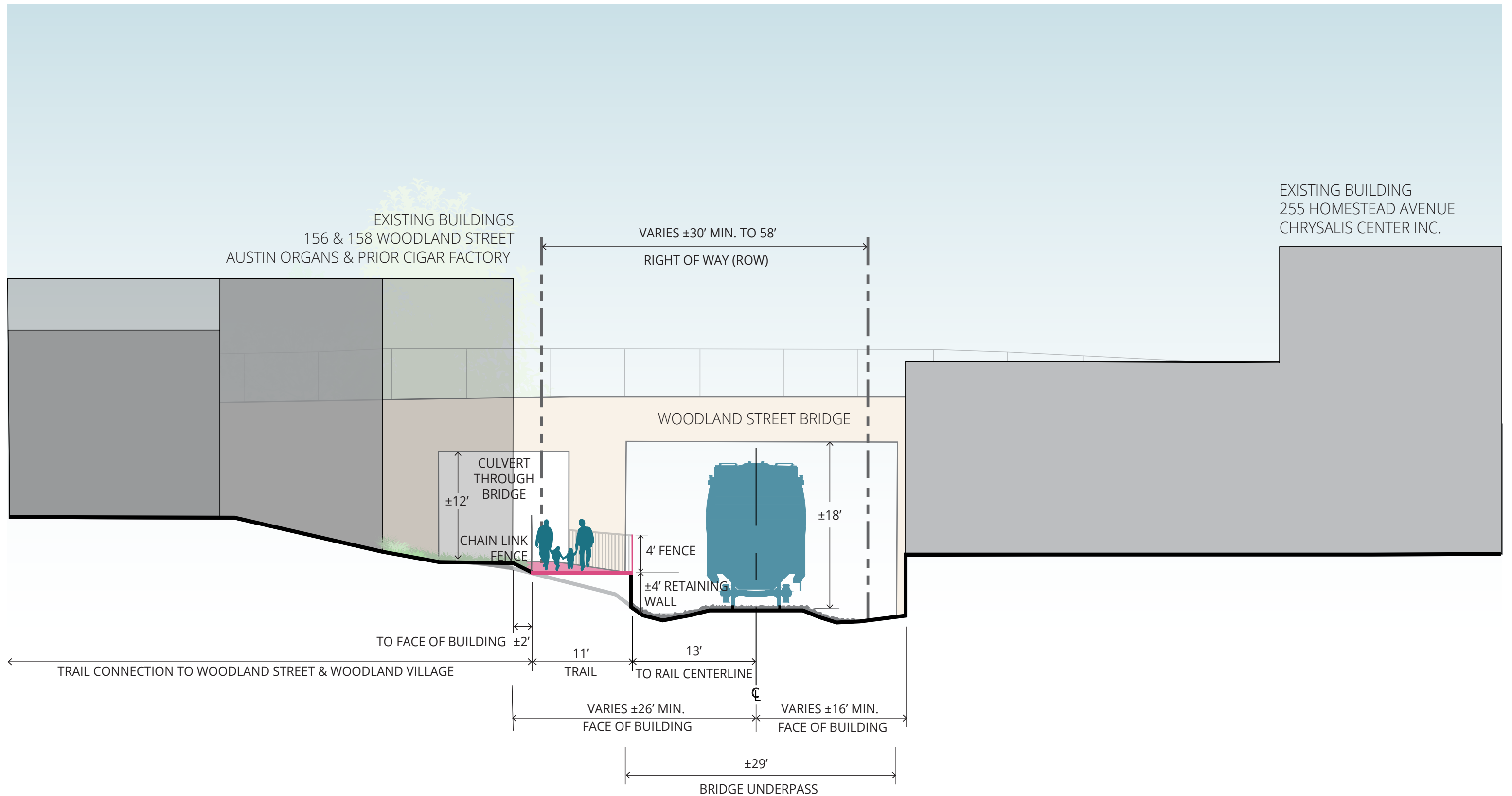
NORTHEAST (NE) ALTERNATIVE

LOCATION #3

FACING NORTHWEST BETWEEN SIGOURNEY STREET AND WOODLAND STREET



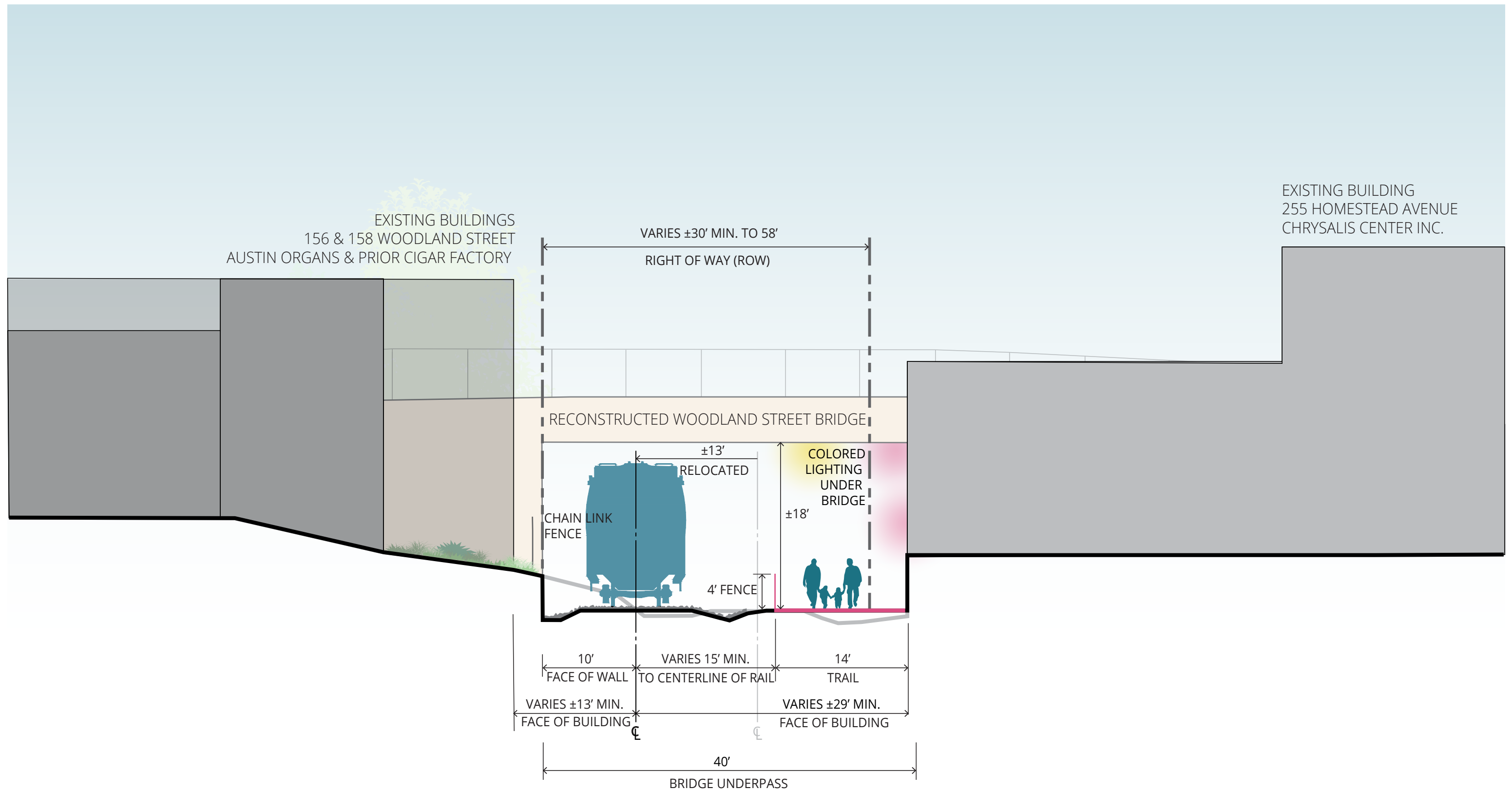
EXISTING CONDITIONS
LOCATION #4
FACING NORTHWEST AT WOODLAND STREET



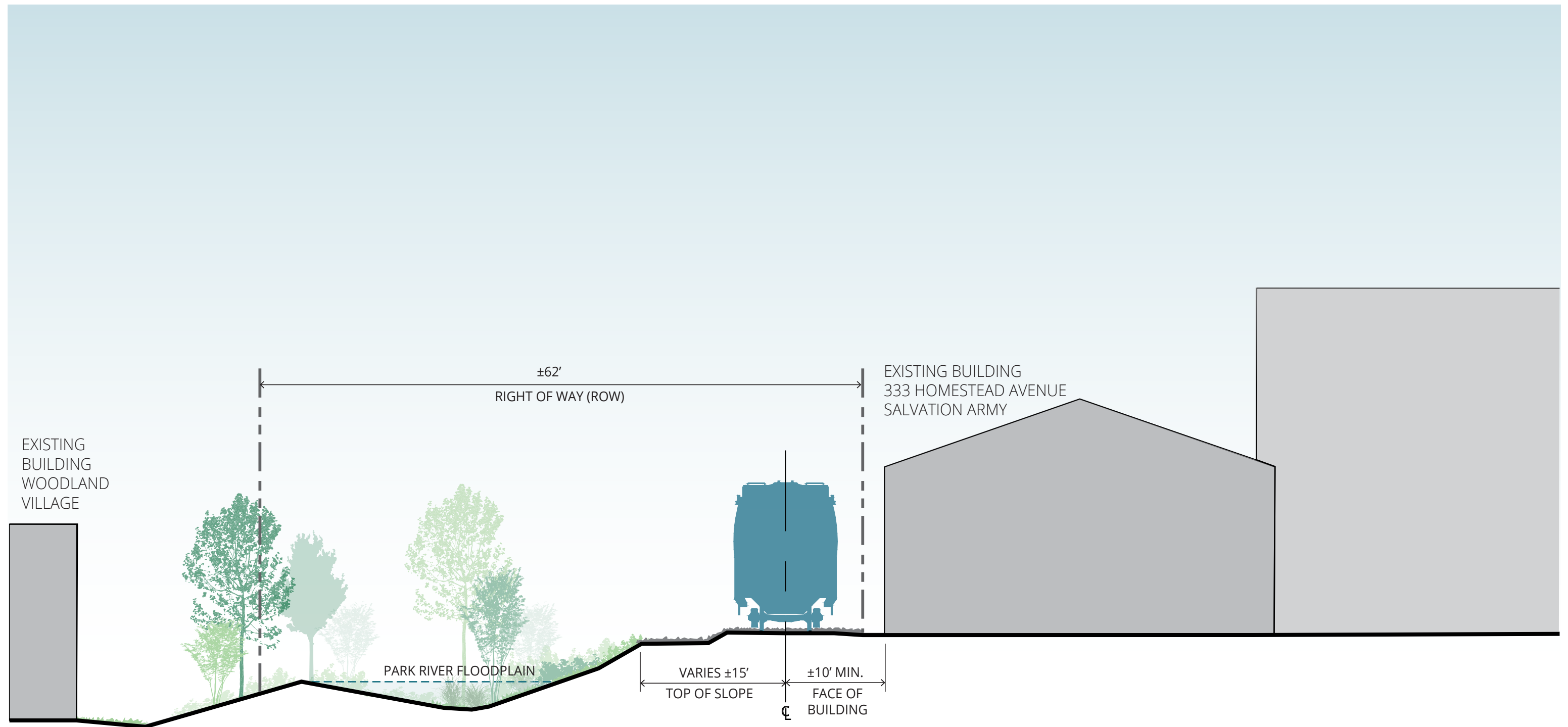
SOUTHWEST (SW) ALTERNATIVE (PREFERRED ALIGNMENT)

LOCATION #4

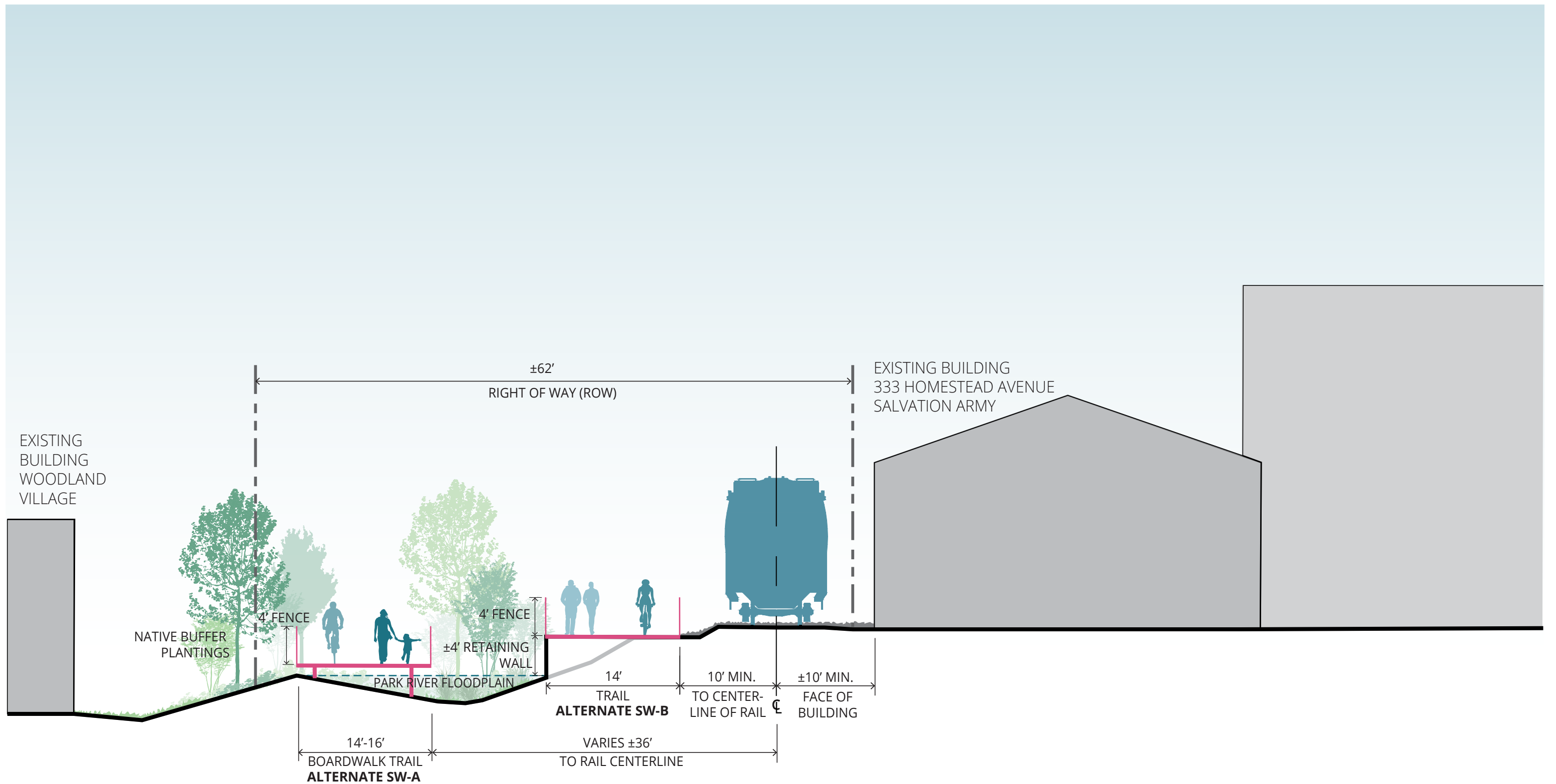
FACING NORTHWEST AT WOODLAND STREET



NORTHEAST (NE) ALTERNATIVE
LOCATION #4
FACING NORTHWEST AT WOODLAND STREET



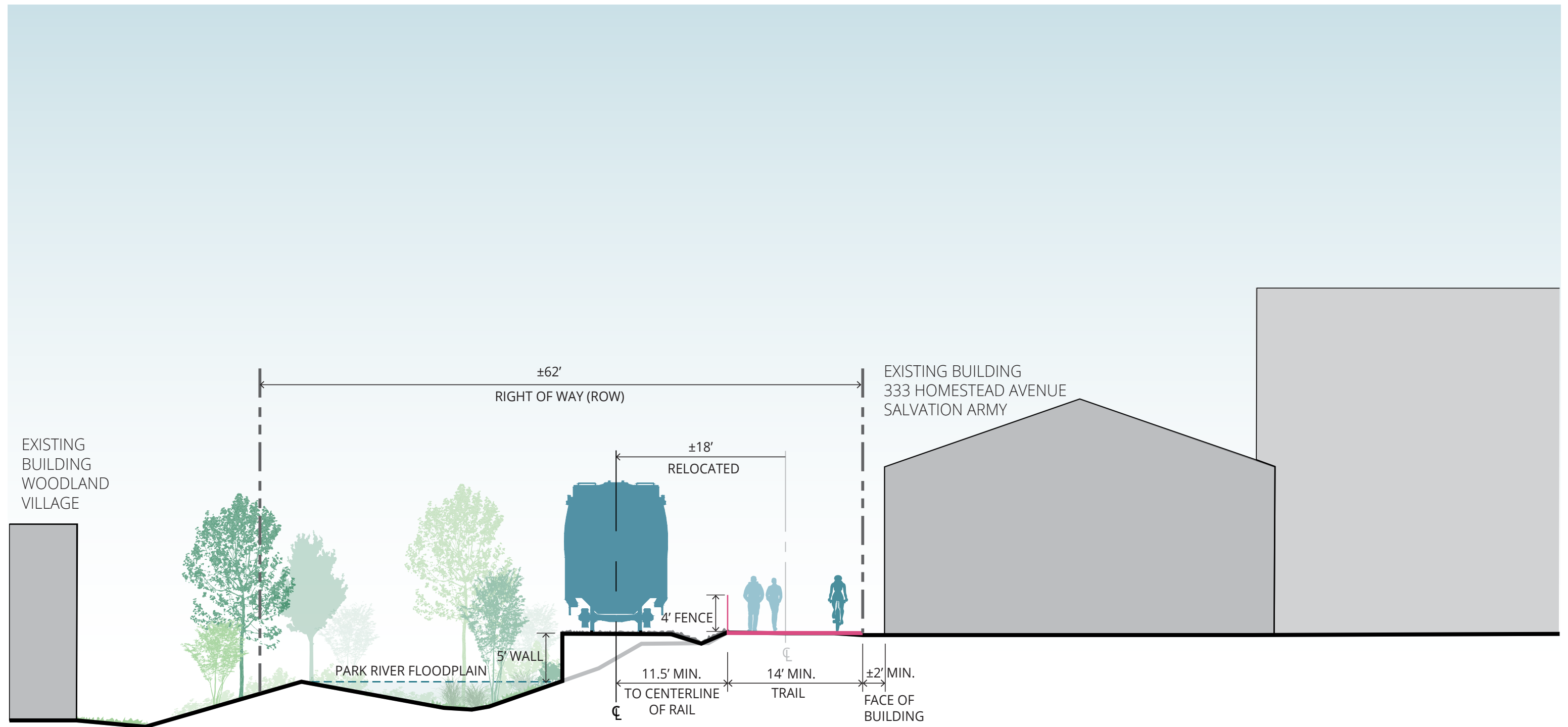
EXISTING CONDITIONS
LOCATION #5
FACING NORTHWEST AT 333 HOMESTEAD AVENUE



SOUTHWEST (SW) ALTERNATIVES (PREFERRED ALIGNMENT)

LOCATION #5

FACING NORTHWEST AT 333 HOMESTEAD AVENUE



NORTHEAST (NE) ALTERNATIVE
 LOCATION #5
 FACING NORTHWEST AT 333 HOMESTEAD AVENUE

1577 ALBANY AVENUE/
165 WOODLAND STREET
CITY OF HARTFORD

PARK RIVER FLOODPLAIN

±75'
RIGHT OF WAY (ROW)

CONCRETE
WALL

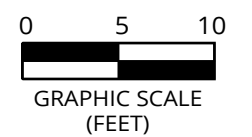
367 HOMESTEAD AVENUE
CITY OF HARTFORD
DEMOLISHED BUILDING SITE

±12' MIN.
FACE OF
WALL

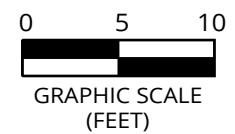
℄



EXISTING CONDITIONS
LOCATION #6
FACING NORTHWEST AT 367 HOMESTEAD AVENUE

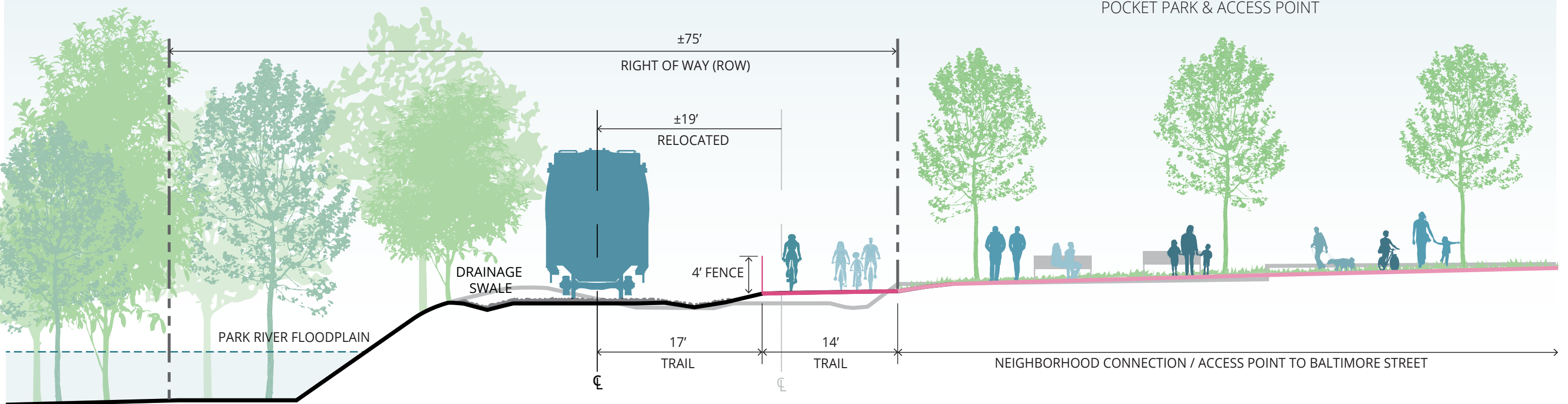


FACING NORTHWEST AT 367 HOMESTEAD AVENUE

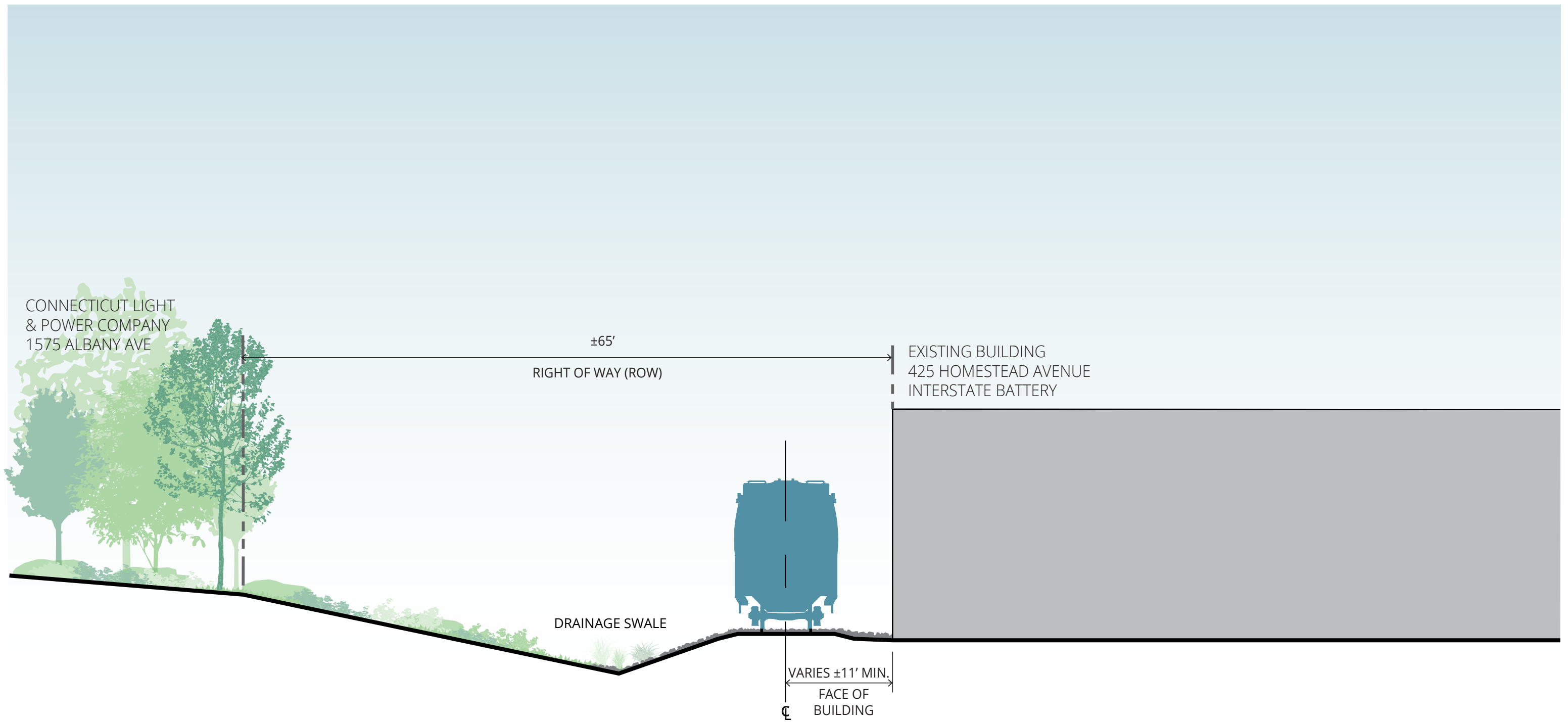


1577 ALBANY AVENUE/
165 WOODLAND STREET
CITY OF HARTFORD

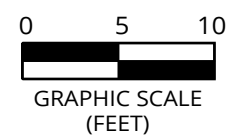
367 HOMESTEAD AVENUE
CITY OF HARTFORD
POCKET PARK & ACCESS POINT

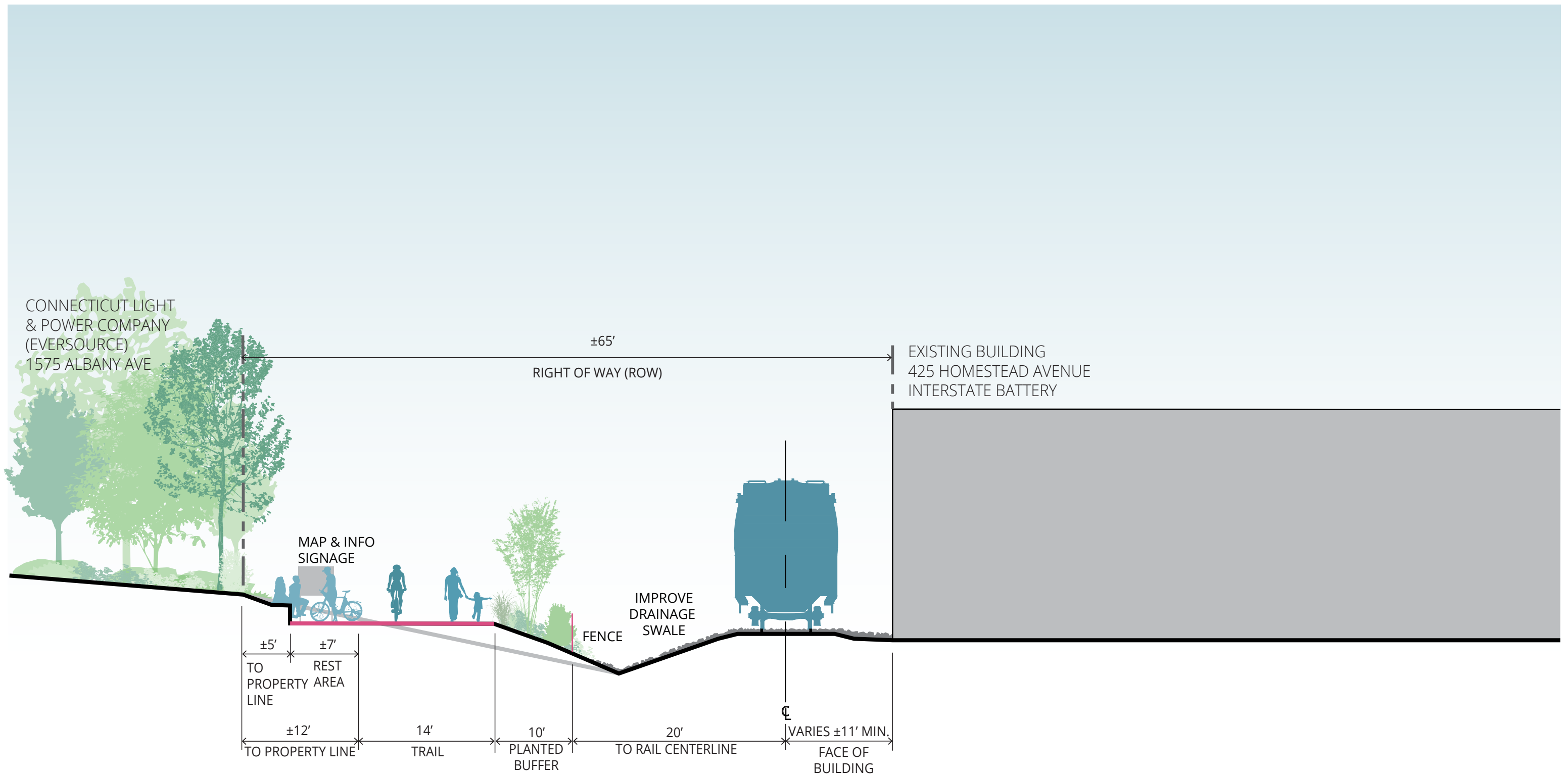


NORTHEAST (NE) ALTERNATIVE
LOCATION #6
FACING NORTHWEST AT 367 HOMESTEAD AVENUE



EXISTING CONDITIONS
LOCATION #7
FACING NORTHWEST AT 425 HOMESTEAD AVENUE

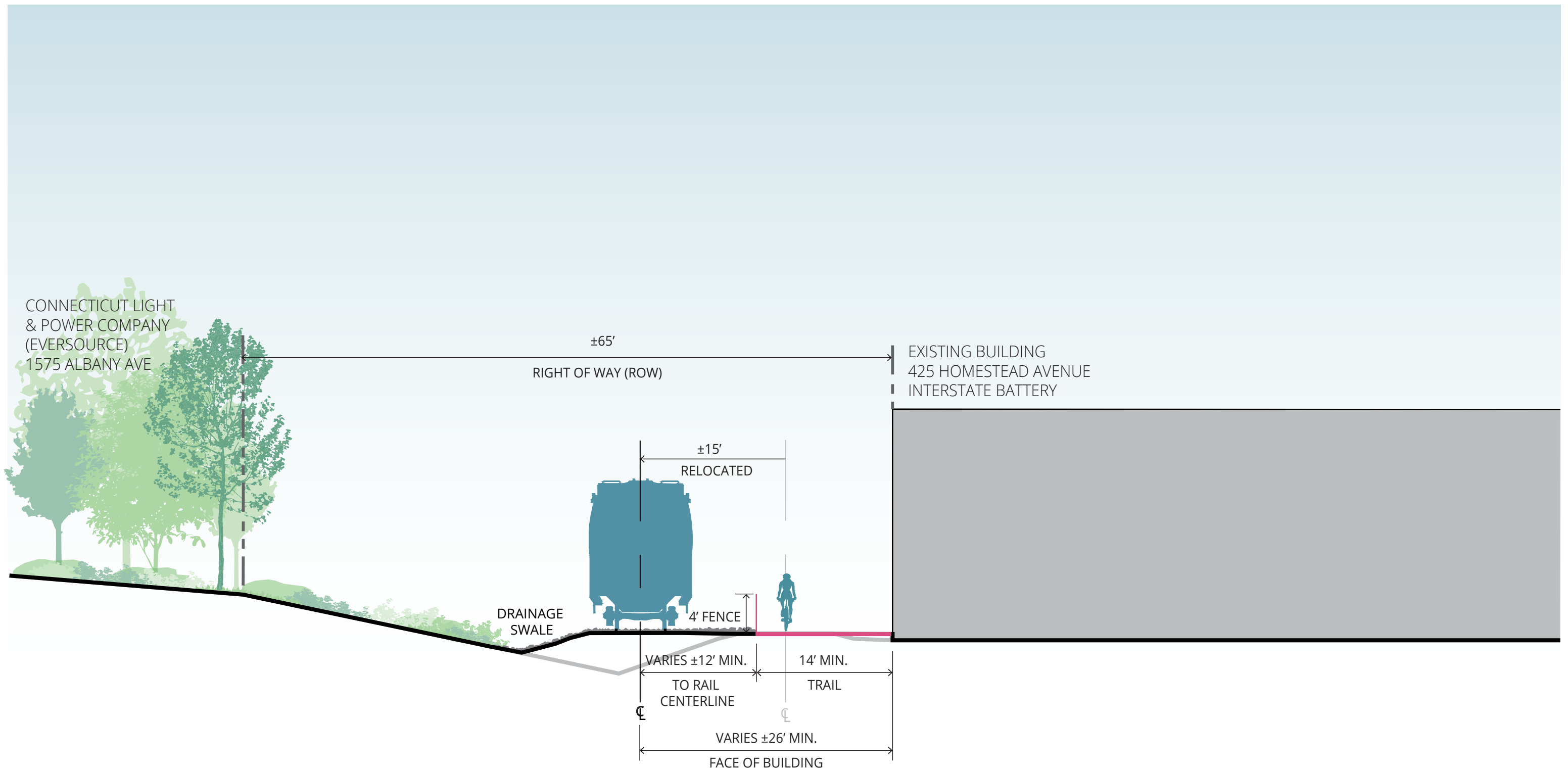




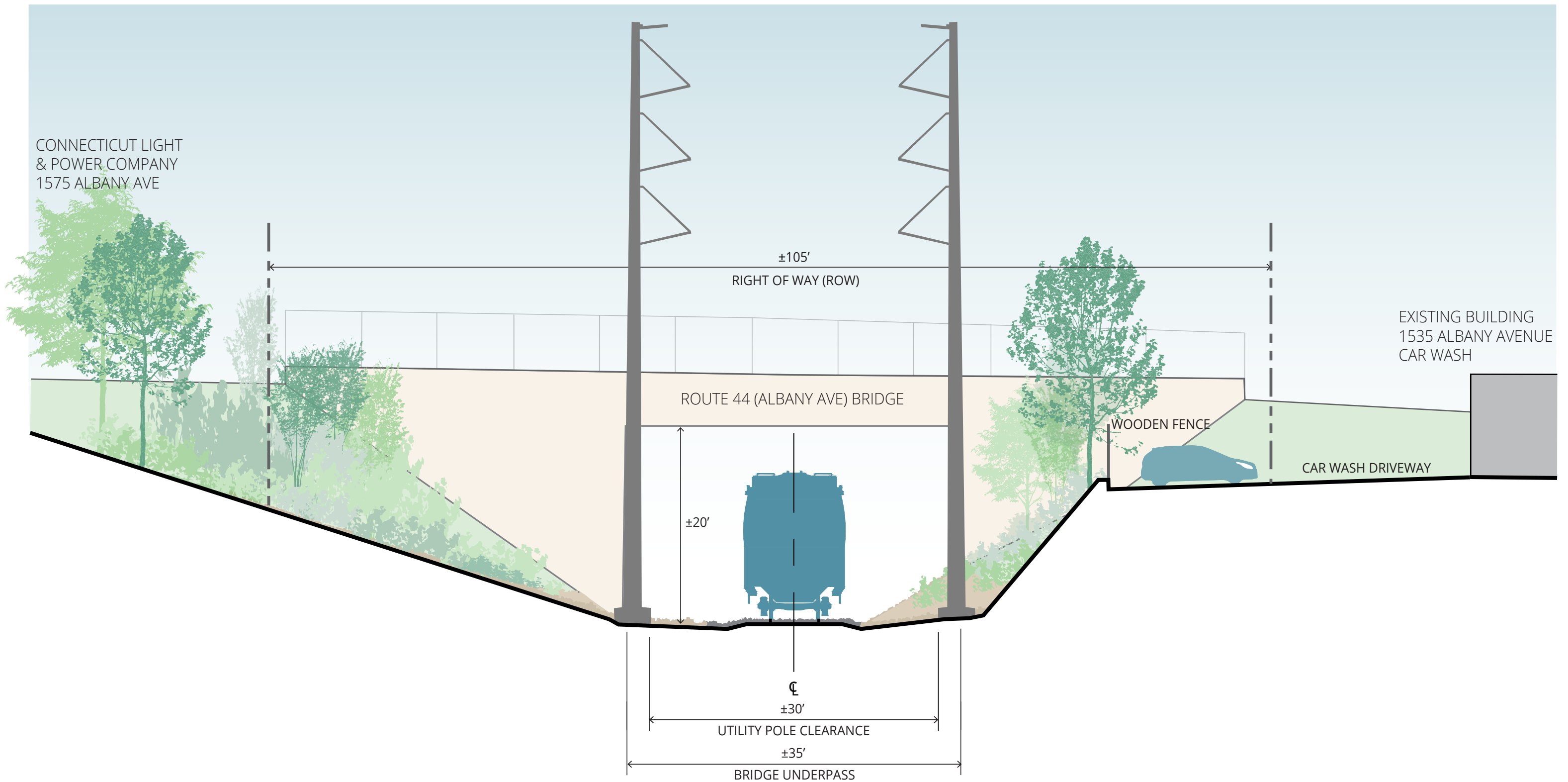
SOUTHWEST (SW) ALTERNATIVE (PREFERRED ALIGNMENT)

