Enfield Railroad Station
Environmental Assessment

Hartford Line Rail Program

May 2024

CTDOT Proj. No. 320-0017

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U.S. Department of Transportation

Federal Railroad Administration

ENVIRONMENTAL ASSESSMENT

ENFIELD RAILROAD STATION PROJECT
Enfield, CT

HARTFORD LINE RAIL PROGRAM

State Project No. 320-0017

Federal Railroad Administration
U.S. Department of Transportation

Connecticut Department of Transportation

Prepared pursuant to:

National Environmental Protection Act (42 USC § 4321 et seq.), and implementing regulations (40 CFR Parts 1500-1508), 23 CFR Part 771; 23 USC § 139; Section 4(f) of the United States Department of Transportation Act (49 USC §303) and implementing regulations (23 CFR Part 774); Section 106 of the National Historic Preservation Act (54 USC §306108 et seq.) and implementing regulations (36 CFR Part 800); Clean Air Act as amended (42 USC §7401 et seq.) and implementing regulations (40 CFR Parts 51 and 93); the Endangered Species Act of 1973 (16 USC §1531-1544) and implementing regulations (50 CFR Part 402); the Clean Water Act (33 USC §1251-1387) and implementing regulations (33 CFR Parts 320 to 324 and 40 CFR Part 230); and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC §4601).

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List of Acronyms and Abbreviations

AWSC	All-way stop-controlled
BFE	Base Flood Elevation
BMP	Best Management Practice
CJL	Coastal Jurisdiction Line
DEEP	Department of Energy and Environmental Protection
EA	Environmental Assessment
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FFRMS	Federal Flood Risk Management Standard
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HUD	Department of Housing and Urban Development
IWWA	Inland Wetlands and Watercourses Act
LAUS	Local Area Unemployment Statistics
LEHD	Longitudinal Employer-Household Dynamics
MSA	Magnuson-Stevens Act
NEPA	National Environmental Policy Act
NFHL	National Flood Hazard Layer
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NRHP	National Register of Historic Places
NWI	National Wetland Inventory

OHW	Ordinary High Water
ROW	Right-of-Way
SF	Square feet
TWSC	Two-way stop-controlled
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service

1 Introduction and Background

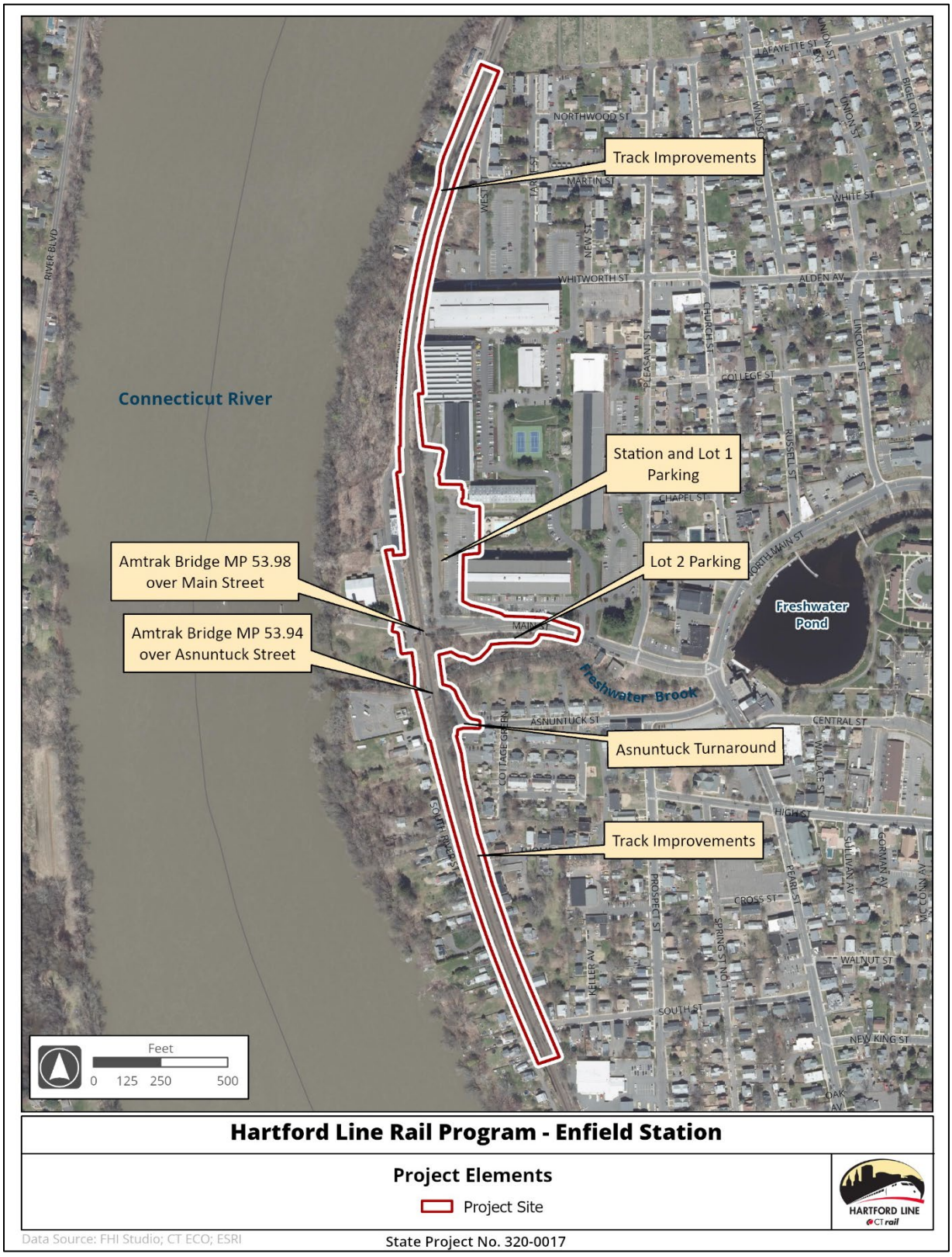
The Connecticut Department of Transportation (CTDOT) proposes to construct a new passenger rail station in Enfield, CT, to be serviced by the CT*rail*, CTDOT's existing intercity and regional rail service from New Haven, CT to Springfield, MA, and by local bus service, to provide multi-modal access (see **Figure 1**). The proposed Enfield Railroad Station (the Station) would be constructed in the Thompsonville section of Enfield in the vicinity of a passenger rail station that was historically present from 1844 to 1986.

The proposed Station would be located on and east of Amtrak's existing mainline track northeast of the intersection of the track and Main Street (see **Figure 2**). Associated parking is proposed on two adjacent parcels. The other components of the Enfield Railroad Station Project (the Project) include track improvements that would extend north and south of the proposed Station, the replacement of the railroad bridge over Main Street (Main Street railroad bridge), and the closure of the Asnuntuck Street railroad underpass, south of the Station site. **Figure 2** illustrates the Project Site, which includes all areas of potential disturbance associated with the Project.

This Environmental Assessment (EA) evaluates the environmental consequences of the proposed Project in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code 4321 et seq.). It is the primary document to facilitate the review of the proposed Project by federal, state and local agencies, tribal governments, and the public.

Figure 1 Station Location

Figure 2 Project Elements

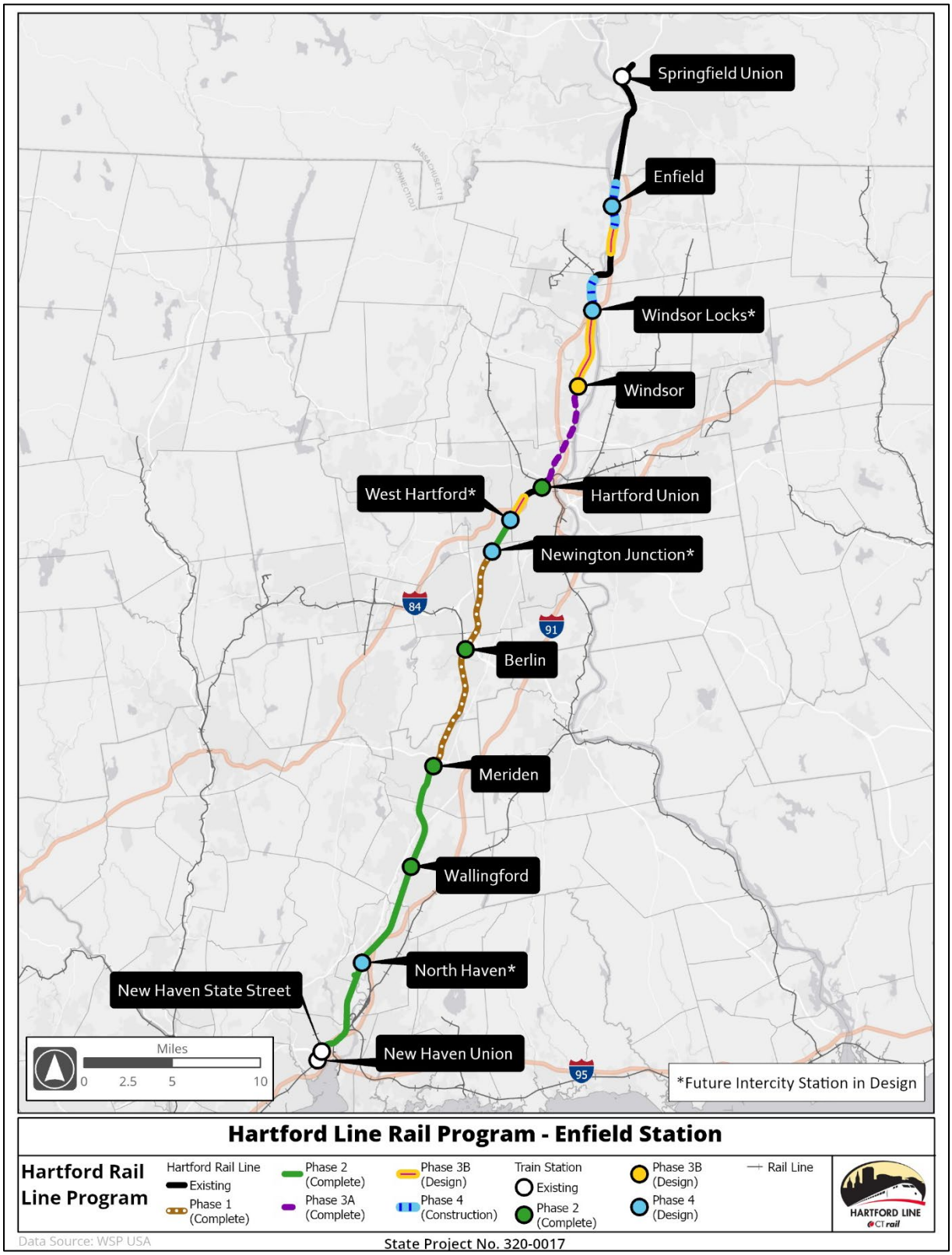


1.1 Background

The Hartford Line Rail Program (formerly known as the New Haven-Hartford-Springfield or NHHS Rail Program) represents a broad partnership between the State of Connecticut, Amtrak and the Federal Railroad Administration (FRA), as well as the Commonwealth of Massachusetts and the State of Vermont (see **Figure 3**). The goal of the program is to provide those living, working, or traveling between New Haven, Hartford and Springfield, as well as destinations to the north, with rail service.[1] So far, between New Haven and Windsor, improvements have included over 27 miles of additional double track on existing single-track sections; two miles of new passing sidings; five new interlockings; signaling and control systems (including Positive Train Control); and repair, rehabilitation and replacement of bridges and culverts. Improvements have been implemented at various at-grade crossings in Wallingford, Meriden, Berlin and Windsor. Station improvements have included high-level platforms, pedestrian overpasses, parking and other amenities at station sites in Wallingford, Meriden and Berlin; a high-level platform at Hartford Union Station; and an additional high-level platform, elevators, stair tower and pedestrian overpass bridge at State Street Station in New Haven. Construction is underway for a replacement station in Windsor Locks, and new stations are planned at North Haven, West Hartford and Windsor in addition to Enfield.

[1] FRA, in Cooperation with FTA and CTDOT, *New Haven-Hartford-Springfield Line High Speed Intercity Passenger Rail Project Environmental Assessment/Environmental Impact Evaluation*, 2012.

Figure 3 Hartford Line Rail Program



1.2 National Environmental Policy Act (NEPA)

NEPA requires that federal agencies evaluate the environmental consequences of their actions, which in this case, is providing funding for the Enfield Railroad Station project. CTDOT would use grants that have been awarded from FRA, the Federal Transit Administration (FTA), and the Department of Housing and Urban Development (HUD) to construct the Station and associated improvements. As such, each of the agencies must evaluate the environmental consequences of the Project. FRA is serving as the Lead Federal Agency for the NEPA process; FTA and HUD are Cooperating Agencies under NEPA, participating in and providing support for the environmental review.

In 2012, the FRA, with the FTA as a Cooperating Agency, prepared a Tier 1 EA to evaluate broad issues and potential environmental impacts related to implementation of the Hartford Line Rail Program. The document also met the requirements under the Connecticut Environmental Policy Act (CEPA) as an Environmental Impact Evaluation (EIE).[2] The Tier 1 EA documented the purpose and need for the program, identified alternatives, prepared conceptual designs, and evaluated the impacts of the program. The Finding of No Significant Impact (FONSI), which was issued for the 2012 EA by the FRA on August 9, 2012, specified that as funding becomes available for additional project elements, including Enfield Station, additional Tier 2 NEPA documentation and required determinations would be prepared. The Enfield Railroad Station EA is such a Tier 2 NEPA document.[3]

The analysis provided in this Enfield Railroad Station EA assesses the potential direct, indirect and cumulative impacts of the Proposed Action and identifies recommended mitigation measures to address adverse impacts. If the EA process determines that no significant impacts would result from the proposed Project, a FONSI may be issued by FRA, FTA and HUD. The EA has been prepared in accordance with the National Environmental Policy Act of 1969, as amended; the 2022 Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR Parts 1500-1508); the joint Federal Highway Administration/FTA/FRA Environmental Impact and Related Procedures (23 CFR Part 771); and Section 4(f) of the U.S. Department of Transportation Act (23 CFR Part 774). It was also prepared to comply with HUD Environmental and Energy Laws and Regulations: Protection and Enhancement of Environmental Quality (24 CFR Part 50); Floodplain Management and Wetlands Protection (24 CFR Part 55); and Environmental Criteria and Standards (24 CFR Part 51).

[2] FRA, FTA and CTDOT, 2012. Note that there is no Tiered process under CEPA, as there is under NEPA.

[3] The 2012 EIE met the full requirements under CEPA and therefore no additional Tier 2 analysis is required under CEPA.

2 Purpose and Need

The purpose of the Project, which is a key component of the Hartford Line Rail Program, is to provide a safe, reliable and convenient alternative to automobile travel by connecting Enfield by rail to Hartford, New Haven and Springfield and via connections in those cities, to locations on Amtrak's Northeast Corridor, including New York City and Boston. The purpose of the project is also to serve as a bus hub and to provide an intermodal alternative to automobile travel to these cities, as well as to enhance local mobility by providing convenient bus transfers for residents of Enfield and the surrounding communities.

The Project would be serviced by CT*rail*'s Hartford Line Rail and by the Town of Enfield's two existing local Magic Carpet bus routes. It could be served by additional local and regional bus routes, reducing automobile dependency and travel time and by diverting travelers from automobiles, reducing emissions.

A safe, reliable and convenient alternative to automobiles for intercity travel is needed in Enfield because:

- **Vehicle ownership is low in the area around the proposed Station.**
    - In the Thompsonville neighborhood immediately around the Station, the percentage of households without a vehicle (18.3%) is substantially higher than both the county and state averages (10% and 8.5%, respectively).[4] Because of the low vehicle ownership, there is a need for enhanced mobility.

- **CT*rail* service passes through Enfield but is not available locally to Enfield residents.**
    - The closest CT*rail* service is available at the Amtrak Railroad Station in Windsor Locks, which is approximately 8.5 miles from Enfield and requires a 15- to 20-minute drive or CT*transit* bus ride to the south from the vicinity of the proposed Station during peak travel periods[5, 6, 7]
    - Amtrak service is also available at Springfield Union Station to the north, which requires driving approximately ten miles and 15 to 20 minutes or approximately

[4] American Community Survey, 2017-2021, Table B25044 (for the purposes of this analysis, Thompsonville is defined as Census Tract 4806).

[5] CT*transit* Route 905 runs five round trips daily between Enfield and Hartford and stops at the Amtrak Station in Windsor Locks; it is also the route for connection to Springfield and New Haven discussed below. Schedule and route at http://www.cttransit.com.

[6] CT*transit* bus travel times used for comparison to rail service are from the closest existing CT*transit* bus stop to the Proposed Station (0.3 miles), which is at North Main Street and Church Street in Enfield.

[7] A new Windsor Locks station is currently under construction approximately 1.5 miles north of the existing station and will be a few minutes closer to the proposed Enfield Railroad Station area.

50 to 70 minutes travel time on two buses from the vicinity of the proposed Station.

- **The only alternative to automobile to connect Enfield and Hartford is by infrequent bus service.**
    - Currently, CT*transit* provides bus service from Enfield to Hartford; the service, however, is limited to five round trips per weekday. The latest departure from Hartford is 4:07 pm, which does not accommodate typical commuting hours.
    - Scheduled travel time on the bus between the vicinity of the proposed Station and Hartford Union Station is 36 or 40 minutes. [8,9]
    - For comparison, CT*rail* currently offers eight round trips daily between Springfield and Hartford that would stop at the proposed Station, with an expected travel time of 23 minutes between Enfield and Hartford.[10] Infrastructure upgrades currently in design would permit additional daily trips.

- **The only alternative to automobile travel to connect Enfield and Springfield, Massachusetts is by bus and requires a transfer.**
    - Currently, Pioneer Valley Transit Authority (PVTA) provides bus service to Springfield, Massachusetts from a location in Enfield approximately 3 miles from the proposed Station.
    - The PVTA service is limited to four round trips per day and the latest departure from Springfield is 4:15 pm, which does not accommodate typical commuting hours.[11]
    - Travel to Springfield from the downtown area of Enfield near the proposed Station requires connecting to the PVTA bus from CT*transit* Route 905 or the Local Magic Carpet Blue Line Service. Two CT*transit* buses are synched with the PVTA buses and wait times between buses are primarily five to ten minutes and no more than 24 minutes. The Magic Carpet service is not synched with the PVTA buses.
    - Total scheduled travel time by CT*transit* and PVTA buses from the vicinity of the proposed Station to Springfield Union Station is approximately 50 to 70 minutes due to the numerous stops.[12]
    - For comparison, CT*rail*, which would be accessible via both local Magic Carpet bus routes and by foot to residents near the proposed Station, currently offers

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8 CT*transit* schedule and route: http://www.cttransit.com.

9 CT*transit* bus travel times reported are from the closest existing CT*transit* bus stop to the proposed Enfield Railroad Station (0.3 miles), which is at North Main Street and Church Street in Enfield.

10 CT*rail* schedule: https://www.hartfordline.com/fares-schedules.

11 PVTA schedule and route: http://www.pvta.com.

12 CT*transit* schedule and route: http://www.cttransit.com and PVTA schedule and route: http://www.pvta.com.

eight round trips daily between Springfield and Hartford that would stop at the proposed Station, with an expected one-seat travel time of 13 minutes between Enfield and Springfield.[13] Infrastructure upgrades currently in design would permit additional daily trips.

- **The only alternative to automobile travel to connect Enfield and New Haven is by bus or bus and train and requires a transfer.**
    - Travelling from Enfield to New Haven requires using CT*transit* bus Route 905 from Enfield to Hartford and transferring in Hartford to either CT*transit* Route 950 or at Hartford Union Station to the Hartford Line or Amtrak rail service to New Haven.
    - The 950 and 905 buses are not well synched, and there are only three total bus-only trips per day in both directions with a total travel of less than three hours (including the wait between buses). Travel times range from 1.5 to three hours.
    - Transferring to train in Hartford rather than a bus provides somewhat more options: there are four daily bus-train trips from Enfield to New Haven with total travel time of approximately 1.5 to two hours and one return trip from Enfield to New Haven of less than three hours.[14]
    - For comparison, CT*rail* currently offers eight round trips daily between Springfield and Hartford that would stop at the proposed Station, with an expected one-seat travel time of approximately one hour and 20 minutes between Enfield and New Haven.[15] Infrastructure upgrades currently in design would permit additional daily trips.

Additional goals and objectives of the Project include:

- **Supporting local planning initiatives.** The Town of Enfield's 2023-2033 *Plan of Conservation and Development* states that the proposed Station "offers a large, meaningful, and important investment in Thompsonville (a neighborhood within Enfield surrounding the proposed Station). The station will connect Enfield with Springfield, Hartford, New Haven, and points beyond, including New York City. This station and connection to other cities and regions redefines the geography of Enfield, expanding its already strong position within the metropolitan area. The station will create new connections and opportunities for an alternative to the automobile. In addition, the

[13] CT*rail* schedule: https://www.hartfordline.com/fares-schedules.

[14] CT*transit* schedule and route: http://www.cttransit.com and CT*rail* schedule: https://www.hartfordline.com/fares-schedules.

[15] CT*rail* schedule: https://www.hartfordline.com/fares-schedules.

station creates an anchor and trip-generator within Thompsonville that will create greater vibrancy and can be leveraged to grow demand and attract new investment."[16]

- **Promotion of transit-oriented development opportunities consistent with Connecticut's responsible growth and long-term sustainability policies.** The Connecticut Department of Economic and Community Development promotes transit-oriented development as part of a strategy to accommodate future development in a way that reinforces existing communities, uses resources efficiently and protects the environment.[17]

[16] Town of Enfield , Plan of Conservation & Development 2023 to 2033, Effective May 31, 2023, https://www.enfield-ct.gov/DocumentCenter/View/23330/CT-Enfield---Plan-of-Conservation-and-Development---Final-Adopted-Plan-with-Map-Book-Effective-5_31_23?bidId=.

[17] Connecticut Department of Economic and Community and Economic Development, https://portal.ct.gov/DECD/Content/Community-Development/01_Project_Type/Transit-Oriented-Development-and-Responsible-Growth.

3 Alternatives Considered

The Hartford Line station locations and configurations were determined, as reported in the Tier 1 EA, through coordination with the municipalities along the rail corridor. Locations and layouts were selected based on maximum use of existing railroad property and infrastructure and in consideration of adjacent properties; consistency with local development plans; intermodal access and connectivity, including local and regional bus services; adequate parking capacity; and avoidance and minimization of environmental impacts. The Tier 1 EA evaluated a new station at the proposed location of the Project in the Thompsonville section of Enfield, within rail right-of-way (ROW) and the site of the former Bigelow-Sanford Carpet Mill complex. This location has been considered in multiple planning documents produced by the Town of Enfield and the Capitol Region Council of Governments (CRCOG) and is consistent with the Town's desire for transit-oriented development in the vicinity of the proposed Station.[18]

The concept evaluated in the 2012 EA included two 180-foot platforms with shelters, necessary track improvements, a pedestrian overpass tower and a bus transit plaza. Multiple configurations were considered for surface parking; the selected concept distributed parking on both the east and west sides of the tracks and incorporated the Town's plan for an intermodal center at the former Westfield Plate Company building, which is no longer standing.[19] It also avoided the use of the bluff overlooking the Connecticut River and preserved the riverfront area and access.

In coordination with the proposed rail Station, the Town of Enfield obtained an FTA grant to construct an intermodal transportation center on the west side of the rail line in a former factory building, adjacent to the proposed two-sided Station. In 2021,however, the Town determined that due to the exorbitant costs associated with constructing the transportation center, including environmental clean-up, incorporating elements of the transportation center into the rail Station is the most prudent option.

3.1 Proposed Action

The Project components include the proposed Station and commuter parking, roadway and track improvements and improvements to an outfall that drains to Freshwater Brook (see **Figure 2)**.

[18] Applicable plans include: *Capitol Region Plan of Conservation and Development* (CRCOG, 2014); *Economic and Fiscal Impact of the Thompsonville Transit Center* (Town of Enfield, 2015); *Thompsonville Zoning and Economic Development Strategy* (Town of Enfield, 2019); *Enfield Plan of Conservation and Development* (Town of Enfield, 2022); and CRCOG *Transit-Oriented Development (TOD) Roles, Visioning, Viability and Tools Analysis* (CRCOG, 2023).

[19] The Westfield Plate Company Building was destroyed by fire in March 2021.

3.1.1 Proposed Station and Parking

The new Station would be comprised of a 350-foot-long platform which height and length would be sized to match the CT*rail* trains and would extend north along the track from the alignment of Main Street. A shelter with seating and a dedicated curbside area for buses would also be included, all on the east side of the tracks, as shown in the concept plan and rendering (see **Figure 4** and **Figure 5**, respectively). It would be fully ADA compliant and sheltered by a canopy and wind screens. An entry portal on the east side of the waiting area would welcome passengers and move them from the bus and vehicular drop-off areas and parking lot to the waiting area and platform. The ramps and stairs would be covered to shield passengers in inclement weather, and the platform, ramps and stairs would be equipped with an electric snow melting system for use in the winter months. The bus drop-off area would accommodate up to two full-sized buses and include a covered seating area for waiting passengers. The Station roof would be designed to accommodate solar panels in the future. State-of-the-art video surveillance, passenger information display systems (PIDs) and blue light emergency phones would be incorporated into the Station design. The platforms, sidewalks, bus drop-off area and shelters would be lit, and the lighting would be dark sky compliant, pointing downward to minimize impacts to surrounding areas. Finally, a utility building would be sited to the north and slightly east of the platform and an emergency generator would provide backup power.

Commuter parking would be provided in two surface lots (Lot 1 and Lot 2). A parking area on the north side of Main Street, comprised of approximately 57 spaces (Lot 1), would be constructed on a portion of the existing Bigelow Commons parking lot adjacent to the Station. A second lot (Lot 2), just across and south of Main Street, would provide an additional 23 spaces on a portion of a vacant parcel currently owned by the Town of Enfield. Minor tree clearing would be required for Lot 2 construction. Twenty percent of the parking spaces would be equipped for electric vehicle charging. A driveway would provide access to Lot 1 from Main Street, and a drop-off area would be located on the east side of the driveway, between the drive and the main parking area. Access to Lot 2 would also be provided via Main Street. Covered bicycle parking racks would be available near the Station entrance. The parking lots would be used for construction staging.

