

**DRAFT CONNECTICUT ENVIRONMENTAL IMPACT EVALUATION
Prepared pursuant to Regulations of Connecticut State Agencies
Section 22a-1a-1 to 12, inclusive**

FOR

**BRANFORD SHORE LINE EAST RAILROAD STATION
BRANFORD, CONNECTICUT**

STATE PROJECT NOS. 310-0047 AND 310-0048

*** * ***

Prepared for:
THE CONNECTICUT DEPARTMENT OF TRANSPORTATION

July, 2008

Approved for circulation:

For Connecticut Department of Transportation

Date

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ACRONYMS AND ABBREVIATIONS

ACOE	U.S. Army Corps of Engineers
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
BMPs	Best Management Practices
CCMA	Connecticut Coastal Management Act
C&D Plan	Conservation and Development Policies Plan for Connecticut (2005-2010)
CEPA	Connecticut Environmental Policy Act
CERC	Connecticut Economic Resource Center
CGS	Connecticut General Statutes
CL&P	Connecticut Light and Power
CO	Carbon Monoxide
ConnDOT	Connecticut Department of Transportation
CTDEP	Connecticut Department of Environmental Protection
CTDPH	Connecticut Department of Public Health
EIE	Environmental Impact Evaluation
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GIS	Geographic Information Systems
HVAC	Heating Ventilation and Air Conditioning
LOS	Level of Service
NAAQS	National Ambient Air Quality Standards
NDDB	Natural Diversity Database
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OAQPS	EPA Office of Air Quality Planning and Standards
OLISP	Office of Long Island Sound Programs
OPM	Connecticut Office of Policy and Management
OSHA	Occupational Safety and Health Administration
PM	Particulate Matter
PPM	Parts Per Million
RAP	Remedial Action Plan
RCSA	Regulations of Connecticut State Agencies
ROW	Right of Way
SCEL	Stream Channel Encroachment Line
SDA	Special Development Area
SCRCOG	South Central Regional Council of Governments
SF	Square Feet
SHPO	State Historic Preservation Office/Officer
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SLE	Shore Line East
TBD	Transitional Business District
USFWS	United States Fish and Wildlife Service

EXECUTIVE SUMMARY

Project Name: Branford Shore Line East Railroad Station, Branford, Connecticut (State Project Nos. 310-0047 and 310-0048)

Date: July, 2008

Sponsoring Agency: Connecticut Department of Transportation (ConnDOT)

Participating Agency: None

Preparer: Fitzgerald & Halliday, Inc., 72 Cedar Street, Hartford, Connecticut 06106

Project Description – The Proposed Action

ConnDOT is in the process of making strategic infrastructure and service improvements to the Shore Line East (SLE) commuter rail service from New Haven to New London so that it will be fully capable of meeting future commuter rail passenger needs. The Proposed Action being evaluated in this EIE includes infrastructure improvements at the Branford SLE Railroad Station, which opened in August 2005. The footprint of the Proposed Action is depicted on Figure ES-1. As shown in Figure ES-1, the study site is roughly bounded by Elm Street on the north, Harbor Street on the west, Curve Street on the south and Indian Neck Avenue on the east. Figure ES-1 also illustrates the relationship of the Proposed Action to the existing SLE station and its surroundings. Progress design drawings depicting details of the Proposed Action, prepared by Baker Engineering in April 2008, are included in Appendix A.

The Proposed Action improvements include:

- A new north-side high level rail platform located directly opposite the existing south-side high level rail platform. This project element is highlighted in yellow on progress design drawings 310-0047 C-102, and drawings 310-0048 C-101, C-102, and C-103 included in Appendix A.
- A new pedestrian bridge over the active rail line that will connect the north-side and south-side platforms. The new pedestrian bridge will include elevators to satisfy the requirements of the Americans with Disabilities Act (ADA). This project element is highlighted in red on progress design drawings 310-0047 C-102 and C-105, and drawings 310-0048 C-101, C-102, and C-103 included in Appendix A.
- A new 316-space surface parking lot located on a vacant undeveloped parcel to the west of the existing 201-space surface parking lot. The new surface lot will be fully

illuminated and include direct pedestrian connections (walkways and ramps) to the existing south-side high level rail platform. Access to the new parking lot will be obtained from the existing station entrance at the Maple Street/Indian Neck Avenue signalized intersection. The new surface parking lot is highlighted in green on progress design drawings 310-0047 C102, C103, and C105 included in Appendix A.

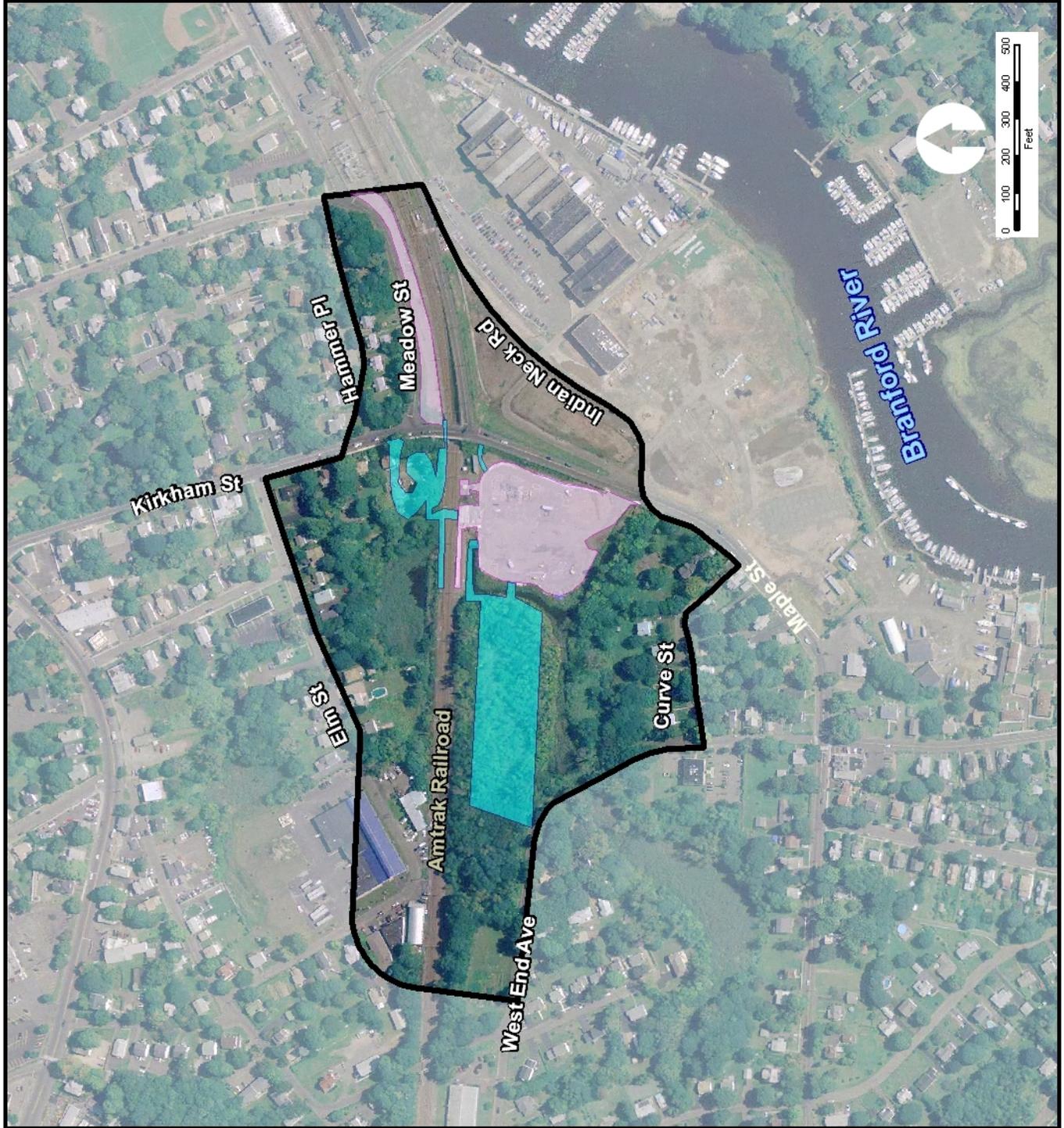
- A new kiss-and-ride drop off area located to the north of the existing rail corridor with direct pedestrian connections (walkways and ramps) to the station via the new north-side high level rail platform. The kiss-and-ride drop off area will be constructed subsequent to the north-side high level rail platform as the property will first be used as a staging area for platform construction. The new kiss-and-ride drop off area is highlighted in blue on progress design drawings 310-0048 C101, C102, and C103 included in Appendix A.
- Re-use of the former rail station parking lot located north of the rail corridor along Meadow Street (access to the lot is presently blocked by guard rails). The parking lot will be repaved and re-striped to provide approximately 52 spaces that will function as overflow parking for the new station located west of Kirkham Street. New pedestrian connections from the overflow parking lot to the new station will include walkways, stairwells, and a crosswalk on Kirkham Street. The former rail station parking lot is highlighted in grey on progress design drawings 310-0047 C-101B, and C-102B included in Appendix A.

Project construction cost is anticipated to range from \$20 to \$25 million, with start of construction in January 2010. This cost represents a midpoint of construction (2010) dollars. The facility is scheduled to be open and operational by Spring of 2011.



- New Construction
- Existing Elements
- Study Area

Figure ES-1
Site Location &
Proposed Action Footprint
Shoreline East Expansion
Branford, CT



Project Background

SLE trains are owned and operated by ConnDOT under contract with the Northeast Passenger Railroad Corporation (Amtrak) to provide daily rail operations. SLE commuter rail operations began in May of 1990 serving seven stations along a 33-mile segment of Amtrak's Northeast Corridor between New Haven and Old Saybrook. The service was extended by ConnDOT eastward to New London in 1996. SLE service operates in the peak direction only and in the morning connects at New Haven, Bridgeport and Stamford stations for Metro-North service to New York City's Grand Central Terminal.

Since its inception, there has been a steady increase in SLE ridership but recently, starting in 2005, a marked increase in ridership has occurred. According to a January 1, 2007 ConnDOT report to the Governor entitled, "Expanding Rail Service on Shore Line East," the average monthly ridership on SLE in 2004 was 33,786, and was 35,289 in 2005. The average monthly ridership through September 2006 was 38,207, which is more than eight percent higher than 2005 levels. In June 2006, ridership on SLE surpassed the five million mark. ConnDOT's Statewide Travel Model estimates an annual growth in ridership of approximately four percent annually without factoring in any further SLE improvements or service expansion. Thus, the upward trend in ridership is expected to continue into 2008 and beyond, especially as improvements are made to the SLE service, congestion on Interstate 95 worsens, and gas prices continue to rise. Overall, Governor M. Jodi Rell and ConnDOT are committed to meeting the future needs of commuters as evidenced by the many infrastructure and service improvements that have been and continue to be implemented along the SLE corridor.

SLE infrastructure improvements that have already occurred include the construction of new train stations at Branford, Clinton, and Guilford, which all opened in 2005. These stations were constructed to replace the older lower platform decks. The lower platform decks required train conductors to exit trains at each station stop to lower stairs that allowed passengers to board. Special portable handicap access ramps also had to be deployed as needed. This inefficient procedure significantly prolonged each station stop, causing service delays. The new SLE stations have increased access and service to the commuters, improving functions such as handicapped accessibility, high-level platforms to allow for level and efficient boarding of trains, a commuter shelter area, a convenient commuter drop off area, increased parking and enhanced lighting. In addition to these three stations, new stations are also being built at Madison and Westbrook. The Madison station will be completed by the end of 2008 and the Westbrook station is scheduled for completion by the end of 2011. Along with station improvements, ConnDOT has also initiated a SLE rail car refurbishing program that involved the purchase and subsequent refurbishing of Virginia Railway Express cars to provide an additional 2,000 seats to meet increased ridership demands. Also, in November 2007, ConnDOT initiated an inaugural weekend and holiday service schedule which culminated on December 30, 2007 and will start up again in November 2008. All of these actions demonstrate ConnDOT's commitment to improving SLE commuter rail service well into the future.

With regard to the Branford SLE Station that was constructed and opened for service in August 2005, that project involved building the south-side high level rail platform in addition to a commuter shelter and 201-space surface parking lot. In order to expand SLE service to facilitate

future bi-directional service as called for in the January 1, 2007 ConnDOT report to the Governor, ConnDOT is obligated under current lease agreements with Amtrak to construct high-level rail platforms on both sides of the rail corridor at each SLE station. This is required if ConnDOT wants to provide commuter service outside the current rush hour periods. Thus, a new north-side high-level rail platform at the Branford SLE Station and at other SLE stations is necessary. The double platform configuration will benefit commuters in that: 1) a two-sided station will increase ridership and therefore reduce traffic congestion on coastal roadway corridors by allowing for two-way commuting on the SLE corridor, and 2) having two platforms allows more flexibility in how trains are scheduled and will allow additional trains to operate on the line in the future.

The Proposed Action at the Branford SLE Station has a two-fold objective; to construct a new north-side high level rail platform in order to provide a full-service dual-platform commuter station; and to construct expanded parking to accommodate future commuters as ridership continues to grow. The new platform and parking area will be financed with state funds, and as such, is subject to the regulations and guidance established by the Connecticut Environmental Policy Act (CEPA) (Connecticut General Statutes [CGS] Sections 22a-1 through 22a-1h, inclusive, and where applicable, CEPA regulations Section 22a-1a-1 through 22a-1a-12, inclusive, of the Regulations of Connecticut State Agencies [RCSA]). Under CEPA, the document to be prepared is an Environmental Impact Evaluation (EIE). The lead state agency for CEPA documentation is ConnDOT.

Purpose and Need

The purpose of the Proposed Action relates directly to ConnDOT's ongoing commitment to expand commuter rail services in keeping with Governor M. Jodi Rell's Transportation Initiative, which was passed by the Connecticut Legislature in 2005. ConnDOT's commitment involves implementing various projects, such as the Proposed Action, which will make commuter rail services modern, reliable, and convenient so that the future transportation needs of Connecticut's residents are met. The provision of premium commuter rail service is considered a key aspect in promoting the economy as well as a high quality of life in Connecticut. With more people commuting by rail to and from their workplace, fewer commuters will be traveling in their cars making for less congestion and a safer environment. The goal of enhancing commuter rail service is a common theme found in state, regional and local plans of development. Transportation improvements that are consistent with various plans of conservation and development lead to increased travel options, better transportation systems, increased economic vitality and containment of sprawl.

The need for the Proposed Action is two-fold:

There is an increasing customer service need as demonstrated by steadily increasing SLE ridership numbers (refer to Project Background section for specifics). Connecticut's residents are utilizing the state rail service for in-state travel as well as for travel to and from New York City. This has been precipitated by:

- Increased development pressures in coastal and southeastern Connecticut

- Increased congestion on coastal roadway corridors including I-95 and U.S. Route 1
- Rapidly escalating gas prices
- An increasingly mobile workforce; and
- Improved commuter rail infrastructure.

The result is that existing parking facilities at SLE railroad stations can no longer meet the demand. ConnDOT's goal is to provide between 400 and 500 parking spaces at each SLE commuter rail station in order to accommodate future patrons. At the Branford Railroad Station, the 201-space parking lot that was constructed in 2005 is already at capacity, indicating an immediate need to provide additional parking at the station.

For commuters taking SLE, Governor M. Jodi Rell has announced improved service to and from New Haven and for reverse commuting to Old Saybrook in the near future. Improved service east of New Haven is an important component in reducing traffic congestion and improving mobility in Southeastern Connecticut. To efficiently and effectively provide this enhanced service, there is the need to construct north-side high level rail platforms at each of the existing SLE stations, thereby making each station a full service dual-platform station. The need is driven by existing lease agreements between ConnDOT and Amtrak. Under current lease agreements, ConnDOT is obligated to construct high-level rail platforms on both sides of the rail corridor at each SLE station if ConnDOT wants to provide commuter service outside the current rush hour periods. Thus, in order to meet Amtrak lease requirements and to provide bi-directional service, a new north-side high level rail platform at the Branford SLE Station and at other SLE stations is necessary if future expansion of SLE service is to succeed.

Alternative Actions

Two alternatives are assessed in this EIE; a Build Alternative and the No-Action Alternative. Because existing lease agreements between Amtrak and ConnDOT stipulate that future expansion of SLE service beyond the current peak periods cannot occur without constructing dual high-level rail platforms at each SLE station, and because the parking lot at the existing Branford SLE Station is at capacity, the Build Alternative is the only alternative that will successfully meet the stated purpose and need defined above. The Build and No-Action alternatives are discussed below.

Build Alternative

In order to successfully meet the purpose and need, infrastructure improvements must occur at the existing Branford SLE Railroad Station that was constructed and opened in August 2005. For instance, a new north-side high level rail platform must be physically located opposite the existing south-side platform in order for optimum rail station functionality to be achieved. Retrofitting the south-side high level rail platform to incorporate temporary platform extensions to service trains operating on the northern track is not a viable option. Operation of these extensions is time consuming and cumbersome, requires manpower, and therefore introduces the potential for human error which could potentially result in scheduling conflicts with Amtrak's Acela and other conventional train services. Surface parking, however, can potentially be

located within any of the four quadrants surrounding the station as long as the distance from the parking lot to the station is not considered too far, inconvenient, or unsafe for commuter rail passengers to walk. For this reason, a Parking Feasibility Study was conducted by H.W. Lochner, Inc., (July, 2001) on behalf of ConnDOT for the Branford SLE Railroad Station as well as for the other proposed stations along SLE. The study considered potential options for accommodating upwards of 400 to 500 parking spaces at each SLE station; a parking capacity goal that was established by the State to meet future SLE ridership projections.

At the proposed new Branford SLE Station (which was designed in May 2001), the July 2001 Parking Feasibility Study considered viable options for additional parking to supplement the 201-space surface lot already included as part of the new station design. The additional parking capacity would enable ConnDOT to attain their 500-space goal. Options considered included 5.38 acres of vacant undeveloped land to the west of the new 201-space parking lot, a 1.96 acre triangular parcel to the east of Maple Street that would ultimately become available upon completion of a Town of Branford project to realign Maple Street, a 0.65 acre residential parcel to the north of the tracks and west of Kirkham Street, and the former 1.17 acre SLE parking lot located north of the tracks and accessed from Meadow Street. The northwestern quadrant was excluded from consideration due to a large tidal wetland located between the railroad tracks and Elm Street to the north.

The parking feasibility study concluded that it was not cost effective to develop parking on the 0.65 acre residential parcel to the north of the tracks and west of Kirkham Street as the parcel was too small and could only accommodate a maximum of 20 spaces. With respect to the 1.96 acre triangular parcel located east of Maple Street, it was determined that it was also too small to accommodate enough parking and that parking on this parcel would pose a safety concern as patrons would have to cross Maple Street at-grade to access the station. The remaining two parcels, the 5.38 acre vacant parcel and the former 1.17 acre commuter parking lot were determined to be the best options for parking as together they offered more than 360 spaces at a relatively low cost. Based on this logic, these two parcels were incorporated into the Proposed Action to satisfy the parking need.

The kiss-and-ride drop off area evolved later in the project development process. It was determined by ConnDOT that the 0.65 acre residential parcel located immediately north of the tracks would need to be acquired to stage construction of the north-side high level rail platform. ConnDOT opted to convert the parcel into a much needed kiss-and-ride drop off area upon completion of platform construction and this is how it became part of the Proposed Action.

No-Action Alternative

Under the No-Action Alternative, current operations at the Branford SLE Railroad Station in Branford would continue unchanged. Trains would continue to operate on one track (the south side) in order to pick-up and drop-off passengers. Although this is in keeping with current lease agreements between ConnDOT and Amtrak regarding the existing SLE service, this type of operation will not be allowed once the lease agreement expires or when SLE service is expanded. The lease specifically requires that north-side high level rail platforms be constructed if ConnDOT expects to expand SLE service beyond the current rush hour period in the future.

The No-Action Alternative also means that maximum parking capacity at the station will remain at 201-spaces and that no new parking will be constructed. A weekday peak hour parking survey conducted by Fitzgerald & Halliday, Inc. (FHI) in May 2007 determined that parking at the Branford SLE Railroad Station is already at 100% capacity. Thus, under the No-Action Alternative, the existing parking shortage at the station will not be alleviated. Although the No-Action Alternative would involve no new construction and as a result, no significant environmental impacts, the alternative falls short of meeting the purpose and need of the project.

Alternative Sites Controlled or Reasonably Available

Because rail is a fixed system, land available for the Proposed Action must be located immediately adjacent to the rail corridor and existing station in order to gain maximum benefit from the project and its intended use. As described above under the Build Alternative, the north-side high level rail platform must be located opposite the existing south-side platform in order for optimal functionality, and parking expansion options are limited to only those parcels within a short and safe walking distance of the station. Lastly, the Proposed Action site is highly suitable because it is vacant, relatively flat, is easily accessible from local roadways, and is in close proximity to downtown Branford.

Overall, no other sites were evaluated since there are no other known available sites suitable for the Proposed Action.

Impact Analysis Summary

The implementation of the Proposed Action will have minor adverse environmental impacts that can be mitigated. Environmental impacts and proposed mitigation measures are summarized in Table ES-1.

Table ES-1: Summary of Impacts and Proposed Mitigation

Resource	Impact Analysis	Mitigation
Land Use and Zoning	Acquisition of two-privately owned parcels, one vacant and one with an unoccupied residence. No impacts to land use or zoning	No mitigation is required
Consistency with Local and Regional plans	The Proposed Action is consistent with local and regional development plans	No mitigation is required
Consistency with C&D Plan	The Proposed Action is consistent with the C&D Plan	No mitigation is required
Traffic and Parking	The surrounding roadway network will adequately support the additional traffic volume generated by the Proposed Action. No adverse impacts anticipated. Beneficial impact as Proposed Action provides more parking for rail commuters and improved/safe pedestrian connections.	No mitigation required
Air Quality	Construction period impacts: Potential impacts from prolonged use of diesel powered vehicles. Typical diesel air quality emissions include carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter (PM2.5).	Construction equipment will be required to comply with all pertinent state and federal air quality regulations. Construction period BMPs to be followed to reduce airborne dust
Noise	Construction period impacts: Potential for continuous as well as intermittent (or impulse) noise to be experienced in the immediate project vicinity.	Construction noise is exempt under Section 22a-69-1.8(g) of the RCSA, however, ConnDOT's general provision on construction noise described under Section 1.10.05 of <i>Form 816</i> must be included in the construction contract for this project.
Neighborhoods and Housing	Indirect beneficial impact to local socio-economic conditions as commuters may shop locally for convenience goods. No adverse impacts on neighborhoods or housing.	No mitigation required

Resource	Impact Analysis	Mitigation
Water Quality	<p>Creation of 2.88 acres (125,450 SF) of new paved surface contributes to increased site runoff and potential for increased sedimentation and contamination of downstream tidal wetlands and watercourses. Freshwater inputs to tidal systems during storm events and thermal pollution are also concerns.</p> <p>Construction period impacts: Increased potential for sedimentation of offsite streams and tidal wetlands due to runoff from exposed surfaces during site work.</p>	<p>Final design of new facility will be fully coordinated with the CTDEP and ACOE and will include primary and secondary stormwater renovation measures including a stormwater detention/retention pond with a forebay designed to collect and retain the first one (1) inch of stormwater runoff and effectively remove suspended sediments (Refer to progress design drawings 310-0047 C-106 and C-303 in Appendix A). Project design will comply with both the CTDEP 2004 Stormwater Quality Manual and the CTDEP 2002 Sedimentation and Erosion Control Manual.</p> <p>During construction, temporary best management practices (BMPs) will be employed and an erosion and sedimentation control plan (E&S Plan) will be implemented. A stormwater pollution control plan (SWPCP) will also be registered for the project.</p>
Hydrology and Floodplains	Construction will involve the placement of fill into the 100-year coastal floodplain.	Some flood storage capacity will be replaced by the stormwater management system. Coordination will occur with CTDEP and ACOE on required permits.
Wetlands	Impacts below the high tide line will be confined to the location where an existing undersized and partially constricted 12-inch RCP culvert will be replaced with either an open bottom span or arch culvert. A total of approximately 0.02 acres (720 SF) will be impacted due to work below the high tide line.	The new open bottom span or arch culvert will improve tidal flow/exchange, potentially improving the overall quality of and increasing the physical limits of tidal wetlands located upstream. Impacts below the high tide line and mitigation will be fully coordinated with the CTDEP and ACOE to ensure that proper mitigation is implemented for the Proposed Action.
Flora, Fauna, Threatened and Endangered Species	Negligible adverse direct and indirect impacts to low value habitat.	No mitigation required
Soils and Geology	No Impacts	No mitigation required

Resource	Impact Analysis	Mitigation
Coastal Zone and Coastal Barriers	The Proposed Action involves work below the high tide line and impacts to coastal floodplains. A total of approximately 0.02 acres (720 SF) will be impacted due to work below the high tide line. This impact will be confined to the location where an existing undersized and partially constricted 12-inch RCP culvert will be replaced by a new arch culvert or span with an open bottom. Construction of new parking lot and a portion of the kiss-and-ride drop off area will require placement of fill in the coastal floodplain.	The new open bottom span or arch culvert will improve tidal flow/exchange, potentially improving the overall quality of and increasing the physical limits of tidal wetlands located upstream. Impacts below the high tide line and mitigation will be fully coordinated with the CTDEP and ACOE to ensure that proper mitigation is implemented for the Proposed Action. Some flood storage capacity will be replaced by the stormwater management system. Coordination will occur with CTDEP and ACOE on required permits.
Cultural Resources	No Impacts	No mitigation required
Solid Waste and Hazardous Materials	There may be some potential for exposure of construction workers to hazardous materials and contamination that exists on the 5.38 acre vacant parcel slated for the new surface parking lot. However, once constructed, the contamination will be effectively capped/contained by the parking lot, which will be an important part of a Remedial Action Plan (RAP) for the site. Potential for exposure to these contaminants and leaching of contamination offsite will be reduced once the project is completed. Thus the project will have the beneficial affect of reducing an existing contamination hazard.	The 316-space surface parking lot will be an important part of a RAP for the project site. The RAP will be developed in coordination with CTDEP so that the potential exposure risk to the general population is significantly reduced. Workers involved with building the surface parking lot will take appropriate measures to reduce/minimize any potential exposure risk during construction. A Health and Safety Plan will be developed for the project and communicated to construction workers. The two-story residential building will be inspected for possible lead-based paint and/or asbestos containing materials prior to demolition. All guidelines related to the removal and disposal of these hazardous materials will be followed if such materials are identified.
Use/Creation of Hazardous Materials	No Impacts	No mitigation required
Aesthetics and Visual Effects	Southerly views from homes located along the south side of Elm Street and along Kirkham Street will be impacted.	A landscaping plan that includes vegetative buffers could minimize anticipated visual impacts.
Energy Uses and Conservation	Minimal increase in the amount of energy consumed above existing conditions.	No mitigation required
Public Utilities and Services	Potential temporary service disruptions (CL&P) during construction	Coordinate utility construction scheduling with service providers
Public Health and Safety	Beneficial Impact – site conditions improved (see hazardous materials and contamination discussion) and new safety features such as fencing and illumination added.	No mitigation required

List of Potential Permits and Approvals

The following permits, approvals, certifications, and registrations **may** be required for completion of the Proposed Action:

Federal

- ACOE Section 404 Permit

State

- CTDEP General Permit: Stormwater and Dewatering Wastewaters from Construction
- CTDEP Flood Management Certification
- CTDEP 401 Water Quality Certification
- CTDEP Office of Long Island Sound Programs Structures, Dredging and Fill Permit
- CTDEP Office of Long Island Sound Programs Tidal Wetlands Permit

Coordination Process

Per CEPA requirements, a scoping notice for the Proposed Action was placed in Connecticut's Environmental Monitor on July 17, 2007. A Public Scoping Meeting was not conducted for this project as such a meeting was not requested by 25 or more individuals or by an association that represents 25 or more members during the 30 day scoping comment period. Only three resource agencies, the Connecticut Department of Environmental Protection (CTDEP), the Connecticut Commission on Culture and Tourism – Historic Preservation and Museum Division, and the Connecticut Department of Public Health (CTDPH) provided scoping comments during the 30 day comment period. During data collection efforts involved in the documentation of existing environmental conditions, several federal and state resource agencies were contacted for information as were local officials in the Town of Branford. A copy of the CEPA public scoping notice as well as responses received during the formal public scoping period (July 17, 2007 through August 17, 2007) are included in Appendix B. Important agency and local correspondence is also included in Appendix B.