LOCATION #7

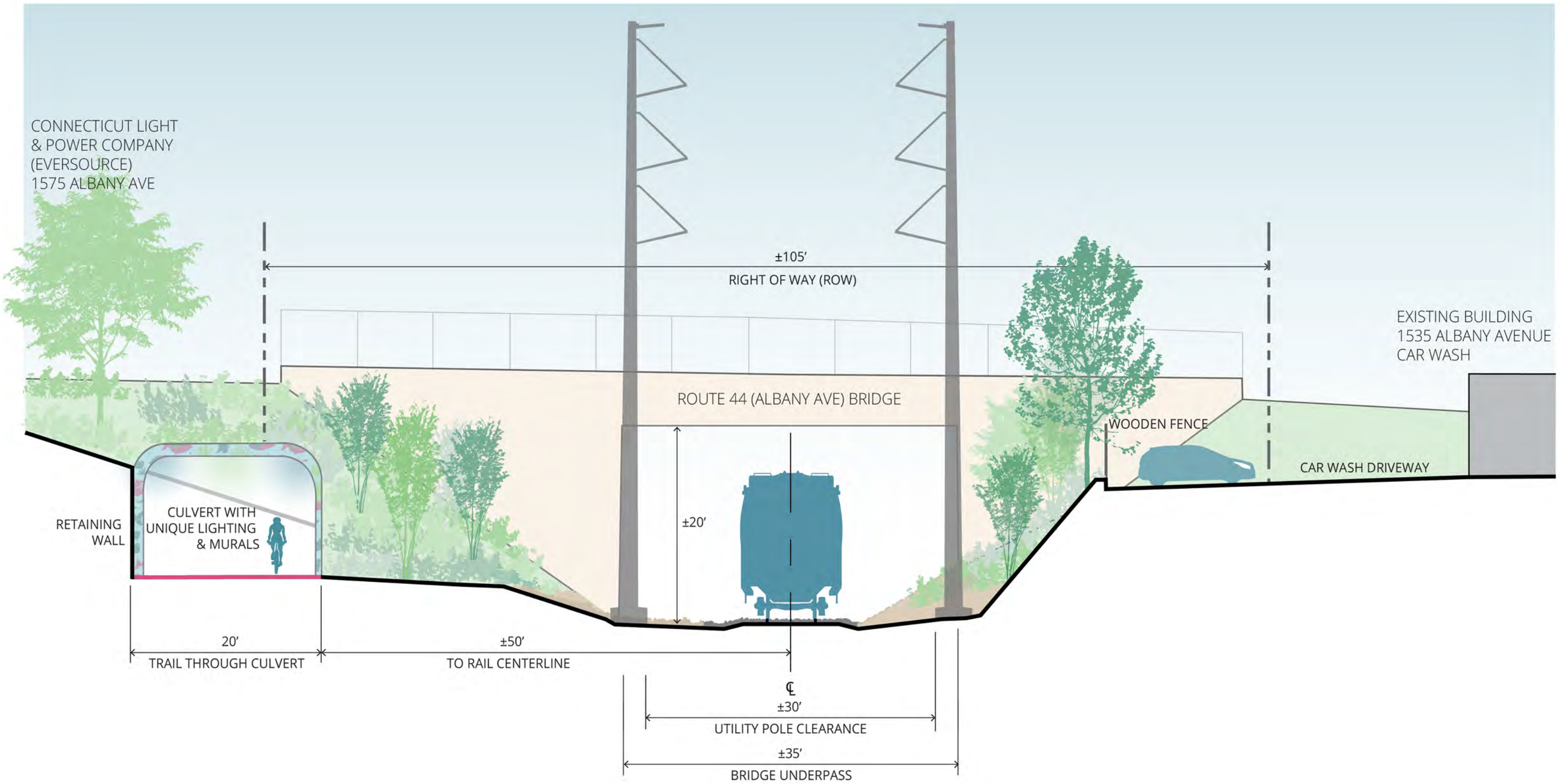
FACING NORTHWEST AT 425 HOMESTEAD AVENUE



NORTHEAST (NE) ALTERNATIVE
LOCATION #7
FACING NORTHWEST AT 425 HOMESTEAD AVENUE



EXISTING CONDITIONS
LOCATION #8
FACING NORTHWEST AT ROUTE 44 (ALBANY AVENUE)

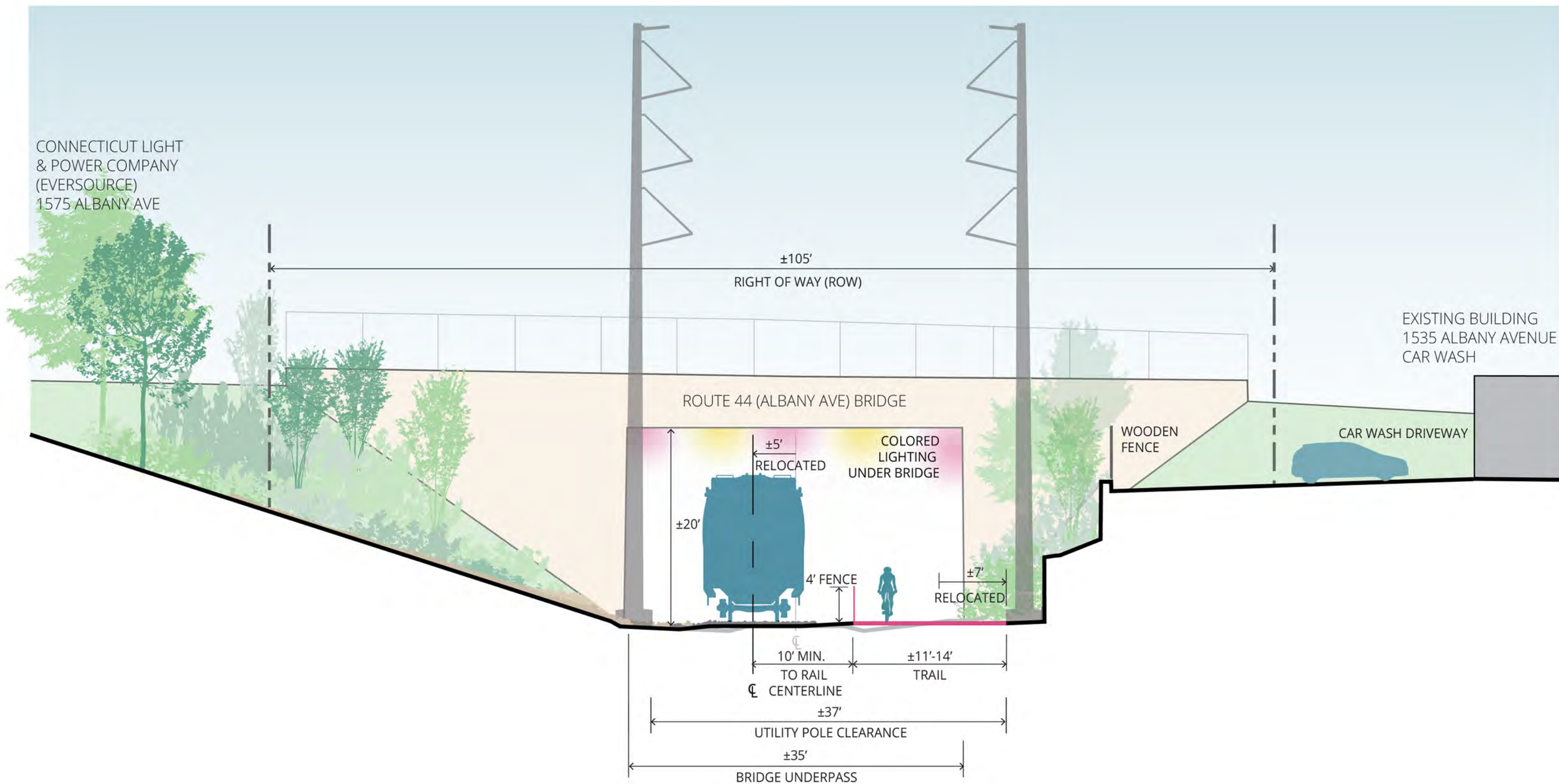


SOUTHWEST (SW) ALTERNATIVE (PREFERRED ALIGNMENT)

LOCATION #8

FACING NORTHWEST AT ROUTE 44 (ALBANY AVENUE)

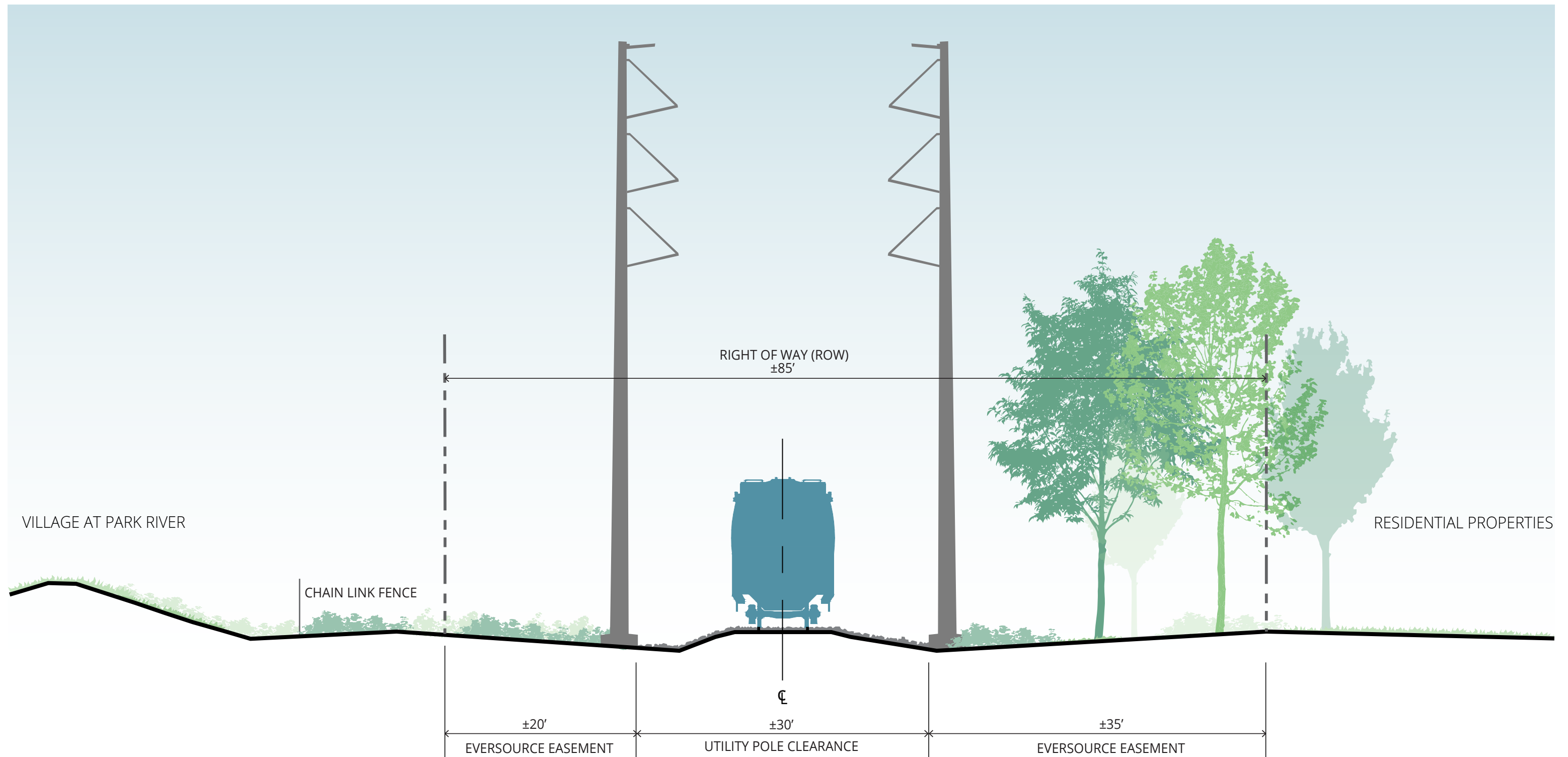
CONNECTICUT LIGHT
& POWER COMPANY
(EVERSOURCE)
1575 ALBANY AVE



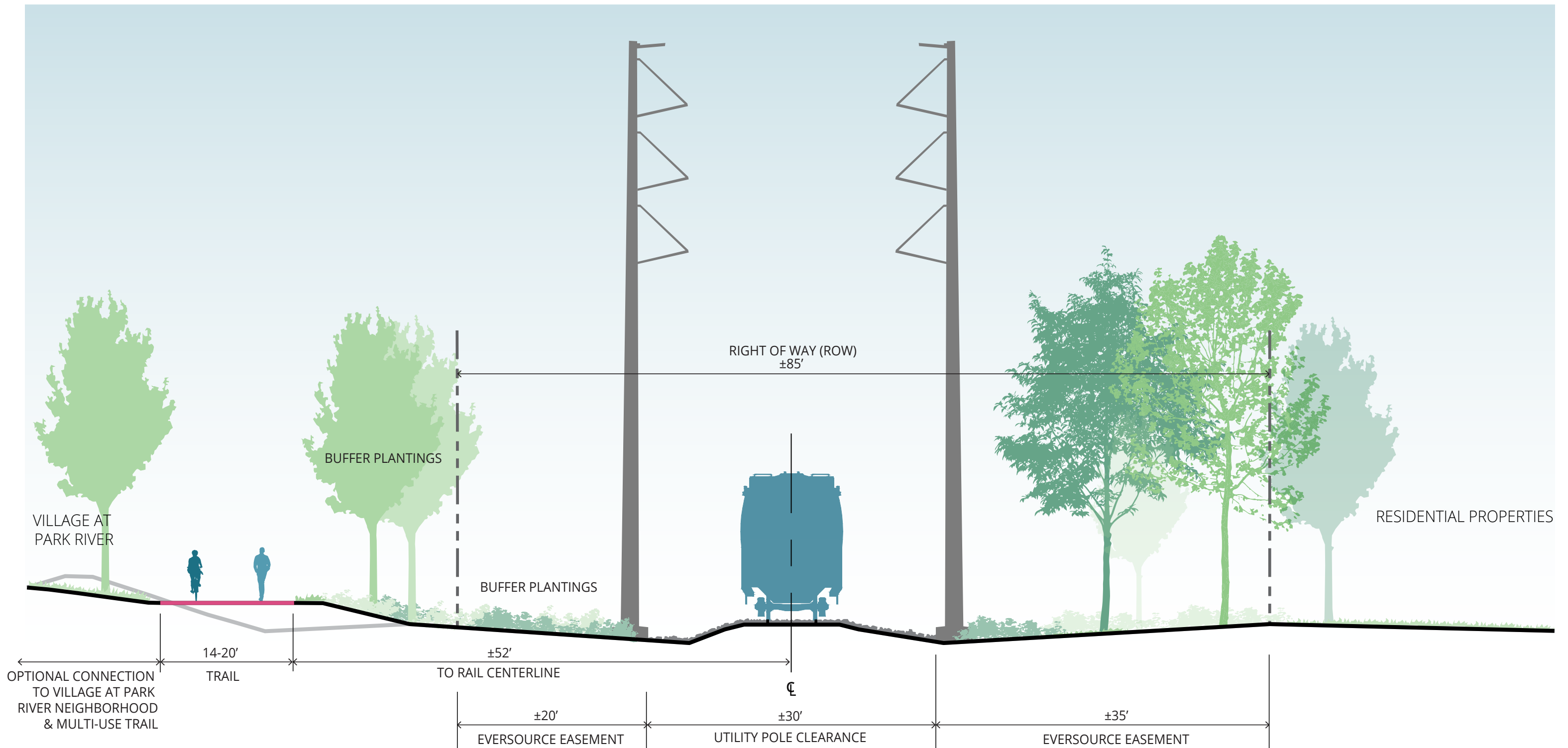
NORTHEAST (NE) ALTERNATIVE

LOCATION #8

FACING NORTHWEST AT ROUTE 44 (ALBANY AVENUE)



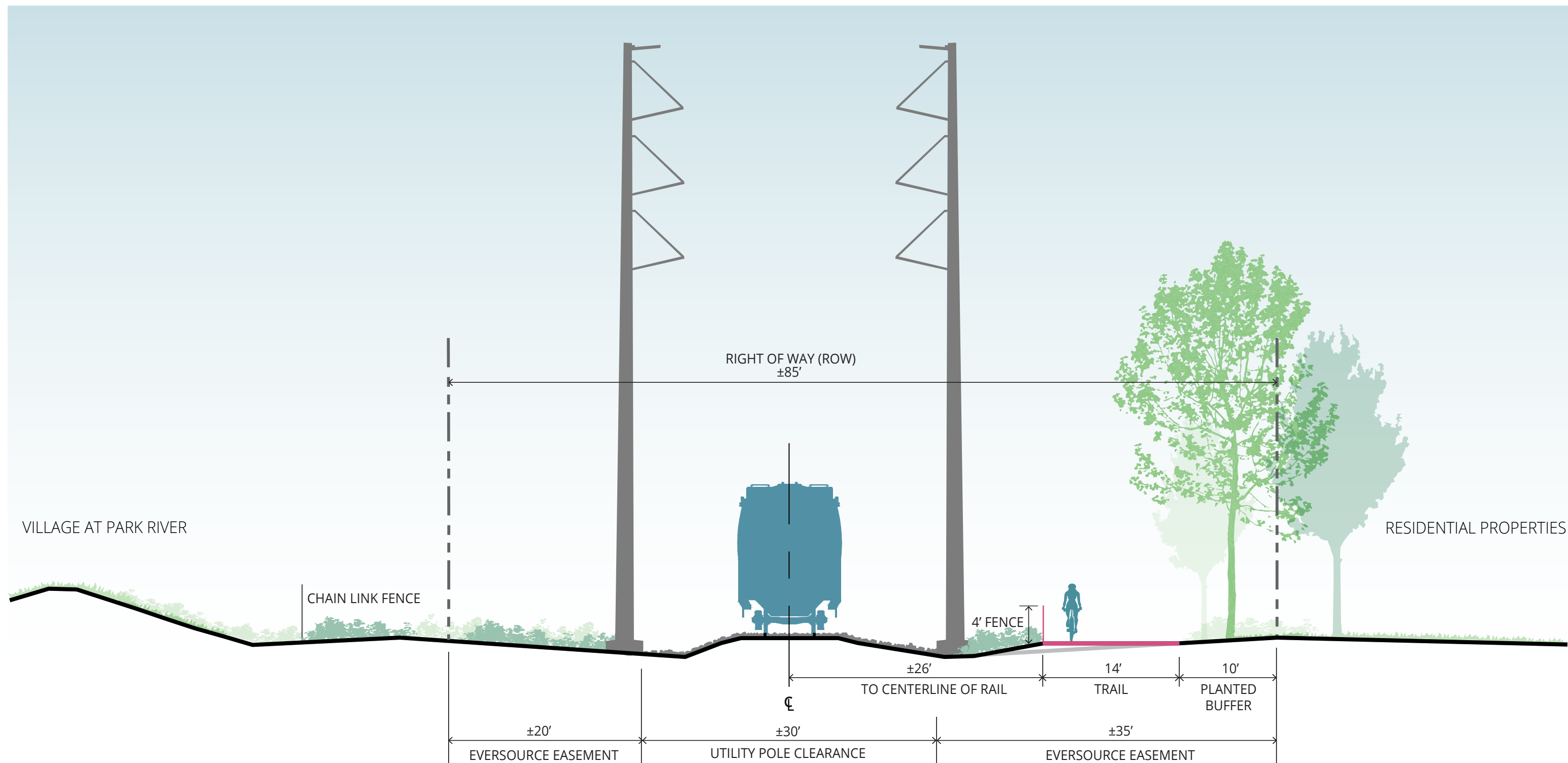
EXISTING CONDITIONS
LOCATION #9
FACING NORTHWEST AT VILLAGE AT PARK RIVER



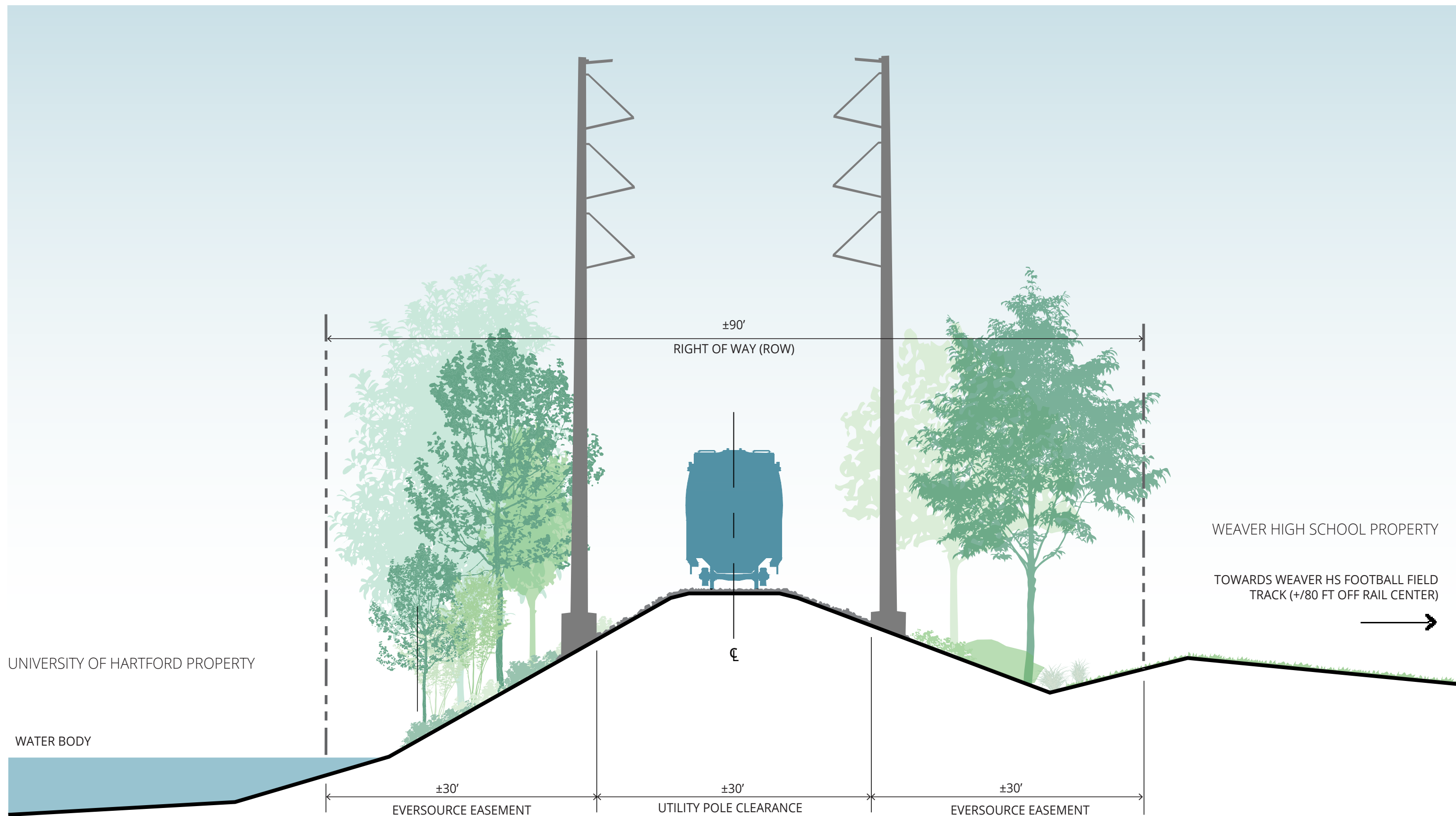
SOUTHWEST (SW) ALTERNATIVE (PREFERRED ALIGNMENT)

LOCATION #9

FACING NORTHWEST AT VILLAGE AT PARK RIVER



NORTHEAST (NE) ALTERNATIVE
 LOCATION #9
 FACING NORTHWEST AT VILLAGE AT PARK RIVER

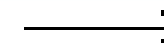


UNIVERSITY OF HARTFORD PROPERTY

WATER BODY

WEAVER HIGH SCHOOL PROPERTY

TOWARDS WEAVER HS FOOTBALL FIELD
TRACK (+/-80 FT OFF RAIL CENTER)



±30'
EVERSOURCE EASEMENT

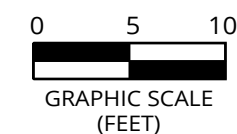
±30'
UTILITY POLE CLEARANCE

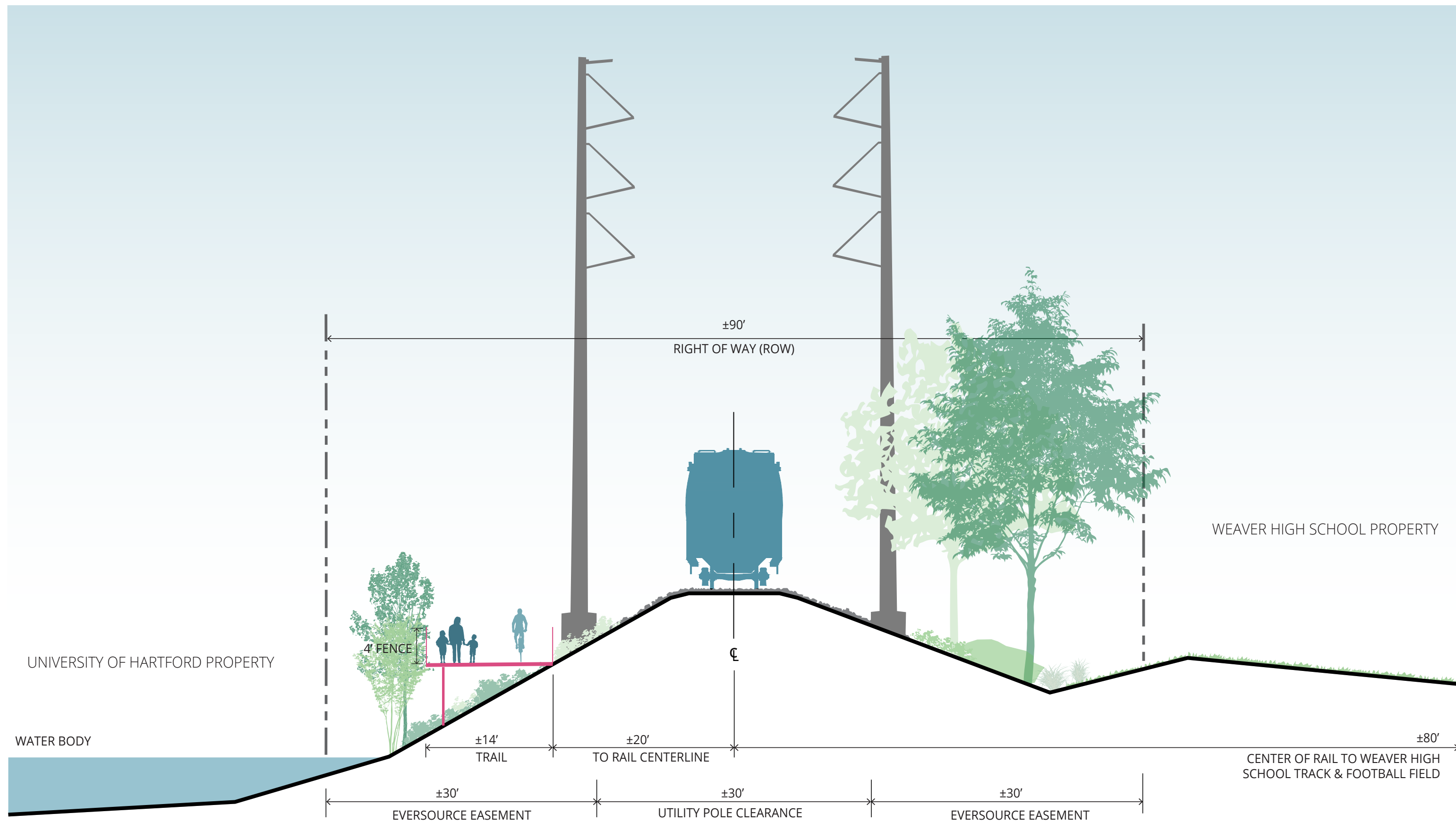
±30'
EVERSOURCE EASEMENT

EXISTING CONDITIONS

LOCATION #10

FACING NORTHWEST AT WEAVER HS FOOTBALL FIELD

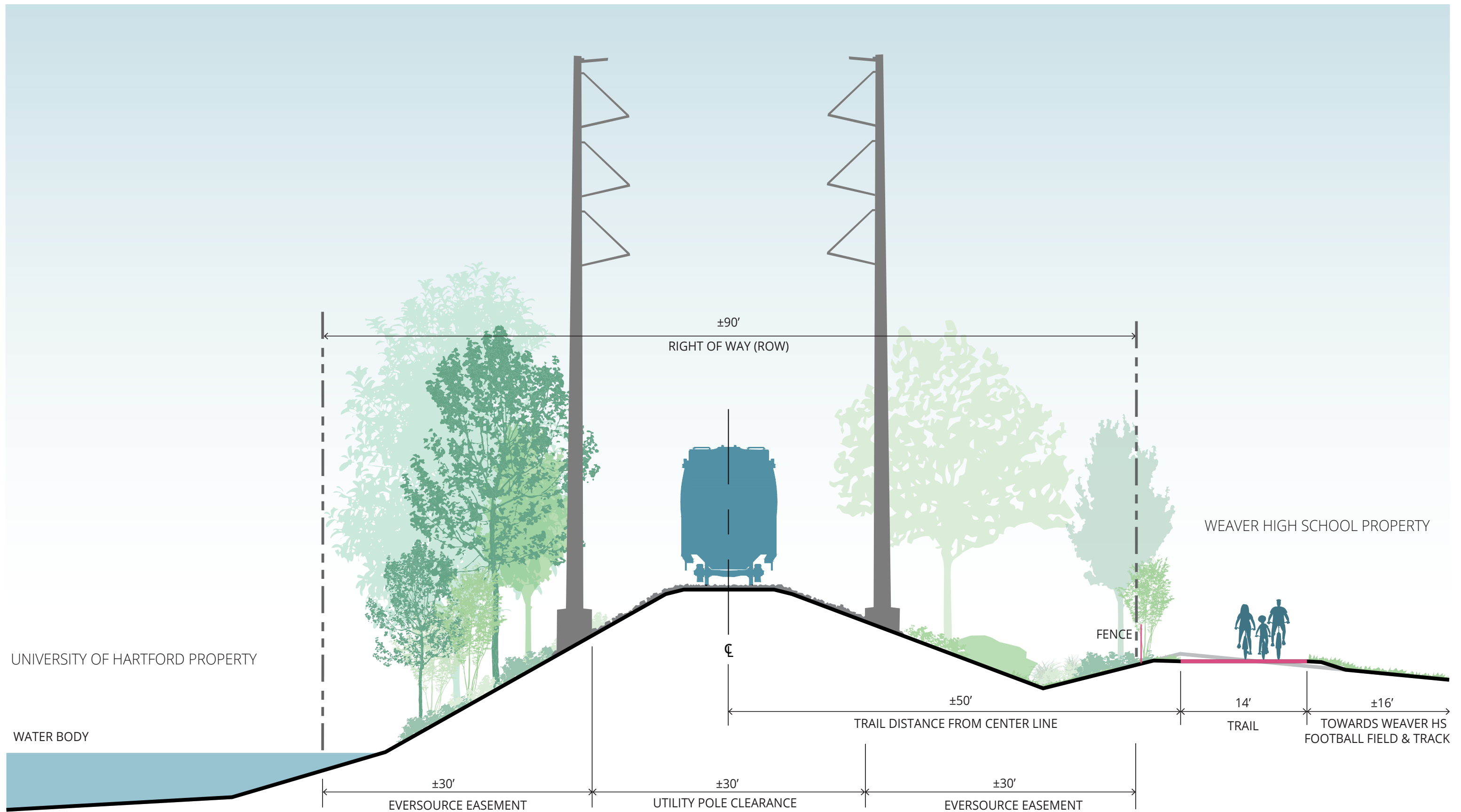




SOUTHWEST (SW) ALTERNATIVE

LOCATION #10

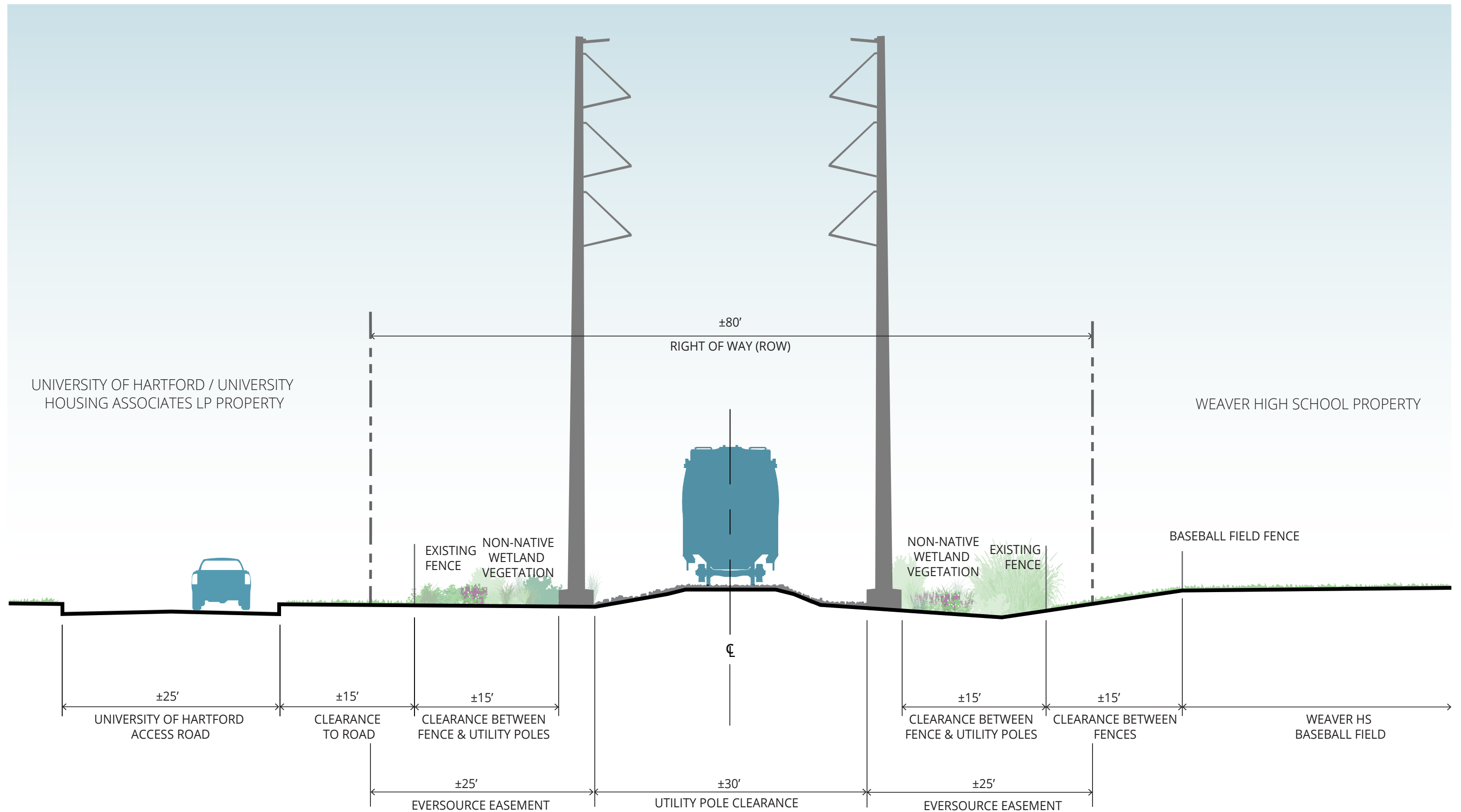
FACING NORTHWEST AT WEAVER HIGH SCHOOL FOOTBALL FIELD



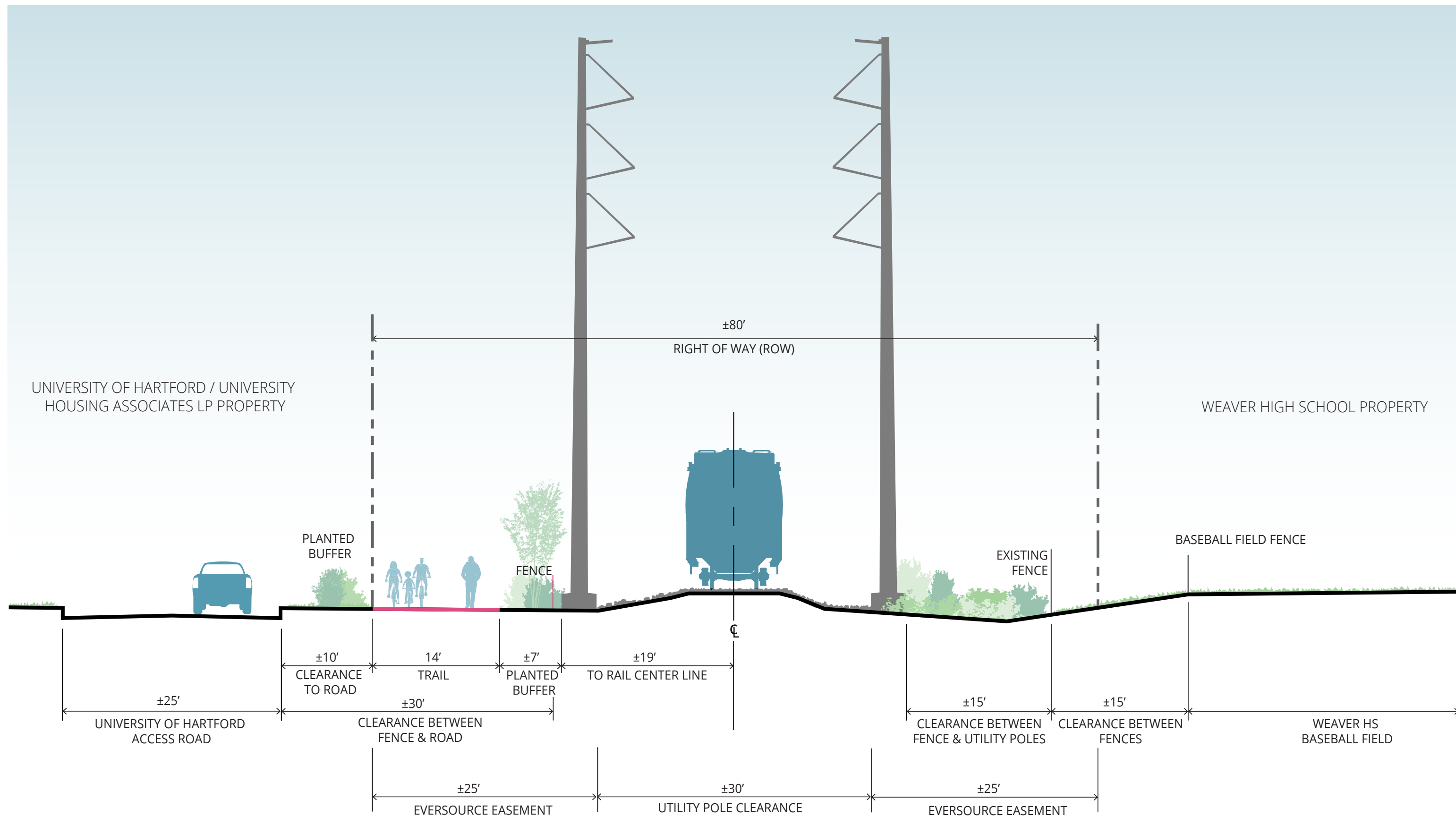
NORTHEAST (NE) ALTERNATIVE (PREFERRED ALIGNMENT)