Figure 4 Proposed Station Concept Plan

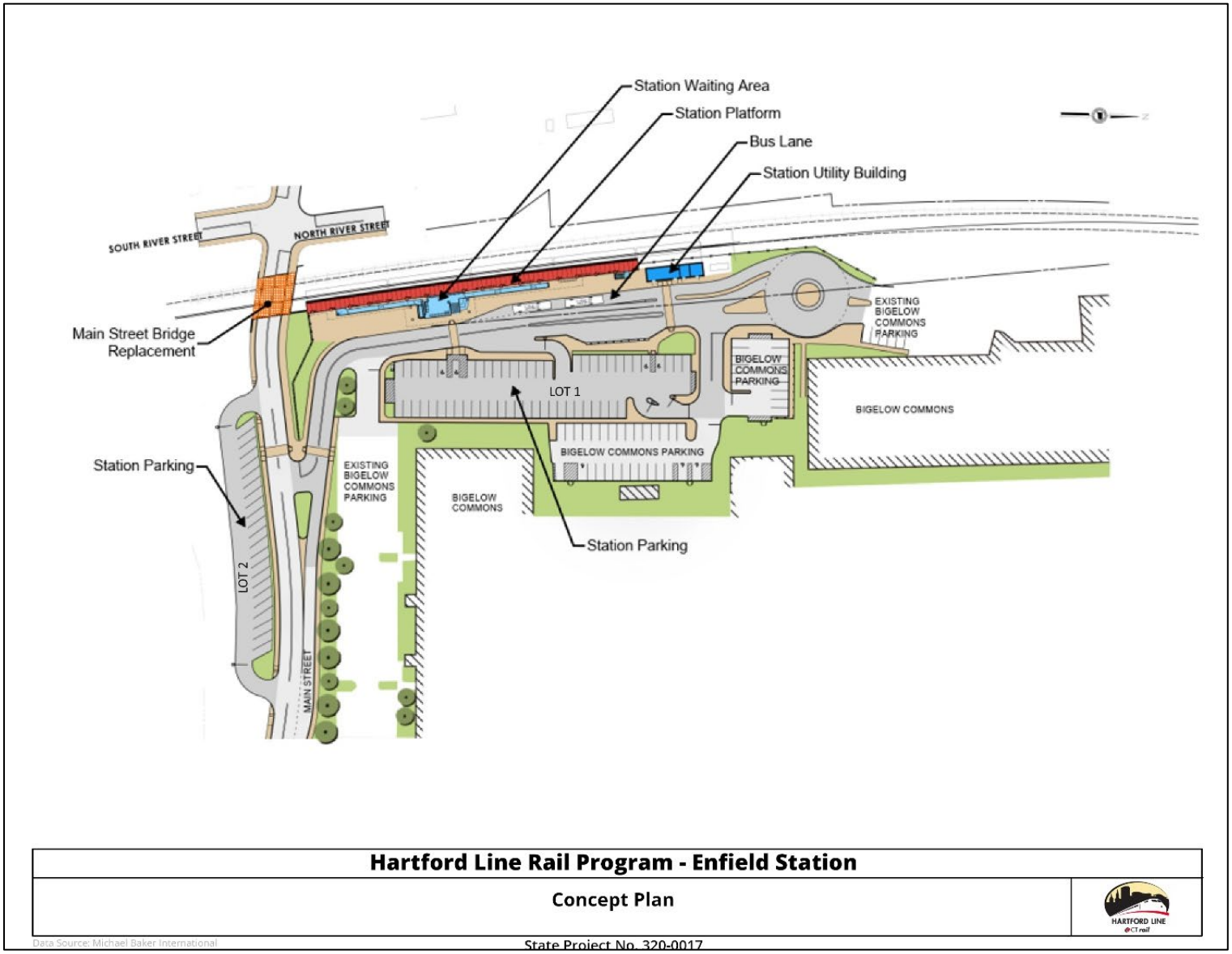

Figure 5 Proposed Station View

Hartford Line Rail Program - Enfield Station

Proposed Station View

HARTFORD LINE CT rail

Data Source: Michael Baker International

State Project No. 320-0017

3.1.2 Track and Roadway Improvements

As part of the Project, the existing track would be realigned within the existing ROW for approximately 2,200 feet north and south of the proposed Station (4,400 feet total) to accommodate the platform. The elevation of the new track would be approximately two feet higher at the Station to accommodate the improvements at the Main Street railroad bridge (Amtrak Bridge MP 53.98); the track elevation would decrease along the line to the north and south to match the existing grade. An approximately 500-foot gauntlet track would be installed west of the existing track from a point just south of Main Street to just north of the Station. The gauntlet track would accommodate oversized freight along the railroad line.

In order to accommodate the improved roadway clearance, future pedestrian connections and allow for two tracks in the future, the Main Street railroad bridge would be replaced. The existing brownstone retaining wall that flanks Main Street under the bridge would be removed and reinforced concrete abutments would be installed. Main Street below the bridge would be widened to accommodate sidewalks on both the north and south sides of the roadway, where there is currently just one sidewalk. The additional sidewalk would allow for safe pedestrian passage between the Station on the east side of the tracks and North and South River Streets to the west. The roadbed would be rebuilt and lowered and with the bridge elevation, would provide an increase in vertical clearance under the bridge from 12-feet-9 inches to 13-feet-9-inches to accommodate larger trucks.[20]

The Asnuntuck Street railroad bridge (Amtrak Bridge MP 53.94), just south of the Main Street railroad bridge, is an 18-foot-long single-span concrete lined brick arch structure that carries the railroad over Asnuntuck Street. The Asnuntuck Street railroad bridge is currently rated in serious condition and doesn't meet modern design standards.[21] The road under the bridge is just 7.5-feet-high, and at 16-feet wide, only allows for a single vehicle to pass at a time. The existing bridge can't accommodate the increased load created by the elevated track necessary for the Station. The Asnuntuck Street railroad bridge would be removed and improvements made to Asnuntuck Street and South River Street to remove the roadway section through the railroad ROW. A turnaround would be installed at the western terminus of Asnuntuck Street to allow vehicles to change direction, including emergency vehicles.[22] On the west side of the

[20] The replacement of the Main Street railroad bridge was included in the Tier 1 EA as part of the Phase 3B trackwork.

[21] The bridge was load rated in accordance with the American Railway Engineering and Maintenance of Way Association (AREMA) standards. The load rating indicated the bridge does not have sufficient capacity for the future program, though it has the capacity to carry current Amtrak locomotives. See *Bridge Inspection, Condition and Load Rating Summary Report, Amtrak Bridge MP 53.94*, CTDOT, September 2017, updated March 2023.

[22] Replacement or removal of the bridge was included in the Tier 1 EA as part of the Phase 3B trackwork.

railroad ROW, Asnuntuck Street meets South River Street and therefore no turnaround is required.

3.1.3 Stormwater Outfall Improvements

An existing 36-inch stormwater outfall south of the proposed Lot 2 and adjacent to Freshwater Brook is in poor condition and requires improvements to accommodate drainage for the proposed Station. The existing pipe conveys stormwater from portions of Main Street and the Bigelow Commons parking area. A new scour hole, replacement 36-inch reinforced concrete pipe, and concrete wingwalls would be installed, and the area would be re-graded. The existing deteriorated armoring would be replaced to current CTDOT standards to stabilize the outfall area and adjacent slopes. This work would require minor tree clearing for construction access, pipe installation and stabilization.

Because the improvements to the outfall would require work within the 100-year floodplain, CTDOT investigated alternatives to avoid impacts to the 100-year floodplain but determined that there is no practicable alternative to working in the floodplain. This is further detailed in Section 4.5, Floodplains.

3.1.4 Changes to the Station Concept Since the Tier 1 EA

The Tier 1 EA evaluated a conceptual design for the proposed Station. That concept has been modified as the design has advanced, with the Enfield Station proposed in the Tier 1 EA substantially larger than the current proposal, which is limited by availability of funding. Major differences between the station concept in the Tier 1 EA and the current proposed Project are shown in **Table 1** below. The Tier 1 concept plan incorporated the intermodal center planned at the time by the Town of Enfield on the west side of the rail line; the current design incorporates a dedicated bus lane and drop off area at Station curbside.

The current proposal is designed so that it does not preclude future development of the additional features of the Tier 1 plan, including reinstallation of the second track, and construction of a second platform, a pedestrian overpass tower and additional parking.

Table 1 Changes to Proposed Enfield Station Concept Since the 2012 Tier 1 EA

Project Component	Tier 1 EA	Changes in Proposed Project
Station	• Two 180-foot platforms with shelters on each side of track connected by a pedestrian overpass with elevator and stair access • Bus Transit Plaza with two berths by Town of Enfield • 214 parking spaces north of Main Street on both sides of tracks, including reconstructed parking for Bigelow parking	• One 350-foot platform with shelter on east side of track • Dedicated bus lane and drop-off/layover for two buses at Station curbside • Approximately 80 parking spaces east of track both north and south of Main Street • Reconfiguration of some Bigelow Commons parking and compensation for parking acquired.
Track Improvements	• Improvement to Track 1 and reinstallation of Track 2 on mainline	• Improvements to Track 1 and space reserved for Track 2 • Installation of a 500-foot-long gauntlet track for oversized freight
Roadway Improvements	• Reconstruction of Main Street dead end into parking lot driveway	• Raising and replacement of the Main Street railroad bridge* and lowering of Main Street to increase vertical clearance • Widening of Main Street railroad bridge to incorporate a second sidewalk • Removal of the Asnuntuck Street railroad bridge and construction of turnaround east of the railroad ROW*
Acquisitions	• Displacement of 112 parking spaces at Bigelow Commons • 2 parcels with small unoccupied structures owned by utility companies. • 4 vacant privately-owned parcels	• Acquisition of approximately 1.2 acres at Bigelow Commons, displacing 65 parking spaces • Acquisition of approximately 0.3 acres of vacant town-owned land for parking • Two sliver acquisitions along the railroad ROW south of Main Street for roadway improvements • Eleven permanent slope easements for track improvements

* Part of Phase 3B track work in Tier 1 EA

3.2 No Action Alternative

The No Action Alternative represents the conditions in the future build year (2030) without the construction of the proposed Project. The proposed Station would not be constructed, and track, roadway and sidewalks improvements would not occur. It is assumed three planned projects in the vicinity of the Station, as described in Section 4.9.1.2, Planned Projects, would occur.

In the No Action Alternative, multimodal connectivity in Enfield would not be improved. Enfield would not be served by CT*rail*'s Hartford Line Rail Service, and residents of Enfield would not be connected by rail to the rail services offered by Amtrak, CT*rail* and MassDOT. Moreover, there would be no connection between local bus service and CT*rail* in Enfield; access from Enfield to intercity rail services in Hartford, New Haven and Springfield would not be enhanced; and auto dependency would not be reduced. Access would not be improved for Enfield residents to employment, cultural centers and major health care services in Springfield, Hartford and New Haven.

Enfield residents would continue to have to travel 10 to 20 minutes by automobile to the Amtrak Station in Windsor Locks to access Amtrak and CT*rail* service or to Springfield to access Amtrak service. Transit from Enfield to Hartford and Springfield would continue to be limited to four round trips per day by bus during a limited time frame and would require a change in Hartford to bus or train for transit to New Haven, resulting in a total travel time of more than two hours. The ongoing lack of multimodal connectivity under the No Action Alternative would be especially felt by the residents of the Thompsonville section of Enfield, where the proposed Station would be located, because vehicular ownership rates in Thompsonville are substantially lower than county and state averages. In addition, the No Action Alternative would not support local planning initiatives or Connecticut's smart growth and long-term sustainability policies.

The No Action Alternative provides a baseline condition against which the benefits and effects of the Proposed Action are evaluated. The No Action Alternative does not meet the Purpose and Need for the Project.

4 Affected Environment, Environmental Consequences and Mitigation

Section 4 characterizes existing conditions on and around the proposed Project site (the affected environment), the impacts (environmental consequences) of the alternatives and mitigation, where applicable. Section 4.1 identifies resources that are not present in affected areas and, therefore, would not be affected by the proposed Project. Section 4.2 addresses the No Action Alternative. Sections 4.3 through 4.18 characterize existing conditions in the Study Area for each impact category, the construction and operational impacts of the proposed Project, and if relevant, measures to mitigate the impacts. Cumulative impacts are discussed in Section 4.19, a list of permits and approvals anticipated for the Project is provided in Section 4.20, and impacts and mitigation measures are summarized in Section 4.21.

4.1 Resources Not Present

Several resources are not present on or in the vicinity of the Project Site and therefore are not addressed further in the EA.[23] These include:

- Topography and Geology: The Project Site is nearly all disturbed and/or developed. The predominant soils in the area are Urban Land and Udorthents.[24] The Project would not require substantial grading.
- Navigable Waterways: The Connecticut River is a navigable waterway, but it is more than 200 feet from the Project Site and would not be impacted by the Project.
- Coastal Resources: Based on a review of CT Department of Energy and Environmental Protection (CTDEEP) GIS, the Project Site lies outside the Coastal Zone.[25]
- Wild and Scenic Rivers: There are no Wild and Scenic Rivers in the vicinity of the Project Site.[26]
- Prime or Unique Farmlands and Farmlands of Statewide Importance: A sliver of the ROW north of the proposed Station is classified as Farmland of Statewide Importance, however it is not subject to the provisions of the Federal Farmland Protection Act because it lies within a ROW purchased before 1984.[27]
- Section 6(f) Resources: Section 6(f) of the Land and Water Conservation Fund Act (16 USC 4601-4 to 46011) requires that all properties "acquired or developed, either partially or wholly, with Land and Water Conservation Fund (LWCF) monies shall not be converted to a use other than public outdoor recreation without the approval of the

[23] The Project Site is defined as the area of potential physical disturbance.

[24] https://geodata.ct.gov/datasets/CTDEEP::soils-all-soils/about.

[25] https://geodata.ct.gov.

[26] https://www.rivers.gov/connecticut.

[27] 7 USC 4201 et seq.; ROW exemption at Part 523 – Farmland Protection Policy Act Manual, Subpart 11(c)(v).

Secretary of the Department of the Interior." Review of CT DEEP's list of projects receiving funding through the LWCF revealed there are no Section 6(f) resources within or directly adjacent to the Project Site.

4.2 No Action Alternative

In the No Action Alternative, the Enfield Railroad Station Project would not be constructed and the impacts of the proposed Project that are described below would not occur. The affected environment would remain as it is currently, except as it would be changed regardless of the Proposed Project. In addition, as described in Section 3.2, the transportation benefits of the Project would not occur. The No Action Alternative is not discussed further below.

4.3 Air Quality

The Clean Air Act (CAA) (42 USC 7401 et seq.) established National Ambient Air Quality Standards (NAAQS) and rules for areas with pollutant levels exceeding the NAAQS to bring such areas into compliance or maintain the air pollutant standards. The United States Environmental Protection Agency (EPA) sets the NAAQS for six pollutants, referred to as criteria air pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2) and particulate matter (PM), with separate standards for two sizes of PM— PM with a diameter of 10 microns or less (PM_{10}) and PM with a diameter of 2.5 microns or less ($PM_{2.5}$).

Mobile source air toxics (MSATs) are emissions from mobile sources that are known or suspected to cause cancer or serious health and environmental effects. Currently, there are no standards that regulate levels of MSATs, but EPA identified nine compounds with significant contributions from mobile sources (e.g., motor vehicles, trains) that are among the national and regional-scale cancer risk drivers or contributors and non-cancer hazard contributors. As a result of the EPA's national control programs, MSATs are projected to reduce more than 76 percent from 2020 to 2060.[28]

Although there are currently no Federal standards for greenhouse gas (GHG)[29] emissions, it is well-established that GHG emissions can affect climate. Consistent with Executive Order 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, the CEQ issued interim NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change. The guidance requires GHG emissions to be quantified in a NEPA document when there is a reason to quantify emissions for air quality purposes.

The following analysis summarizes the findings regarding air quality in the *Hartford Line Rail Project, Enfield Station, Air Quality and Noise Technical Report* (2023) (see Appendix A).

[28] FHWA, Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, January 18, 2023.

[29] GHG emissions consist of carbon dioxide (CO_2), nitrous dioxide (N_2O) and methane (CH_4).

4.3.1 Affected Environment

The EPA designates areas as either meeting (i.e., being in attainment of), not meeting (i.e., being nonattainment for), or in transition between the two (i.e., being in maintenance for) each NAAQS. All of Hartford County is designated by the EPA to be a moderate nonattainment area for the 2015 O_3 NAAQS, a serious nonattainment area for the 2008 O_3 NAAQS and an attainment area for all other NAAQS. In addition, the State of Connecticut is part of the Ozone Transport Region (OTR). States within the OTR are required to use certain emission control measures to reduce nitrogen oxides (NO_x) and volatile organic compounds (VOC), the O_3 precursors.

CTDEEP is responsible for protecting and enhancing the quality of the air within Hartford County and other areas of the state. CTDEEP prepares a State Implementation Plan (SIP) which is a collection of regulations to bring the nonattainment and maintenance areas within the state into compliance with the NAAQS. Federal agencies are prohibited from providing financial assistance for or approving any activity that does not conform to a SIP. There are two CAA SIP conformity rules. Projects funded by the FTA are subject to the Transportation Conformity Rule and all other projects are subject to the General Conformity Rule. Because a new Enfield Railroad Station is recommended in the Capitol Region Council of Governments (CRCOG) Metropolitan Transportation Plan (MTP) and the MTP meets the requirements of the Transportation Conformity Rule, no analysis for Transportation Conformity is required.[30]

Under the General Conformity Rule, project-related emissions of applicable nonattainment/maintenance pollutants are compared to *de minimis* level thresholds. If project-related emissions are below the *de minimis* levels, the project can be assumed to conform to Connecticut's SIP. If the emissions exceed the thresholds, a formal SIP conformity determination would be required. Because the proposed Project is located in a nonattainment area for O_3, a General Conformity Applicability Analysis was performed and is detailed in Section 4.3.2.2.

4.3.2 Environmental Consequences and Mitigation

4.3.2.1 Construction Emissions

A construction emissions inventory estimated criteria air pollutants/ precursors and GHGs for the years 2025 through 2027. Two sources were considered—off-road equipment/vehicles required to construct the new Station and the on-road material hauling and construction work vehicles that would travel to/from the construction site. Fugitive emissions resulting from site preparation, land clearing, material handling, equipment movement on unpaved areas and from paving activities were also estimated. The analysis concluded that the short-term increase in NO_x and VOC (O_3 precursors) would be below the CAA *de minimis* thresholds, as shown in

[30] CRCOG, *MTP, Long Range Transportation Plan for the Capitol Region, and Appendices, 2023-2050*. Adopted April 26, 2023, Enfield Station is Project No. 320-0005PE/Station320-0008PE/Track) https://crcog.org/wp-content/uploads/2023/05/FINAL_CRCOG_MTP_2023-2050_Report.pdf and https://crcog.org/wp-content/uploads/2023/05/FINAL_CRCOG_MTP_2023-2050_Appendicies.pdf.

Table 2. As such, the project's construction-related emissions can be assumed to conform to Connecticut's SIP.

Table 2 Air Pollutant / Precursor* Construction and Operational Emissions (Tons)

	CO	NO_x	VOC	PM_{10}	$PM_{2.5}$	SO_2
De Minimis Levels (tons)	NA	50	50	NA	NA	NA
Construction Emissions						
2025	2.86	3.01	2.01	1.50	0.25	<0.01
2026	2.15	2.79	0.26	1.91	0.28	<0.01
2027	2.38	2.94	0.21	0.35	0.13	<0.01
Operational Emissions (2030)	1.36	0.04	0.04	0.02	<0.01	<0.01

* NO_x and VOC are precursors to O_3.

Construction-related GHG emissions were computed for on-road vehicles and off-road construction equipment. As shown in **Table 3**, the greatest level of construction-related GHGs would occur in 2025.

Table 3 GHG Construction and Operational Emissions (Metric Tons of CO_2e)

	CO_2	CH_4	N_2O	Total
Construction Emissions				
2025	1,201	<1	13	1,215
2026	1,155	<1	12	1,168
2027	830	<1	10	841
Operational Emissions	126	<1	<1	126

Construction activities would temporarily increase MSAT emissions. The EPA-projected reductions in MSATs nationally are so substantial that MSAT emissions in the Study Area are likely to be lower in the future even with the construction emissions.

Although there are no significant construction air quality impacts and therefore mitigation is not required, the emissions from construction activities would be minimized by employing the

BMPs detailed in CTDOT's *Standard Specification for Roads, Bridges, Facilities, and Incidental Construction* publication.[31] These include:

- Reducing exposed erodible surface areas;
- Covering exposed surface areas with pavement or vegetation in an expeditious manner;
- Periodic watering of unpaved surfaces;
- Reducing equipment idling times;
- Reducing vehicles speeds onsite;
- Ensuring contractor knowledge of appropriate fugitive dust and equipment exhaust controls;
- Use of low- or zero-emissions equipment;
- Use of covered haul trucks during materials transportation; and
- Suspending construction activities during high-wind conditions.

4.3.2.2 Operational Emissions

An operational emission inventory was prepared to evaluate the change in emissions of motor vehicles and buses due to the proposed Project. Emissions were estimated for criteria air pollutants/precursors and GHGs, for 2030 with the proposed Project and under the No Action Alternative. As shown in **Table 2**, the assessment concluded that the increase in the O_3 precursors, NO_x and VOC, would be below the CAA *de minimis* thresholds. As such, the Project can be assumed to conform to Connecticut's SIP. As shown in **Table 3**, total annual GHG emissions are estimated to amount to 126 metric tons of CO_2e.

The proposed Project is forecast to increase the total vehicle-miles-travelled (VMT) in the area around the Station in 2030 by four percent, resulting in a local increase in MSAT. However, regionally there would likely be a larger overall decrease in VMT because with the proposed Project, train riders would be able to either walk or bike to the new Station or drive substantially shorter distances to connect to CT*rail*, thus, diverting passenger trips from roadways to rail. In addition, the EPA-projected reductions in MSATs nationally are so substantial that MSAT emissions in the Study Area are likely to be lower in the future when compared to existing levels both with and without the proposed Station.

There would be no significant air quality impacts from Project operation.

4.4 Noise and Vibration

This section identifies the noise Study Area, describes existing conditions and presents a quantitative assessment of the potential noise and vibration impacts associated with the construction and operation of the proposed Station. The noise sources evaluated include construction activities and for operations, vehicles entering/exiting the Station's parking

[31] CTDOT, *Standard Specifications for Roads, Bridges, Facilities and Incidental Construction,* Form 818 dated January 2020. https://portal.ct.gov/-/media/DOT/documents/dconstruction/specs_section/000_Form818_2020_Color-(1).pdf.

facilities and train horns as they pass through the Station or exit the Station after stopping. Construction activities could also result in vibration impacts. Changes in noise and vibration from train operations were evaluated in the 2012 Tier 1 Environmental Assessment (EA).[32] Because no increase in rail service would result from the proposed Station at Enfield, noise and vibration from train operations are not included in this assessment. The noise and vibration analyses were performed using FTA's *Transit Noise and Vibration Impact Assessment Manual* (FTA Manual).[33]

The Study Area was delineated using *Noise Screening Procedures* from FTA's Manual.[34] This procedure is a simplified method of identifying locations where noise-sensitive land uses may have the potential for noise impacts from a transit project and defines the Study Area that is sufficiently large to encompass all potentially impacted noise-sensitive land uses. Horns sounded by trains before leaving the station, or by trains as they pass through the station, are sounded for 2 seconds or less. Therefore, the Study Area was defined using the noise screening distance in the FTA's Stationary Noise Model for a commuter rail station, 250 feet from the centerline of the tracks.[35]

4.4.1 Affected Environment

Land uses within the Study Area were categorized based on their compatibility with construction noise and vibration and operational noise (i.e., sensitivity to noise) based on guidelines within the FTA Manual. Within the Study Area, there is one operational noise-sensitive land use in the vicinity of the proposed Station – the Bigelow Commons apartments on Main Street. This noise-sensitive land use is categorized as "Land Use Category 2" and land use type "Residential"; these are used to determine the noise and vibration impact criteria.[36] Within the Study Area, there are approximately 45 construction noise- and vibration-sensitive land uses categorized as "Land Use Category 2" and land use type "Residential" located adjacent to the tracks extending approximately 2,200 feet north and south of the proposed Station (see **Figure 6**). The purpose of the noise and vibration analysis is to determine whether these noise- and vibration-sensitive land uses would be impacted by the construction and operation of the proposed Station.

[32] Fitzgerald & Halliday, Inc., *Noise Technical Memorandum, Noise Impact Analysis For New Haven-Hartford-Springfield Line High Speed, Regional And Commuter Rail Service Corridor Environmental Assessment (EA)/Environmental Impact Evaluation (EIE)*, September 2, 2011.

[33] Federal Transit Authority (FTA), *Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018.

[34] Section 4.3 of the FTA Manual.

[35] Table 4-7 of the FTA Manual.

[36] Tables 4-3 and 6-1 of the FTA Manual.

Figure 6 Noise Sensitive Sites

Existing ambient noise levels within the Study Area were also estimated based on the guidelines within the FTA Manual and are estimated to be 60 decibels on the "A" weighted scale (dB(A)).[37] The A-weighted sound level represents the overall noise at a receiver that is adjusted in frequency to approximate typical human hearing sensitivity. Furthermore, ambient noise is expressed as Ldn, which describes a receptor's cumulative noise exposure from all events over 24 hours, with a 10 dB increase for events occurring at night (between 10 PM and 7 AM).

4.4.2 Environmental Consequences and Mitigation

4.4.2.1 Construction Noise

Potential noise impacts from construction were evaluated using the *General Assessment Procedure* from the FTA Manual.[38] The construction equipment noise levels were obtained from FHWA's Roadway Construction Noise Model.[39] Construction noise estimates were prepared for the years 2025 through 2027. The sources of construction-related noise were assumed to be the off-road equipment/vehicles required to construct the proposed Station, the on-road material haul trucks, and construction employee vehicles that would travel to/from the site. The results of the construction noise analysis were compared to the following FTA and CTDOT criteria:

- The FTA Manual provides an hourly construction noise criteria for the general assessment procedure of 90 dB(A) during the day and 80 dB(A) at night (10 PM to 7 AM) for residential land uses. Construction activities to implement the proposed Station would not occur during nighttime hours, therefore, predicted hourly average construction noise levels were only compared to FTA's daytime criteria.[40]
- The CTDOT *Standard Specifications for Road, Bridges, Facilities, and Incidental Construction, Form 818* states that the maximum allowable level of construction noise at a residence nearest the construction site shall be 90 dB(A).[41]

Noise levels were predicted at the nearest residential properties to the proposed Project: the Bigelow Commons apartments, approximately 200 feet from the proposed Station's platform, a residential property located approximately 35 feet from the tracks and a residential property located 100 feet from the railroad bridges over Main Street and Freshwater Brook. As shown in **Table 4**, the results of the analysis indicate that there would be no exceedances of the FTA's or CTDOT's construction noise criteria.