Conclusion

The Proposed Action is essential for increasing the efficiency of operations at the SLE Railroad Station in Branford and is an important part of meeting future transportation demands in southeastern Connecticut. Potential adverse effects from the Proposed Action include:

- Minor visual impacts to adjacent land uses located north of the railroad tracks along Elm Street and Kirkham Street
- Loss of 5.38 acres of vacant undeveloped land that is currently under private ownership and which is designated as a coastal flood hazard area (100-year coastal floodplain). Some fill will be placed in the 100-year coastal floodplain that will result locally in a minor loss of flood storage capacity.
- Acquisition of a 0.65-acre private residential parcel that is partially within the coastal flood hazard area
- Approximately 0.02 acres (720 SF) will be impacted below the high tide line during the replacement of an existing undersized and partially clogged 12-inch RCP culvert with a new open bottom span or arch culvert. The new open bottom span or arch culvert will improve tidal exchange in adjacent tidal wetlands to the north
- Introduction of 2.88 acres (125,450 SF) of new paved surface which has the potential to affect water quality, and
- Construction-period impacts relative to noise, air quality, energy usage, and stormwater among others.
- Potential for exposure of construction workers to subsurface contamination that exists on the 5.38 acre parcel that will be developed as a new 316-space surface parking lot.

These impacts will be mitigated through landscaping, proper management of materials and resources during and after construction, and by adhering to all applicable state, and federal regulations related to coastal resource protection, floodplain management, erosion and sedimentation control, and stormwater runoff/water quality treatment/management. Additionally, construction of the 316-space surface parking lot will be an important aspect of the Remedial Action Plan (RAP) that will be required for the project site. The lot will effectively cap and therefore isolate and limit the potential for exposure to and/or leaching of subsurface hazardous materials and contamination that has been identified on the 5.38 acre vacant parcel. A Health and Safety Plan will be developed and implemented in accordance with Occupational Safety and Health Administration (OSHA) guidelines to ensure that construction workers are protected from potential contamination and other hazards.

Coordination with resource agencies, including the CTDEP and ACOE, among others, will continue throughout the duration of the project to ensure that all regulatory requirements are met. Through its impact avoidance and mitigation measures, the Proposed Action will not incur any significant environmental, cultural, or social impacts.

Review Period and Comments

The Draft EIE will be made available for public review and comment from July 8, 2008 to August 21, 2008. Notice of Draft EIE availability and public hearing will be placed in Connecticut's *Environmental Monitor* on July 8, 2008. Additionally, notice of Draft EIE availability and public hearing will be advertised in the New Haven Register on July 8, July 22, and August 5, 2008. Notices and Affidavits will be included in Appendix E of the Final EIE. The Draft EIE will be made available for public review at the following locations:

- Connecticut Department of Transportation Offices in Newington, Connecticut
- Branford Town Clerk's Office
- James Blackstone Memorial Library in Branford, Connecticut
- South Central Regional Council of Governments Office in North Haven, Connecticut

A public hearing will be advertised and held at the James Blackstone Memorial Library in Branford at 7:00 PM on August 7, 2008.

Agency Contact

Department of Transportation

Mr. Edgar T. Hurle, Transportation Planning Director

Bureau of Policy and Planning

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EIE Distribution List

The following agencies/persons received a copy of the Draft Environmental Impact Evaluation for the Branford Shore Line East Railroad Station, Branford, Connecticut (State Project Nos. 310-0047 and 310-0048):

State Representatives and Senators

Hon. Peter Panaroni State Representative Legislative Office Building, Room 4017 Hartford, CT 06106-1591	Hon. Edward Meyer State Senator Legislative Office Building, Room 1000 Hartford, CT 06106-1591
Hon. Patricia M. Widlitz State Representative Legislative Office Building, Room 4034 Hartford, CT 06106-1591	

Town Officials

Hon. Anthony "Unk" DaRos, First Selectman Town of Branford 1019 Main Street Branford, CT 06405	Ms. Marianne Kelly, Town Clerk Town of Branford 1019 Main Street Branford, CT 06405
Ms. Janice Plaziak, Town Engineer Town of Branford 1019 Main Street Branford, CT 06405	Ms. Shirley Rasmussen, Dir. Planning & Zoning Town of Branford 1019 Main Street Branford, CT 06405

State Agencies

Hon. Gina McCarthy Commissioner Department of Environmental Protection 79 Elm Street Hartford, CT 06106	Mr. Kendall Wiggin State Librarian Connecticut State Library 231 Capitol Avenue Hartford, CT 06106
Mr. David Fox Senior Environmental Analyst Department of Environmental Protection 79 Elm Street Hartford, CT 06102	Hon. Robert M. Ward Commissioner Connecticut Department of Motor Vehicles 60 State Street Wethersfield, CT 06161
Hon. Joan McDonald Commissioner Connecticut Department of Economic and Community Development 505 Hudson Street Hartford, CT 06106	Mr. Robert L. Genuario Secretary Office of Policy and Management 450 Capitol Avenue Hartford, CT 06106-1308
Mr. Raymond Jordan State Coordinator Connecticut Department of Housing and Urban Development One Corporate Center, 19 th Floor Hartford, CT 06103	Hon. Raeanne V. Curtis Commissioner Connecticut Department of Public Works 165 Capitol Avenue Hartford, CT 06106

<p>Hon. J. Robert Galvin, M.D., M.P.H. Commissioner Department of Public Health 410 Capitol Avenue Hartford, CT 06134</p>	<p>Mr. Judd Everhart Department of Transportation Office of Communications P.O. Box 317546 2800 Berlin Turnpike Newington, CT 06131-7546</p>
<p>Mr. Karl J. Wagener Executive Director Council on Environmental Quality 79 Elm Street Hartford, CT 06106</p>	<p>Ms. Karen Senich Executive Director Connecticut Commission on Culture and Tourism One Financial Plaza 755 Main Street Hartford, CT 06103</p>

Other

<p>Ms. Judy Gott Director South Central Regional Council of Governments 127 Washington Avenue, 4th Floor West North Haven, CT 06473</p>	<p>Ms. Kathy Rieger, Library Director James Blackstone Memorial Library 758 Main Street Branford, CT 06405</p>
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1. INTRODUCTION

1.1. Description of Proposed Action

ConnDOT is in the process of making strategic infrastructure and service improvements to the SLE commuter rail service from New Haven to New London so that it will be fully capable of meeting future commuter rail passenger needs. The Proposed Action being evaluated in this EIE includes infrastructure improvements at the Branford SLE Railroad Station, which opened in August 2005. The site of the Proposed Action is depicted in Figure 1. As shown in the figure, the study site is roughly bounded by Elm Street on the north, Harbor Street on the west, Curve Street on the south and Indian Neck Avenue on the east. Figure 1 also illustrates the relationship of the Proposed Action footprint to the existing SLE station and its surroundings. Progress design drawings depicting details of the Proposed Action, prepared by Baker Engineering in April 2008, are included in Appendix A.

The Proposed Action improvements include:

- A new north-side high level rail platform located directly opposite the existing south-side high level rail platform. This project element is highlighted in yellow on progress design drawings 310-0047 C-102, and drawings 310-0048 C-101, C-102, and C-103 included in Appendix A.
- A new pedestrian bridge over the active rail line that connects the north-side and south-side platforms. The new pedestrian bridge will include elevators to satisfy the requirements of the Americans with Disabilities Act (ADA). This project element is highlighted in red on progress design drawings 310-0047 C-102 and C-105, and drawings 310-0048 C-101, C-102, and C-103 included in Appendix A.
- A new 316-space surface parking lot located on a vacant undeveloped parcel west of the existing 201-space surface parking lot. The new surface lot will be fully illuminated and include direct pedestrian connections (walkways and ramps) to the existing south-side high level rail platform. Access to the new lot will be obtained from the existing station entrance at the Maple Street/Indian Neck Avenue signalized intersection. This new surface parking lot is highlighted in green on progress design drawings 310-0047 C-102, C-103, and C-105 included in Appendix A.
- A new kiss-and-ride drop off area located to the north of the existing rail corridor with direct pedestrian connections (walkways and ramps) to the station via the new north-side high level rail platform. The kiss-and-ride drop off area will be constructed subsequent to the north-side high level rail platform as the property will first be used as a staging area for platform

construction. The new kiss-and-ride drop off area is highlighted in blue on progress design drawings 310-0048 C-101, C-102, and C-103 included in Appendix A.

- Re-use of the former rail station parking lot located north of the rail corridor along Meadow Street (access to the lot is presently blocked off by guard rails). The parking lot will be repaved to provide approximately 52 spaces that will function as overflow parking for the new station located west of Kirkham Street. New pedestrian connections from the overflow parking lot to the new station will include walkways, stairwells, and a crosswalk on Kirkham Street. The former rail station parking lot is highlighted in gray on progress design drawings 310-0047 C-101B and C-102B included in Appendix A.

Project construction cost is anticipated to range from \$20 to \$25 million, with start of construction in January 2010. This cost represents a midpoint of construction (2010) dollars. The facility is scheduled to be open and operational by Spring of 2011.

1.2. Project Background

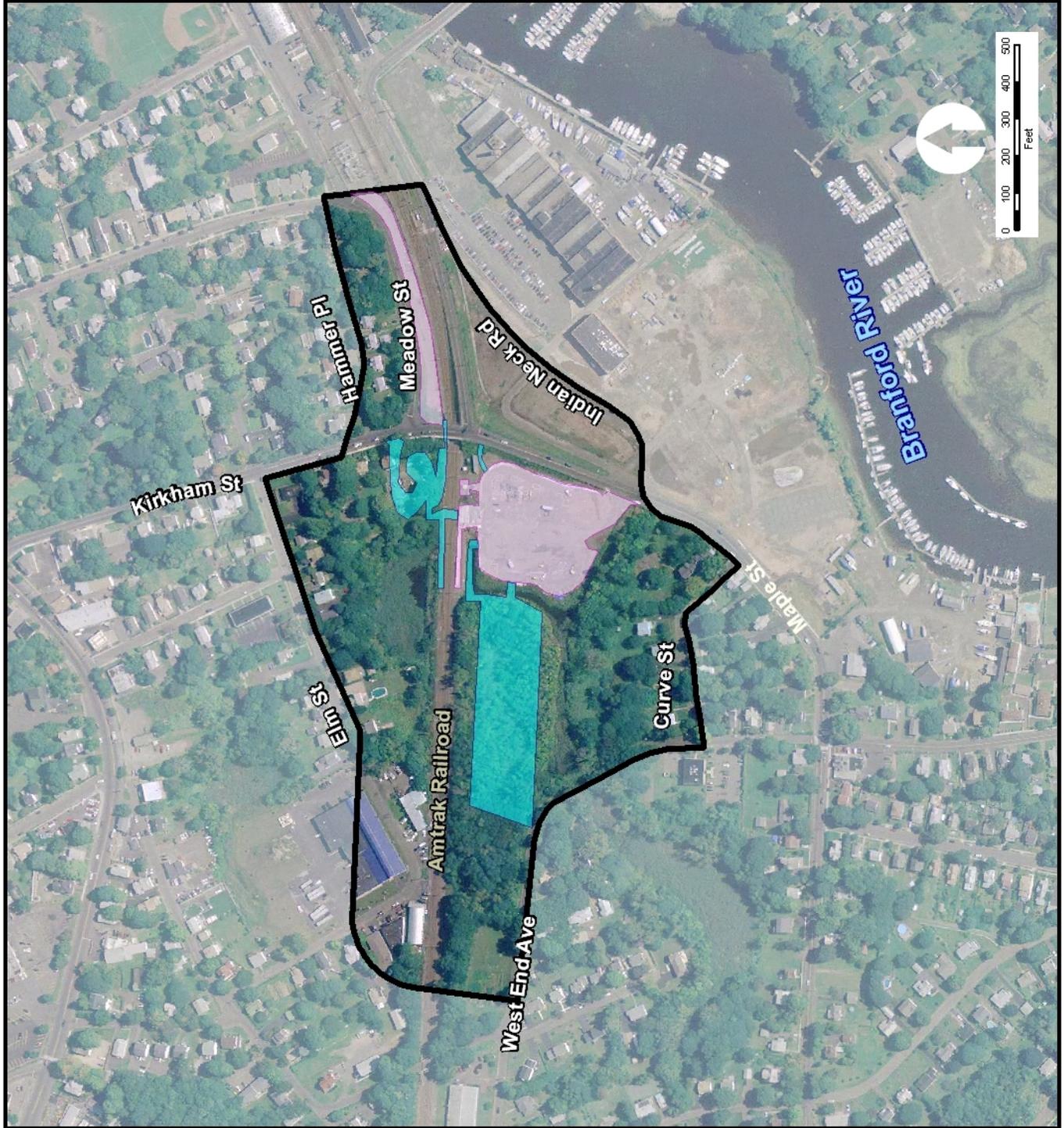
SLE trains are owned and operated by ConnDOT under contract with the Northeast Passenger Railroad Corporation (Amtrak) to provide daily rail operations. SLE commuter rail operations began in May of 1990 serving seven stations along a 33-mile segment of Amtrak's Northeast Corridor between New Haven and Old Saybrook. The service was extended by ConnDOT eastward to New London in 1996. SLE service operates in the peak direction only and in the morning connects at New Haven, Bridgeport and Stamford stations for Metro-North service to New York City's Grand Central Terminal.

Since its inception, there has been a steady increase in SLE ridership but recently, starting in 2005, a marked increase in ridership has occurred. According to a January 1, 2007 ConnDOT report to the Governor entitled, "Expanding Rail Service on Shore Line East," the average monthly ridership on SLE in 2004 was 33,786, and was 35,289 in 2005. The average monthly ridership through September 2006 was 38,207, which is more than eight percent higher than 2005 levels. In June 2006, ridership on SLE surpassed the five million mark. ConnDOT's Statewide Travel Model estimates an annual growth in ridership of approximately four percent annually without factoring in any further SLE infrastructure improvements or service expansion. Thus, the upward trend in ridership is expected to continue into 2008 and beyond, especially as improvements are made to the SLE service, congestion on I-95 worsens, and gas prices continue to rise. Overall, Governor M. Jodi Rell and ConnDOT are committed to meeting the future needs of commuters as evidenced by the many infrastructure and service improvements that have been and continue to be implemented along the SLE corridor.



- New Construction
- Existing Elements
- Study Area

Figure 1
Site Location &
Proposed Action Footprint
Shoreline East Expansion
Branford, CT



SLE infrastructure improvements that have already occurred include the construction of new train stations at Branford, Clinton, and Guilford, which all opened in 2005. These three stations were constructed to replace the older lower platform decks. The lower platform decks required train conductors to exit trains at each station stop to lower stairs that allowed passengers to board. Special portable handicap access ramps also had to be deployed by the conductors as needed. This inefficient procedure significantly prolonged each station stop, causing service delays. The new SLE stations have increased access and service to the commuters, improving functions such as handicapped accessibility, high-level platforms to allow for level and efficient boarding of trains, a commuter shelter area, a convenient commuter drop off area, increased parking and enhanced lighting. In addition to these three stations, new stations are also being built at Madison and Westbrook. The Madison station will be completed by the end of 2008 and the Westbrook station is scheduled for completion by the end of 2011. Along with station improvements, ConnDOT has initiated a SLE rail car refurbishing program that involved the purchase and subsequent refurbishing of Virginia Railway Express cars to provide an additional 2,000 seats to meet increased ridership demands. Also, in November 2007, ConnDOT initiated an inaugural weekend and holiday service schedule which culminated on December 30, 2007. All of these actions demonstrate ConnDOT's commitment to improve SLE service well into the future.

With regard to the Branford SLE Station that was constructed and opened for service in August 2005, that project involved building just the south-side high level rail platform in addition to a commuter shelter and 201-space surface parking lot. In order to expand SLE service to facilitate future bi-directional service as called for in the January 1, 2007 ConnDOT report to the Governor entitled, "Expanding Rail Service on Shore Line East," ConnDOT is obligated under current lease agreements with Amtrak to construct high-level rail platforms on both sides of the rail corridor at each SLE station if ConnDOT wants to provide commuter service outside the current rush hour periods. Thus, a new north-side high-level rail platform at the Branford SLE Station and at other SLE stations is necessary. The double platform configuration will benefit commuters in that: 1) a two-sided station will increase ridership and therefore reduce traffic congestion on coastal roadway corridors by allowing for two-way commuting on the SLE corridor, and 2) having two platforms allows more flexibility in how trains are scheduled and will allow additional trains to operate on the line.

The Proposed Action at the Branford SLE Station has a two-fold objective; to construct a new north-side high level rail platform in order to provide a full-service dual-platform commuter station; and to construct expanded parking to accommodate future commuters as ridership continues to grow. The new platform and parking area will be financed with state funds, and as such, is subject to the regulations and guidance established by the Connecticut Environmental Policy Act (CEPA) (Connecticut General Statutes [CGS] Sections 22a-1 through 22a-1h, inclusive, and where applicable, CEPA regulations Section 22a-1a-1 through 22a-1a-12, inclusive, of the Regulations of Connecticut State Agencies [RCSA]). Under CEPA, the document to be prepared is an Environmental Impact Evaluation (EIE). The lead state agency for CEPA documentation is ConnDOT.

1.3. Purpose and Need

The purpose of the Proposed Action relates directly to ConnDOT's ongoing commitment to expand commuter rail services in keeping with Governor M. Jodi Rell's Transportation Initiative, which was passed by the Connecticut Legislature in 2005. ConnDOT's commitment involves implementing various projects, such as the Proposed Action, which will make commuter rail services modern, reliable, and convenient so that the future transportation needs of Connecticut's residents are met. The provision of premium commuter rail service is considered a key aspect in promoting the economy as well as a high quality of life in Connecticut. With more people commuting by rail to and from their workplace, fewer commuters will be traveling in their cars making for less congestion and a safer environment. The goal of enhancing commuter rail service is a common theme found in state, regional and local plans of development. Transportation improvements that are consistent with various plans of conservation and development lead to increased travel options, better transportation systems, increased economic vitality and containment of sprawl.

The need for the Proposed Action is two-fold:

There is an increasing customer service need as demonstrated by steadily increasing SLE ridership numbers (refer to Project Background section for specifics). Connecticut's residents are utilizing the state rail service for in-state travel as well as for travel to and from New York City. This has been precipitated by:

- Increased development pressures in coastal and southeastern Connecticut
- Increased congestion on coastal roadway corridors including I-95 and U.S. Route 1
- Rapidly escalating gas prices
- An increasingly mobile workforce; and
- Improved commuter rail infrastructure.

The result is that existing parking facilities at SLE railroad stations can no longer meet the demand. ConnDOT's goal is to provide between 400 and 500 parking spaces at each SLE commuter rail station in order to accommodate future patrons. At the Branford Railroad Station, the 201-space parking lot that was constructed in 2005 is already at capacity, indicating an immediate need to provide additional parking at the station.

For commuters taking the SLE, Governor M. Jodi Rell has announced improved service to and from New Haven and for reverse commuting to Old Saybrook in the near future. Improved service east of New Haven is an important component in reducing traffic congestion and improving mobility in Southeastern Connecticut. To efficiently and effectively provide this enhanced service, there is the need to construct north-side high level rail platforms at each of the existing SLE stations, thereby making each station a full service dual-platform station. The need is driven by existing lease agreements between ConnDOT and Amtrak. Under current lease agreements, ConnDOT is obligated to construct high-level rail platforms on both sides of the rail corridor at each SLE station if ConnDOT wants to provide commuter service outside the current

rush hour periods. Thus, in order to meet Amtrak lease requirements and to provide bi-directional service, a new north-side high level rail platform at the Branford SLE Station and at other SLE stations is necessary if future expansion of SLE service is to succeed.

2. ALTERNATIVES CONSIDERED

2.1. Alternative Actions

Two alternatives are assessed in this EIE; a Build Alternative and the No-Action Alternative. Because existing lease agreements between Amtrak and ConnDOT stipulate that future expansion of SLE service beyond the current peak periods cannot occur without constructing dual high-level rail platforms at each SLE station, and because the parking lot at the existing Branford SLE Station is at capacity, the Build Alternative is the only alternative that will successfully meet the stated purpose and need defined above. The Build and No-Action alternatives are described below.

Build Alternative – Proposed Action

In order to successfully meet the purpose and need, infrastructure improvements must occur at the existing Branford SLE Railroad Station that was constructed and opened in August 2005. For instance, a new north-side high level rail platform must be physically located opposite the existing south-side platform in order for optimum rail station functionality to be achieved. Retrofitting the south-side high level rail platform to incorporate temporary platform extensions to service trains operating on the northern track is not a viable option. Operation of these extensions is time consuming and cumbersome, requires manpower, and therefore introduces the potential for human error which could potentially result in scheduling conflicts with Amtrak's Acela and other conventional train services. Surface parking, however, can potentially be located within any of the four quadrants surrounding the station as long as the distance from the parking lot to the station is not considered too far, inconvenient, or unsafe for commuter rail passengers to walk. For this reason, a Parking Feasibility Study was conducted by H.W. Lochner, Inc., (July, 2001) on behalf of ConnDOT for the Branford SLE Railroad Station as well as for the other proposed stations along SLE. The study considered potential options for accommodating upwards of 400 to 500 parking spaces at each SLE station; a parking capacity goal that was established by the State to meet future SLE ridership projections.

At the proposed Branford SLE Station (which was designed in May 2001), the July 2001 Parking Feasibility Study considered viable options for additional parking to supplement the 201-space surface lot already included as part of the new station design. The additional parking capacity would enable ConnDOT to attain their 500-space goal. Options considered included 5.38 acres of vacant undeveloped land to the west of the new 201-space parking lot, a 1.96 acre triangular parcel to the east of Maple Street that would ultimately become available upon completion of a Town of Branford project to realign Maple Street, a 0.65 acre residential parcel to the north of the tracks and west of Kirkham Street, and the former 1.17 acre SLE parking lot located north of the tracks and accessed from Meadow Street. The northwestern quadrant was excluded from consideration due to a large tidal wetland located between the railroad tracks and Elm Street to the north.

The parking feasibility study concluded that it was not cost effective to develop parking on the 0.65 acre residential parcel to the north of the tracks and west of Kirkham Street as the parcel was too small and could only accommodate a maximum of 20 spaces. With respect to the 1.96 acre triangular parcel located east of Maple Street, it was determined that it was also too small to accommodate enough parking and that parking on this parcel would pose a safety concern as patrons would have to cross Maple Street at-grade to access the station. The remaining two parcels, the 5.38 acre vacant parcel and the former 1.17 acre commuter parking lot were determined to be the best options for parking as together they offered more than 360 spaces at a relatively low cost. Based on this logic, these two parcels were incorporated into the Proposed Action to satisfy the parking need.