LOCATION #10

FACING NORTHWEST AT WEAVER HIGH SCHOOL FOOTBALL FIELD



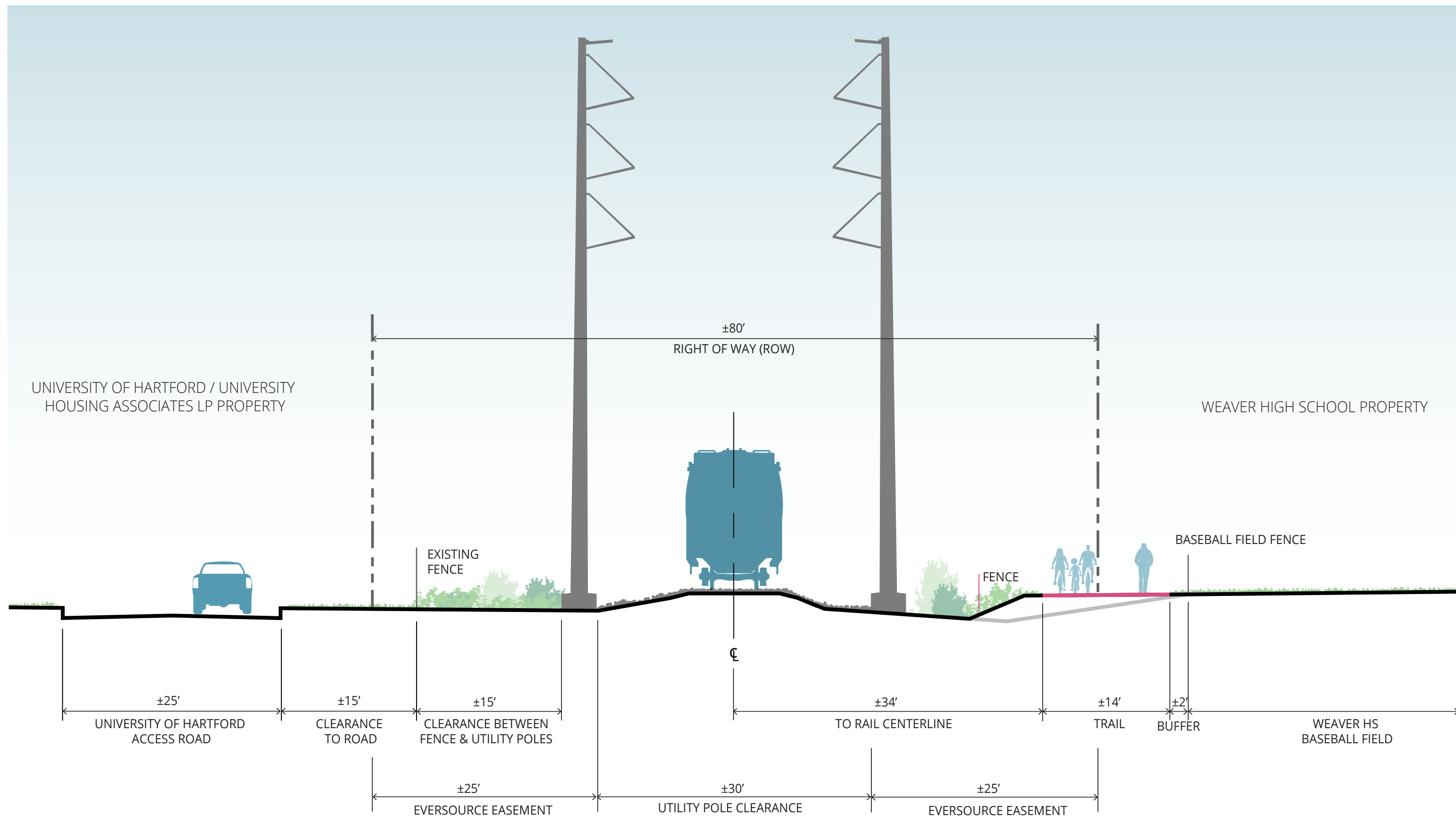
LOCATION #11
FACING NORTHWEST AT WEAVER HIGH SCHOOL BASEBALL FIELD



SOUTHWEST (SW) ALTERNATIVE

LOCATION #11

FACING NORTHWEST AT WEAVER HIGH SCHOOL BASEBALL FIELD



NORTHEAST (NE) ALTERNATIVE (PREFERRED ALIGNMENT)

LOCATION #11

FACING NORTHWEST AT WEAVER HIGH SCHOOL BASEBALL FIELD



APPENDIX F: ORDER-OF-MAGNITUDE COST ESTIMATES



GRIFFIN LINE TRAIL - PRELIMINARY PROBABLE COST ANALYSIS
AVERAGE TRAIL COST PER MILE

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
ROADWAY ITEMS				
EARTH EXCAVATION	4,700	CY	\$24	\$112,800
ROCK EXCAVATION	470	CY	\$90	\$42,300
FORMATION OF SUBGRADE	10,600	SY	\$4	\$42,400
PROCESSED AGGREGATE BASE	2,900	CY	\$58	\$168,200
BITUMINOUS CONCRETE	1,417	TON	\$140	\$198,400
SEDIMENTATION CONTROL SYSTEM	5,280	LF	\$8	\$42,200
FURNISHING AND PLACING TOPSOIL	26,400	SY	\$7	\$184,800
TURF ESTABLISHMENT	26,400	SY	\$3	\$79,200
ASPHALT TRAIL UNIT COST SUBTOTAL*				\$870,300
MINOR ITEMS	25%	OF SUBTOTAL		\$217,600
CLEARING AND GRUBBING	2%	OF SUBTOTAL		\$54,400
MAINTENANCE AND PROTECTION OF TRAFFIC	3%	OF SUBTOTAL		\$13,600
MOBILIZATION	6.5%	OF SUBTOTAL		\$3,400
CONSTRUCTION STAKING	1%	OF SUBTOTAL		\$900
SUBTOTAL				\$1,160,200
INCIDENTALS	25%	OF SUBTOTAL		\$290,100
CONTINGENCIES	25%	OF SUBTOTAL		\$290,100
INFLATION (ANNUALLY)	5%	OF SUBTOTAL		\$58,000
TOTAL				\$1,798,400
ENGINEERING				\$0
RAILROAD				\$0
UTILITIES				\$0
ROW				\$0
TOTAL				\$1,800,000
TOTAL COST RANGE (+/- 10%)				\$1.6 M - \$2.0 M

PRELIMINARY PROBABLE COST ANALYSIS:

In providing a preliminary analysis of probable costs, the Client understands that Fitzgerald & Halliday, Inc. dba FHI Studio (FHI) has no control over the cost or availability of labor, equipment, or materials, or over market conditions, and that FHI's opinions of probable construction costs are made on the basis of their professional judgment, experience, and publicly available information on the existing site conditions. This analysis is provided for information purposes for comparing programming design alternatives and should not be considered an engineer's preliminary design estimate.

TOTAL ROUNDED TO THE NEAREST \$100,000,
SUBTOTALS TO THE NEAREST \$100. THIS TOTAL IS
BASED ON COST FOR A ONE MILE SEGMENT OF TRAIL

* THIS UNIT SUBTOTAL PER MILE, DIVIDED BY 5280
FEET, IS USED AS THE BASIS FOR THE GENERAL UNIT
COST PER SF FOR THE 14' ASPHALT TRAIL ITEM IN THE
COST ANALYSES ON THE FOLLOWING PAGES



GRIFFIN LINE TRAIL - PRELIMINARY PROBABLE COST ANALYSIS
NORTHEAST ALIGNMENT - SOUTH SEGMENT - GARDEN STREET TO PLAINFIELD

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
ROADWAY ITEMS				
14' ASPHALT TRAIL* (GENERAL COST)	9,000	LF	\$165	\$1,485,000
STREETSCAPE (GENERAL COST)				
CONSTRUCTION FIELD OFFICE	24	MO	\$5,000	\$120,000
STRUCTURE ITEMS				
CULVERT TUNNEL				
WOODLAND ST. ROADWAY BRIDGE (RECONSTRUCTIC	1	LS	\$8,000,000	\$8,000,000
BOARDWALK				
TRAIL BRIDGE				
TRAFFIC ITEMS				
TRAFFICPERSON - POLICE	3,200	HR	\$75	\$240,000
TRAFFICPERSON - FLAGGER	320	HR	\$42	\$13,400
TRAFFIC SIGNAL MODIFICATION				
RRFB				
AT-GRADE PED. RAILROAD CROSSING SIGNAL SYSTEM				
OTHER ITEMS				
6' CHAINLINK FENCE	5,000	LF	\$43	\$215,000
4'-5' METAL FENCE	9,000	LF	\$80	\$720,000
RETAINING WALL	5,000	SF	\$180	\$900,000
UNIT COST SUBTOTAL				\$11,693,400
MINOR ITEMS	25%	OF SUBTOTAL		\$2,923,400
CLEARING AND GRUBBING	2%	OF SUBTOTAL		\$233,900
MAINTENANCE AND PROTECTION OF TRAFFIC	3%	OF SUBTOTAL		\$350,800
MOBILIZATION	6.5%	OF SUBTOTAL		\$760,100
CONSTRUCTION STAKING	1%	OF SUBTOTAL		\$116,900
SUBTOTAL				\$16,078,500
INCIDENTALS	25%	OF SUBTOTAL		\$4,019,600
CONTINGENCIES	25%	OF SUBTOTAL		\$4,019,600
INFLATION (ANNUALLY)	5%	OF SUBTOTAL		\$803,900
SUBTOTAL				\$24,921,600
ENGINEERING	10%	OF SUBTOTAL		\$2,500,000
RAILROAD (Realignment)	7,000	LF	\$700.00	\$4,900,000
UTILITIES (Transmission Relocation)	2	LS	\$1,000,000.00	\$2,000,000
ROW				\$120,000
TOTAL				\$34,440,000
TOTAL COST RANGE (+/- 10%)				\$30.9 M - \$37.9 M

PRELIMINARY PROBABLE COST ANALYSIS:

In providing a preliminary analysis of probable costs, the Client understands that Fitzgerald & Halliday, Inc. dba FHI Studio (FHI) has no control over the cost or availability of labor, equipment, or materials, or over market conditions, and that FHI's opinions of probable construction costs are made on the basis of their professional judgment, experience, and publicly available information on the existing site conditions. This analysis is provided for information purposes for comparing programming design alternatives and should not be considered an engineer's preliminary design estimate.

TOTAL ROUNDED TO THE NEAREST \$100,000,

SUBTOTALS TO THE NEAREST \$100.

* TRAIL COST BASED ON UNIT COST SUBTOTAL OF
AVERAGE COST PER MILE CALCULATION ON PAGE 1



GRIFFIN LINE TRAIL - PRELIMINARY PROBABLE COST ANALYSIS
NORTHEAST ALIGNMENT - NORTH SEGMENT - PLAINFIELD TO TOBEY ROAD

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
ROADWAY ITEMS				
14' ASPHALT TRAIL* (GENERAL COST)	6,900	LF	\$165	\$1,138,500
STREETSCAPE (GENERAL COST)				
CONSTRUCTION FIELD OFFICE	24	MO	\$5,000	\$120,000
STRUCTURE ITEMS				
CULVERT TUNNEL				
ROADWAY BRIDGE				
BOARDWALK				
TRAIL BRIDGE				
TRAFFIC ITEMS				
TRAFFICPERSON - POLICE	1,600	HR	\$75	\$120,000
TRAFFICPERSON - FLAGGER	200	HR	\$42	\$8,400
TRAFFIC SIGNAL MODIFICATION				
RRFB	1	EA	\$10,500	\$10,500
AT-GRADE PED. RAILROAD CROSSING SIGNAL SYSTEM				
OTHER ITEMS				
6' CHAINLINK FENCE	10,900	LF	\$43	\$468,700
4'-5' METAL FENCE				
RETAINING WALL				
UNIT COST SUBTOTAL				\$1,866,100
MINOR ITEMS	25%	OF SUBTOTAL		\$466,500
CLEARING AND GRUBBING	2%	OF SUBTOTAL		\$37,300
MAINTENANCE AND PROTECTION OF TRAFFIC	3%	OF SUBTOTAL		\$56,000
MOBILIZATION	6.5%	OF SUBTOTAL		\$121,300
CONSTRUCTION STAKING	1%	OF SUBTOTAL		\$18,700
SUBTOTAL				\$2,565,900
INCIDENTALS	25%	OF SUBTOTAL		\$641,500
CONTINGENCIES	25%	OF SUBTOTAL		\$641,500
INFLATION (ANNUALLY)	5%	OF SUBTOTAL		\$128,300
SUBTOTAL				\$3,977,200
ENGINEERING	10%	OF SUBTOTAL		\$400,000
RAILROAD (PROTECTION)	250	DA	\$2,000.00	\$500,000
UTILITIES				\$0
ROW				\$0
TOTAL				\$4,900,000
TOTAL COST RANGE (+/- 10%)				\$4.4 M - \$5.4 M

PRELIMINARY PROBABLE COST ANALYSIS:

In providing a preliminary analysis of probable costs, the Client understands that Fitzgerald & Halliday, Inc. dba FHI Studio (FHI) has no control over the cost or availability of labor, equipment, or materials, or over market conditions, and that FHI's opinions of probable construction costs are made on the basis of their professional judgment, experience, and publicly available information on the existing site conditions. This analysis is provided for information purposes for comparing programming design alternatives and should not be considered an engineer's preliminary design estimate.

TOTAL ROUNDED TO THE NEAREST \$100,000,
SUBTOTALS TO THE NEAREST \$100.
* TRAIL COST BASED ON UNIT COST SUBTOTAL OF
AVERAGE COST PER MILE CALCULATION ON PAGE 1



GRIFFIN LINE TRAIL - PRELIMINARY PROBABLE COST ANALYSIS
SOUTHWEST ALIGNMENT - SOUTH SEGMENT - GARDEN STREET TO PLAINFIELD

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
ROADWAY ITEMS				
14' ASPHALT TRAIL* (GENERAL COST)	9,000	LF	\$165	\$1,485,000
SIGOURNEY STREET BRIDGE (STREETSCAPE)	1,000	LF	\$1,600	\$1,600,000
WOODLAND STREET BRIDGE (STREETSCAPE)	1,000	LF	\$1,600	\$1,600,000
CONSTRUCTION FIELD OFFICE	24	MO	\$5,000	\$120,000
STRUCTURE ITEMS				
CULVERT TUNNEL (ALBANY AVE)	1	LS	\$1,500,000	\$1,500,000
CULVERT TUNNEL (WOODLAND STREET)	1	LS	\$1,500,000	\$1,500,000
ROADWAY BRIDGE				
BOARDWALK	1	LS	\$400,000	\$400,000
TRAIL BRIDGE	1	LS	\$350,000	\$350,000
TRAFFIC ITEMS				
TRAFFICPERSON - POLICE	3,200	HR	\$75	\$240,000
TRAFFICPERSON - FLAGGER	320	HR	\$42	\$13,400
TRAFFIC SIGNAL MODIFICATION				
RRFB				
AT-GRADE PED. RAILROAD CROSSING SIGNAL SYSTEM	1	EA	\$150,000	\$150,000
OTHER ITEMS				
6' CHAINLINK FENCE	5,000	LF	\$43	\$215,000
4'-5' METAL FENCE	9,000	LF	\$80	\$720,000
RETAINING WALL	12,000	SF	\$180	\$2,160,000
UNIT COST SUBTOTAL				\$12,053,400
MINOR ITEMS	25%	OF SUBTOTAL		\$3,013,400
CLEARING AND GRUBBING	2%	OF SUBTOTAL		\$241,100
MAINTENANCE AND PROTECTION OF TRAFFIC	3%	OF SUBTOTAL		\$361,600
MOBILIZATION	6.5%	OF SUBTOTAL		\$783,500
CONSTRUCTION STAKING	1%	OF SUBTOTAL		\$120,500
SUBTOTAL				\$16,573,500
INCIDENTALS	25%	OF SUBTOTAL		\$4,143,400
CONTINGENCIES	25%	OF SUBTOTAL		\$4,143,400
INFLATION (ANNUALLY)	5%	OF SUBTOTAL		\$828,700
SUBTOTAL				\$25,689,000
ENGINEERING	10%	OF SUBTOTAL		\$2,600,000
RAILROAD (PROTECTION)	500	DA	\$2,000	\$1,000,000
UTILITIES				\$0
ROW (20 SARGENT ST & 156 WOODLAND)				\$200,000
TOTAL				\$29,500,000
TOTAL COST RANGE (+/- 10%)				\$26.5 M - \$32.5 M

PRELIMINARY PROBABLE COST ANALYSIS:

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TOTAL ROUNDED TO THE NEAREST \$100,000,
SUBTOTALS TO THE NEAREST \$100.
* TRAIL COST BASED ON UNIT COST SUBTOTAL OF
AVERAGE COST PER MILE CALCULATION ON PAGE 1



GRIFFIN LINE TRAIL - PRELIMINARY PROBABLE COST ANALYSIS
SOUTHWEST ALIGNMENT - NORTH SEGMENT - PLAINFIELD TO TOBEY ROAD

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
ROADWAY ITEMS				
14' ASPHALT TRAIL* (GENERAL COST)	7,900	LF	\$165	\$1,303,500
STREETSCAPE (GENERAL COST)				
CONSTRUCTION FIELD OFFICE	24	MO	\$5,000	\$120,000
STRUCTURE ITEMS				
CULVERT TUNNEL				
ROADWAY BRIDGE				
BOARDWALK				
TRAIL BRIDGE				
TRAFFIC ITEMS				
TRAFFICPERSON - POLICE	1,600	HR	\$75	\$120,000
TRAFFICPERSON - FLAGGER	200	HR	\$42	\$8,400
TRAFFIC SIGNAL MODIFICATION				
RRFB	2	EA	\$10,500	\$21,000
AT-GRADE PED. RAILROAD CROSSING SIGNAL SYSTEM	1	EA	\$150,000	\$150,000
OTHER ITEMS				
6' CHAINLINK FENCE	5,600	LF	\$43	\$240,800
4'-5' METAL FENCE				
RETAINING WALL				
UNIT COST SUBTOTAL				\$1,963,700
MINOR ITEMS	25%	OF SUBTOTAL		\$490,900
CLEARING AND GRUBBING	2%	OF SUBTOTAL		\$39,300
MAINTENANCE AND PROTECTION OF TRAFFIC	3%	OF SUBTOTAL		\$58,900
MOBILIZATION	6.5%	OF SUBTOTAL		\$127,600
CONSTRUCTION STAKING	1%	OF SUBTOTAL		\$19,600
SUBTOTAL				\$2,700,000
INCIDENTALS	25%	OF SUBTOTAL		\$675,000
CONTINGENCIES	25%	OF SUBTOTAL		\$675,000
INFLATION (ANNUALLY)	5%	OF SUBTOTAL		\$135,000
SUBTOTAL				\$4,185,000
ENGINEERING	10%	OF SUBTOTAL		\$400,000
RAILROAD (PROTECTION)	250	DA	\$2,000.00	\$500,000
UTILITIES				\$0
ROW				\$0
TOTAL				\$5,100,000
TOTAL COST RANGE (+/- 10%)				\$4.5 M - \$5.6 M

PRELIMINARY PROBABLE COST ANALYSIS:

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TOTAL ROUNDED TO THE NEAREST \$100,000,

SUBTOTALS TO THE NEAREST \$100.

* TRAIL COST BASED ON UNIT COST SUBTOTAL OF
AVERAGE COST PER MILE CALCULATION ON PAGE 1



GRIFFIN LINE TRAIL - PRELIMINARY PROBABLE COST ANALYSIS
HOMESTEAD AVE ALIGNMENT - SOUTH SEGMENT - GARDEN STREET TO ALBANY AVE

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
ROADWAY ITEMS				
14' ASPHALT TRAIL* (GENERAL COST)	2,640	LF	\$165	\$435,600
HOMESTEAD AVENUE (STREETSCAPE)	6,072	LF	\$1,600	\$9,715,200
CONSTRUCTION FIELD OFFICE	24	MO	\$5,000	\$120,000
STRUCTURE ITEMS				
CULVERT TUNNEL				
ROADWAY BRIDGE				
BOARDWALK				
TRAIL BRIDGE				
TRAFFIC ITEMS				
TRAFFICPERSON - POLICE	4,800	HR	\$75	\$360,000
TRAFFICPERSON - FLAGGER	480	HR	\$42	\$20,200
TRAFFIC SIGNAL REPLACEMENT	2	LS	\$450,000	\$900,000
RRFB				
AT-GRADE PED. RAILROAD CROSSING SIGNAL SYSTEM				
OTHER ITEMS				
6' CHAINLINK FENCE				
4'-5' METAL FENCE				
RETAINING WALL				
UNIT COST SUBTOTAL				\$11,551,000
MINOR ITEMS	25%	OF SUBTOTAL		\$2,887,800
CLEARING AND GRUBBING	2%	OF SUBTOTAL		\$231,000
MAINTENANCE AND PROTECTION OF TRAFFIC	3%	OF SUBTOTAL		\$346,500
MOBILIZATION	6.5%	OF SUBTOTAL		\$750,800
CONSTRUCTION STAKING	1%	OF SUBTOTAL		\$115,500
SUBTOTAL				\$15,882,600
INCIDENTALS	25%	OF SUBTOTAL		\$3,970,700
CONTINGENCIES	25%	OF SUBTOTAL		\$3,970,700
INFLATION (ANNUALLY)	5%	OF SUBTOTAL		\$794,100
SUBTOTAL				\$24,618,100
ENGINEERING	10%	OF SUBTOTAL		\$2,500,000
RAILROAD (PROTECTION)				\$0
UTILITIES				\$0
ROW				\$0
TOTAL				\$27,100,000
TOTAL COST RANGE (+/- 10%)				\$24.3 M - \$29.8 M

PRELIMINARY PROBABLE COST ANALYSIS:

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TOTAL ROUNDED TO THE NEAREST \$100,000,
SUBTOTALS TO THE NEAREST \$100.
* TRAIL COST BASED ON UNIT COST SUBTOTAL OF
AVERAGE COST PER MILE CALCULATION ON PAGE 1



APPENDIX G: ECONOMIC CONSIDERATIONS FOR RAIL- WITH-TRAIL

Memorandum

To: FHI Studio

From: Econsult Solutions, Inc.

Date: February 9, 2024

RE: Economic considerations for rail-with-trail alternatives within the Griffin Line corridor

Constructing a walking trail along the Griffin Line offers potential economic benefits to the city of Hartford. However, decision makers should consider four key points when evaluating the potential of the Griffin Line trail: trail usage as a driver of economic impact, property value changes, the trail's role in Homestead Avenue's economic development, and the trade-offs involved in removing rail access to nearby properties.

Trail Usage and Economic Impact

Trails with the most economic impact are the trails that are most used. This means prioritizing safety, connectivity to other trails and amenities, and a pleasant overall experience for users. Trails along an active, although infrequent, rail line may discourage trail use. Designing the trail, first and foremost, with user experience in mind is the most important component of its economic success.

Property Value Impacts

Trails generally boost property values of adjacent areas with complementary uses such as residential neighborhoods, job centers, or pedestrian friendly commercial districts that drive foot traffic to the trail. These property value impacts are modest but are highest for properties immediately adjacent to the trail. Trails, however, have limited impacts on non-complementary uses such as industrial or large-footprint commercial properties, such as shopping malls.

The presence of the rail line introduces complexity to how property values impact surrounding areas. Physical barriers to the movement of people, such as raised highways, rivers, or in this case, rail lines, can also “block” or limit the flow of potential property values benefits to nearby properties from walking trails.

Economic Development of Homestead Avenue

The City of Hartford is considering the development of the Griffin Line trail in part to help support the economic development of Homestead Avenue. While the trail alone won't drive significant revitalization of the area, it can play a supporting role in a more targeted effort to attract investment to the Homestead corridor depending on the type of investments the city expects to attract.

RE: Economic considerations for rail-with-trail alternatives within the Griffin Line corridor
Date: February 9, 2024

North or South Alignment?

As mentioned above, the property value impacts of trails on nearby properties are modest, and the presence of a trail is unlikely to make-or-break the potential redevelopment of any given property on Homestead Avenue. Keeping this in mind, if the redevelopment of the targeted area on Homestead Avenue is expected to be synergistic with the trail, then special attention should be paid to the accessibility of the trail to nearby properties.

The north alignment promises direct access to each of the properties on Homestead Avenue that are targeted for development but comes at a considerable risk to the overall use of the trail, and therefore it's overall economic impact. There are two reasons for this. First, if the northern alignment is constructed and the development of Homestead Avenue is unsuccessful, the trail alignment will pass along a series of vacant or underutilized properties and an active rail line, both of which are likely to discourage use. Second, the northern alignment requires moving the Griffin Line tracks about 10 feet south to accommodate the trail alignment within the tracks' right of way. This not only incurs substantial costs but also permanently eliminates the possibility for adjacent properties to use the rail line for direct cargo loading. Realigning the track irreversibly removes future potential for these properties to leverage the rail line for cargo transport. While the demand for cargo transport on the line is limited today, the economics of transportation may shift as Hartford and the State of Connecticut grapple with greenhouse gas emissions and long-term climate change. Maintaining the flexibility of those sites could prove economically useful in the long term.

The southern alignment's primary disadvantage is that it does not have direct access to the targeted parcels on Homestead Avenue. However, this limitation can be minimized by providing regular access to Homestead Avenue across the Griffin Line. This means creating frequent crossing points to reduce travel distances from any given parcel to the new trail. While the frequency of crossings is important, minimizing crossing distances is important as travelers tend to be sensitive to travel time. Unnecessarily long or circuitous routes to cross the Griffin Line will likely discourage use.

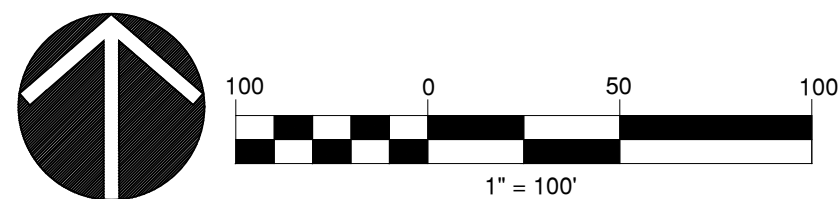
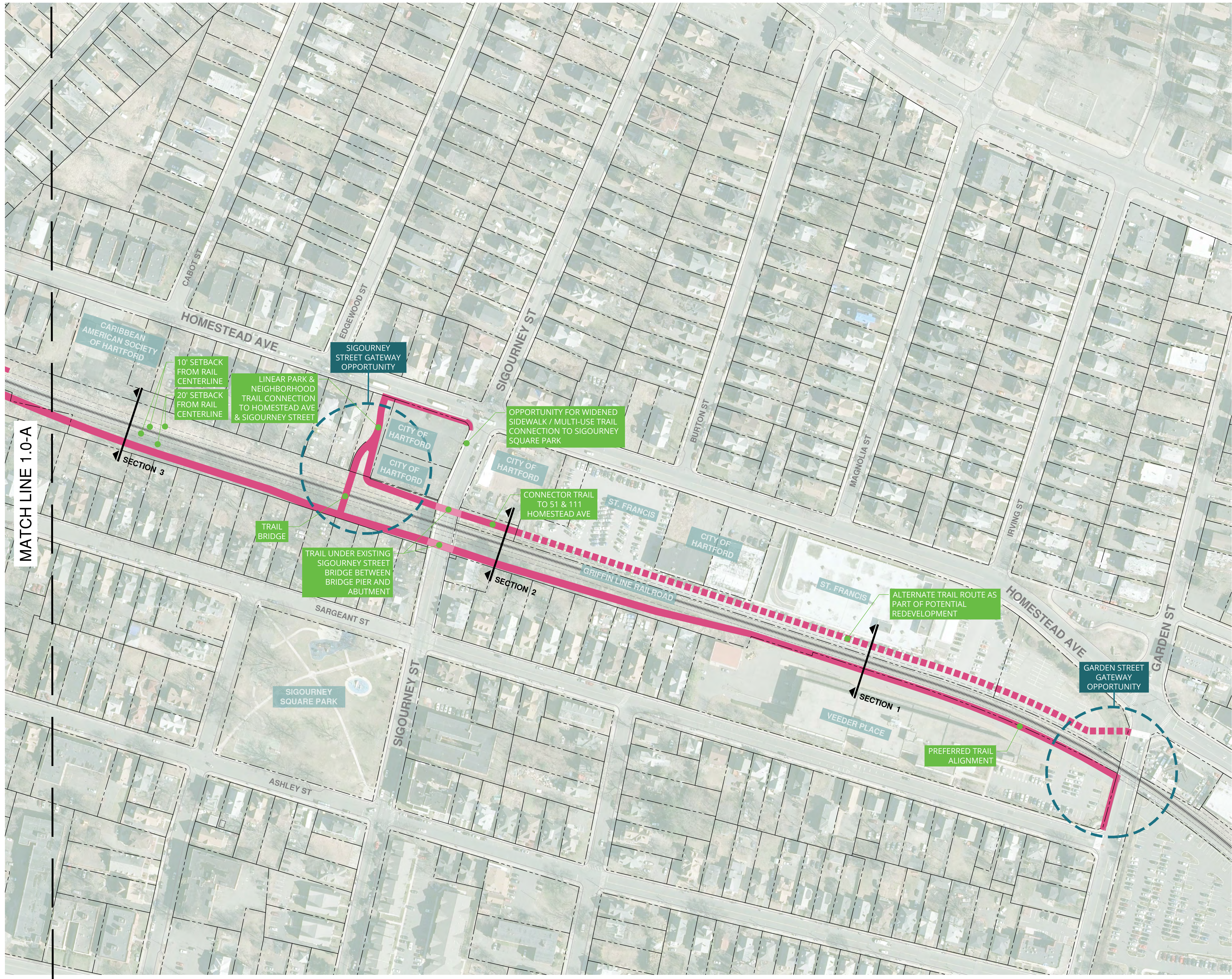
Conclusion

Optimizing the economic development potential of a walking trail along the Griffin Line in Hartford requires consideration of several factors. First, decision-makers should ensure that the trail's alignment and design maximize potential use of the trail. Second, they should consider that property value impacts are modest and varied. Aligning the development of Homestead Avenue with the placement of the trail requires a clear understanding of these property value implications. Finally, decision-makers must weigh the significant trade-offs of altering rail access, particularly the north alignment's potential long-term economic implications against the southern alignment's challenges in providing direct access to Homestead Avenue.



APPENDIX H: PREFERRED ALIGNMENT CONCEPT PLAN (GARDEN STREET TO ALBANY AVENUE)

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Hartford, CT 06103
860-247-7200
fhistudio.com

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Prepared For:



PROPOSED:
**GRIFFIN LINE TRAIL
PREFERRED ALIGNMENT**
GARDEN STREET TO ALBANY AVE
HARTFORD, CT

Sheet Description:
**GRIFFIN LINE
PREFERRED
ALIGNMENT**

Rev:

Issue Date:
JANUARY 12, 2023

Scale:
1"=100'

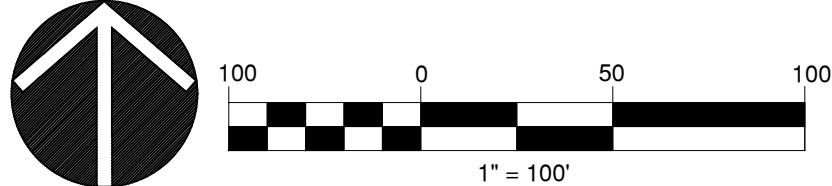
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K.M.

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JANUARY 12, 2023

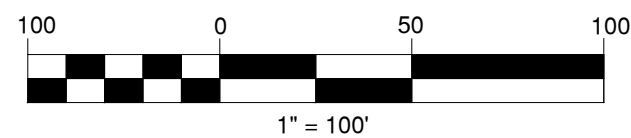
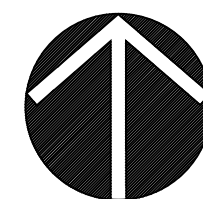
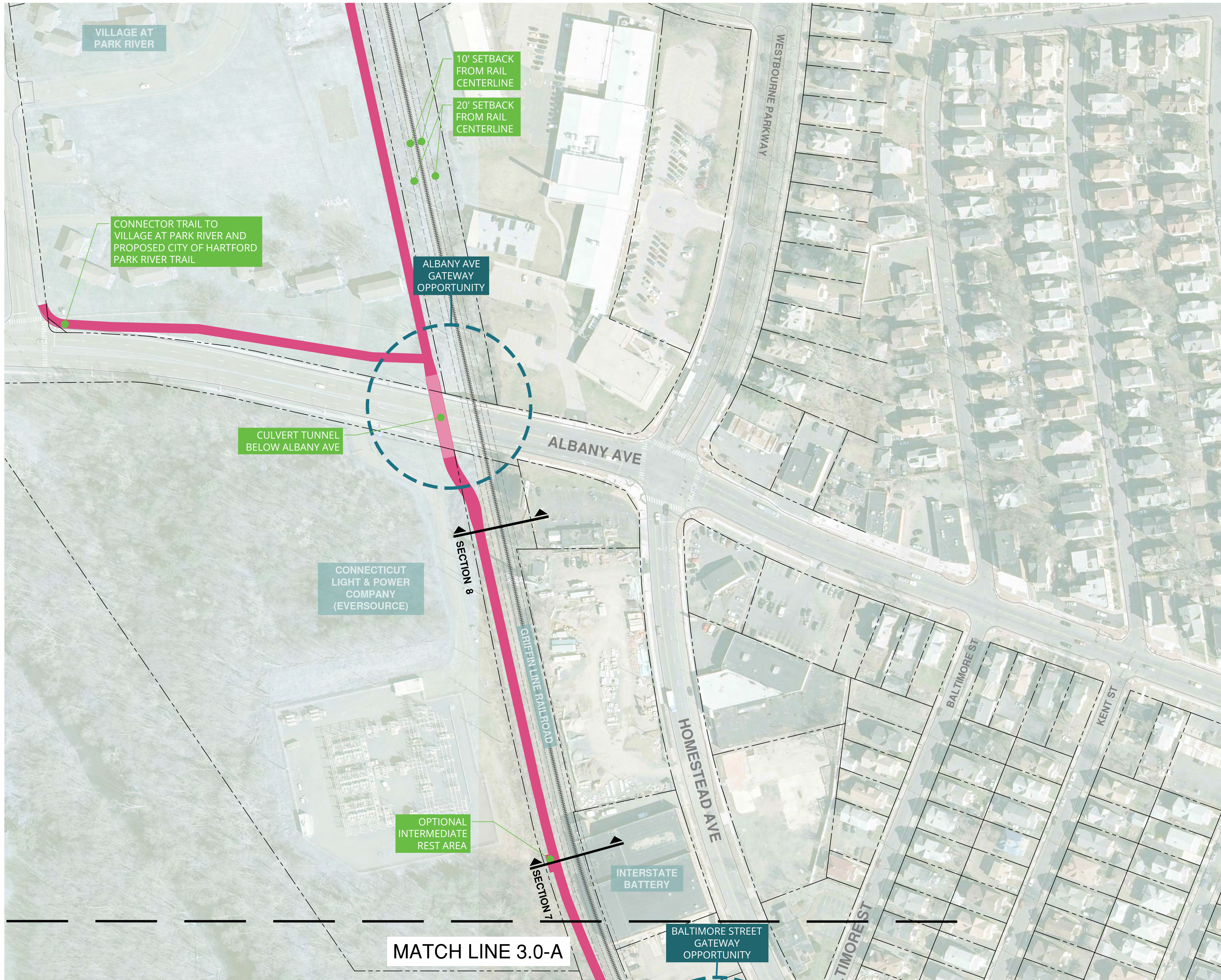
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HARTFORD, CT

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Project number:
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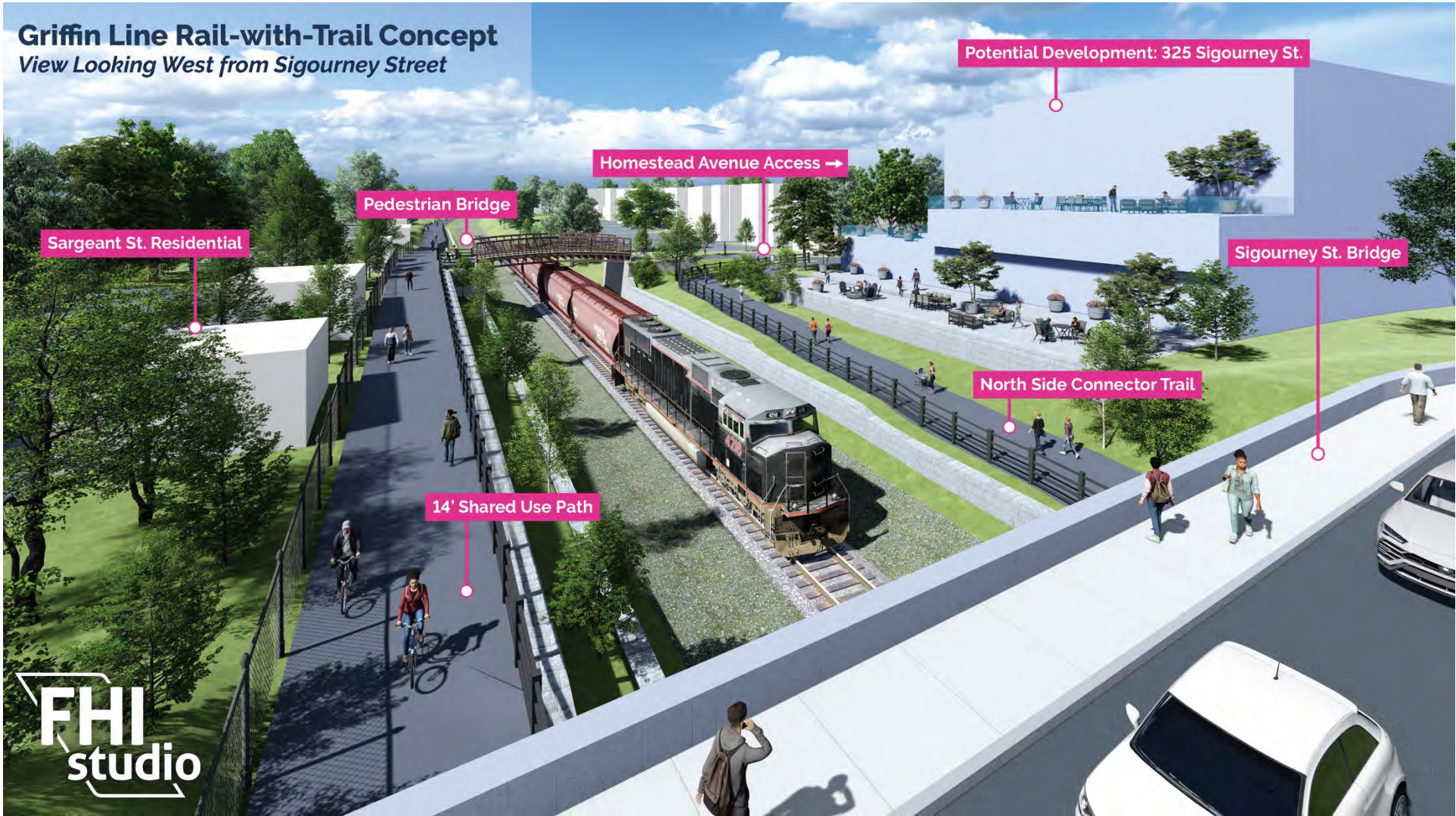
APPENDIX I: PREFERRED ALIGNMENT VISUALIZATIONS

CAPITOL REGION EAST COAST GREENWAY STUDY



Photo rendering of potential trail near 156 Woodland Street (Austin Organs) and 255 Homestead Avenue (Chrysalis Center). View looking west towards the Woodland Street bridge.