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[37] Table 4-17 (for railway as the dominant existing noise source) of the FTA Manual.

[38] Section 7.1 of the FTA Manual.

[39] FHWA, *Roadway Construction Noise Model User's Guide, Final Report*, FHWA-HEP-05-054, January 2006.

[40] Project construction is expected to occur between late spring 2025 and the end of 2027. Daytime work windows are scheduled between Hartford and Springfield between April 1 and November 1 in 2025 and 2026 and are expected to be used by contractors for the proposed work, thereby avoiding nighttime work.

[41] CTDOT, *Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 818* dated January 2020.

Table 4 Construction Noise (dB(A))

Location	Predicted Noise Level – Hourly Average	Predicted Noise Level - Maximum
Bigelow Commons apartments 200 feet from platform	76	81
Residence 35 feet from tracks	85	87
Residence 100 feet from railroad bridge	83	89
Criteria	***90****	***90***
Exceeds Criteria?	***No***	***No***

* Daytime criteria, as no nighttime construction is planned, as noted above.

No significant noise impacts would result from construction of the Project.

4.4.2.2 Construction Vibration

To construct the proposed Station, rollers, dozers, drill rigs, pile drivers, impact hammers and other vibration generating equipment could be used. This equipment has the potential to cause vibration impacts that result in building damage or annoyance. The potential for a vibration impact during trackwork construction was assessed for the residences adjacent to the tracks located north and south of the proposed Station. The nearest of these residences is located about 35 feet from the tracks, the same distance as the Bigelow Commons apartments, the closest noise-sensitive land use to the proposed Station's main parking area (Lot 1). Also, the potential for a vibration impact during railroad bridge construction was assessed for the nearest residence to the bridges over Main Street and Freshwater Brook located about 100 feet away because at these locations, piles would be driven for temporary retaining walls during track construction.

A quantitative construction vibration analysis was conducted following the procedures in the FTA Manual.[42] The results of the vibration analysis for the trackwork and railroad bridge construction equipment was compared to the FTA construction vibration damage criteria of a Peak Particle Velocity (PPV) of 0.2 inches per second (in/sec) for non-engineered timber and masonry buildings.[43] The results of the vibration analysis show that the PPV for the trackwork and bridge construction would be 0.13 in/sec and 0.19 in/sec, respectively. Since the results are

[42] Section 7.2 of the FTA Manual.

[43] For the vibration analysis it was assumed that the Bigelow Commons apartments' building/structural category is "Engineered concrete and masonry (no plaster)", based on Table 7-5 of the FTA Manual.

below the FTA criteria, there are no vibration-related impacts predicted to occur due to the construction of the proposed Project.

No significant vibration impacts would result from construction of the Project.

4.4.2.3 Operational Noise - Station Parking Facilities

Potential noise impacts from automobiles and buses using the parking areas at the proposed Station were analyzed, even though the proposed main parking area is currently used in nearly an identical configuration for parking by residents of Bigelow Commons, which is the closest residential use to the proposed Station parking. While not much change in vehicular noise is expected, the analysis was conducted conservatively assuming a new noise source from the vehicles of Station users.

The analysis assumed a daytime average of 80 automobiles per hour and a nighttime average of 12 automobiles per hour, based on the parking spaces for 80 vehicles and adjusting the daytime capacity based on expected nighttime CTDOT train operations (three of the 20 operations occur at night).[44] Additionally, a daytime average of two buses per hour was assumed.[45] The results of the noise impact analysis show that the distance to the moderate impact contour is seven feet from the boundary of the main parking area, as shown in **Figure 7**. The distance to the severe impact contour does not extend beyond the main parking area. Since the Bigelow Commons apartments are outside the adjusted screening distance, there are no noise impacts associated with the main parking area. The Lot 2 parking on the south side of Main Street is approximately 160 feet from the Bigelow Commons apartments, which is the closest residence. This distance is outside the screening distance of 125 feet. Therefore, no further analysis is needed.

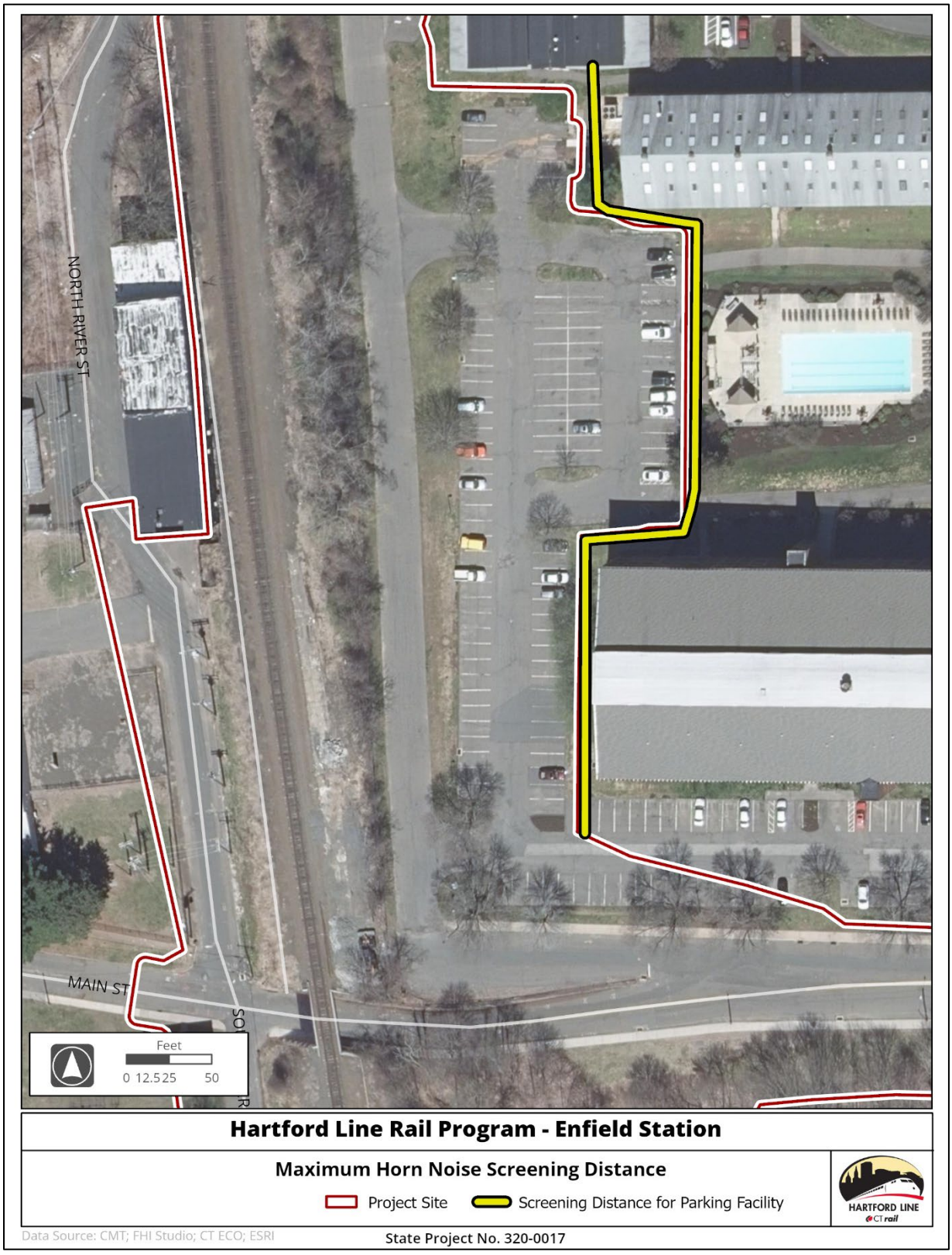
4.4.2.1 Operational Noise - Train Horns

Train horn noise would be generated by trains stopping at or passing through the proposed Station without stopping. The CT*rail* trains would stop at the proposed Station. There would also be Amtrak and freight trains that would pass through the proposed Station without stopping. The engineers on the CT*rail*, Amtrak and freight trains would make two short horn bumps (toots). For the CT*rail* trains, the horn bumps would be sounded just prior to the train leaving the Station, consistent with the practice of CT*rail* trains that stop at, and leave, existing passenger stations on the Hartford Line. For the Amtrak and freight trains, two horn bumps would be sounded as the train approaches ` the Station. The Amtrak and freight trains are not currently required to sound their horns at this location but would be required to do so as they pass the proposed Station.

[44] CTDOT, *Phase 3B Service and Track Modeling Re-Analysis, State Project No. 170-2296*, October 30, 2020.

[45] Representatives of the town of Enfield reported to CTDOT staff that the local Magic Carpet Bus Service would serve the proposed Station; two buses per hour are based on the existing schedule of the nearest bus route.

Figure 7 Parking Facility Noise Screening Distance



The potential impact of the two short horn bumps was evaluated using the FTA's Stationary Noise Model. The stationary noise model considers the surrounding land use, the sound exposure level of the source, the duration of the sound, the number and time of day or night that the noise would occur and the existing ambient noise level. The predicted sound levels were then evaluated for compliance against FTA community noise criteria to determine if there would be either a "severe" or "moderate" noise impact.

Based on the results of the FTA's Stationary Noise Model, use of the horns for the combined CT*rail* trains and the Amtrak/freight trains would result in a severe impact 19 feet from the train and a moderate impact would result at 31 feet from the train (see **Figure 8)**. Because these distances would remain within the proposed Station's boundary, no noise-sensitive land uses would be impacted by train horn noise.

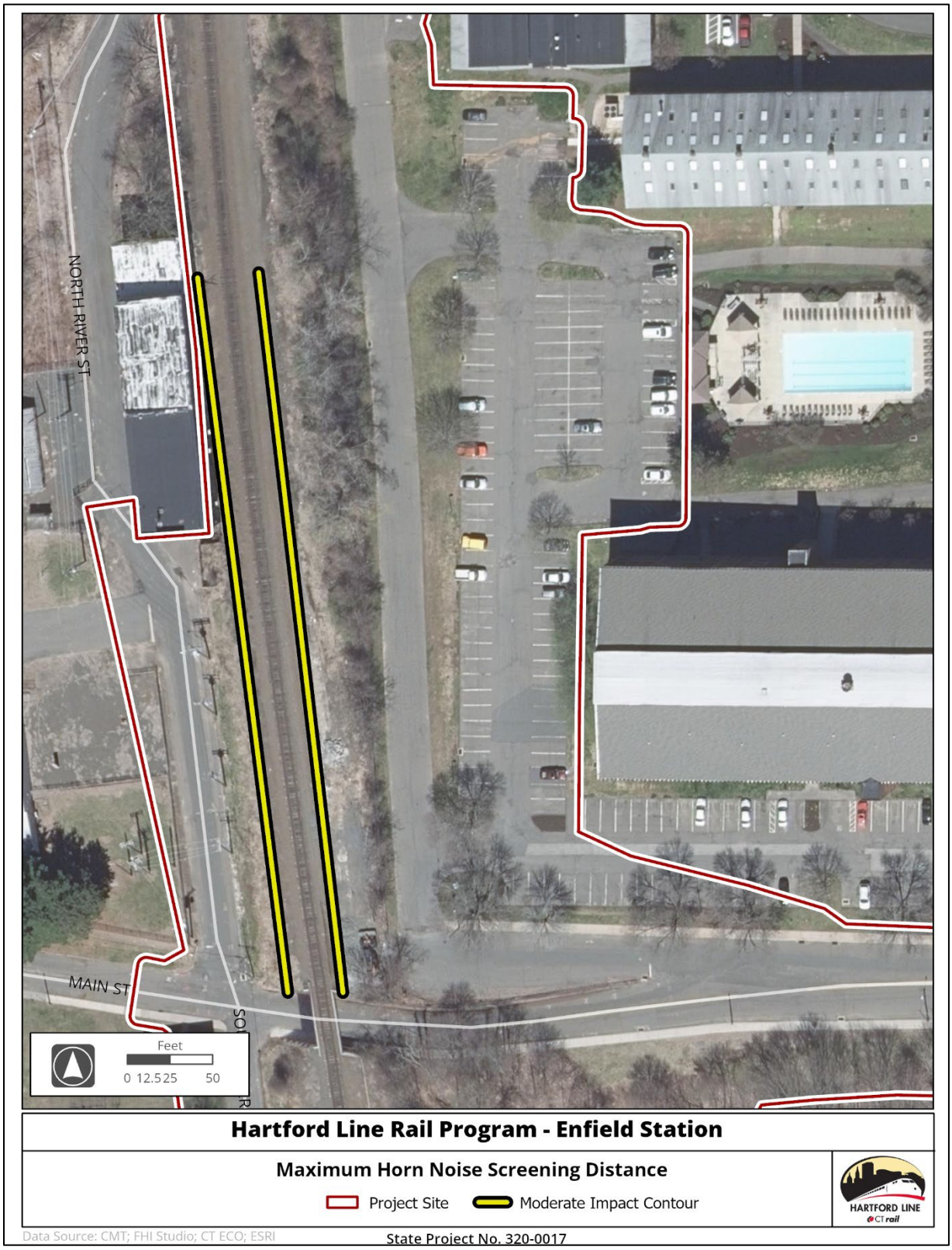
No significant noise impacts would result from the Project.

4.5 Floodplains

Executive Order (EO) 11988, Floodplain Management, requires federal agencies to consider the effects of their actions on floodplains and, to the extent possible, avoid the long- and short-term adverse impacts associated with the occupancy and modification of 100-year floodplains. In January 2015, EO 11988 was amended through EO 13690, and a new Federal Flood Risk Management Standard (FFRMS) was established that provides greater flood resilience and risk reduction for federally funded projects (the EO 11988 standard still applies for other federal actions).[46] In accordance with EO 13690, the new standard for evaluating flood resilience and flood risk for federally funded projects changed from the 100-year floodplain (one percent chance of being flooded each year), also referred to as the base flood elevation (BFE), to a higher elevation determined through one of several means identified in the Guidelines. For a critical activity, which is defined under EO 13690 as any activity for which even a slight chance of flooding would be too great, three feet would be added above the BFE to establish the FFRMS; however, it was determined the Project is not a critical activity. Therefore, for this Project, the FFRMS has been determined by adding two feet to the BFE according to EO 13690 methodology.

[46] Although EO 13690 was revoked by EO 13807 in 2017, it was reinstated by EO 14030 in May 2021, which notes the *"Guidelines for Implementing Executive Order 11988, Floodplain Management, and Executive Order 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input"* of October 8, 2015 (referred to herein as the Guidelines) were never revoked and thus remain in effect.

Figure 8 Maximum Horn Noise Screening Distance



The Study Area for the floodplains analysis encompasses Freshwater Brook which runs from the Freshwater Pond dam to the Connecticut River. Information on floodplains, floodways and flood zones was obtained from existing digital mapping from the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) GIS dataset to reference the Flood Insurance Rate Map (FIRM).[47] The FIRM includes a FEMA Flood Insurance Study (FIS) that was published for the Connecticut River and Freshwater Brook to accompany the FIRM. To ensure accurate floodplain limits were being used as a baseline for project impact assessment, CTDOT prepared updated boundaries within Freshwater Brook using their Regulatory Floodplain Delineation guidance document (CTDOT, 2016) and a Floodway Report prepared in 2021 for the Replacement of Bridge No. 04506 South River Street Over Freshwater Brook (State Project Number 048-198) which is located within the Project Site limits.[48]

The calculated 100-year floodplain for the Project Site was delineated based on FIS Volume 1, Section 2 and in Volume 7 of the FIS Report (Flood Profiles), plotting the published BFE for the three relevant sections on the FIRM on project base mapping according to the existing topographic contours documented in the field by CTDOT surveyors in 2023.[49] The floodway was plotted based on widths published in FIS Volume 3, Table 24 and widths and offsets from the brook centerline provided in the Floodway Report for State Project 048-198.

In accordance with HUD's Floodplain Management and Wetlands Protection requirements (24 CFR Part 55) and in compliance with Section 2(a) of EO 11988, an 8-Step impact analysis process, including public notification, was conducted. The Early Public Notice, published on December 12, 2023, is included in Appendix B.

[47] Effective September 26, 2008.

[48] GM2, *Bridge Rehabilitation/Replacement South River Street over Freshwater Brook, Enfield, CT, Bridge No. 04506*, 2021; note the floodway data provided in the Floodway Report for State Project 048-198 is based on HEC-RAS modeling results.

[49] FEMA, Flood Insurance Study, Hartford County, CT, 2017.

4.5.1 Affected Environment

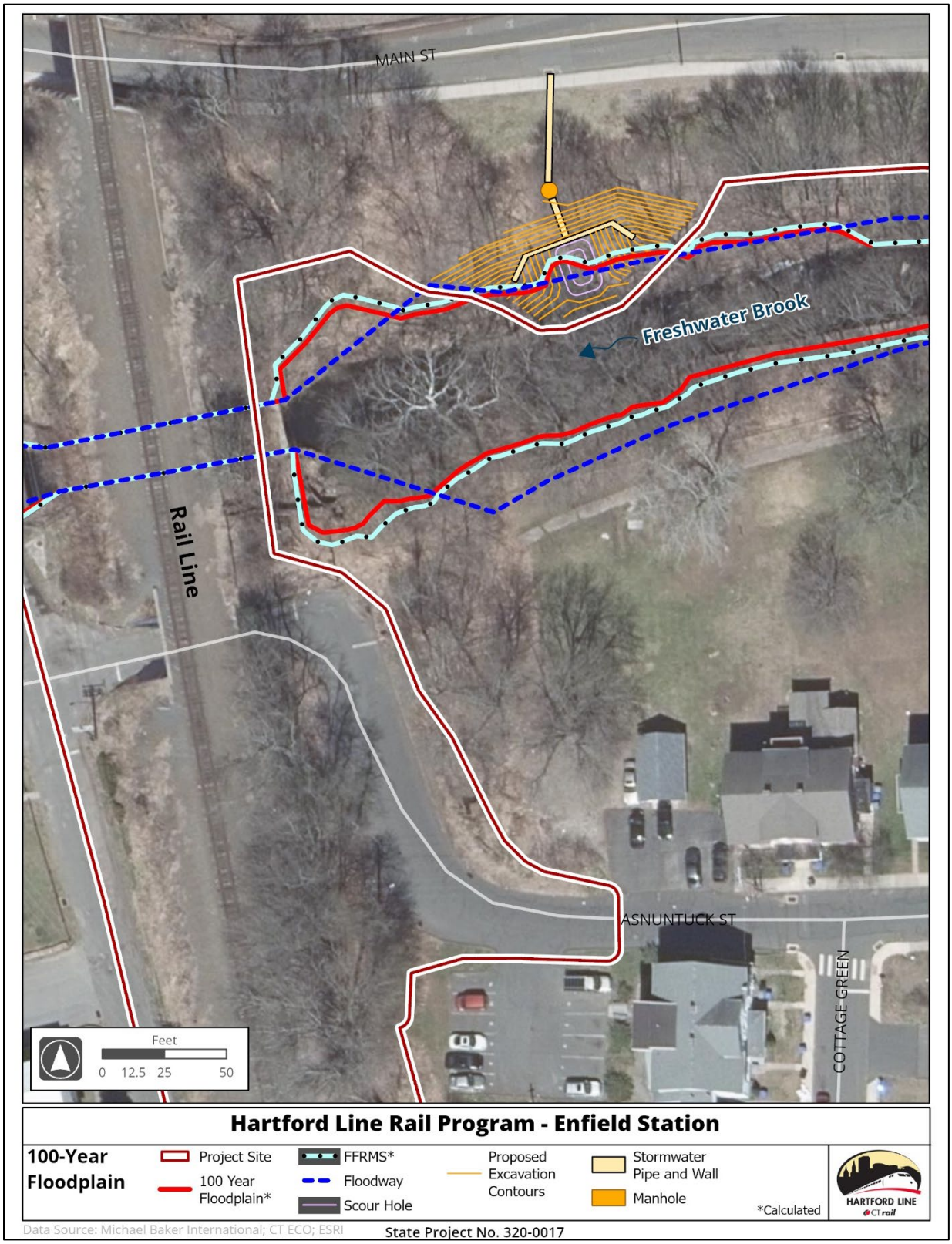
FEMA defines the 100-year floodplain north of Freshwater Brook in the Study Area as a Zone AE Special Flood Hazard Area. Additionally, the watercourse has a mapped Floodway. Using the CTDOT Floodplain Guidance, the 100-year floodplain line was calculated using the BFE and existing contour information. The data was overlain on an aerial photo with the boundary of the Project Site (see **Figure 9)** . The majority of the Project Site lies outside the calculated 100-year floodplain, floodway limits and FFRMS. However, a portion of the Project Site east of the rail line and north of Freshwater Brook, where improvements to the outfall of an existing culvert are proposed, lies within the calculated 100-year floodplain, the floodway limits and the FFRMS. Within the 100-year floodplain, the floodway limits and the FFRMS, the bank of Freshwater Brook is eroded immediately below the outfall and the riprap has migrated downslope from the outfall.

4.5.2 Environmental Consequences and Mitigation

Work would occur within the calculated 100-year floodplain, FFRMS and the floodway limits only within the area of the outfall improvements south of Lot 2. The existing outfall is in poor condition and lacks sufficient armoring to adequately protect the bank of Freshwater Brook. The outfall would be structurally improved to extend its service life and accommodate the existing stormwater and stormwater generated by the Project. The proposed scour hole and rip rap armoring are needed to stabilize the outfall area and would be partially located within the calculated 100-year floodplain, FFRMS and floodway limits, as shown in **Figure 9**. Approximately 1,500 square feet (sf) within the FFRMS area and 1,250 sf within the calculated 100-year floodplain would be permanently impacted due to excavation of existing material for placement of the scour hole and rip rap and may marginally increase flood storage capacity in this area. There would be no fill within this work area, and therefore the water surface elevation of the floodway would not be increased due to the proposed work and there would be no permanent adverse impacts to the floodplain, FFRMS or floodway of Freshwater Brook, or to downstream properties.

Freshwater Brook would be protected from the work area during construction through temporary installation of a sandbag coffer dam or similar structure within the 100-year floodplain, FFRMS and the floodway limits, on the north edge of Freshwater Brook. In-water work would be undertaken in accordance with state and federal time-of-year (TOY) restrictions, as outlined in Section 4.8.2. Temporary impacts to the floodplain from the sandbags, such as minor disruption of the ground surface and channel bottom, would be minimized to the extent practicable and restored to pre-construction conditions once the coffer dam is removed. As described in detail in Section 4.6, Wetlands and Watercourses, below, it is anticipated the channel would be unincumbered and would allow normal streamflow while the temporary coffer dam is in place.

Figure 9 100-Year Floodplain and Floodway



CTDOT investigated alternatives to avoid direct and indirect impacts to the 100-year floodplain and FFRMS but determined that there is no practicable alternative to working in the floodplain. Improving the existing outfall and adding armoring at the existing location of the outfall would have the least impact to the floodplain and waterway. Installation of a new culvert elsewhere along the bank of Freshwater Brook would require a new and larger footprint of land impact and vegetation clearing, which would also have to occur partially in the floodplain. The replacement of the existing culvert without a drop manhole structure would require a greater amount of armoring due to higher flow velocities, which would in turn require a larger footprint of land impact and vegetation clearing. The Project would require approval from the CTDOT Hydraulics and Drainage Division under the March 2022 *Flood Management General Certification for Statewide Minor Activities* issued to CTDOT by CTDEEP.[50] .The Project would be designed to meet the conditions enumerated in the CTDOT General Permit for erosion and sedimentation control, stormwater quality, temporary facilities, fish passage, time of year restrictions, as well as Land and Water Resources Division general conditions referenced in CTDOT's General Permit. This would confirm the Project would not result in adverse impacts to floodplains or floodways.

There would be no significant impacts to floodplains or the floodway.

4.6 Wetlands and Watercourses

The US Army Corps of Engineers (USACE) regulates activities resulting in the disposal of dredged or fill material into Waters of the United States (WOTUS), including wetlands, through Section 404 of the Clean Water Act.

The State of Connecticut regulates all activities conducted in inland wetlands and watercourses under the Inland Wetlands and Watercourses Act (IWWA). The State of Connecticut also regulates all activities conducted in tidal, coastal, or navigable waters, including the Connecticut River, located approximately 400 feet west of the Project Site, and some of its tributaries. However, the Project Site is outside of the Coastal Jurisdiction Line (CJL), which demarcates these resources. The CT DEEP CJL elevation for the Connecticut River in Enfield is 40.5 feet (NAVD88) and all project activities occur at or above 45 feet (NAVD88).[51]

Information regarding the presence, classification and characterization of wetlands and watercourses in the Study Area, within and adjacent to the Project Site, was obtained from a combination of online data sources and field investigations. Wetlands and watercourses were field delineated at the Project Site during July 2023 by a qualified soil scientist. WOTUS were documented based on the most recent USACE definitions, rules and guidance. State wetlands

[50] https://portal.ct.gov/-/media/dot/documents/ddrainage/fmgeneralcertification2022.pdf.

[51] CT DEEP, Coastal Jurisdiction Line Fact Sheet, https://portal.ct.gov/DEEP/Coastal-Resources/Coastal-Permitting/Coastal-Jurisdiction-Line-Fact-Sheet.

were delineated based on the Connecticut IWWA definitions. The Watercourse Delineation Memorandum is included in Appendix C.