The kiss-and-ride drop off area evolved later in the project development process. It was determined by ConnDOT that the 0.65 acre residential parcel located immediately north of the tracks would need to be acquired to stage construction of the north-side high level rail platform. ConnDOT opted to convert the parcel into a much needed kiss-and-ride drop off area upon completion of platform construction and this is how it became part of the Proposed Action.

No-Action Alternative

Under the No-Action Alternative, current operations at the Branford SLE Railroad Station would continue unchanged. Passenger trains would continue to operate on one track (the south side) in order to pick-up and drop-off passengers. Although this is in keeping with current lease agreements between ConnDOT and Amtrak regarding the existing SLE service, this type of operation will not be allowed once the lease agreement expires or when SLE service is expanded. The lease specifically requires that north-side high level rail platforms be constructed if ConnDOT expects to expand SLE service beyond the current rush hour period in the future.

The No-Action Alternative also means that maximum parking capacity at the station will remain at 201-spaces and that no new parking will be constructed. A weekday peak hour parking survey conducted by FHI in May 2007 determined that parking at the Branford SLE Railroad Station is already at 100% capacity. Thus, under the No-Action Alternative, the existing parking shortage at the station will not be alleviated. Although the No-Action Alternative would involve no new construction and as a result, no significant environmental impacts, the alternative falls short of meeting the purpose and need of the project.

2.2. Alternative Sites Controlled Or Reasonably Available

Because rail is a fixed system, land available for the Proposed Action must be located immediately adjacent to the rail corridor and existing station in order to gain maximum benefit from the project and its intended use. As described above under the Build Alternative, the north-side high level rail platform must be located opposite the existing south-side platform in order for optimal functionality, and parking expansion options are limited to only those parcels within a short and safe walking distance of the station. Lastly, the Proposed Action site is highly suitable because it is vacant, relatively flat, is easily accessible from local roadways, and is in close proximity to downtown Branford.

Overall, no other sites were evaluated since there are no other known available sites suitable for the Proposed Action.

3. EXISTING ENVIRONMENT AND IMPACT EVALUATION

3.1. Land Use, Zoning And Local And Regional Development Plans

Existing Setting

Land Use

The Proposed Action site is located in the Town of Branford on the southeastern coast of Connecticut. Branford is a mostly suburban community sitting on the fringe of the New Haven metropolitan area. The Proposed Action site is situated on the edge of Branford's downtown and between that cohesive village center and the marine related land uses of Branford's coastline. As shown in Figure 2, the site is located near the intersection of Kirkham and Meadow Streets. The proposed new 316-space parking lot abuts the existing 201-space rail commuter parking lot with station platform (built in 2005) to the east, the rail line/tracks to the north, and single-family residential land uses to the west and south. The adjacent area north of the SLE tracks is mostly single-family residential development. The proposed kiss-and-ride drop off area is situated on the north side of the railroad tracks and will be accessed from Kirkham Street. There is residential land to the west and north of the proposed kiss-and-ride drop off area, with Kirkham Street forming its eastern boundary.

The broader study area surrounding the Proposed Action site is also predominantly residential yet includes a scattering of commercial and retail activity. There are some nearby commercial activities on Elm Street. This includes, most notably, the Cherry Hill Glass Company industrial site, a wholesale glass retailer with automotive related outparcels, which is located in the northwestern corner of the project study area. The area south and east of the study area is redeveloping and includes a mix of housing, services, and marine related uses, including a marina. There is a small commercial cluster creating a very compact secondary village center at Maple and Harbor Streets immediately south of the study area boundaries.

Zoning

According to the Town of Branford's Zoning Regulations and Zoning Map (Town of Branford, 2006) the site for the Proposed Action falls within a limited area of land zoned General Industrial (IG-1) and is surrounded/abutted by residential zoning (R-1 and R-3). It also falls within the Town Center Overlay District. The IG-1 designation encompasses the rail line and station in this area of Branford and extends to the former rail platform and parking area located northeast of the Proposed Action site as well as former manufacturing land uses (the former Malleable Iron Fittings Factory) south of the tracks in this locale. The IG-1 designation is reserved for areas of heavy commercial and industrial development and is intended to discourage the location of any "further retail business" or "further residential construction". Railroad passenger stations and

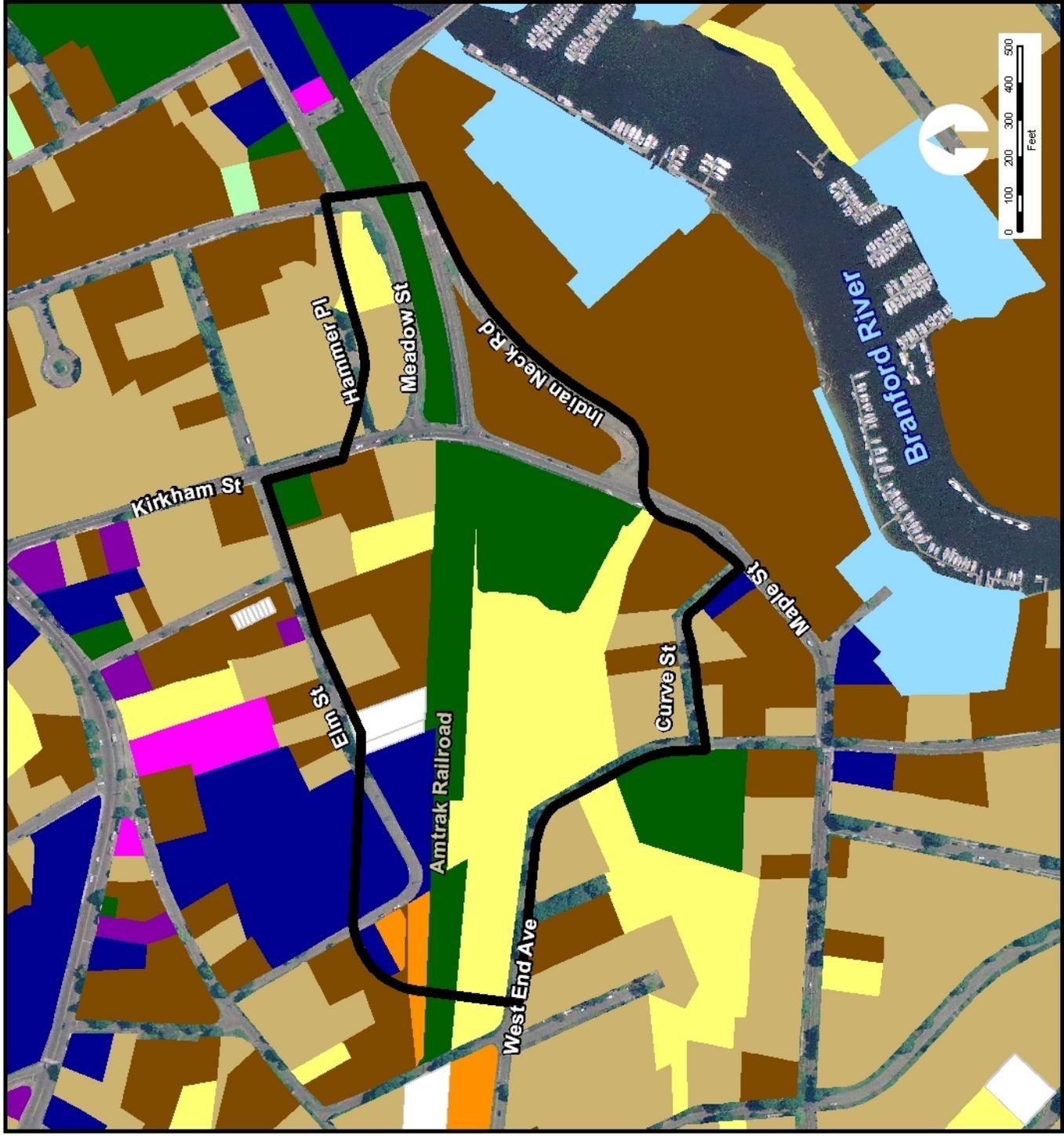


Study Area

Land Use

- Single Family Residential
- Multi-family Residential
- Church
- Office
- Boatyard/Marina
- Restaurants/Clubs
- Commercial
- Municipal/Public Service
- Manufacturing
- Vacant/Open Land
- Unclassified

Figure 2
Existing Land Use
Shoreline East Expansion
Branford, CT



associated facilities are permitted with site plan approval in this zone. It is notable that since the factory sites south of the rail station and along the coastline have been vacated they have been rezoned within a Special Development Area (SDA) allowing for adaptive reuse under a master site plan for mixed-uses. This rezoned area is the site of the planned Anchor Reef Redevelopment Project.

The Town Center Overlay District was established to overlay other districts for the purpose of defining the Town Center. The overlay designation is intended to establish standards for development that preserve the village and historic character of the district and protect coastal resources. Additionally, some land in the study area to the immediate north of the Proposed Action site is zoned RB, Restricted Business. This district is designed to recognize business areas developing as a result of conversion of residential structures to retail and office uses, as well as to provide sites for essential retail services in or adjacent to residential neighborhoods.

Local and Regional Development Plans

The Proposed Action site falls within the planning regions addressed by the Branford Plan of Conservation and Development (Branford Planning and Zoning Commission, January 16, 1997, Amended August 1, 2003) and the Regional Plan of Development for South Central Regional Council of Governments (SCRCOG, November 15, 2000). These plans each articulate a vision, goals, and objectives for future land use and overall development within their respective planning regions. Relevant key elements of these reports are summarized below.

Branford Plan of Conservation and Development: The 2001 Plan of Conservation and Development (Branford Planning and Zoning Commission, January 1997) is currently being updated. The Town Planner (personal communication December 14, 2007) has stated that the most current development policy for Branford is expressed in a series of draft working papers for the new plan. These working papers identified the following issues, opportunities and policies that are relevant to the Proposed Action:

- The current railroad station is seen as a community asset – it offers an opportunity to create transit-oriented development
- The coastline of Branford is also viewed as a community asset
- There is a need to resolve traffic congestion problems, enhance public transportation, and add pedestrian access/sidewalks in Branford
- One aspect of the community vision is to “provide appropriate facilities and services to meet the needs of residents and businesses”
- A critical strategy is to support the SLE rail service including efforts to expand parking at the rail station on both sides of the track.
- The plan recommends the addition of bicycle racks at the rail station, an improved pedestrian network to access the station, and expansion of service to include reverse commute and weekend service.

A current future land use map has not yet been developed for Branford. The 1997 plan map of Future Land Use indicated that the Proposed Action site lies in an area slated for both Moderate to High Density Residential land use and Office/Industrial land use.

SCRCOG 2000 Regional Plan of Development: Branford is located within the SCRCOG along with 14 other municipalities. SCRCOG is currently in the process of updating its regional plan of conservation and development. While this effort is underway, the 2000 *Regional Plan of Development* is in place to guide future land use policy for the region. According to the Policy Guide Map for the SCRCOG Planning Region, the site of the Proposed Action is located in an area designated for Conservation/Infilling. These areas are intended for moderate residential density and/or locally-scaled commercial development. Specific to the Proposed Action, this document identifies improvements at the SLE railroad station in Branford as a key transportation commitment for the future. Similarly, it highlights the manner in which improving the SLE station will complement and extend redevelopment opportunities associated with the largely abandoned Malleable Iron Fittings Factory site that lies to the southeast across Maple Street/Indian Neck Avenue.

SCRCOG Long Range Transportation Plan 2007 – 2035: This document addresses broad transportation goals for the region over the next 25 years and provides direction for the region regarding major policy issues. The Plan highlights that highway improvements will address only a portion of the region's transportation requirements and that to meet needs over the long-term, multi-modal solutions will be required. With respect to the Proposed Action, the document specifically identifies station expansion and creation of additional parking at the SLE site in Branford as a significant regional project. Similarly, it highlights as a complementary project, the proposed widening of the sidewalk along the west side of Kirkham Street as well as providing stairs from the Kirkham Street Bridge over the railroad tracks down to the commuter rail parking lot for easier and shorter passenger access.

Direct and Indirect Impacts

Land Use

Impacts to land use are evaluated based on the effect that the Proposed Action will have on land use patterns, compatibility of land uses, encroachments on existing land use, and access to land compared to the No-Action Alternative. The No-Action Alternative will constitute a continuance of existing land use conditions and therefore will have no adverse impact on land use.

The Proposed Action will be a state facility that will utilize both existing ConnDOT properties and privately owned land. As such, it will require two property acquisitions including one residential displacement. The property expected to be used for the kiss-and-ride drop off area includes a two-story residence that will be demolished. According to the Town of Branford parcel maps, the property is 0.65 acres and is currently owned by Donald Smith. The 5.38-acre parcel to the south of the railroad tracks that is planned to be developed as a new 316-space commuter rail parking lot is also in private ownership. According to 2007 town parcel maps, it is currently

owned by 35 Maple Street LLC. The Proposed Action will not encroach on any other existing land uses.

The kiss-and-ride site proposed for the north side of the rail line will abut two residential properties but, by virtue of the low intensity of activity anticipated there, will not impact their use. The Proposed Action will create one new access point to Kirkham Street at the kiss-and-ride circle. This will occur adjacent to the existing railroad crossing and will have no impact to access to any other properties within the study area. There may, however, be short-term periodic inconvenience to the adjacent homes from increased traffic on Kirkham Street during the period in the early morning and evening when commuters are being dropped off or picked up from the train.

The Proposed Action site on the south side of the rail line is vacant. The proposed 316-space parking lot expansion there would sit west of and adjacent to another existing rail parking lot (201 spaces) that was constructed in 2005. Overall, the Proposed Action will expand an existing rail station use in a mixed-use neighborhood and is not incompatible with adjacent uses. Consequently, it will not significantly adversely affect existing land use patterns or trends.

Zoning

The No-Action Alternative will not alter existing conditions and as such will have no impact on zoning.

Generally, state and federal projects are exempt from municipal zoning requirements. However, ConnDOT strives to avoid conflict with local regulations. The Proposed Action is consistent with zoning designations in the project study area and will not induce any change to zoning in the area.

Consistency with Local and Regional Development Plans

The Proposed Action is fully consistent with the visions and goals outlined in the pertinent local and regional planning documents described above.

Proposed Mitigation

Land Use and Zoning

As there will be no significant adverse impacts on land use or zoning, no mitigation is warranted or proposed.

Consistency with Local and Regional Development Plans

The No-Action Alternative is not consistent with the revitalization goals expressed in local and regional plans, as it does not support enhancement of commuter rail access or facilitate general economic growth in the Town of Branford.

The Proposed Action is consistent with the vision, goals, and recommendations expressed in local and regional plans for future development of the Town of Branford and the region.

Since the Proposed Action is consistent with local and regional plans, no mitigation is warranted or proposed.

3.2. Consistency With State Plan Of Conservation And Development

Existing Setting

The Connecticut Office of Policy and Management (OPM) *Conservation and Development Policies Plan for Connecticut (2005-2010)* (the C&D Plan) contains growth management, economic, environmental quality, and public service infrastructure guidelines and goals for the State of Connecticut. The overall strategy of the C&D Plan is to reinforce and conserve existing urban areas, to promote appropriate, sustainable development, and to preserve areas of significant environmental value. The Locational Guide Map which accompanies the C&D Plan provides a geographical interpretation of the State's conservation and development policies.

According to the C&D Plan's Development Locational Guide Map, the Proposed Action falls within a Neighborhood Conservation Area. Typically, these are significantly built-up and well populated areas but without the infrastructure, density, and diverse income characteristics of an urban based regional center. The state strategy for a Neighborhood Conservation Area is to maintain basically stable communities and support intensification of development when "supportive of community stability and consistent with the capacity of available urban services".

Consistency

The Proposed Action is consistent with the general policies and strategies for Neighborhood Conservation Areas as defined in the C&D Plan. It will support community stability of employment opportunities for residents in Branford by enhancing access via commuter rail to jobs elsewhere. It will also be located in an area of planned growth in Branford, consistent with the C&D plan policy to support intensification of development in suitable growth areas with existing supportive infrastructure. Additionally, the Proposed Action will be located along an existing street network currently used to access the station. As such, the Proposed Action will exclusively utilize the existing transportation infrastructure. Indirectly, it will help reduce vehicle miles traveled in the region, thereby supporting energy conservation and air quality programs also identified in the C&D Plan.

Overall, the development of the Proposed Action at this location in Branford is consistent with the desired overall direction of area-wide development.

3.3. Traffic And Parking

This section describes existing traffic and parking conditions in the study area and the potential traffic and parking impacts associated with the Proposed Action.

Existing Setting

The traffic study area is located in Branford from the Main Street commercial area south to the SLE railroad station. The traffic study area is bounded by Main Street to the north, Kirkham Street and Maple Street to the west, Montowese Street to the east and the Branford River to the south. Main Street (Route 146) in the vicinity of the study area is a two-lane collector road. Land use along Main Street is commercial along with the town government facilities. Montowese Street (Route 146) along the east side of the traffic study area is a two-lane collector road. Montowese Street is largely commercial. Kirkham Street is a two-lane local road providing access to residential neighborhoods. Maple Street is a two-lane collector road which provides access to residential neighborhoods as well as the SLE railroad station.

Six intersections were analyzed for traffic levels-of-service (LOS) and operational considerations. The six intersections studied are the following:

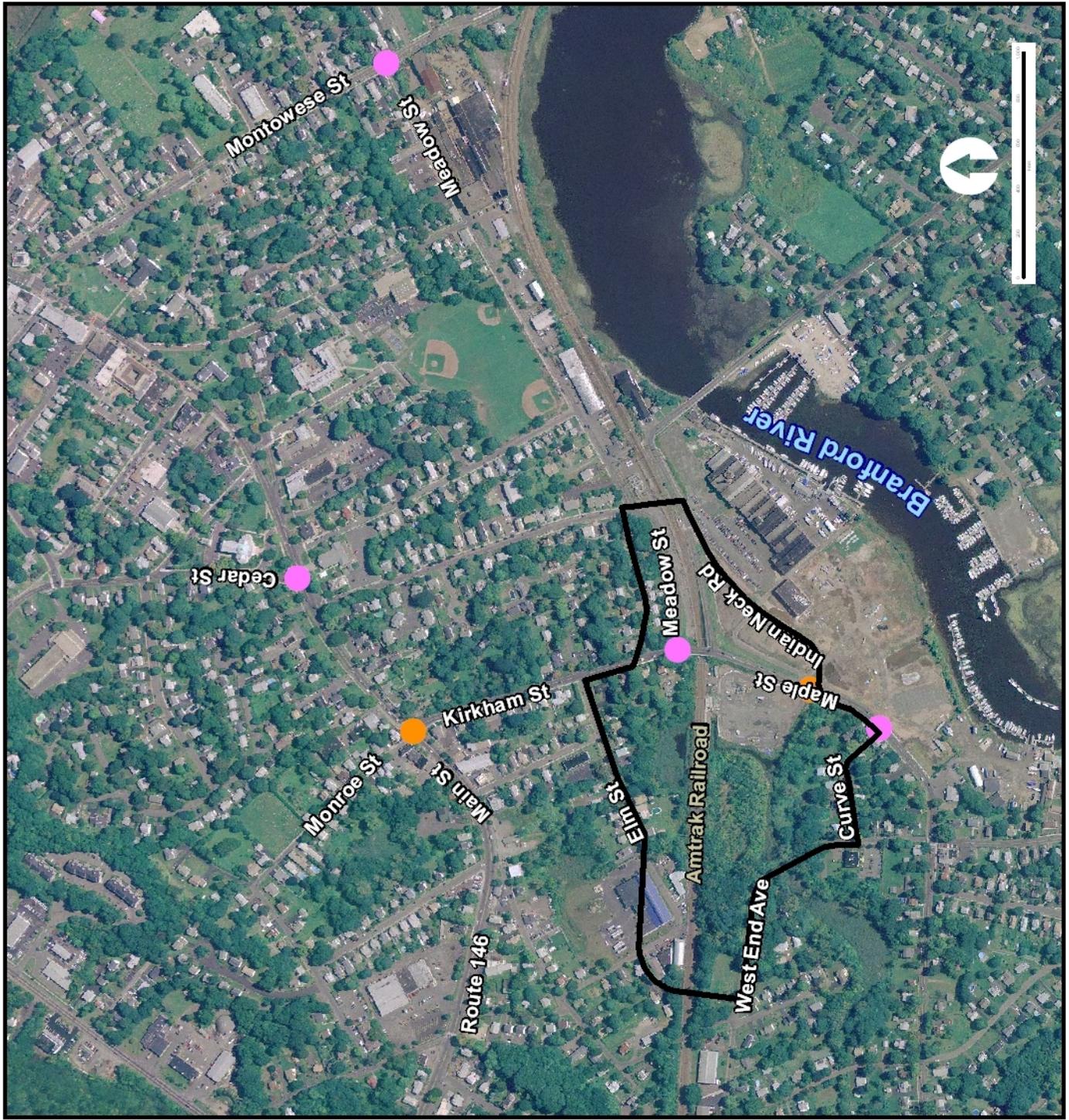
1. Main Street at Cedar Street (unsignalized)
2. Main Street at Kirkham Street/Monroe Street (signalized)
3. Maple Street at Curve Street (unsignalized)
4. Meadow Street at Kirkham Street/Maple Street (unsignalized)
5. Meadow Street at Montowese Street (unsignalized)
6. Maple Street at Indian Neck Avenue/Rail Station Drive (signalized)

Figure 3 shows the site location and traffic study area intersections in relation to the surrounding roadway network.



- Study Area
- Study Area Intersections
- Signalized
- Unsignalized

Figure 3
Traffic Study Area
Intersections
 Shoreline East Expansion
 Branford, CT



Access and Parking

Access to the Branford SLE railroad station and existing commuter rail parking lot is provided from Maple Street at the intersection of Maple Street with Indian Neck Avenue. This is a signalized intersection. There are a total of 201 parking spaces currently available; including 6 handicapped spaces and 195 general parking spaces.

Parking counts at the station were collected on Thursday, May 31, 2007 to determine the peak parking demand during an average weekday morning peak period. Results indicate that the peak parking demand was observed to be 0 handicapped spaces and 203 general parking spaces between 9:00 AM and 10:00 AM during the weekday morning. These results indicate that the surface parking lot is above full occupancy. Table 1 summarizes the parking count data.

Table 1: Observed Parking Occupancy

	Handicapped Spaces	General Spaces	Total
Number of Spaces	6	195	201
Observed Spaces	0	203	203
Utilization %	0%	>100%	>100%

Source: Fitzgerald & Halliday, Inc., May 2007

Transit, Pedestrian, and Bicycle Facilities

Transit services that exist in the area around the SLE Branford Railroad Station include rail and bus service. Rail service is provided by SLE between New Haven's Union and State Street stations and the New London Railroad Station. Monthly ticket holders of SLE are entitled to use the Guaranteed Ride program. This program allows rail users who may need a ride from work because of an emergency, illness, family crisis, or having to work late unexpectedly to call for a free taxi ride home. Also, passengers are permitted to carry their bicycles (with the front tire removed) on board SLE trains.

CTTransit provides bus transit service in the study area via the Short Beach/Branford route which runs between downtown New Haven and the Branford Green. In addition, DATTCO operates the S-route bus service, which runs between downtown New Haven and the Old Saybrook Railroad Station. More detailed information on rail and bus routes serving the study area is displayed in Table 2.

There is an existing bituminous sidewalk along the western side of Kirkham Street within the project study area and there are also new sidewalks along Indian Neck Avenue. Sidewalks also connect the 201-space parking lot to the station and south-side high-level rail platform, all of which were constructed by ConnDOT in 2005.

According to the Connecticut Bicycle Map (ConnDOT, 2002) and the South Central Regional Bicycle and Pedestrian Plan (2007), Route 146 is designated a cross state bicycle route. There is no other state or region-wide designated bicycle route surrounding the station area. In addition, all CT Transit buses serving Branford are equipped with bicycle racks.

Table 2: Transit Routes

Transit Line	Description of Service	Schedule
Shoreline East Rail	Service between downtown New Haven (Union & State Street Station) and New London Rail Station	Weekday westbound trains depart Branford Rail Station every 25-35 minutes between 5:56 - 9:43 AM. Weekday eastbound trains depart Branford Rail Station 11 times between 1:13 - 9:03 PM. No weekend, Thanksgiving, Christmas, or New Year's service.
CT Transit Short Beach / Branford route	Service between downtown New Haven (Chapel & Temple) and Branford Green	Weekday westbound buses depart Branford Green every 35-40 minutes between 6:00 - 8:20 AM and every hour between 4:00 - 5:04 PM. Weekday eastbound buses arrive at Branford Green from New Haven every 35-40 minutes between 6:55 - 8:10 AM and every 30-50 minutes between 4:10 - 6:02 PM. A Saturday bus arrives from New Haven at 7:11 AM and departs for points west at 7:13 AM.
S-Route Bus (Operated by DATTCO)	Service between downtown New Haven (Church & Crown) and Old Saybrook Rail Station	Weekday westbound buses depart Branford Green 12 times between 6:54 AM and 6:50 PM. Weekday eastbound buses depart Branford Green 13 times between 6:00 AM and 5:55 PM. Two eastbound midday buses will stop at Branford Rail Station upon request. No weekend service.

