

Appendix 3.2-E

Layover Facility Site Selection Report

Layover Facility Site Selection



Prepared for

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Introduction

1.1 Purpose of this Document

The Draft Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR) for the South Coast Rail project, released for public review in March 2011, identified five potential sites for overnight layover facilities but did not identify a preferred site on either the Fall River or New Bedford branches. Since the release of the DEIS/DEIR, MassDOT has identified a preferred overnight layover facility location on each of the branches. The Final Environmental Impact Statement/Environmental Impact Report (FEIS/FEIR) will provide a detailed analysis of each of these two layover sites in accordance with the requirements of the Secretary of Energy and Environmental Affairs Certificate on the DEIR.

The Secretary's Certificate on the DEIR stated that:

“The FEIR should include a rationale for selection of the preferred layover facilities and for elimination of others from further consideration. The evaluation of impacts associated with layovers should include potential conflicts and synergies with existing and future land use on and in the vicinity of the sites.”

This document provides a comparison of the environmental impacts, operations, capital costs and operating costs associated with each of the five sites identified in the DEIS/DEIR (Chapter 2) and the rationale for selection of the preferred sites (Chapter 3). MassDOT is seeking public comment on the layover sites in advance of preparing the FEIR.

1.2 Purpose of the Layover Facility

The overnight layover facility is the location where trains are stored between the last trip at the end of each day and the first trip at the beginning of the next day. Efficient commuter rail operation requires that trains begin and end the day as close as possible to the outlying terminal station. All of the MBTA’s recently restored commuter rail lines, including the Greenbush, Kingston, Middleborough, and Newburyport Lines, have overnight layover facilities near the terminal station. For the South Coast Rail project, trains will start and end the day on both the Fall River and New Bedford branches; therefore, two layover facilities are needed, one on each line.

1.2.1 Location of Layover Facilities

The layover facility should be located close to the end of the line. If the layover facility is near the terminal, trains do not have to travel far to get to the start of their morning trips or from the end of their evening trips. If the layover facility is distant from the terminal, trains need to make a long distance non-revenue (deadhead) movement before they start their morning trips or after they end their evening trips.

The ideal location for an overnight layover facility is just beyond the terminal station. When trains complete a trip at the end of the day, they continue down the track into the layover facility. In the morning, they pull up from the layover facility to the first station, and then continue up the track towards Boston. There is no need for the train to reverse direction at the terminal station, and trains moving between the terminal station and the layover yard have no impact on revenue operations on the mainline track. The layover yards at Greenbush and Kingston have this type of operation.

If the area around the terminal station is constrained by urban development, environmental resources, or other limitations, it may not be possible to locate the layover facility beyond the terminal station. In this case, acceptable layover locations may be found adjacent to the mainline, as close to the terminal station as possible. The layover yards at Middleborough and Newburyport are located before the terminal station, each less than a mile.

There is no hard rule for the distance of a layover facility from the terminal, but increasing distance will result in less reliable operations and greater operating costs. The cost to the MBTA of operating a commuter rail vehicle was \$11.92 per mile in 2010 based on the latest information provided by the National Transit Database.

1.2.2 Infrastructure Requirements

The area of the layover facility site must be large enough to accommodate the anticipated number of trains, service vehicles, and other support facilities. The site must be shaped appropriately to allow all tracks to be long enough to accommodate the full length of a train on each track.

Based on the operating plan that has been developed for South Coast Rail, each branch will require four trains to support the peak period service. In addition, a fifth train on each branch will be required as spare equipment, which can be used in the event of a breakdown.

The layover facility must accommodate the five trains anticipated. In addition, the facility should provide one track for future expansion of service and for maintenance equipment. Therefore, each layover site chosen for South Coast Rail must be able to accommodate six tracks.

The tracks must all be long enough to accommodate the longest train anticipated to be operated by the MBTA, which is assumed to be two locomotives and nine coaches, plus buffer space at the ends. This gives a minimum clear track length of approximately 950 feet. The tracks should be spaced with alternate 20-foot and 30-foot track centers, to allow enough space for maintenance vehicles to travel between trains. The layover facilities in Middleborough, Kingston, and Greenbush are of this style.