4.6.1 Affected Environment

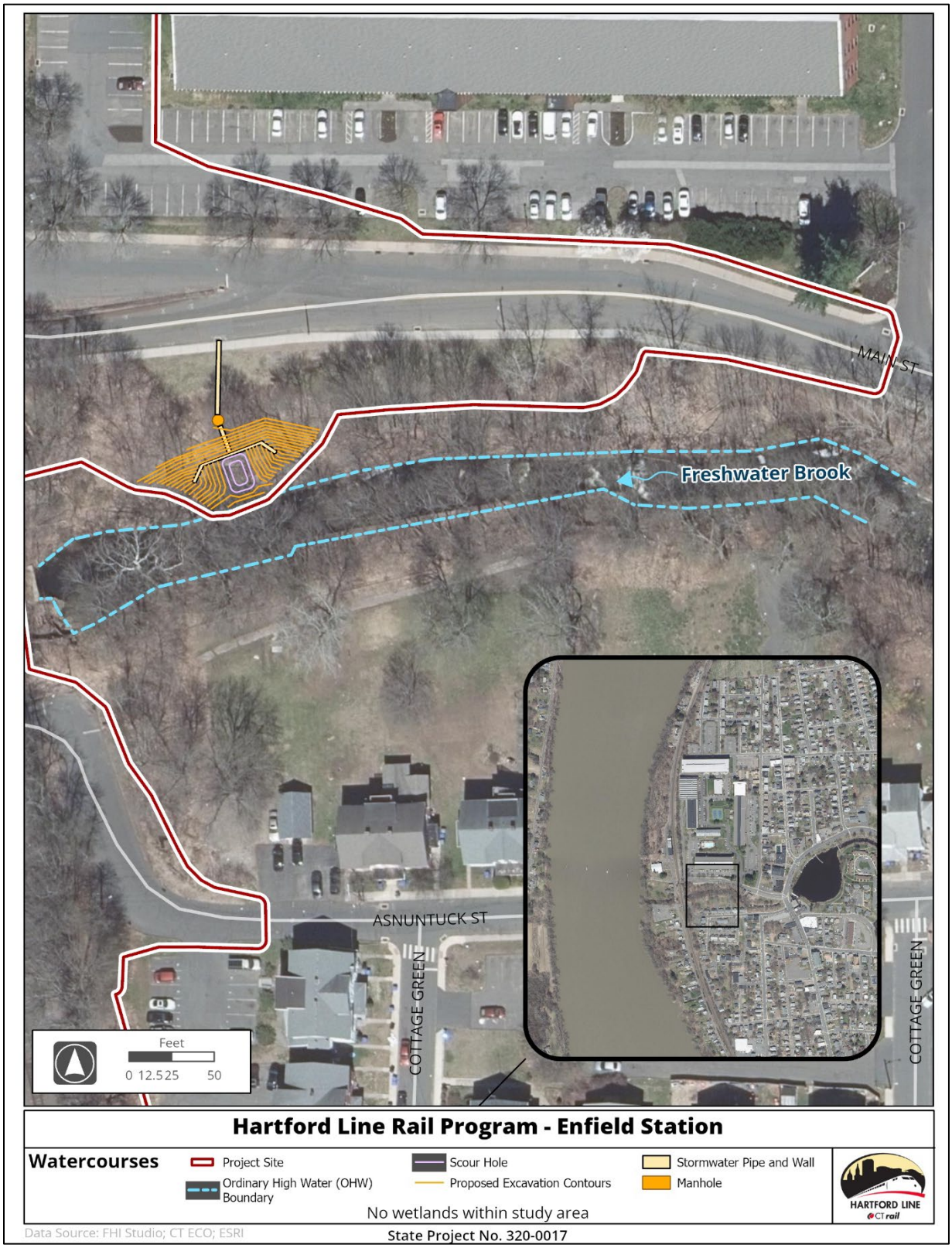
No wetlands were identified within or immediately adjacent to the Project Site. Freshwater Brook, a perennial watercourse, was delineated within and adjacent to the Project Site, and the ordinary high water (OHW) limits demarcated. **Figure 10** depicts the OHW watercourse limits within and adjacent to the Project Site. Photos of Freshwater Brook are included in the Wetland/Watercourse Memorandum in Appendix C.

Freshwater Brook is located within the Project Site south of Main Street and the proposed Station. The brook flows out of Freshwater Pond, which is approximately 1,000 feet to the east of the rail line and outside the Project Site, then flows west through a steep-banked ravine with areas of exposed bedrock and abandoned industrial infrastructure. The brook then flows under the rail line through a brick arch culvert. On the west side of the rail line, west of the Project Site, the brook flows under South River Street and then for approximately 320 feet at a gentle gradient before discharging to the Connecticut River.

Within the Project Site, the Freshwater Brook corridor is primarily forested along its banks with dominant vegetation including Norway Maple (*Acer platanoides*), Eastern Cottonwood (*Populus deltoides*), Oaks (*Quercus* spp.) and American Sycamore (*Platanus occidentalis*). There is a large stormwater outfall on the north bank of the brook, south of the proposed Lot 2, which discharges stormwater from existing development to the north. Immediately below the outfall, the bank of Freshwater Brook is eroded and the riprap has migrated downslope from the outfall.

Freshwater Brook is classified by the United States Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) mapping as a riverine, upper perennial, unconsolidated bottom, permanently flooded (R3UBH) watercourse. The reach of Freshwater Brook is of variable width, depth and substrate with alternating pool and riffle areas. The brook contains habitat for both fish and aquatic invertebrates.

Figure 10 Watercourses



4.6.2 Environmental Consequences and Mitigation

Project-related impacts to Freshwater Brook were assessed by overlaying the locations of project improvements on the field delineation mapping. The only project component that has the potential to impact Freshwater Brook is the proposed improvements to the existing stormwater outfall along the north bank of the brook, south of Lot 2. As part of the Project, stormwater from the Project Site would be directed to the existing outfall. The existing outfall and its armoring are in poor condition and would be improved to meet current design standards, to extend its service life and to accommodate the existing stormwater and stormwater generated by the Project. New armoring would be installed to stabilize the outfall area and adjacent slopes. Although some vegetation would be lost and soils disturbed during construction, the project would ultimately provide a more stable post-construction condition at the outfall to protect Freshwater Brook through an appropriately sized armoring system and vegetated earthen banks in all re-graded areas. To improve dissipation of water velocity prior to discharge, a new drop manhole would be installed just before the discharge outlet. A new scour hole would be constructed to dissipate water velocity after discharge. The proposed outfall would convey stormwater and would only flow during precipitation events, with no permanent impact to normal stream flow in Freshwater Brook. It is expected that permanent work would not occur below OHW. However, as noted above in Section 4.5, Floodplains, it is anticipated that a temporary coffer dam would be installed on the north side of Freshwater Brook, slightly below the OHW to contain work areas and protect the watercourse during construction. It is estimated this temporary impact below the OHW would be approximately 1,000 sf.

As the design is progressed, temporary impacts to the watercourse during construction due to coffer dam installation and construction access would be avoided and minimized to the extent practicable. Temporary impacts would include minor disruption of the ground surface and channel bottom within the footprint of the coffer dam to ensure a tight fit and proper containment. The existing low flow channel would be maintained during construction. As required by CTDOT procedures, any potential temporary impacts to Freshwater Brook would be restored to pre-construction conditions. Potential impacts during construction would be minimized through erosion and sedimentation Best Management Practices (BMPs) and the siting of construction access areas outside jurisdictional resources to the extent practicable. See Section 4.7 below for additional discussion on water quality.

The project would require approval from the USACE and CTDEEP for work below the OHW elevation. Approvals would need to be obtained under the following permits and their respective standards, general terms and conditions: *Department of the Army Regional General Permits for the State of Connecticut*, *CT DEEP Section 401 Water Quality Certification for Department of the Army General Permits for the State of Connecticut 2021 CT DEEP License No.: WQC-202108351*

and the *CT DEEP General Permit for Water Resource Construction Activities*.[52] The general terms and conditions in these permits provide BMPs for erosion and sedimentation control, stormwater quality, temporary facilities, fish passage, TOY restrictions and other measures. In addition, both the USACE and CT DEEP may require additional special conditions specific to the proposed activity to ensure compliance with the applicable regulations.

There would be no permanent or significant impacts to wetlands or watercourses and all temporary impacts from the proposed outfall improvements are considered minor. The measures described above would minimize temporary impacts to the watercourse during construction.

4.7 Water Quality

The goal of the Clean Water Act (CWA) is "to restore and maintain the chemical, physical and biological integrity of the Nation's waters."[53] Section 401 and Section 402 of the federal CWA regulate water quality and the introduction of contaminants to waterbodies. In Connecticut, CT DEEP is the regulatory agency responsible for ensuring adherence to water quality standards. The Study Area for Water Quality includes the reach of Freshwater Brook.

4.7.1 Affected Environment

The Project Site is located within the Connecticut River Major Basin watershed. Surface water resources consist only of Freshwater Brook, which flows from east to west through the Project Site. Water quality classifications have been assigned to all surface and ground waters throughout Connecticut to establish uses while also identifying the criteria necessary to support those uses. There are three classes of inland surface waters (AA, A, and B). According to the 2020 *State of Connecticut Integrated Water Quality Report*, Freshwater Brook is classified as "A".[54] Surface waters with the classification "A" are uniformly good to excellent, with natural quality. They have the potential to be used for public water supply. Other designated uses for class "A" waters include fishing, swimming and recreation, healthy marine habitat, direct shellfish

[52] https://portal.ct.gov/-/media/deep/permits_and_licenses/landuse_general_permits/inland_water_general_permits/constructiongppdf.pdf; https://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/CT/Connecticut-General-Permit-2021.pdf; and https://portal.ct.gov/-/media/deep/permits_and_licenses/landuse_general_permits/inland_water_general_permits/constructiongppdf.pdf; https://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/CT/Connecticut-General-Permit-2021.pdf; and https://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/CT/401-WQC-CT-GP-CT-DEEP-Final.pdf.

[53] 33 U.S. Code § 1251(a).

[54] CT DEEP, *State of Connecticut Integrated Water Quality Report*, 2020.

consumption and industrial supply. Freshwater Brook supports fish habitat, wildlife and other aquatic life, recreation and fish consumption. It is not classified for drinking water.[55]

Based on a review of CT DEEP GIS and USEPA Maps of Sole Source Aquifer Locations, there are no sole source aquifers or aquifer protection areas in the vicinity of the Project Site, and the Project Site is served by a public water system.[56] The portion of the Project Site located north of Freshwater Brook is classified as "GB" for groundwater quality, and the portion of the Project Site located south of Freshwater Brook is classified as "GA" for groundwater quality. Class GB designated uses are industrial process water and cooling waters, baseflow for hydraulically connected surface water bodies, and these groundwaters are presumed not suitable for human consumption without treatment. Class GA designated uses include existing private and potential public or private supplies of water suitable for drinking without treatment and baseflow for hydraulically connected surface water bodies.

4.7.2 Environmental Consequences and Mitigation

Construction of the proposed Project would include an increase of impervious surface of approximately 1.15 acres, consisting of pavement, concrete and roof areas. Stormwater would be collected via a new closed drainage system. The proposed Project would be designed to effectively manage the increase in impervious surface to ensure there are no adverse impacts to water quality within Freshwater Brook, or ultimately the Connecticut River. Stormwater design measures integrated into the proposed Project would be consistent with the CT DEEP 2023 *Connecticut Stormwater Quality Manual* to ensure an improvement in water quality discharging from the site post-construction. The Project would also be designed to comply with the CTDOT's MS4 Permit Program to the maximum extent practicable. During construction, water quality impacts would be minimized using BMPs and the implementation of an erosion and sediment control plan consistent with the CT DEEP 2023 *Connecticut Guidelines for Soil Erosion and Sediment Control*. In addition, the Project would be constructed in accordance with the CT DEEP *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* and its requirements and conditions, as applicable. CTDOT would also coordinate with the Town of Enfield to meet their requirements for the portion of work along Main Street.

Construction phase BMPs would include the following:

- Installation, use and maintenance of combined silt fencing and haybale erosion and sedimentation control around other work areas
- Dust control measures
- Storage of construction materials outside of wetlands and flood-prone areas
- Vehicle re-fueling and servicing at a location outside of the wetland and watercourse
- Proper care and maintenance of vehicles and equipment

[55] CT Environmental Conditions Online.

[56] https://epa.maps.arcgis.com; https://portal.ct.gov/DPH/Drinking-Water/DWS/Public-Water-Supply-Map.

- Restriction of unconfined in-water work from June 1 to September 30

Post-construction phase stormwater management BMPs to be considered include following:

- On-site underground detention
- Incorporation of a rain garden/bioretention area
- Hydrodynamic separator at a point prior to discharge
- Deep sumps at select locations
- Outlet protection at the Freshwater Brook culvert outfall
- Inlet protection at culverts
- Installation of ballasted drainage swales
- Slope protection (crushed stone or turf)

No significant water quality impacts would result from the Project.

4.8 Protected Species

The Endangered Species Act of 1973, as Amended (ESA) provides protection to species that are endangered or threatened with extinction (federally-listed species). The ESA also protects designated critical habitats on which endangered or threatened species depend for survival. Under Section 7 of the ESA, federal agencies are required to consult, at a minimum, with the USFWS and/or the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS), as applicable, to ensure that any action that the agency authorizes, funds, or carries out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. The Fish and Wildlife Coordination Act requires consultation with USFWS, as well as with state wildlife agencies, for any federal-aid project involving work in any stream or other water body. Consultation with the USFWS was conducted via the Information for Planning and Consultation (IPaC) project planning tool to determine if there are known occurrences of federally threatened or endangered species or critical habitat, migratory birds (which are discussed in Section 4.8.1.2) or other biological resources which may be impacted by the Project (see Appendix D). The NOAA NMFS Section 7 mapper was used to complete an informal screening for federally-listed aquatic species that could be affected by the Project.

Under provisions of the ESA, all states were granted authority to create their own endangered species protection policies. The Connecticut Endangered Species Act protects state-listed endangered and/or threatened plants and animals and their occupied habitat. Connecticut Threatened, Endangered and Species of Special Concern are regulated through CT DEEP. A request for Natural Diversity Database (NDDB) review was submitted for renewal to CT DEEP and a response was provided on October 4, 2023.

The Migratory Bird Treaty Act (MBTA) prohibits the take of protected migratory bird species.[57] If a take is anticipated, the lead agency is required to obtain a permit from USFWS. Similarly, the Bald and Golden Eagle Protection Act (BGEPA) prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" Bald or Golden Eagles, including their parts (including feathers), nests, or eggs. Coordination was undertaken with USFWS regarding the potential for the project to impact Bald and Golden Eagles.

Finally, the Magnuson–Stevens Fishery Conservation and Management Act (16 USC 1801 et seq.) (MSA) is the primary law that governs marine fisheries management in U.S. federal waters. First passed in 1976, the MSA fosters the long-term biological and economic sustainability of marine fisheries. NOAA NMFS regulates Essential Fish Habitat (EFH) in accordance with the MSA. The NOAA NMFS EFH mapper was used to complete an informal screening for the project. Follow-up coordination was undertaken with NOAA NMFS Greater Atlantic Regional Fisheries Office (GARFO) regarding EFH within the Study Area and a response was received on February 12, 2024, via email. Coordination with NOAA NMFS GARFO regarding EFH is included in Appendix D. For the purposes of this analysis, the Study Area is the limit of project disturbance, the Project Site.

4.8.1 Affected Environment

4.8.1.1 Threatened and Endangered Species

The IPaC Section 7 consultation, dated September 20, 2023, identified the Northern Long-Eared Bat (NLEB) *(Myotis septentrionalis)*, which is federally endangered, as potentially occurring within the Project Site. The Bald Eagle, protected under the BGEPA and the MBPA (discussed in Section 4.8.2.2 below), was identified through review of an IPaC Resource List prepared for the project (see Appendix D).

Based on informal coordination through the online NOAA ESA Section 7 Species Mapper (accessed 11/2/23), Atlantic Sturgeon, Shortnose Sturgeon and critical habitat for Atlantic Sturgeon (New York Bight Unit 1: Connecticut River) are identified as potentially occurring in the Connecticut River west of the Project Site.

An NDDB Request for Review was submitted to CT DEEP for Enfield Station on October 4, 2023. FRA and CTDOT, in consultation with the CT DEEP NDDB program, located suitable habitat for bald eagles in the vicinity of the Project site. However, the closest confirmed bald eagle nest is located across the Connecticut River approximately 1.3 miles to the northwest in Suffield, CT. Potential habitat for terrestrial and avian species was evaluated during a field assessment in July 2023. None of the federal- or state-listed species discussed above were observed during the field investigation.

[57] The MBTA defines a "take" as the killing, capturing, selling, trading, or transport of protected migratory bird species without prior authorization by USFWS.

4.8.1.2 Migratory Birds

The USFWS IPaC Resource List provided a list of 15 migratory bird species that may occur in the vicinity of the Project Site (see Appendix D). The birds listed in the report are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in the project location. The migratory bird species include:

- Bald Eagle (*Haliaeetus leucocephalus*)
- Black-billed Cuckoo (*Coccyzus erythropthalmus*)
- Blue-winged Warbler (*Vermivora pinus*)
- Bobolink (*Dolichonyx oryzivorus*)
- Canada Warbler (*Cardellina canadensis*)
- Cerulean Warbler (*Dendroica cerulea*)
- Chimney Swift (*Chaetura pelagica*)
- Hudsonian Godwit (*Limosa haemastica*)
- Lesser Yellowlegs (*Tringa flavipes*)
- Prairie Warbler (*Dendroica discolor*)
- Red-headed Woodpecker (*Melanerpes erythrocephalus*)
- Ruddy Turnstone (*Arenaria interpres morinella*)
- Rusty Blackbird (*Euphagus carolinus*)
- Short-billed Dowitcher (*Limnodromus griseus*)
- Wood Thrush (*Hylocichla mustelina*)

Based on field review, potential habitat for the Blue-winged Warbler and Prairie Warbler does occur on the Project Site where edge habitat exists, primarily along the existing rail line. However, the habitat area is not considered large enough to support breeding of these two species. The mature woodland habitat along Freshwater Brook is generally not good habitat for any of the other species, with the exception of the Black-billed Cuckoo. Although Cerulean Warbler habitat includes mature trees in bottomlands and along rivers, they tend to prefer large forest blocks, which do not occur on the Project Site. None of the migratory birds listed above were observed during field observations.

4.8.1.3 Fisheries and Essential Fish Habitat

The CT DEEP identified the following species in Freshwater Brook, 1.5 miles upstream of the Project Site: Bluegill (*Lepomis macrochirus*), Pumpkinseed (*Lepomis gibbosus*), Tessellated Darter (*Etheostoma olmstedi*), Fallfish (*Semotilus corporalis*), White Sucker (*Catostomus commersonii*), American Eel (*Anguilla rostrata*), Brown Bullhead (*Ameiurus nebulosus*), Blacknose Dace (*Rhinichthys atratulus*) and Golden Shiner (*Notemigonus crysoleucas*) (see Appendix D). Based on the EFH Mapper, no Habitat Areas of Particular Concern (HAPC) were identified within the Project Site.

4.8.2 Environmental Consequences and Mitigation

4.8.2.1 Threatened and Endangered Species

Under Section 7 of the ESA, FRA may make the following findings regarding effects to federally threatened or endangered terrestrial or aquatic species:

> No effect – when an action would not affect a listed species or designated critical habitat.
>
> Not likely to adversely affect – when effects on listed species are expected to be discountable, insignificant, or completely beneficial.
>
> Likely to adversely affect – when an adverse effect to listed species may occur as a direct or indirect result of the action or its interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial.

If FRA determines that an action may affect a threatened or endangered species, they must initiate consultation with the USFWS (for terrestrial and freshwater species) or NOAA NMFS (for marine and anadromous species) to ensure that the action is not likely to jeopardize the continued existence of any federally-listed threatened or endangered species or result in the destruction or adverse modification of critical habitat.

Based on completion of the impact key through the Section 7 IPaC consultation, the USFWS provided a determination of No Effect for the NLEB. FRA determined that there would be no effect to the Atlantic and shortnose sturgeon, or Atlantic Sturgeon Critical Habitat. Coordination with USFWS is provided in Appendix D.

Since the nearest Bald Eagle nest is more than one mile from the Project Site, FRA determined that direct impacts to bald eagles and bald eagle nest trees are not expected to result from the Project and any potential disturbance to bald eagles is anticipated to be negligible or nonexistent. USFWS concurred with this finding .[58] Similarly, CT DEEP indicated that increased negative impacts to State-listed species are not anticipated as a result of the proposed Project (see Appendix D).

4.8.2.2 Migratory Birds

Through consultation with FRA, USFWS concluded that the risk of impacts to migratory birds is low, given the narrow project area and its location in an urban area. However, they advised that, if tree clearing or habitat modification is required during project activities, CTDOT should avoid cutting trees or removing vegetation that may have nesting birds occurring during the breeding season (May 1- August 31). If nests are discovered during project activities, they should not be destroyed and should be protected by fencing (see Appendix D).

[58] USFWS advised that FRA should undertake consultation if a nest is established within 660 feet of the project area in the future (see Appendix D).

4.8.2.3 Fisheries and Essential Fish Habitat

It is anticipated standard BMPs for in-water work and protection of water quality during construction would be sufficient to avoid and minimize potential impacts to fisheries resources. To address potential temporary impacts to fisheries habitat resulting from the installation of the coffer dam during construction, CT DEEP recommended that any unconfined instream work within Freshwater Brook be restricted to the period from June 1 to September 30 (see Appendix D). FRA made a determination of No Effect to EFH. NOAA recommended the implementation of applicable programmatic conservation recommendations in accordance with a Federal Highway Administration (FHWA) programmatic agreement with NOAA. This includes a restriction on the installation and removal of any in-water soil erosion, sediment and turbidity controls between April 1 and June 30. [59]

4.8.2.4 Summary

With the implementation of the avoidance and minimization measures identified above, there would be no significant impacts to threatened or endangered species, migratory birds, EFH or fisheries resources.

4.9 Land Use, Zoning and Development

The Land Use, Zoning and Development Study Area is comprised of an area within a 0.5-mile radius of the Station site. A 0.5-mile Study Area radius is typical of transit-oriented development plans, as this is the distance that can be covered in a ten-minute walk. Given the Station's proximity to the Connecticut River, slightly more than half of the area within the 0.5-mile radius is on land. While a small area of land on the west side of the Connecticut River in Suffield falls within the radius, separation of that area by the Connecticut River substantially reduces any impact from the Station. That area within Suffield is therefore excluded from the Study Area.

Multiple sources were referenced in this assessment including local and regional plans, the Town of Enfield GIS Data Viewer, CT DEEP GIS Open Data Website and University of Connecticut (UConn) Map and Geographic Information Center (MAGIC), Google Earth aerial imagery and Google street view images and US Census Bureau data sources. Site visits were conducted to confirm the findings, and the Town of Enfield planning staff was consulted on planned and approved development projects in the Study Area.

[59] In a February 12, 2024 email to CTDOT, NOAA NMFS stated that, due to the location of the Project Site far upstream in the Connecticut River, NOAA did not conduct an EFH review for the project, but instead recommended the implementation of applicable programmatic conservation recommendations in accordance with the FHWA programmatic agreement.

4.9.1 Affected Environment

4.9.1.1 Land Use

The 4.1-acre Project Site includes 0.3 acres of a vacant Town-owned parcel on the south side of Main Street, 0.6 acres of the Main Street and Asnuntuck Street ROWs, approximately two acres of the rail corridor and 1.2 acres of a parking lot owned by Bigelow Commons, a former mill that was converted to an apartment complex and office park (see **Figure 11)**.[60] Freshwater Brook borders the Town-owned parcel to the south that is the proposed site for Lot 2, and the Bigelow Commons development lies to the east of the proposed Station and main parking area. Several vacant and older manufacturing buildings are located between the west side of the railroad ROW and the Connecticut River in the vicinity of the proposed Station.

Land use within the 0.5-mile radius of the proposed Station includes a mixture of residential, commercial, industrial, institutional, municipal, parking and open space uses. Residential uses are dominant, varying from small lot single-family homes to medium-density multifamily homes and to large apartment and condominium complexes. Commercial properties, including retail and office buildings, line segments of Pearl Street and North Main Street. The Town of Enfield owns several parcels in the vicinity of the Station including its Town Hall municipal complex (0.5 miles east of the proposed Station), a riverfront parcel south of the proposed Station (the Donald Barnes Boat Launch), and other small parcels.

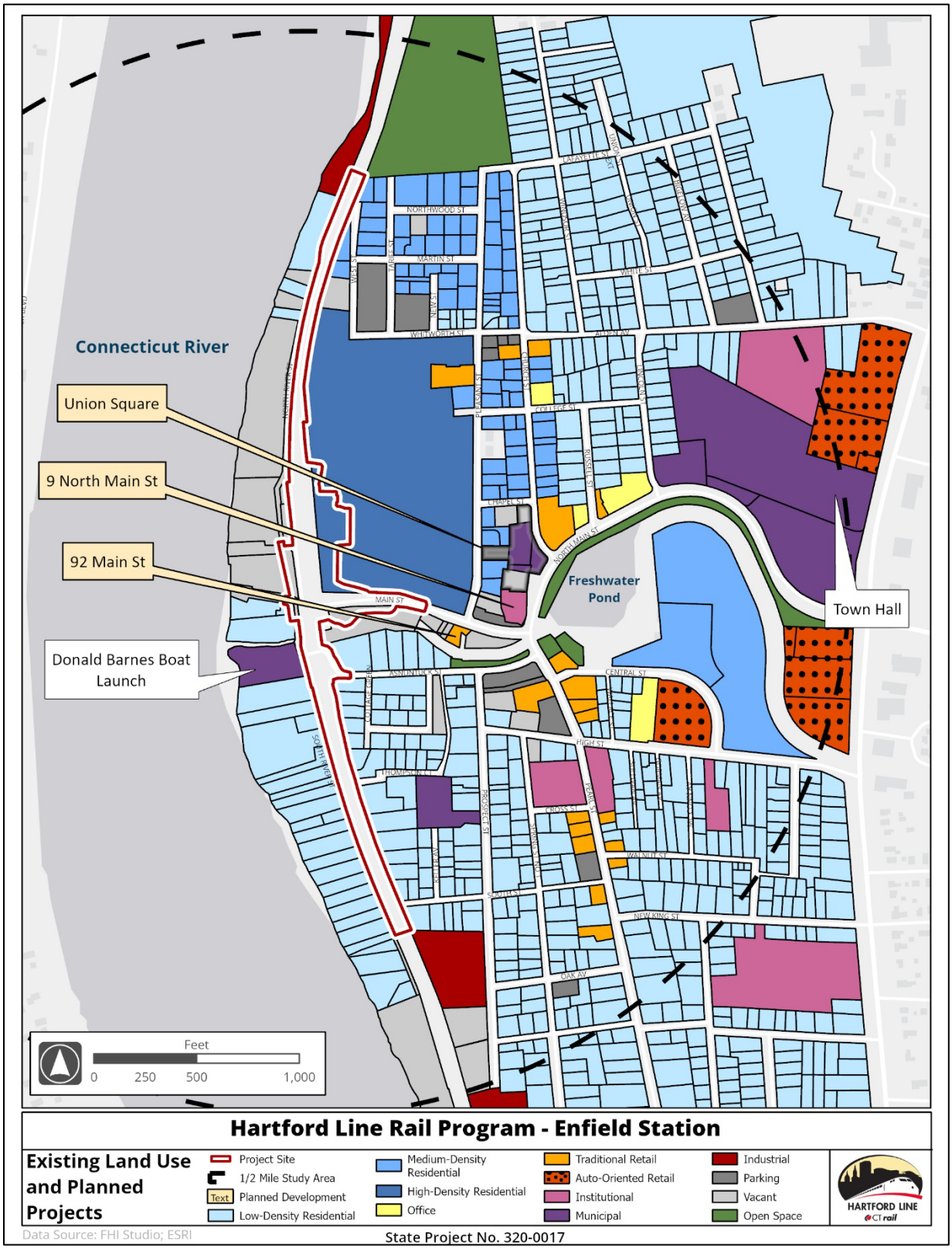
4.9.1.2 Planned Projects

In March of 2022, the Town of Enfield issued a request for proposal for redevelopment of six Town-owned parcels at 1, 5, 19 and 21 Church Street, 16 Pleasant Street and 17 North Main Street in Thompsonville, identified on **Figure 11** as Union Square. These parcels were formerly home to the Strand Theater and Angelo Lamagna Activity Center and form a 1.5-acre site when combined. The Town selected a proposal to develop 123 mixed-income housing units, including affordable housing, as well as retail, at the site. The developer subsequently scaled back the number of residential units from 123 to 70 and eliminated the retail. As of July 2023, the developer was under contract and the Town Council voted to pursue a State grant to assist in the development of the project. Additional development projects include the recent acquisition and rehabilitation of 9 North Main Street for retail and institutional uses with the potential future conversion of the second floor to residential units and the redevelopment of 92 Main Street, which has been rehabilitated to include two retail storefronts on the first floor and four residential units on the second floor.[61]

[60] A portion of the 1.2 acres would be reserved for parking use by Bigelow Commons residents.