Traffic Data Collection

ConnDOT provided traffic count data for the AM and PM peak hours for the base year 2007, and for the No-Action Alternative and Proposed Action 2030 conditions. A summary of these roadway volumes is included in Appendix D of this EIE.

Traffic Operations Analysis

Intersection Analysis

Level of Service (LOS) for an intersection is rated in a range from A to F, with LOS A being the best operating conditions and LOS F being the most congested. LOS F represents long delays and generally unacceptable conditions. LOS designation is reported differently for signalized and unsignalized intersections. For signalized intersections, LOS is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Specifically, LOS criteria are stated in terms of average stopped delay per vehicle for the peak 15-minute period of the peak hour for the entire intersection and by approach. For unsignalized intersections, the analysis assumes that the traffic on the mainline is not affected by traffic on the side street. The LOS for each movement is calculated by determining the number of gaps that are available in the conflicting traffic stream. Based on the number of gaps, the capacity of the

movement can be calculated. The demand of the movement is then compared to the capacity and utilized to determine the average delay for the movement. For unsignalized intersections, an overall LOS is not determined. Table 3 provides a summary of the LOS for the study area intersections under existing conditions.

Table 3: Level-of-Service Summary
Existing Condition (2007)

	Existing (2007)	
	AM Peak Hour	PM Peak Hour
Signalized Intersections		
Main Street & Kirkham Street/Monroe Street	B	F
Maple Street & Indian Neck Avenue	B	B
Unsignalized Intersections		
Main Street & Cedar Street Southbound (Cedar Street)	D	F
Meadow Street & Kirkham Street Westbound (Meadow Street)	B	C
Northbound (Kirkham Street)	B	C
Southbound (Kirkham Street)	B	C
Maple Street & Curve Street Eastbound (Curve Street)	--	--
Meadow Street & Montowese Street Eastbound (Meadow Street)	C	F

Source: Fitzgerald & Halliday, Inc., October 2007

--: LOS is not computed as a result of no existing peak hour volumes

Base Year 2007: According to the ConnDOT Consultant Design Manual, (2001) the minimum acceptable intersection LOS is D. The analysis results describe the operational effectiveness of the study area intersections. Results from the LOS analysis for the study area intersections indicate that one of the two signalized intersections and two of the four unsignalized intersections operate at failing levels of service under existing conditions (LOS E or LOS F) during at least one peak hour. These intersections include:

- *Main Street at Kirkham/Monroe Street (signalized):* Operates with an overall intersection LOS F during the PM peak hour.
- *Main Street at Cedar Street (unsignalized):* Operates with critical movements at LOS F during the PM peak hour.
- *Meadow Street at Montowese Street (unsignalized):* Operates with critical movements at LOS F during the PM peak hour.

The intersection of Main Street at Kirkham/Monroe Street operates with an unacceptable LOS during the PM peak hour as a result of insufficient capacity to support the existing demand. The unsignalized intersections of Main Street at Cedar Street and Meadow Street at Montowese Street have movements that operate at an unacceptable LOS. This is as a result of long delays occurring on a minor side street when it intersects with a roadway carrying higher volumes.

Safety Evaluation

Crash data was obtained from ConnDOT for Route 146 over a three-year period (2004-2006). A total of 99 crashes were recorded along Route 146 from Russell Street to Pine Orchard Road over the three-year period. Forty-one percent (41%) of the total crashes on this roadway segment during this period were rear end collisions, indicating that drivers are likely following too closely. Twenty-three percent (23%) of the total crashes consisted of turning-intersecting paths collisions, indicating carelessness when turning or inadequate intersection controls. There were no crashes involving fatalities.

Based on this crash data, there does not appear to be an existing high accident location or pattern of correctable accident occurrence in the study area. A summary of crash data is provided in Appendix D of this EIE. Crash data on the local roadways was not available.

Direct and Indirect Impacts

Traffic Impacts

In order to estimate traffic impacts from the Proposed Action, traffic flow and operations were evaluated for the future design year 2030. Projected traffic volumes for the design year 2030 and approved planned/programmed projects obtained from ConnDOT were used to evaluate the study area intersections under the No-Action Alternative and the Proposed Action 2030 conditions. An approved development within the study area has required Cedar Street to be widened to two lanes to provide an exclusive left-turn and right-turn lane.

Results from the No-Action Alternative analysis, as shown in Table 4, indicate that one signalized intersection (same identified under the Existing condition) and three unsignalized intersections (one more than identified under the Existing condition) will operate at an unacceptable LOS (LOS E or F) during the AM or PM peak hour. These intersections include:

- *Main Street at Kirkham/Monroe Street (signalized)*: Operates with an overall intersection LOS E during the AM peak hour and LOS F during the PM peak hour.
- *Main Street at Cedar Street (unsignalized)*: Operates with critical movements at LOS F during the AM and PM peak hour.
- *Meadow Street & Kirkham Street (unsignalized)*: Operates with critical movements at LOS E or F during the PM peak hour.

- *Meadow Street at Montowese Street (unsignalized)*: Operates with critical movements at LOS E during the AM peak hour and LOS F during the PM peak hour.

Table 4: Level-of-Service Summary

Existing Condition (2007) and No-Action Alternative (2030)

	Existing (2007)		No-Action (2030)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Signalized Intersections				
Main Street & Kirkham Street/Monroe Street	B	F	E	F
Maple Street & Indian Neck Avenue	B	B	B	C
Unsignalized Intersections				
Main Street & Cedar Street Southbound (Cedar Street)	D	F	F	F
Meadow Street & Kirkham Street Westbound (Meadow Street)	B	C	C	E
Northbound (Kirkham Street)	B	C	C	F
Southbound (Kirkham Street)	B	C	B	F
Maple Street & Curve Street Eastbound (Curve Street)	--	--	--	--
Meadow Street & Montowese Street Eastbound (Meadow Street)	C	F	E	F

Source: Fitzgerald & Halliday, Inc., October 2007

--: LOS is not computed as a result of no existing or future forecasted peak hour volumes.

The Proposed Action includes the construction of 368 parking spaces and a new north-side high level rail platform and pedestrian overpass. Three-hundred sixteen (316) spaces of additional surface parking will be provided on a lot adjacent to the existing 201-space parking lot that was constructed in 2005. A vehicular connection from the existing parking lot to the proposed surface parking will be provided and pedestrian access (walkways) from the new parking area to the station platforms will also be provided. The intersection of Maple Street with Indian Neck Avenue will continue to be the primary access to the station and to the existing and proposed parking lots. Fifty-two (52) parking spaces will be provided northeast of the station off Meadow Street within the parking lot associated with the former Branford Railroad Station. Access to this parking area was blocked a few years ago when guard rails were placed at the entrance to the lot. The Proposed Action involves re-instating access to this lot, which will provide overflow parking for the new railroad station. Therefore, after construction of the Proposed Action, a total of 569 parking spaces will be available for rail commuter use at the Branford Railroad Station. The provision of these additional spaces is a major beneficial impact of the Proposed Action.

Results from the LOS analysis for the 2030 Proposed Action condition (compared to the 2030 No-Action Alternative), as shown in Table 5, indicate that the LOS for the study area intersections is expected to be similar to operations under the No-Action condition. Under the 2030 Proposed Action conditions, one signalized intersection (same identified under the No-Action Alternative) and three unsignalized intersections (same identified under the No-Action Alternative) will operate at an unacceptable LOS (LOS E or F) during the AM or PM peak hour. Operations at the proposed site access driveways are anticipated to operate at an acceptable LOS (LOS D or better).

Thus, operational inefficiencies in the traffic study area are not as a result of the proposed improvements but as a result of traffic growth that naturally occurs over a period of time. Therefore, no adverse impacts are expected as a result of the Proposed Action.

In terms of pedestrian facilities and circulation, the Proposed Action will provide several important pedestrian connections. Foremost is a new pedestrian bridge, complete with elevators, that connects the two high-level rail platforms, thereby allowing safe crossing of the active rail line. New sidewalks will allow direct connections between the new 316-space parking lot and the rail station. Lastly, new sidewalks, stairwells, and a crosswalk at the Kirkham Street Bridge will allow direct and safe pedestrian connections between the overflow parking lot located north of the rail corridor and south of Meadow Street with the new railroad station. These pedestrian connections, which will all be illuminated, are important and beneficial elements of the Proposed Action that together make the station attractive and user friendly.

Table 5: Level-of-Service Summary

No-Action Alternative (2030) and Proposed Action (2030)

	No-Action (2030)		Proposed Action (2030)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Signalized Intersections				
Main Street & Kirkham Street/Monroe Street	E	F	E	F
Maple Street & Indian Neck Avenue	B	C	B	C
Unsignalized Intersections				
Main Street & Cedar Street Southbound (Cedar Street)	F	F	F	F

	No-Action (2030)		Proposed Action (2030)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Meadow Street & Kirkham Street Eastbound (Meadow Street)	n/a	n/a	B	B
Westbound (Meadow Street)	C	E	C	E
Northbound (Meadow Street)	C	F	D	F
Southbound (Meadow Street)	B	F	C	F
Maple Street & Curve Street Eastbound (Curve Street)	--	--	--	--
Meadow Street & Montowese Street Eastbound (Meadow Street)	E	F	E	F
Meadow Street & Proposed Access Drive Northbound (Proposed Access)	n/a	n/a	--	A

Source: Fitzgerald & Halliday, Inc., October 2007

--: LOS is not computed as a result of no future forecasted peak hour volumes

n/a: not applicable

Proposed Mitigation

Traffic operations at the study area intersections under the Proposed Action are anticipated to be similar to operations under the No-Action Alternative. Thus, operational inefficiencies in the study area are not as a result of the Proposed Action but as a result of the traffic growth that naturally occurs over a period of time. Therefore, no off-site traffic mitigation is warranted.

3.4. Air Quality

Existing Setting

The Clean Air Act of 1970 and subsequent Clean Air Act Amendments established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants to ensure the protection of human health and public welfare. NAAQS were established for carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), ozone (O₃), and particulate matter (PM). The Clean Air Act also required states to monitor air quality to determine if regions meet the NAAQS. If a region shows exceedances of any of the NAAQS, that part of the state is classified as non-attainment for that pollutant and the state must develop an air quality plan, called a State Implementation Plan (SIP), to bring that area into compliance.

The EPA Office of Air Quality Planning and Standards has set NAAQS for six principal pollutants, which are called "criteria" pollutants. They are listed below. Carbon monoxide (CO), one of the six pollutants regulated by the NAAQS, is the air quality parameter that could be most likely affected by traffic associated with the Proposed Action. Units of measure for the standards are parts per million (ppm) by volume, milligrams per cubic meter of air (mg/m³), and micrograms per cubic meter of air (µg/m³) (refer to Table 6).

Table 6: National Ambient Air Quality Standards

Pollutant	Primary Standards	Averaging Times	Secondary Standards
Carbon Monoxide	9 ppm (10 mg/m ³)	8-hour ¹	None
	35 ppm (40 mg/m ³)	1-hour ¹	None
Lead	1.5 µg/m ³	Quarterly Average	Same as Primary
Nitrogen Dioxide	0.053 ppm (100 µg/m ³)	Annual (Arithmetic Mean)	Same as Primary
Particulate Matter (PM ₁₀)	Revoked ²	---	---
	150 µg/m ³	24-hour ¹	
Particulate Matter (PM _{2.5})	15 µg/m ³	Annual ³ (Arithmetic Mean)	Same as Primary
	35 µg/m ³	24-hour ⁴	
Ozone	0.075 ppm ⁵	8-hour ⁵	Same as Primary
	0.12 ppm	1-hour ⁶	Same as Primary
Sulfur Oxides	0.03 ppm	Annual (Arithmetic Mean)	-----
	0.14 ppm	24-hour ¹	-----
	-----	3-hour ¹	0.5 ppm (1300 µg/m ³)

¹ Not to be exceeded more than once per year.

² Due to a lack of evidence linking health problems to long-term exposure to coarse particulate pollution, the agency revoked the annual PM₁₀ standard in 2006 (effective December 17, 2006).

³ To attain this standard, the 3-year average of the annual arithmetic mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15 µg/m³.

⁴ To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective December 17, 2006).

⁵ To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (effective May 27, 2008).

⁶ (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1.

(b) The 1-hour NAAQS will no longer apply to an area one year after the effective date of the designation of that area for the 8-hour ozone NAAQS.

According to the EPA's 2006 *Annual Report on Air Quality in New England* (July 2007), the current air quality attainment designations for the six criteria pollutants in New Haven County are:

CO: The entire state of Connecticut is currently designated as attainment for CO. A limited maintenance plan for CO is in effect for the New Haven-Meriden-Waterbury region.

Ozone: The entire state of Connecticut is designated as non-attainment for the 1-hour ozone standard.

PM: EPA has established NAAQS for two size ranges of PM. The entire state of Connecticut is currently in attainment of PM₁₀ (particulate matter with a diameter of 10 microns or less). New Haven County is in non-attainment for PM_{2.5} (particulate matter with a diameter of 2.5 microns or less).

NO₂: The entire State of Connecticut is in attainment for NO₂.

Pb: The entire State of Connecticut is in attainment for Pb.

SO₂: The entire State of Connecticut is in attainment for SO₂.

Direct and Indirect Impacts

Regional Impacts – Transportation Conformity

The impacts of a particular project on regional air quality are assessed when the Metropolitan Planning Organization (MPO) develops an air quality conformity determination of the region's long- and short-term transportation plans, which includes all existing and projected roads and transit system improvements. This process involves modeling travel demand across the entire regional transportation system and applying vehicle emissions to vehicle trips and vehicle miles of travel across this network. The conformity determination must demonstrate that the transportation plans will not contribute to exceedances of air quality standards.

The SCRCOG, which is the MPO for the region, coordinates with ConnDOT to conduct a conformity determination of the region's transportation plan. The conformity analysis must demonstrate that emissions from the "action" scenarios are less than the amount allowed in the VOC, NO_x and CO emissions budgets established by the CTDEP for transportation sources. The emissions budgets are set at levels that will maintain the NAAQS for each pollutant. Therefore, transportation-related emissions must be less than or equal to these emissions budgets.

Project Level Conformity Determination

Federal regulations concerning the conformity of transportation projects developed, funded or approved by the United States Department of Transportation (USDOT) and by MPOs are contained in 40 CFR 93. In accordance with 40 CFR 93.109, the applicable criteria and

procedures for determining the conformity of a project which is from a conforming Transportation Plan are listed in 40 CFR 93.109(b). Each of these criteria has been determined to be satisfied for the Proposed Action, as follows:

- **Proposed Action from a Conformity Plan** – The Branford SLE project is identified in the SCRCOG’s current Long Range Transportation Plan. The scope of this project, as described in this EIE, is consistent with the scope identified in the current Plan.
- **Current Conforming Plan** – The SCRCOG’s current Long Range Transportation Plan was determined to be in conformity by the FHWA and FTA. The Proposed Action is included in this Plan.
- **CO Hot Spots** – This project will not cause or contribute to any new violations or increase the frequency or severity of any existing CO violations in CO maintenance areas, as shown by the results of the microscale (local) CO hot spot analysis contained herein.
- **PM_{2.5} Hot Spots** - This project is exempt from conformity requirements under Section 40 CFR Part 93.126 of the conformity rule. A project level PM_{2.5} qualitative analysis is therefore not required.
- **PM₁₀ Control Measures** - There are no PM₁₀ control measures in the current State Implementation Plan.

In summary, the Proposed Action has been determined to be in conformity with the Clean Air Act, as amended, pursuant to all applicable EPA regulations.

Local Impacts – Microscale Analysis

CO is the most important transportation-related pollutant of concern at the local level. In order to assess CO impacts on local air quality from the Proposed Action, a modeling analysis was conducted to estimate CO concentrations under existing (2007), build year (2011), and future (2030) conditions.

The following intersections were identified from traffic analyses for the project as having the worst LOS:

- Main Street & Kirkham Street/Monroe Street
- Maple Street & Indian Neck Avenue

Capacity and queuing analyses were completed for the following peak periods:

- 2007 morning and afternoon (Existing Conditions),

- 2011 morning Build, afternoon Build, morning No-Build, and afternoon No-Build scenarios (Build Year), and
- 2030 morning Build, afternoon Build, morning No-Build, and afternoon No-Build scenarios.

Mobile source CO emission factors were modeled using MOBILE6.2. These input files and associated output files are included as part of the project record and can be made available upon request.

CALQVIEW2 is a line source dispersion model that applies the Gaussian dispersion theory to traffic inputs and meteorological conditions to predict CO concentrations from vehicles on the roadway. Air quality impacts from mobile sources are modeled by analyzing queue links and free flow links. Queue links are those that simulate vehicles idling at the stop bar of an intersection. Free flow links simulate vehicles traveling through an intersection. Receptor locations are selected based on where people may be located who may be exposed to the CO produced by vehicles in the area (e.g., sidewalks, outdoor eating establishments). Each receptor was located at a height of 5.9 feet, per EPA guidance.

CALQVIEW2 meteorological and background information is listed in Table 7 below.

Table 7: CALQVIEW2 Parameters

Parameter	Value
Averaging time	60 mins
Surface roughness length	175 cm
Settling velocity	0
Deposition velocity	0
Scale conversion factor	0.3048 (units in ft)
Output	1 (in ft)
Wind speed	1 m/s
Wind direction	0
Stability class	4 (D) – Urban
Mixing height	1000 m
1-hour background concentration	4.3 ppm
Multiple wind directions	Yes – 10 degree increments
Receptor height	6.0 ft
Signal times	Varies (traffic analysis)
Traffic volumes	Varies (traffic analysis)

Results from the model represent the one-hour average CO concentrations at each receptor due to the modeled traffic, and include a background concentration of 4.3 ppm. To determine the eight-hour average concentration at each receptor, the one-hour dispersion result from the model was multiplied by the persistence factor of 0.7. The 2007 AM and PM; 2011 AM Build, PM

Build, AM No-Build, and PM No-Build; and 2030 AM Build, PM Build, AM No-Build, and PM No-Build conditions were each modeled for the predetermined intersections, for a total of 20 model runs. CALQVIEW2 results are included as part of the project record and can be made available upon request. Table 8 presents the highest predicted CO reading for each model run.

Table 8: Highest Predicted CO Results

Model Run	Highest 1-hour Concentration (ppm)	Corresponding 8-hour Concentration (ppm)	Receptor Location
Main @ Kirkham 2007 Peak AM Existing	5.6	3.9	Southeast corner of intersection
Main @ Kirkham 2007 Peak PM Existing	6.4	4.5	Northeast corner of intersection
Main @ Kirkham 2011 Peak AM No-Build	5.4	3.8	Southeast corner of intersection
Main @ Kirkham 2011 Peak PM No-Build	6.0	4.2	Westbound western mid-block
Main @ Kirkham 2011 Peak AM Build	5.9	4.1	Northeast corner of intersection
Main @ Kirkham 2011 Peak PM Build	6.0	4.2	Westbound western mid-block
Main @ Kirkham 2030 Peak AM No-Build	6.2	4.3	Northeast corner of intersection
Main @ Kirkham 2030 Peak PM No-Build	5.9	4.1	Southeast corner of intersection
Main @ Kirkham 2030 Peak AM Build	6.2	4.3	Northeast corner of intersection
Main @ Kirkham 2030 Peak PM Build	6.3	4.4	Northeast corner of intersection
Maple @ Indian-Neck 2007 Peak AM Existing	6.0	4.2	Westbound eastern mid-block
Maple @ Indian-Neck 2007 Peak PM Existing	5.8	4.1	Westbound eastern mid-block
Maple @ Indian-Neck 2011 Peak AM No-Build	5.8	4.1	Westbound eastern mid-block
Maple @ Indian-Neck 2011 Peak PM No-Build	5.5	3.9	Westbound eastern mid-block
Maple @ Indian-Neck 2011 Peak AM Build	5.8	4.1	Westbound eastern mid-block
Maple @ Indian-Neck 2011 Peak PM Build	5.6	3.9	Westbound eastern mid-block
Maple @ Indian-Neck 2030 Peak AM No-Build	5.5	3.9	Westbound eastern mid-block
Maple @ Indian-Neck 2030 Peak PM No-Build	5.5	3.9	Southbound northern mid-block
Maple @ Indian-Neck 2030 Peak AM Build	5.5	3.9	Westbound eastern mid-block
Maple @ Indian-Neck 2030 Peak PM Build	5.7	4.0	Southbound northern mid-block

NAAQS for CO: 1-hour standard of 35.0 ppm, 8-hour standard of 9.0 ppm.

As shown in Table 8, all results are well below the CO NAAQS of 35 ppm for one hour and 9 ppm for eight hours. Thus, neither the No-Action Alternative nor the Proposed Action will create any violations of federal CO standards.

Proposed Mitigation

No short or long-term adverse air quality impacts are expected as a result of either the No-Action Alternative or the Proposed Action. Therefore, no air quality mitigation measures are required or proposed.

During construction of the proposed facility and associated paved surfaces, potential air quality impacts include airborne dust particles from exposed soils and emissions from construction vehicles. ConnDOT best management practices (BMPs) will be followed during the course of the project. Construction-related air quality issues are further discussed in Section 3.20, Construction Related Impacts.

3.5. Noise

Existing Setting

Noise-sensitive land uses include: a) residences, hotels, and other buildings where people sleep; b) institutional resources such as churches, schools, hospitals, and libraries; and c) various tracts of land where quiet is an essential element of the land's intended purpose, such as a National Historic Landmark where outdoor interpretation routinely takes place.

A field visit was conducted on October 24, 2007 to identify noise-sensitive land uses in the project vicinity and to obtain a better understanding of the existing noise environment. The Proposed Action site is located near the intersection of Kirkham and Meadow Streets on the southern edge of Branford's downtown and between that cohesive village center and marine land uses to the south along Branford's coastline. A prominent feature of the Proposed Action site is the Branford Railroad Station south-side high-level platform and associated 201-space parking lot (August 2005), which are located just west of the Kirkham Street Bridge over the railroad tracks.

Land use surrounding the Proposed Action site consists primarily of single-family residences. Homes are located to the southwest and west within a neighborhood formed by Curve Street, Harbor Street and West End Avenue and to the north and northeast within neighborhoods formed by Meadow Street, Kirkham Street, Hammer Place, Elm Street and North Harbor Street. The homes in the Curve Street/Harbor Street/West End Avenue neighborhood are approximately 300 feet from the proposed new 316-space commuter parking lot and over 500 feet from the proposed new north-side high-level rail platform and pedestrian overpass. Homes along the south side of Elm Street are approximately 400 feet from the proposed new 316-space commuter parking lot and approximately 250 feet from the new north side high-level rail platform, pedestrian overpass, and kiss-and-ride lot. There is one home on the west side of Kirkham Street and north of the rail corridor that is approximately 150 feet from the proposed new-kiss-and-ride

drop off area. There are also homes along the north side of Meadow Street that are approximately 100 to 120 feet from the linear parking lot that was once associated with the former Branford Railroad Station platform location. As previously described, these parking spaces will be re-opened for use as overflow parking for the new Branford Railroad Station as part of this Proposed Action. Meadow Street, in addition to Kirkham Street, Maple Street, and Indian Neck Avenue are the primary access roads leading to the station. There are no other noise-sensitive land uses near the Proposed Action site. It is important to note, however, that the area south and east of the study area is currently redeveloping and includes a mix of housing, services, and marine related uses, including a marina. This new development, known locally at the Anchor Reef Redevelopment Project, is more than 500 feet from the improvements associated with the Proposed Action.

Existing 2008 noise levels have not been measured for this EIE and no prior studies quantifying existing noise levels are known to exist for the project study area. Despite the lack of quantitative noise data for the project site, suburban environments similar to Branford are considered moderately noisy places. At this particular site, noise is predominantly generated by the frequent passage of SLE, Amtrak, and freight trains along the existing railroad corridor. Noise is not only generated by the steel wheels on the rails but also emanates from whistles as trains approach the Branford Railroad Station. Other sources of noise in the project area include vehicular traffic along local roadways and summer boat traffic on the nearby Branford River.

In general, noise levels within suburban environments typically range from 55 dBA (A-weighted decibels) to 60 dBA (*Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06, May 2006). Because the existing railroad corridor is the most prominent source of existing noise affecting noise sensitive receptors in the project study area, column three/row three entitled, "Railroad Lines" of Table 5-7 in the FTA manual was used to estimate existing noise levels. According to the "Railroad Lines" data contained in Table 5-7, noise sensitive receptors that are located between 240 and 500 feet from an active rail line experience noise levels of approximately 55 dBA. Most of the noise sensitive receptors in the Branford study area fall within this distance. The one residential home on Kirkham Street, and several homes along Meadow Street that are located north of the tracks all fall within approximately 120 to 150 feet of the existing rail line. Table 5-7 indicates that existing noise levels from the rail line at these receptors ranges from 60 to 65 dBA. Overall, based on the known noise sources in the study area, existing noise levels at the Proposed Action site are anticipated to fall within or slightly exceed a typical suburban decibel range.

Direct and Indirect Impacts

The No-Action Alternative represents no change to the existing noise environment at the proposed site and therefore would have no adverse noise effects.

According to guidance contained in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* (FTA-VA-90-1003-06, May 2006); prior to any detailed noise modeling, a noise screening procedure is first conducted to determine if noise sensitive receptors fall within screening distances (or thresholds) that have been established for various types of

transit projects. If a receptor falls within an established screening distance, then a detailed noise analysis is required. If a receptor falls outside the established threshold distance, then modeling is not required and noise impacts will not occur from the project. This screening procedure is outlined in Chapter 4 of FTA's guidance manual, specifically in Tables 4-1 and 4-2.