CAPITOL REGION EAST COAST GREENWAY STUDY



3D rendering showing northside connector trail looking west towards proposed trail bridge.

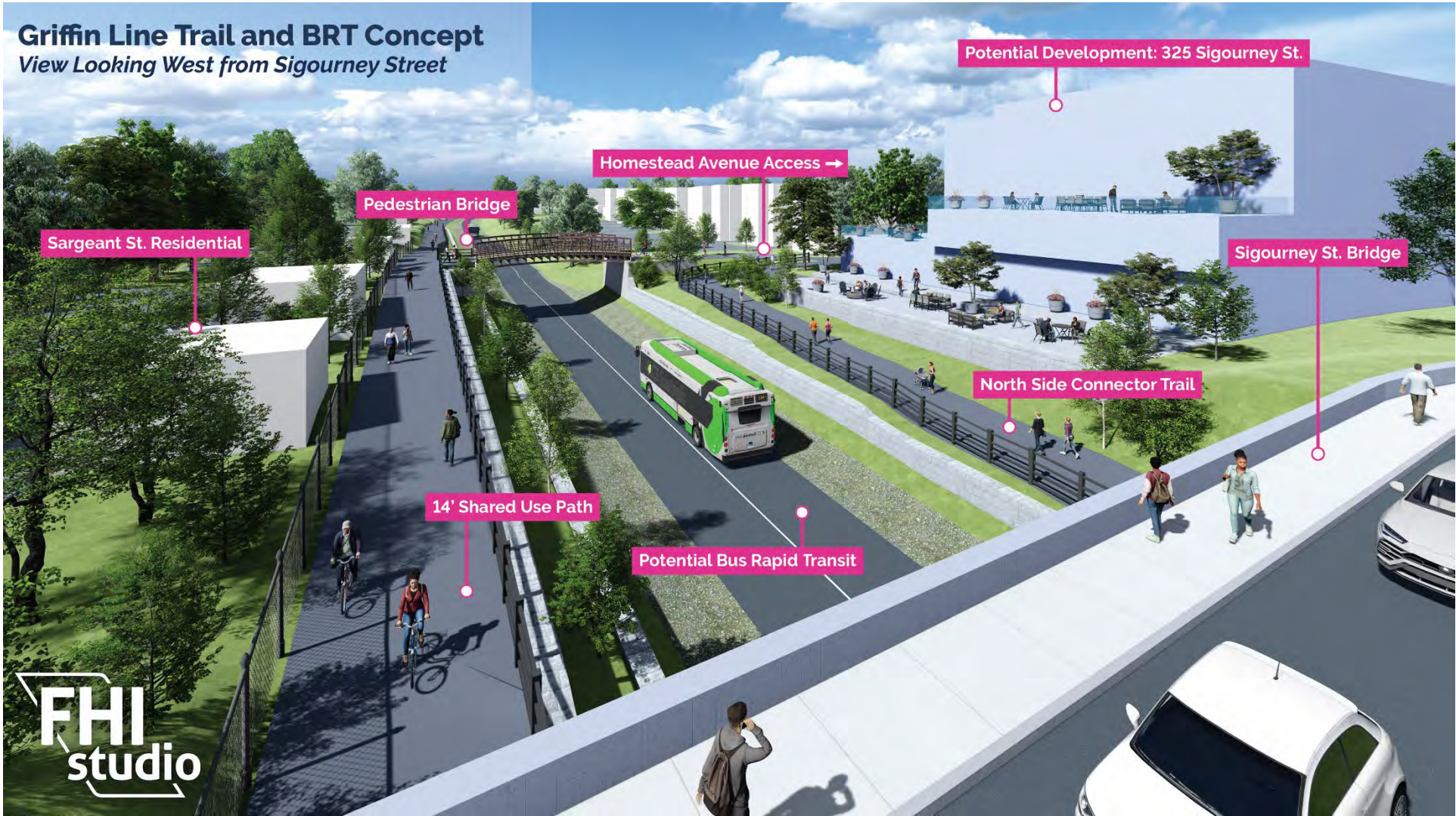


CAPITOL REGION EAST COAST GREENWAY STUDY



3D rendering of mainline of the Preferred Alignment on the south side of the railroad. Note the fencing proposed between the trail and railroad









APPENDIX J: CTDOT GRIFFIN LINE DESIGN GUIDELINES

Griffin Line Rail with Trail Design Guidelines

Overview

There are currently no national standards or guidelines for the development of rail-with-trails, which has created varied approaches and complicates the design of proposed trail systems. The guidelines below have been developed in concert with state officials, the consultant team and review of ‘best practice’ documents including those from the Rails to Trails organization, the Federal Railroad Administration and Federal Highway Administration, and the AREMA and AASHTO design manuals. Of specific note from the FRA/FHWA [Rails with Trails Best Practices and Lessons Learned](#) document:

“There is no consensus on setback requirements nor is there a method to calculate the appropriate minimum setback based on corridor characteristics. While guidance documents do provide information on minimum setback standards for bicycle facilities and adjacent walkways, these sources are not considered appropriate for a rail-with-trail.”

The resulting guidance is based on the review of referenced materials and coordination with the CTDOT Office of Rails and the Department’s broader leadership team.

Operational Note for the Griffin Line Corridor

The corridor is currently owned by the State of Connecticut with freight operations allowed by a lease agreement. It is understood that freight operations occur on a limited basis with very low operating speeds and no regular customers. From a future-use perspective, the corridor must be maintained for a ‘heavy’ transportation use, whether this is continued freight operations, development of a passenger rail service or creation of Bus Rapid Transit (BRT). Any trail would need to be collocated in the corridor.

Minimum Trail Standards

The following are the minimum recommended trail standards suggested by the Department for a rail with trail alternative to be considered viable. Setback and physical barrier are the two principal standards and are inversely correlated, the smaller the setback the more substantial the barrier must be. Additionally, the physical trail must be constructed in accordance with AASHTO best practices and generally maintain a trail width of 10 ft with a 2ft buffer on either side of the trail. Widths narrower than 10ft but not less than 8ft for short distances should be allowed where physically constrained. This can either include sections that are within a cut or where the trail passes underneath a

roadway. The trail should be made available as a railroad maintenance access corridor for emergency purposes or with advanced notice.

The recommended minimum setback from track center line should be 10ft, with a preferred centerline setback of 20ft. At a 10ft setback the trail should include a solid non-scalable barrier. At 20ft the trail should include a physical fenced barrier at least 7ft in height.

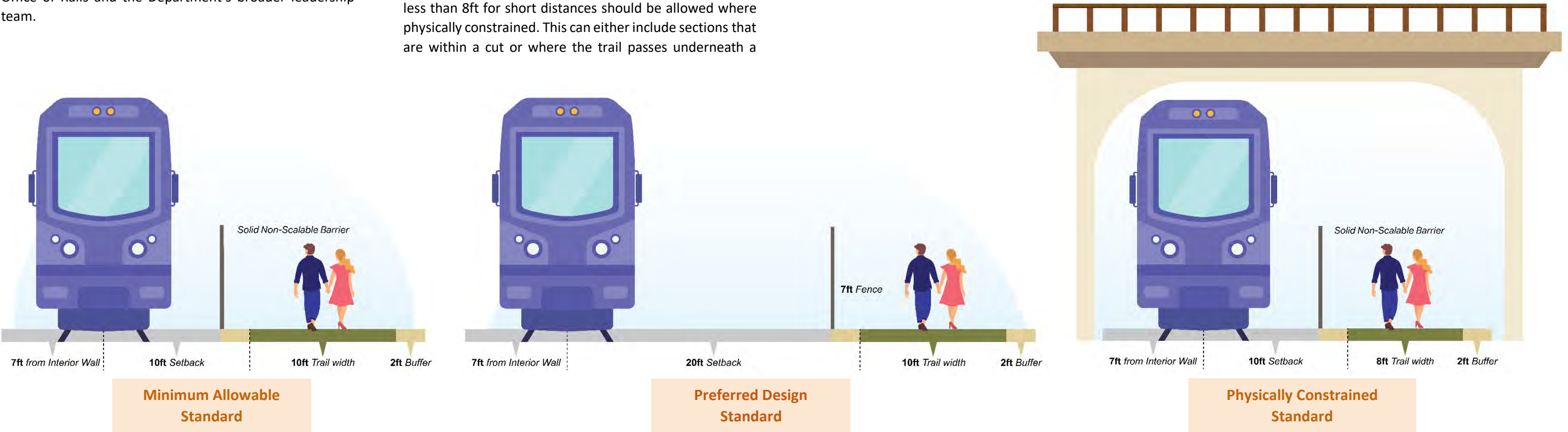
Alternatives Assessment

The alternatives assessment conducted by the city should demonstrate that the recommended minimum trail standards identified in this document can be met throughout the corridor. The assessment should further consider strategies to mitigate flooding that occurs in the corridor and would be exacerbated by the addition of impervious surface. Additionally, in accordance with the ‘best practice’ guidance documents identified previously, the assessment should include a review of alternative corridors, including the colocation of dedicated bike/ped facility along existing roadway networks.

Minimum Allowable Standard: The minimum generally allowable setback and enhanced barrier. **10ft Setback, a Solid Non-Scalable Barrier & a 10ft Trail Width.**

Preferred Design Standard: Where possible this standard should be used and allows for a reduced barrier. **20ft Setback, 7ft Barrier & a 10ft Trail Width.**

Physically Constrained: Used for short durations where the minimum allowable standard cannot be met including at underpasses. **10ft Setback, a Solid Non-Scalable Barrier & an 8ft Trail Width.**





APPENDIX K: CURRENT RAILROAD OPERATING AGREEMENT

RECORDED IN	Hartford	VOLUME	4056	PAGE	250
	Windsor	VOLUME	1184	PAGE	204
	Bloomfield	VOLUME	806	PAGE	317

Agreement No. 6.08-08(98)

OPERATING AGREEMENT
FOR RAIL FREIGHT SERVICE
ON THE GRIFFINS INDUSTRIAL TRACK

BETWEEN

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

AND

THE CENTRAL NEW ENGLAND RAILROAD COMPANY

RAIL FILE NO. (63) 7001-MISC-1107

THIS OPERATING AGREEMENT, concluded at Newington, Connecticut, this *4th* day of *January*, 19*98*, by and between the State of Connecticut, Department of Transportation, James. F. Sullivan, Commissioner, acting herein by Harry P. Harris, Bureau Chief, Bureau of Public Transportation, 2800 Berlin Turnpike, Newington, Connecticut 06131, duly authorized, hereinafter referred to as the STATE, and The Central New England Railroad Company, 44 Cedar Ridge Road, Newington, Connecticut 06111, acting herein by Mr. Amedee J. Belliveau, its President and General Manager, hereunto duly authorized, hereinafter referred to as the RAILROAD.

WITNESSETH: THAT,

WHEREAS, the STATE is owner of USRA Line 50, a rail line commonly known as the "Griffins Industrial Track", from milepost 0.0 to milepost 8.7 and located in the Towns of Hartford, Bloomfield and Windsor, Connecticut, and

WHEREAS, the STATE has selected the RAILROAD to provide rail freight service over said Griffins Industrial Track in response to the STATE'S "Request for Proposals for Operating & Maintaining Rail Freight Service From Hartford to Windsor, Connecticut on the Griffins Industrial Track", Proposal Item Number 082498, dated August 24, 1998, and

WHEREAS, the STATE has the authority pursuant to Section 13b-36(b) of the Connecticut General Statutes, as revised, to enter into this Agreement.

4056/250

RECORDED IN HARTFORD LAND RECORDS
AT VOLUME 4056 PAGE 250

Agreement No. 6.08-08(98)

**OPERATING AGREEMENT
FOR RAIL FREIGHT SERVICE
ON THE GRIFFINS INDUSTRIAL TRACK**

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WHEREAS, the STATE has the authority pursuant to Section 13b-36(b) of the Connecticut General Statutes, as revised, to enter into this Agreement.

NOW, THEREFORE, KNOW YE:

The STATE does hereby grant to the RAILROAD, subject to all the stipulations, restrictions, specifications and covenants herein contained, the right to operate a common carrier short line rail freight operation, with such rights as detailed herein, from Station Point 00+00+/- on Valuation Map 59-60-01 in Hartford, Connecticut, to Station Point 456+00+/- on Valuation Map 59-60-09 in Windsor, Connecticut, for a total of 8.64 linear miles, hereinafter referred to as the SEGMENT. The track, bridges, signals, switches, structures, and related railroad transportation property located on the SEGMENT over which RAIL FREIGHT SERVICE is to be provided pursuant to this Agreement shall hereinafter be collectively referred to as FACILITIES.

1) The term of this Agreement shall commence on the date this Agreement is signed and fully approved by the STATE and shall continue for a period of ten (10) years, with the RAILROAD having the right to renew said term for one (1) additional, successive ten (10) year period of time.

2) The STATE hereby grants to the RAILROAD the right to: (a) operate freight trains, cars, locomotives and other rail equipment; (b) occupy and use the FACILITIES (and replacements thereof); (c) construct, operate and maintain additional or substitute stations, buildings and other facilities which are legally required or, in the RAILROAD'S opinion, are reasonably necessary in connection with the provisions of RAIL FREIGHT SERVICE on the SEGMENT; (d) construct contiguous or adjacent additional rail lines and tracks and install necessary track connections; (e) provide all existing and any reasonable access to the SEGMENT to permit the exercise of the foregoing rights. So long as these rights remain with the RAILROAD, they shall be construed to be an easement, subject to all the terms and conditions set forth in this Agreement.

3) The STATE, at its option, may terminate this Agreement if the RAILROAD discontinues continuous RAIL FREIGHT SERVICE for more than forty-five (45) days and the STATE has contracted or entered into a letter of intent with another contractor enfranchised under the laws of the State of Connecticut to provide substantially similar service on the SEGMENT; provided, however, that the STATE herein acknowledges and agrees that none of the following shall constitute discontinuance of continuous RAIL FREIGHT SERVICE on the SEGMENT:

- (a) There being no customers requiring RAIL FREIGHT SERVICE on the SEGMENT; or
- (b) The RAILROAD is delayed, hindered in or prevented from providing RAIL FREIGHT SERVICE for any of the reasons described as "Force Majeure" in paragraph 10 hereof.

If no alternative operator can provide RAIL FREIGHT SERVICE, the RAILROAD can retain the rights contained in this Agreement and resume service at a later date by providing preventive maintenance of the FACILITIES. For the purposes hereof, "preventive maintenance" is defined as keeping the right of way clean of brush and vegetation; keeping the culverts and drainage pipes clean and free flowing; and

providing normal maintenance of the FACILITIES in conformance with all regulations of the respective municipalities in which the FACILITIES are located regarding health, nuisance, fire, highways and sidewalks, to the extent, if any, such regulations are applicable to the FACILITIES described herein.

4) The STATE shall make the final determination as to the granting of new or additional non-operating easements, licenses, leases, rights and/or privileges (including air rights) affecting the SEGMENT and FACILITIES covered by this Agreement; provided, however, that the STATE shall not grant any new or additional non-operating easements, licenses, leases, rights and/or privileges (including air rights) affecting said SEGMENT and FACILITIES if the granting thereof will cause any interference with the RAILROAD'S conduct of RAIL FREIGHT SERVICE upon the SEGMENT. All new or additional non-operating easements, licenses, leases, rights and/or privileges (including air rights) affecting said SEGMENT and FACILITIES shall be in conformity with, and shall be removed, modified and/or installed under the supervision and reasonable instructions of the chief engineer of the RAILROAD in order to prevent interference with the RAIL FREIGHT SERVICE. Before making any such final determination, the STATE shall first consult with the RAILROAD'S general manager (or such other person as RAILROAD may designate for such purpose), and the RAILROAD'S chief engineer shall provide his/her recommendations to the STATE within a reasonable time after such consultation. Any major disagreement or conflict between the STATE'S position and the RAILROAD'S recommendations shall be resolved through the arbitration procedures contained herein. The STATE shall compensate the RAILROAD for any and all reasonable costs incurred by the RAILROAD, including without limitation, disruptions in the RAILROAD'S provision of RAIL FREIGHT SERVICE, as a result of any action taken by the STATE in violation of any interest of the RAILROAD protected by this paragraph, unless such compensation is provided to the RAILROAD by another party.

5) This Agreement may be terminated at any time by either party hereto by giving the other party one hundred twenty (120) days official notice, as the same is hereinafter defined. Upon expiration of said notice period, this Agreement shall be null and void and all rights of the RAILROAD shall end and terminate.

6) It is mutually understood and agreed by the parties hereto that when pages -1- thru and including -12- hereof are duly recorded in the land records of the town(s) in which the said SEGMENT and FACILITIES are located, the said pages are and shall continue to function as a "Notice of Lease" pursuant to Section 47-19 of the Connecticut General Statutes, as revised.

7) It is mutually understood and agreed by the parties hereto that this Agreement is made subject to each and every specification and covenant, unless specifically deleted therefrom and substituted herein, contained in the "Standard Railroad License Specifications & Covenants For Wire, Pipe and/or Cable Transverse Crossing and/or Longitudinal Occupation Within The Railroad Right of Way", ("Standard Specifications"), dated June 18, 1998, which are hereby made an integral part of this Agreement by reference thereto and which shall have full force and effect as if the same was incorporated herein, it

being understood and agreed by the parties hereto that the said "Standard Specifications" are and shall remain on file in the offices of the State and of the Licensee identified on page -1- hereof.

8) During the first five (5) years of the initial term of this Agreement, the RAILROAD shall pay to the STATE, annually, a sum equal to six percent (6%) of the RAILROAD'S gross rail revenues. During the second five (5) years of the initial term of this Agreement, the RAILROAD shall pay to the STATE, annually, a sum equal to twelve percent (12%) of the RAILROAD'S gross rail revenues. Revenues are those attributed to operations on the SEGMENT and shall be defined in accordance with the definitions in the Standards for Determining Rail Service Continuation Subsidies, (49 CFR 1125), and the Rail Services Planning Office of the Interstate Commerce Commission (RSPO Standards), as the same may be amended from time to time. If the RAILROAD elects to exercise its right to extend this Agreement for one (1) additional, successive ten (10) year period of time, the STATE and the RAILROAD shall renegotiate the consideration of the annual payment based upon the RAILROAD'S then gross rail revenues from the provision of RAIL FREIGHT SERVICE, as certified by actual audits.

9) The RAILROAD agrees that it shall have prepared and delivered to the STATE, in the manner and frequency hereinafter specified and at the RAILROAD'S own expense, statement(s) of gross receipts, pertinent expenses (where appropriate) and payments to the STATE.

Such statement(s) shall be prepared and delivered to the STATE within ninety (90) days following each of the hereinafter specified events (where appropriate):

- (a) the end of each year of the specified term of this Agreement;
- (b) the end of each year or fraction thereof of any bona fide extension of the specified term of this Agreement, if any; and
- (c) the effective date of termination of this Agreement, in the event of termination prior to the completion of the specified term of this Agreement or prior to the completion of the extended term of this Agreement specified in any bona fide extension hereof, if any.

Such statement(s) shall be prepared and certified by an independent Certified Accountant (CPA) as defined by Chapter 389 of the Connecticut General Statutes, as revised, and shall contain the CPA'S professional opinion relative to each of the following:

- (1) The sufficiency and adequacy of all records presented by the RAILROAD to the CPA to properly reflect all aspects of the RAILROAD'S operations under this Agreement;
- (2) The system of record keeping utilized by the RAILROAD pursuant to this Agreement is in substantial accord with generally accepted accounting principles and practices;

- (3) The payments due the STATE are computed correctly and in accord with the terms of this Agreement and the laws of the State of Connecticut, and
- (4) The recommendations of the CPA, if any, that in the opinion of the CPA would improve the fiscal relationship between the STATE and the RAILROAD as regards this Agreement.

While it is the intent of the STATE to rely on the certified statement(s) of the CPA as the same is/are defined hereinabove, the STATE hereby reserves the right to review, examine and/or audit the records of the RAILROAD and the work papers of the said CPA as relates to this Agreement.

10) In the event that the RAILROAD shall be delayed, hindered in or prevented from the performance of any act required hereunder by reason of strikes, lockouts, labor troubles, inability to procure materials, failure of power, failure of any connecting railroad to provide service, restrictive governmental laws or regulations, riots, insurrection, war or any Act of God, including, but not limited to, flooding or washouts, or any other reason beyond the RAILROAD'S control, hereinafter collectively referred to as FORCE MAJEURE, then the RAILROAD'S performance of such act shall be excused for the period during which such conditions shall continue to exist.

In the event of a loss of any portion of the physical plant comprising the SEGMENT, the RAILROAD shall repair the damaged area as part of its normal maintenance program unless such loss is determined to be catastrophic, as defined below.

For the first two years of this Agreement, catastrophic loss shall be defined as damage to the physical plant greater than Seventy-Five Thousand Dollars (\$75,000) per annum or twenty-five percent (25%) of the RAILROAD'S annual gross rail revenues from RAIL FREIGHT SERVICE, whichever is lesser. For the remainder of this Agreement, catastrophic loss shall be defined as damage of Seventy-Five Thousand Dollars (\$75,000) per annum or twenty-five percent (25%) of Gross Revenues, whichever is greater.

In the event of a catastrophic loss of any portion of the physical plant comprising the SEGMENT that substantially impairs the RAILROAD'S ability to provide RAIL FREIGHT SERVICE, the RAILROAD shall be relieved of its responsibilities to operate and maintain the SEGMENT unless the funds required for restoration beyond the RAILROAD'S obligation for maintenance are received from (a) a source other than the RAILROAD or (b) can be recovered by the RAILROAD over a period of less than two (2) years, without impairing the previously existing level of recovery of costs or contribution of the line to the RAILROAD'S overhead and profit through basic rates and surcharges (if needed) from RAIL FREIGHT SERVICE on the SEGMENT.

11) The RAILROAD shall have exclusive control over the management and operation of its RAIL FREIGHT SERVICE, including, without limitation, the dispatching of trains, assignment of available cars, assignment of crews and assignment and utilization of

power, provided that the RAILROAD will provide such RAIL FREIGHT SERVICE in an efficient manner.

12) Upon expiration of Agreement No. 9.22-04(89) between the STATE and Martin Marietta, The RAILROAD, at its own expense, shall perform all routine and emergency maintenance which does not involve catastrophic loss, such as, rail surfacing, spot tie and rail replacement, spot tamping and lining, tightening bolts, driving spikes and other necessary repairs needed to enable continued, safe operation over the SEGMENT, and shall maintain the FACILITIES to permit continued operation of RAIL FREIGHT SERVICE in compliance with the Federal Railroad Administration, (FRA), safety standards. Within the initial two years of this Agreement, accelerated maintenance is the responsibility of the Operator, if required. Exceptions to continued maintenance of the SEGMENT, or any portion thereof, at FRA'S Class II track standards may be granted by written approval from the STATE.

13) In accordance with the RAILROAD'S "Griffins Line Proposal" dated September 29, 1998, submitted to and received by the STATE, the RAILROAD will immediately bolster maintenance to keep the Griffins Industrial Track at Class I+ conditions through the winter by:

a) Ensuring that all track and switches on the entire line are up to a firm FRA Class I+ status, concentrating on tie insertion, joint raising, bolt tightening, spot ballasting, switch timbering and adjustment, and drainage improvements.

b) Undercut track at overhead bridge MP 1.05, Woodland Street in Hartford, with a current Plate-C-Only Clearance Restriction, which will not clear Plate E or Plate F Hi-Cube lumber and plywood cars.

c) Replace "paved-over" surface of Wintonbury Avenue Crossing in Bloomfield with rubber Epflex flangeguard.

d) Redeck timbers on Watt Brook girder bridge at MP 4.03.

e) Restore both switches and track to the Run-Around siding at Griffins, Day Hill Road, for operations and yardage.

f) Upgrade track and switches at Walnut Street Bridge interchange, Hartford Lumber track, and Waterbury/New Britain Sub to provide an interim "Drop and Pull" interchange there with Connecticut Southern Railroad.

14) The RAILROAD further agrees, in accordance with the RAILROAD'S "Griffins Line Proposal" dated September 29, 1998, submitted to and received by the STATE, to undertake a four (4) year plan to raise the track on the Griffins Industrial Track from Class I to Class II, including crossing surfaces and automatic signal protection, by:

Phase 1: a) Undercut Woodland Street overhead bridge in Hartford (1999) 20" to open up restrictive Plate C clearance to Plates E and F for the passage of hi-cube lumber and plywood cars. The RAILROAD will also amend soft track and drainage

problems in the area, with aggressive ditching, drainage pipe, geotextile, deepened ballast section, new ties, plates, surface and alignment.

- b) Install cantilever signal lights and gates and circuits at the Cottage Grove divided highway crossing.

Phase 2: a) Additional installation of 150 ties/mile, using 6" x 8" (2000) treated hardwood grade I or quality relay, depending upon price and availability, which will be the first year of a three-year tie replacement program.

- b) Park Avenue Crossing. Upgrade track, surface and signals.

Phase 3: a) Additional installation of 150 ties/mile, using 6" x 8" (2001) treated hardwood grade I or quality relay, depending upon price and availability, which will be the second year of a three-year tie replacement program.

- b) Install crossing signals on six (6) public crossings.

Phase 4: a) Additional installation of 150 ties/mile, using 6" x 8" (2002) treated hardwood grade I or quality relay, depending upon price and availability, which will be the last year of the tie replacement program.

- b) Various ballast, surface and alignment, culverts and drainage improvements.

15) In the event the SEGMENT, or any portion thereof, is rehabilitated by the STATE or its agent at any time during the initial or extended term, if any, of this Agreement, the RAILROAD shall be required to maintain the SEGMENT, or any portion thereof, at the level to which it was rehabilitated by the STATE or its agent, according to the following requirements: (a) the RAILROAD shall adhere to the "AREA Manual of Rail Way Engineering" for all track rehabilitation, and (b) the RAILROAD shall maintain track conditions to not less than the FRA'S Class II requirements for all segments that are rehabilitated.

16) The STATE shall deliver the FACILITIES to the RAILROAD, and the RAILROAD shall accept the FACILITIES, in substantially the same condition the FACILITIES are in on the date this Agreement is signed and fully approved by the STATE. Not more than seventy-two (72) hours prior to the RAILROAD'S accepting possession of the FACILITIES pursuant to this Agreement, the RAILROAD and a representative of the STATE shall jointly inspect the FACILITIES.

The FACILITIES shall be available at all reasonable times, for inspection by the STATE, its employees and representatives during the initial term and any extensions hereof. The RAILROAD shall conduct inspections of the FACILITIES as required by FRA track safety standards. The RAILROAD shall permit qualified representatives of the STATE to accompany the RAILROAD'S inspectors as vehicular space permits.

The STATE reserves the right to inspect the FACILITIES prior to the commencement of the RAILROAD'S operations. In the event automatic warning devices have to be reactivated at grade crossings, the STATE shall be notified before the commencement of the RAILROAD'S operations to facilitate an inspection of the operation and alignment of the lights. If automatic warning devices are not reactivated, any remaining lights should be removed or bagged and a stop and protect order made in the RAILROAD'S employee timetable.

17) The RAILROAD agrees to secure and maintain, at no cost to the STATE, during the initial term and any renewals thereof, if any, with the STATE being an additional insured party, the following minimum liability insurance policy or policies covering the said SEGMENT and FACILITIES, the same being carried with an insurance company or companies satisfactory to the STATE. Each insurance policy shall state that the insurance company(ies) shall agree to investigate and defend the insured against all claims for damages, even if groundless.

Insurance providing for a total limit of not less than Two Million Dollars (\$2,000,000) for all damages arising out of bodily injuries to or death of all persons in any one accident or occurrence, and for all damages arising out of injury to or destruction of property in any one accident or occurrence.

In conjunction with the above, the RAILROAD agrees to furnish to the STATE, only on the forms supplied by the STATE, a Certificate of Insurance, (CON-32), fully executed by an insurance company or companies satisfactory to the STATE, for the insurance policy or policies required hereinabove, which policy or policies shall be in accordance with the terms of said Certificate of Insurance.

It is further understood and agreed by the parties hereto, that the RAILROAD shall not use the defense of Governmental Immunity in the adjustment of claims or in the defense of any suit, unless requested by the STATE.

18) The RAILROAD shall comply with all federal, state and municipal laws and regulations as to health, police, nuisance, fire, water, highways, sidewalks (including removal of snow and ice therefrom), public utilities, interstate commerce and other matters and with the regulations of all persons or corporations supplying water, gas, electricity or steam to the FACILITIES, and shall indemnify the STATE against all fines, penalties, expense, damages, and costs for violation thereof.

19) The RAILROAD shall not mutilate, damage, misuse, or commit or suffer waste in the FACILITIES, but shall keep the same and upon the termination hereof deliver them up in as good condition as they are now in, or may be put in by the STATE, ordinary wear and tear, fire without fault or malfeasance on the part of any occupant of the FACILITIES and damages by the elements without concurring fault on the part of the RAILROAD, excepted. The RAILROAD agrees that no junk shall be permitted to be stored on the FACILITIES. The term "junk", as used herein, shall mean old or scrap paper, copper, brass, rope, rags, batteries, trash, rubber debris, waste, dismantled or wrecked

automobiles, or parts thereof, iron, steel and other old or scrap ferrous or non-ferrous materials not used or stored for use by the RAILROAD in connection with the operation, restoration or maintenance of locomotives, rolling stock, related railroad equipment, vehicles, the SEGMENT or the FACILITIES.

Any and all repairs, alterations or improvements made to the FACILITIES by the STATE, at the RAILROAD'S request, shall be at the RAILROAD'S expense unless otherwise expressly agreed to in writing by both parties. If any structure within the FACILITIES has been destroyed or damaged, and if the RAILROAD has received or will receive insurance moneys as compensation for such loss or damage, such insurance moneys shall be applied toward repairing or rebuilding the lost or damaged structure within the FACILITIES.

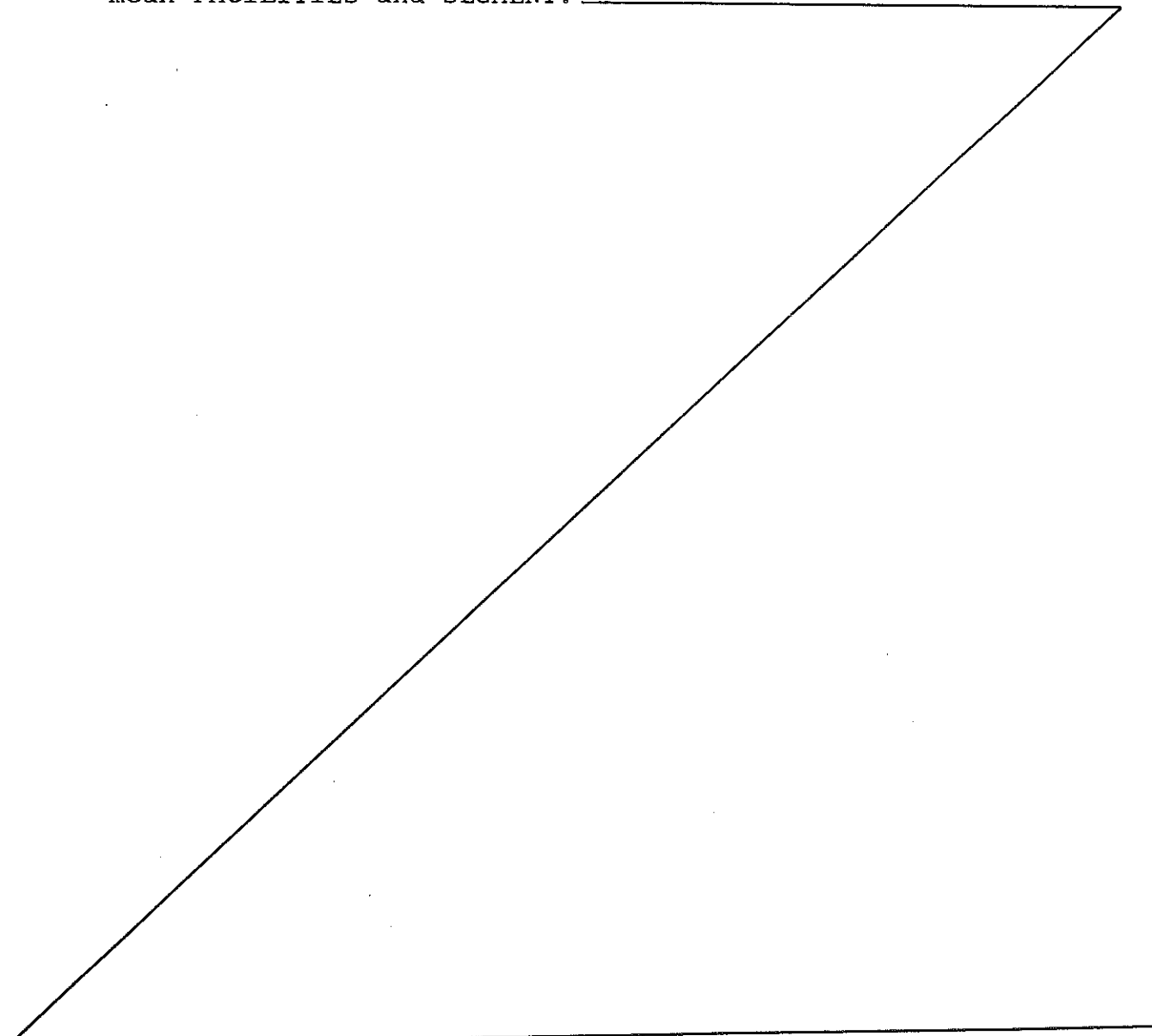
20) The RAILROAD shall not assign or transfer this Agreement or sublet the whole or any part of the SEGMENT without written permission from the State of Connecticut, Department of Transportation.

21) The RAILROAD shall conform to the regulations promulgated by the FRA and published in the United States Code of Federal Regulations, and Connecticut General Statutes Title 13b, Chapters 245, 245a and 245b, both as amended, for all train operations, track maintenance, and equipment.

22) It is further mutually understood and agreed by the parties hereto that this Agreement is made, subject to the following specifications and covenants:

- (a) It is expressly understood and agreed by the RAILROAD that if at any time during the term of this Agreement the required Certificate of Insurance and/or rental payment, as described herein, are not received within thirty (30) days of their due date, the STATE shall have the right to automatically terminate this Agreement, and the RAILROAD shall be required to be removed from the FACILITIES and the SEGMENT without further notice. The STATE'S lack of enforcement of its right to automatically terminate shall not be construed as a waiver of its right to do so.
- (b) Item (3) on Pages S-1 and S-2 of the attached "Standard Specifications" is hereby deleted in its entirety prior to the execution of this Agreement.
- (c) It is mutually understood and agreed that the RAILROAD will provide, in a timely manner, to the Connecticut Department of Transportation, Office of Rail, a copy of its employees' timetable and all subsequent amendments thereto, as well as, all bulletin orders the RAILROAD issues.
- (d) The RAILROAD shall be required to publish a public notice in the Hartford Courant and local newspapers, particularly in the Towns of Hartford, Bloomfield, and Windsor, at least thirty (30) days prior to the commencement of the RAILROAD'S operations, to advise the public and abutting property owners that the rail line contained within the SEGMENT will

become active. The RAILROAD will also be required to give written notice to the first elected officials of the Towns of Hartford, Bloomfield and Windsor indicating the RAILROAD'S current limits and authorities pursuant to this Agreement.