[61] Conversation with Enfield Town Planner, October 4, 2023.

Figure 11 Existing Land Use and Planned Projects



4.9.1.3 Plans, Policies and Studies

The Thompsonville section of Enfield surrounding the proposed Station has been subject to a considerable amount of planning and land use related studies over the past three decades. Recent local plans include the following:

Economic and Fiscal Impact of the Thompsonville Transit Center: Enfield, CT (2015)
The Town of Enfield commissioned a study of the potential economic impact of the proposed Station if accompanied by local bus and shuttle service, referred to in the study as the "Thompsonville Transit Center". The study indicated that the development of such a facility under 2015 market conditions could be a catalyst for significant economic impact; however, the Town's ability to capture that economic impact was constrained by the zoning in place at that time. New zoning changes facilitating TOD were identified by the study as a requirement to maximize the economic benefit of the new transit center. The zoning was subsequently amended to better support TOD, as noted below.

Thompsonville Zoning & Economic Development Strategy (2019)
The *Thompsonville Zoning and Economic Development Strategy* was funded by a State TOD grant and provides a strategy that identifies key parcels for redevelopment, acquisition planning, incentive strategies for investors and developers, marketing and promotional program recommendations and the drafting of new zoning regulations for the village area. Those zoning regulations were adopted in January of 2019.

Enfield Plan of Conservation and Development (2022)
The *Plan of Conservation and Development* includes a chapter focused on repositioning Thompsonville to compete for investment. The Plan identifies a growth management principle to "Concentrate development around transportation nodes and along major transportation corridors to support the viability of transportation options." Specifically identified is the proposed train station in Thompsonville. The Plan also recommends providing charging stations for electric vehicles at multiple locations in town including the Station and considering construction of an energy micro-grid at the proposed Station in Thompsonville. The Plan envisions the Station as an anchor and trip-generator within Thompsonville that would create greater vibrancy and can be leveraged to grow demand and attract new investment.

In addition to local plans that specifically relate to TOD, plans were prepared between 1992 and 2016 that relate more generally to the revitalization of the Thompsonville area. These include the *Thompsonville Revitalization Strategy Report* (1992), S*etting the Stage for Thompsonville's Revitalization* (2001), *Main Street Assessment of Thompsonville Village Center* (2003 & 2007), *Thompsonville Revitalization Action Plan* (2009 and 2016) and the *Thompsonville Zoning Study* (2013).

Beyond the local plans noted above, two regional plans are relevant to the Project:

Capitol Region Plan of Conservation and Development (2014)
The Plan precedes implementation of CTrail service but advocates for development of commuter rail service on the Hartford Line corridor and recognizes that a new Station is planned for Enfield. The Plan provides no recommendations specific to the Study Area.

CRCOG Transit-Oriented Development (TOD) Roles, Visioning, Viability, and Tools Analysis (2023) This purpose of this analysis was to build on the recommendations from the *Hartford Line TOD Action Plan* (2019) and *CTfastrak TOD Study* (2017). The *Hartford Line TOD Action Plan* identified development opportunities in proximity to existing and planned stations along the corridor. The analysis conducted a test-fit of two primarily residential building developments on five parcels on the west side of North River Street immediately west of the proposed Station. The analysis found that a total of 299 dwelling units and 3,900 sf of commercial development is spatially feasible to construct.

4.9.1.4 Zoning

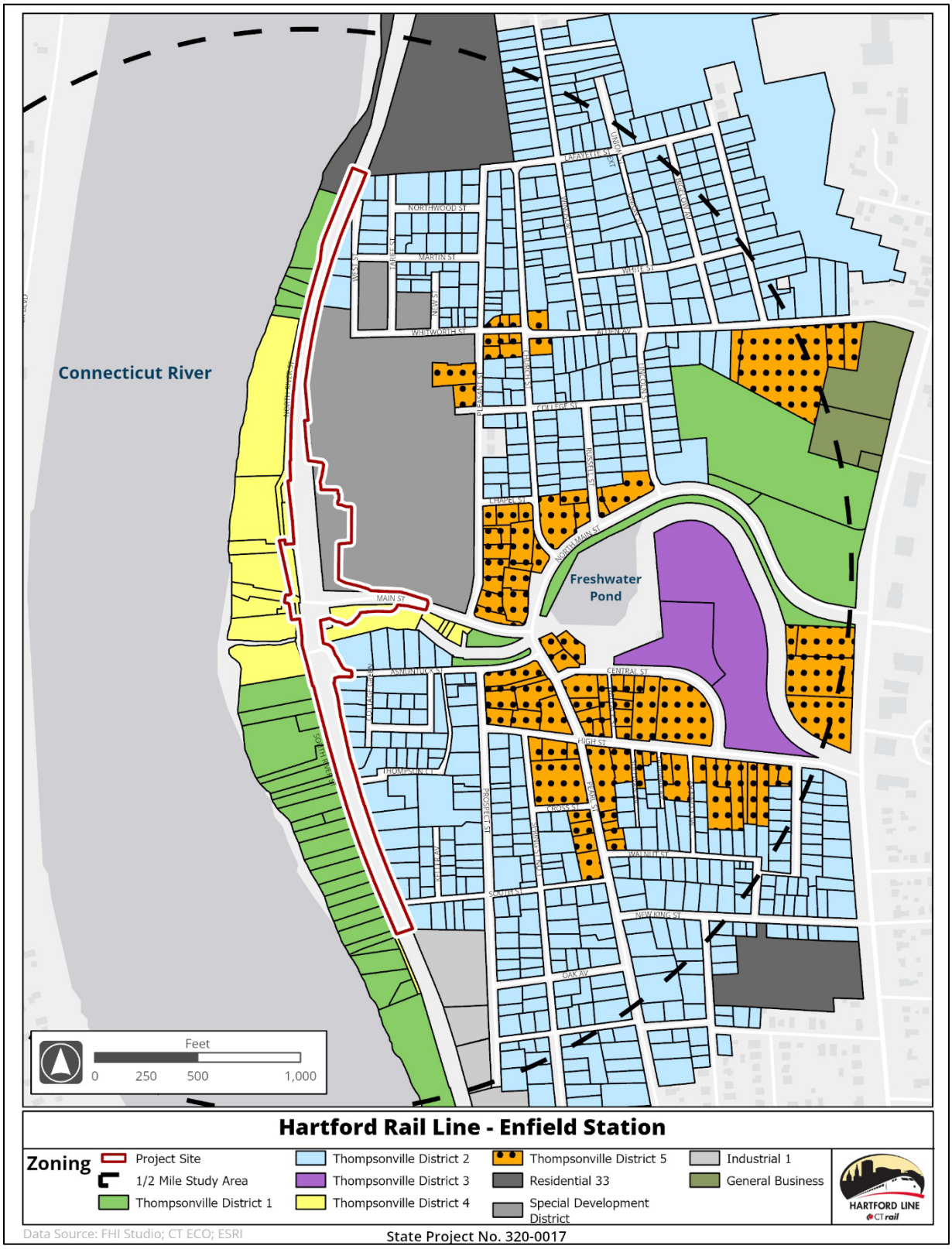
The Station area was rezoned in January of 2019 with the aim of supporting transit-oriented development surrounding the planned Station. Most of the area within and extending beyond the Study Area was rezoned as Thompsonville Districts (TDs) 1 through 5. In addition to these newly created districts, three preexisting districts were maintained: the R-33, SDD and I-1 districts. The purpose of each of these districts is detailed in **Table 5** below and the locations of the districts are shown in **Figure 12**.

The Station and Lot 1 are located in the SDD district and Lot 2 is in the TD-4 district.

Table 5 Thompsonville Zoning Districts

Zoning District	Purpose
Thompsonville District 1 (TD-1)	The purpose of Thompsonville District 1 is to provide walkable residential neighborhoods consistent with historic patterns of development and encourage the development of public amenities along the Connecticut River Waterfront.
Thompsonville District 1 (TD-2)	The purpose of Thompsonville District 2 is to provide a walkable residential neighborhood with a diversity of housing choice. Development within this zone will be consistent with historic patterns of development.
Thompsonville District 1 (TD-3)	The purpose of Thompsonville District 3 is to provide a walkable residential neighborhood with a diversity of housing choices and opportunities for the development of higher density housing.
Thompsonville District 1 (TD-4)	The purpose of Thompsonville District 4 is to allow a variety of housing, food services, lodging, minor retail and marine/waterfront activities in direct proximity to the planned rail station adjacent to the Connecticut River and Freshwater Brook.
Thompsonville District 1 (TD-5)	The purpose of Thompsonville District 5 is to preserve and provide walkable neighborhood commercial districts that build upon the historic function of Thompsonville's retail areas. Development in this zone shall include a mixture of retail, restaurant, services, office space and residences that will serve local residents and future rail commuters.
Residential 33 (R-33)	The purpose of Residential Zoning Districts is to encourage the construction of a variety of single family and other appropriate residential developments; to encourage the creative reuse of existing older buildings to meet the needs of Enfield's citizens; and to encourage quality residential development with adequate public services throughout the Town.
Special Development District (SDD)	The sole purpose of the Special Development District (SDD) is to enable the rehabilitation and/or adaptive reuse of vacant, deteriorated or underutilized buildings and their sites.
Industrial 1 (I-1)	The purpose of the Industrial Zone is to establish a district for manufacturing, industrial and other compatible uses to encourage the most appropriate development of industrial land, in harmony with the neighborhood.

Figure 12 Zoning Districts



4.9.2 Environmental Consequences and Mitigation

4.9.2.1 Induced Development

Development induced by the Station is most likely to occur on vacant or town-owned parcels that are made available for development (see **Figure 11**). Multiple vacant parcels are within close proximity of the proposed Station, including the Town-owned parcel just across the ROW formerly occupied by the Westfield Plate Company building, which burned and was razed in 2021. In addition to this site, there are approximately five acres of vacant or undeveloped land between the Connecticut River and the rail corridor immediately north of the Station site. The zoning in the vicinity of the proposed Station was amended in 2019 to incentivize multifamily and mixed-use housing development, positioning Thompsonville for future TOD. This area is zoned as Thompsonville District 4, which allows for a variety of housing, food services, lodging, minor retail and marine/waterfront activities. The station itself, and development that is subsequently induced by it, would be consistent with established land use plans and zoning.

The 2019 *Thompsonville Zoning & Economic Development Strategy* report found that modeled townhouse development demonstrates relatively strong profitability.[62] The study further indicates that subsidies or tax incentives could also support multifamily or mixed-use development. There would be no significant impacts to land use.

4.9.2.2 Property Acquisitions and Displacements

The proposed Station and associated parking facilities are planned on approximately 2.5 acres of land on the east side of the rail corridor. The Project Site is located partially within the rail corridor ROW and would require acquisition of approximately 1.2 acres of Bigelow Commons' surface parking facilities (55 Main Street). The proposed Station site is not occupied by any buildings or structures, but Lot 1 would result in a net loss of approximately 65 parking spaces out of the total 715 Bigelow Commons parking spaces. Lot 2 would require acquisition of approximately 0.3-acre of a vacant town-owned property on the south side of Main Street abutting the Freshwater Brook.

Sliver property acquisitions would also occur at two properties. Permanent slope easements of no more than ten feet in depth would occur at an additional eleven properties as a result of the track and roadway improvements. Anticipated property acquisitions and easements are summarized in **Table 6** below and shown in **Figure 13.**

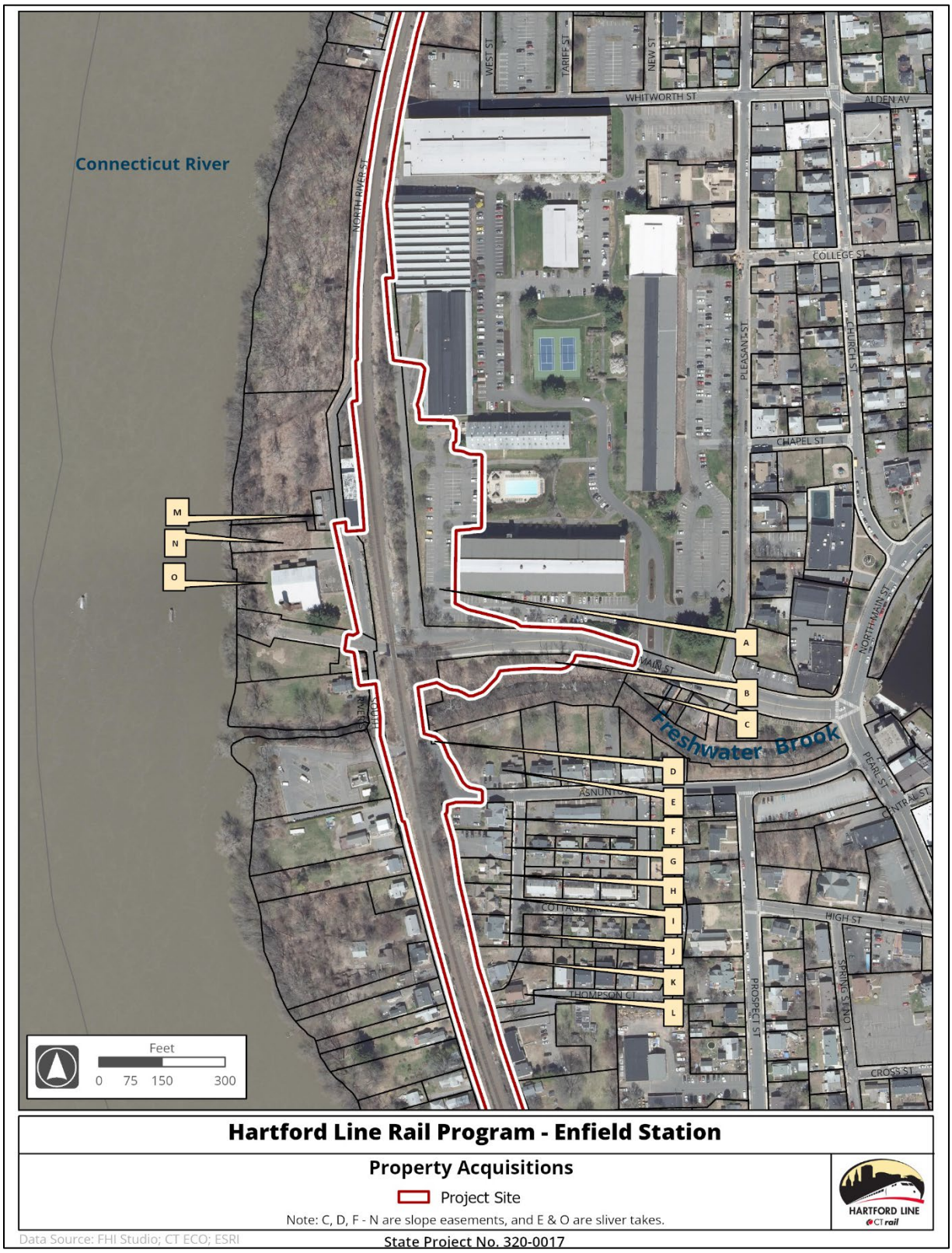
[62] 4Ward Planning and Fitzgerald & Halliday, Inc., *Thompsonville Zoning & Economic Development Strategy,* 2019.

Table 6 Property Acquisitions

Figure 13 Parcel Reference	Address	Land Use and Description of Acquisition
A	55 Main Street	Bigelow Commons (residential) parking, approximately 1.2 acres partial acquisition
B	Parcel 8-29 Main Street	Town of Enfield vacant, 0.3 acres partial acquisition
C	Parcel 24-50 Main Street	Town of Enfield, vacant, permanent slope easement*
D	1 Asnuntuck Street	Town of Enfield, vacant, permanent slope easement*
E	7-9-11 Asnuntuck Street	Residential, sliver acquisition
F	2 Cottage Green	Residential, permanent slope easement*
G	10 Cottage Green	Residential, permanent slope easement*
H	20 Cottage Green	Residential, permanent slope easement*
I	24 Cottage Green	Residential, permanent slope easement*
J	32 Cottage Green	Residential, permanent slope easement*
K	38 Cottage Green	Residential, permanent slope easement*
L	24 Thompson Court	Residential, permanent slope easement*
M	21 North River Street	Eversource, vacant, permanent slope easement*
N	19 North River Street	Eversource, vacant, permanent slope easement*
O	Parcel 8-27, North River Street	Eversource, sliver acquisition

* Slope easement no more than 10 feet deep

Figure 13 Property Acquisitions



Federal and state laws require that property owners receive fair market value for their land and if there are displacements, that they have assistance in finding replacement business sites or dwellings. The proposed Project would require partial acquisitions of parking and vacant municipal land, as well as sliver acquisitions of land from one residential and one vacant property. No displacements would occur. All land acquisitions would be completed according to the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970, as amended, Title 49, Part 24 of the Code of Federal Regulations (49 CFR Part 24). Property owners would be compensated for acquisitions or easements.

There would be no significant impacts due to property acquisitions.

4.10 Socioeconomics

Socioeconomic conditions in the Study Area were defined using data from the US Census Bureau and field survey to document area businesses. The assessment focuses on trends in population and income. Consistent with the Land Use analysis, the Study Area for Socioeconomics includes the area within 0.5-miles of the Station site (see **Figure 14**).[63]

4.10.1 Affected Environment

4.10.1.1 Population and Income

From 2010-2020, the Study Area and Enfield populations decreased by 0.34 percent and 5.63 percent, respectively. During the same period, the Hartford County population increased by 0.61 percent as shown in **Table 7**.[64]

Table 7 2000-2020 Population Change

Population	2000	2010	2020	Change 2010 to 2020 (%)
Study Area	4,580	4,955	4,938	-0.34%
Town of Enfield	45,212	44,654	42,141	-5.63%
Hartford County	857,183	894,014	899,498	0.61%

Source: United States Census Bureau

In the period of 2017-2021, approximately 57 percent of households in the Study Area had an annual income of less than $50,000, compared to approximately 28 percent in Enfield and 33 percent in Hartford County.[65] In general, incomes in the Study Area are lower than in Enfield and Hartford County, as shown in **Table 8**.

[63] The Census Bureau population and income data is only available at the block group level and not for the smaller area of census tracts, and therefore the analysis reports the data from the block groups in their entirety. Employment data is reported specifically for the 0.5-mile Study Area.

[64] U.S. Census Bureau 2000, 2010, and 2020 Decennial Census.

[65] U.S. Census Bureau American Community Surveys 5-Year Estimates, 2017-2021, Table S1901.

Figure 14 Socioeconomic Resources

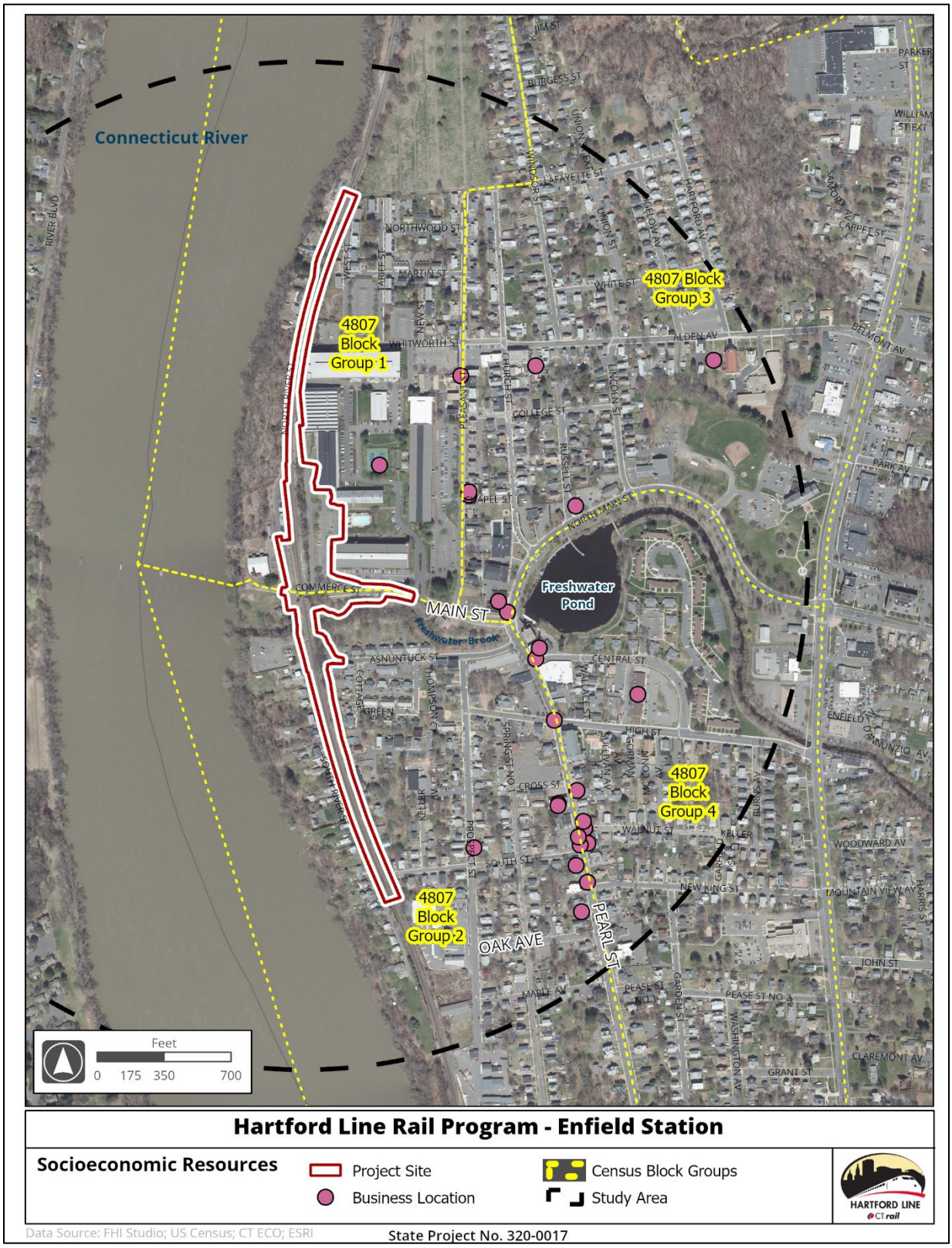


Table 8 2017-2021 Annual Income of Households

2017-2021 Annual Income Category	Study Area	Town of Enfield	Hartford County
Less than $25,000	30.2%	11.4%	15.6%
$25,000 - $34,999	17.8%	8.2%	7.2%
$35,000 - $49,999	9.2%	8.3%	9.7%
$50,000 - $74,999	12.9%	15.6%	14.6%
$75,000 - $99,999	10.9%	15.8%	12.7%
$100,000 - $149,999	10.7%	22.0%	18.1%
$150,000 or more	8.3%	18.6%	22.0%

Source: United States Census Bureau

4.10.1.2 Employment

According to US Census Longitudinal Employer-Household Dynamics (LEHD) data, the area within 0.5-mile radius of the Station was home to a total of 557 full and part-time jobs in 2020 (the most recent data available). The highest share of those jobs was in health care and social assistance (48.8%) followed by real estate and rental leasing (10.6%), retail trade (10.1%) and public administration (9.2%). Over half of those jobs (54%) provided earnings of more than $3,333 per month. Nearly all jobs (96.2%) were held by workers residing outside of the Study Area, with only 3.8% of jobs held by those living within the Study Area.

A windshield survey was conducted which identified 35 businesses within the Study Area. Businesses are generally clustered along Pearl Street between Main and Oak Streets (see **Figure 14**). Most businesses are retail, restaurant, or service-based, providing goods and services to primarily the Study Area community. A small number of other businesses are present, including professional offices and light industrial businesses such as lumberyards and a welding supply store, serving regional customers.

The 2020 LEHD data indicates a total of 1,471 workers residing in the Study Area, with 1,450 of those residents working outside of the Study Area. Workers residing in the Study Area commute to a wide range of destinations with 21.9% of workers commuting to Enfield to work, followed by Springfield (8.8%), Hartford (6.5%) and Windsor (4.9%). Conversely, workers who commute to the Study Area primarily live in Enfield (32.1%), followed by Suffield (4.4%), Manchester (3.8%) and Windsor Locks (3.4%), in addition to several other communities.

According to Local Area Unemployment Statistics (LAUS) program data, as of August 2023 Enfield had a relatively low unemployment rate at 3.1% compared to 3.5% statewide.

4.10.2 Environmental Consequences and Mitigation

The proposed Project would facilitate intercity travel and provide better connectivity for residents and workers to other cities in the region. It is anticipated that the proposed Project, in combination with the Thompsonville zoning district amendments, could support TOD, as described in Section 4.9.2.1.

Commuting via the rail Station may be viable for workers living in the Study Area and working in one of the cities or other communities with a station along the rail corridor or for a smaller pool of workers that commute to Thompsonville from a residence located near a Hartford Line rail station.

The construction phase of the Project would support a small number of jobs in the construction industry and in material production for a short period.

There would be no significant socioeconomic impacts.