New Surface Parking Lot

For the Proposed Action, the most prominent feature is the construction of the new 316-space surface parking lot on an undeveloped parcel located west of the existing 201-space parking lot that was built in 2005. According to Chapter 4 of the FTA noise manual, noise modeling for parking facilities is only required if noise sensitive receptors (such as residences) fall within 125 (unobstructed) feet of the new parking facility and only if the parking facility has a capacity of over 1,000 vehicles. Since neither of these two thresholds applies to the Proposed Action, it is concluded that the parking component of the Proposed Action will have no impact with respect to noise once it is fully constructed and operational.

New North-Side High Level Platform and Pedestrian Overpass

The Proposed Action also includes the construction of a new north-side high level rail platform and pedestrian overpass; however this platform and overpass will not generate any new noise as trains already stop at the south-side high level rail platform that was constructed as part of the Branford Railroad Station that opened in August 2005. It is known that at least the same number of trains, if not more, will be traveling along the SLE corridor in the vicinity of the project in future years as ridership increases and the SLE service is expanded. Any increase in the number of trains along the SLE corridor, however, is a planning decision by ConnDOT made in conjunction with Amtrak and is based on increased growth and ridership demands along the overall SLE system. Thus, the construction of the new north-side high-level rail platform itself will not immediately precipitate an increase in the number of SLE trains and therefore will not contribute to increased noise levels in the project study area.

With respect to train whistles, train engineers blow whistles for three specific reasons:

- When approaching and/or departing a station
- Upon approaching an at-grade railroad crossing
- To warn railroad workers and/or trespassers within the railroad right-of-way of an approaching train.

Since there are no at-grade railroad crossings in the project study area, train whistles are only blown near the Branford SLE Station for two of the three reasons mentioned above. Since the Proposed Action alone will not precipitate an increase in the number of trains stopping at the Branford SLE station (as described above) there will be no perceived noise impact resulting from train whistles associated with the Proposed Action. Existing and future conditions will remain the same with the project.

Access Roadways to Station

With respect to access roadways leading to the rail station, Chapter 4 of the FTA noise manual stipulates that detailed noise modeling is only required for access roadways when noise sensitive receptors along the access roadway fall within 100 feet (unobstructed) or 50 feet (obstructed) of the access roadway, and only when the access roadway carries 1,000 vehicles per peak hour and 12 buses per peak hour. Receptors along Meadow Street are approximately 100 feet (unobstructed) from the access roadway but existing and future peak hour volumes along Meadow Street (Appendix D) are less than 1,000 vehicles. It is therefore concluded that Meadow Street, as an access roadway to the station, will have no impact with respect to noise as it relates to the construction and operation of the Proposed Action.

Increased noise levels associated with the Proposed Action will be noticeable only during construction activities. These impacts are addressed in Section 3.20 entitled *Construction Impacts*.

Proposed Mitigation

The Proposed Action will not result in adverse noise impacts. Therefore, noise mitigation is not required or proposed.

3.6. Neighborhoods/Housing

The following discussion of neighborhoods and housing includes consideration of local socio-economic conditions, existing neighborhoods, and residential character. Local socio-economic conditions include major employers, economic trends, employment levels, income, and poverty levels. Comparative information on neighborhoods, housing, and local socio-economic conditions was obtained from the U.S. Census 2000, Connecticut Economic Resources Center (CERC), and field observation.

Existing Setting

Local Socio-Economic Conditions

Socioeconomic conditions considered for this EIE include local employment, major employment sectors, median household income, real estate sales and new residential units, and labor force. Data regarding these economic indicators are provided in the following tables.

Table 9: 2006 Economic Profile for Branford, CT

Housing Data	Branford
Median Household Income	\$65,385.00
New Housing Units	80
Housing Sales Units	207
Median Residential Sales Price	\$346,000.00
Employment By Sector	
Agriculture	0.6%
Construction/Mining	7.7%
Manufacturing	15.6%
Transportation and Utilities	3%
Trade	28.4%
Finance, Insurance, Real Estate	4.1%
Services	37.6%
Government	2.9%

Source: CERC Town Profile 2007

Table 10: Comparison of Census 2000 Employment and Income Data

	Study Area*	Branford	New Haven County	State of CT
Income/Poverty				
Median Household Income	\$42,932	\$58,009	\$48,438	\$53,935
Percent Below Poverty	3.2%	4.1%	9.2%	7.6%
Employment Status				
Population	2,729	28,638	824,008	3,405,565
Of Employment Age (16+)	2,216	23,415	643,641	2,652,316
Employed	1,528	15,820	396,326	1,664,440
Percent Unemployed (2005)	1.5%	4%	5.3%	4.9%

Source: CERC, 2007; Census 2000.

* Study Area corresponds to Census Tract 1841, Block Groups 2, 3 and 4

The data indicates that the economy of Branford is growing steadily with comparatively low unemployment, rising median household incomes, and ongoing new housing construction. The study area data suggest this is a stable, moderate income neighborhood with low unemployment, a comparatively low poverty rate, and household income lower than that in Branford as a whole, as well as that in New Haven County and the State of Connecticut. Major sources of employment in Branford include services (hair salons, accountants, dry cleaners), trades (electricians, plumbers, etcetera) and manufacturing. Census data on commuting patterns in Branford reflect that 65 percent of workers from Branford travel outside the town for work, with most workers heading to New Haven for jobs.

Neighborhoods:

Neighborhoods can be defined by formal designation, or presence of an organized neighborhood organization. They can also be identified by residents' expressed sense of community cohesion, their sense of unification, "belonging", or closeness to a neighborhood or community. The Town of Branford does not define neighborhoods for any formal planning or political sub-area purposes. In addition, there are no neighborhood organizations which represent the study area. However, the Town Planner reports (personal communication, October 11, 2007) that the neighborhood surrounding the train station is one of Branford's oldest and forms a cohesive cluster of residences within walking distance of the downtown.

Housing

The following tables provide indicators of the character of housing that comprises the neighborhood surrounding the Proposed Action site.

Table 11: Comparison of Census 2000 Household/Demographic Data

	Study Area*	Branford	New Haven County	State of CT
Household Characteristics				
Households	1,294	12,558	319,309	1,302,227
Housing Units	1,367	13,342	340,372	1,385,975
Percent Vacant Units	5.2%	6%	6.4%	6.1%
Percent Owner Occupied	42%	64.5%	59%	62.8%
Percent Renter Occupied	52.8%	29.6%	34.6%	31.2%
Population	2,729	28,638	824,008	3,405,565
Average Household Size	2.2	2.3	2.5	2.5
Males	45%	47%	48%	48%
Females	55%	53%	52%	52%
Median Age	38.4	41.4	37	37.4
Percent Elderly (65+ Years)	16.1%	16.8%	14.5%	13.8%
Percent Minority	6.7%	6.1%	20.7%	18.4%

Source: U.S. Census 2000.

* Study Area corresponds to Census Tract 1841, Block Groups 2, 3 and 4

The data suggest this is a stable neighborhood with a comparatively high percentage of rental units and low vacancy rates for residential units. The average household size in the study area is comparable to that in Branford as a whole and at 2.2 persons per household along with a median age of about 38 and low unemployment rate suggests that these are predominantly working individuals or couples, few with children and/or retirees.

Direct and Indirect Impacts

Local Socio-Economic Conditions

Impacts to local socio-economic conditions were assessed in terms of changes in employment and demand for local goods and services. The No-Action Alternative will constitute continuance of existing conditions and, as such, will have no direct or indirect impacts to local socio-economic conditions.

The Proposed Action will not displace any businesses or jobs but will have the beneficial effect of increasing opportunities to use the train to get to work with additional parking for commuters. Because the train station is within walking distance of the downtown as well as a small secondary neighborhood commercial center, access to local goods and services in this area of Branford is convenient. The Proposed Action may indirectly increase demand for local services and goods as commuters stop en route to work to take care of household tasks such as dry cleaning or to purchase convenience foods or other items. Consequently, the Proposed Action is expected to have an indirect beneficial effect on socio-economic conditions in Branford.

Neighborhoods

Impacts to neighborhoods were assessed in terms of disruptions to convenient access within the neighborhood (for vehicles as well as pedestrians or bicyclists), introduction of physical barriers to resident interaction within a neighborhood, loss of community institutions, and loss of structures important to the cohesive architectural or historical fabric of the neighborhood. The No-Action Alternative will constitute continuance of existing conditions and, as such, will have no direct or indirect impacts on neighborhoods.

No new roads will be constructed for the Proposed Action, yet one new access point will be created on Kirkham Street. This is not, however, anticipated to significantly affect access patterns within the neighborhood. The traffic analysis conducted for this EIE concluded that there will be no adverse effect from traffic generated by the Proposed Action. In addition, no new physical barriers to access within the neighborhood will be created. Also, since the Proposed Action will be constructed on vacant, unoccupied land, no community institutions or important structures will be displaced. Consequently, the Proposed Action will have no adverse effect to any neighborhoods.

Housing

The No-Action Alternative will constitute continuance of existing conditions and, as such, will have no direct or indirect impacts to neighborhoods.

The Proposed Action will cause the loss of one vacant housing unit on the parcel slated to be developed as a kiss-and-ride drop off area. This will have no substantive direct or indirect effect on the overall mix or availability of existing housing in the surrounding neighborhoods.

Consequently, the Proposed Action will have no adverse direct or indirect impact on housing in the study area.

Mitigation

The Proposed Action will not result in any direct or indirect impacts to neighborhoods, housing, or existing socio-economic conditions. Therefore, no mitigation is required or proposed.

3.7. Water Quality

Existing Setting

Surface Water

The Proposed Action site is located approximately 1,000 feet northwest of the Branford River, a tidal river that flows into the Branford Harbor about one mile south of the site. There is an unnamed tidal creek with one fork along the southern edge of the proposed 316-space parking lot site and another fork along its eastern edge. The fork along the eastern edge is hydraulically connected by culvert to a ponded area north of the railroad tracks. At Maple Street, the tidal creek is piped underground to its junction with the Branford River southeast of the site. There are no other surface water resources in the project study area.

There are no public surface or groundwater drinking water supplies within one mile of the Proposed Action site and there are no known domestic wells within 0.5 mile of the site. Branford's drinking water supply comes from the South Central Connecticut Regional Water Authority system.

According to the State of Connecticut Water Quality Standards (CTDEP), December 17, 2002), the Branford River has a water quality designation of SB, indicating a coastal water ("S") with Class B quality (CTDEP). Designated uses of a Class SB surface water resource include marine fish, shellfish and wildlife habitat, shellfish harvesting for transfer to approved areas for purification prior to human consumption, recreation, industrial and other legitimate uses including navigation.

The surface water quality of the tidal creek is undesignated and therefore presumed to be Class SA, the default classification assigned by the CTDEP when water quality monitoring data is unavailable for a tidal resource. According to the CTDEP standards, designated uses of a Class SA surface water resource include marine fish, shellfish and wildlife habitat, shellfish harvesting for direct to human consumption, recreation, and all other legitimate uses including navigation. Based on field observations, however, the water quality in the tidal creek appears to be degraded by possible contaminant inputs and insufficient flushing, and therefore is not likely to meet some of the Class SA designated uses specified by the CTDEP standards.

All of the developed parcels around the Proposed Action site are sewered according to the *Sewered Areas of Branford* map dated July 24, 2006.

Groundwater

Groundwater in the project vicinity is classified by CTDEP as GB (GIS *Ground Water Classifications* Data Layer, updated 2006). Groundwater with a GB classification is typically located within a historically urbanized area or an area of intense industrial activity and where public water supply service is available. Such groundwater may not be suitable for human consumption without treatment, due to waste discharges, spills or leaks of chemicals or land use impacts. Designated uses of Class GB groundwater resources include private and potential public or private drinking water supplies (with proper treatment), baseflow for hydraulically connected surface water bodies, and industrial process water and cooling waters. The groundwater in the vicinity of the Proposed Action site is saltwater.

Monitoring wells were installed on the Proposed Action site as part of a groundwater analysis program that was conducted during a site investigation by Storch Associates in 1993. Groundwater in the area was found to be approximately five to six feet below the surface and tidally influenced. The investigation determined that the groundwater contains oil, grease, cyanide, and various metals including antimony, chromium, iron, lead, and zinc.

Direct and Indirect Impacts

The No-Action Alternative would result in no direct or indirect impacts to surface or groundwater resources.

The Proposed Action's potential impacts on water quality associated with surface water, stormwater, and groundwater are described below.

Surface Water and Stormwater

The Proposed Action will involve the creation of approximately 2.88 acres (125,450 SF) of paved surface associated with the new access drive, kiss-and-ride drop off area and 316-space parking lot. The roadway and parking surfaces are accumulation areas for contaminants associated with motor vehicle operations such as fuel and oil leaks, brake and tire dust, and other potentially toxic materials. During storm events, these contaminants can be conveyed via sheet flow or drainage systems to downstream waters. Asphalt surfaces convey runoff faster than soils and vegetation, thereby potentially resulting in faster-moving, more erosive velocities of stormwater flowing from the site. Therefore, whenever a vegetated site is converted to a paved surface, adjacent surface water resources are at risk of potential degradation by polluted stormwater. Additionally, because the project area is adjacent to a tidal creek, freshwater inputs from paved surfaces and thermal pollution are also concerns.

To prevent adverse effects associated with increased paved surfaces, the Proposed Action will incorporate a comprehensive stormwater handling and drainage design. Permanent stormwater treatments will include a combination of primary and secondary stormwater water quality renovation measures. A water quality basin designed to remove sediments and retain the first

one (1) inch of stormwater runoff will be incorporated in the project design. The use of permeable asphalt surfaces may also be considered to encourage infiltration of stormwater. This may be possible for the kiss-and-ride drop off area and the overflow parking lot located north of the tracks. The use of permeable pavement for the 316-space surface parking lot is not an option due to subsurface contamination issues as described in Section 3.14 of this EIE. The design and implementation of primary and secondary stormwater renovation measures will be fully coordinated with the CTDEP and will depend on the ability of the measures to be physically implemented on the site given the presence of tidal creeks, underlying contamination, and the fact that a large portion of the site is located within the 100-year coastal flood hazard area. The treatment of stormwater runoff is of particular concern for the CTDEP considering that a portion of the Proposed Action site is within 500 feet of a vegetated tidal wetland.

During construction, there is an increased risk of water quality degradation from soil erosion, sediments in runoff, turbidity, and fuel or oil spills associated with excavation, grading, and construction equipment. Clearing of vegetation, soil excavation, and grading, if not properly managed, can trigger soil erosion and sedimentation of downstream waters. Mitigation (erosion and sedimentation control) measures will therefore be implemented during the construction period. Refer to Section 3.20 Construction Impacts for additional information pertaining to erosion and sedimentation control.

Mitigation measures are described in more detail below. With the implementation of the proposed mitigation, no adverse effects on water quality from the Proposed Action are expected.

Groundwater

Although there are no aquifer protection areas or groundwater supply wells in close proximity to the Proposed Action site, adverse impacts on groundwater can occur when contaminants, either on the surface or within the soil, infiltrate the groundwater table. This is of particular concern for the planned 316-space surface parking lot because the site has been found to contain subsurface contamination (refer to Section 3.14 of this EIE for more details). To minimize such impacts, the site will be paved and the proposed stormwater management system will collect potentially contaminated runoff from the new facility and pre-treat it prior to conveyance off-site. Additionally, the handling and storage of hazardous materials on site will be properly planned, controlled and regulated, such that there will be minimal risk of spills and/or other contact of such materials with groundwater. As a result of the measures and precautions incorporated into the design of the Proposed Action, no adverse effects on groundwater are anticipated.

Proposed Mitigation

To mitigate potential water quality degradation from erosion and sedimentation during the construction period, a stormwater pollution control plan will be developed and implemented in accordance with the *2002 Connecticut Guidelines for Erosion and Sedimentation Control* (CTDEP, 2002). The measures taken would prevent and minimize sedimentation, siltation, and/or pollution of the tidal creek and the Branford River. Primary and secondary stormwater

management measures will be fully coordinated with the CTDEP and will be appropriately designed in conformance with the *Connecticut Stormwater Quality Manual* (CTDEP, 2004). This will ensure that stormwater runoff is appropriately retained and treated prior to discharge from the project area.

The Proposed Action will disturb more than one acre of land, triggering the need for a Stormwater General Permit from CTDEP. Since disturbance is anticipated to be less than five acres, a formal Stormwater Pollution Prevention Plan (SWPPP) will not be required by the permit.

3.8. Hydrology And Floodplains

Existing Setting

Floodplains

Based on the Flood Insurance Rate Map (FIRM) for the Town of Branford, Connecticut, New Haven County (Federal Emergency Management Administration [FEMA], June 16, 1992); the entire Proposed Action site resides in a 100-year floodplain (refer to Figure 4). The floodplain is associated with high waters of the unnamed tidal creek that abuts the site, which is connected to, and therefore influenced by, the Branford River floodplain.

The FIRM indicates that the elevation of the 100-year floodplain in the area of the site is 11 feet. Because the site is in the Coastal Zone, the 100-year floodplain is recognized by the CTDEP Coastal Area Management Program as a coastal flood hazard zone. There is no designated floodway associated with the creek.

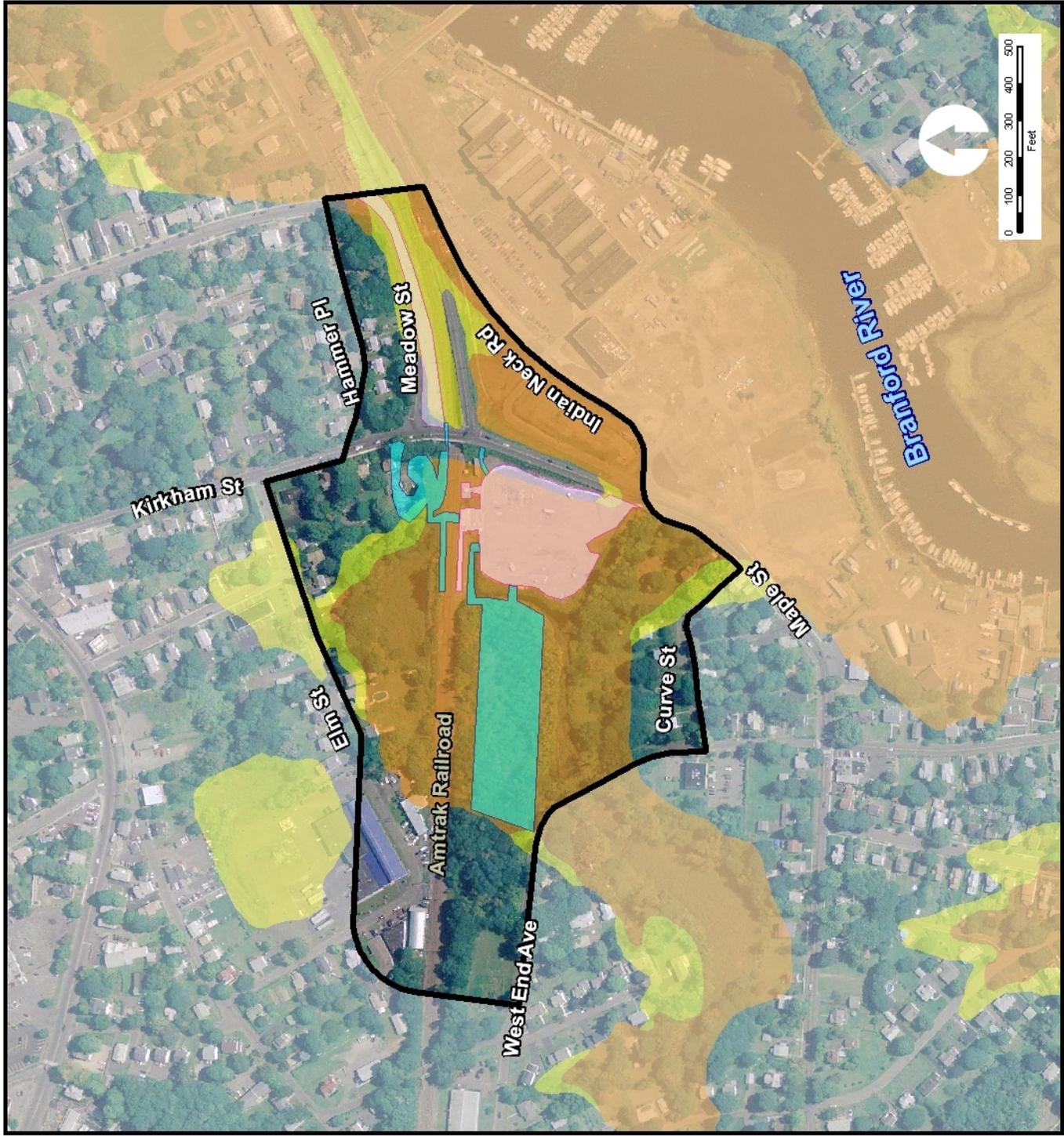
Stream Channel Encroachment Lines

There are no Stream Channel Encroachment Lines (SCELs) in the vicinity of the Proposed Action site.



-  Study Area
-  New Construction
-  Existing Elements
-  100 Year Flood Zone
-  500 Year Flood Zone

Figure 4
Shoreline East Expansion
Floodplains
Branford, CT



Direct and Indirect Impacts

The No-Action Alternative would involve no construction and therefore no direct or indirect impacts on floodways or 100-year floodplain resources.

The proposed new parking lot would be located entirely in the 100-year floodplain and coastal flood hazard area. Construction of the parking lot would require some filling and grading of the undeveloped site so that its finished elevation gradually slopes from the northwest (proposed elevation 14 feet above mean sea level [aMSL] to the southeast [proposed elevation 10 feet aMSL]). The elevation of the southeastern portion of the new parking lot (10 feet aMSL) will then match the elevation of the existing 201-space parking lot. Approximately one half of the new parking lot (the eastern half) would still be below floodplain elevation (11 feet aMSL), similar to the existing parking lot. Signs would be posted at the new parking lot, similar to those at the existing parking lot, warning that the area is subject to flooding.

To the north of the rail line, high level rail platform piers are being designed to avoid wetland and floodplain impacts by placement within the existing ballast slope. The proposed kiss-and-ride drop off area is located partially within the 100-year floodplain and will require the placement of fill within the floodplain in order to achieve the design elevation.

Overall, the project will cause a small loss of flood storage capacity (volume) associated with the placement of fill to construct the new parking lot and kiss-and-ride drop off area. Due to the immense size of the floodplain, which connects with the Branford River coastal floodplain, this loss would be negligible and would not cause a change in flooding patterns or severity elsewhere.

The construction of the parking lot and kiss-and-ride drop off area (fill in a floodplain) would be considered an “activity” per CGS Section 25-68b-1 (c) of Connecticut’s Flood Management Statutes. ConnDOT will therefore need to certify that the activity is consistent with the Statute’s applicable standards and criteria. Applicable standards for fill in a floodplain are outlined in CGS Section 25-68h-2(c). The project appears consistent with these standards because it is not anticipated to adversely affect the hydraulic characteristics of the floodplain, nor concentrate flows in such a way as to increase erosion, nor increase the elevation of the base flood.

The Proposed Action is subject to Executive Order 11988, as amended, which requires all federal agencies to avoid construction within the 100-year floodplain unless no other practical alternative exists. Since the entire project area, including the existing train station parking lot, resides in the floodplain, there are no practical alternatives to construction in the floodplain for these transportation improvements. ConnDOT will coordinate with federal and state regulatory agencies and obtain the required permits.

Proposed Mitigation

During project design and permitting, ConnDOT will coordinate with the CTDEP to ensure regulatory compliance with Flood Management Statutes. The Proposed Action will require Flood Management Certification from the CTDEP. These regulatory programs require proof that a project will not increase flooding hazards or proof that flood protection mitigation will be implemented if adverse effects are anticipated. Given the nature of the Proposed Action and its anticipated negligible impact to floodplains, mitigation is more than likely not warranted.

Mitigation for increased stormwater runoff, as previously described, will be provided by the measures taken to mitigate potential water quality impacts. Primary and secondary stormwater management measures will be fully coordinated with the CTDEP and will be appropriately designed in conformance with the *Connecticut Stormwater Quality Manual* (CTDEP, 2004). Construction and post-construction runoff from the site will be collected and retained in the proposed stormwater features around the proposed parking lot so that runoff volumes do not exceed pre-construction conditions.