- (e) In accordance with the requirements of Chapter 245b, Railroad Operations, Section 13b-324(b) of the Connecticut General Statutes, in the event of an accident involving personal injury or affecting the public safety occurring on any of its property or involving any of its equipment, the RAILROAD shall notify the Commissioner of the Connecticut Department of Transportation as soon as possible after the accident. Any notice given orally shall be confirmed in writing within five (5) days.
 - (f) "LICENSEE", as referenced in the attached Standard Specifications, shall mean RAILROAD, and "FACILITIES", as referenced in the attached Standard Specifications, shall mean FACILITIES and SEGMENT.
- 

IN WITNESS WHEREOF, the parties hereto do hereby set their hands and seals on the day and year indicated.

WITNESSES:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
James F. Sullivan, Commissioner



Name:

ELIZABETH H. MOSCA

By

Harry P. Harris

Bureau Chief

Bureau of Public Transportation

Date:

January 4, 1999

Name:

LOUISE LENT

WITNESSES:

RAILROAD
THE CENTRAL NEW ENGLAND RAILROAD
COMPANY

Name:

Bryan J. Belliveau

By

Amedee J. Belliveau

President and General Manager

Date:

11-2-98

Name:

Deborah S. Belliveau



STATE OF CONNECTICUT)
COUNTY OF HARTFORD) ss: Newington

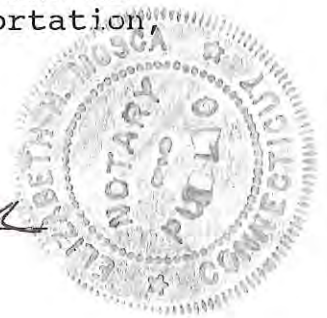
January 4 A.D., 1999

Personally appeared for the State, Harry P. Harris, Signer and Sealer of the foregoing Instrument and acknowledged the same to be the free act and deed of the Department of Transportation, and his free act and deed as Bureau Chief, Bureau of Public Transportation, before me.

My Commission Expires:

ELIZABETH H. MOSCA
NOTARY PUBLIC
MY COMMISSION EXPIRES NOV. 30, 2002

Elizabeth Mosca
Notary Public



STATE OF CONNECTICUT)
COUNTY OF Hartford) ss: Newington Nov. 2, A.D., 1998

Personally appeared for the RAILROAD, Amedee J. Belliveau, Signer and Sealer of the foregoing Instrument and acknowledged the same to be the free act and deed of The Central New England Railroad Company, and his free act and deed as President and General Manager, before me.

My Commission Expires:

4/30/99

Kathleen M. Soluski
Notary Public



APPROVED AS TO FORM:

W B R I
Asse Attorney General
State of Connecticut

Date: 1/20/99



THE CENTRAL NEW ENGLAND RAILROAD CO., INC.

44 Cedar Ridge Rd.
Newington, CT- 06111-2008
Phone : 860-666-1636
Fax : 860-665-1540

RESOLUTION (CORPORATION)

BE IT RESOLVED, that the President, Amedee J. Belliveau, VICE PRESIDENT
_____, SECRETARY _____
(NAME) (NAME)

Or any of them acting individually be and they are hereby authorized to enter into
an operating agreement between the State of Connecticut Department of
Transportation, ~~Agreement #7.28-09(98), State Project #0170-1921~~ and this
Corporation. *Agreement No. 6.08-08(98), Rail File No. (63) 7001-Misc-1107

Bryan J. Belliveau, Secretary

I, ~~Amedee J. Belliveau, President~~ of The Central New England Railroad Company,
under the laws of the State of Connecticut hereby certify that the foregoing is a true
copy of the resolution duly adopted by the Board of Directors of said Corporation
at the meeting duly held the 2nd of February, 1998 at which a quorum was present
and voting, and that the same has not been repealed or amended, and remains in
full force effect and does not conflict with the by-laws of said Corporation.

(CORPORATE SEAL)

(If No Seal, Certify That There
Is No Seal)

11-2-98
(DATE)

Bryan J. Belliveau
(SECRETARY)

(Must Not Be Signed By An
Officer Named In The
Resolution)

Subscribed And Sworn To Before Me

This 2 Day of November 1998

Kathleen M. [Signature]
Notary Public (Affix Seal)

My Commission Expires 4/30/99

CONTRACT REV. USE
STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Rail File # (63) 7001-Misc-1107
(Griffins Line)

CERTIFICATE OF INSURANCE

This is to certify that the Insurance Company named herein has issued to the named insured the policies listed below, that these policies are written in accordance with the Insurance Company's standard policies and endorsements, except as indicated below or as noted in the attachments hereto, which policies and endorsements will be made available to the Department of Transportation upon request, that they provide coverage and limits of liability shown with respect to the hazards indicated, that they are in force on this date, that all conditions are indicated below, and that this Certificate is furnished in accordance with and for the purpose of satisfying the requirements of the Department of Transportation in accordance with the award and performance of any contract or agreement, or the issuance of any permit or authorization by the Transportation Commissioner or duly authorized agent. The Insurance Company agrees to investigate and defend the insured against all claims for damages, even if groundless.

NAME OF INSURED The Central New England Railroad Company and State of Connecticut
ADDRESS 44 Cedar Ridge Road CITY Newington STATE CT

Hazard	Policy Number	Effective Date	Expiration Date	Coverages and Limits of Liability	
				Specify Injury Liability and Property Damage Liability	As-Indemnity
A. Intending Liability for and in the name of the State of Conn. (1) See Below					
B. Public Liability	GG15018793-01	5/1/98	5/1/99	5,000,000	Unlimited
C. Contractor's Protective Liability					
D. Construction Liability (1) (2) See Below					
E. Completed Operations Liability					
F. Explosion, Collapse, or Underground Damage Liability					
G. Automobile Liability Owned Automobiles Non-owned Automobiles					
H. Railroad Liability					
I. Valuable Papers and Records					
J. Valuable Papers and Records					
K. Workers' Compensation					

* Place of Construction to Be Used As Additional Insured

** Compensation Commissioner's Certificate shall be supplied herewith by self-employed party.

Check

This certificate is issued in accordance with the terms of:

- ☐ Construction Contracts ☐ Maintenance Work (by Purchase Order) ☐ Demolition Contracts
☐ Permit Work No. _____ ☐ Lease Agreement Rights of Way ☐ Agree No. _____ Rail File # ()
☐ Engineering ☐ Project No. _____ ☒ Other Specify As Noted Above
including all operations incidental thereto.

PARTY FOR NOTICE Public Transportation Unit 7440 TO Office of Rail

(1) It is agreed that the herein named Insurance Company waives governmental immunity as a defense and will not use the defense of governmental immunity in the adjustment of claims or in the defense of any suit brought against the State, and it is further agreed that the Insurance Company will not preclude and audit charges derived under the protective liability policy to the above named insured.
(2) LIABILITY - The insured shall at all times indemnify and save harmless the State of Connecticut, the Department of Transportation, and their respective officers, agents, and employees, on account of any and all claims, damages, losses, litigation, expenses, counsel fees, and compensation arising out of injuries (including death) sustained by or alleged to have been sustained by the officers, agents, and employees of said State or Department or of the insured, his subcontractors, or materialmen, and from injuries (including death) sustained by or alleged to have been sustained by the public, any or all persons on or near the work, or by any other person or property, real or personal (including property of any kind or Department) damaged in whole or in part by the acts, omissions, neglect of the insured, including but not limited to any neglect in safeguarding the work or through the use of unacceptable materials in conducting the work, or engaged in the performance of the contract, or agreement, or work under a permit, including the entire elapsed time from the date ordered to start work or the actual start whichever occurs first until the completion as certified by the Department of Transportation.

IN THE EVENT OF ANY RESTRICTIVE AMENDMENT TO, ANY CHANGE IN CANCELLATION OF OR FAILURE TO RENEW ANY ONE OR MORE OF SAID POLICIES THE General Accident Insurance Company SHALL GIVE NOT LESS THAN THIRTY DAYS WRITTEN NOTICE TO THE PARTY FOR NOTICE TO WHOM THIS CERTIFICATE IS ISSUED OF SUCH AMENDMENT, CHANGE, CANCELLATION, OR FAILURE TO RENEW.

DATE THIS 6th DAY OF November, 1998

General Accident Insurance Co.

Philadelphia, PA

United Shortline Insurance Services

Port Austin, MI

John Schellinger
AUTHORIZED SIGNATURE

ISSUED TO DEPARTMENT OF TRANSPORTATION
OFFICE OF RAIL
PROPERTY MANAGEMENT UNIT
50 UNION AVENUE 3RD FLOOR WEST
NEW HAVEN, CT 06519

STANDARD RAILROAD LICENSE

SPECIFICATIONS & COVENANTS

FOR WIRE, PIPE AND/OR CABLE TRANSVERSE CROSSINGS AND/OR
LONGITUDINAL OCCUPATIONS WITHIN THE RAILROAD RIGHT OF WAY

June 18, 1998

Connecticut Department of Transportation
Bureau of Finance & Administration
Division of Contract Administration
Agreements/Negotiations Section

- (1) The Licensee hereby releases and waives all right or alleged right at any time to ask for or demand damages from the State or its employees, that have occurred or may occur to the Licensee, to the FACILITIES or to any property owned by or in possession or control of the Licensee, or the Licensee's officers, employees or agents, while in or upon the FACILITIES, including loss of use thereof, and whether or not due to the fault, failure or negligence of the State; and the Licensee further covenants and agrees to indemnify, protect and save harmless the State from and against all loss, cost, damage and expense, and claims and demands therefor, caused by or in connection with the presence, location, use, construction, condition, maintenance, repair, renewal, or removal of the FACILITIES, or the facilities of the Licensee used in connection therewith, or injury or damage caused thereto or thereby, and whether to the property of the State or to property in its possession, control or custody, to its employees, patrons or licensees, or to persons or property of others who may seek to hold the State liable therefor, and whether attributable in whole or in part to the fault, failure or negligence of the State.
- (2) The Licensee agrees that at all times during the life of this Agreement, including any supplements thereto and all renewals thereof, it shall indemnify and save harmless the State, its officers, agents, employees and the said FACILITIES from all claims, suits, actions, damages and cost of every name and description a) resulting from the negligent use of the said FACILITIES by the Licensee and/or any of its subcontractors or b) resulting from the non-use of the said FACILITIES while said FACILITIES is under the jurisdiction and control of the Licensee or c) resulting from the nonadherence of the Licensee and/or its subcontractors to any of the restrictions, covenants and specifications of this Agreement, including any supplementals thereto and all renewals thereof, and such indemnity shall not be limited by reason of any insurance coverage.

It is further understood and agreed by the parties hereto, that the Licensee shall not use the defense of Governmental Immunity in the adjustment of claims or in the defense of any suit, unless requested by the State.

- (3) The Licensee agrees to secure and maintain for the duration of this Agreement, including any supplements thereto and all renewals thereof, if any, with the State being named an additional insured party, the following minimum liability insurance policy or policies covering the said FACILITIES at no cost to the State, the same being carried with an insurance company or companies satisfactory to the State.

Each insurance policy shall state that the insurance company(ies) shall agree to investigate and defend the insured against all claims for damages, even if groundless.

- (a) Insurance providing for a total limit of not less than Seven Hundred Fifty Thousand Dollars (\$750,000) for all damages arising out of bodily injuries to or death of all persons in any one accident or occurrence, and for all damages arising out of injury to or destruction of property in any one accident or occurrence and subject to that limit per accident, a total (or aggregate) limit of One Million Five Hundred Thousand Dollars (\$1,500,000) for all damages arising out of bodily injuries to or death of all persons in all accidents or occurrences and out of injury to or destruction of property during the policy period.

In conjunction with the above, the Licensee agrees to furnish to the State, only on the form or forms supplied by the State, a Certificate of Insurance (CON-32), fully executed by an insurance company or companies satisfactory to the State, for the insurance policy or policies required hereinabove, which policy or policies shall be in accordance with the terms of said Certificate of Insurance.

- (4) The burden of obtaining all permits and approvals which may be necessary or appropriate shall be upon the Licensee and shall be at the sole risk, cost and expense of the Licensee whose responsibility it shall be to comply with all Federal, State and local laws, and assume all cost and expense and responsibility in connection therewith, without any liability whatsoever on the part of the State, and the Licensee hereby agrees to indemnify, protect and save harmless the State.
- (5) The Licensee shall comply with all Federal, State and local laws, and assume all cost and expense and responsibility in connection therewith, without any liability whatsoever on the part of the State.
- (6) As part of the consideration of this Agreement, the Licensee covenants and agrees that no assessments, taxes or charges of any kind shall be made against the State or its property by reason of the construction of said FACILITIES of the Licensee, and the Licensee further covenants and agrees to pay to the State promptly when billed therefor, the full amount of any assessments, taxes or charges of any kind which may be levied, charged, assessed or imposed against the State or its property by reason of the construction and maintenance of said FACILITIES of the Licensee.

- (7) The rights conferred hereby shall be the privilege of the Licensee only, and no assignment or transfer thereof shall be made, or other use be permitted than for the purpose stated herein without the prior consent and agreement in writing of the State.
- (8) The Licensee agrees to comply with and conform to all the laws of the State of Connecticut, and the ordinances and zoning regulations of the Town(s) in which the said FACILITIES is located, regarding health, nuisance, fire, highways, and sidewalks, so far as the said FACILITIES is or may be concerned.
- (9) It is further agreed that at the termination of this Agreement for any reason, improvements (including, but not limited to signs, lighting, fences, pier protection devices, paved areas or sidewalks) shall not be removed from the site and shall be the property of the State, or at the State's option, the Licensee shall restore the site to the same physical condition existing immediately before the execution of this Agreement, at no expense to the State. In the event the Licensee shall not fulfill this obligation within a reasonable time when requested by the State, the State shall, at its option, arrange to have the work done and shall bill the Licensee for all expenses incurred. The Licensee shall promptly pay when billed without recourse.
- (10) The Licensee shall record this Agreement, including any supplements hereto and all renewals thereof, if any, in the land records of the town(s) in which the said FACILITIES is located, at no expense to the State, and the recording shall be done immediately upon notification that the fully executed and approved Agreement is ready to be recorded. Failure of the Licensee to record the document(s) as specified herein, shall be sufficient grounds for the State to terminate this Agreement without notice.
- (11) The Secretary of the State of the State of Connecticut (including any successor thereto) is hereby appointed by the Licensee as its agent for service of process for any action arising out of or as a result of this Agreement, such appointment to be in effect throughout the life of this Agreement including any supplements hereto and all renewals thereof, if any, and six (6) years thereafter, except as otherwise provided by Statute.
- (12) The Licensee shall make all payments to the State by check, made payable to "Treasurer, State of Connecticut" and addressed to the "Accounts Receivable Unit, Connecticut Department of Transportation, P.O. Box 317546, Newington, Connecticut, 06131-7546".

(13) The Licensee, for itself, its representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree as a covenant running with the Land that: (1) no person, on the grounds of race, color, or national origin shall be excluded from participation in, be denied the benefits of, or be otherwise subject to discrimination in the use of said crossing; (2) in regard to any construction and/or improvements on, over, or under such land and the furnishing of services thereon, no person on the grounds of race, color, or national origin shall be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination; (3) the Licensee shall use the land in compliance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation - Effectuation of Title VI of the Civil Rights Act of 1964 and as said Regulations may be amended. In the event of breach of any of the above nondiscrimination covenants, the State shall have the right to terminate the Agreement and to re-enter and repossess said land and the facilities thereof, and hold the same as if said Agreement had never been made or issued.

(14) (a) For the purposes of this section, "minority business enterprise" means any small contractor or supplier of materials fifty-one percent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise and (3) who are members of a minority, as such term is defined in subsection (a) of Conn. Gen. Stat. §32-9n; and "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations. "Good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements.

For purposes of this section, "Commission" means the Commission on Human Rights and Opportunities.

(b) (1) The Licensee agrees and warrants that in the performance of the contract such Licensee will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious

creed, age, marital status, national origin, ancestry, sex, mental retardation or physical disability, including, but not limited to, blindness, unless it is shown by such Licensee that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut. The Licensee further agrees to take affirmative action to insure that applicants with job related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation, or physical disability, including, but not limited to blindness, unless it is shown by such Licensee that such disability prevents performance of the work involved; (2) the Licensee agrees, in all solicitations or advertisements for employees placed by or on behalf of the Licensee, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the Commission; (3) the Licensee agrees to provide each labor union or representative of workers with which such Licensee has a collective bargaining agreement or other contract or understanding and each vendor with which such Licensee has a contract or understanding, a notice to be provided by the Commission advising the labor union or workers' representative of the Licensee's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Licensee agrees to comply with each provision of this section and Conn. Gen. Stat. §§46a-68e and 46a-68f and with each regulation or relevant order issued by said Commission pursuant to Conn. Gen. Stat. §§46a-56, 46a-68e and 46a-68f; 15) the Licensee agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Licensee as relate to the provisions of this section and Section 46a-56. If the contract is a public works contract, the Licensee agrees and warrants that he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works projects.

(c) Determination of the Licensee's good faith efforts shall include, but shall not be limited to, the following factors: The Licensee's employment and subcontracting policies, patterns and practices; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.

(d) The Licensee shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its good faith efforts.

(e) The Licensee shall include the provisions of subsection (b) of this section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Licensee shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Conn. Gen. Stat. §46a-56; provided if such Licensee becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Licensee may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

(f) The Licensee agrees to comply with the regulations referred to in this section as they exist on the date of this contract and as they may be adopted or amended from time to time, during the term of this contract and any amendments thereto.

- (15) (a) Pursuant to Section 4a-60a of the Connecticut General Statutes, (1) The Licensee agrees and warrants that in the performance of the contract such Licensee will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or of the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) the Licensee agrees to provide each labor union or representative of workers with which such Licensee has a collective bargaining agreement or other contract or understanding and each vendor with which such Licensee has a contract or understanding, a notice to be provided by the commission on human rights and opportunities advising the labor union or workers' representative of the Licensee's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) the Licensee agrees to comply with each provision of this section and with each regulation or relevant order issued by said commission pursuant to section 46a-56 of the general statutes; (4) the Licensee agrees to provide the commission on human rights and

opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Licensee which relate to the provisions of this section and section 46a-56 of the general statutes.

(b) The Licensee shall include the provisions of subsection (a) of this section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the state and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the commission. The Licensee shall take such action with respect to any such subcontract or purchase order as the commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with section 46a-56 of the general statutes; provided, if such Licensee becomes involved in, or is threatened with, litigation with a subcontractor or vendor as result of a such direction by the commission, the Licensee may request the state of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the state and the state may so enter.

(16) This Agreement is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill promulgated June 16, 1971 and, as such, this Agreement may be cancelled, terminated or suspended by the State Labor Commissioner for violation of or noncompliance with said Executive Order No. Three, or any state or federal law concerning nondiscrimination, notwithstanding that the Labor Commissioner is not a party to this Agreement. The parties to this Agreement, as part of the consideration hereof, agree that said Executive Order No. Three is incorporated herein and made a part hereof. The parties agree to abide by said Executive Order and agree that the State Labor Commissioner shall have continuing jurisdiction in respect to Agreement performance in regard to nondiscrimination, until the Agreement is completed or, terminated prior to completion. The Licensee, as part consideration hereof, agrees that this Agreement is subject to the Guidelines and Rules issued by the State Labor Commissioner to implement Executive Order No. Three, and that the Licensee will not discriminate in its employment practices or policies, will file all reports as required, and will fully cooperate with the State of Connecticut and the State Labor Commissioner. A copy of said Guidelines is attached and hereby made a part of this Agreement.

(17) This Agreement is subject to the provisions of Executive Order No. Seventeen of Governor Thomas J. Meskill promulgated February 15, 1973, and, as such, this Agreement

may be cancelled, terminated or suspended by the contracting agency or the State Labor Commissioner for violation of or noncompliance with said Executive Order No. Seventeen, notwithstanding that the Labor Commissioner may not be a party to this Agreement. The parties to this Agreement, as part of the consideration hereof, agree that Executive Order No. Seventeen is incorporated herein by reference and made a part hereof. The parties agree to abide by said Executive Order and agree that the contracting agency and the State Labor Commissioner shall have joint and several continuing jurisdiction in respect to Agreement performance in regard to listing all employment openings with the Connecticut State Employment Service.

- (18) The Licensee hereby acknowledges and agrees to comply with the Connecticut Required Contract/Agreement Provisions entitled "Specific Equal Employment Opportunity Responsibilities," dated March 6, 1998, a copy of which is attached hereto and made a part of this Agreement.
- (19) The Licensee assures that it will undertake an affirmative action program as required by 14 CFR Part 152, Subpart E, to insure that no person shall on the grounds of race, creed, color, national origin, or sex be excluded from participating in any employment activities covered in 14 CFR Part 152, Subpart E. The Licensee assures that no person shall be excluded on these grounds from participating in or receiving the services or benefits of any program or activity covered by this subpart. The Licensee assures that it will require that its covered suborganizations provide assurance to the Licensee that they similarly will undertake affirmative action programs and that they will require assurances from their suborganizations, as required by 14 CFR Part 152, Subpart E, to the same effect.
- (20) The State, as the recipient, has agreed with the United States Department of Transportation to include in this Agreement the statements in paragraphs (a) (1) and (2) of Section 23.43 of Part 23 of Title 49, Code of Federal Regulations, which Part 23 is entitled "Participation by Disadvantaged Business Enterprise in Department of Transportation Programs" (which paragraphs (a) (1) and (2) are hereinafter recited verbatim).
- "(a) Each recipient shall agree to abide by the statements in paragraphs (a) (1) and (2) of this section. These statements shall be included in the recipient's DOT financial assistance agreement and in all subsequent agreements between the recipient and any subrecipient and in all subsequent DOT-assisted contracts between recipients or subrecipients and any contractor.

(1) "POLICY. It is the policy of the Department of Transportation that disadvantaged business enterprises, as defined in 49 CFR Part 23, shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal or State funds under this agreement. Consequently, the DBE requirements of 49 CFR Part 23 apply to this agreement.

(2) DBE OBLIGATION. (i) The recipient or its contractor agrees to ensure that disadvantaged business enterprises, as defined in 49 CFR Part 23, have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds provided under this agreement. In this regard, all recipients or contractors shall take all necessary and reasonable steps in accordance with 49 CFR Part 23 to ensure that disadvantaged business enterprises have the maximum opportunity to compete for and perform contracts. Recipients and their contractors shall not discriminate on the basis of race, color, religion, national origin, or sex in the award and performance of DOT-assisted contracts".

- (21) The Licensee hereby acknowledges and agrees to comply with the policies enumerated in "Connecticut Department of Transportation Policy Statement Policy No. ADMIN. -10 Subject: Code of Ethics Policy", August 23, 1994, a copy of which is attached hereto and made a part hereof.

The Licensee shall comply with the provisions contained in Section 1-86e of the Connecticut General Statutes, which provides as follows:

(a) No person hired by the State as a Licensee or independent contractor shall:

(1) Use the authority provided to the person under the contract, or any confidential information acquired in the performance of the contract, to obtain financial gain for the person, an employee of the person or a member of the immediate family of any such person or employee;

(2) Accept another State contract which would impair the independent judgment of the person in the performance of the existing contract;

(3) Accept anything of value based on an understanding that the actions of the person on behalf of the State would be influenced.

(b) No person shall give anything of value to a person hired by the State as a Licensee or independent contractor based on an understanding that the actions of the Licensee or independent contractor on behalf of the State would be influenced.

(22) It is mutually understood and agreed by the parties hereto that any official notice from one such party to the other such party, in order for such notice to be binding thereon, shall:

(a) be in writing addressed to:

(1) when the State is to receive such notice -

Commissioner of Transportation
Connecticut Department of Transportation
P. O. Box 317546
Newington, Connecticut 06131-7546;

(2) when the Second Party is to receive such notice -

the person(s) acting herein as signatory for the Licensee receiving such notice;

(b) be delivered in person or be mailed United States Postal Service - "Certified Mail" to the address recited herein as being the address of the party to receive such notice; and

(c) contain complete and accurate information in sufficient detail to properly and adequately identify and describe the subject matter thereof.

The term "official notice" as used herein, shall be construed to include but not be limited to any request, demand, authorization, direction, waiver, and/or consent of the party as well as any document(s) provided, permitted, or required for the making or ratification of any change, revision, addition to or deletion from the document, contract, or agreement in which this "official notice" specification is contained.

Further, it is understood and agreed that nothing hereinabove contained shall preclude the parties hereto from subsequently agreeing, in writing, to designate alternate persons (by name, title, and affiliation) to which such notice(s) is(are) to be addressed; alternate means of conveying such notice(s) to the particular party; and/or alternate locations to which the delivery of such notice(s) is(are) to be made, provided such subsequent agreement(s) is(are) concluded pursuant to the adherence to this specification.

- (23) It is mutually understood and agreed by the parties hereto that any right of extension of the terms of this Agreement specifically granted herein by the State to the Licensee, if any, shall only be exercised by the Licensee by causing notice in the form and manner herein specified, to be received by the State not less than sixty (60) days nor more than one hundred fifty (150) days prior to the effective date of such extension.
- (24) Suspended or debarred second parties, suppliers, materialmen, lessors or other vendors may not submit proposals for a State contract or subcontract during the period of suspension or debarment regardless of their anticipated status at the time of contract award or commencement of work.

(1) The signature on the Agreement by the Licensee shall constitute certification that to the best of its knowledge and belief the Licensee or any person associated therewith in the capacity of owner, partner, director, officer, principal investigator, project director, manager, auditor or any position involving the administration of Federal or State funds:

(a) Is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Has not within a three-year period preceding this Agreement been convicted of or had a civil judgement rendered against him/her for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction, violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Is not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and

(d) Has not within a three-year period preceding this Agreement had one or more public transactions (Federal, State, or local) terminated for cause or default.

(2) Where the Licensee is unable to certify to any of the statements in this certification, such Licensee shall attach an explanation to this Agreement.

The Licensee agrees to insure that the following certification be included in each subcontract Agreement to which it is a party, and further, to require said certification to be included in any lower tier subcontracts and purchase orders:

(a) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(b) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

(25) The Licensee hereby acknowledges and agrees to comply with Chapter 219 of the Connecticut General Statutes pertaining to tangible personal property or services rendered that is/are subject to sales tax. The attached copy of the "Governmental Agency Exemption Certificate" is hereby made a part hereof.

(26) This clause applies to those Licensees who are or will be responsible for compliance with the terms of the Americans with Disabilities Act of 1990 ("Act"), Public Law 101-336, during the term of the Agreement. The Licensee represents that it is familiar with the terms of this Act and that it is in compliance with the Act. Failure of the Licensee to satisfy this standard as the same applies to performance under this Agreement, either now or during the term of the Agreement as it may be amended, will render the Agreement voidable at the option of the State upon notice to the Licensee. The Licensee warrants that it will hold the State harmless and indemnify the State from any liability which may be imposed upon the State as a result of any failure of the Licensee to be in compliance with this Act, as the same applies to performance under this Agreement.

- (27) "Environmental Laws" shall mean and include any federal, state or local statute, law, ordinance, code, rule, regulation, order, or decree regulating or relating to the protection of human health or the environment, or imposing liability or standards of conduct concerning any hazardous, toxic, or waste substance, element, compound, mixture or material, as now or at any time hereafter in effect, including, without limitation, the Federal Comprehensive Environmental Response, Compensation and Liability Act, as amended, 42 U.S.C. § 9601 et seq., the Federal Oil Pollution Act of 1990, 33 U.S.C. § 2701, et seq., the Federal Toxic Substances Control Act, 15 U.S.C. § 2601 et seq., the Federal Resource Conservation and Recovery Act, as amended, 42 U.S.C. § 6901 et seq., the Federal Hazardous Material Transportation Act, 49 U.S.C. § 1801 et seq., the Federal Clean Air Act, 42 U.S.C. § 7401 et seq., the Federal Water Pollution Control Act, 33 U.S.C. § 1251 et seq., the River and Harbors Act of 1899, 33 U.S.C. § 401 et seq., and all rules and regulations of the United States Environmental Protection Agency, or any other state, local or federal agency or entity having jurisdiction over environmental or health and safety matters, as such may have been amended.

"Hazardous Substances" shall mean any and all materials, chemicals, or other substances that are hazardous or toxic or otherwise regulated or controlled pursuant to any of the Environmental Laws.

The Licensee shall comply strictly and in all respects with the requirements of the Environmental Laws. Furthermore, the Licensee shall not store, generate or use any Hazardous Substances at, on, or under the FACILITIES.

- (28) All the Licensee's obligations hereunder shall survive this Agreement or any other agreement or action, including, without limitation, any consent decree, or order, between the Licensee and the government of the United States or any department or agency thereof, the State and/or the Municipality.
- (29) In addition to Item (2) of these Standard Specifications, the Licensee hereby agrees as follows:

The Licensee shall or if the Licensee is one of several licensees, the Licensees shall jointly and severally, protect, indemnify, defend, and hold harmless the State and any of its officers, employees and agents and their respective heirs, legal representatives, successors and assigns, from and against any and all loss, damage, cost, charge, lien, debt, fine, penalty, injunctive relief, claim, demand, expense, suit, order, judgment, adjudication, liability, or injury to person, property or natural resources, including attorneys' fees and consultants' fees (any of the foregoing being referred

to in this Agreement as a "Claim") arising out of, attributable to, which may accrue out of, or which may result from (i) any violation or alleged violation of the Environmental Laws by any person or entity or other source whether related or unrelated to the Licensee, or (ii) the disposal or alleged disposal of Hazardous Substances (whether intentional or unintentional, direct or indirect, foreseeable or unforeseeable) by any person or entity or other source, whether related or unrelated to the Licensee.

- (30) The Agreement, when fully executed by both parties, and this "STANDARD RAILROAD LICENSE SPECIFICATIONS & COVENANTS FOR WIRE, PIPE AND/OR CABLE TRANSVERSE CROSSINGS AND/OR LONGITUDINAL OCCUPATIONS WITHIN THE RAILROAD RIGHT OF WAY", together constitute the entire agreement between the parties hereto and shall supersede all previous communications, representations, or Agreements, either oral or written, between the parties hereto with respect to the subject matter hereof; and no agreement or understanding varying or extending the same shall be binding upon either party hereto unless in writing signed by both parties hereto; and nothing contained in the terms or provisions of this Agreement shall be construed as waiving any of the rights of the State under the laws of the State of Connecticut.

STATE OF CONNECTICUT
BY HIS EXCELLENCY
THOMAS J. MESKILL
GOVERNOR
EXECUTIVE ORDER NO. THREE

WHEREAS, sections 4-61d (b) and 4-114a of the 1969 supplement to the general statutes require nondiscrimination clauses in state contracts and subcontracts for construction on public buildings, other public works and goods and services and

WHEREAS, section 4-61e (c) of the 1969 supplement to the general statutes requires the labor department to encourage and enforce compliance with this policy by both employers and labor unions, and to promote equal employment opportunities, and

WHEREAS, the government of this state recognizes the duty and desirability of its leadership in providing equal employment opportunity, by implementing these laws,

NOW, THEREFORE, I, THOMAS J. MESKILL, Governor of the State of Connecticut, acting by virtue of the authority vested in me under section twelve of article fourth of the constitution of the state, as supplemented by section 3-1 of the general statutes, do hereby ORDER and DIRECT, as follows, by this Executive Order:

I

The labor commissioner shall be responsible for the administration of this Order and shall adopt such regulations as he deems necessary and appropriate to achieve the purposes of this Order. Upon the promulgation of this Order, the commissioner of finance and control shall issue a directive forthwith to all state agencies, that henceforth all state contracts and subcontracts for construction on public buildings, other public works and goods and services shall contain a provision rendering such contract or subcontract subject to this Order, and that such contract or subcontract may be cancelled, terminated or suspended by the labor commissioner for violation of or noncompliance with this Order or state or federal laws concerning nondiscrimination, notwithstanding that the labor commissioner is not a party to such contract or subcontract.

II

Each contractor having a contract containing the provisions prescribed in section 4-114a of the 1969 supplement to the general statutes, shall file, and shall cause each of his subcontractors to file, compliance reports with the contracting agency or the labor commissioner, as may be directed. Such reports shall be filed within such times and shall contain such information as to employment policies and statistics of the contractor and each subcontractor, and shall be in such form as the labor commissioner may prescribe. Bidders or prospective contractors or subcontractors may be required to state whether they have participated in any previous contract subject to the provisions of this Order or any preceding similar Order, and in that event to submit on behalf of themselves and their proposed subcontractors compliance reports prior to or as an initial part of their bid or negotiation of a contract.

III

Whenever the contractor or subcontractor has a collective bargaining agreement or other contract or understanding with a labor organization or employment agency as defined in section 31-122 of the general statutes, the compliance report shall identify the said organization or agency and the contracting agency or the labor commissioner may require a compliance report to be filed with the contracting agency or the labor commissioner, as may be directed, by such organization or agency, signed by an authorized officer or agent of such organization or agency, with supporting information, to the effect that the signer's practices and policies, including but not limited to matters concerning personnel, training, apprenticeship, membership, grievance and representation, and upgrading, do not discriminate on grounds of race, color, religious creed, age, sex, or national origin, or ancestry of any individual, and that the signer will either affirmatively cooperate in the implementation of the policy and provisions of this Order, or that it consents and agrees that recruitment, employment and the terms and conditions of employment under the proposed contract shall be in accordance with the purposes and provisions of the Order.

IV

The labor commissioner may by regulation exempt certain classes of contracts, subcontracts or purchase order from the implementation of this Order, for standard commercial supplies or raw materials, for less than specified amounts of money or numbers of workers or for subcontractors below a specified tier. The labor commissioner may also provide by regulation for the exemption of facilities of a contractor which are in all respects separate and distinct from activities of the contractor related to the performance of the state contract, provided only that such exemption will not interfere with or impede the implementation of this Order, and provided further, that in the absence of such an exemption, all facilities shall be covered by the provisions of this Order.

V

Each contracting agency shall be primarily responsible for obtaining compliance with the regulations of the labor commissioner with respect to contracts entered into by such agency or its contractors. All contracting agencies shall comply with the regulations of the labor commissioner in discharging their primary responsibility for securing compliance with the provisions of contracts and otherwise with the terms of this Order and of the regulations of the labor commissioner issued pursuant to this Order. They are directed to cooperate with the labor commissioner and to furnish the labor commissioner such information and assistance as he may require in the performance of his functions under this Order. They are further directed to appoint or designate from among the personnel of each agency, compliance officers, whose duty shall be to seek compliance with the objectives of this Order by conference, conciliation, mediation, or persuasion.

VI

The labor commissioner may investigate the employment practices and procedures of any state contractor or subcontractor and the practices and policies of any labor organization or employment agency hereinabove described, relating to employment under the state contract, as concerns nondiscrimination by such organization or agency as hereinabove described, or the labor commissioner may initiate such investigation by the appropriate contract agency, to determine whether or not the contractual provisions hereinabove specified or statutes of the state respecting them have been violated. Such investigation shall be conducted in accordance with the procedures established by the labor commissioner and the investigating agency shall report to the labor commissioner any action taken or recommended.

VII

The labor commissioner shall receive and investigate or cause to be investigated complaints by employees or prospective employees of a state contractor or subcontractor or members or applicants for membership or apprenticeship or training in a labor organization or employment agency hereinabove described, which allege discrimination contrary to the contractual provisions specified hereinabove or state statutes requiring nondiscrimination in employment opportunity. If this investigation is conducted for the labor commissioner by a contracting agency, that agency shall report to the labor commissioner what action has been taken or is recommended with regard to such complaints.

VIII

The labor commissioner shall use his best efforts, directly and through contracting agencies, other interested federal, state and local agencies, contractors and all other available instrumentalities, including the commission on human rights and opportunities, the executive committee on human rights and opportunities, and the apprenticeship council under its mandate to provide advice and counsel to the labor commissioner in providing equal employment opportunities to all apprentices and to provide training, employment and upgrading opportunities for disadvantaged workers, in accordance with section 31-51 (d) of the 1969 supplement to the general statutes, to cause any labor organization or any employment agency whose members are engaged in work under government contracts or referring workers or providing or supervising apprenticeship or training for or in the course of work under a state contract or subcontract to cooperate in the implementation of the purposes of this Order. The labor commissioner shall in appropriate cases notify the commission on human rights and opportunities or other appropriate state or federal agencies whenever it has reason to believe that the practices of any such organization or agency violate equal employment opportunity requirements or state or federal law.

IX

The labor commissioner or any agency officer or employee in the executive branch designated by regulation of the labor commissioner may hold such hearings, public or private, as the labor commissioner may deem advisable for compliance, enforcement or educational purposes under this Order.

X

(a) The labor commissioner may hold or cause to be held hearings, prior to imposing ordering or recommending the imposition of penalties and sanctions under this Order. No order for disbarment of any contractor from further state contracts shall be made without affording the contractor an opportunity for a hearing. In accordance with such regulations as the labor commissioner may adopt, the commissioner or the appropriate contracting agency may

- (1) Publish or cause to be published the names of contractors or labor organizations or employment agencies as hereinabove described which it has concluded have complied or failed to comply with the provisions of this Order or the regulations of the labor commissioner in implementing this Order.
- (2) Recommend to the commission on human rights and opportunities that in cases in which there is substantial or material violation or threat thereof of the contractual provision or related state statutes concerned herein, appropriate proceedings be brought to enforce them, including proceedings by the commission on its own motion under chapter 563 of the general statutes and the enjoining, within the limitations of applicable law, of organizations, individuals or groups who prevent directly or indirectly or seek to prevent directly or indirectly compliance with the provisions of this Order.

- (3) Recommend that criminal proceedings be brought under chapter 939 of the general statutes.

- (4) Cancel, terminate, suspend or cause to be cancelled, terminated, or suspended in accordance with law any contract or any portion or portions thereof for failure of the contractor or subcontractor to comply with the nondiscrimination provisions of the contract. Contracts may be cancelled, terminated, suspended absolutely or their continuance conditioned upon a program for future compliance approved by the contracting agency.

- (5) Provide that any contracting agency shall refrain from entering into any further contracts or extensions or modifications of existing contracts with any contractor until he has satisfied the labor commissioner that he has established and will carry out personnel and employment policies compliant with this Order.

- (6) Under regulations prescribed by the labor commissioner each contracting agency shall make reasonable efforts within a reasonable period of time to secure compliance with the contract provisions of this Order by methods of conference, conciliation, mediation or persuasion, before other proceedings shall be instituted under this Order or before a state contract shall be cancelled or terminated in whole or in part for failure of the contractor or subcontractor to comply with the contract provisions of state statute and this Order.