4.11 Cultural Resources

The CEQ Regulations for Implementing NEPA require an evaluation of impacts to historic resources as part of an EA. In addition, Section 106 of the National Historic Preservation Act of 1966 (NHPA), (54 USC 300101 *et seq., as amended*), requires that federal agencies take into account the effects of their actions (undertakings) on historic properties. Historic properties include those properties that are listed in, or eligible for listing in, the National Register of Historic Places (National Register). Historic properties may include buildings, structures (such as bridges), sites (including archaeological sites), objects and districts.

Section 106 analysis and consultation was undertaken for the overall Hartford Line Rail Program concurrent with the Tier 1 EA. At that time, the entire 62-mile rail corridor was determined eligible for listing on the National Register as a linear historic district. The consultation resulted in a Programmatic Agreement (PA) that was executed in August 2012 and amended in 2022 among the FRA, the FTA, CTDOT, the Connecticut State Historic Preservation Office (CT SHPO), the Massachusetts State Historic Preservation Office, Amtrak and the Mohegan Indian Tribe.[66] FRA as the designated lead federal agency in the PA authorized CTDOT to perform Section 106 identifications and evaluations, prepare documentation and conduct Section 106 consultation for the NHHS Program. CTDOT identified and evaluated historic properties for the Project in accordance with Stipulation VI of the PA. The signatories and concurring parties to the PA, as well as the Enfield Historical Society, were provided an opportunity to comment on the findings.

Section 106 of the NHPA establishes standards for evaluating effects to historic properties. NHPA defines an effect as "an alteration in the character or use of a historic property qualifying

[66] The 2022 amendment extended the duration of the PA and did not make any other substantive changes.

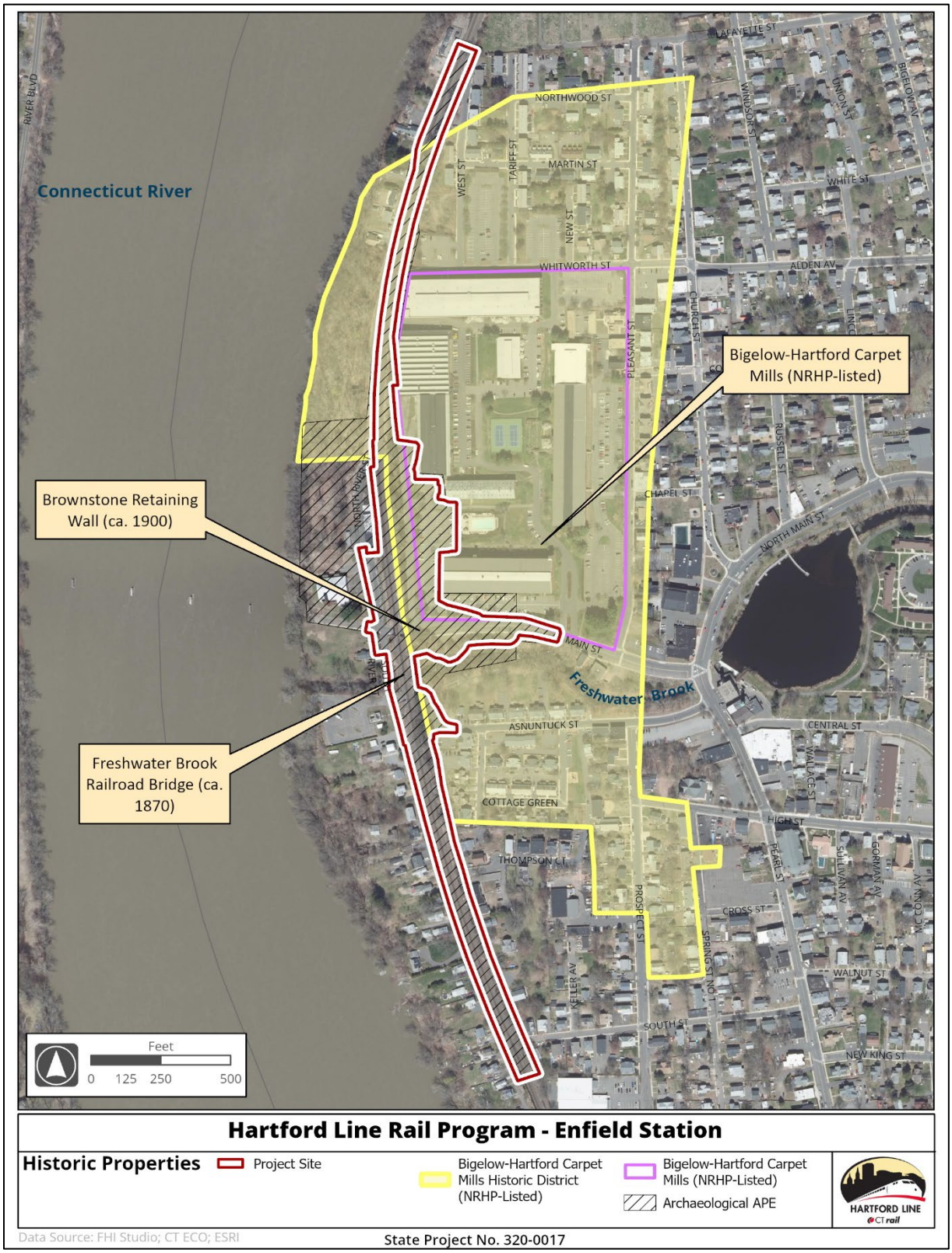
it for inclusion in or eligibility for the National Register." An effect is considered to be adverse "when an undertaking may alter, directly or indirectly, any of the characteristics of the historic resource that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association" (36 CFR 800.5).

In evaluating the effects of the Project on historic properties, CTDOT followed the procedures outlined in the regulations that implement Section 106 (36 CFR Part 800), defining an area of potential effect (APE) and applying the criteria of adverse effect. For the purposes of identifying above-ground historic properties, the APE for the Enfield Station Project includes the locations of the platform, buildings, parking lots, the access road and turnaround, sidewalks, replacement of the Main Street Railroad Bridge and track improvements, including the removal of the Asnuntuck Street underpass and replacement of the retaining walls for the Freshwater Brook crossing (see **Figure 15**). The APE is centered on the railroad ROW at its intersection with Main Street and extends approximately 2,200 feet to the north and south (total 4,400 feet) within the rail ROW. The APE extends approximately 175 feet to the east of the rail ROW in the vicinity of the proposed Station, approximately 600 feet to the east in the Main Street ROW, and approximately 80 feet to the east in the vicinity of the Asnuntuck Street underpass. South of Asnuntuck Street, the APE extends 10 feet east of the rail ROW to include slope easements from properties along Cottage Green. To the west, the APE extends approximately 100 feet from the rail ROW in the Main Street ROW and to the north, to include part of North River Street. The archaeological resources APE is larger than the historic resources APE because it was investigated as part of an earlier, more extensive concept for Enfield Station (see **Figure 15**).

Direct adverse effects include physical destruction or damage, alterations that are not consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR part 68), removal of the property from its historic location, and neglect that leads to deterioration. Indirect effects include changes to the character of the property's use or physical features within the property's setting that contribute to its historic significance, as well as the introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features.

The following analysis summarizes the findings in *Historic Properties Technical Report: Existing Conditions and Effects, New Haven-Hartford-Springfield High-Speed Intercity Passenger Rail Project: Enfield Station* (2023) and *Archaeological Resources Technical Report: Existing Conditions and Effects, New Haven-Hartford-Springfield High-Speed Intercity Passenger Rail Project: Enfield Station* (2023). CTDOT consulted with CT SHPO as part of the Section 106 evaluation (see Appendix E).

Figure 15 Areas of Potential Effect and Historic Properties



4.11.1 Affected Environment

4.11.1.1 Above-Ground Historic Resources

Through background research and field inspection, historic properties were identified within the APE. Properties are summarized below and shown in **Figure 15**.

- **Bigelow-Hartford Carpet Mills** (55 Main Street): This 24-acre parcel, extending north to West Street and Whitfield Street and east from the rail line to Pleasant Street, was listed in the NRHP in March 1983. The property is characterized by large multistory brick former manufacturing buildings, most of which date from the carpet mills' early 20th-century expansion. The mill buildings have been converted to a mixed-use complex now known as Bigelow Commons.

- **Bigelow-Hartford Carpet Mills Historic District** (Asnuntuck, Pleasant, Prospect and other streets surrounding the surviving former carpet mill buildings): Listed in the NRHP in 1994, this district was intended to extend the Bigelow-Hartford Carpet Mills listing by including not only the mills but also the former company-owned housing that occupies much of this part of Thompsonville.

- **New Haven-Hartford-Springfield Rail Line Linear Historic District**: In 2012, FRA, in consultation with the Connecticut and Massachusetts State Historic Preservation Officers (CT SHPO and MA SHPO, respectively) determined the 62-mile rail line to be a NRHP-eligible linear historic district. Its significance is derived from the numerous historic rail-related buildings; engineering structures, such as bridges and culverts; and from the trackside elements such as whistle posts, catenary supports and retaining walls that are found along the line. Two structures within the APE contribute to its significance: the Freshwater Brook railroad bridge, a ca.1870 brick-arch structure, and a ca. 1900 brownstone retaining wall along the north side of Main Street that was built as part of the elimination of a grade crossing.

4.11.1.2 Archaeological Resources

The APE for archaeological resources is shown in **Figure 15**. The archaeological resources APE is larger than the historic resources APE because it was investigated as part of an earlier, more extensive concept for Enfield Station.

A Phase 1A Assessment Survey was completed to evaluate the APE's potential to contain archaeological resources which are listed in or eligible for listing in the National Register. The Phase 1A, which included historical background research, a walkover and visual assessment and hand-powered soil cores, indicated three areas had potential archaeological sensitivity. All other areas of the APE were determined to be pervasively disturbed and not sensitive for archaeological resources. Subsequent Phase 1B testing was undertaken at three small areas within the APE. The testing resulted in the identification of three sites, however none of the identified sites contain archaeological deposits that are likely to rise to the level of National

Register eligibility and no additional archaeological work was recommended. The CT SHPO concurred with the findings of the study (see Appendix E).

4.11.2 Environmental Consequences and Mitigation

4.11.2.1 Above-Ground Historic Resources

CTDOT made, and the CT SHPO concurred with, the following effects findings and mitigation recommendations for above-ground historic resources (see Appendix E):

- **Bigelow-Hartford Carpet Mills:** The proposed Project would have no physical effect on the historic carpet mills. However, a portion of the existing Bigelow Commons parking area would be incorporated into station parking. In cooperation with the property owner, compensatory parking and/or compensation to construct additional parking on the property, for which there is room, would be provided, thereby avoiding any impact on the complex's economic viability. A finding of No Adverse Effect was made.

- **Bigelow-Hartford Carpet Mills Historic District**: The backyards of the contributing houses on the north side of Asnuntuck Street face the site of Lot 2 on the south side of Main Street. Because of the heavily wooded deep ravine through which Freshwater Brook flows, Lot 2 would have minimal visibility from the historic district.

  Lot 2 would also have minimal visual impact on the contributing ca. 1880 brick commercial building at 78 Main Street, due to the wooded area east of the lot, the building's distance from the proposed parking and the fact that the building faces the northeast, away from Lot 2.

  The discontinuance of Asnuntuck Street east of the railroad underpass and the construction of a turnaround would have little or no physical or visual impact on the historic district. When it was first constructed, Asnuntuck Street initially extended as far as the underpass, the original purpose of which was to provide access for factory buildings on the south side of Freshwater Brook. In the early 20th century, the factory buildings were removed, Asnuntuck Street extended to serve new company housing, and the present dogleg constructed to line up with the underpass. No buildings within the district would be affected by the proposed Project, and nearly all of the proposed turnaround would occur within currently paved areas at the extreme western edge of the historic district. As currently planned, a small acquisition of a vegetated strip from a property north of the intersection of Asnuntuck Street and Cottage Green which contributes to the historic district would be needed for the turnaround. The anticipated acquisition of approximately 300 sf on the far corner from the contributing structure would represent approximately one percent of the total lot area.

  Track improvements within the railroad ROW would require slope easements of up to 10 feet deep along the back of five residential structures on Cottage Green, all contributing elements to the historic district. These easements are at least 25 feet from the contributing

structures on the properties and would have little physical or visual impact on the historic district.

- **New Haven-Hartford-Springfield Rail Line Linear Historic District**: At Freshwater Brook, the new platforms and platform railings could be somewhat visible above the existing railroad bridge, as would the low retaining walls needed for the improved track structure. However, the retaining walls would be built 25 feet to 30 feet back from the plane of the Freshwater Brook railroad bridge's masonry headwalls and at an elevation 12 feet to 20 feet above the headwalls, so the visual impact to the bridge would be minimal. The brick and stone masonry of the headwalls, arch and wing walls are what contribute to the overall rail line as a National Register-eligible linear historic district, and there would be no effect on these elements from the Project. A finding of No Adverse Effect was made for this project element.

  The Main Street overpass would be rebuilt to accommodate an improved two-track structure and lengthened for pedestrian access. Because it is a continuation of the overpass's north abutment, the brownstone retaining wall would need to be removed. Removal of the wall was determined to be an Adverse Effect to the National Register-eligible linear historic district. State-level written and photographic documentation of the wall, to be added to the similar documentation of bridges and culverts completed for other Hartford Line Rail Program elements, would be conducted as mitigation for the adverse effect.

There would be no significant impacts to historic resources.

4.11.2.2 Archaeological Resources

There would be no effects to archaeological resources in the APE because no National Register-eligible resources were identified.

4.12 Visual Resources and Quality

The following visual assessment provides a description of the visual setting, key visual features that contribute to its visual quality, and viewer groups that may experience visual changes. The analysis then considers changes that may occur as a result of the Project, including potential light emissions. Although the Project is not an FHWA initiative, the analysis incorporates principals of FHWA's guidance for visual impact assessment, as its methodology provides an evaluation framework that can be adapted for other types of transportation projects, especially linear corridors.[67]

For the purpose of the visual resources analysis, the Study Area is defined as land within 500 feet of the Project Site, excluding those areas of proposed track improvements where there would be less than a one-foot increase in the grade of the track and no other activity (see

[67] ICF International. *Guidelines for the Visual Impact Assessment of Federal Highway Projects.* 2015.

Figure 16). The Study Area represents the probable range of visual impact for the Project, given the nature and scale of the improvements.

4.12.1 Affected Environment

4.12.1.1 Project Setting and Key Visual Resources

The Visual Resources Study Area is within a low- to medium-density residential village setting that includes small-scale retail and light industrial land uses. The rail corridor is the most prominent infrastructure feature in the area. Bigelow Commons, the historic Bigelow-Hartford Carpet Mill, lies immediately east of the Project Site north of Main Street. It is comprised of several multi-story brick buildings that have been converted to residential and commercial uses, as well as associated parking. A combination of low-scale residential and commercial structures, with portions lying within the Bigelow-Hartford Carpet Mills Historic District, abut the eastern side of the rail corridor south of Main Street. One- to three-story residential properties also line South River Street, south of Main Street between the rail line and the Connecticut River. North of Main Street and west of the rail corridor, the land is undeveloped in the Study Area, with the exception of the abandoned Eversource facility at the corner of Main and North River Streets. The Eversource facility includes a large, approximately three-story steel-clad building with an approximately 100-foot-tall cylindrical stack. The rail bed is elevated throughout the Study Area and consequently interrupts views of the Connecticut riverfront from most locations east of the rail corridor. Substantially forested embankments line the Connecticut River, Freshwater Brook and segments of the rail corridor.

Key visual resources in the Study Area which contribute to its visual character include the Main Street railroad bridge and its brownstone retaining wall, the Bigelow-Hartford Carpet Mill (Bigelow Commons), the buildings comprising the Bigelow-Hartford Carpet Mills Historic District, the Freshwater Brook railroad bridge and the Connecticut River. Visual conditions, including select visual resources, are shown in **Figure 17**. **Figure 16** shows the viewpoint locations for the photographs in **Figure 17**.

Figure 16 Visual Resources Study Area and Viewpoints

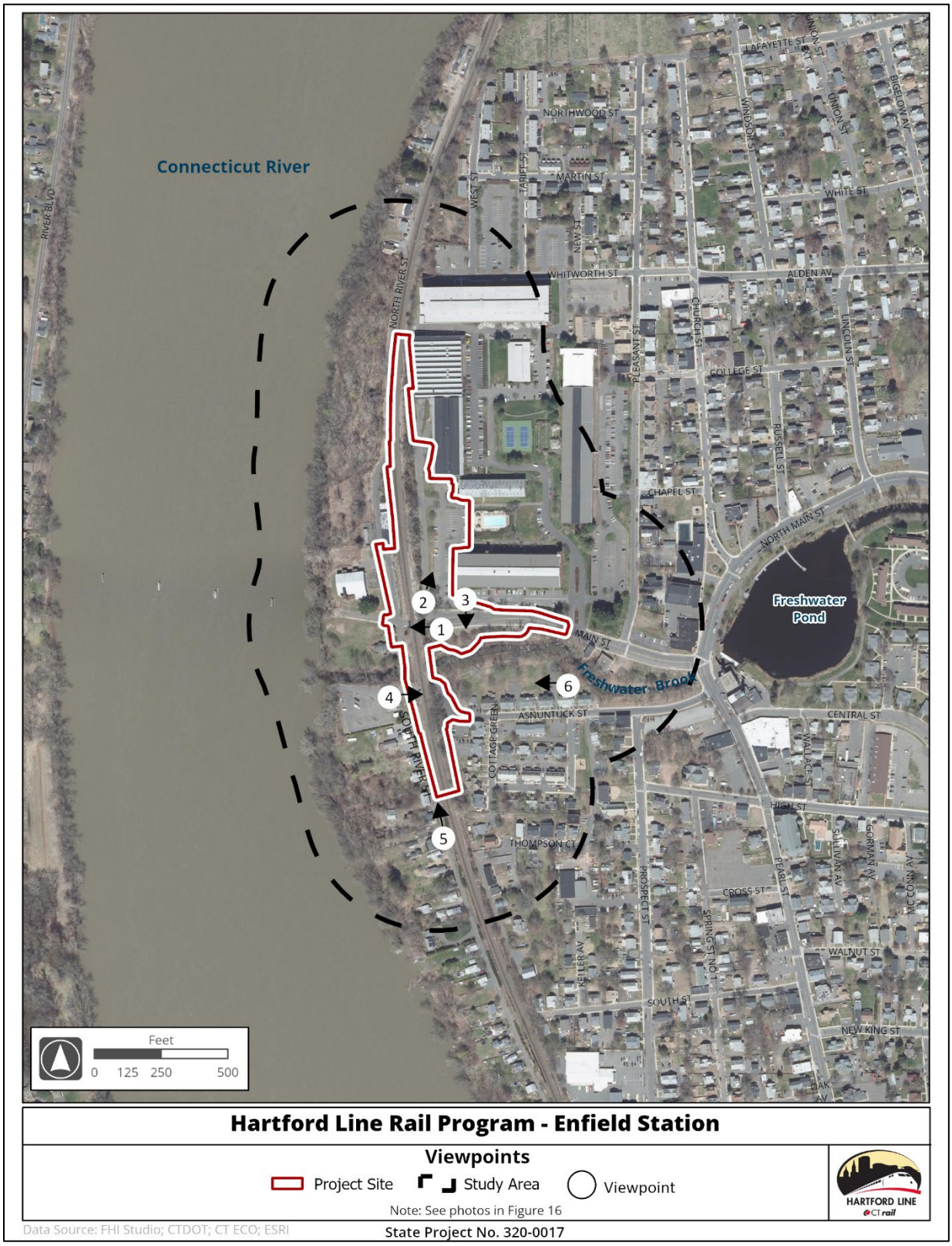


Figure 17 Visual Conditions in the Study Area

1. Brownstone Wall on Main Street looking west.

2. One of several Bigelow Commons residential buildings, looking northeast from the Project Site.

3. Town-owned parcel on Main Street.

4. Asnuntuck Street looking east from South River Street.

5. The rail corridor (at right) is elevated and visually prominent in the Study Area.

6. View west on Asnuntuck Street in Bigelow-Hartford Carpet Mills Historic District towards rail corridor.

4.12.1.1 Viewer Groups

Viewer groups potentially affected by, and sensitive to, visual changes in the Study Area are primarily residents living in the immediate surroundings. Residents in the Study Area that would have the greatest exposure to visual changes include those residing in Bigelow Commons, adjacent to the proposed Station, those residing on Asnuntuck Street near the rail line and those living on South River Street near its intersection with Main Street. In addition, those living further south along the rail corridor could experience slight changes in visual conditions associated with the trackwork. Visitors to public amenities such as the Donald W. Barnes Boat Launch on South River Street would also have a view of visual changes on their approach to the boat launch from Main Street.

4.12.2 Environmental Consequences and Mitigation

As described in Chapter 3 Alternatives Considered, the proposed Project would construct a new station along, and largely within the ROW of, an existing rail corridor. While the new Station building, platform and surrounding facilities and amenities would be visible to residents of Bigelow Commons, the Station would be in accordance with the existing rail use and the predominant materials (brick and glass) would be consistent with those in the Bigelow Commons buildings. Dark sky compliant fixtures would be employed to minimize lighting impacts at the Station and in the parking lots, and lighting would be directed downwards. While a portion of the Bigelow Commons lot would be converted to Station parking, it would not result in substantive visual changes, as the parking use would remain. Although the Project would result in the removal of some trees on the Town-owned parcel for the construction of Lot 2, tree cover would remain along the edge of the lot, such that visual conditions would not be substantively altered.

Reconstruction of the Main Street railroad bridge would result in removal of the existing brownstone abutment wall and construction of new abutment walls, new wing walls and a new superstructure. The bridge improvements would increase the vertical clearance by approximately one foot and increase the horizontal clearance by approximately nine feet. As a result, the bridge would be more visually prominent as seen from Main Street, Bigelow Commons Building 1 and residences near the intersection of Main Street and South River Street.

In addition to the construction of the Station and ancillary facilities, the proposed Project includes the construction of a 102-foot-long concrete retaining wall on both sides of the track bed located approximately 20 feet above the Freshwater Brook railroad bridge. The wall would be located near the edge of the track bed on both sides and would be offset, in the direction of the rail bed, from the Freshwater Brook railroad bridge by approximately 20 feet on both sides. The wall would range in height from one foot to five feet, would be capped by a steel railing and would be visible from South River Street. It could also be visible from Main Street and Asnuntuck Streets during winter leaf-off conditions. Although it would be a new visual element in the landscape, it would not obstruct views of key visual features in the landscape, such as the

Connecticut River and the Bigelow-Hartford Carpet Mills Historic District, as such views are already blocked by the elevated rail line. The retaining wall also wouldn't obstruct views of the Freshwater Brook railroad bridge.

The closure of Asnuntuck Street would also be visible from several residences on South River and Asnuntuck Streets, but the closure would not obstruct views to or from the river along Asnuntuck because the vista is obscured by the sharp turn of the roadway immediately east of the rail line.

An increase in grade of one to two feet would occur along approximately 1,800 linear feet of track between Cottage Green and Bigelow Commons Building 6, making the track and rail bed more visible from neighboring properties. Visual impacts would likely be experienced by residents of properties that abut or face this segment of track. This includes residents of dwellings on the west side of South River Street, west side of Cottage Green, west end of Thompson Court, west side of North River Street and residents of Bigelow Commons that reside in units with an unobstructed westerly view. However, impacts are anticipated to be relatively minor, as the change in elevation would be slight and views of key visual features in the landscape are already obscured by the elevated rail line. Overall, the proposed Project is not anticipated to diminish visual quality within the Study Area.

There would be no significant impacts to visual resources or quality.

4.13 Section 4(f)

Under Section 4(f) of the Department of Transportation Act of 1966, 49 USC 303, as amended, federal transportation agencies cannot approve an undertaking that uses land from a significant public park, recreation area, wildlife or waterfowl refuge, or historic site unless the agency determines that there is no feasible or prudent avoidance alternative to the use of that property and that the proposed Project includes all feasible planning to minimize harm to the property resulting from its use; or the agency determines that the use, including any measures to minimize harm, would ultimately have a *de minimis* impact on the property.

Subject to a determination of applicability under 23 CFR 774.11, and in accordance with certain exceptions defined at 23 CFR 774.13, the use of a Section 4(f) property occurs when:

1. Land is permanently incorporated into a transportation facility;
2. There is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose as determined by the criteria set forth at 23 CFR 774.13(d); or
3. There is a constructive use of a Section 4(f) property as determined by the criteria set forth at 23 CFR 774.15.

4.13.1 Affected Environment

The Study Area for Section 4(f) properties is identical to the APE for Cultural Resources. Section 4(f) recreational properties were screened through CT DEEP GIS; there are no public parks, recreation areas, or wildlife or waterfowl refuges in the Study Area; the closest such property is

the Donald W. Barnes Boat Launch, which lies over 100 feet outside the Study Area, to the west along the Connecticut River. Therefore, the only Section 4(f) properties in the Study Area are historic sites that are described in Section 4.11 Cultural Resources.

Section 4(f) historic sites in the Study Area include the Bigelow-Hartford Carpet Mills and the Bigelow-Hartford Mills Historic District. In addition, the rail line is a National Register-eligible linear historic district; two features within the Project Site are contributing elements to the rail line's eligibility: the Freshwater Brook railroad bridge, and the stone retaining wall on the north side of Main Street supporting the Main Street railroad bridge. These sites are described in Section 4.11 Cultural Resources. The locations of each of the sites are shown in **Figure 15**.

4.13.2 Environmental Consequences and Mitigation

Because the Project would improve a rail transit line that is in use, it meets the requirements for an exception for Section 4(f) approval found at CFR 774.13(a)(2); thus, no Section 4(f) approval is required for the removal of the stone retaining wall, a contributing element to the National Register-eligible New Haven-Hartford-Springfield Rail Line Linear Historic District.[68]

The Project requires the acquisition of a sliver of land from 7-9-11 Asnuntuck Street, a contributing property within the Bigelow-Hartford Mills Historic District, as described in Section 4.9.2.2 Property Acquisitions and Displacements (see Lot E in **Figure 13**). The area required from 7-9-11 Asnuntuck Street for the turnaround is a vegetated strip in the southwest corner of a residential lot, which is approximately 100 feet away and across a wide driveway/parking area from and to the side of the residential structure on the property. This use would be approximately 60 feet long and average five feet deep (approximately 300 sf) and is approximately one percent of the total lot area. Slope easements would also be required from the back of five residential structures, at 2, 10, 20, 24 and 32 Cottage Green, which contribute to the Bigelow-Hartford Mills Historic District. These properties are along the east side of the railroad ROW, as described in Section 4.9.2.2 Property Acquisitions and Displacements and shown in **Figure 13**. There would be no acquisition of these properties and the depth of the slope easement would be less than 10 feet. CTDOT determined and CT SHPO concurred that under Section 106 of the NHPA, the Project would not result in an adverse effect on the Bigelow-Hartford Carpet Mills Historic District. The CT SHPO was informed of CTDOT's intent to make a determination that the Section 4(f) use of the Bigelow-Hartford Carpet Mills Historic District, including the properties listed above, would be *de minimis*.[69] No mitigation is recommended.