3.9. Wetlands

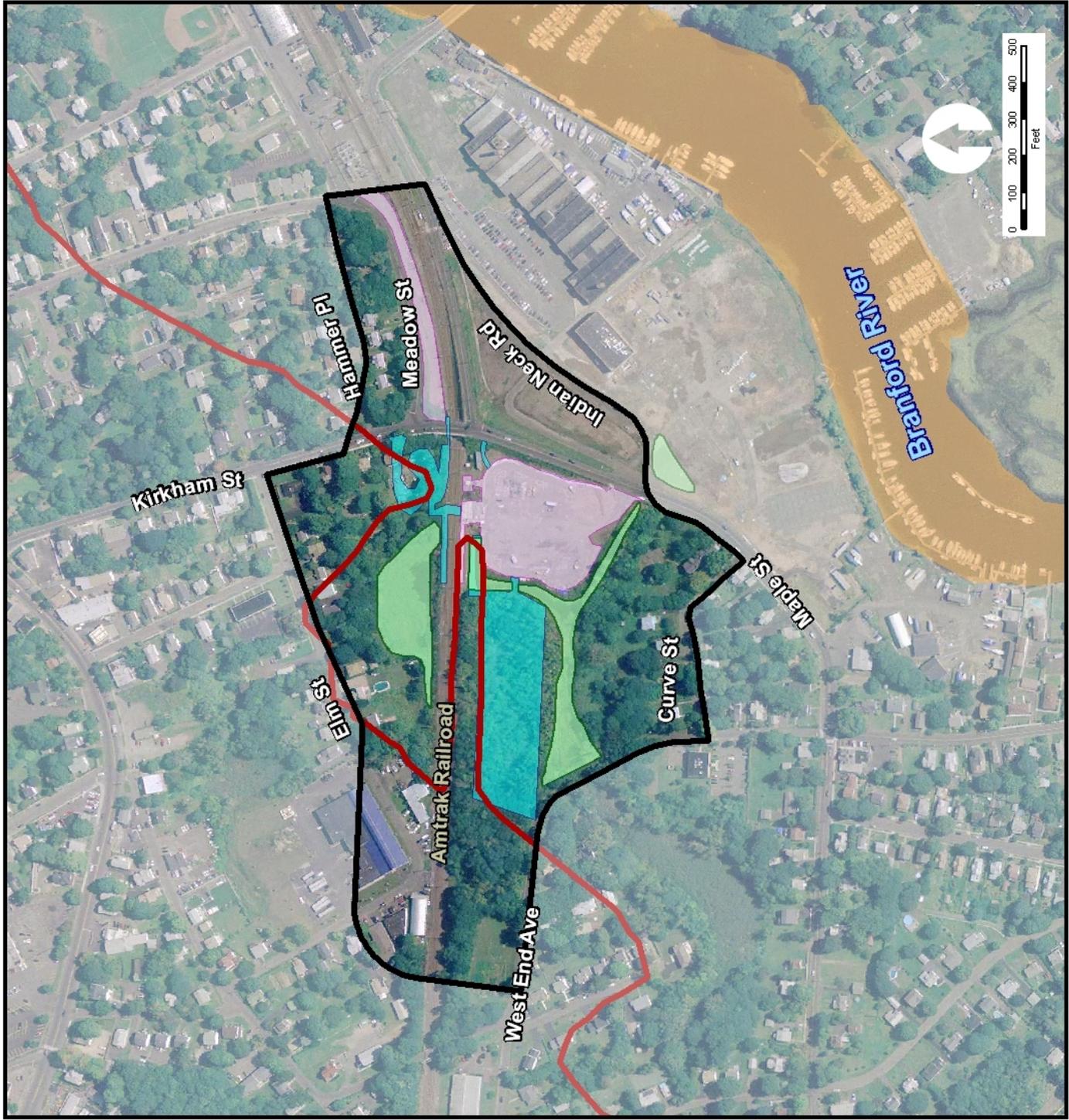
Existing Setting

A tidal survey was completed by ConnDOT in January 2008 which mapped the elevation of the high tide line in the project area. The high tide line is depicted on progress design drawings contained in Appendix A. Also, tidal wetlands areas are identified in green on Figure 5. The tidal wetlands coincide with an unnamed tidal creek which is a tributary to the Branford River. The creek is piped underground from Maple Street to its junction with the river, a distance of approximately 600 feet. West of Maple Street, in the vicinity of the Proposed Action, the creek is above-ground and flows in surface channels.



- Study Area
- New Construction
- Existing Elements
- Surveyed Wetlands
- Surface Water Quality SB
- Coastal Boundary

Figure 5
Wetlands and
Water Quality
Shoreline East Expansion
Branford, CT



The tidal creek has two forks. One fork (the south fork) runs along the southern edge of the proposed new parking lot site. The other fork (the north fork) runs north-south along the eastern edge of the new parking lot site, between the existing and proposed parking lots. There is a 12-inch reinforced concrete pipe (RCP) culvert on this segment, over which an earthen path connects the existing 201-space parking lot to the proposed new parking lot. Based on a review of aerial photos, placement of the culvert occurred prior to 1970, and was not an action undertaken by ConnDOT. Additionally, ConnDOT did not own the land at the time of culvert placement. The north fork of the tidal creek extends farther north through a second culvert under the railroad tracks, terminating at a ponded tidal wetland on the north side of the tracks. The two forks of the tidal creek meet at the southwest corner of the existing train station parking lot, forming one channel from there to Maple Street.

The tidal creek (including both forks) has a narrow fringe of common reed (*Phragmites australis*) along its banks, abutted by upland vegetation. No other tidal wetland plant species were observed along the creek. The ponded tidal wetland north of the tracks extends from the tracks to the back yards of the houses on Elm Street. This wetland has a very broad swath of *Phragmites* that reaches almost all the way across the wetland. The wetland boundary lies at the toe of the railroad embankment (ballast slope), which drops off steeply in this vicinity.

While *Phragmites* is a wetland indicator plant, it is also an indicator of disturbance, such as from excavation, filling, sedimentation, and/or restriction of saltwater intrusion. During site observations on an outgoing tide, the water in the wetlands was ponded and still, and milky-opaque in color, suggesting that the wetlands are not fully inundated and flushed by saltwater during the tidal cycle and that water quality is degraded as a result. It was also noted during site observations that the existing 12-inch RCP along the north fork of the tidal creek is undersized and partially obstructed by silt and other debris, somewhat restricting tidal exchange.

These wetlands carry out a few functions but their value is very minor compared to undisturbed tidal wetlands. They have a very limited capacity to absorb flood waters because they are small, have constricted channels, and have bank elevations positioned well below the floodplain elevation. They offer no recreational opportunities and have no ecological diversity or uniqueness. These wetlands offer no fish habitat and only poor wildlife habitat (see Section 3.10 - Flora and Fauna/Habitats). These wetlands likely receive some runoff from adjacent streets and the existing train station parking lot and thus carry out a small sediment/toxicant retention function. Sediment/toxicant retention is therefore the primary function of these wetlands.

Direct and Indirect Impacts

The No-Action Alternative would involve no construction and therefore would cause no direct or indirect impacts to wetlands.

The Proposed Action would require a crossing of the north fork of the tidal wetland creek in the vicinity of the existing culvert. As previously stated, the existing 12-inch RCP culvert is undersized and partially clogged with sediment and debris, causing a constriction in the tidal creek. Work below the high tide line will be confined to the location where the existing culvert

will be replaced with a new open bottom span or arch culvert. At this location a total of approximately 0.02 acres (720 SF) below the high tide line will be impacted. The new open bottom span or arch culvert, however, will re-establish unrestricted tidal flushing to upstream portions of the tidal creek. The crossing would provide vehicular access to the new parking lot from the existing 201-space lot and would be the only access point. The proposed parking lot itself would be located totally on uplands. The stormwater management system will be fully coordinated with the CTDEP and will incorporate overland stormwater runoff features and a water quality basin also located on uplands (Refer to Section 3.7). Grading and revegetation of the southern and eastern borders of the parking lot will stabilize any soils disturbed during construction and provide a vegetated filter strip for the limited amount of overland runoff that will flow towards the branches of the tidal creek.

Indirect impacts could include temporary or long-term (incremental) sedimentation and other degradation of adjacent wetlands via polluted stormwater originating from the site. For these potential impacts, mitigation will be provided.

Proposed Mitigation

A total of approximately 0.02 acres (720 SF) below the high tide line will be impacted when the existing undersized and partially clogged 12-inch RCP is replaced with a new open bottom span or arch culvert. The new open bottom span or arch culvert will restore tidal flushing to the tidal wetland areas located to the north, potentially increasing tidal wetland limits in this area. The restoration of tidal flushing coupled with the removal of invasive species (*Phragmites*) from upstream degraded tidal wetlands is considered an appropriate mitigation option for the Proposed Action. Work below the high tide line and mitigation (restoration) however, will be fully coordinated with the CTDEP and ACOE to ensure that proper mitigation is implemented for the Proposed Action.

To minimize the risk of temporary or long-term pollution/sedimentation effects on the tidal wetlands, a stormwater pollution control plan will be designed and implemented in accordance with the *2002 Connecticut Guidelines for Erosion and Sedimentation Control* (CTDEP, 2002). The adopted measures will prevent and minimize sedimentation, siltation, and/or pollution of watercourses and wetlands. Additionally, post-construction runoff will be appropriately treated per the *Connecticut Stormwater Quality Manual* (CTDEP, 2004). More details are provided in Section 3.7 Water Quality – Mitigation.

3.10. Flora/Fauna/Habitats/Threatened And Endangered Species

Existing Setting

The ecological and habitat conditions of the Proposed Action site were investigated through a review of aerial photographs and a site walkover. The site walkover was conducted on October 24, 2007, after the growing season but while plants still had most of their foliage. Information about potential threatened and endangered species was obtained through coordination with the CTDEP and the U.S. Fish and Wildlife Service (USFWS).

Flora, Fauna, and Habitats

The overall setting of the Proposed Action site is suburban. There are houses and manicured lawns within 500 feet of the site to the north (Elm Street), to the south (Curve Street) and to the west (West End Avenue). To the east, beyond the existing train station parking lot and Maple Street, is a larger-scale mixed use development, with commercial and condominium buildings adjacent to the heavily modified banks (marinas) of the Branford River. The proposed new parking lot will occupy a 5.38-acre vacant and undeveloped parcel to the south of the railroad corridor. There are several areas of fill and debris on the parcel. The unnamed tidal creek that borders the parcel on the south and east, has been channelized, piped, and is contained within the mosaic of development that comprises the study area and its surroundings. Given this setting, there are no blocks of undisturbed native habitat on the site or within the general vicinity of the Proposed Action.

Habitat types are generally characterized by plant communities. There are two plant communities in the study area: “old field” and tidal wetlands. The proposed parking lot site has characteristics of old field vegetation, where young trees and shrubs begin to grow into an area that was cleared in the recent past. The tidal creek that abuts portions of the site has a tidal wetland plant community. The flora and fauna of these two habitat types are described below.

The proposed parking lot site is lightly wooded with young tree saplings of *Populus* species (cottonwood, quaking aspen), the invasive Norway maple (*Acer platanoides*), and a sprinkling of red maples (*Acer rubrum*). Shrubs include the invasive species autumn olive (*Elaeagnus umbellata*) and multiflora rose (*Rosa multiflora*), and the native staghorn sumac (*Rhus typhina*). The ground layer is relatively sparse, with a few grasses and dominant masses of the tall shrub-like invasive perennial, Japanese knotweed (*Polygonum cuspidatum*). Two vine species twine over the trees and shrubs, including greenbrier (*Smilax* species) and the invasive Oriental bittersweet (*Celastrus orbiculatus*).

The young age of the plants and the dominance of invasive species give the site the appearance of a property that was cleared within (approximately) the last 10 years and then left to re-vegetate on its own. Within the site are remnants of building materials (bricks and concrete), home heating oil tanks, a junked car, other debris and piles of fill of unknown origin. The dominance of non-native invasive species gives the site a very low habitat value for all types of wildlife. Invasive species are renowned for their deficiency of food sources and low nutritional value for wildlife. The site’s location within a historically developed area and its isolation from good quality habitat further limit its habitat value and constrain its potential to grow into something more valuable (if not developed).

During the October 24, 2007 site visit, one bird, a mockingbird, was seen flying among the shrubs on the proposed parking lot site. The mockingbird (*Mimus polyglottos*) is a common bird in urban and suburban habitats and a year-round resident in Connecticut. No other wildlife or sign of wildlife use were observed. During the spring and summer growing season, other bird species common to suburbia may occur on the site, such as the gray catbird (*Dumetella*

carolinensis) and robin (*Turdus migratorius*). The lack of ground cover, heavy brush, decaying logs, and other habitat features limits its potential use by mammals, amphibians, and invertebrates.

The tidal wetland channels and the tidal wetland north of the railroad tracks have solid stands of common reed (*Phragmites australis*) along their banks. The dominance of *Phragmites* in tidal wetlands generally indicates that the wetlands have been disturbed in some way, for instance from excavation, filling, sedimentation, and/or restriction of saltwater intrusion. During site observations on an outgoing tide, the water in the wetlands was ponded and still, and was milky-opaque in color, suggesting that the wetlands are not fully inundated and flushed by saltwater during the tidal cycle and that water quality is degraded. Under such conditions, a more diverse and valuable tidal wetland vegetative community cannot survive and *Phragmites* takes hold. *Phragmites* provides cover for a few species of songbirds, especially red-winged blackbirds (*Agelaius phoeniceus*), but is not a good food source and provides negligible other habitat value for wildlife in this setting. No wildlife or wildlife signs were observed in the water or in the *Phragmites* fringe of the tidal wetlands during site visits. Given their degraded condition, lack of hydrologic or terrestrial connection to other valuable habitats, and isolation by development, these wetlands are evaluated to have little wildlife habitat value and no fish habitat value.

Threatened and Endangered Species

Coordination with the CTDEP Natural Diversity Data Base (NDDB) regarding threatened and endangered species yielded a reply from the NDDB dated October 25, 2007 (see Appendix B.) Based on current NDDB information, no federal or state endangered, threatened or special concern species are known to occur on the Proposed Action site.

Correspondence from the USFWS mirrored the NDDB results. There are no federally listed or proposed-listed threatened or endangered species or critical habitats known to occur in the project area (see correspondence dated November 2, 2007 in Appendix B).

Direct and Indirect Impacts

The No-Action Alternative would result in no construction and thus no direct or indirect impacts on flora, fauna, habitats, or threatened and endangered species.

The Proposed Action would convert 5.38 acres (234,352 SF) of a vacant and disturbed vegetated site dominated by invasive shrub species to a parking lot and 0.65 acres (28,314 SF) of a residential site north of the tracks into a kiss-and-ride drop off area. A few individual birds of common urban/suburban species would no longer be able to use the few foraging and nesting opportunities on the project site. They would be forced to seek their needs in other areas. Given the very low habitat value of the existing site, the project would not cause a loss in biodiversity and would not detectably diminish the greater area's overall carrying capacity for wildlife. The Proposed Action would therefore have negligible adverse direct or indirect effects on flora, fauna, and habitats. There would be no direct or indirect impacts on threatened or endangered species.

Proposed Mitigation

Since no significant adverse impacts on habitats or threatened or endangered species would result from the Proposed Action, no mitigation to address habitat loss is proposed. The landscaping plan for the proposed parking lot will provide a fringe of native shrubs to the south, west, and east which may provide some cover and foraging opportunities for bird species, while at the same time precluding the establishment of non-native invasive species.

3.11. Soils And Geology

Existing Setting

Soils on the Proposed Action site have been mapped as “Urban Complex” by the USDA Soil Survey. These soils are typically found in areas that have been disturbed by excavation, filling, and various land use activities. This is consistent with field observations, a review of historic aerial photographs, and a previous environmental site investigation, which found the proposed parking lot site to be the site of a former wetland that has gradually been filled from the early 1950s through 1985. Much of the fill material at the proposed parking lot site is foundry sand that was generated from the nearby Malleable Iron Fittings (MIF) factory plant. Overall, the soils in the parking lot area appear well-drained and lacking in well-developed topsoil.

According to the 1964 USGS Surficial Geologic Map of the Branford Quadrangle, Connecticut, the Proposed Action site is underlain by three (3) distinct surficial soil deposits. Deposits directly beneath the present railroad right-of-way corridor consist of artificial fill deposits. These deposits are described as accumulations of soil made by human activity and often include railroad and building construction fill, and possibly trash. Artificial fill is also mapped for the northern and eastern most sections of the new parking lot site. As previously mentioned, this fill is comprised primarily of foundry sand that was generated from the nearby MIF plant.

The western half of the new parking lot parcel is underlain by ice-contact stratified drift. These deposits consist of various amounts of sand, gravel, silt, and clay that are poorly sorted with abrupt changes in grain size evident. Ice-contact stratified drift is deposited by meltwater streams and ephemeral lakes adjacent to stagnated glacier ice. The central portion of the new parking lot parcel is mapped as swamp deposits. These deposits contain a mixture of decayed vegetation, sand, silt and clay in poorly drained soils.

There are no farmland soils of primary or statewide importance on or adjacent to the Proposed Action site nor are there any farming operations. In addition, there are no geological features of cultural, agricultural, or ecological significance.

Direct and Indirect Impacts

The No-Action Alternative would result in no construction and therefore no direct or indirect impacts on soils resources.

The project site contains no soils or geological features of cultural, agricultural, or ecological significance. The Proposed Action would therefore have no adverse impacts on soils-related resources.

Proposed Mitigation

Since no significant adverse impacts on soils or geology are anticipated, no mitigation is required or proposed.

3.12. Coastal Zone And Coastal Barriers

Existing Setting

The Proposed Action is located within the coastal zone boundary designated by the CTDEP Coastal Area Management Program. Coastal resources on the site include coastal flood hazard areas, tidal wetlands, and shorelands (CTDEP *Coastal Boundary* and *Coastal Area Data Layers* 2006). Adjacent areas include *developed shorefront* and *estuarine embayment* (Branford Harbor). The Branford River to the east is designated as restricted shellfishing grounds. The coastal boundary is depicted on Figure 5.

There are no coastal barriers or other protected areas designated by the Coastal Barrier Resources Act on or adjacent to the Proposed Action site. The nearest coastal barrier resource is Lindsey Cove on the north side of Branford Harbor, approximately one mile south of the site.

Direct and Indirect Impacts

The No-Action Alternative would involve no construction and no direct or indirect impacts on coastal resources.

The Proposed Action will affect coastal flood hazard areas and will involve work below the high tide line, as described in Sections 3.8 and 3.9 of this EIE respectively. Specifically, the Proposed Action would require a crossing of the north fork of the tidal creek in the vicinity of the existing and obstructed 12-inch RCP culvert. Work below the high tide line will impact approximately 0.02 acres (720 SF) and will be confined to this crossing location as the existing undersized and partially clogged culvert will be replaced with a new open bottom span or arch culvert. The new open bottom span or arch culvert will re-establish unrestricted tidal flushing to upstream portions of the tidal creek, potentially increasing tidal wetland limits in this area. The crossing is needed to provide vehicular access to the new parking lot from the existing 201-space lot and would be the only access point. The proposed parking lot itself would be located totally on uplands that are designated as a coastal flood hazard area. Construction of the parking lot will require the placement of fill within the coastal flood hazard area in order to match the elevation of the new parking lot with the elevation of the existing 201-space parking lot to the east.

The stormwater management system for the Proposed Action will incorporate overland stormwater runoff features and stormwater retention pockets that are also located on uplands designated as coastal floodplain. Primary and secondary stormwater management facilities for the Proposed Action will be fully coordinated with the CTDEP and will be appropriately designed in conformance with the *Connecticut Stormwater Quality Manual* (CTDEP, 2004). Construction and post-construction runoff from the site will be collected and retained in the proposed stormwater features around the proposed parking lot so that runoff volumes do not exceed pre-construction conditions.

The Proposed Action's location within the coastal zone boundary means that the project will need to be certified as consistent with Connecticut's Coastal Management Act (CCMA). This will occur during the review of CTDEP Office of Long Island Sound Programs (OLISP) permits for the project. Work below the high tide line will also require an ACOE Section 404 Permit. A preliminary evaluation of coastal consistency is provided below. The relevant *Use* category is *Transportation* and the relevant *Resource* category is *Shorelands*.

The Proposed Action is consistent with CTDEP's Coastal Zone Management (CZM) Act policies for a transportation use, by 1) locating transportation upgrades at an existing facility (the existing train station), and 2) being designed so as not to restrict tidal circulation. There are no opportunities for coastal access and recreation at the site – and thus no impairment thereof -- and there will be no visual effects on the shoreline.

The Proposed Action will be consistent with the policies for Shorelands in that the project design will seek to 1) maintain vegetative buffers around the parking lot to minimize sedimentation and erosion effects on coastal waters, 2) utilize best practices and controls for temporary and permanent drainage to prevent increased runoff rates, and 3) prevent erosion through a variety of means (minimize clearing, revegetation of disturbed areas, erosion control techniques, etc.), to be implemented before, during and after construction. Use of the site would not cause loss of public access to shorefront, impacts on important habitats or species, or alteration of cultural sites.

Proposed Mitigation

Measures to minimize coastal resource impacts to flood hazard areas and areas below the high tide line are discussed in Sections 3.8 and 3.9 respectively of this EIE. Due to the project's location in the Coastal Zone, a Coastal Zone Consistency Concurrence will be required from CTDEP as part of the project permitting requirements, per the Connecticut Coastal Management Act. This process will allow for further consideration and identification of optimal mitigation strategies for potential adverse effects in the coastal zone.

A Structures and Dredging Permit and Flood Management Certification will be sought from CTDEP, as well as a Section 404 Permit from ACOE.

3.13. Cultural Resources

Existing Setting

Potential historic, architectural, and archaeological resources located within the general vicinity of the Proposed Action site were identified through consultation with the Connecticut State Historic Preservation Office (SHPO) and review of the National Register of Historic Places (NRHP). SHPO consultation was conducted by ConnDOT at the outset of the project. SHPO responded in letters dated March 14, 2006 and June 20, 2007 which both state, “the office expects that the proposed undertaking will have no effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places”. These comments were provided in accordance with the review requirements of the National Historic Preservation Act and CEPA. Refer to the coordination letters included in Appendix B of this EIE.

Direct and Indirect Impacts

The No-Action Alternative will not result in any impacts to cultural, architectural or archaeological resources.

The Proposed Action was evaluated for potential adverse effects on historic, architectural or archaeological resources listed on or determined eligible for the NRHP. Coordination with the SHPO (Appendix B) has revealed that the Proposed Action will have **no effect** on cultural resources.

Proposed Mitigation

Since the Proposed Action will have no effect on cultural, architectural, or archaeological resources, mitigation is not required or proposed.

3.14. Solid Waste And Hazardous Materials

Existing Setting

The Proposed Action site consists of several parcels:

- A 5.38-acre undeveloped and overgrown privately-owned parcel to the south of the rail corridor and west of the existing railroad parking lot that is slated to be developed as a new 316-space parking lot,
- The linear railroad right-of-way owned by Amtrak that currently includes two active rail lines comprising the Northeast Corridor, and associated catenary infrastructure as well as a new south-side high-level rail platform,
- A privately-owned 0.65-acre parcel to the north of the rail corridor and west of Kirkham Street that includes an unoccupied two-story residential structure built in 1895. The parcel is slated to be developed as a new kiss-and-ride drop off area, and

- A 1.17 acre linear parcel owned by Amtrak located parallel to and north of the rail corridor and south of Meadow Street. The parcel once served as a parking area for the former Branford Railroad Station and is planned to be reinstated for use as an overflow parking lot for the new station as part of the Proposed Action.

In 1993, a study entitled, “Preliminary Environmental Investigation on Vacant Land for Bran Park Associates in Branford, Connecticut” was prepared for ConnDOT by Storch Associates. At the time of the study, ConnDOT was considering acquisition of the property from then owner Bran Park Associates for the purposes of constructing a surface parking lot to support the adjacent Branford SLE Railroad Station. The former Bran Park Associates parcel (which has since been sold to another private owner) is the same parcel that is planned for the 316-space surface parking lot under the Proposed Action.

The purpose of the 1993 investigation was to determine the extent, character, and depth of fill on-site, and to determine levels of soil and groundwater contamination if any. The investigation involved an extensive soil sampling program that included numerous soil borings and test pits as well as grab samples of surficial debris piles. Groundwater monitoring wells were installed and a seismic refraction survey was also conducted to determine the extent and distribution of fill materials.

No other investigations have been conducted prior to or since the 1993 investigation on this vacant parcel. Additionally, no records of inland or tidal wetland filling or hazardous waste violations exist for the parcel.

The 1993 study concluded that the site can be considered to be an unauthorized waste landfill and a potential source of contamination. The site has been filled by apparent foundry sand and manufacturing wastes, which were identified within a few feet of the surface. Additional waste has been piled on top of the surface at various locations throughout the site. Hazardous materials identified on site include oil, grease, total petroleum hydrocarbons (TPHs), metals (copper, zinc and lead), semi-volatile organic compounds (SVOCs), chrysotile asbestos, and PCB 1254 among others. The study determined the immediate risk of exposure to subsurface contaminants on-site or contaminants released to the unnamed brook and tidal wetlands to be low. The risk of exposure to contaminants in the upper few feet of soil and exposure to hazardous substances and hazardous wastes on the surface was considered to be moderate to high at the time of the study. The study recommended that further site characterization take place and that the site be capped with a provision to monitor groundwater quality over time. It also states that providing a cap (in this case a parking lot with side slope stabilization) would be a feasible and prudent alternative to the removal of fill/waste.

The privately owned residential parcel north of the rail corridor that is to be developed as a kiss-and-ride drop off area was not investigated nor was the linear Amtrak corridor or the former railroad parking lot located north of the rail corridor and south of Meadow Street. Thus, the presence of hazardous materials and contaminating conditions at these locations is unknown.

Direct and Indirect Impacts

The No-Action Alternative would be a continuance of existing conditions. As such, there will be no hazardous materials and/or solid waste generation and disposal issues associated with the subject parcels.

Based on the 1993 Storch Associates investigation, the vacant parcel located south of the rail corridor that is planned to be developed as a 316-space surface parking lot is contaminated with foundry sand and manufacturing wastes likely attributed to the nearby Malleable Iron Fittings Factory. As such, there may be some potential for exposure of workers to hazardous materials and contamination during construction. However, once the surface parking lot is constructed, the contamination hazard will be effectively capped and contained by the parking lot, which will be an important part of the Remedial Action Plan (RAP) for the Proposed Action site. Thus, potential exposure to and leaching of these contaminants off-site will be reduced once the project is completed. The project, therefore, will have the beneficial affect of reducing an existing contamination hazard.