The site must also accommodate the yard lead track and turnouts, which means that the site must be considerably longer than 950 feet. At a minimum, the lead track must be long enough for a series of three #10 turnouts, a distance of about 400 feet. Allowing for some flexibility with track geometry, this results in the need for a site that has a rectangular shape and is approximately 1,500 feet long and 180 feet wide. The site must be able to accommodate necessary support facilities, including a storage shed, employee parking, crew facilities and storage space for maintenance equipment.

1.3 Preliminary Site Selection

The Southeast Regional Planning and Economic Development District (SRPEDD) identified 19 site alternatives for the layover facilities. Some of these sites would serve only one of the two branches, while others could serve both branches.

Table 1-1 summarizes the site locations, which were described in more detail in the DEIS/DEIR Appendix 3.2-E.

Table 1-1: Potential Layover Sites Identified by SRPEDD

Site #	Site Location	Community	Terminal Distance ¹	SRPEDD Notes
<i>Fall River Secondary</i>				
1	Shaw Street	Fall River	-1.0 ²	Flood plain; condos, school
2	Battleship Cove (Behind Gate)	Fall River	0.0 ³	Good for only 2 tracks
3	Weaver's Cove West	Fall River	2.6	Flood plain; potential economic development conflict
3A	Weaver's Cove East	Fall River	2.6	SRPEDD note not provided for this site
4	North Fall River	Fall River	3.9	Cut section; country club, condos
5	ISP Facility	Freetown	5.3	Site size insufficient; layover footprint would need to be smaller
6	Saw Mill	Freetown	6.4	Sharp curve onto site
7	Copicut Road (North)	Freetown	6.9	Poor road access; poor lot shape
8	Copicut Road (South)	Freetown	6.9	Length and width may be problem
9	Boston Beer Site	Freetown	7.9	Town wants site for economic development
<i>New Bedford Main Line</i>				
10	Wamsutta Street	New Bedford	0.3	Poor ped link to downtown; no mixed use; SRTA bus
11	Wye (South of Nash Road)	New Bedford	1.3	Large wetlands; sharp curve, steep grade
12	Shawmut Avenue	New Bedford	1.3	Wetlands, streams; inadequate width
13	Church Street (East)	New Bedford	3.1	Good
14	Church Street (West)	New Bedford	3.1	Takings; wetlands issues
15	Off Braley Road	Freetown	7.4	Takings
16	South of Chace Road	Freetown	8.3	Cranberry bog; takings
<i>Myricks Junction</i>				
17	Myricks (Southeast)	Berkley	13.6	Inadequate width
18	Myricks (Northwest)	Berkley	14.3	Inadequate width
19	Myricks (SE Jct)	Berkley	13.6	Inadequate width; environmental concerns

1. Terminal distance is measured in miles from Battleship Cove Station on the Fall River Secondary and from Whale's Tooth Station on the New Bedford Main Line. Terminal distances for the sites near Myricks Junction are measured using the longest distance from the two terminal stations.
2. Negative distance indicates site is beyond the terminal station.
3. The configuration of the Battleship Cove site would require trains to cover approximately 1 mile, including reversing direction to access Battleship Cove Station. Accessing Fall River Depot would not require reversing direction.

Alternative sites were evaluated based on civil design, operations impact, anticipated environmental impact, and socioeconomic impact criteria. For the preliminary assessment, detailed design for each site was not feasible. Alternatives were evaluated based on general knowledge of the site layout, general operations knowledge, existing available macro-scale environmental information, and general knowledge of development in the surrounding area.

Civil design was assessed by examining several issues:

- Ability of the site to accommodate the layover facility
- Shape, layout, and grading of the site

- Complicated construction items, such as rebuilding bridges or large retaining walls

Operations impact was assessed by considering the distance of the site from the terminal station. The further a site is from the terminal, the more difficult operations become, because trains traveling to and from the layover facility will interfere with the mainline for a longer period of time, and therefore further restrict the time available for revenue train movements.