The Project would have no physical effect on the Bigelow-Hartford Carpet Mills buildings, but it would require the incorporation of a portion of one of the facility's parking lots as Station parking, resulting in the net loss of approximately 65 parking spaces at the Bigelow Commons

[68] CFR 774.13(a)2.

[69] April 16, 2024 email from Kevin Fleming of Connecticut Department of Transportation to Catherine Labadia, Connecticut Deputy State Historic Preservation Officer.

complex. The CT SHPO concurred with CTDOT's determination that there would be no adverse effect to the Bigelow-Hartford Carpet Mills buildings or the District under Section 106. CT SHPO was informed of CTDOT's intent to make a determination that the Section 4(f) use would be *de minimis*.[70] No mitigation is recommended.

4.14 Transportation

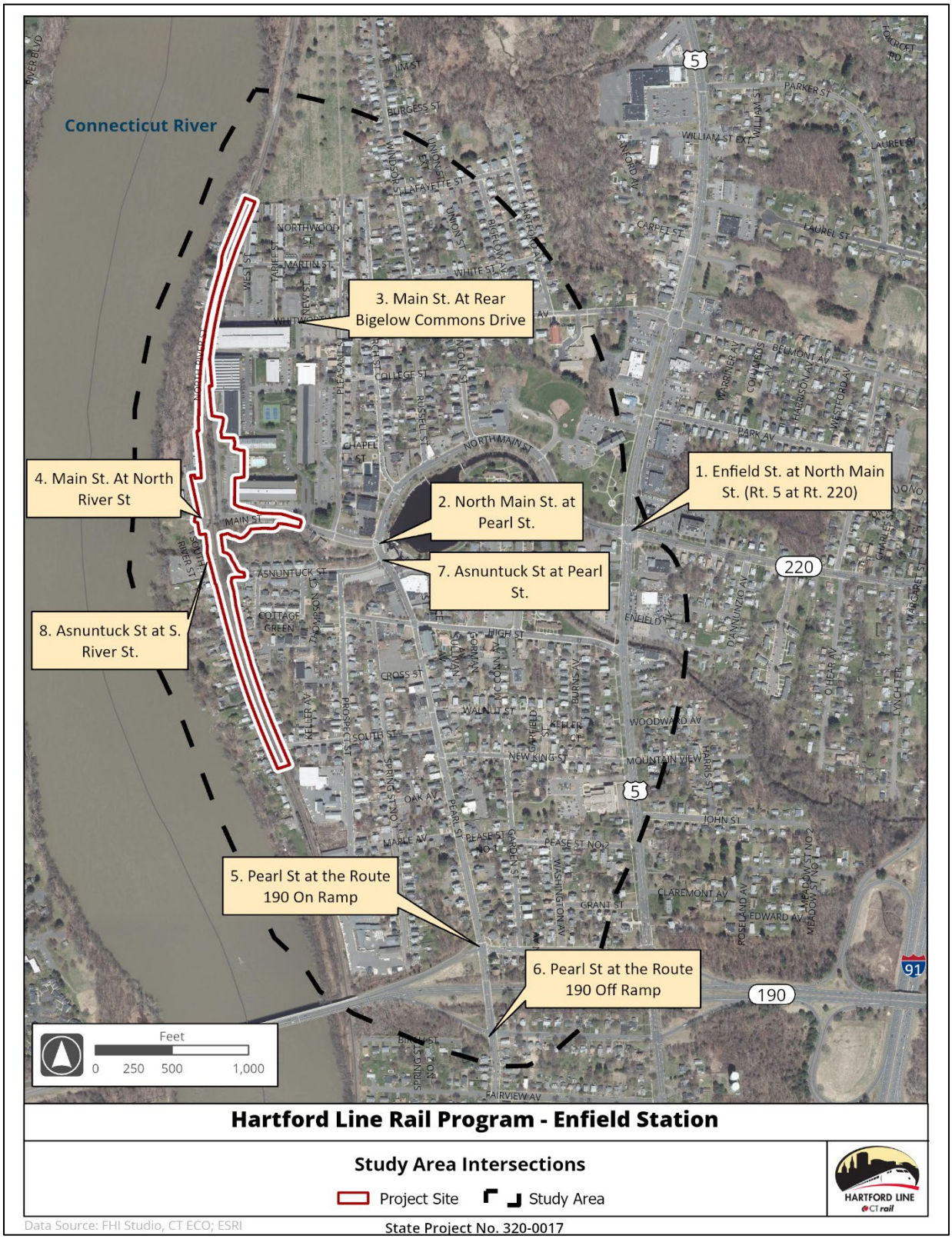
This section provides an evaluation of existing traffic operations (2023) and projected traffic operations for the design year (2030) for the No Action Alternative and the Proposed Action. The analysis is presented in further detail within the *Technical Paper for Enfield Station Traffic Operations Analysis* (2023), in Appendix F. The assessment evaluated the need, if any, for additional transportation infrastructure or improvements at the driveways and intersections in proximity to the proposed Station.

The Study Area was defined to include intersections that could be affected by the presence of the proposed Station (see **Figure 18**). Projected traffic volumes were developed by estimating background traffic growth for the Study Area and applying traffic volumes associated with planned development within the Study Area. Background traffic growth between the existing and projected analysis years was developed using CTDOT's statewide travel demand model, which uses trip generation, trip distribution, mode choice and travel assignment to forecast daily and peak hour traffic volumes.

Existing (2023) traffic conditions within the Study Area were evaluated through traffic counts and capacity analysis of intersections and station driveways, using Synchro 11 traffic analysis software. Traffic counts were collected and validated for the Study Area for the morning and evening peak hour. Each intersection was analyzed in terms of its capacity to accommodate existing traffic and future projected volumes as defined by the resulting levels of service (LOS), a measure of calculated delay and queueing. LOS ranges from LOS A (excellent) to LOS F (failing). Generally, LOS D is considered the threshold above which roadways and intersections must operate or be considered deficient. For this assessment, impacts were therefore defined as follows:

[70] April 16, 2024 email from Kevin Fleming of Connecticut Department of Transportation to Catherine Labadia, Connecticut Deputy State Historic Preservation Officer; concurrence received in April 17, 2024 email response.

Figure 18 Study Area Intersections



For intersections serving station driveways, if the level of service on any approach at the intersections shows LOS E or worse, then the intersection would be mitigated to improve approach levels of service to LOS D or better.

For intersections not serving station driveways (off-site intersections):

- If the Proposed Action causes any approach to deteriorate in levels of service (LOS E or worse), the intersection would be mitigated.
- If the Proposed Action maintains the same level of service (LOS E or worse) on any approach, the intersection would not be mitigated.

4.14.1 Affected Environment

The Project Site is located on Main Street in the Thompsonville section of Enfield. The Station would share a drive with the mixed-use Bigelow Commons complex, an adaptively renovated former industrial site. The traffic Study Area comprises one signalized intersection on Route 5 (Enfield Street) and several unsignalized intersections near the proposed Station. The Study Area intersections evaluated include:

1. Enfield Street (Route 5) at North Main Street/Elm Street (Route 220)
2. North Main Street/Pearl Street at Main Street
3. Main Street at the rear Bigelow Commons Drive (proposed for station access, called Station Drive)
4. Main Street at North River Street / South River Street
5. Pearl Street at the Route 190 On Ramp/Franklin Street
6. Pearl Street at the Route 190 Off Ramp/Frew Terrace
7. Asnuntuck Street at Pearl Street
8. Asnuntuck Street at South River Street

Route 5 is an important north-south arterial, connecting Enfield to both Hartford and Springfield, MA, roughly paralleling the Hartford Line corridor. Route 220 and Route 190 are east/west arterials, with Route 190 providing access from eastern Connecticut and continuing west across the Connecticut River to Suffield. Route 220 becomes North Main Street west of Route 5. Pearl Street is a local road connecting Route 190 and Main/North Main Street.

Routes 190 and 220 are major regional retail corridors, while Route 5 provides access to medium-scale commercial land uses in the vicinity of North Main Street. North Main and Pearl streets form the core of the historic mixed-use village center of Thompsonville. Main Street is mostly undeveloped to the south due to its proximity to Freshwater Brook, and Bigelow Commons abuts most of its length to the north. Along Main Street, between the Bigelow Commons rear drive and North River Road, there is an existing railroad overpass with low

vertical clearances (12 feet - 5 inches) and a narrow travel way (23-foot roadway and 5-foot sidewalk) between bridge abutments.

Asnuntuck Street is a mostly residential street paralleling Main Street south of Freshwater Brook. It connects Pearl Street to South River Street, crossing under the railroad through a narrow tunnel with low vertical clearances (7 feet - 6 inches). Between Main Street and Asnuntuck Street, a bridge carries South River Street over Freshwater Brook; this bridge was reconstructed in the Fall of 2023. Main Street and Asnuntuck Street are the only access points to the North and South River Street neighborhoods west of the railroad tracks.

4.14.2 Environmental Consequences and Mitigation

Potential impacts were determined by projecting traffic volumes associated with the proposed Project at each intersection for the design year 2030. These incremental volumes were added to the 2030 traffic volumes for the No Action Alternative. Under the No Action Alternative, no Station or rail service would be provided to Enfield. Solely background traffic growth associated with existing and planned uses within the Study Area was considered for the No Action Alternative. The results of the analysis are summarized in **Table 9** below.

All Study Area intersections would continue to operate at an overall LOS C or better in both peak hours, with the exception of Route 5 at North Main Street, which degrades slightly from LOS C to D in the PM peak hour. In the PM peak hour, the southbound Route 5 left turn onto Elm Street would degrade from LOS D to E due to additional actuated green time provided to eastbound North Main Street to serve new traffic traveling from the Station site, thereby reducing the percentage of green time available for this left-turn movement. However, overall, the southbound approach would continue to operate at LOS D conditions, as shown in **Table 9**, and this would not be considered an adverse impact.

Traffic volumes using the Asnuntuck Street tunnel and Main Street underpass are very low; up to approximately 10 vehicles per hour per direction travel to/from the South River Street neighborhood during the AM and PM peak hours. Main Street traffic volumes are slightly higher, processing between 20 and 30 vehicles per hour per direction to/from the South River Street neighborhood during the AM and PM peak hours. Analysis shows that closing the Asnuntuck Street tunnel and consolidating this traffic onto Main Street would not result in any congestion.

Table 9 Intersection LOS under No Action Alternative and Proposed Action (AM and PM Peak Hour)

Intersection	Intersection Type	Existing 2023 Conditions (AM/PM)	2030 No Build Alternative (AM/PM)	2030 Build Alternative (AM/PM)
Enfield Street (Route 5) at North Main Street/Elm Street (Route 220)	Traffic Signal	C/C	C/C	C/D
North Main Street/Pearl Street at Main Street	TWSC	A/A	A/A	A/A
Main Street at the rear Bigelow Commons drive (proposed for station access called Station Drive)	TWSC	-/-	-/-	A/A
Main Street at North River Street/ South River Street	AWSC	A/A	A/A	A/A
Pearl Street at the Route 190 On Ramp/Franklin Street	AWSC	B/B	B/B	B/B
Pearl Street at the Route 190 Off Ramp/Frew Terrace	AWSC	B/B	B/B	B/B
Asnuntuck Street at Pearl Street	TWSC	A/A	A/A	A/A
Asnuntuck Street at South River Street	AWSC	A/A	A/A	A/A

Source: *Technical Paper for Enfield Station Traffic Operations Analysis* (2023)
TWSC=Two-way stop-controlled AWSC=All-way stop-controlled

Further, through vehicles, including those pulling boats to the public launch site, would be removed from the residential neighborhood east of the Asnuntuck Street tunnel, potentially improving conditions for residents. For all traffic approaching the waterfront from North Main Street or Pearl Street, using Main Street rather than Asnuntuck Street to access South River Road or the boat launch would only add a minimal 300 feet to the drive or walk. Residents on Asnuntuck Street and in the neighborhood directly east of the tracks and south of Asnuntuck Street would have their walk, bicycle ride, or drive increased by up to approximately 2,000 feet to access South River Street. There is no sidewalk and the roadway narrows on the dogleg and underpass at the west end of Asnuntuck Street, so while the route to the west side of the rail line would be longer for some pedestrians and cyclists via Main Street, sidewalks are provided on both sides of the street and cyclist safety would be enhanced by use of the straight and wider roadway.

While there are no traffic or level of service impacts associated with closing the Asnuntuck Street tunnel or the diversion of all vehicle and pedestrian traffic to Main Street, the closure of Asnuntuck Street would reduce the number of access points across the railroad and leave the Main Street railroad underpass as the sole point of access to North and South River Streets. For this reason, contingency plans would be developed and implemented to address potential Main Street underpass road closure events associated with storm debris or road and bridge maintenance work to minimize and avoid temporary closures that would affect resident and emergency vehicle access.

Though closing the Asnuntuck Street tunnel would eliminate direct access to South River Street south of Freshwater Brook, the narrow width and height clearance of the tunnel already limits traffic to smaller personal vehicles or emergency vehicles using this access. Firetrucks, for instance, currently must use Main Street to access South River Street. Closing Asnuntuck Street would not directly impact firetruck access, and overall vehicular access would be improved following reconstruction of the Main Street railroad bridge. CTDOT is working with the Town of Enfield to determine whether special fire coverage may be required during the reconstruction of Main Street.

There would be no significant impacts to transportation.

4.15 Public Utilities and Energy Requirements

Locations of existing utilities that could be affected by the Project were determined through review of available survey-based mapping. The Study Area for the assessment of impacts to Public Utilities is the Project Site.

4.15.1 Affected Environment

Utilities in the Project Site that could be affected include sewer, gas, electric, cable, telephone and water. Underground electric, communications, gas and water utility lines in the Project Site were identified along Main Street. An underground Amtrak electrical utility is located along the existing track parallel to the proposed retaining wall. There is currently no electric service to the Station site. Trains along the rail corridor are powered by diesel locomotives.

4.15.2 Environmental Consequences and Mitigation

CTDOT is in ongoing coordination with utility providers to eliminate or minimize utility disruptions. The size and location of all utilities within the Project Site would be field verified prior to the start of construction. CTDOT has coordinated with Eversource, Connecticut Water and Frontier on the provision of electric, gas, water and communications utilities, respectively, within the Project Site.

The proposed Project would require new energy use to operate the proposed Station. It is expected operational energy requirements would not be substantial. The Station roof would be designed to accommodate solar panels in the future. Moreover, the Project would not impact the number or frequency of trains operating on the Hartford Line. CT*rail* currently offers eight

round trips daily between Springfield and Hartford that would stop at the proposed Station. It is expected that the Project would decrease energy use through increased rail ridership and a reduction in personal automobile use and therefore vehicle fuel consumption. Therefore, it is anticipated there would be minimal impact to local energy usage.

The construction phase would create a minimal increase in energy use. Construction activities associated with heavy equipment usage and movement of materials would require additional energy. The construction phase would not result in long-term impacts on energy use.

There would be no significant impacts to public utilities or significant increase in energy use.

4.16 Hazardous Materials

This section identifies the potential for hazardous materials to be on the Project Site and describes the potential impacts of the project. The USEPA and the CT DEEP regulate hazardous materials under the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and their respective amendments. RCRA regulates generators, transporters and the treatment, storage and disposal facilities of hazardous materials. RCRA defines these materials as having ignitability, corrosivity, reactivity, or toxicity. CERCLA provides a process to correct those sites already contaminated with hazardous substances.

4.16.1 Affected Environment

The proposed Station would be constructed primarily on the railroad ROW and Lots 1 and 2 would be constructed on portions of two former industrial sites. Most of the track and roadway improvements would occur primarily in the railroad and roadway. Two slivers of land would be acquired for roadway construction. Permanent slope easements on the property boundary adjacent to the roadway or track reconstruction, would occur on eleven properties: two vacant municipal parcels, two vacant industrial parcels and seven residential parcels. All the acquisitions and easements are discussed in Section 4.9.2.2 and **Table 6** and shown in **Figure 13**.

CTDOT conducted Phase I Environmental Site Assessments (Phase I ESAs) for thirteen of these properties. Phase II ESAs will be conducted for the partial acquisitions of former industrial properties at 55 Main Street (for Lot 1), Parcel 8-29 on Main Street (for Lot 2) and Parcel 8-27 on the corner of North River and Main Street (for roadway improvements). In addition, while no investigations were conducted, additional track and road work would occur in the rail and roadway ROWs and that both contain legacy contamination from standard usage. See legacy contamination discussion in Section 4.16.2 below. The Phase I ESAs identified areas of environmental concern (AOCs), which are “locations or areas at a site where hazardous waste and/or hazardous substances (including petroleum products) have been or may have been

used, stored, treated, handled, spilled and/or released to the environment."[71] No known Historical or Control Recognized Environmental Conditions (RECs) were identified during the Phase 1 ESAs. However, historical data indicates that there may be areas where hazardous materials may have been handled or are on the properties, as summarized below.[72]

- **55 Main Street, Bigelow Commons (A in Figure 13):** Prior to the current parking lot, this area was occupied by large mill buildings associated with the Bigelow-Sanford Carpet Mill. Between 1987 and 1999, concentrations of VOCs were detected in soil and groundwater in this area. While groundwater monitoring indicates that the VOC concentrations have been decreasing over time and are limited in area, it is possible that residual concentrations of VOCs may be encountered during excavation of soils. Logs from subsurface investigations identified various layers of fill material including slag, bricks, railroad ties, scrap metal pieces, ash and black-stained soils at various depths ranging from 0 to 5 feet below grade. As with any site where former buildings were present, there is potential for urban fill materials to remain in subsurface soils at the Site, which could contain elevated concentrations of metals, petroleum, volatiles, or other potential constituents of concern. Previously completed environmental investigations identified releases in other portions of the historic Carpet Mill, which is now Bigelow Commons, and it is possible that additional release(s) of petroleum, VOCs, or metals have occurred and have not been identified, or could be present on or migrate to the Project Site.

- **Parcel 8-29 and Parcel 24-50, Main Street (B and C, respectively, in Figure 13):** As the site of a former, demolished carpet mill buildings, there is potential on for urban fill materials to remain in subsurface soils on these vacant municipal properties, which could contain elevated concentrations of metals, petroleum, volatiles, or other potential constituents of concern. Subsurface investigations in 2018 confirmed that urban fill was observed on Parcel 8-29 at depths up to 9 feet and on Parcel 24-5 at depths up to 2 feet and in both cases, analysis of the soil indicated that soil was impacted with contaminants of concern at varying concentrations and in some instances exceeding regulatory clean up criteria. Based on the history of the properties, it is possible that

[71] 2010 Site Characterization Guidance Document, Connecticut Department of Energy and Environmental Protection, 2010. The definition of an AOC is generally consistent with the definition of a recognized environmental condition (REC) contained in Standard Practice for Environmental Site Assessments E 1527-21 developed by ATSM International (ASTM, 2021), but may also include additional areas where hazardous materials may have been handled even in the absence of release indicators.

[72] Historical RECs are past releases of hazardous substances or petroleum products that occurred in connection with the property and have been remediated to below "residential" standards and given regulatory closure with no use restrictions. Controlled RECs result from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

releases of chemicals or petroleum have occurred that would impact subsurface soil and groundwater conditions. In addition, due to historic adjacent uses, the potential exists for groundwater at these properties, to be impacted by operations at adjacent properties.

- **1 Asnuntuck Street (D in Figure 13):** Historically this vacant municipal property was occupied by a roadway; the potential exists for remnants of that roadway to remain in surficial soil and to contain historic urban fill materials such as ash, coal and asphalt fragments. A soil boring installed directly east of the site at the adjoining parcel contained urban fill materials and exceedances of soil clean-up criteria for PAHs and lead.

- **7-9-11 Asnuntuck Street (E in Figure 13):** Subsurface investigations conducted in 2018 indicated the presence of urban fill materials on the northwestern portion of this residential property and analytical results indicated that soil was impacted with COCs at concentrations exceeding regulatory clean up criteria. In addition, given the property's proximity to the rail line that has been present since the 1880s, residual pesticide and herbicide concentrations may be present in the soil along the western property boundary area.

- **2, 10, 20, 24, 32 and 38 Cottage Green and 24 Thompson Court (F through L in Figure 13, respectively):** While these properties have historically been and continue to be occupied by residential structures, the presence of the adjacent rail line since at least the late 1880s mean that it is possible that residual pesticide and herbicide concentrations may be present in the soil along the western property boundary, within the proposed project area. Although unlikely to be present at the edge of the property, as with any building constructed prior to that contains painted exterior surfaces, there is some potential that lead-containing paint chips or other hazardous building materials may have been introduced to the soil around the buildings.

- **19 and 21 North River Road and Parcel 8-27 (O, N and M in Figure 13, respectively):** A Phase I ESA was conducted for Parcel 8-27, from which a sliver of land along the western boundary may be acquired for alignment of North River Street with South River Street, which is currently under construction. The two vacant properties to the north (18 and 21 North River Road) may be affected by a permanent slope easement for the roadway realignment and were not subject to a Phase I ESA, but all three properties were owned by Connecticut Light & Power (now Eversource) and likely to have been similarly affected by the historical uses reported for Parcel 8-27. The main building on Parcel 8-27 operated as a gas turbine. Various spills identified on portions of the property are attributable to historical operations of the gas turbine plant and adjacent former transformer yard. Three former gasoline underground storage tanks were listed for Parcel 8-27 and no closure documentation exists for their removal. As with any tank

system, the potential exists for releases to shallow soils to occur due to overfills and for subsurface releases to occur due to leaking tanks or piping. Properties to the north and west were historically occupied by several different industrial businesses, including the Westfield Plate Company building to the northeast of North River Road. The potential exists for groundwater to be impacted by historical operations at these properties. As with any location in a heavily urbanized area where former structures have been razed, the potential exists for fill containing ash, coal and asphalt fragments to be present. In addition, given the property's proximity to the rail line, residual pesticide and herbicide concentrations may be present in the soil along the eastern property boundary area.

4.16.2 Environmental Consequences and Mitigation

Legacy contamination may be encountered during excavation in the railroad and roadway ROWs. Likewise, where constituents of concern are reported in areas of construction activity that includes disturbing soils, there is potential for encountering the constituents during construction. On the residential properties along the rail ROW that would be subject to slope easements, residual pesticide and herbicides used along the rail lines may be present, but soils on these sites would not be disturbed.

CTDOT would perform project work in accordance with State and Federal laws and accepted industry practices. This includes conducting additional evaluations where required, and developing plans, specifications and estimates for the removal, handling, transportation, reuse and/or proper disposal of the contaminated materials during construction. Contractors would be required to develop and implement appropriate Health and Safety protocols for construction workers in accordance with Occupational Safety and Health Administration (OSHA) guidelines. The potential for incidental exposure of construction workers to hazardous materials or contaminated conditions would be addressed prior to the commencement of construction, with the development of a site-specific hazardous materials management plan. Worker training would be completed prior to the start of construction, which would include approaches to minimize and avoid hazardous materials exposure and the safety steps to be taken if these materials are encountered. No significant hazardous material impacts are expected, however excavated material will be managed in accordance with the requirements of the currently-expired CT DEEP General Permit for Contaminated Soil and/or Sediment Management. Any contamination found on the project site will be managed in such a way as to prevent exposure of future rail station users in excess of regulatory limits. Railroad-related contamination on residential properties that are identified during either pre-construction investigations or during project construction will be remediated to residential standards within project sloping easements.

4.17 Safety and Security

FRA has primary authority over railroad safety and its regulations govern aspects of railroad safety, including rail operations, track and signaling (49 CFR 200-299). The State of Connecticut also plays a role in rail safety, especially at highway/rail at-grade crossings.

The State's emergency preparedness planning includes systems for responding in an appropriate, timely manner to natural hazards, emergencies and homeland security threat events. The *Connecticut State Rail Plan (2022-2026)* and *Connecticut's Statewide Long-Range Transportation Plan 2018-2050* identify rail-related strategies and actions for emergency preparedness to ensure the safety and security of rail passengers throughout the State rail system.[73] The requirements of the National Fire Protection Association (NFPA) supplement the requirements of the locally applicable codes for the design and construction of stations.

Emergency preparedness guidelines recommend that transit station design and construction provide for rapid patron evacuation and rapid emergency response personnel access for potential emergency scenarios. In addition, critical station egress and access paths should be identified in the planning phase and thereafter remain unobstructed. The Study Area for the assessment of impacts to Safety and Security is the Project Site.

4.17.1 Affected Environment

The ROW in the vicinity of the Project Site is not fenced. There are no grade crossings within the Project Site. The Amtrak Police Department (APD) is the primary law enforcement agency for the Amtrak Railroad. The APD provides the primary response to all incidents on the Hartford Line and coordinates response efforts with the Connecticut State Police and local police agencies in Connecticut.

4.17.2 Environmental Consequences and Mitigation

The proposed Project would be designed and constructed in accordance with state, local and NFPA emergency preparedness guidelines. The Project would include a fire alarm system and an emergency communications system with emergency telephones, public radio enhancement, passenger information display sign and security cameras, and the platforms, sidewalks and shelters would be well lit.

As part of the proposed Project, the Asnuntuck Street railroad bridge would be removed, and Asnuntuck Street would be closed where it currently passes under the rail line. The street's closure would reduce the number of access points across the railroad and leave the Main Street railroad underpass as the sole point of access to North and South River Streets. To avoid and minimize the effect on resident and emergency vehicle access, CTDOT is working with the town of Enfield on developing contingency plans to be implemented in the event of Main Street underpass road closure associated with storm debris or road and bridge maintenance work.

However, the narrow width and height clearance of the Asnuntuck Street tunnel already limits traffic to smaller emergency vehicles using this access and firetrucks currently use Main Street to access South River Street. Contingency plans would be developed and implemented to address potential road closure events such as from storm debris or road and bridge

[73] CTDOT, *Connecticut's Statewide Long-Range Transportation Plan 2018-2050,* March 2018*;* CTDOT, *Connecticut State Rail Plan (2022-2026),* November 2022*.*

maintenance work to minimize and avoid temporary closures that could affect resident and emergency vehicle access.