The other parcels that comprise the Proposed Action site (the privately owned residential parcel to the north of the rail corridor and west of Kirkham Street, the linear Amtrak Northeast Corridor right-of-way, and the former rail parking lot to the north of the rail corridor and south of Meadow Street) have not been investigated to the same level of detail. However, no evidence exists in available GIS data or CTDEP files to suggest that contamination issues or hazardous conditions exist on these other parcels. The Proposed Action will, however, involve the demolition of the existing two-story residential structure on the 0.65-acre privately-owned parcel north of the rail corridor. The house was built in 1895, thus lead based paint and asbestos may be present. Prior to demolition, the structure will be inspected by licensed lead-based-paint and asbestos inspectors to determine the presence and/or absence of these materials. If lead-based paint and/or asbestos containing materials are identified within the structure, these materials will be removed by certified personnel and disposed of appropriately prior to demolition activities. The remaining demolition debris will be hauled to a landfill.

Proposed Mitigation

The foundry sand and manufacturing waste that exists on the site of the proposed 316-space surface parking lot will be contained on site by capping the materials to eliminate the potential for human exposure. The surface parking lot will be an important component of the RAP that will be fully coordinated with the CTDEP. The parking lot will be comprised of an impervious asphalt surface which will keep stormwater runoff from percolating down through the contaminated soils and potentially leaching contaminants into nearby areas. The RAP will ensure that there are no hazardous or contamination risks associated with the Proposed Action. A Health and Safety Plan will be developed for the project in accordance with Occupational Safety and Health Administration (OSHA) guidelines, and will be communicated to construction workers to ensure their protection during construction.

The two-story residential structure to be demolished will be inspected by licensed personnel to ascertain the presence and/or absence of lead-based paint and asbestos containing materials. If these materials are present, they will be removed and properly disposed of prior to demolition. The removal and disposal of lead based paint and asbestos containing materials will be conducted according to the recommendations and guidance stipulated in the Connecticut Department of Public Health's scoping letter dated July 17, 2007 included in Appendix B of this EIE.

3.15. Use/Creation Of Pesticides, Toxins Or Hazardous Materials

Existing Setting

Maintenance of the existing Amtrak railroad right-of-way may have involved the application of herbicides over the years to keep vegetative growth from intruding into the rail corridor. There are no other known use/creation of pesticides, toxins, or hazardous materials issues associated with the Proposed Action site other than what is described above in Section 3.14.

Direct and Indirect Impacts

The No-Action Alternative would be a continuance of existing conditions. As such, there will be no use/creation of pesticides, toxins, or other hazardous materials issues other than the possible application of herbicides for rail corridor maintenance as described above.

The Proposed Action involves the construction of a surface parking lot, high-level rail platform and pedestrian overpass, a kiss-and-ride drop off area, re-instatement of a former parking lot and the construction of various pedestrian connections including sidewalks, stairwells, and crosswalks. As such, the Proposed Action does not involve the use/creation of pesticides, toxins, or other hazardous materials other than the possible use of pesticides and/or herbicides to maintain and control vegetation in landscaped areas on an as needed basis.

Proposed Mitigation

Since no impacts will occur, mitigation is not required or proposed.

3.16. Aesthetic/Visual Effects

Existing Setting

The Proposed Action site lies against the Northeast Corridor railroad tracks, in an area with a mix of residential and commercial uses. To the north, west and south of the site are suburban areas with considerable tree cover. To the east, beyond the existing train station parking lot and Maple Street, is the more urban and larger-scale mixed-use development of the marina area, with commercial and condominium buildings, on a cleared and level swath along the Branford River. The site and the overall vicinity lie on very level ground. There are no topographic variations in

any direction around the site, other than the Maple-Kirkham Street overpass of the railroad tracks.

The currently wooded site of the proposed parking lot is visible from the developed areas to the north and east. The most open view is from the north. Several houses on Elm Street (some with commercial uses) have exposure over the tidal marsh directly to the tracks and the proposed parking lot site. The nearest house to the tracks on Kirkham Street has some open lawn areas from which the site is visible. Some of the office and condominium buildings east of the site would have views of the site, particularly the upper floors of multi-story buildings. Travelers in cars on the portion of Maple Street next to the existing parking lot would also have a view of the site, if they look west.

To the south and west, the site is buffered by relatively dense tree growth, so that it is not visible to the residences on Curve Street, Harbor Street, and West End Avenue during the growing season. After leaf-drop, the nearest residences may be able to glimpse the site through a light screen of tree trunks.



View to northwest from the existing train station platform, toward houses and offices on Elm Street

The proposed location for the new high level platform and pedestrian overpass is visible from the houses and commercial uses north of the track; these include the ring of buildings around the tidal marsh along Elm Street and the first few houses north of the tracks on Kirkham Street.

Direct and Indirect Impacts

Under the No-Action Alternative, there would be no direct or indirect impacts on visual quality or aesthetics.

New Commuter Lot

Construction of the new commuter parking lot will require the removal of trees and shrubs that currently provide a wooded setting on 5.38 acres of the Proposed Action site.

At the proposed parking lot site, the wooded vegetation grows right up to the edge of the railroad tracks on the north, to Harbor Street on the west, and to the tidal creek on the south. The paved portion of the parking lot will abut a dirt maintenance road that will parallel the railroad tracks on the south. The removal of vegetation will result in visual impacts to residents living in homes along the south side of Elm Street (located to the north of the tracks). From the backyards of these homes, residents will have direct views of the new parking lot and its associated illumination elements. The tidal wetland that exists between these homes and the railroad tracks is in a depression and contains low-growing vegetation that is not tall enough to screen southerly views.

Although homes along Curve Street, West End Avenue, and Harbor Street are closer to the new parking lot than homes along Elm Street, the visual environment would not change significantly for the residents along these three streets, which are located to the south and west of the site. This is because a fairly wide buffer (at least 200 feet wide) of trees would remain between the new parking lot and the houses. At night, during the spring and summer, the buffer of trees will effectively block lighting from the new parking lot. After leaf drop in the fall and during winter, parking lot lights will be seen from these residences.

The view from the east already includes the existing parking lot and train station, with its neatly landscaped borders. The parking lot would become larger but the view would be very consistent with what is currently experienced, and is consistent with the large-scale urbanized mixed development.

New Platform Impacts

The new north-side high level rail platform would essentially be a mirror image of the existing south-side platform. It would be blocked from view to the south by the existing station and platform. It would be visible from the land uses on the north side of the tracks: namely four to five houses along Elm Street and Kirkham Street and a real estate office. Views to the south from these land uses will remain consistent, as the existing south-side platform and station can already be seen from this northerly vantage point. The only difference is that new railroad station elements will be seen, namely the elevator shafts and new pedestrian bridge, which will rise approximately 25 feet above the railroad tracks. The visual setting for these viewers also includes the existing Kirkham Street Bridge, which is a very plain concrete structure with rust stains on its sides. The bridge's height makes it quite visible to residences and other land uses in all directions that are not screened by trees or adjacent buildings.

Kiss-and-Ride Loop

The kiss-and-ride drop off area would be visible primarily from the adjacent residence on Kirkham Street. The stately beech trees on the northern edge of the proposed 0.65 acre acquired property would remain and would thus provide some visual screening from the house next door (that would remain). However the kiss-and-ride drop off area would be lower than the house and thus visually prominent. It would be of a different character than the existing residential yard and would therefore be a visual impact, particularly in winter when foliage is not present.

Proposed Mitigation

The primary mitigation measure available to offset visual impacts is landscaping. A landscaping plan will be developed to maximize visual screening of the facility, particularly from the nearby residences. Efforts will be made to retain as much of the existing tree buffer as practicable at the edges of the commuter lot. To minimize visual impacts from parking lot lighting, full cutoff parking lot lights will be installed. These lights are designed to shine down on the surface of the parking lot and not to cast light sideways or upwards. All lighting at the station will be “Dark Sky Compliant.” Through these measures, visual and aesthetic impacts associated with the facility can in large part be successfully mitigated.

3.17. Energy Use And Conservation

Existing Setting

The Proposed Action site is comprised primarily of vacant undeveloped parcels with no associated energy use/consumption. The lone exception is the parcel to the north of the SLE rail line and west of Kirkham Street. This parcel houses a two-story single-family residence that is presently unoccupied and therefore has little associated energy demand.

The existing Branford Railroad Station, which consists of a south-side high-level rail platform and adjacent 201-space commuter parking lot and associated pedestrian connections, was completed and opened for service in August 2005. The partial station and associated parking has minimal energy demand, with energy use limited primarily to the electricity needed for station and parking lot illumination, and for the variable message signs and automated speaker system used to alert passengers of oncoming trains. The SLE rail corridor is electrified throughout the study area.

Direct and Indirect Impacts

The No-Action Alternative would not change background conditions in energy use within the study area or region as a whole.

The Proposed Action includes the construction of a new north-side high-level rail platform, a pedestrian overpass with elevator connecting the new north-side platform to the existing south-side platform, a new commuter parking lot to the south of the SLE rail line, new kiss-and-ride

drop off area to the north of the SLE rail line, and various pedestrian connections including walkways and stairwells. The Proposed Action also includes the re-use of a former commuter parking lot located north of the SLE rail line and east of Kirkham Street that once served the old Branford SLE Railroad Station.

Overall, the energy demand associated with the Proposed Action is minimal and is limited primarily to the electricity needed to illuminate the commuter parking areas, pedestrian connections, and to operate the elevator. The Proposed Action will ultimately lead to an increase in the number of trains utilizing the SLE rail corridor. The exact number of trains that will be added to the service is a planning decision that will be made by ConnDOT in conjunction with Amtrak, who owns the rail corridor. Any increase in trains will mean a corresponding increase in the amount of energy required to operate the additional trains. The amount of energy required to operate these additional trains is not considered to be significant.

As far as energy availability, there is ample energy supply to meet the increased electrical demand associated with the Proposed Action.

From a regional perspective, it is anticipated that the Proposed Action will have a positive impact on the consumption of energy because it will improve access to and enhance the use of mass transportation. Thus, the project is expected to contribute to a reduction in the consumption of fossil fuels associated with vehicular traffic on the region's roadways, especially during peak commuting periods.

Proposed Mitigation

Since the Proposed Action will have a low energy demand, it is not anticipated to significantly change energy consumption. Also, the Proposed Action may actually contribute to a reduction in fossil fuel consumption by vehicles on a regional scale, therefore, no mitigation is proposed or required.

3.18. Public Utilities And Services

Existing Setting

The following is a brief description of the various utilities in the vicinity of the Proposed Action:

Potable Water

There are no public surface or groundwater drinking water supplies within one mile of the Proposed Action site and there are no known domestic wells within 0.5 mile of the site. Branford's drinking water supply comes from the South Central Connecticut Regional Water Authority system. A water main is located in the residential streets surrounding the Proposed Action site.

Sanitary Sewer

There is a 10-foot sanitary sewer easement containing an 12-inch sanitary sewer pipe that runs north-south through a portion of the Proposed Action site. The easement and pipe crosses the railroad tracks at the mid-point of the existing south-side high level rail platform and then continue south, essentially bisecting the existing 201-space parking lot. This pipe merges with a 21-inch RCP sanitary sewer pipe that runs east-west to the south of and parallel to a tidal creek. The tidal creek forms the southern boundary of the existing and proposed commuter rail parking lots.

Stormwater Management

Stormwater from the existing 201-space commuter rail parking lot is conveyed via sheet flow and pipes into the tidal creek located to the south. The runoff eventually is discharged into the Branford River to the east. All stormwater drainage infrastructure and renovation measures associated with the existing parking lot and south-side high level rail platform were constructed in 2005. There is also existing stormwater drainage in Maple Street, Kirkham Street and Indian Neck Avenue. Some of this drainage infrastructure was re-configured when Maple Street was recently realigned by the Town of Branford during the construction of Indian Neck Avenue.

Energy Supply and Other Utilities

Connecticut Light & Power (CL&P) provides electricity to the Proposed Action site. There are underground electrical conduits that feed power to the existing parking lot and platform lights. The rail corridor is electrified as evidenced by the catenary poles, wires, transformers, and associated infrastructure. There are railroad utility conduits and junction boxes all along the rail corridor within the right-of-way. There is also a fiber optic telephone conduit located along and parallel to the north side of the railroad tracks. Gas lines are located in adjacent streets including Maple Street, Kirkham Street, and Meadow Street.

Direct and Indirect Impacts

The No-Action Alternative would represent a continuance of existing conditions and therefore would have no impact on public utilities or services.

Potable Water

There will be no impacts to potable water from the Proposed Action.

Sanitary Sewer

There will be no impacts to sanitary sewer from the Proposed Action. The construction of the new north-side high level rail platform will be coordinated with the Town of Branford and will occur so as to avoid impacting the existing 12-inch sanitary sewer that bisects the rail line.

Stormwater Management

Similar to the existing 201-space parking lot, the new parking lot and kiss-and-ride drop off area will be designed with a stormwater drainage system complete with water quality renovation measures. After proper treatment, the stormwater runoff from the new parking lot will be discharged into the tidal creek and ultimately to the Branford River to the east. Treated runoff from the kiss-and-ride drop off area will likely be discharged into the tidal wetland to the north of the railroad tracks, which drains into the tidal creek to the south and ultimately into the Branford River. Refer to Section 3.7 for additional details.

Energy Supply

The Proposed Action will require electricity, supplied by CL&P, to power the new parking lot lights, new elevators, and the north-side high level rail platform's variable message signs and automated speaker system used to alert passengers of oncoming trains. Additional trains as part of an expanded SLE commuter service will also require electricity. There will be no other energy supply required for the Proposed Action. The potential exists for temporary electrical service disruptions to nearby CL&P customers during the construction involved in making new electrical connections to the Proposed Action site. These impacts are described in Section 3.20 of this EIE entitled, Construction Period Impacts.

Proposed Mitigation

Utility construction and scheduling will be thoroughly coordinated with utility providers to minimize service disruptions to the greatest extent practicable. Such coordination will include planning to provide advanced notice of anticipated service outages to affected consumers. Additionally, all work within the railroad right-of-way will be thoroughly coordinated with Amtrak to minimize potential conflicts with railroad-related utilities.

3.19. Public Health And Safety

Existing Setting

The Proposed Action site is comprised of several parcels presently under different ownership and each with potential safety issues. The linear SLE right-of-way is an electrified railroad corridor that is owned by ConnDOT. Chain link fencing has been erected along the south side of the SLE rail corridor in the vicinity of the new (2005) high-level platform and 201-space commuter parking lot to keep people (commuters) off of the railroad tracks and away from moving trains and electrical hazards. Chain link fencing is also located in other areas along the tracks where pedestrian access to the tracks is most likely given the terrain. There is presently no fencing along the north side of the SLE rail corridor primarily because an existing wetland occupies much of the area (especially to the northwest) that effectively keeps people from illegally accessing the railroad tracks. The Kirkham Street Bridge over the SLE rail corridor, which is located immediately east of the recently opened railroad station, includes a high clearance

protective fence. The fence deters people from throwing refuse onto the tracks and from accessing the tracks from the bridge.

The parcel north of the SLE rail corridor and west of Kirkham Street is privately owned and includes a two-story single-family residence that is presently unoccupied. Illegal access to the rail corridor and potential train and electrical hazards can be gained from the rear yard of the parcel. The condition/status of the residential structure is unknown. To the south of the tracks and west of the existing 201-space commuter lot is a large vacant undeveloped parcel that is privately owned. Access to the parcel can be obtained from the commuter parking lot or from Harbor Street on the west. A variety of fill materials exist on the parcel including old fuel tanks, assorted building refuse, and an abandoned junk automobile. The site has been characterized in a 1993 study by Storch Associates (refer to Section 3.14 of this EIE) as being an unauthorized landfill that contains hazardous foundry and manufacturing wastes. There is also no fencing between the vacant parcel and the SLE rail corridor on the north.

The vicinity of the Proposed Action is routinely patrolled by the Branford Police Department, which is located at 33 Laurel Street, approximately three-quarters of a mile north of the Proposed Action site. The Branford Fire Department, located at 45 North Main Street, is also approximately three quarters of a mile north of the Proposed Action site. The recently constructed south-side high level rail platform and adjacent 201-space commuter parking lot are fully illuminated.

Direct and Indirect Impacts

No direct or indirect adverse impacts to the provision of public safety and security services are anticipated with the No-Action Alternative of the Proposed Action.

The Proposed Action is anticipated to have several positive effects relative to safety and security on site. The project will effectively bring all parcels under one owner (ConnDOT) and will result in the removal of the unoccupied residential structure located north of the SLE rail corridor as well as some of the fill/refuse materials located on the vacant parcel to the south of the tracks and west of the 201-space commuter parking lot. In their place will be a new fully illuminated kiss-and-ride lot, a commuter parking lot, and new fencing to keep pedestrians off of the active railroad tracks. The commuter lot will also serve to cap and isolate any remaining subsurface hazardous materials, thereby significantly reducing potential exposure hazards.

The new north-side high level rail platform will include yellow paint markings cautioning passengers to stand clear of the rail side edge of the platform. Sound from the existing audio system used on the south side platform that alerts passengers of approaching trains will also be piped into speakers located on the new north-side platform. The station upgrade will also include emergency battery backup lights for the platform areas. Knox boxes, fencing, and other safety features will also be included in the station design. Lastly, a pedestrian overpass complete with stairwell and elevators will enable passengers to flow between platforms without having to physically cross an active rail line.

Overall, the Proposed Action is not anticipated to affect the safety and security of neighboring residential streets nor will it affect the operations of police, fire or other emergency response crews in the area. The site already houses the new SLE Branford Railroad Station; the Proposed Action is simply adding other station elements (north-side high-level platform, kiss-and-ride lot, additional commuter parking) so as to make the existing station a more efficient and fully operational facility. Once constructed, the facility will continue to be actively patrolled by local police.

Proposed Mitigation

Because the Proposed Action is anticipated to have an overall beneficial impact on safety and security at the site, mitigation is not required or proposed.

3.20. Construction Period Impacts

Construction of the Proposed Action will begin in January 2010 and be completed by Spring 2011. The following types of construction equipment, among others, will be used to demolish the existing two-story residential structure, to prepare the site, and to construct the new north-side high level rail platform, pedestrian overpass, commuter parking lot, kiss-and-ride drop off area and other associated improvements:

- Dump trucks
- Dozers
- Backhoes
- Loaders
- Scrapers and Graders
- Pavers
- Mixers
- Steam Rollers
- Cranes
- Pile Drivers
- Air compressors
- Generators
- Jack hammers and other pneumatic tools
- Track side rail construction equipment

Construction of the new north-side high-level rail platform and pedestrian overpass will involve using both trackside and landside construction equipment and will require extensive coordination with Amtrak in order to minimize track outages/service disruptions and to ensure safe working conditions at all times within the electrified railroad corridor. Trackside construction equipment will be used where landside construction equipment cannot obtain access to the site; primarily where wetlands exist immediately north of the rail corridor. The parcel north of the tracks and west of Kirkham Street that currently houses an unoccupied two-story residential structure will be used as a staging area for this aspect of construction once the residential structure is demolished. Once the north-side high-level platform and pedestrian overpass is complete, the staging area will be developed as the proposed kiss-and-ride drop off area.

Demolition and construction activities associated with the Proposed Action will result in a variety of temporary impacts as described below:

Air Quality: During clearing and construction of the Proposed Action, the potential exists for dust from exposed surfaces to become airborne. Additionally, the prolonged use of diesel-powered construction vehicles contributes to increased diesel exhaust emissions including carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter (PM_{2.5}). Concerns over diesel exhaust emissions have led EPA to develop new emission standards for new diesel-powered vehicles beginning in 2004. However, since these standards did not begin to take effect until 2004 on new vehicles, EPA has developed the Voluntary Diesel Retrofit Program to help address pollution from diesel construction equipment and heavy-duty vehicles that are currently on the road today (EPA, 2003). Retrofit Emission Control Devices, such as diesel oxidation catalysts, offer an inexpensive solution to reducing diesel emission impacts. ConnDOT will require contractors to comply with current best management practices.

Noise: During construction, continuous as well as intermittent (or impulse) noise will be experienced in the immediate project vicinity, which may be perceived by some to be intrusive, annoying and discomforting. This noise will be generated by construction equipment including pneumatic tools which emit strong penetrating percussive sounds, and the daily movement of dump trucks, loaders, backhoes, trackside construction equipment, and various other heavy equipment to, from, and on the construction site. In general, good public relations related to noise issues should be practiced during the construction period.

Table 12 provides typical noise emission levels in A-weighted decibels (dBA) at a location 50 feet from various types of construction equipment that may be used on the project site. For comparison, everyday noise levels within suburban environments similar to that found at the Branford project site range from about 50 to 60 dBA (*Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06, May 2006).

Table 12: Noise Emission Levels from Construction Equipment

<i>Construction Equipment</i>	<i>Noise Level (dBA) 50 feet from Source</i>
Air compressor	81
Backhoe	80
Dozer	85
Generator	81
Jackhammer	88
Loader	85
Pneumatic Tool	85
Rock Drill	98
Dump Truck	85

Source: *Transit Noise and Vibration Impact Assessment* (FTA-VA-90-1003-06, May 2006)

In general, noise levels are reduced by 6 dBA for each doubling of distance from a noise source. For example, a dump truck with a noise level of 85 dBA at 50 feet will have a noise level of 79 dBA at 100 feet, 73 dBA at 200 feet, 67 dBA at 400 feet, 61 dBA at 800 feet, and so forth. Buildings and other barriers located between a noise source and a receiver further reduce the intensity of construction noise. The closest noise sensitive receptors to the Proposed Action site are a residence located 150 feet north of the rail corridor along the western side of Kirkham Street and several homes located within the Curve Street/Harbor Street neighborhood to the south, which range from 300 to 500 feet from the construction site. Noise levels from a dump truck at the residence located 150 feet from the site will roughly fall in the 76 dBA range. Within the Curve Street/Harbor Street neighborhood, the dump truck noise will roughly fall in the 67 dBA range. These noise levels are in line with ConnDOT's general provision on construction noise as defined under Section 1.10.05 of ConnDOT's Standard Specifications for Road, Bridges and Incidental Construction (*Form 816*) (2004). These provisions state that, "the maximum allowable level of noise at the residence or occupied building nearest to the project site shall be 90 decibels on the "A" weighted scale (dBA).

Water Quality/Wetlands: Clearing, grading, and other earth moving activities lead to exposed surfaces, rendering them susceptible to wind and rain erosive forces. Runoff can carry suspended sediments to downstream receiving waters where the sediment will become deposited as runoff velocities decrease. The sedimentation of downstream receiving waters can adversely affect water quality as well as aquatic habitats for invertebrates, fish and other organisms.

Economy: Minimal economic activity will be stimulated by construction of the Proposed Action. One effect will be the production of jobs in on- and off-site construction, and trade, transportation, manufacturing, and services in support of construction. The earnings from these jobs will in turn generate personal expenditures by project-related workers that will stimulate the local and regional economy. Expenditures will also encompass materials used in construction. Overall there will be a small but beneficial construction period effect on the economy.

Solid Waste and Hazardous Materials: Solid waste will be generated from construction and will be disposed of as municipal solid waste. Any construction waste materials containing lead based paint, asbestos containing materials, or solvents (e.g., paint thinner, varnishes) will be managed as hazardous waste and disposed of by a licensed waste hauler. A Health and Safety Plan will be developed for the project and communicated to construction workers. This is especially important given that there are known contamination issues at the site of the planned 316-space surface parking lot.

Public Utilities: During construction, the installation of new utility lines and connections/tie-ins (primarily electrical) has the potential to result in temporary short-term disruptions of local service. In addition, construction associated with underground utility installation has the potential to impact stormwater runoff quality as erosion of exposed soils may lead to sediment transport and potential increases in the turbidity of receiving waters.

Energy Use and Conservation: Project construction will result in an increased local demand for fossil fuels (mainly diesel fuel) and an increased demand for electricity.

Proposed Mitigation

To mitigate potential temporary construction impacts, an efficient construction phasing and sequencing plan will be developed that will include the following measures:

Appropriate mitigation for excessive idling of construction equipment and fugitive dust control are described in Section 22a-174 of the RCSA. Mitigation measures to control impacts to air quality during construction will include wetting and stabilization to decrease dust, cleaning paved areas, placing tarps over truck beds when hauling dirt, and staging construction in such a way to minimize the amount and duration of exposed earth. In addition, the contractor will be required to keep equipment maintained and operating efficiently in a clean manner to mitigate any exhaust impacts. Construction vehicles will also need to comply with the three-minute idling regulation.

While construction noise is exempt under Section 22a-69-1.8(g) of the RCSA, construction contract documents will require the contractor to limit the duration and intensity of noise generated by construction. Specifically, ConnDOT's general provision on construction noise as defined under Section 1.10.05 of ConnDOT's Standard Specifications for Road, Bridges and Incidental Construction (*Form 816*) (2004), states that, "The contractor shall take measures to control the noise caused by its construction operations, including but not limited to noise generated by equipment used for drilling, pile-driving, blasting, excavation and hauling. All methods and devices employed to minimize noise shall be subject to the continuing approval of the Engineer. The maximum allowable level of noise at the residence or occupied building nearest to the Project site shall be 90 decibels on the "A" weighted scale (dBA). The contractor shall halt any Project operation that violates this standard until the Contractor develops and implements a methodology that enables it to conduct its Project operations within the 90-DBA limit." Although some activities may not exceed this noise specification, they may be perceived as being intrusive both in air transmitted noise and ground transmitted vibration. For this reason, good public relations pertaining to noise issues should be considered during construction activities.