(b) Any contracting agency taking any action authorized by this Order, whether on its own motion or as directed by the labor commissioner or pursuant to his regulations shall promptly notify him of such action. Whenever the labor commissioner makes a determination under this Order, he shall promptly notify the appropriate contracting agency and other interested federal, state and local agencies of the action recommended. The state and local agency or agencies shall take such action and shall report the results thereof to the labor commissioner within such time as he shall specify.

XI

If the labor commissioner shall so direct, contracting agencies shall not enter into contracts with any bidder or prospective contractor unless he has satisfactorily complied with the provisions of this Order, or submits a program for compliance acceptable to the labor commissioner, or if the labor commissioner so authorizes, to the contracting agency.

XII

Whenever a contracting agency cancels or terminates a contract, or a contractor has been disbarred from further government contracts because of noncompliance with the contract provisions with regard to nondiscrimination, the labor commissioner or the contracting agency shall rescind such disbarment, upon the satisfaction of the labor commissioner that the contractor has purged himself of such noncompliance and will thenceforth carry out personnel and employment policies of non-discrimination in compliance with the provision of this Order.

XIII

The labor commissioner may delegate to any officer, agency or employee in the executive branch any function or duty of the labor commissioner under this Order except authority to promulgate regulations of a general nature.

XIV

This Executive Order supplements the Executive Order issued on September 28, 1967. All regulations, orders, instructions, designations and other directives issued heretofore in these premises, including those issued by the heads of various departments or agencies under or pursuant to prior order or statute, shall remain in full force and effect, unless and until revoked or superseded by appropriate authority, to the extent that they are not inconsistent with this Order.

This Order shall become effective thirty days after the date of this Order.

Dated at Hartford, Connecticut, this 16th day of June, 1971.


GOVERNOR

GUIDELINES AND RULES
OF STATE LABOR COMMISSIONER
IMPLEMENTING GOVERNOR'S EXECUTIVE
ORDER NO. THREE

SEC. 1. PERSONS AND FIRMS SUBJECT TO EXECUTIVE ORDER NO. THREE AND GUIDELINES AND RULES.

a. Every contractor, or subcontractor as defined in Sec. 2 hereof, supplier of goods or services, vendor, bidder and prospective contractor or subcontractor, having ten or more employees as defined in Sec. 3 of these Guidelines, having or entering into or bidding to enter into any type of contractual relationship with the State of Connecticut or any of its agencies, boards, commissions, departments or officers, and if the consideration, cost, subject matter or value of the goods or services exceeds \$5,000.00, shall be subject to the Governor's Executive Order No. Three and these Guidelines and Rules.

b. A copy of the Governor's Executive Order No. Three and of these Guidelines and Rules shall be available to each said contractor, subcontractor, supplier, vendor, bidder and prospective contractor and subcontractor, and the said Executive Order No. Three and these Guidelines and Rules shall be incorporated by reference and made a part of the contract, purchase order, agreement or document concerned. A copy of the Executive Order and of these Guidelines and Rules shall be furnished to a contracting party or bidder on request.

c. All persons, partnerships, associations, firms, corporations and other entities having less than ten employees as defined in Sec. 3 at the time of the bid and execution of the contract and continuing through the performance of the contract are exempt from the provisions of the said Executive Order and these Guidelines and Rules. All contracts, subcontracts, purchase orders and agreements wherein the consideration is \$5,000.00 or less shall be exempt from Executive Order No. Three and from these Guidelines and Rules.

SEC. 2. SUBCONTRACTORS.

As used herein, subcontractors are persons, partnerships, associations, firms or corporations or other entities having contractual relationship with a contractor who in turn has a contract with the State of Connecticut or any of its agencies, boards, commissions or departments. Subcontractors below this tier are exempt from the Executive Order and from these Guidelines and Rules.

SEC. 3. EMPLOYEES.

As used herein, employees are persons working full or part-time irrespective of personnel classification whose wages, salaries, or earnings are subject to the Federal Insurance Contribution Act and/or to Federal Withholding Tax as a matter of law (whether in fact or not any actual withholding occurs in a given case), in an employee-employer relationship at the time of bid, contract execution, or offer or acceptance, and/or during any time thereafter during the existence of the performance period of the contract to the conclusion thereof.

SEC. 4. REPORTS.

a. Prior to the execution of the contract or prior to acceptance of a bid, as the case may be, the contractor, subcontractor, bidder or vendor shall file a report with the State Labor Commissioner, which report shall be complete and contain all of the information therein prescribed. The report shall be on Form E.O. 3-1, a facsimile of which is attached hereto and made a part hereof, or in lieu thereof the contractor, subcontractor, bidder or vendor shall submit a detailed report containing all of the information required in Form E.O. 3-1.

b. The Labor Commissioner may require the filing of additional reports prior to final payment or prior to any renewal or extension of the contract and during the duration of the contract at such times as the Commissioner may, in his discretion, from time to time deem necessary. The Labor Commissioner may require the filing of additional information or reports, and the contractor, subcontractor, bidder or vendor shall furnish said information or reports within the times prescribed by the Labor Commissioner.

c. The Labor Commissioner may, at his discretion, also require timely statistical reports on the number of minority employees employed or to be employed in the performance of the contract, and the Labor Commissioner may define such minority groups or persons.

d. Reports filed pursuant to these Guidelines and Rules in implementation of Executive Order No. Three are not public records subject to public inspection, but may be inspected only by federal and state officials having jurisdiction and authority to investigate matters of this type. All federal and state agencies empowered by law to investigate matters relating to Executive Order No. Three shall have access to these reports for inspection or copying during regular business hours.

e. Any person who wilfully, wantonly or through negligence destroys or permits to be destroyed, alters or allows to be altered after filing, any reports submitted in compliance herewith shall be subject to penalties as prescribed by law.

SEC. 5. MANDATORY CLAUSES IN DOCUMENTS.

a. All contracts shall contain the following provisions verbatim:

This contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill promulgated June 16, 1971 and, as such, this contract may be cancelled, terminated or suspended by the state labor commissioner for violation of or noncompliance with said Executive Order No. Three, or any state or federal law concerning nondiscrimination, notwithstanding that the labor commissioner is not a party to this contract. The parties to this contract, as part of the consideration hereof, agree that said Executive Order No. Three is incorporated herein by reference and made a part hereof. The parties agree to abide by said Executive Order and agree that the state labor commissioner shall have continuing jurisdiction in respect to contract performance in regard to nondiscrimination, until the contract is completed or terminated prior to completion.

The (contractor), (subcontractor), (bidder), (vendor) agrees, as part consideration hereof, that this (order) (contract) is subject to the Guidelines and Rules issued by the state labor commissioner to implement Executive Order No. Three, and that he will not discriminate in his employment practices or policies, will file all reports as required, and will fully cooperate with the State of Connecticut and the state labor commissioner.

These provisions are in addition to and not in lieu of other clauses required by law."

* N.B. The above paragraphs contain requirements additional to those set forth in July 16, 1971 directive to state agencies.

b. Every purchase order or like form submitted by a vendor or bidder, as applicable, shall contain the following clause verbatim:

Vendor agrees, as part of the consideration hereof, that this order is subject to the provisions of Executive Order No. Three and the Guidelines and Rules issued by the Labor Commissioner implementing said Order as to nondiscrimination, and vendor agrees to comply therewith.

c. Where preprinted contract forms have been prescribed by federal authority and the rules of the federal agency prohibit the alteration thereof, the compliance officer of the State agency concerned shall submit to the Labor Commissioner a suggested short form or addendum acceptable to the federal agency, and in such cases, after approval by the Labor Commissioner, said clause may be substituted.

SEC. 6. COOPERATION OF STATE AGENCIES, BOARDS AND COMMISSIONS.

Every agency, board, commission and department of the State of Connecticut shall cooperate with the Labor Commissioner in the implementation of Executive Order No. Three and shall furnish such information and assistance as the Labor Commissioner may from time to time request.

SEC. 7. INVESTIGATIONS, COMPLAINTS.

The Labor Commissioner may initiate an investigation upon receipt of a complaint alleging discrimination. The Labor Commissioner may request that an investigation be conducted by the State agency which is the party to the contract in question. Investigations shall be conducted in accordance with acceptable legal standards, safeguarding the rights of all parties involved, and obtaining all of the relevant facts necessary for a complete determination of the issues. If the Labor Commissioner is not satisfied with the investigation or any part thereof he may order it to continue or to proceed further.

SEC. 8. HEARINGS.

The Labor Commissioner or officers designated by the heads of the State agencies, boards and commissions may conduct hearings on complaints filed. Hearings shall be held only after a report of the complaint has been filed with the Labor Commissioner and after a hearing on the complaint has been authorized or directed by the Labor Commissioner. Hearings shall be conducted in accordance with the accepted principles of administrative law. All parties shall be afforded the opportunity to a full, fair, impartial and complete hearing, the opportunity to examine and cross examine witnesses and to be present at all sessions of the hearing. If any party is vulnerable to a charge of a violation of the law, he shall be afforded the opportunity to procure counsel who may be present at the hearing.

SEC. 9. EQUAL EMPLOYMENT OPPORTUNITIES.

All State contracting agencies, employers, and labor unions shall use their best efforts to provide equal employment opportunities to all apprentices and to provide training, employment and upgrading opportunities for disadvantaged workers in accordance with section 31-51(d) of the General Statutes.

SEC. 10. DUTIES OF CONTRACTING AGENCIES.

All State contracting agencies shall be responsible for compliance with said Executive Order and with all state and federal laws relating to equal employment opportunities. All contracting agencies conducting investigations for the Labor Commissioner pursuant to Executive Order No. Three and these Guidelines and Rules shall report to the Labor Commissioner the action taken or recommended with regard to each complaint filed. Each officer of the executive department, every commissioner, and each executive head of each State agency, board and commission in the executive branch of the State government is expected to assume the responsibility of seeing to complete compliance with the Governor's Executive Order No. Three and shall forthwith take steps to assure and guarantee that there shall be no discrimination within their departments, agencies, boards or commissions in the performance of any state contract or subcontract on the basis of race, creed, color, sex, age, national origin or national ancestry, or in any way in violation of any state or federal law relating thereto.

BY VIRTUE OF THE AUTHORITY VESTED IN ME PURSUANT TO EXECUTIVE ORDER NO. THREE EFFECTIVE JULY 16, 1971, AND THE GENERAL STATUTES OF CONNECTICUT.

Dated at Wethersfield, Connecticut this 19th day of Nov. , 1971.

JACK A. FUSARI
LABOR COMMISSIONER

STATE OF CONNECTICUT

BY HIS EXCELLENCY

THOMAS J. MESKILL

GOVERNOR

EXECUTIVE ORDER NO. SEVENTEEN

WHEREAS, Section 31-237 of the General Statutes of Connecticut as amended requires the maintaining of the established free services of the Connecticut State Employment Service to both employers and prospective employees and

WHEREAS, Section 31-5 of the General Statutes of Connecticut requires that no compensation or fee shall be charged or received directly or indirectly for the services of the Connecticut State Employment Service and

WHEREAS, large numbers of our citizens who have served in the Armed Forces of our nation are returning to civilian life in our state and seeking employment in civilian occupations and

WHEREAS, we owe a duty as well as gratitude to these returning veterans including the duty to find suitable employment for them and

WHEREAS, many of our handicapped citizens are fully capable of employment and are entitled to be placed in suitable employment and

WHEREAS, many of the citizens of our state who are unemployed are unaware of the job openings and employment opportunities which do in fact exist in our state and

WHEREAS, notwithstanding the free services of the Connecticut State Employment Service, many of our Connecticut employers do not use its free services or do not avail themselves fully of all of the services offered.

NOW, THEREFORE, I, THOMAS J. MESKILL, Governor of the State of Connecticut, acting by virtue of the authority vested in me under the fourth article of the Constitution of the State and in accordance with Section 3-1 of the General Statutes, do hereby ORDER and DIRECT, as follows, by this Executive Order:

I

The Labor Commissioner shall be responsible for the administration of this Order and shall do all acts necessary and appropriate to achieve its purpose. Upon promulgation of this Order, the Commissioner of Finance and Control shall issue a directive forthwith to all state agencies that henceforth all state contracts and subcontracts for construction on public buildings, other public works and goods and services shall contain a provision rendering such contract or subcontract subject to this Order, and that such contract or subcontract may be cancelled, terminated or suspended by the Labor Commissioner for violation of or noncompliance with this Order, notwithstanding that the Labor Commissioner is not a party to such contract or subcontract.

II

Every contractor and subcontractor having a contract with the state or any of its agencies, boards, commissions, or departments, every individual partnership, corporation, or business entity having business with the state or who or which seeks to do business with the state, and every bidder or prospective bidder who submits a bid or replies to an invitation to bid on any state contract shall list all employment openings with the office of the Connecticut State Employment Service in the area where the work is to be performed or where the services are to be rendered.

III

All state contracts shall contain a clause which shall be a condition of the contract that the contractor and any subcontractor holding a contract directly under the contractor shall list all employment openings with the Connecticut State Employment Service. The Labor Commissioner may allow exceptions to listings of employment openings which the contractor proposes to fill from within its organization from employees on the rolls of the contractor on the date of publication of the invitation to bid or the date on which the public announcement was published or promulgated advising of the program concerned.

IV

Each contracting agency of the state shall be primarily responsible for obtaining compliance with this Executive Order. Each contracting agency shall appoint or designate from among its personnel one or more persons who shall be responsible for compliance with the objectives of this Order.

V

The Labor Commissioner shall be and is hereby empowered to inspect the books, records, payroll and personnel data of each individual or business entity subject to this Executive Order and may hold hearings or conferences, formal or informal, in pursuance of the duties and responsibilities hereunto delegated to the Labor Commissioner.

VI

The Labor Commissioner or any agency officer or employee in the executive branch designated by regulation of the Labor Commissioner may hold such hearings, public or private, as the Labor Commissioner may deem advisable for compliance, enforcement or educational purposes under this Order.

VII

(a) The Labor Commissioner may hold or cause to be held hearings, prior to imposing, ordering, or recommending the imposition of penalties and sanctions under this Order. In accordance herewith, the Commissioner or the appropriate contracting agency may suspend, cancel, terminate, or cause to be suspended, cancelled, or terminated in accordance with law any contract or any portion or portions thereof for failure of the contractor or subcontractor to comply with the listing provisions of the contract. Contracts may be cancelled, terminated, suspended absolutely or their continuance conditioned upon a program for future compliance approved by the contracting agency.

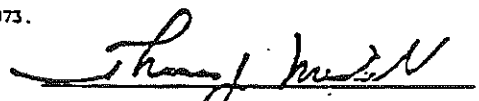
(b) Any contracting agency taking any action authorized by this Order, whether on its own motion or as directed by the Labor Commissioner, shall promptly notify him of such action. Whenever the Labor Commissioner makes a determination under this Order, he shall promptly notify the appropriate contracting agency of the action recommended. The agency shall report the results to the Labor Commissioner promptly.

VIII

If the Labor Commissioner shall so direct, contracting agencies shall not enter into contracts with any bidder or prospective contractor unless he has satisfactorily complied with the provisions of this Order.

This Order shall become effective sixty days after the date of this Order.

Dated at Hartford, Connecticut, this 15th day of February, 1973.


GOVERNOR

CONNECTICUT REQUIRED CONTRACT/AGREEMENT PROVISIONS
March 6, 1998

Specific Equal Employment Opportunity Responsibilities

1. General

- A. Equal Employment Opportunity Requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Order 11246, Executive Order 11375, the Railroad Revitalization and Regulatory Reform Act of 1976 and other U.S. Department of Transportation nondiscrimination legislation are set forth in this Required Contract/Agreement Provision. The requirements set forth in these special provisions shall constitute the specific affirmative action requirements for project activities under this contract (or agreement) and supplement the equal employment opportunity requirements set forth in other related contract provisions.
- B. "Company" refers to any entity doing business with the Connecticut Department of Transportation and includes but is not limited to the following:
- | | |
|----------------|---|
| Contractors | Vendors (where applicable) |
| Subcontractors | Suppliers of Materials (where applicable) |
| Consultants | Municipalities (where applicable) |
| Subconsultants | Utilities (where applicable) |
- C. The Company will work with the Connecticut Department of Transportation and the federal government in carrying out equal employment opportunity obligations and in their review of his/her activities under the contract or agreement.
- D. The Company and all their subcontractors or subconsultants holding subcontracts or subagreements of \$10,000 or more on federally-assisted projects and \$5,000 or more on state funded projects, will comply with the following minimum specific requirement activities of equal employment opportunity. The Company will physically include these requirements in every subcontract or subagreement meeting the monetary criteria above with such modification of language as is necessary to make them binding on the subcontractor or subconsultant.
- E. These Required Contract Provisions apply to all state funded and/or federally-assisted projects, activities and programs in all facets of the Connecticut Department of Transportation operations resulting in contracts or agreements.

2. Equal Employment Opportunity Policy

The Company will develop, accept and adopt as its operating policy an Affirmative Action Plan utilizing as a guide the Connecticut Department of Transportation Affirmative Action Plan Guideline.

3. Equal Employment Opportunity Officer

The Company will designate and make known to the State Department of Transportation contracting officers an equal employment opportunity officer (hereinafter referred to as the EEO Officer) who will have the responsibility for and must be capable of effectively administering and promoting an active program of equal employment opportunity and who must be assigned adequate authority and responsibility to do so.

4. Dissemination of Policy

- A. All members of the Company's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the Company's equal employment opportunity policy and contractual responsibilities to provide equal employment opportunity in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
- (1) Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less than once every six (6) months thereafter, at which time the Company's equal employment opportunity policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable Company official.

- (2) All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer or other knowledgeable Company official covering all major aspects of the Company's equal employment opportunity obligations within thirty (30) days following their reporting for duty with the Company.
 - (3) All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer or appropriate Company official in the Company's procedures for locating and hiring protected class group employee.
- B. In order to make the Company's equal employment opportunity policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the Company will take the following actions:
- (1) Notices and posters setting forth the Company's equal employment opportunity policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
 - (2) The Company's equal employment opportunity policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

5. Recruitment

- A. When advertising for employees, the Company will include in all advertisements for employees the notation: "An Equal Opportunity Employer". All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.
- B. The Company will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants, including, but not limited to, State employment agencies, schools, colleges and minority group organizations. To meet this requirement, the Company will, through its EEO Officer, identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the Company for employment consideration.

In the event the Company has a valid bargaining agreement providing for exclusive hiring hall referrals, the Company is expected to observe the provisions of that agreement to the extent that the system permits the Company's compliance with equal employment opportunity contract provisions. (The U.S. Department of Labor has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the Company to do the same, such implementation violates Executive Order 11246, as amended.)

- C. The Company will encourage its present employees to refer minority group applicants for employment by posting appropriate notices or bulletins in the areas accessible to all such employees. In addition, information and procedures with regard to referring minority group applicants will be discussed with employees.

6. Personnel Actions

Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoffs, and termination, shall be taken without regard to race, color, religion, sex, or national origin, etc. The following procedures shall be followed:

- A. The Company will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
- B. The Company will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

- C. The Company will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the Company will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
- D. The Company will promptly investigate all complaints of alleged discrimination made to the Company in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the Company will inform every complainant of all of his avenues of appeal.
- E. The general contract provision entitled A(76) Affirmative Action Requirements is made part of this document by reference. In conjunction with this contract provision, only the job categories will change in order to be comparable with the job categories utilized by the Company proposing to do business with the Connecticut Department of Transportation. The goals and time tables will remain the same throughout the contract provision.

7. Training and Promotion

- A. The Company will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.
- B. Consistent with the Company's work force requirements and as permissible under Federal and State regulations, the Company shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event the Training Special Provision is provided under this contract, this subparagraph will be superseded.
- C. The Company will advise employees and applicants for employment of available training programs and entrance requirements for each.
- D. The Company will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

8. Unions

If the Company relies in whole or in part upon unions as a source of employees, it will use its best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the Company either directly or through an association acting as agent will include the procedures set forth below:

- A. The Company will use its best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
- B. The Company will use its best efforts to incorporate an equal employment opportunity clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, or national origin, etc.
- C. The Company is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the Company, the Company shall so certify to the Connecticut Department of Transportation and shall set forth what efforts have been made to obtain such information.
- D. In the event the union is unable to provide the Company with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the Company will, through independent recruitment efforts, fill the employment vacancies without regard to race,

color, religion, sex or national origin, etc. making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The U.S. Department of Labor has held that it shall be no excuse that the union with which the Company has a collective bargaining agreement providing for exclusive referral failed to refer minority employees). In the event the union referral practice prevents the Company from meeting the obligations pursuant to Executive Order 11246, as amended, and these provisions, such Company shall immediately notify the Connecticut Department of Transportation.

9. Subcontracting

- A. The Company will use its best efforts to solicit bids from and to utilize minority group subcontractors, or subcontractors with meaningful minority group and female representation among their employees. Companies shall obtain a list of applicable Disadvantaged Business Enterprises firms from the Division of Contract Compliance.
- B. The Company will use its best efforts to ensure subcontractor compliance with their equal employment opportunity obligations.
- C. The General Contract Provisions entitled "Minority Business Enterprises as Subcontractors" is made part of this document by reference and its requirements are applicable to all entities proposing to do business with the Connecticut Department of Transportation.

10. Records and Reports

For the duration of the project, the company will maintain records as are necessary to determine compliance with the Company's equal employment opportunity obligations and Affirmative Action requirements. Additionally, the company will submit all requested reports in the manner required by the contracting agency.

- A. The number of minority and nonminority group members and women employed in each work classification on the project.
- B. The progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and women (applicable only to Companies which rely on whole or in part on unions as a source of their work force).
- C. The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees, and
- D. The progress and efforts being made in securing the services of minority and female owned businesses.
 - (1) All such records must be retained for a period of three (3) years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the State Department of Transportation and the U.S. Department of Transportation including consultant firms.
 - (2) If on-the-job training is being required by the "Training Special Provision", the Company will be required to furnish a Monthly Training Report and Supplement Report (1409) for each trainee.

11. Affirmative Action Plan

- A. Contractors, subcontractors, vendors, suppliers, and all other Companies with contracts, agreements or purchase orders completely state funded will submit an Affirmative Action Plan if the contract value is \$5,000 or over.
- B. Contractors, subcontractors, vendors, suppliers, and all other Companies with federally-assisted contracts, agreements, or purchase orders valued at \$10,000 or more will submit an Affirmative Action Plan.
- C. Companies with contracts, agreements, or purchase orders with total dollar value under that which is stipulated in A and B above shall be exempt from the required submission of an Affirmative Action Plan unless otherwise directed by the Division of Contract Compliance.



CONNECTICUT DEPARTMENT OF TRANSPORTATION

POLICY STATEMENT

POLICY NO. ADMIN.-10

November 28, 1994

SUBJECT: Code of Ethics Policy

No employee of the Connecticut Department of Transportation shall, either individually (or as a member of a group), directly or indirectly, solicit or accept any gift or gratuity from any person or organization with whom the Department has, has had, or may expect to have, a business relationship which could cause, or create the appearance of, a conflict with or influence the performance of the employee's duties with the Department.

Any gift or gratuity must be refused or returned with a copy of the letter concerning our Code of Ethics Policy which has been sent to the concerns doing business with the Department of Transportation. The only exception recognized is for advertising matter which has negligible monetary value and which is widely distributed or generally available without charge.

No employee of the Connecticut Department of Transportation shall, either individually (or as a member of a group), directly or indirectly, solicit the sale of tickets for a charitable event or accept any gift for the benefit of a charitable organization from any person or organization with whom the Department has, has had, or may expect to have, a business relationship which would cause, or create the appearance of, a conflict with or influence the performance of the Department.

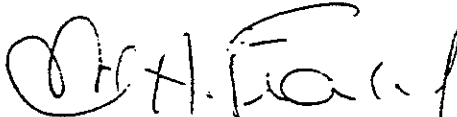
No employee of the Connecticut Department of Transportation shall use or distribute State information or use State equipment or materials for other than State business purposes.

No employee of the Connecticut Department of Transportation shall allow any private obligation of employment or enterprise to take precedence over his/her responsibility to the Department.

No employee of the Connecticut Department of Transportation shall accept employment with any consultant, contractor, appraiser or any other organization or individual which is under contract or agreement with the State of Connecticut; nor shall any employee of the Connecticut Department of Transportation have, directly or indirectly, a financial interest in any business, firm or enterprise doing business with the State of Connecticut, which could cause, or create the appearance of, a conflict with or influence the performance of the employee's duties with the Department.

In addition to the above, all employees of the Department of Transportation are to comply with Sections 1-79 through 1-89 of the Connecticut General Statutes, as amended, entitled Code of Ethics for Public Officials.

(This statement supersedes the Commissioner's Policy Statement No. ADMIN.-10, dated August 23, 1994.)

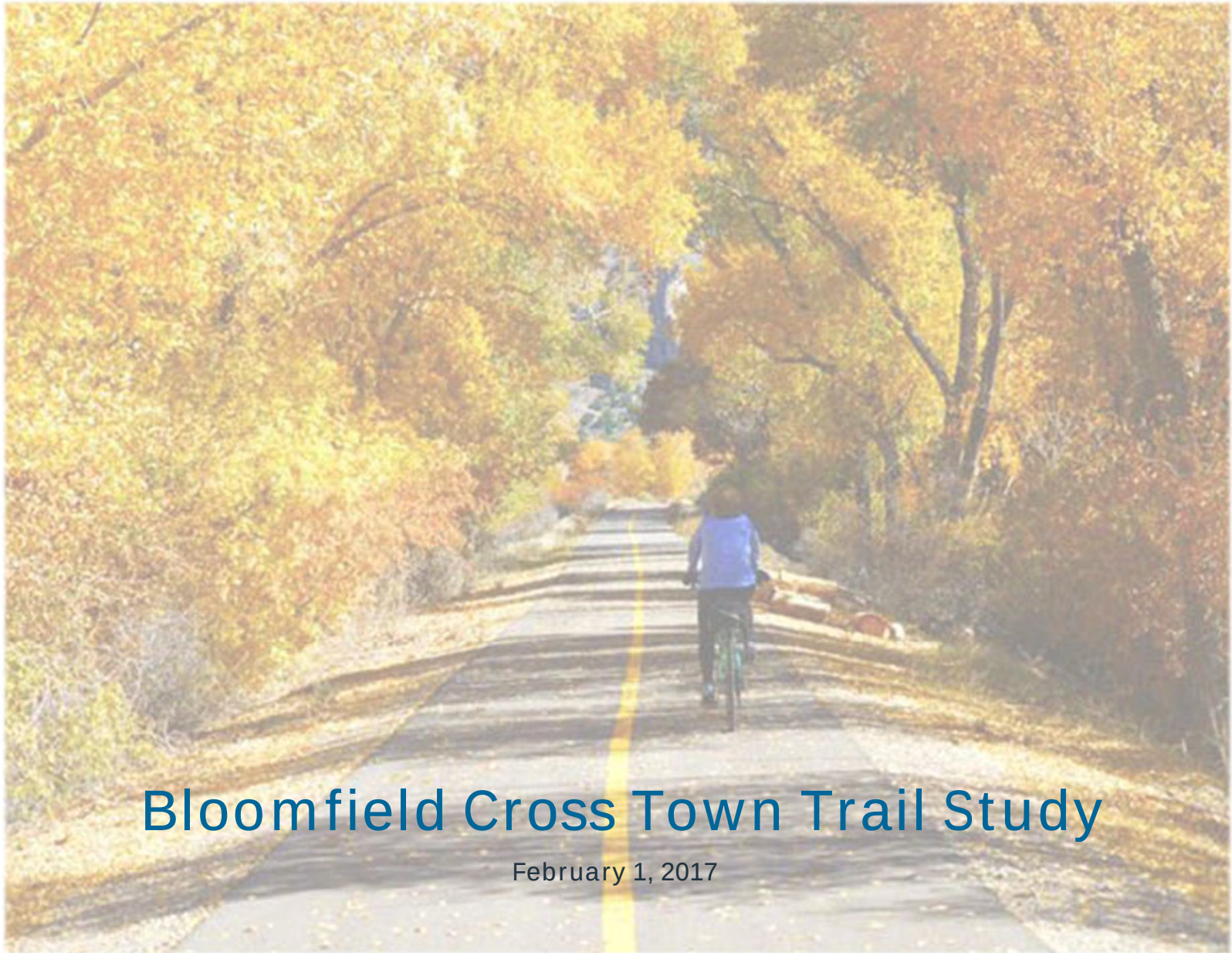


Emil H. Frankel
Commissioner

All Employees



APPENDIX L: 2017 BLOOMFIELD CROSS TOWN TRAIL STUDY



Bloomfield Cross Town Trail Study

February 1, 2017

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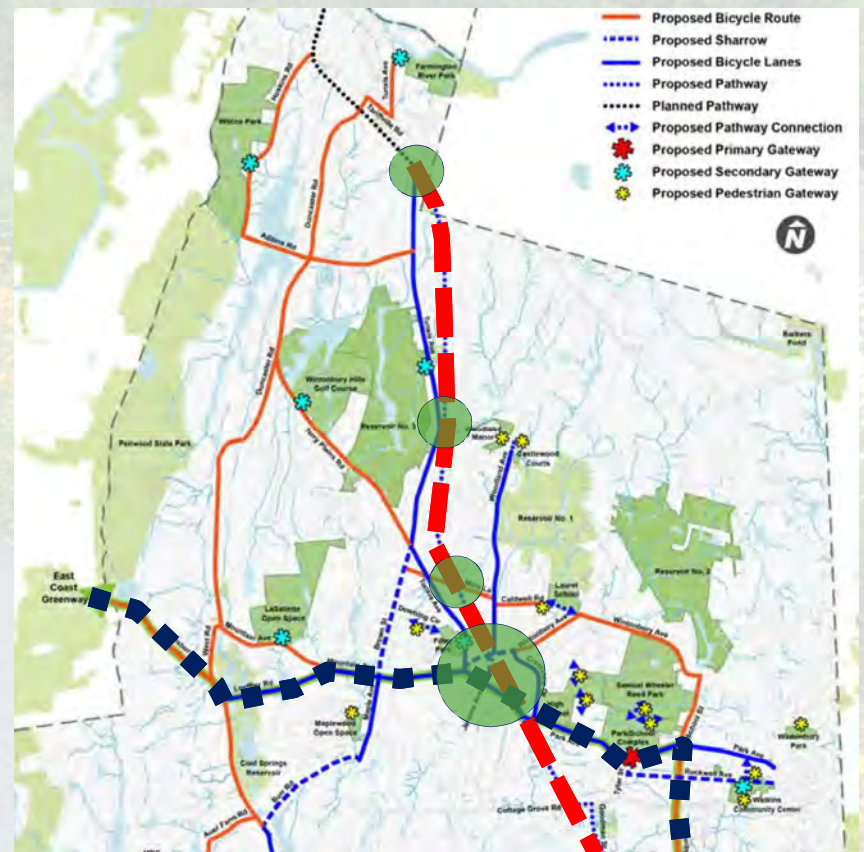
1. Executive Summary
2. Trail Typologies
3. Section Studies 1-5
4. Enlargements / Optional Alignments
5. Order of Magnitude Costs

Executive Summary

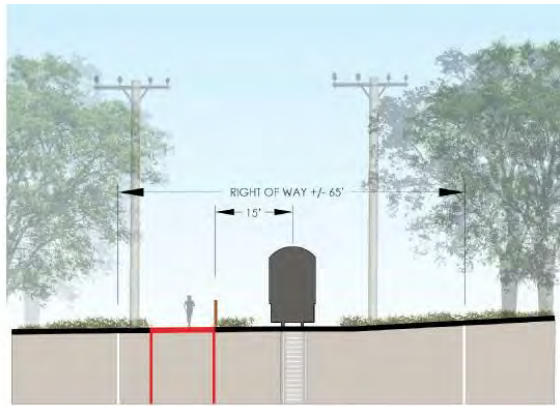
The Griffin Line is a single tracked existing freight rail system with a right of way that extends in a north south direction from the Windsor town line, through the town of Bloomfield approximately 4.5 miles and continues southerly into the City of Hartford. The purpose of this study is to determine the initial feasibility of developing a paved multi purpose trail generally within this right of way as part of the greater East Coast Greenway trail initiative. The planned Hartford extension of the East Coast Greenway is currently in various stages of design and construction. The trail will extend from the village of Tariffville in Simsbury through the town of Bloomfield and beyond to Hartford. Sections in Simsbury are in the design phases while the connecting section from Tariffville to Tunxis Road in Bloomfield is currently under construction. Portions of the trail from the Bloomfield Hartford corporate limits south have yet to be engineered.

The associated Griffin Line right of way varies in width from approximately 65' to 100' and contains a number of environmental, topographic and utility line challenges throughout it's length. This study utilized the town's extensive GIS based mapping systems to determine various impacts associated with a new trail alignment generally within the existing rights of way. As a result of this analysis a number of alternative alignments were discussed along particularly difficult trail sections.

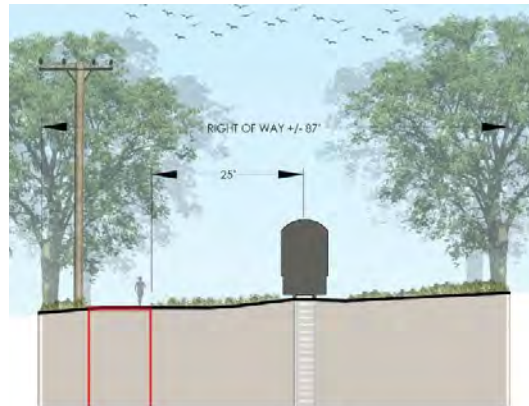
Many were discounted as they contained significant "on road" sections and some were eliminated due to property ownership issues or additional environmental impacts. The two primary alternative routes are illustrated herein and are located in the downtown area as well as the very busy Cottage Grove Road crossing areas.



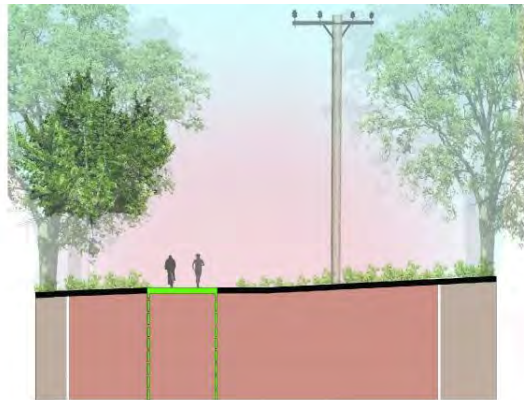
Trail Typologies



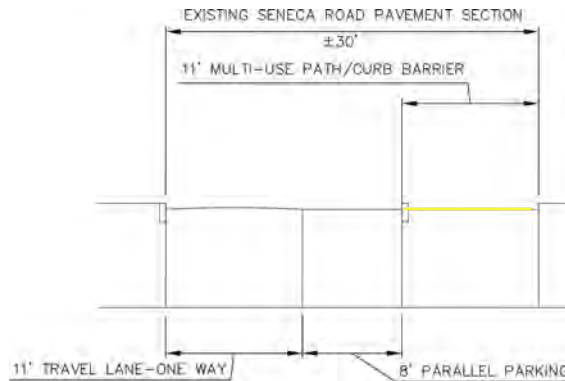
Preferred Route:
Railroad Right of Way
(15' from tracks)- *Fence Required*



Preferred Route: Railroad Right of Way
(25' from tracks)- *No Fence Required*



Trail B : Off Road
Trail



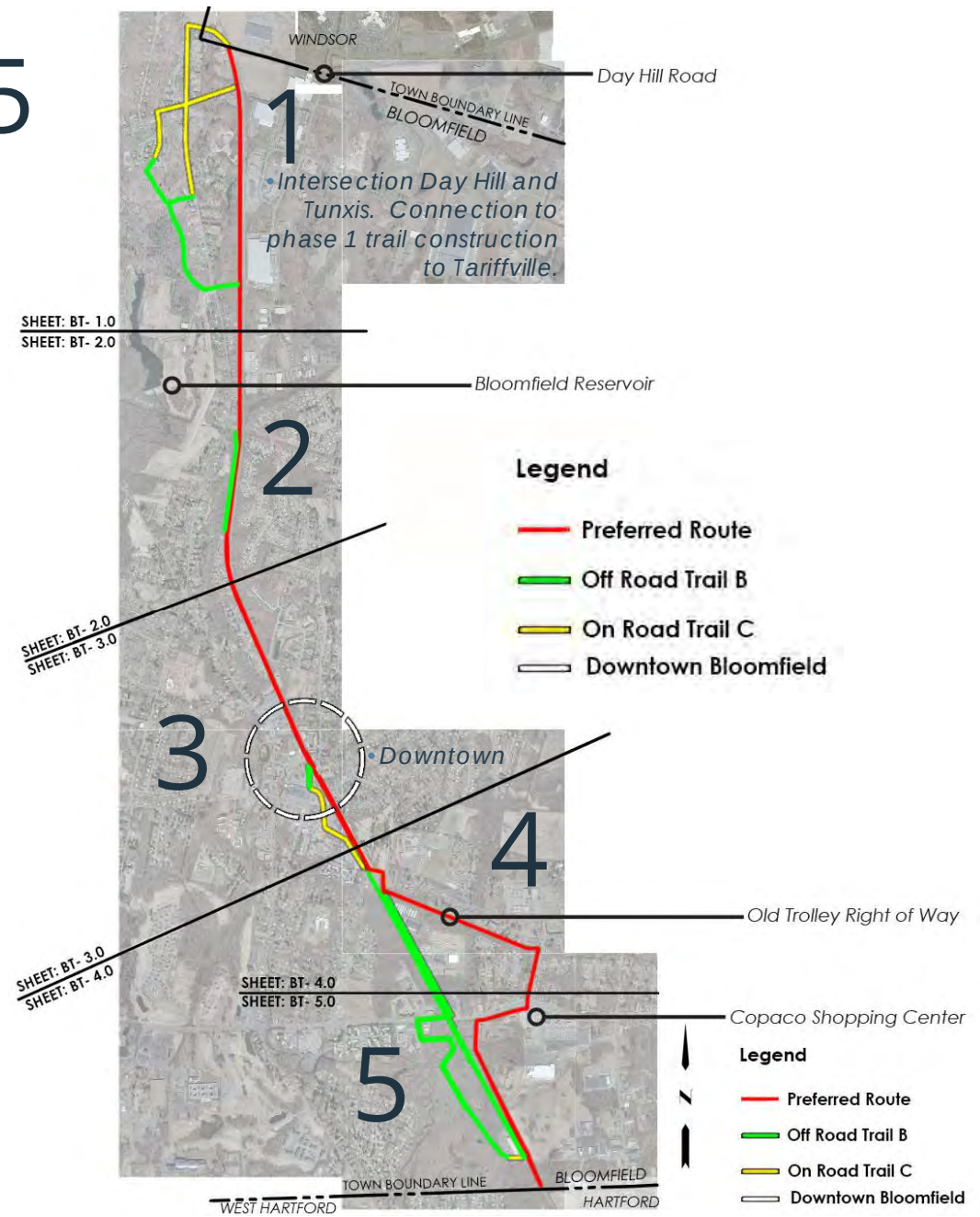
Trail C : Multi Use Path

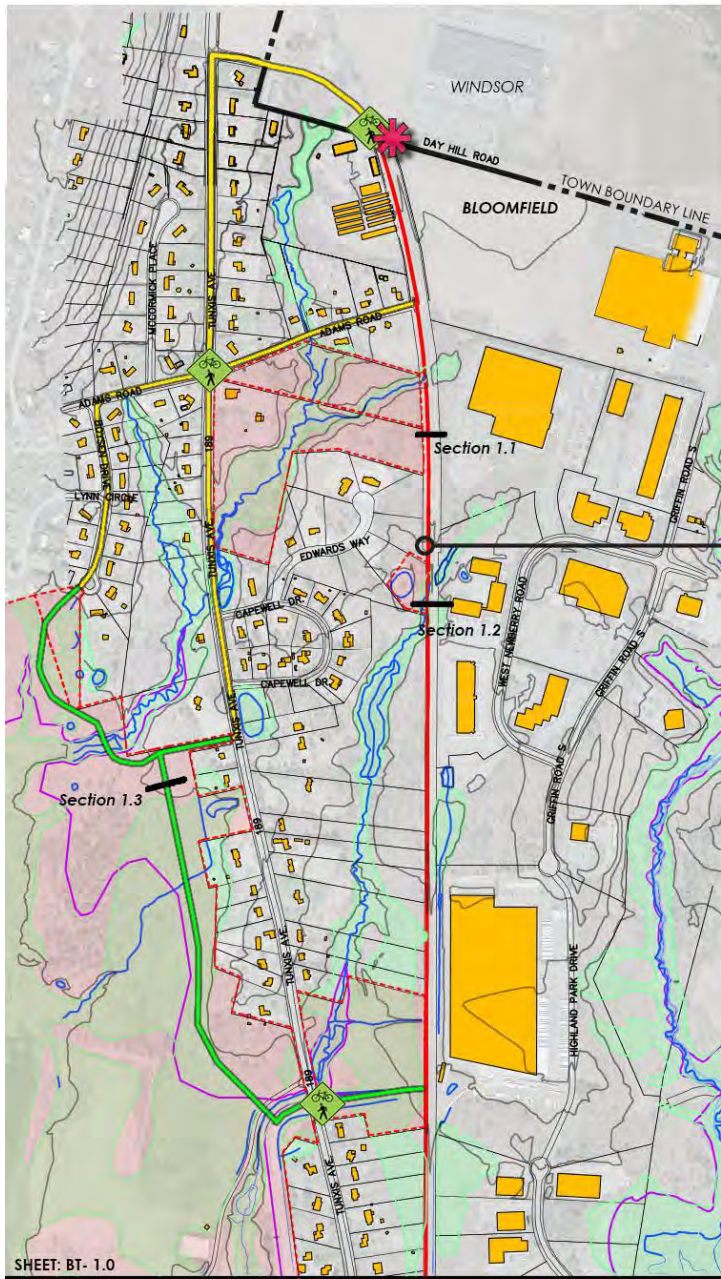
Trail typologies were developed to evaluate corridor feasibility. In general the proposed trails will consist of a 10'-12' wide bituminous surface on appropriate base material. Due mainly to existing utility pole locations and right of way width the proposed alignment will be approximately 15' from the center line of the existing tracks necessitating a fence or protective railing system. Current regulations preclude any path system closer than 15' to the centerline of the tracks. Alignment locations greater than 25' from the track centerlines will not require fencing. One of the two alignment options presented later in this report consists of some on road sections however the multi use path will be separated from adjacent travel ways while being contained within the established road right of way.