There are no grade crossings associated with the Project, and the frequency and speed of trains would not increase as a result of the Project; in fact, CT*rail* trains would slow to stop at the Station. Main Street below the bridge would be widened to accommodate sidewalks on both the north and south sides of the roadway, where there is currently just one sidewalk. The additional sidewalk would allow for safe pedestrian passage between the Station on the east side of the tracks and North and South River Streets and Lot 2 to the west. Sidewalks and designated crosswalks would provide pedestrian access from the main parking area, the bus drop-off and the kiss-and-ride to the shelter and Station platform.

Construction would be coordinated to maintain access for emergency vehicles at all times. CTDOT would evaluate the need for special fire coverage during the reconstruction of Main Street.

There would be no significant impacts to safety and security.

4.18 Environmental Justice

The Environmental Justice analysis identifies and addresses whether there are disproportionately high and adverse human health or environmental effects of the Project on minority populations and low-income populations per Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice Populations and Low-Income Populations."[74] EO 14096, "Revitalizing Our Nation's Commitment to Environmental Justice for All," was signed on April 21, 2023, to continue to address and advance environmental justice. This recently enacted Executive Order complements EO 12898, which remains in place, along with existing NEPA implementing procedures.[75] Minority populations and low-income populations, which are collectively referred to as "Environmental Justice (EJ) populations," were identified based on the 1997 CEQ guidance document, "Environmental Justice Guidance under the National

[74] E.O. 12898 of Feb 11, 1994.

[75] E.O. 14096—"Revitalizing Our Nation's Commitment to Environmental Justice for All" was enacted on April 21, 2023. E.O. 14096 on environmental justice does not rescind E.O. 12898 – "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," which has been in effect since February 11, 1994, and is currently implemented through DOT Order 5610.2C. This implementation will continue until further guidance is provided regarding the implementation of the new E.O. 14096 on environmental justice.

Environmental Policy Act."[76] The analysis adheres to guidance in FTA's circular "Environmental Justice Policy Guidance for Federal Transit Administration Recipients."[77]

USDOT Order 5610.2(c) establishes the Department of Transportation's updated policies to comply with EO 12898.[78] The Order provides the following definitions:

- Low-Income: A person whose median household income is at or below the Department of Health and Human Services poverty guidelines.
- Low-income population: Any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (e.g., migrant workers or Native Americans) who would be similarly affected by a proposed U.S. DOT program, policy, or activity.
- Minority: a person who is: Black, Hispanic or Latino, Asian American, American Indian and Alaskan Native, and Native Hawaiian and Other Pacific Islander.
- Minority population: Any readily identifiable group of minority persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons.

The Study Area for the Environmental Justice analysis encompasses the combined limits of the Study Areas for land use, socioeconomics, noise, visual resources, hazardous materials and transportation in order to ascertain whether impacts would disproportionately affect environmental justice populations.

4.18.1 Affected Environment

Data from the American Community Survey (ACS) 2017-2021 Five-Year Estimates was used to determine the presence of minority and low-income populations.[79] In the analysis, census block groups in which the percentage of minority or low-income populations is "meaningfully greater" than the general population were identified as EJ populations.[80]

Hartford County was used as the reference population for the general population. In Hartford County, the total minority population is 40.98 percent, and the total low-income population is 10.95 percent. If the minority and/or low-income population percentage within a block group

[76] Council on Environmental Quality, *Environmental Justice: Guidance under the National Environmental Policy Act,* December 1997.

[77] U.S. DOT FTA Circular FTA C 4703.1 "Environmental Justice Policy Guidance for Federal Transit Administration Recipients (August 15, 2012).

[78] U.S. DOT Order 5610.2 (c), U.S. DOT Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (May 16, 2021).

[79] U.S. Census Bureau American Community Surveys 5-Year Estimates, 2017-2021, Tables B03002 and B17021.

[80] For the purposes of this analysis, "meaningfully greater" is greater than the percentage in the reference population (Hartford County).

exceeds that of Hartford County, it was identified as an EJ population. **Table 10** summarizes the results of this analysis. **Figure 19** illustrates the location of the EJ block groups.

Table 10 Environmental Justice Block Groups (Hartford County, Connecticut)

Block Group	Minority Population*	Low-income Population*	EJ?
Block Group 2, Census Tract 4805	21.51%	5.90%	No
Block Group 1, Census Tract 4806	**55.25%**	**53.51%**	Yes
Block Group 2, Census Tract 4806	**57.94%**	**23.09%**	Yes
Block Group 3, Census Tract 4806	29.72%	**27.11%**	Yes
Block Group 4, Census Tract 4806	**55.63%**	**21.30%**	Yes
Block Group 1, Census Tract 4807	11.30%	**14.33%**	Yes
Block Group 2, Census Tract 4807	**55.24%**	**14.14%**	Yes

Source: U.S. Census Bureau

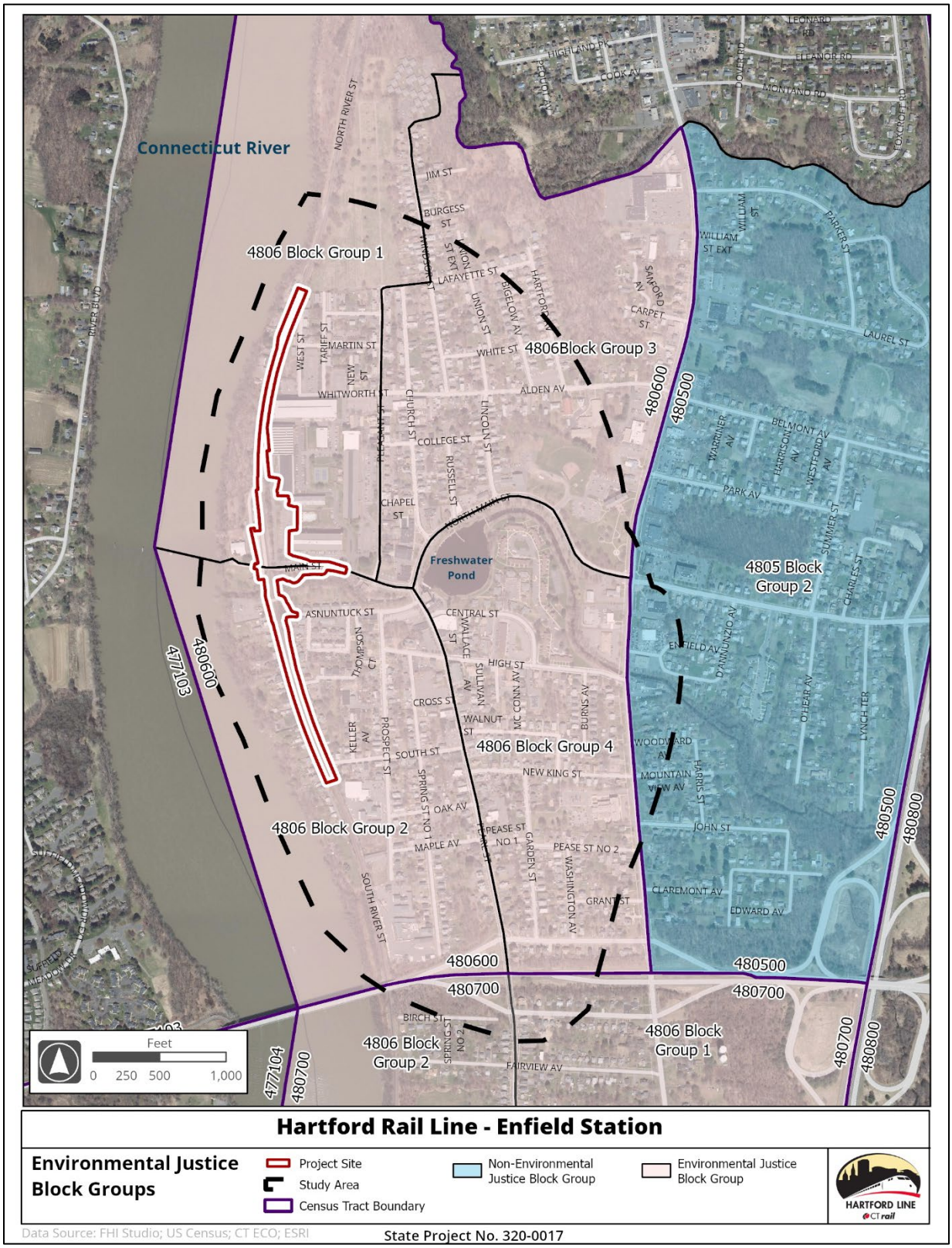
* In the Hartford County reference population, the total minority population is 40.98 percent, and the total low-income population is 10.95 percent. Block groups that exceed these percentages are shown in **bold.**

4.18.2 Environmental Consequences and Mitigation

Section 4.3 Air Quality discusses air quality impacts associated with the Project. Implementation of the proposed Project is not expected to result in adverse impacts to local or regional air quality. From 2025 through 2027, there would be an increase in net emissions due to construction activities associated with the proposed Project. There would also be an overall increase in operational emissions with the proposed Project due to increased motor vehicle operations from the new Station; however, the air quality assessment demonstrates that the Project would not cause an increase in air emissions above the applicable *de minimis* thresholds. Therefore, the proposed Project conforms to SIP and the federal CAA and would not create any new violations of the NAAQS, delay the attainment of any NAAQS, nor increase the frequency or severity of any existing violations of the NAAQS. EJ populations would not experience disproportionately high and adverse air quality impacts as a result of the Project.

The results of the noise and vibration analysis are discussed in Section 4.4 Noise and Vibration. Construction noise activities would not exceed the FTA or CTDOT criteria and construction vibration would not exceed the FTA vibration criteria. The noise from the two proposed parking areas associated with the operation of the Station would not cause any impacts because the noise-sensitive land uses within the Study Area are located outside the impact distances of the parking areas. Finally, the train horns from CTDOT trains leaving the Station and Amtrak/freight trains passing through the Station would not cause any impacts because the impact distance would not extend beyond the proposed Station's boundary. Therefore, EJ populations would not experience disproportionately high and adverse noise or vibration impacts as a result of the Project.

Figure 19 Environmental Justice Block Groups



Section 4.9.2.2 Property Acquisitions and Displacements identifies land acquisition required for the proposed Project. The Station would require acquisition of partial areas of the Bigelow Commons parking and a Town-owned parcel. It is anticipated that one residential sliver acquisition would also be required, as described in Section 4.9.2.2. However, the acquisition would represent approximately one percent of the lot and wouldn't affect the overall use of the property. Seven residential sliver slope easements would occur associated with the track improvements in an EJ block group; however, the easements would be less than ten feet deep and therefore have minimal impact on the use of the properties. No displacements or relocations of persons or businesses are anticipated, and property owners would receive fair market value for the acquisitions and/or easements. Therefore, EJ populations would not experience disproportionately high and adverse acquisition or displacement impacts as a result of the Project.

Section 4.12 Visual Resources and Quality discusses visual impacts in detail. Impacts from the Proposed Action would be minimal and are not anticipated to diminish visual quality within the Study Area. Therefore, EJ populations would not be adversely impacted by the Project.

The transportation analysis for the proposed Project is discussed in Section 4.14 Transportation. No adverse impacts are projected within the Study Area intersections as a result of the Project. Therefore, EJ populations would not be adversely impacted.

Section 4.16 Hazardous Materials discusses hazardous materials in detail. Legacy contaminants may be present in the railroad and roadway ROWs, and on the historically industrial non-residential properties on North River Road and Main Street on which construction would occur. At Bigelow Commons, groundwater monitoring in the 1980s and 1990s indicated that concentrations of VOCs have been decreasing over time but may still be present. At 7-9-11 Asnuntuck Street, contaminants were identified in 2018 testing. At all these sites, as well as 1 Asnuntuck Street, the potential exists for urban fill materials remaining in subsurface soils to contain elevated concentrations of constituents of concern. On the residential properties along the rail ROW that would be subject to slope easements, residual pesticide and herbicides used along the rail lines may be present, but soils on these sites would not be disturbed.

In summary, EJ populations would not experience disproportionately high and adverse impacts as a result of the Project. It is expected that the provision of a Station in Enfield would have beneficial impacts on EJ populations. The Station would provide greater mobility and employment opportunities to residents of communities throughout the corridor, benefiting all residents, including low-income and minority populations.

On October 4, 2023, a Public Information Meeting was held for the project. Notification to the community was undertaken through the media and the distribution of flyers. The flyers and newspaper notices were provided in English and Spanish. Additional detail is provided in Section 5.3 Public Involvement.

4.19 Cumulative Impacts

NEPA requires Federal agencies consider cumulative impacts of federal actions. A cumulative impact is the impact on the environment which results from the incremental impact of the Proposed Action when added to other past, present and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR § 1508.7).

The Proposed Action is the initial phase of the alternative evaluated in the Tier 1 EA; future construction impacts were previously evaluated in that document. The analysis that follows focuses on recently completed, current and reasonably foreseeable trends, events, actions and projects and the potential cumulative impacts to specific natural, social and cultural resources that would be affected by the Project. The analysis focuses on those resources where impacts have been identified. Since there would be no impacts, or impacts would be negligible to Noise, Floodplains, Watercourses, Water Quality, Protected Species, Visual Resources, Transportation, Energy Use and Safety and Security, these resources are not addressed in the analysis that follows. Cumulative effects are assessed for Cultural Resources, Land Use, Socioeconomics and Air Quality.

Past, present and reasonably foreseeable actions and projects considered in the cumulative impacts analysis include the recent zoning changes in the vicinity of the proposed Station site, completion of the other improvements proposed under the Hartford Line Rail Program, TOD at each of the Hartford Line Rail stations and the construction or renovation of the projects at 9 North Main Street, 92 Main Street and Union Square in Enfield.

The Project would require the removal of the brownstone retaining wall under the Main Street railroad bridge. While the Project could therefore contribute to an overall adverse cumulative impact to the linear historic district along the National Register-eligible Hartford Line Rail corridor when considered together with the other projects along the Hartford Line, the impacts are being addressed on a corridor-wide basis in consultation the CT SHPO. Mitigation for the loss of the wall would include State-level written and photographic documentation to be added to the similar documentation of bridges and culverts completed for other Hartford Line Rail corridor elements. With this mitigation, cumulative impacts would not be significant.

The Project, when considered with the other stations and improvements along the Hartford Line Rail corridor, could contribute to a beneficial cumulative impact to socioeconomic conditions in the region, as ridership increases, and new local development occurs. If this occurs, vacant land in the vicinity of the proposed Station could be developed.

There is the potential for a cumulative beneficial impact to air quality due to a reduction in automobile use as a result of the full build-out of the Hartford Line Rail Program.

4.20 Permits and Approvals

Table 11 below summarizes federal and state permits and approvals required for the Project. Permitting for the Project elements would be undertaken separately for the Station and track work, with CTDOT and Amtrak as the permit applicants, respectively. Permits and approvals listed in **Table 11** are required for both the Station and track work unless otherwise noted. Permits are required only for the station due to a portion of the outfall improvements occurring in or near regulated resource areas.

Table 11 Permits and Approvals

Federal/State Law	Approving Agency	Approval/Permit
National Environmental Policy Act (42 USC 4321 et seq.)	Federal Railroad Administration (FRA)	Review and Finding (to be fulfilled by this document)
Clean Air Act (42 USC 7401 et seq.)	FRA	General and Transportation Conformity Determination (fulfilled by this document)
National Historic Preservation Act (36 CFR 800)	CTDOT (as authorized by FRA) in consultation with CT SHPO	Section 106 Consultation
Section 7, Endangered Species Act (16 USC 1531 et seq.)	NOAA NMFS/USFWS	Section 7 Consultation
Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801 et seq.)	NOAA NMFS	Essential Fish Habitat Consultation*
Clean Water Act Section 404	USACE	Section 404 Pre-Construction Notification*
Connecticut Endangered Species Act (CGS Section 26-303)	CT DEEP	Natural Diversity Database review and approval
Clean Water Act (33 USC 1341); Connecticut Surface Water Quality Standards (CGS Section 221-426)	CT DEEP	Section 401 Water Quality Certification CT GP Addendum*
Connecticut Flood Management Program (CGS Sections 25-68b - 25-68h)	CT DEEP	Flood Management Certification*
CGS Section 22a-36 to 22a-45	CT DEEP	Inland Wetland General Permit* (includes CTDEEP Fisheries Coordination)

Federal/State Law	Approving Agency	Approval/Permit
Clean Water Act (33 USC 1342); General Conditions Applicable to Water Discharge Permits and Procedures and Criteria for Issuing Water Discharge Permits (CGS Section 22a-430b)	CT DEEP	General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activity (includes MS4 review)
CGS Section 22a-134, Hazardous Materials	CT DEEP	CT DEEP General Permit for Contaminated Soil and/or Sediment Management

* Required for Station permitting only.

4.21 Summary of Impacts and Mitigation

CTDOT will complete the commitments and mitigation summarized in **Table 12** below during design and construction of the Project.

Table 12 Environmental Commitments and Mitigation[81]

Resource	Significant Impact?	Mitigation Measures or Commitments
Air Quality	No.	Employ the BMPs detailed in CTDOT's *Standard Specification for Roads, Bridges, Facilities, and Incidental Construction* publication.
Noise and Vibration	No.	Limit the types of nighttime activities, and restrict nighttime activities to the railroad ROW
Floodplains	No.	Not Required
Wetlands and Watercourses	No.	• Deploy silt fencing and a cofferdam during improvements to the outlet at Freshwater Brook to protect the watercourse. • Site construction access areas outside jurisdictional resources to the extent practicable. • Restore temporary impact areas.

[81] The following resources are not present on the Project Site or there is no potential for impacts. They have therefore been omitted from the table: topography and geology; navigable waterways; coastal resources; Wild and Scenic Rivers; Prime and Unique Farmlands; and Section 6(f) resources.

Resource	Significant Impact?	Mitigation Measures or Commitments
Water Quality	No.	• Dust control measures. • On-site underground detention. • Incorporation of a rain garden/bioretention area. • Hydrodynamic separator at a point prior to discharge. • Deep sumps at select locations. • Conform with 2023 *Connecticut Stormwater Quality Manual* and 2023 *Guidelines for Soil Erosion and Sediment Control*. • Provide outlet protection at the Freshwater Brook culvert outfall. • Provide inlet protection at culverts. • Install ballasted drainage swales. • Provide slope protection (crushed stone or turf). • Install, use and maintain combined silt fencing and haybale erosion and sedimentation control around other work areas. • Store construction materials outside of flood-prone areas. • Conduct vehicle re-fueling and servicing at a location outside of the watercourse. • Conduct proper care and maintenance of vehicles and equipment. • Restrict all unconfined in-water work from June 1 to September 30 (in compliance with state and federal requirements).
Protected Species	No.	• Restrict all unconfined instream work within Freshwater Brook to the period from June 1 to September 30. • Restrict installation and removal of any in-water soil erosion, sediment and turbidity controls between April 1 and June 30.
Land Use	No.	Not required.
Socioeconomics	No.	Compensation for acquisition of property and slope easements.
Section 106 Historic Properties	No.[82]	Prepare State-level written and photographic documentation of the stone wall north of Main Street at the Main Street railroad bridge.
Visual Resources and Quality	No.	Not required.
Section 4(f) Properties	No.	*De Minimis* impact determination made with concurrence from OWJ; no mitigation warranted.
Transportation	No	• Develop and implement contingency plans to address potential road closure events such as storm debris or road and bridge maintenance work to minimize and avoid temporary closures that would affect resident and emergency vehicle access. • Coordinate with the Town of Enfield to determine whether special fire coverage may be required during the reconstruction of Main Street. • Coordinate with neighborhoods, businesses and transit providers in subsequent design phases to minimize impacts to the extent possible.

[82] Impacts not significant after mitigating for adverse effect.

Resource	Significant Impact?	Mitigation Measures or Commitments
Public Utilities and Energy Requirements	No.	Not required.
Hazardous Materials	No.	• Perform construction and excavation activities in accordance with requirements of CT DEEP General Permit for Contaminated Soil and/or Sediment Management • Contractors to develop and implement appropriate Health and Safety protocols for construction workers
Safety and Security	No.	• Ensure the Project is designed and constructed in accordance with state, local and NFPA emergency preparedness guidelines. • Coordinate with the Town of Enfield prior to and during construction to maintain access at all times for emergency vehicles.
Environmental Justice	No.	Not required.

5 Public Involvement and Agency Coordination

This section describes public involvement and agency coordination for the Project, including a summary of early Hartford Line Program-wide activity and activity during the Tier 1 EA, as well as activity specifically associated with the preparation of this EA. Engagement materials are provided in Appendix G.

5.1 Hartford Line Early Coordination and Tier 1 EA

In 2012, the Tier 1 EA documented agency coordination conducted for the NEPA/CEPA EA/EIE process and an overview of public involvement associated with the Hartford Line Rail Program (then NHHS Program) since 2005. In 2002, a Steering Committee was established to oversee an Implementation Study for the Hartford Line. The Steering Committee included representatives from each community along the rail line, including Enfield, as well as representatives of state and federal transportation and environmental agencies, freight railroads, Amtrak, regional planning agencies and others. Steering committee meetings held in 2002 to 2004 were open to the public and ten public meetings were held between April 2003 and November 2004, including two in Enfield. CTDOT continuously engaged the public during the public involvement effort for the 2005 Implementation Study and subsequently. During preparation of the 2010 Environmental Review Document, four public meetings were held in Hartford Line communities in December 2008 and ten local official meetings were held in early 2009, including in Enfield. An additional five public meetings were held during the 2030 Vision Plan.

For the Tier 1 EA, opportunities for public involvement were provided through scoping meetings, hearings and a comment period on the Draft Tier 1 EA before a decision concerning the Tier 1 EA was made. Two public information meetings were held in 2011 (including one near Enfield in Windsor Locks) and meetings were held with local officials in each community along the rail line, including Enfield. In addition, outreach activities included a website, mailing list, newsletters and regular press releases. The project website has been continuously active since the Tier 1 EA was completed, providing updates on planning and construction activity for the Hartford Line.

Agency coordination and public involvement for this Tier 2 EA were conducted in accordance with NEPA. A Public Involvement Plan was developed as part of the EA process to initiate interagency consultations and to inform the public and receive input the public may have regarding Enfield Station, respectively.

5.2 Agency Coordination

FRA is the Lead Agency for the environmental review pursuant to NEPA. The FRA has overall responsibility for facilitating completion of the environmental review process, reviewing the EA and issuing the decision document. FTA and HUD are Cooperating Agencies for the EA participating in and providing support for the environmental review because like FRA, they have

offered funding to construct the proposed Station and associated improvements. FTA and HUD have participated in administrative review and comment on the EA prior to its publication and will participate in the Findings of the EA.

Agencies with an interest in the environmental impacts that may result with implementation of the Project have been consulted regarding resources over which they have jurisdiction and will have the opportunity to review and provide comments on the EA. These agencies include:

- CT DEEP
- CT SHPO
- Town of Enfield
- USFWS
- NOAA

5.3 Public Involvement

5.3.1 Public Information Meeting

CTDOT hosted a public information meeting on October 4, 2023, to provide an overview of the proposed Project, explain the NEPA process and future opportunities for review and comment, and offer the opportunity to ask questions and provide comments. The meeting was a hybrid format held in-person at Enfield Town Hall, an ADA accessible venue, and online via Zoom with a dial-in option. There were a total of 49 attendees; 25 attended in person and 24 joined virtually via Zoom. Approximately 40 comments or questions were made by participants in the meeting either in person or via Zoom.

5.3.2 Methods of Notification

CTDOT used a variety of notification techniques to encourage attendance at the public meetings and continued participation in the Project as discussed below.

5.3.2.1 Flyers

Flyers for the public meeting were posted during the week of September 25, 2023, at the locations provided in **Table 13.** An English version and a Spanish version of the public meeting flyer were posted at each location.

Table 13 Public Meeting Flyer Drop Locations

Location Name	Address
Enfield Public Library	104 Middle Rd, Enfield, CT 06082
Somers Public Library	2 Vision Blvd, Somers, CT 06071
Richard Salter Storrs Library	693 Longmeadow St, Longmeadow, MA 01106
Pearl Street Library	159 Pearl St, Enfield, CT 06082
Bigelow Commons	55 Main St, Enfield, CT 06082
Enfield Senior Center	299 Elm St, Enfield, CT 06082
Local Retail Outlet Community Bulletin Boards	Various locations
Hartford Line Train Stations	Various locations
Enfield Magic Carpet Buses, Stops & Demand Service	Various locations

5.3.2.2 Advertisements

Advertisements for the public meeting were issued in the publications and on the dates provided in **Table 14**.

Table 14 Public Meeting Advertisements

Publication	Date
La Voz Hispana Advertisement	September 21, 2023
Journal Inquirer Advertisement	September 22, 2023
Journal Inquirer	September 25, 2023
La Voz Hispana	September 28, 2023
Hartford Courant	September 28, 2023
Hartford Courant	October 1, 2023

5.3.2.3 Additional Outlets

Additional notification of the public meeting was published via the following outlets:

- 107.7 WACC broadcasted the flyer starting on Wednesday, September 27, 2023, until Wednesday, October 4, 2023;
- Enfield Public Television broadcasted the flyer on their bulletin starting on Friday, September 22, 2023, through Wednesday, October 4, 2023;
- A Patch event page went live week of September 18, 2023;
- The public information flyer was posted on Facebook and LinkedIn during the week of September 18, 2023;
- The public information flyer was posted to the NHHS Rail Event Page and CT Gov Event Page.

5.3.3 *Project Webpage and Email List*

A Project webpage was developed by CTDOT to provide an overview of the Project at https://www.nhhsrail.com/stayinformed. A recording of the public meeting and associated content is hosted on the webpage. An email list is maintained to solicit comments and inform interested parties about the EA process info@nhhsrail.com.

5.3.4 *Public Comments*

Public comments will continue to be solicited from interested parties throughout the EA process. Opportunities for comments have been provided via forms at the in-person public meeting, email and webpage thus far. CTDOT maintains a record of all comments received through an online database.

5.3.5 *EA Availability Notification*

The Enfield Station EA was published in May 2024 for a 30-day public comment period. The input received via this process will inform preparation of the FONSI.

The Notice of Availability was published via the following outlets:

- La Voz Hispana
- Journal Inquirer
- Hartford Courant
- Local news websites
- Patch
- Town of Enfield Website
- Email list

The EA is available online on the Project webpage. Physical copies are available at the locations listed in **Table 15** below.

Table 15 EA Physical Locations

Location Name	Address
Enfield Public Library	104 Middle Road, Enfield, CT 06082
Somers Public Library	2 Vision Boulevard, Somers, CT 06071
Richard Salter Storrs Library	693 Longmeadow Street, Longmeadow, MA 01106

6 List of Preparers

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