Anticipated Environmental impact was assessed by examining several issues:

- Need to fill in rivers, ponds, or other water bodies
- Need to fill in wetlands
- Need to acquire public open space

Socioeconomic impact was assessed by examining several issues:

- Property impacts, especially to developed land
- Proximity to residential development

As described in detail in the DEIS/DEIR Appendix 3.2-E, the assessment of the 19 preliminary sites concluded with the recommendation that five sites be advanced for further analysis:

- Site #3: Weaver’s Cove West
- Site #3A: Weaver’s Cove East
- Site #5: ISP Facility
- Site #10: Wamsutta Street
- Site #14: Church Street West

1.4 Public Involvement

The layover facilities have been the subject of continued public involvement since early in project development. This section describes the specific civic engagement activities associated with each site. While the proposed facilities were discussed in general project meetings, this section outlines the specific site consultation.

1.4.1 Public Meetings

MassDOT conducted Public Meetings in Fall River and New Bedford as part of the alternatives analysis and station siting. The following activities were conducted related to the stations and layover facilities:

- Two Station Workshops were held in New Bedford on November 13 and November 19, 2008. The subjects of the meetings were about uses of the potential station sites and included information about land uses near the potential Whale’s Tooth site, which may include a layover facility. Meeting notices were translated into Spanish and Portuguese. Key concerns included the need to support economic development in the City of New Bedford and noise and safety issues around the station. Participants noted the need to support the activities of the Port.
- An Open House and Public Meeting were held in Fall River on September 17, 2009. The meeting was advertised in the Fall River Herald, direct abutters to the Fall River proposed sites were notified by mail and follow-up phone call, where possible, and the regional planning agency distributed flyers in the area near the potential sites. During the Open House, maps and photos of the potential sites were available, along with staff members who outlined the potential locations, size and operations to interested participants. Most of the questions raised during the Open House related to operation of the facility, when trains would start out of the site, when they would return; if there would be air quality impacts; how the MBTA acquires property; how the meeting was noticed. During the Public Meeting, the Project Manager outlined the potential rail layover facilities and responded to questions. No major questions were raised about the layover site during the meeting.

1.4.2 City of New Bedford

MassDOT met with the City of New Bedford on February 2, 2009. The need for and characteristics of layover facilities were described, using an aerial photograph of the Kingston layover facility for reference. The following comments were provided concerning Site #10, Wamsutta Street:

- It was noted that this is the same site as proposed in the 2002 FEIR, and that the CSX freight tracks for the harbor dredging project had been constructed to accommodate that concept.
- It was noted that the Wamsutta Mill complex on the opposite side of Wamsutta Street had been converted into a residential development.
- It was suggested that there is a need for coordination of projects in the area, including the layover facility, station, and potential for properties between the ROW and Route 18.
- It was suggested that structured parking could be a buffer between neighborhoods and the layover site.

- It was suggested that access over Route 18 between the station on the east and the neighborhoods on the west was very desirable.
- It was suggested that the industrial area to the east would not be impacted by the layover facility.
- Overall, the city would support the site, especially if the area had a comprehensive plan to help connect the station to neighborhoods.

The following comments were provided concerning Site #14, Church Street West:

- It was suggested that access to the parcel could be difficult.
- It was suggested that this was the best parcel from an economic development perspective.

MassDOT met with City officials again on July 26, 2010, to review the City's plans for the potential layover site, among other issues.

The port authority shared a study with MassDOT suggesting that the port would need significantly more space on the site for storage of rail cars.

There was a discussion about the potential to fit both needs, storage and layover, on the location, especially if there is no further development at Hicks Logan. Mayor Lang said he would defer to passenger rail over freight.

The City reminded MassDOT that space needs to be preserved on the site for ferry parking.