Section Studies 1-5

For the purposes of analysis, the proposed cross town system is divided into five distinct sections from north to south. In each section the preferred route is illustrated (in red) as well as alternatives or potential spurs illustrated in green (off road) and yellow (on road). With the exception of trail section four and five, the Griffin Line right of way is generally the preferred route. The proposed system begins at the intersection of Day Hill Road and Tunxis Avenue connecting directly to the currently under construction section from Tunxis to Tariffville / Simsbury.

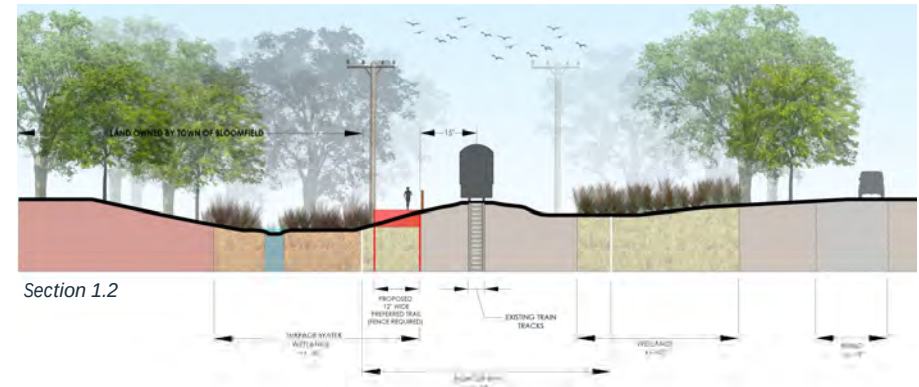
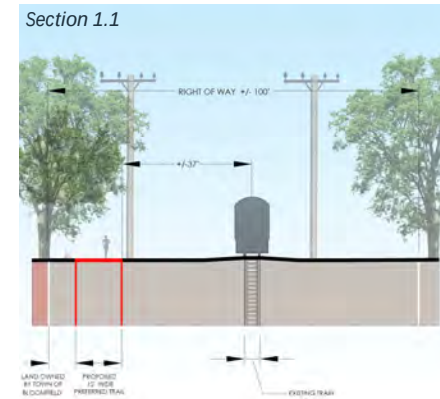
The following pages illustrate existing and proposed conditions in each of the five sections. Representative cross sections in key areas have been developed to illustrate locational opportunities or constraints. Road crossings, potential trail head locations and other amenities are identified. For each of the sections a preliminary “impact assessment” has been prepared, identifying likely environmental impacts associated with the trail location within the RR right of way. This analysis is particularly germane to order of magnitude cost estimating contained later in this report.





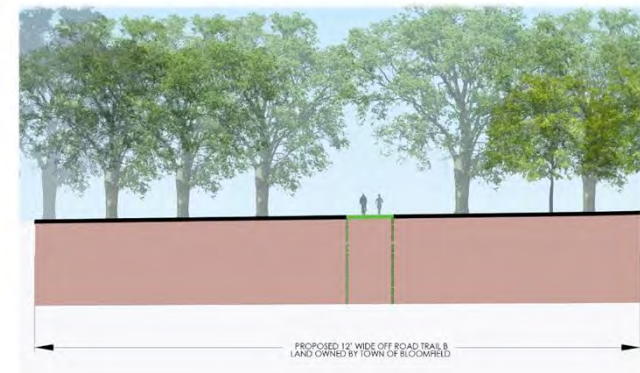
Transition to narrow right of way

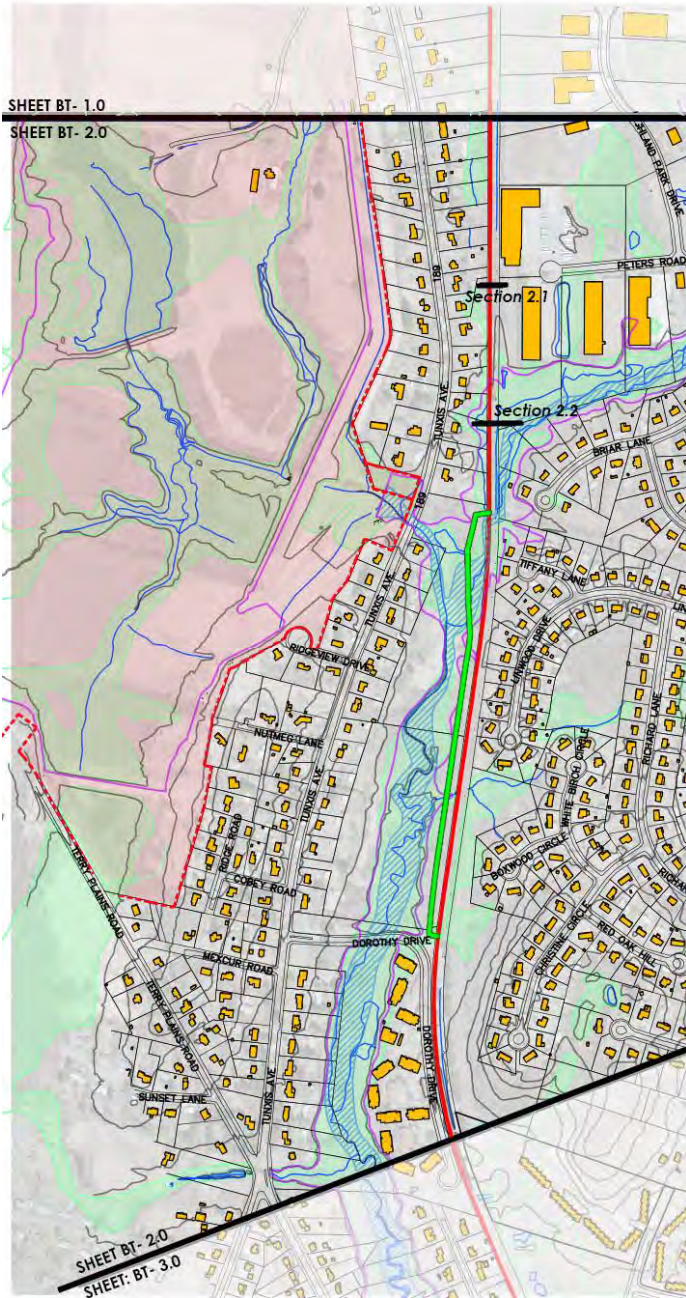
Section 1.1



Section 1.2

Section 1.3





Impact Assessment

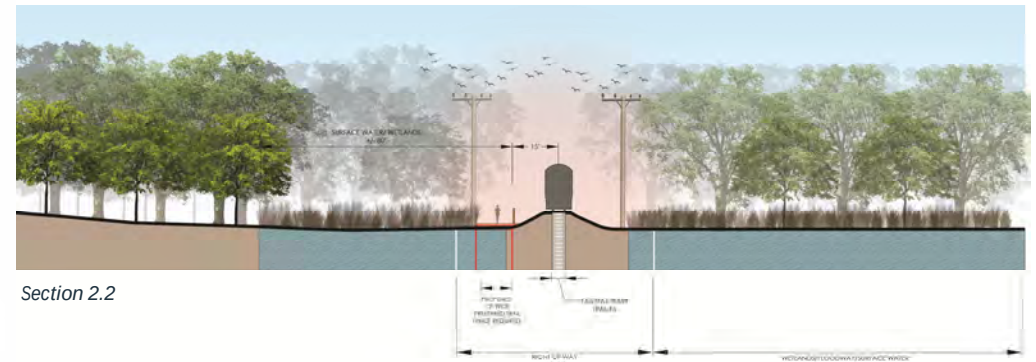
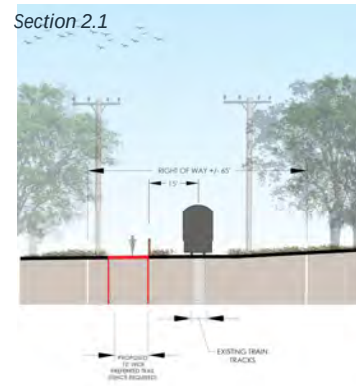
Preferred Route

Wetlands: +/- 1,588 linear ft.
Floodplain: +/- 1,170 linear ft.
Floodway: +/- 315 linear ft.
Surface Water: +/- 3 points of impact

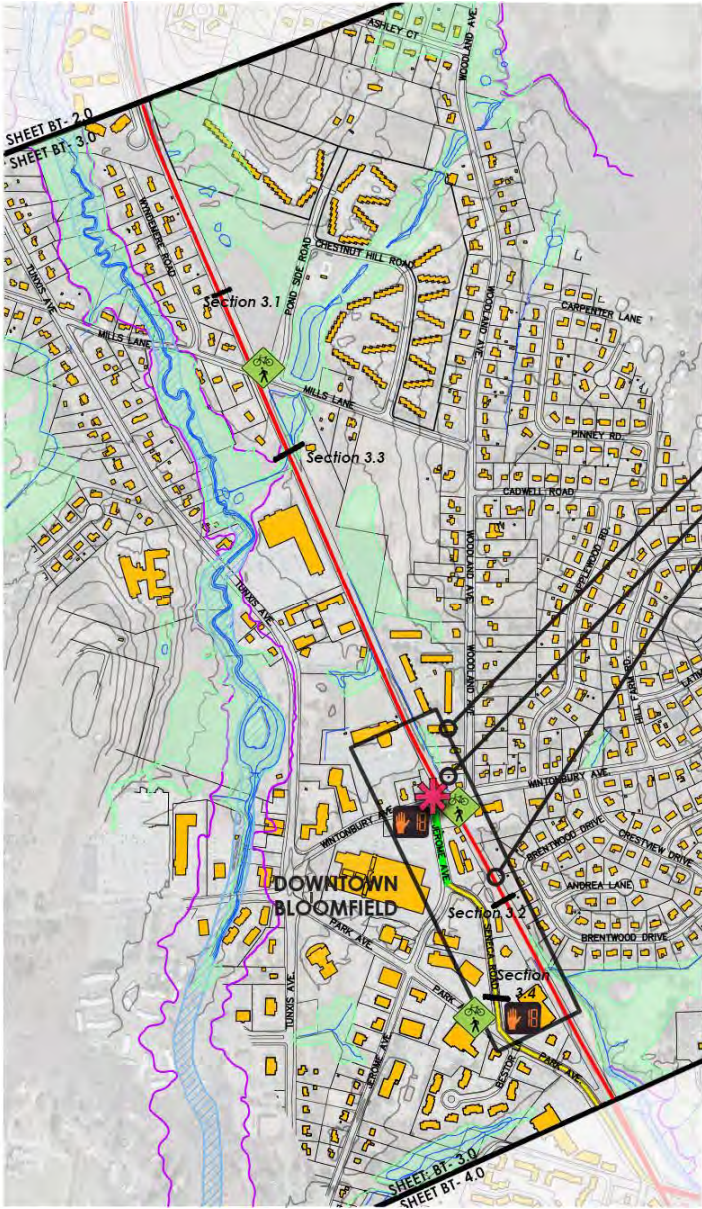
Proposed Off Road Trail B

Wetlands: +/- 530 linear ft.
Floodplain: +/- 700 linear ft.
Floodway: +/- 370 linear ft.
Surface Water: +/- 2 points of impact

Section 2.1



Section 2.2



Impact Assessment

Preferred Route

Wetlands: +/- 300 linear ft.
Floodplain: +/- 85 linear ft.
Floodway: +/- 0 linear ft.
Surface Water: +/- 6 points of impact

Proposed Off Road Trail B

Wetlands: +/- 0 linear ft.
Floodplain: +/- 0 linear ft.
Floodway: +/- 0 linear ft.
Surface Water: +/- 0 points of impact

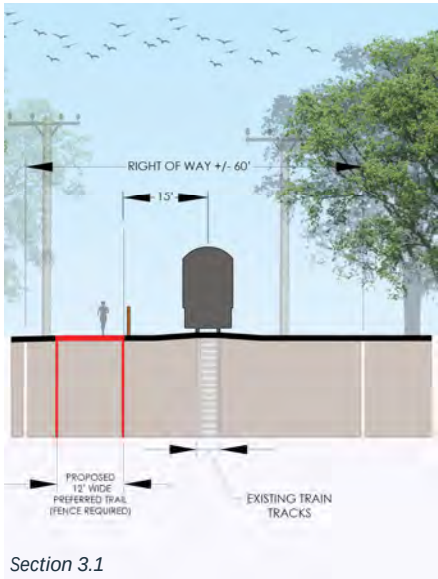
Proposed On Road Trail C

Wetlands: +/- 0 linear ft.
Floodplain: +/- 0 linear ft.
Floodway: +/- 0 linear ft.
Surface Water: +/- 0 points of impact

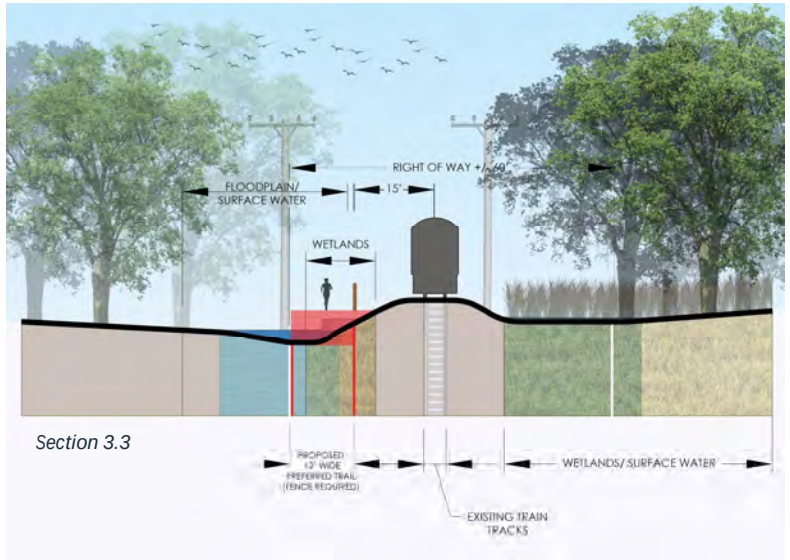
See enlargement options
Existing rail siding 240' north of Wintonbury Ave.
Transition to wider right of way. Trail switches within ROW east of tracks at Wintonbury Road crossing

Legend

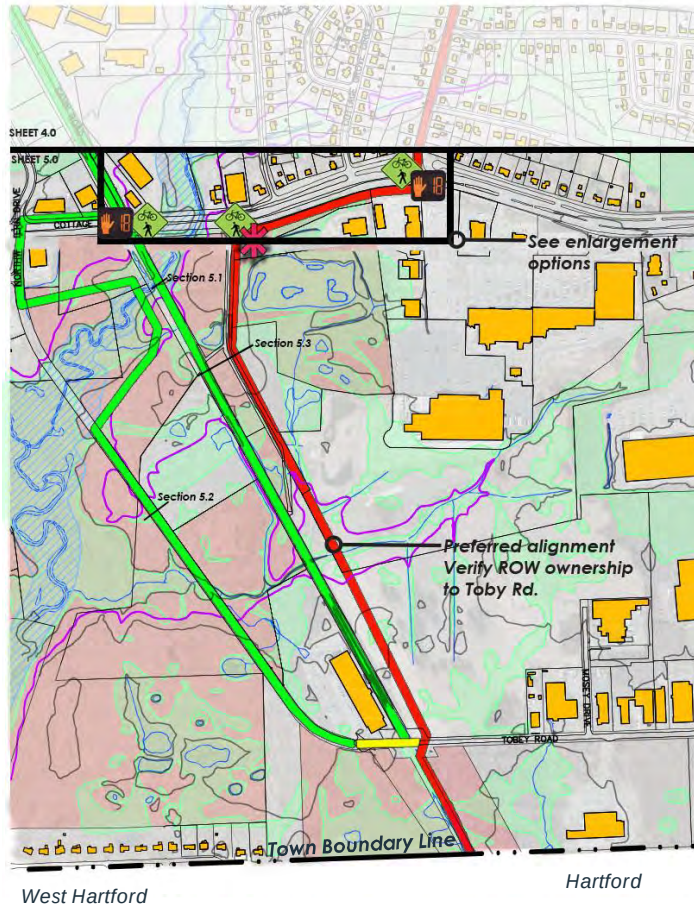
- Buildings
- Preferred Route
- Off Road Trail B
- On Road Trail C
- Floodplain
- Floodway
- Surface Water
- Topography
- Wetlands
- Proposed Trail Head
- Road Crossing
- Pedestrian Head



Section 3.1



Section 3.3



Impact Assessment

Preferred Route

Wetlands: +/- 1,640 linear ft.
Floodplain: +/- 300 linear ft.
Floodway: +/- 0 linear ft.
Surface Water: +/- 3 points of impact

Proposed Off Road Trail B

Wetlands: +/- 1,780 linear ft.
Floodplain: +/- 2,000 linear ft.
Floodway: +/- 250 linear ft.
Surface Water: +/- 7 points of impact

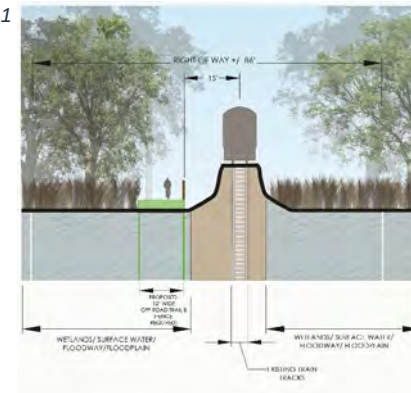
Proposed On Road Trail C

Wetlands: +/- 0 linear ft.
Floodplain: +/- 0 linear ft.
Floodway: +/- 0 linear ft.
Surface Water: +/- 0 points of impact

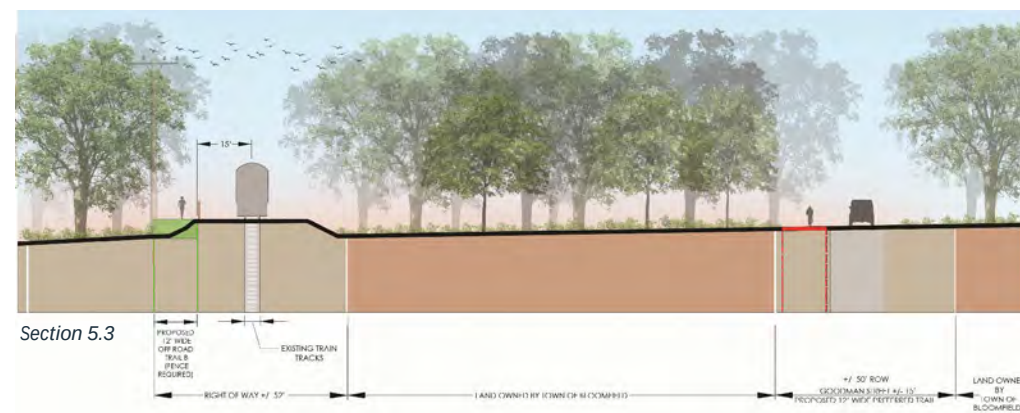
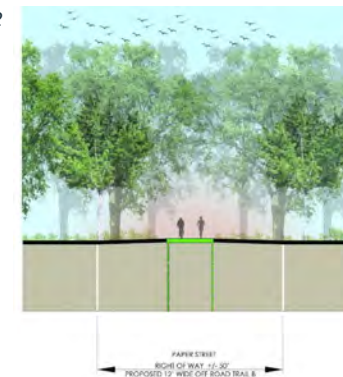
Legend

- Buildings
- Preferred Route
- Off Road Trail B
- On Road Trail C
- Floodplain
- Floodway
- Surface Water
- Topography
- Wetlands
- Publicly Owned Property
- Proposed Trail Head
- Road Crossing
- Pedestrian Heads

Section 5.1



Section 5.2

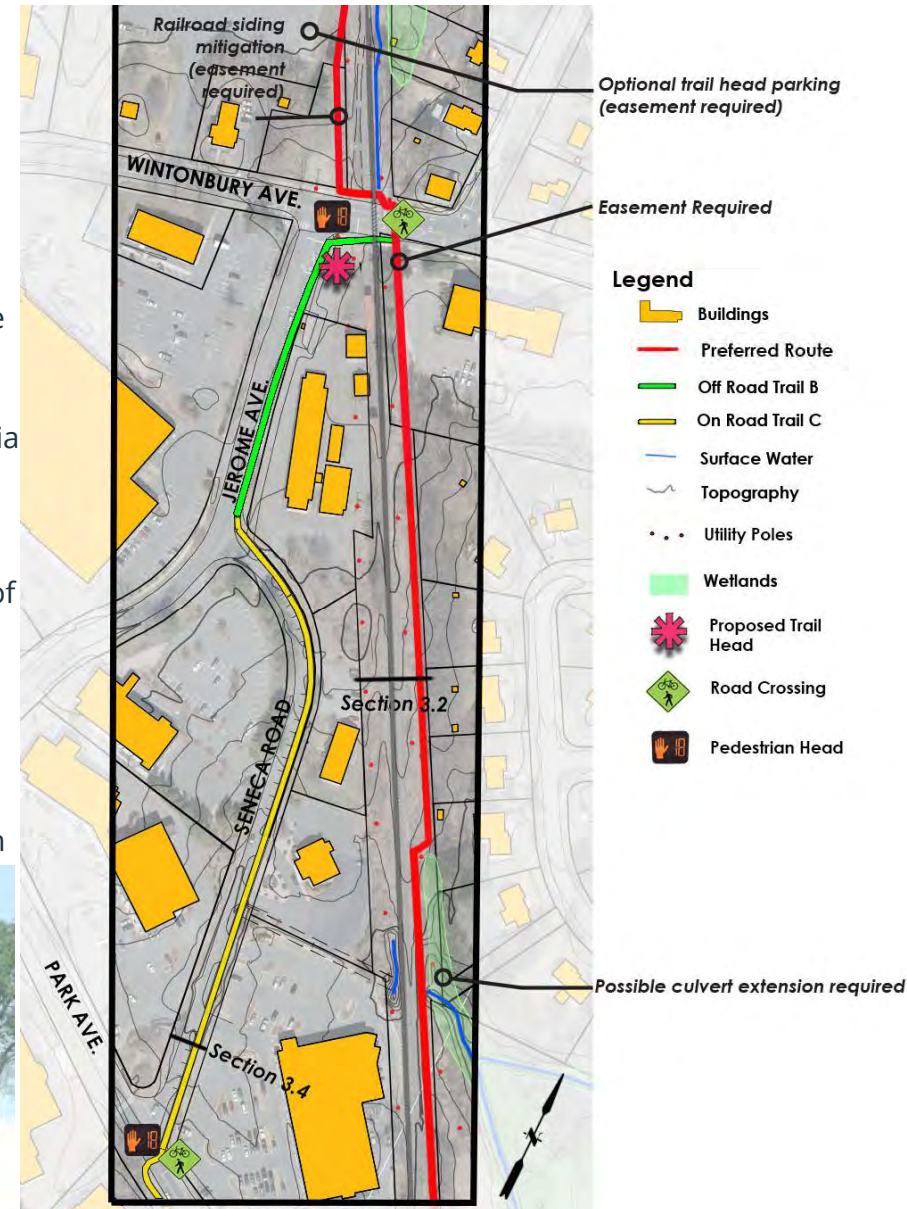
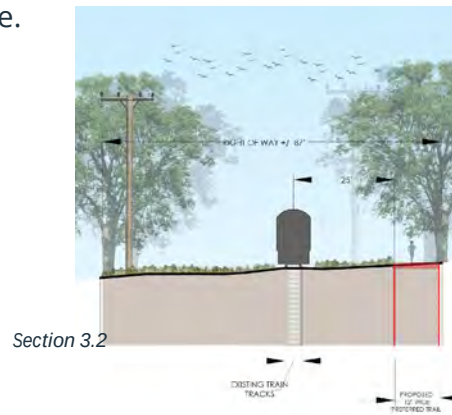


Enlargements / Optional Alignments

A number of alternative alignments were considered and prioritized.

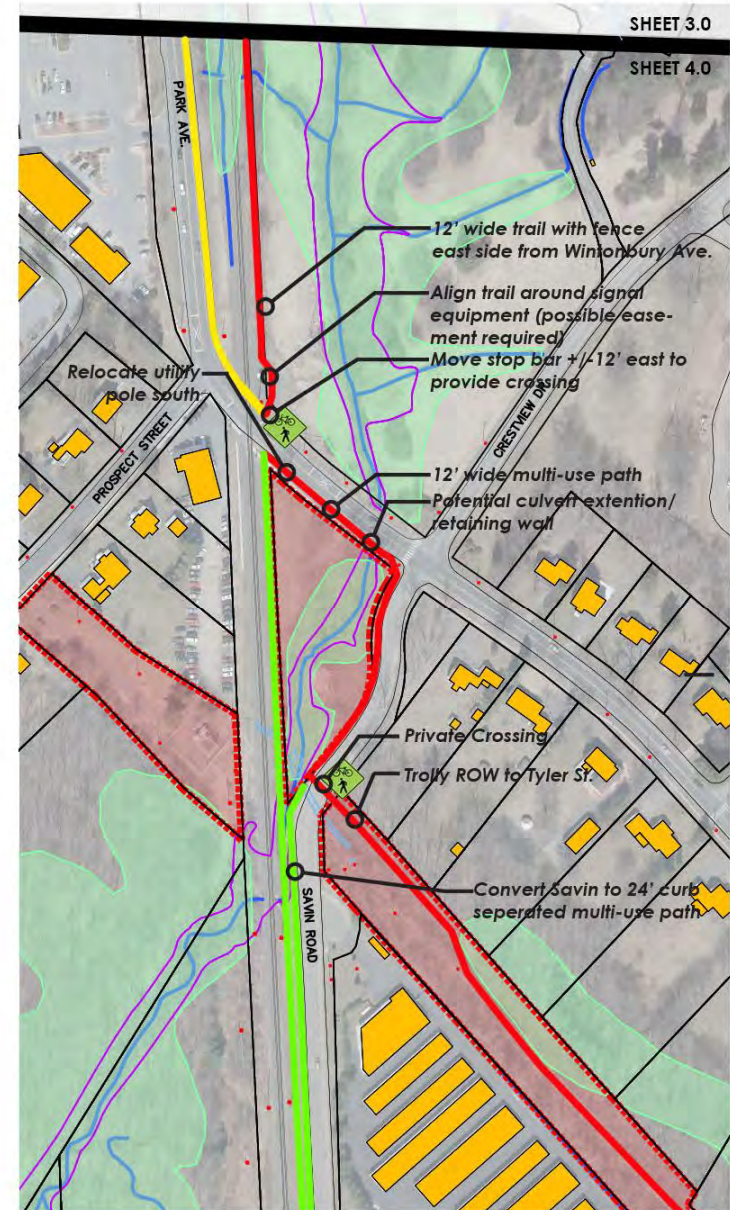
Downtown: As the Griffin Line right of way accesses the downtown area from the north a number of challenges have been identified.

1. The existing rail siding and existing utility poles north of Wintonbury Ave precludes the location of the trail within the established right of way. Access via the adjacent church property will be required. This site may also offer shared trail head parking opportunities.
2. South of Wintonbury Ave, the right of way narrows and there are existing building encroachments on the west side of the tracks which preclude a right of way alignment. One option considered was to change Seneca Road to a one way north system thereby providing room for a dedicated and separated path alignment. Jerome Ave would remain two way but also receive the same separated path. Upon further study and town coordination the preferred alternative in this location is to transition the trail to the east side of the tracks at the Wintonbury Road crossing. Although easements will be required, this option offers numerous advantages through the downtown area and has been established as the town's preferred alternative.



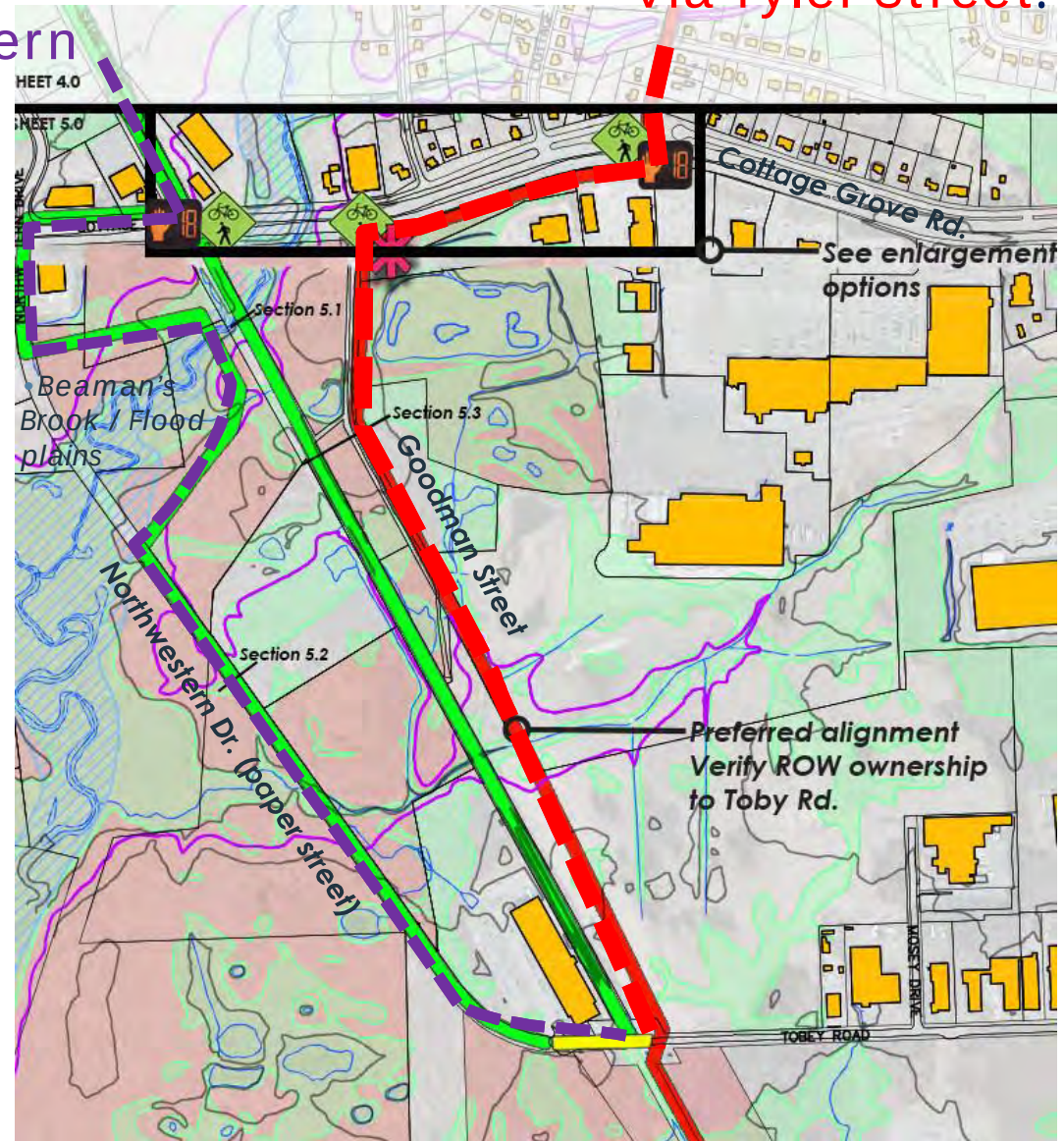
Approach to Cottage Grove Road : Cottage Grove is a heavily traveled major arterial. The Griffin Line intersection with this street is an unsignalized at grade crossing parallel to Savin Road.. Existing traffic signals are located to the east at Tyler Street and to the West at Jolley / Northwestern Drives. Beaman's Brook and associated floodways are also an important consideration as crossing options may be prohibitively expensive. Options / mitigations considered include:

1. **Via Tyler Street (Preferred Option):** Diverge from the east side of the Griffin Line right of way at the intersection of Park Ave. Construct a dedicated off road trail within both the Park Ave and Savin Road ROW's. Access the old trolley right of way on Savin. Easy trail build along the trolley ROW to Tyler Street. Construct Tyler Street crossing and realign Tyler Street to accommodate a minimum 10' wide dedicated and separated multi use trail to the signalized Cottage Grove Road intersection. Install appropriate signalization at Cottage Grove. Develop multi use path along south side of Cottage Grove to Goodman Street and develop dedicated multiuse path along Goodman Street. Goodman Street continues as a paper Street to Toby Road. Develop trail along this ROW. Verify ownership. Another option could be to reconnect to Griffin Line ROW south of Beaman's Brook at the end of the paved section of Goodman. (see sheet 5 Enlargement on next page)
2. **Via Northwestern Drive:** (option not shown) This option utilizes either the Griffin Line ROW or a dedicated path on Savin Road to the intersection of Cottage Grove Road. A new separated multi use path would be constructed along the north side of Cottage Grove to the existing signalized crossing at Northwestern Drive. Northwestern Drive south of Cottage Grove is a paper street and would require complete trail construction within this right of way. Some alignment flexibility is provided based on large land holdings by the University of Hartford in this area however, substantive wetlands, flood plains and flood ways associated with Beaman's Brook may present prohibitively expensive or regulatory hurdles.



Via
Northwestern
Drive:

Via Tyler Street:



Order of Magnitude Costs

Order of magnitude costs estimates have been prepared based on bid prices from recent similar projects. Based on the level of detail of this study, costs presented herein should be used as a general guide only. Cost estimates have not been prepared for the primary alternatives illustrated but assume a new trail alignment completely within the Griffin Line Right of Way for the entire length. Specific design studies and cost estimates will be required in multiple locations throughout the trail's length to substantiate more accurate figures.