A comprehensive Erosion and Sedimentation Control Plan (E&S Plan) will be developed specifically for the Proposed Action. The E&S Plan will be implemented and maintained in conformance with the *Connecticut Guidelines for Soil Erosion and Sedimentation Control* (ConnDOT, 2002) and other federal and state policies. Silt fences, hay bales, and other controls will be properly installed adjacent to the Proposed Action disturbance limits, and will be maintained throughout the period of active construction until exposed soils have become stabilized. Since the project will not disturb more than five acres, a Stormwater Pollution Prevention Plan (SWPPP) will not be required for the Proposed Action. The Proposed Action will disturb more than one acre of land, however, triggering the need for a Stormwater General Permit from CTDEP.

Incidental exposure of hazardous materials during construction, will be addressed prior to the commencement of construction, with the development of a site-specific hazardous materials

management plan. A Health & Safety Plan for construction workers will also be developed in accordance with Occupational Safety and Health Administration (OSHA) guidelines. No hazardous materials other than diesel fuel for construction equipment will be stored on site during construction. All fuel storage tanks used during construction will be equipped with secondary containment systems.

During all phases of construction, efforts will be made to avoid and minimize impacts to utilities to the greatest extent practicable. Coordination with the Town of Branford and all utility providers will take place prior to the start of construction.

During construction, track outages will be closely coordinated with the appropriate railroad authorities and will be limited to the greatest extent practicable.

The FHWA Work Zone Safety and Mobility Rule will be adhered to in accordance with ConnDOT's Policy on Systematic Consideration and Management of Work Zone Impacts, (attached in Appendix F). Additionally, all construction personnel will be required to be railroad safety trained to ensure they are fully educated about the hazards of working on and adjacent to an active electrified rail corridor.

3.21. Cumulative Impacts

As required by the CEPA, indirect and cumulative impacts must be studied in the EIE to determine if the Proposed Action fosters or accelerates development beyond the immediate project area and if the Proposed Action, when added to other actions collectively results in significant environmental impacts.

Indirect effects are those which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable (40 CFR 1508.8). Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural resources and systems, including ecosystems. These effects were assessed and documented within each of the resource categories detailed above.

Cumulative effects are defined as the impact on the environment that 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 (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The potential cumulative effects of the Proposed Action are documented below, including definition of the geographic area and time frame within which such cumulative impacts can be reasonably expected to occur.

Cumulative Impacts Analysis Topics

Table 13 summarizes the rationale for the socioeconomic, cultural, and natural environmental resources that are considered below in the cumulative impacts analysis for the Proposed Action. This listing is based on the assessment of potential direct and indirect resource impacts analyzed above for this EIE.

Table 13: Rationale – Resources Included in the Cumulative Effects Analysis

Resource	Rationale
Neighborhoods and Housing (<i>includes noise, cohesion, services, air quality, aesthetics/visual affects</i>)	Potential for direct effects in terms of visual/aesthetics
Socio-economics (includes employment, income, economic development)	Potential for indirect effects
Water Quality	Potential for indirect effects
Hydrology and Floodplains	Potential for direct and indirect effects
Wetlands	Potential for direct and indirect effects
Coastal resources	Potential for direct and indirect effects

Cumulative Effects Impact Area

The cumulative impacts analysis considers planned and programmed projects which in concert with the Proposed Action may result in some cumulative effect on environmental or community resources. The analysis must, therefore, define the geographic area within which planned and programmed projects would reasonably be expected to have a synergistic effect in association with the Proposed Action. Using the environmental resources that may be affected by direct impacts of the project as a guide (Table 13 above), multiple resource boundaries were reviewed to determine appropriate cumulative effects sub-boundaries. These potential sub-boundaries include Census Tracts, reasonable neighborhood walking distance from the Proposed Action site (1,000 feet), the Coastal Area Management boundary in Branford and the sub-watershed boundary.

Proposed Timeline

The cumulative impacts analysis must be framed within the context of a reasonable time period. That is, it must answer the question of how the railroad station and then the Proposed Action may have had or could have a cumulative influence on resources in its surroundings in the context of other development activity over time. For this Proposed Action, the following time frames were considered:

- Past time frame: Year the Shore Line East service opened – 1990
- Current time frame: 2007 – under current operating conditions for the rail station and current level of area-wide development

- Future time frame: The year that currently planned improvements to the commuter rail program for SLE will be completed – 2011

Planned and Programmed Development and Development Trends

Since 1990 Branford has been experiencing steady residential growth in its outlying areas. The core of the community where the Proposed Action would be located has been virtually built out since long before 1990 but in recent years has experienced some redevelopment and improvement to a number of properties. This process is continuing today. Recent projects which are approved, constructed or anticipated in the cumulative effects impact area include:

- Office complex opportunity at Indian Neck Avenue and Maple Street
- Residential development on Oak Street
- Completion of Anchor Reef Luxury Condominiums off of Indian Neck Avenue
- Retail redevelopment opportunity for former factory site east of the Anchor Reef development
- Planning for enhanced use of the coastal area southeast of the Proposed Action along the shoreline with new public access to the beach, a new public dock, and new restaurant at the marina.
- Elderly housing complex planned (22 units) for Kirkham Street
- Expansion of business hours at businesses in the Harbor Street commercial cluster
- Infill and redevelopment of some properties on the west end of Main Street

The Economic Development Director (personal communication November 1, 2007) stated that there is ample anecdotal evidence that some neighborhood residents walk to the train station daily. He also noted that the core of the downtown on Main Street is within walking distance of the train. With the completion of the Anchor Reef development and other proposed or potential projects nearby, Branford is realizing the emergence of a transit-oriented development (TOD) area surrounding the train station.

Potential Cumulative Impacts

Neighborhoods and Housing: The Proposed Action in association with ongoing development trends is anticipated to have a beneficial cumulative impact to neighborhoods and housing. As mixed-use and diversity of development continues, the village center can be expected to become increasingly sustainable. This in turn will strengthen the neighborhoods that surround the village center economically and socially. The enhanced access to the train for commuting to jobs elsewhere is expected to have a positive synergistic effect with that trend. It will enable residents to live and invest in the current neighborhoods and offer an asset that will improve the marketability of nearby housing developments.

The Proposed Action will alter southerly views of some homes in the area. The planned and programmed projects, particularly those that will be located along Branford's shoreline in the vicinity of the Proposed Action site will also alter views of Long Island Sound from vantage

points inland. The nature of this cumulative effect will depend on the aesthetics of new development design including height and massing of buildings. Nonetheless, new development along the shoreline is enhancing the visual setting by replacing old and abandoned industrial sites in favor of mixed-use developments.

Socio-economic Effects: The Proposed Action in association with ongoing development trends is anticipated to have a beneficial cumulative impact to jobs and employment in Branford. Enhanced multimodal access to the train for jobs which lie predominantly outside Branford will help sustain Branford's resident incomes and indirectly, businesses in Branford which they might patronize. New housing opportunities within walking distance of the train will have a similar effect and together, they can increase foot traffic from the train to the nearby village retail and service businesses.

Water Quality: The Proposed Action will result in the creation of 2.88 acres of paved surface which can contribute to water quality degradation issues. Ongoing residential development trends which are expected to continue in the region along with ongoing infill and redevelopment in Branford's village center will also result in increased paved and other impervious surface areas in the Branford River sub-watershed. In the same manner, each of the planned and programmed development projects will add to impervious land coverage in the form of building footprints, driveways, and parking in the proximity of the Proposed Action site. Increases in paved and other impervious surfaces contribute to stormwater runoff and potential for sedimentation and contamination of downstream waters. In tidal areas, increased paved and other impervious surfaces also lead to increased fresh water influx into saline receiving waters which can gradually alter salinity in the vicinity of the discharges. These cumulative adverse effects to water quality will be offset, however, by stormwater management measures included in the design of each development site. These stormwater management features are required in order to comply with the regulatory framework that exists to protect tidal and inland wetlands, water quality, and other important natural resources. Project designs must comply with stringent federal, state, and local permit requirements. Consequently, cumulative adverse effects to water quality are expected to be minor and will be controlled and managed through these permit processes. No additional mitigation for this cumulative impact is warranted or proposed.

Hydrology and Floodplains: Construction of the Proposed Action will result in the placement of fill into the 100-year coastal floodplain. Several of the planned and programmed development projects expected to be constructed in the vicinity of the Proposed Action site and along the shoreline will also be located within the area of coastal floodplains. Consequently, there is potential for cumulative impacts to the coastal floodplain with the Proposed Action. The zoning regulations of the Town of Branford include specific requirements for site design for projects proposed within 100-year floodplains. Consequently, the potential for adverse cumulative effects to floodplains will be offset by the combination and implementation of local zoning requirements and construction of an appropriate stormwater management system for the Proposed Action. No additional mitigation for this cumulative impact is warranted or proposed.

Wetlands: Construction of the Proposed Action will involve work below the high tide line that will impact approximately 0.02 acres (720 SF) when an existing undersized and partially clogged

12-inch RCP culvert will be replaced by a new open bottom span or arch culvert. The new open bottom span or arch culvert is expected to improve tidal flow/exchange, which will be beneficial to adjacent tidal wetlands. Ongoing new development may also encroach upon inland and tidal wetlands in the Branford River sub-watershed area, creating a cumulative effect to wetland acreage and functions and values in the sub-watershed. However, federal, state, and local regulations are in place to protect both inland and tidal wetlands from adverse development impacts. These regulations are firmly enforced through stringent permitting processes. Where impacts occur and are permitted, mitigation is often required to replace the impacted acreage and functionality lost. Consequently, the potential for adverse cumulative impacts to wetlands will be offset by the combination of implementing inland and tidal wetland regulation requirements and any mitigation that is required for the Proposed Action. No additional information for this cumulative impact is warranted or proposed.

Coastal Resources: The Proposed Action will have some impact to coastal resources in the form of coastal floodplain filling and work below the high tide line. As noted above, several of the planned and programmed development projects are expected to be constructed in the vicinity of the Proposed Action site and along the shoreline and will also be located within the area of coastal floodplains. Consequently, there is the potential for cumulative impacts to coastal resources with the Proposed Action. The Town of Branford zoning regulations establish a coastal management district and requirements for coastal site plan review consistent with the guidance of Connecticut's Coastal Management Act. Consequently, the potential for adverse cumulative impacts to coastal resources will be offset by the combination of implementing local zoning requirements and mitigation associated with the Proposed Action. No additional mitigation for this cumulative impact is warranted or proposed.

4. UNAVOIDABLE ADVERSE IMPACTS

The unavoidable adverse impacts from the Proposed Action will include:

- Acquisition of two privately owned parcels
- Addition of 2.88 acres (125,450 SF) of paved surface area with corresponding loss of approximately 5.38 acres of vegetation and low value wildlife habitat
- Minor loss of flood storage capacity associated with fill being placed in the 100-year coastal floodplain
- Approximately 0.02 acres (720 SF) will be impacted below the high tide line during the replacement of an existing undersized and partially clogged 12-inch RCP culvert with a new open bottom span or arch culvert. The new open bottom span or arch culvert will improve tidal exchange in adjacent tidal wetlands to the north
- Change in visual setting for several residences located north of the railroad tracks along Elm Street and Kirkham Street
- Temporary construction-related inconveniences

The use of the site for the proposed improvements is consistent with adjacent transportation uses and does not result in any adverse secondary development effects that have not already been planned for and approved. The Proposed Action will include mitigation measures that will be fully coordinated with resource agencies to ensure that they serve their intended purpose. The mitigation measures will offset the potential adverse impacts and maintain the safety and quality of life that currently exists at the site. Given these considerations, the unavoidable adverse impacts are not estimated to be significant.

5. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Irreversible and irretreivable commitments of resources caused by the Proposed Action include the following:

- Energy - energy will be consumed in project construction and well as to operate station elements and any additional trains that will operate as part of the expanded SLE commuter rail service.
- Land - the land will be developed and the topography altered. The commitment of the site to this use will preclude the possibility of other uses at the site into the foreseeable future.
- Natural resources – site development will introduce 2.88 acres (125,450 SF) of pavement to an area that is currently vegetation and pervious. Vegetation lost will not be replaced. There will be some filling of the 100-year coastal floodplain which will result in a minor loss of coastal flood storage capacity. Approximately 0.02 acres (720 SF) of land area located below the high tide line will be impacted during replacement of the existing clogged culvert with an open bottom arch culvert or span but the activity will produce a corresponding improvement in tidal exchange in the tidal wetland system located north of the impact area.
- Construction materials - a variety of natural, synthetic, and processed construction materials will be utilized to construct the Proposed Action.
- Human labor - the dedication of human labor to the construction of the Proposed Action represents an irretreivable expenditure of time and production that is thus unavailable for other purposes.
- Financial - Finally, the project expenditures, once committed, will no longer be available for other purposes and, once spent, cannot be regained.

6. SUMMARY OF MITIGATION MEASURES

The adverse impacts of the Proposed Action are limited and can all be mitigated. The following table summarizes the proposed mitigation measures for each impacted resource category. Where no mitigation is proposed, the impact evaluations have determined that adverse impacts are minor and do not warrant mitigation, that no adverse impacts were identified, or that anticipated impacts will be beneficial.

Table 14: Summary of Impacts and Proposed Mitigation

Resource	Impact Analysis	Mitigation
Land Use and Zoning	Acquisition of two-privately owned parcels, one vacant and one with an unoccupied residence. No impacts to land use or zoning	No mitigation is required
Consistency with Local and Regional Plans	The Proposed Action is consistent with local and regional development plans	No mitigation is required
Consistency with C&D Plan	The Proposed Action is consistent with the C&D Plan	No mitigation is required
Traffic and Parking	The surrounding roadway network will adequately support the additional traffic volume generated by the Proposed Action. No adverse impacts anticipated. Beneficial impact as Proposed Action provides more parking for rail commuters and improved/safe pedestrian connections.	No mitigation required
Air Quality	Construction period impacts: Potential impacts from prolonged use of diesel powered vehicles. Typical diesel air quality emissions include carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter (PM2.5).	Construction equipment will be required to comply with all pertinent state and federal air quality regulations. Construction period BMPs to be followed to reduce airborne dust
Noise	Construction period impacts: Potential for continuous as well as intermittent (or impulse) noise to be experienced in the immediate project vicinity.	Construction noise is exempt under Section 22a-69-1.8(g) of the RCSA, however, ConnDOT's general provision on construction noise described under Section 1.10.05 of <i>Form 816</i> must be included in the construction contract for this project.
Neighborhoods and Housing	Indirect beneficial impact to local socio-economic conditions as commuters may shop locally for convenience goods. No adverse impacts on neighborhoods or housing.	No mitigation required

Resource	Impact Analysis	Mitigation
Water Quality	<p>Creation of 2.88 acres (125,450 SF) of new paved surface contributes to increased site runoff and potential for increased sedimentation and contamination of downstream tidal wetlands and watercourses located offsite. Freshwater inputs to tidal systems during storm events and thermal pollution are also concerns.</p> <p>Construction period impacts: Increased potential for sedimentation of offsite streams and tidal wetlands due to runoff from exposed surfaces during site work.</p>	<p>Final design of new facility will be fully coordinated with the CTDEP and ACOE and will include primary and secondary stormwater renovation measures including a stormwater detention/retention pond with a forebay designed to collect and retain the first one (1) inch of stormwater runoff and effectively remove suspended sediments (Refer to progress design drawings 310-0047 C-106 and C-303 included in Appendix A). Project design will comply with both the CTDEP 2004 Stormwater Quality Manual and the CTDEP 2002 Sedimentation and Erosion Control Manual.</p> <p>During construction, temporary best management practices (BMPs) will be employed and an erosion and sedimentation control plan (E&S Plan) will be implemented. A stormwater pollution control plan (SWPCP) will also be registered for the project.</p>
Hydrology and Floodplains	Construction will involve the placement of fill into the 100-year coastal floodplain.	Some flood storage capacity will be replaced by the stormwater management system. Coordination will occur with CTDEP and ACOE on required permits.
Wetlands	Impacts below the high tide line will be confined to the location where an existing undersized and partially constricted 12-inch RCP culvert will be replaced with a new open bottom span or arch culvert. A total of approximately 0.02 acres (720 SF) will be impacted due to work below the high tide line.	The new open bottom span or arch culvert will improve tidal flow/exchange, potentially improving the overall quality of and increasing the physical limits of tidal wetlands located upstream. Impacts below the high tide line and mitigation will be fully coordinated with CTDEP and ACOE to ensure that proper mitigation is implemented for the Proposed Action.
Flora, Fauna, Threatened and Endangered Species	Negligible adverse direct and indirect impacts to low value habitat.	No mitigation required
Soils and Geology	No Impacts	No mitigation required

Resource	Impact Analysis	Mitigation
Coastal Zone and Coastal Barriers	The Proposed Action involves work below the high tide line and impacts to coastal floodplains. A total of approximately 0.02 acres (720 SF) will be impacted due to work below the high tide line. This impact will be confined to the location where an existing undersized and partially constricted 12-inch RCP culvert will be replaced by a new open bottom span or arch culvert. Construction of new parking lot and a portion of the kiss-and-ride drop off area will require placement of fill in the coastal floodplain.	The new open bottom span or arch culvert will improve tidal flow/exchange, potentially improving the overall quality of and increasing the physical limits of tidal wetlands located upstream. Impacts below the high tide line and mitigation will be fully coordinated with the CTDEP and ACOE to ensure that proper mitigation is implemented for the Proposed Action. Some flood storage capacity will be replaced by the stormwater management system. Coordination will occur with CTDEP and ACOE on required permits.
Cultural Resources	No Impacts	No mitigation required
Solid Waste and Hazardous Materials	There may be some potential for exposure of construction workers to hazardous materials and contamination that exists on the 5.38 acre vacant parcel slated for the new surface parking lot. However, once constructed, the contamination will be effectively capped/contained by the parking lot, which will be an important part of a Remedial Action Plan (RAP) for the project site. Potential for exposure to and leaching of these contaminants off-site will be reduced once the project is completed. Thus, the project will have the beneficial affect of reducing an existing contamination hazard.	The 316-space surface parking lot will be an important part of a RAP for the project site. The RAP will be developed in coordination with the CTDEP so that the potential exposure risk to the general population is significantly reduced. Workers involved with building the surface parking lot will take appropriate measures to reduce/minimize any potential exposure risk during construction. A Health and Safety Plan will be developed for the project and communicated to construction workers. The two-story residential building will be inspected for possible lead-based paint and/or asbestos containing materials prior to demolition. All guidelines related to the removal and disposal of these hazardous materials will be followed if such materials are identified.
Use/Creation of Hazardous Materials	No Impacts	No mitigation required
Aesthetics and Visual Effects	Southerly views from homes located along the south side of Elm Street and along Kirkham Street will be impacted.	A landscaping plan that includes vegetative buffers could minimize anticipated visual impacts.
Energy Uses and Conservation	Minimal increase in amount of energy consumed above existing conditions	No mitigation required
Public Utilities and Services	Potential temporary service disruptions (CL&P) during construction	Coordinate utility construction scheduling with service providers
Public Health and Safety	Beneficial Impact – site conditions improved (see hazardous materials discussion) and new safety features such as fencing and illumination added	No mitigation required

7. COST BENEFIT ANALYSIS

The primary costs of the Proposed Action arise from the monetary outlay and energy consumption required for constructing the north-side high level rail platform, pedestrian overpass, new commuter parking lot, kiss-and-ride drop off area, and other associated improvements. Project construction cost is anticipated to range from \$20 to \$25 million, with start of construction in January 2010. This cost represents a midpoint of construction (2010) dollars. This cost does not include the inherent secondary costs associated with future energy and maintenance needs of the proposed improvements. However, these future secondary costs are not anticipated to be substantial given the nature of the proposed improvements. Future energy requirements are essentially limited to the electricity needed to illuminate the facility, operate the elevators associated with the pedestrian overpass, and to operate the platform's variable message signs and audio train alert system. Maintenance costs will primarily be limited to landscaping and snow/ice removal as well as for the general upkeep of the facility.

Costs associated with the environmental impacts as defined in this EIE are relatively minimal. The Proposed Action is very compatible with its surroundings as it is essentially the full build-out of the partially completed Branford SLE Railroad Station that was constructed and opened in August 2005. Thus, the Proposed Action is not a new use, but instead is the expansion of an existing use that is compatible with existing plans of development for the surrounding area. As mentioned, the intent of the Proposed Action is to complete the partial SLE railroad station by construction of a new north-side high-level rail platform opposite the existing south-side high level rail platform; constructing a new pedestrian overpass to provide safe movements between the two platforms; and by expanding the parking capacity at the station by 368 spaces for a total of 569 spaces. All these improvements have one unified purpose; to make the SLE commuter rail service an attractive transportation alternative for Connecticut's commuters and residents. This in turn will hopefully increase ridership, thereby reducing the number of vehicle miles traveled on Connecticut's already congested Interstate 95 and U.S. Route 1 coastal corridors. Similar improvements have already been implemented or are in the process of being implemented at other SLE stations in the towns of Guilford, Madison, Clinton, and Westbrook as part of Governor M. Jodi Rell's Transportation Initiative which was approved by Connecticut's Legislature in 2005. Thus the improvements are part of an overall SLE system upgrade which will substantially benefit Connecticut's population well into the future, especially in light of the rapidly escalating price of gasoline.

Considering the immediate and longer-term operational and financial benefits of the Proposed Action, weighed against the project's construction costs and minor adverse environmental impacts, the Proposed Action appears to be an advantageous activity that justifies the expenditures.

8. LIST OF CERTIFICATES, PERMITS AND APPROVALS

Certificates, Permits and Approvals

The following permits, approvals, certifications, and registrations **may** be required for completion of the Proposed Action:

Federal

- ACOE Section 404 Permit

State

- CTDEP General Permit: Stormwater and Dewatering Wastewaters from Construction
- CTDEP Flood Management Certification
- CTDEP 401 Water Quality Certification
- CTDEP Office of Long Island Sound Programs Structures, Dredging and Fill Permit
- CTDEP Office of Long Island Sound Programs Tidal Wetlands Permit

REFERENCES

Branford Planning and Zoning Commission, January 16, 1997, Amended August 1, 2003. *Branford Plan of Conservation and Development*

Town of Branford, 2006. *Town of Branford Planning and Zoning Regulations and Zoning Map.*

Connecticut Department of Environmental Protection, 2002. *2002 Connecticut Guidelines for Soil Erosion and Sedimentation Control* (CTDEP Bulletin 34)

Connecticut Department of Environmental Protection, 2004. *Connecticut Stormwater Quality Manual*

Connecticut Department of Environmental Protection, 2006 Edition. *Environmental Data for Connecticut*

Connecticut Department of Environmental Protection, 2006. *GIS Water Quality Standards and Criteria* database.

Connecticut Department of Environmental Protection, January 1996. *Remediation Standard Regulations*

Connecticut Department of Environmental Protection, December 17, 2002. *Surface and Groundwater Quality Standards*

Connecticut Department of Environmental Protection Natural Resource Center, 1984. *Community Water Systems in Connecticut, A 1984 Inventory*

Connecticut Department of Environmental Protection Natural Resource Center, June 1982. *Atlas of the Public Water Supply Sources and Drainage Basins of Connecticut*

Connecticut Department of Transportation, 2002. *Connecticut Bicycle Map*

Connecticut Department of Transportation, 2001. *Consultant Design Manual*

Connecticut Department of Transportation, January 1, 2007. *Expanding Rail Service On Shore Line East – Pursuant to Public Act 06-136, Section 2(d).*

Connecticut Department of Transportation, 2004. *Standard Specifications for Roads, Bridges, and Incidental Construction – Form 816*

Connecticut Economic Resources Center, 2007. *Profile Town of Branford*

Connecticut Office of Policy and Management, 2005. *Conservation and Development Policies Plan for Connecticut, 2005-2010*

Federal Emergency Management Administration [FEMA], June 16, 1992. *Flood Insurance Study and Flood Insurance Rate Map for the Town of Branford, Connecticut, New Haven County. Community Panel Number 090073-0003-D.*

GEI Consultants, Inc., February 18, 2000. *Task 210: Surficial Site Investigation – Proposed Branford Railroad Station Upgrade, Branford, Connecticut.*

H.W. Lochner, Inc., July 19, 2001. *Parking Feasibility Study for Shore Line East Stations – Branford, Guilford, Madison, Clinton, Westbrook – Final Report.*

South Central Regional Council of Governments, 2007. *South Central Regional Bicycle and Pedestrian Plan*

South Central Regional Council of Governments, 2007. *Long Range Transportation Plan (2007-2035)*

South Central Regional Council of Governments, November 15, 2000. *Vision for the Future - Regional Plan of Development for the South Central Regional Council of Governments*

U.S. Department of Transportation, May 2006. *Transit Noise and Vibration Impact Assessment, FTA-VA-90-1003-06.*

U.S. Environmental Protection Agency, Region 1, July 2007. *2006 Annual Report on Air Quality in New England*

U. S. Census Bureau. *2000 U.S. Census*

U.S. Geological Survey Surficial Geologic Map of the Branford Quadrangle, Connecticut, 1964.

Personal Communications

Personal communication, Branford Town Planner, October 11, 2007

Personal communication, Branford Town Planner December 14, 2007

Personal communication, Branford Economic Development Director, November 1, 2007