Order of Magnitude Concept Trail Cost:

Griffin Line Right Of Way

\$15/sq.ft. (without fence)

\$20/sq.ft. (with fence)

\$40/sq.ft. (through environmental)

+/- 4.5 – 5 Miles Of Trail

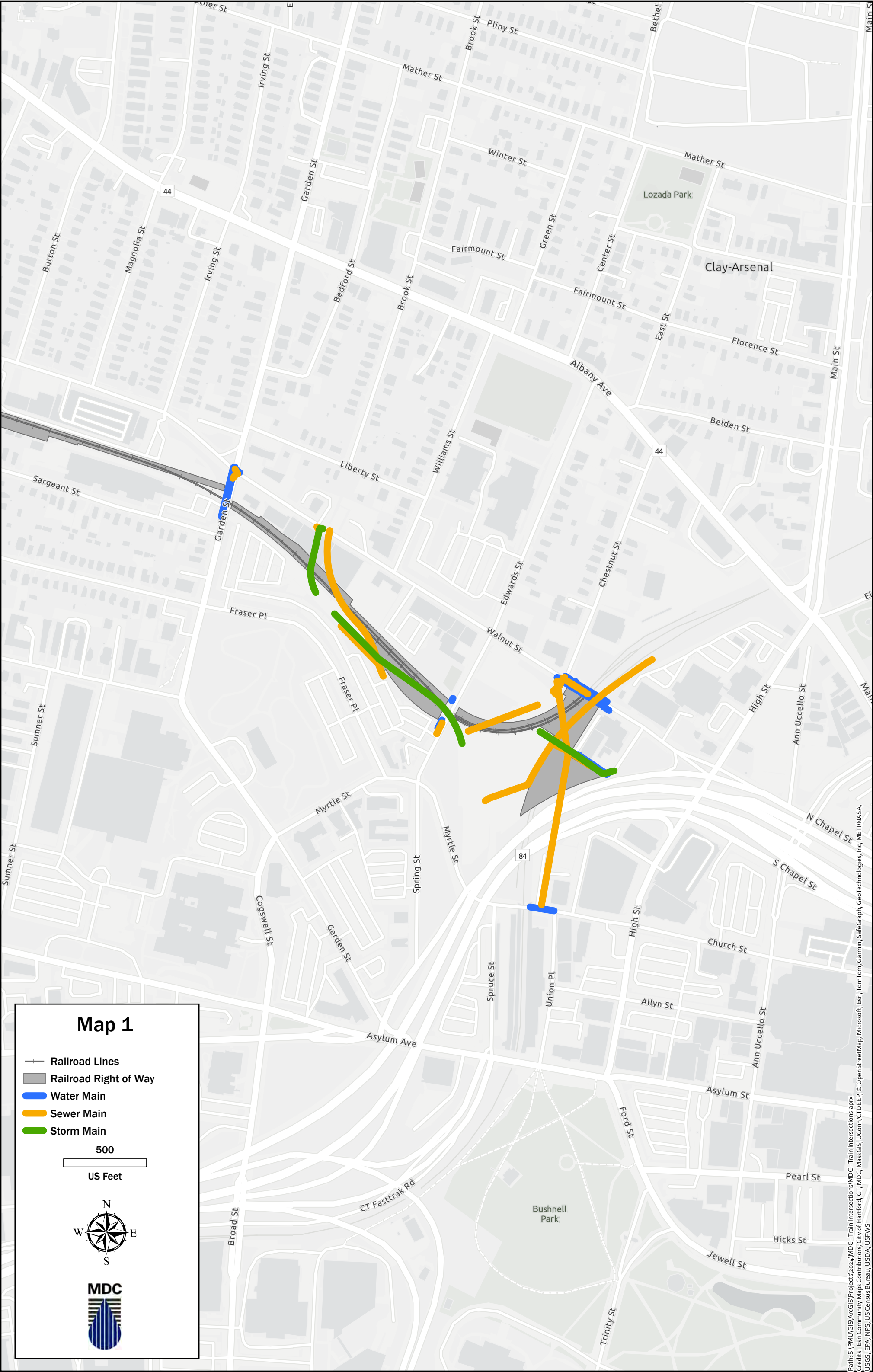
• Trail with Fence: +/- 193,080 square feet =	+/- \$ 3,861,600
• Trail without fence: +/- 167,496 square feet =	+/- \$ 2,512,440
• Total through environmental= +/- 70,775 square feet=	+/- \$ 2,831,000
• Allow for Signals and crossings	+/- \$300,000
• Sub Total	+/- \$9,505,040
• Total Cost with 20% contingency=	+/- \$11,406,048
• Per Mile Cost	+/- \$2,281,210

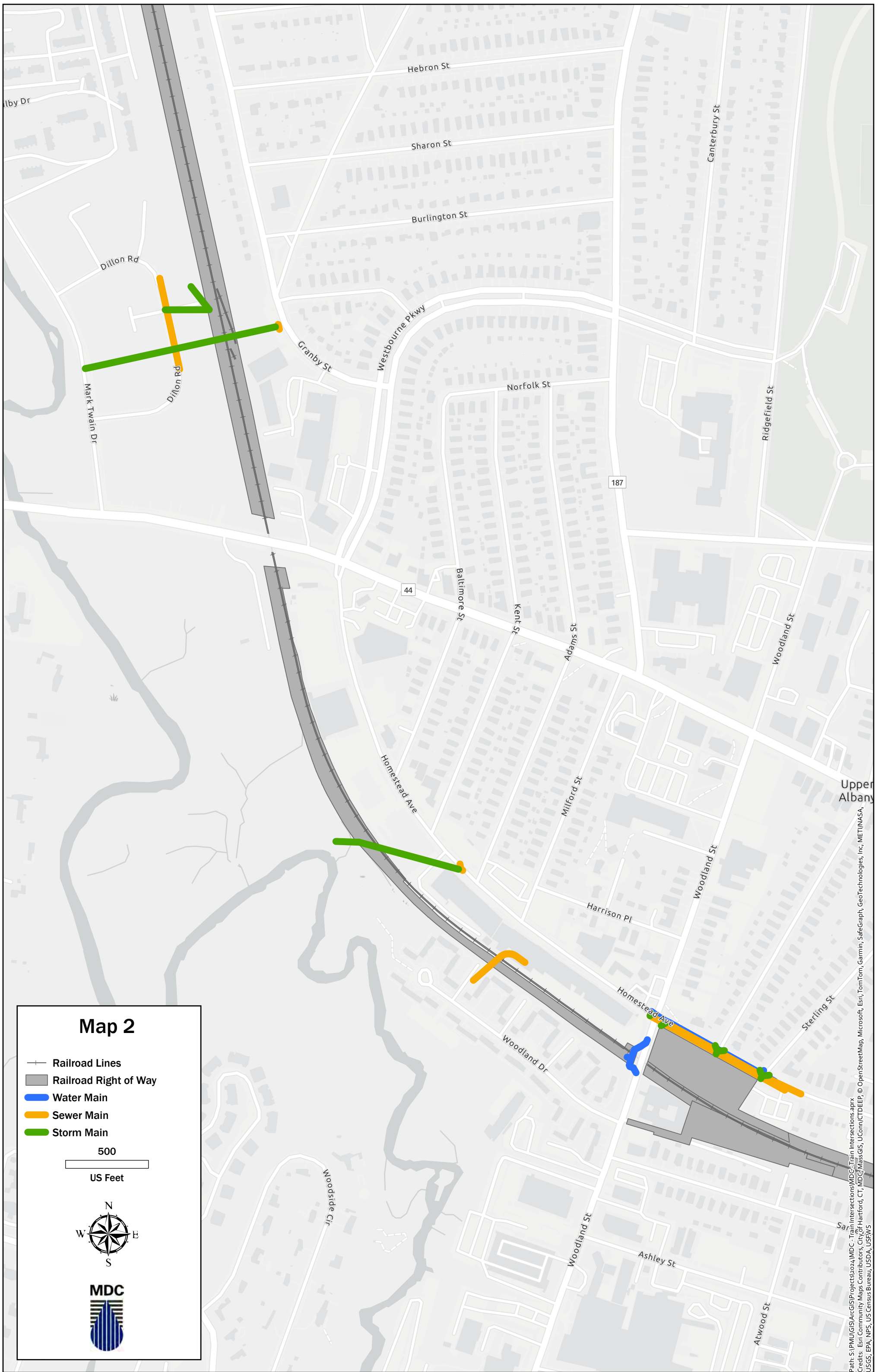
Next Steps

1. Coordination with DOT trail liaison
2. DOT trail funding and construction



APPENDIX M: MDC ASSET MAPPING PROXIMATE TO GRIFFIN LINE





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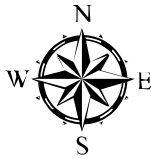


Map 3

- Railroad Lines
- Railroad Right of Way
- Water Main
- Sewer Main
- Storm Main

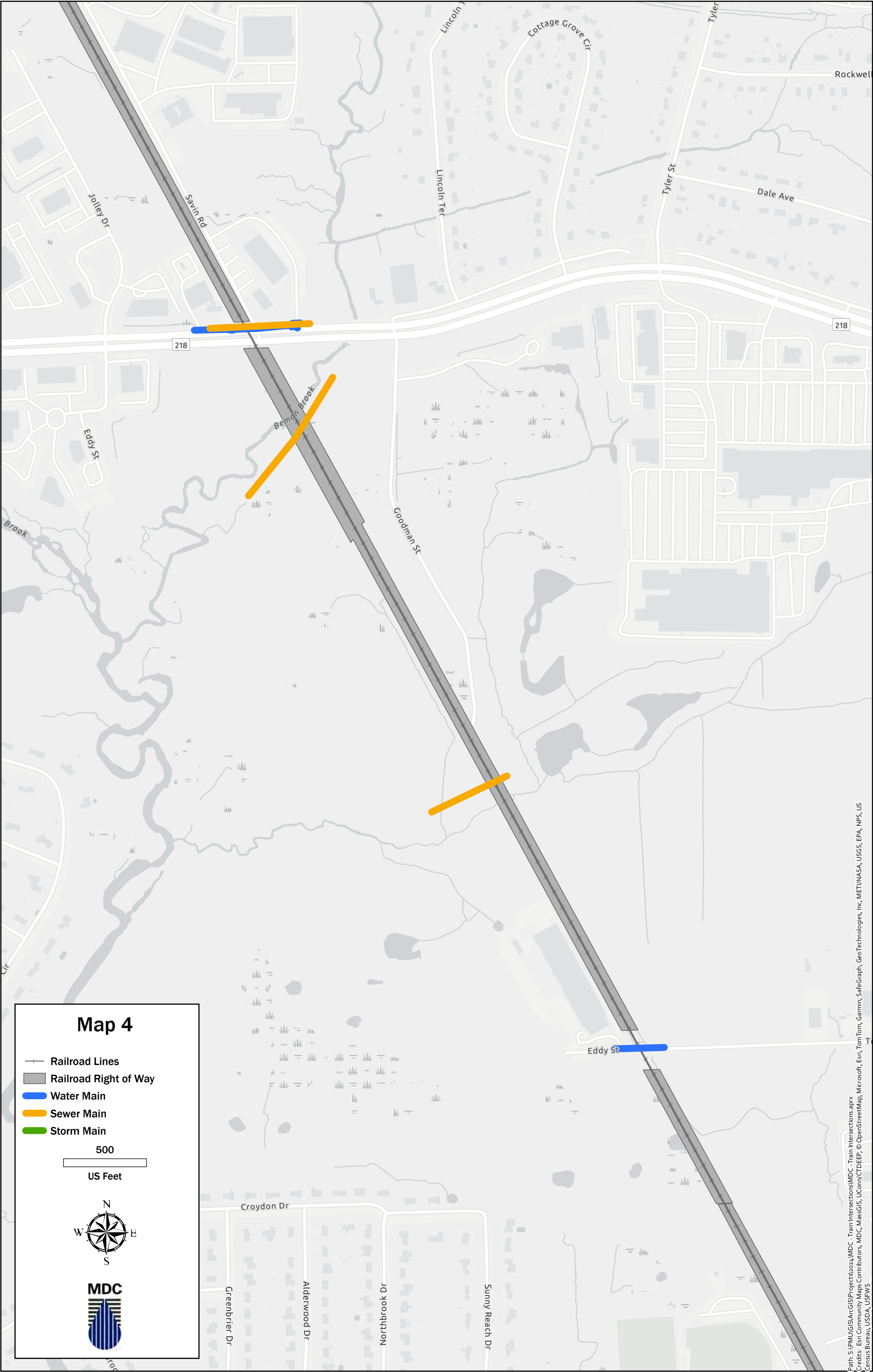
500

US Feet



MDC





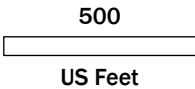






Map 7

- Railroad Lines
- Railroad Right of Way
- Water Main
- Sewer Main
- Storm Main





APPENDIX N: RAIL-WITH-TRAIL LIST (SOURCE: RAILS TO TRAILS CONSERVANCY)



Rail-with-Trail List

September 2023

Trail Name	State	Total Trail Length	Rail-with-Trail Length
Chase Trail	AK	14	9
Tony Knowles Coastal Trail	AK	11	1
Decatur Trail	AL	14	0.4
Historic Bridgeport Walking Trail	AL	2	2
Redstone Gateway Greenway	AL	0.5	0.16
Arkansas Missouri Trail	AR	0.75	0.6
Arkansas River Trail	AR	21.2	0.4
Frisco Trail	AR	2.39	0.6
Big River Crossing	AR, TN	1	0.9
Route 66 Trail	AZ	4.9	3
Yuma Crossing Bike Path (Colorado River Levee Multi-Use Path)	AZ	3.4	1.2
Alton Avenue Bike Trail	CA	1.8	1.8
Arroyo Simi Bike Path	CA	8.6	0.13
Baine Avenue Trail	CA	0.75	0.6
Bear Creek Bikeway	CA	3.6	0.6
Cal Park Hill Tunnel	CA	2.5	2.5
Chico State Bike Path	CA	2	1.9
Chuck Pontius Commuter Trail	CA	5.5	1.8
Coastal Rail Trail	CA	4.7	4.7
East Bay Greenway	CA	0.5	0.5
El Dorado Trail	CA	35.9	25.3
Embarcadero Bike Path	CA	0.9	0.8
Exposition Line Bikeway	CA	12.2	12.2
Fillmore Bike Path	CA	3.8	1.4
Folsom Parkway Rail Trail	CA	2.9	2.4
Foss Creek SMART Pathway	CA	1.3	1
Goshen Avenue Trail	CA	5.8	5.8
Hoover Bike and Walking Trail	CA	2	2
Inland Rail Trail	CA	10.5	10.3
Joe's Trail at Saratoga De Anza	CA	1.4	1.2
Lincoln Hill Pathway	CA	1.4	0.5
Linear Park	CA	1.1	1.1
Manteca Tidewater Bikeway	CA	3.4	1.6
Martin Luther King, Jr. Promenade	CA	0.75	0.75
Napa Valley Vine Trail	CA	18.5	3.2
Northwestern Pacific Rail Trail	CA	0.8	0.8
Novato Downtown SMART Pathway	CA	0.9	0.8
Old Highway 40 Bike Path	CA	2.8	3
Omer Rains Coastal Bike Trail	CA	4.1	1.2
Orange Line Bike Path	CA	15.8	0.4
Petaluma SMART Pathway	CA	1.2	1.2
Railroad Safety Trail	CA	1.9	1.8

Do you know of a rail-with-trail that is not on our list? Please contact us at railtrails@railstotrails.org



Rail-with-Trail List

September 2023

Trail Name	State	Total Trail Length	Rail-with-Trail Length
Richmond Greenway	CA	2.5	1.3
Rohnert Park/Cotati SMART Pathway	CA	3.7	3.7
Rose Canyon Bicycle Path	CA	1.1	1.1
Sacramento River Parkway Trail	CA	9.3	2.8
San Clemente Beach Trail	CA	2.3	2.1
San Fernando Road Bike Path	CA	7.2	7.4
San Francisco Bay Trail *only portions not accounted for by other trails	CA	301.5	6.7
Santa Cruz Coastal Rail Trail	CA	2.5	0.35
Santa Fe Trail (Visalia)	CA	2.5	1.6
Santa Maria Valley Multi-Purpose Trail	CA	2.7	0.4
Santa Paula Branch Line Trail	CA	2.5	1.7
Santa Rosa SMART Pathway	CA	3.8	3.8
Sierra Bike Trail	CA	7.1	6.7
Walnut Trail	CA	3.4	3.4
Watsonville Rail Trail (Coastal Rail Trail Segment 18)	CA	1.2	0.25
Watts Towers Crescent Greenway	CA	0.2	0.2
Animas River Trail	CO	9.4	1.1
Arkansas River Trail (Pueblo)	CO	10.1	0.1
Eagle Valley Trail	CO	21.8	10
Inca Street Multi-use Trail	CO	0.75	0.75
Littleton Community Trail	CO	2.6	1.4
Long View Trail	CO	4.4	1.3
Mason Trail	CO	4.5	3.8
New Santa Fe Regional Trail	CO	17	4.3
Power Trail	CO	3.9	3.7
Union Pacific Trail	CO	0.6	0.6
West Rail Line Bike Path	CO	6.3	3.63
Wonderland Creek Greenway	CO	3	0.2
Yampa River Core Trail	CO	7	0.85
Derby Greenway	CT	2	0.2
Niantic Bay Boardwalk	CT	1.1	1.1
Metropolitan Branch Trail	DC, MD	4	2.46
Georgetown-Lewes Trail	DE	9.6	0.9
James F. Hall Trail	DE	1.8	1.16
Sorenson's Way	DE	1.4	0.1
Capital Cascades Trail	FL	2.7	0.1
Doctors Lake Drive Bike Path	FL	4.5	4.5
El Rio Trail	FL	4.7	0.11
Fred Marquis Pinellas Trail	FL	46	0.17
Gertrude's Walk	FL	0.25	0.2
John Yarbrough Linear Park Trail	FL	6	2.73

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Rail-with-Trail List

September 2023

Trail Name	State	Total Trail Length	Rail-with-Trail Length
M-Path Trail	FL	9.4	9.35
Old Brick Road Trail	FL	5.4	5.4
Oldsmar Trail	FL	11	0.1
Orlando Urban Trail	FL	2.6	0.2
Atlanta Road Path	GA	2.5	2.5
Augusta Canal Trail	GA	7.85	0.6
Blind Willie McTell Trail	GA	1.1	0.9
East Point PATH	GA	1.4	0.3
Senoia Multiuse Trail	GA	1.5	0.2
Silver Comet Trail	GA	61.5	9.1
Stone Mountain Trail	GA	20.5	5.5
218 Trail	IA	1.43	0.69
Bellevue Riverview Trail	IA	2.3	0.22
Cedar Valley Nature Trail	IA	69	5.55
Chautauqua Park Trail	IA	1.8	0.8
Clinton Discovery Trail	IA	9.8	0.47
Floyd River Trail	IA	3.2	1
Gay Lea Wilson Trail	IA	20.9	4.3
Indian Creek Trail	IA	3.86	0.7
John King Trail	IA	0.5	0.2
Jordan Creek Trail	IA	8.6	0.6
Linn Creek Recreational Trail	IA	10	1
North Ridge Trail	IA	6.5	2.3
Perry Creek Trail	IA	4.4	0.45
Prairie Farmer Recreational Trail	IA	20	0.7
Running River Trail System (Riverside Park)	IA	5.3	2.75
Sauk Rail Trail	IA	33.2	2.1
Southern Levy Trail	IA	0.7	0.7
Trolley Trail (Clear Lake/Mason City)	IA	7.5	0.9
Long Bridge Trail	ID	5.3	0.4
North Idaho Centennial Trail	ID	24	1.29
Chain O' Lakes Bike Path	IL	3.2	1.5
Constitution Trail	IL	43	6.65
Des Plaines River Trail	IL	56.2	3.2
East Prairie Bicycle & Walking Path	IL	1	1
Fox River Trail	IL	44.6	3.1
Great River Trail	IL	62.3	18.6
Green Bay Trail	IL	8.9	6.29
H.U.M. Trail	IL	3.5	3.22
Hickory Creek Bikeway	IL	3.7	0.8
Illinois & Michigan Canal State Trail	IL	79.5	9.2
Illinois Prairie Path	IL	62	3.6

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Rail-with-Trail List

September 2023

Trail Name	State	Total Trail Length	Rail-with-Trail Length
Interurban Trail	IL	8.4	5
MCT Quercus Grove Trail	IL	18.4	2.26
MetroBikeLink Trail	IL	14	10.8
Prairie Trail	IL	26.5	10.12
Robert McClory Bike Path	IL	25.4	8.8
Rock Island Trail	IL	38.2	2
Rock River Recreation Path	IL	10	7
Skokie Valley Trail (Lake County)	IL	9.8	8.4
Stone Mill Trail	IL	1.5	1.5
Techny Trail	IL	3	0.5
Thorn Creek Trail	IL	17.2	0.24
Virgil L. Gilman Trail	IL	11.4	1.8
Wauponsee Glacial Trail	IL	22.3	0.66
McKinley Bridge Bikeway	IL, MO	1.2	0.4
Anderson Airport Trail	IN	1.5	0.67
Cardinal Greenway	IN	62	4.5
Dearborn Trails (Aurora - Lawrenceburg - Greendale)	IN	5.4	2.4
Fall Creek Trail	IN	6.9	0.4
Industrial Heritage Trail	IN	4.82	2.3
Lafayette Linear Park	IN	1.1	1.1
Little Turtle Waterway Trail	IN	1	0.45
MapleHeart Trail	IN	4.8	2
Ninth Street Trail	IN	1.3	0.85
Paradise Spring Riverwalk Trail	IN	0.82	0.25
Pigeon Creek Greenway Passage	IN	6.7	0.29
Polly Grimshaw Trail	IN	0.65	0.6
Singing Sands Trail	IN	3.6	1.1
Sweetser Switch Trail	IN	4	2.5
Tell City Riverwalk	IN	1.1	0.5
Wabash & Erie Canal Trail (Evansville)	IN	0.4	0.4
White River Greenway (Noblesville)	IN	5.9	0.45
Whitewater Canal Trail	IN	11	3
Winona Interurban Trail	IN	3.14	1.3
Armourdale Levee Trail	KS	1.3	0.3
Flint Hills Trail State Park	KS	118	3.5
Gary L. Haller Trail	KS	13.8	1.8
Katy Hike/Bike Trail	KS	1.8	0.35
Railroad Park Bike Path	KS	0.4	0.4
Sunflower Santa Fe Trail	KS	1.7	1.7
Whistle Stop Park	KS	1.8	0.91
Louisville Loop	KY	50.51	0.4
South Elkhorn Trail	KY	0.5	0.4

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Rail-with-Trail List

September 2023

Trail Name	State	Total Trail Length	Rail-with-Trail Length
Town Branch Trail	KY	2.2	1.4
Baton Rouge Levee Bike Path	LA	27.8	0.37
Crescent Park Trail	LA	1.4	0.9
Mississippi River Trail (Louisiana)	LA	60.8	1.3
Cape Cod Canal Bikeway	MA	13.9	0.8
Connecticut Riverwalk and Bikeway	MA	5.4	1.5
East Boston Greenway	MA	2.8	0.84
Manhan Rail Trail	MA	6	0.65
Mass Central Rail Trail	MA	59	1.43
Neponset River Greenway	MA	8.2	1.3
Salem Bike Path	MA	1.8	0.8
Shining Sea Bikeway	MA	10.7	0.22
Somerville Community Path	MA	3.2	1.9
Southwest Corridor Park (Pierre Lallement Bike Path)	MA	4.1	1.8
Tri-Community Greenway	MA	6.6	0.6
Whitney Spur Rail Trail	MA	1.6	0.18
Blackstone River Greenway	MA, RI	29.9	8.7
Grist Mill Trail at Patapsco Valley State Park	MD	2.5	2
Gwynns Falls Trail	MD	18.9	5
Western Maryland Rail Trail	MD	27.5	0.3
Great Allegheny Passage	MD, PA	150	24.2
Harpers Ferry Railroad Bridge	MD, WV	0.14	0.14
Bucksport Waterfront Walkway	ME	1	0.2
Down East Sunrise Trail	ME	87	2.6
Eastern Promenade Trail	ME	2.1	1.33
Ellsworth Trail	ME	1.6	1.3
Fore River Parkway Trail	ME	2.6	0.06
Kennebec River Rail Trail	ME	6.5	5.4
Mountain Division Trail	ME	9.7	8.5
Papermill Trail	ME	4	1.2
Whistle Stop Rail-Trail	ME	15.8	0.7
Baw Beese Trail	MI	8.2	0.7
Boardman Lake Loop Trail	MI	4	0.45
Border-to-Border Trail	MI	19.7	4
Fred Meijer Heartland Trail	MI	41.8	0.4
Fred Meijer Pioneer Trail	MI	9	3.25
George Atkin Jr. Recreational Trail	MI	4.2	0.5
Little Lake to Chatham Snowmobile Trail	MI	26	0.54
Muskegon Lakeshore Trail	MI	11.2	3.1
North Central State Trail	MI	62	0.2
Portage Creek Bicentennial Trail	MI	4	1.3
Shaver Road Bikeway	MI	1.8	0.75

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Rail-with-Trail List

September 2023

Trail Name	State	Total Trail Length	Rail-with-Trail Length
Sycamore Trail	MI	2.1	0.6
Traverse Area Recreation and Transportation Trail (TART)	MI	13	7.5
Trolley Line Trail	MI	2.8	2.8
Valhalla Trail	MI	1.3	0.5
Vassar Rail Trail	MI	2	0.4
Big Rivers Regional Trail	MN	4.4	1.41
Blazing Star State Trail	MN	6	1.3
Bruce Vento Regional Trail	MN	7	0.2
Camden Regional Trail	MN	14.9	3
Cannon Valley Trail	MN	19.7	0.55
Cedar Lake LRT Regional Trail	MN	4.5	3.95
Civic Center Trail	MN	1.2	1.05
Cologne Community Trail	MN	3.2	0.1
Duluth Lakewalk	MN	7	5.2
Empire Township Trail	MN	2	0.6
Graham Park Trail	MN	1.1	0.4
Hiawatha LRT Trail	MN	4.7	4.2
Kenilworth Trail	MN	1.5	1.45
Luce Line Trail	MN	72.9	5
Mesabi Trail	MN	135	2
Midtown Greenway	MN	5.5	1.4
Mill Towns State Trail	MN	6	2.1
Minneapolis Diagonal Trail	MN	3	0.11
Minneopa Trail	MN	2.7	1
Minnesota River Bluffs LRT Regional Trail	MN	19.91	0.36
North Cedar Lake Regional Trail/Cedar Lake Trail	MN	9	5
North Minnesota River Trail	MN	4.8	1.36
Red Jacket Trail	MN	6.3	0.16
Rice Creek West Regional Trail	MN	5.8	1.6
Stone Road Trail	MN	0.8	0.6
Todd Park Bike Trail	MN	2.4	0.19
Trout Brook Regional Trail	MN	1.8	0.25
Western Waterfront Trail	MN	3.4	0.5
Wilderness Trail	MN	1.3	0.8
Zumbro South Trail	MN	6.5	0.2
Carondelet Connector	MO	1	0.25
Wabash Walkway	MO	0.15	0.15
Bitterroot Trail	MT	51	4.65
Livingston Depot Center Trail	MT	1.4	1.5
River's Edge Trail	MT	55	2.24
Silver Bow Creek Greenway	MT	9.2	3
Tobacco River Memorial Trail (Kootenai Trail)	MT	7.4	0.8

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Rail-with-Trail List

September 2023

Trail Name	State	Total Trail Length	Rail-with-Trail Length
Cape Fear River Trail	NC	5	0.74
Charlotte Rail Trail	NC	3.5	3.3
City Walk	NC	2.5	1.3
Irwin Creek and Stewart Creek Greenways	NC	2	0.12
Libba Cotten Bikeway	NC	0.38	0.36
Marcia H. Cloninger Rail-Trail	NC	1.5	0.1
Bismarck Trails (Hay Creek and Pebble Creek Loops)	ND	7.4	0.42
Washburn Discovery Trail	ND	2.2	0.1
FEVR Trail	NE	1	0.73
St. Joe Trail	NE	2.91	1.2
Cotton Valley Rail-Trail	NH	12	2
Winnepesaukee River Trail	NH	2.7	1
WOW Trail	NH	5.1	1.1
Pleasantville to Somers Point Bike Path	NJ	8.2	0.8
Roselle Park Bike Path	NJ	0.5	0.5
Traction Line Recreation Trail	NJ	2.7	2.5
Santa Fe Rail-Trail	NM	16.8	15.4
Valle de Oro Trail	NM	2.3	2.3
Rio Grande River Trail	NM, TX	11.9	0.47
River Mountains Loop Trail	NV	35.3	1.3
Union Pacific Railroad Trail	NV	12	6.7
Cheektowaga Historic Rails to Trails	NY	2.3	1.5
EPCAL Alternative Transportation Path	NY	8.5	0.4
Erie Canalway Trail	NY	292	5.3
Fort Washington Park Greenway	NY	1	1
Harlem Valley Rail Trail	NY	23.8	1
Heritage Trail	NY	19.5	0.38
Hudson River Greenway	NY	12.9	0.5
Klara Sauer Trail	NY	1	0.9
Lenox Rail Trail	NY	2.2	1
Maybrook Trailway	NY	26.85	26.85
Ontario Pathways Rail Trail	NY	25.2	1.4
Philip A. Rayhill Memorial Recreational Trail (NH&W Rail Trail)	NY	5.2	0.25
Pittsford Trail System (Railroad Loop Trail)	NY	11.4	0.06
Saranac Lake Recreational Path	NY	0.52	0.52
Terry Gordon Trail	NY	1.6	1.5
Zim Smith Mid-County Trail	NY	11.5	0.35
Camp Chase Trail	OH	15.9	12.55
Celina Coldwater Bikeway	OH	4.61	4.61
Chessie Circle Trail	OH	11	4.43
County Line Trail	OH	6.75	4.42
Fairfield Heritage Trail	OH	9.5	0.6

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Rail-with-Trail List

September 2023

Trail Name	State	Total Trail Length	Rail-with-Trail Length
Heritage Trail	OH	17.2	0.12
Hockhocking Adena Bikeway	OH	22	3.6
Iron Horse Trail	OH	7.6	1.3
Little Beaver Creek Greenway Trail	OH	12.5	0.6
Middle Branch Trail	OH	7.7	1.56
North Coast Inland Trail (Huron County)	OH	27.6	10
North Coast Inland Trail (Sandusky and Ottawa Counties)	OH	29.7	11.7
Ohio & Erie Canal Towpath Trail	OH	90.6	5.8
Ohio River Trail	OH	9.6	0.49
Olde Muskingum Trail	OH	6	5.72
Portage Hike and Bike Trail	OH	15.6	5
Red Line Greenway	OH	2	2
Simon Kenton Trail	OH	35.5	23.83
Steel Mill Trail	OH	2	0.06
T. J. Evans Panhandle Trail	OH	9.8	9.8
Triplett Pathway	OH	0.9	0.4
University/Parks Trail	OH	6.3	4.18
Wabash Cannonball Trail	OH	62.9	1.2
West Branch Trail	OH	4.5	2.5
Wright Brothers Huffman Prairie Bikeway	OH	4.6	3.7
Zane's Landing Trail	OH	2.9	2.4
Stavich Bicycle Trail	OH, PA	10	9
Katy Trail (Oklahoma City)	OK	6.3	1.4
Legacy Trail	OK	1.5	1
Astoria Riverwalk	OR	6.4	2.3
Central Ashland Bikepath	OR	1.8	1.8
Circle to Buchanan Multi-Modal Path	OR	1	0.4
Fanno Creek Greenway Trail	OR	10.5	0.9
Logging Road Trail	OR	3.5	1
Riverfront Trail at The Dalles	OR	9	0.98
Rogue River Greenway	OR	9.8	3.25
Springwater Corridor	OR	21.5	3.43
Steel Bridge Riverwalk	OR	0.2	0.2
Tilikum Crossing	OR	0.6	0.6
Trolley Trail	OR	6	0.5
Village Green Trail	OR	0.6	0.6
I-205 Multi-Use Path	OR, WA	18.5	5.3
Arboretum Trail	PA	0.8	0.8
Beaver River Trail	PA	1	0.33
Bristol Spurline Park	PA	2.5	0.43
Chester Valley Trail	PA	18.6	0.2
Clarion-Little Toby Trail	PA	18.4	2.75

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Rail-with-Trail List

September 2023

Trail Name	State	Total Trail Length	Rail-with-Trail Length
Coal & Coke Trail	PA	6.1	1.9
Cynwyd Heritage Trail	PA	1.8	0.35
D&L Trail	PA	142.2	16
Enola Low Grade Trail	PA	29.15	6.64
Five Star Trail	PA	7.8	4.75
Gurney Street Trail	PA	0.13	0.13
Heritage Rail Trail County Park	PA	27.4	20.2
Hoodlebug Trail	PA	11.8	0.75
Luzerne County National Recreation Trail	PA	1.8	1.6
McClintock Trail	PA	9.4	1.9
Montour Trail	PA	61.5	3.5
Neversink Connector Trail	PA	1.2	0.2
North Branch Canal Trail	PA	6.2	6.2
Northwest Lancaster County River Trail	PA	14.1	5
Oil City Trail	PA	3	0.74
Pine Creek Rail Trail	PA	62	0.8
Schuylkill River Trail	PA	71.7	10.9
Susquehanna Bikeway	PA	3.2	0.75
Susquehanna River Walk & Timber Trail	PA	4.2	2.15
Three Rivers Heritage Trail	PA	33	8.3
East Bay Bike Path	SC	0.6	0.4
Mary Black Foundation Rail Trail (Palmetto Trail)	SC	1.9	0.16
Prisma Health Swamp Rabbit Trail	SC	28	0.9
Marne Creek West Trail	SD	0.6	0.15
Mitchell Community Bike Path	SD	10	1.8
Mobridge Riverfront Walking Path	SD	2.3	0.5
Sioux Falls Bike Trails	SD	26.8	2.1
Vermillion River Trail	SD	1.7	0.2
Cumberland River Greenway	TN	9.13	1.5
James White Greenway	TN	1	1
Richland Creek Greenway	TN	5	0.65
Riverbluff Walkway	TN	6.7	0.36
South Chickamauga Creek Greenway	TN	12	0.7
Tennessee Central Heritage Rail Trail	TN	4.73	0.3
Wolftever Creek Greenway	TN	2.9	0.5
A-Train Rail Trail	TX	19	12.4
Bicentennial Hike and Bike Trail	TX	6.3	2.6
Boggy Creek Greenbelt Trail	TX	1.6	0.4
Central Trail	TX	4.2	4.2
City Trail (Highland Village)	TX	3.8	0.5
Cotton Belt Trail	TX	11.2	10.6
Crestview/Highland Urban Trail	TX	0.8	0.8

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Rail-with-Trail List

September 2023

Trail Name	State	Total Trail Length	Rail-with-Trail Length
Lance Armstrong Bikeway (Crosstown Greenway)	TX	5.4	0.8
Red Line Parkway Trail	TX	10	7.98
Ridgewood Trail	TX	1.2	1.3
Southern Walnut Creek Trail	TX	8.9	0.6
University Crossing Trail	TX	2	0.9
Legacy Parkway Trail	UT	14	0.6
Lindon Heritage Trail	UT	5.5	0.28
Moab Canyon Pathway	UT	12.7	0.4
Parley's Trail	UT	7.9	0.8
Point of the Mountain Trail	UT	2.4	2.4
Porter Rockwell Trail	UT	10.7	10.2
Burke VRE Trail	VA	1.4	0.5
Elizabeth River Trail (Atlantic City Spur)	VA	9.5	1.5
Huckleberry Trail	VA	15.5	1.2
James River Heritage Trail	VA	10.1	0.56
Metro Linear Park	VA	0.5	0.5
Potomac Yard Trail	VA	2	0.75
Virginia Capital Trail	VA	51.7	0.5
Island Line Rail Trail	VT	13.4	1.5
Burke-Gilman Trail	WA	18.8	1.8
Chehalis Western Trail	WA	21.2	1.5
Chelatchie Prairie Railroad Trail	WA	0.9	0.8
Cowlitz River Trail	WA	2.5	2.5
Duwamish Trail	WA	3	1
East Aberdeen Waterfront Walkway	WA	1.6	0.7
Elliott Bay Trail (Terminal 91 Bike Path)	WA	3.4	1.6
Fish Lake Trail	WA	7.35	4.1
Foothills Trail	WA	31.3	3.5
Grand Avenue Greenway	WA	1.7	1.6
Interurban Trail (South)	WA	19.1	11.4
Kulshan Creek Trail	WA	2.9	0.29
Lower Yakima Valley Pathway	WA	14	6
Pigeon Creek Trail	WA	0.9	0.8
Pullman Riverwalk	WA	0.42	0.25
Rainier Trail	WA	2.5	0.65
Seattle Waterfront Pathway	WA	2	1
South Bay Trail	WA	2.5	0.9
Spokane River Centennial State Park Trail	WA	39.7	0.3
State Route 20 Arboreta Trail	WA	1.5	1.5
Yakima Greenway	WA	22.9	0.25
Blackhawk Path	WI	2.3	0.75
Brown Deer Recreational Trail	WI	1	1

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Rail-with-Trail List

September 2023

Trail Name	State	Total Trail Length	Rail-with-Trail Length
Bugline Trail	WI	15.6	1.75
Campus Drive Pedestrian and Bicycle Path	WI	0.8	0.8
Hank Aaron State Trail	WI	15.2	0.7
Kinnickinnic River Trail	WI	2.3	1.4
Kiwanis Bike Trail	WI	4	1.1
La Crosse River State Trail	WI	21	18.4
Lower Yahara River Trail	WI	2.5	1
MRK Trail	WI	4.6	4.2
New Berlin Recreation Trail	WI	7	6.3
Newberry Trail	WI	2.4	1.3
Oak Leaf Trail	WI	125	3.7
Ozaukee Interurban Trail	WI	30.1	10.2
Peace Trail	WI	6.4	3.9
River Bend Trail	WI	2.3	0.2
River Edge Parkway	WI	5	0.2
Riverside Corridor Bike-Walking Trail	WI	9.2	0.8
Rock River Parkway Trail	WI	2.4	0.73
Sheboygan Interurban Trail	WI	14	4.55
South Fork Trail	WI	1.7	0.2
Southwest Commuter Path	WI	5.6	1.15
West Allis Cross Town Connector	WI	0.9	0.9
Yahara River Bike Path	WI	0.9	0.18
Bridgeport Rail Trail	WV	0.8	0.5
TOTAL = 442 rails with trails		5777.9	1099.7