1.4.3 Town of Freetown

MassDOT met with the Town of Freetown on February 2, 2009. The need for and characteristics of layover facilities were described, using an aerial photograph of the Kingston layover facility for reference. The following comments were provided concerning Site #5, ISP Facility:

- It was noted that Exit 8½ is just to the north, and archeological resources were encountered on that project.
- It was noted that the ISP Facility is subject to significant homeland security restrictions.
- It was noted that this is the same site as proposed in the 2002 FEIR.

The following comments were provided concerning Site #6, Sawmill:

- It was suggested that a layover facility was not consistent with the potential TOD, the character of the town, or the goals for the area.

- It was questioned how potential residents and business at a future TOD would view the layover facility.

1.4.4 City of Fall River

MassDOT met with the City of Fall River on February 2, 2009. The need for and characteristics of layover facilities were described, using an aerial photograph of the Kingston layover facility for reference. The following comments were provided concerning Site #3, Weaver’s Cove West:

- It was noted that the site is a brownfield and that there are few residences nearby.
- It was questioned whether the rest of the site would be developable if a portion was used for a layover.
- It was noted that the site would face challenges with the proposed LNG development.
- Overall, the city thought the site had good potential.

2

Sites Evaluated in the DEIS/DEIR

2.1 Introduction

As described in the DEIS/DEIR Chapter 3 (page 3-62 to 3-63), two alternative sites were identified on the New Bedford Main Line and three on the Fall River Secondary. This chapter provides a description of each site, and a comparison of the sites based on environmental impacts, operational considerations, conceptual acquisition cost estimate and the operating and maintenance costs for each site, based on information presented in the DEIS/DEIR.

2.2 New Bedford Line

Two overnight layover sites were evaluated in the DEIS/DEIR: Church Street and Wamsutta.

2.2.1 Church Street Site

The proposed Church Street site layover facility (Figure 2-1) would be constructed along the New Bedford Main Line and would serve all rail alternatives. It would be located in New Bedford between Church Street and Route 140, near where Route 140 crosses the New Bedford Main Line, approximately 3.1 miles from the southern terminus of the New Bedford Main Line. This site is located on the west side of the right-of-way, on the site of an existing waste disposal industry, near milepost 51.5.

- Distance from Terminal – 3.1 miles north of Whale’s Tooth Station
- Lead Track – double lead track
- Length of yard – 1,500 feet

- Width of yard – 200 feet
- Number of storage tracks – six tracks (typical); five tracks for anticipated trains with a spare plus one for future expansion and maintenance equipment
- Highway Access – directly off existing private Pig Farm Road, connecting to Church Street

2.2.1.1 Land Use and Acquisitions

The Church Street site consists of two parcels of previously developed land within an industrial area. It is currently a junk yard (Frade’s Disposal Company), with several buildings and stockpiles of materials distributed across the cleared area. Adjoining properties include transportation corridors, industrial land use, undeveloped land, and open space. Nearby properties include residential development to the east and Acushnet Cedar Swamp State Reservation to the west, across Route 140. Land uses and public or private ownership of the parcels that would be acquired to construct a layover facility at the Church Street site are listed in Table 2-1.

Table 2-1 Layover Facility at the Church Street Site: Acquisition Parcel Land Uses

City/Town	Public Ownership			Private Ownership				
	Number of Parcels	Area (acres)	Number of Parcels	Land Use Area (acres)				TOTAL
				Residential	Commercial	Industrial	Undeveloped	
New Bedford	0	0	2	0	0	9.18	29.63	38.81

Sources: MassGIS 2002, 2005; municipal data 2009, aerial mapping, and online research (various).

The parcels that would be acquired to construct a layover facility at the Church Street site, and the approximate tax revenue and job losses, are listed in Table 2-2.

Table 2-2 Layover Facility at the Church Street Site: Land Acquisition

Parcel Number	Ownership	Generalized Zoning	General Land Use	Property Tax Revenue Loss	Job Loss	Area (acres)	Percent Acquisition
125-10	Private	Industrial	Undeveloped	\$1,234.54	TBD	9.18	100.0
129-41	Private	Industrial	Industrial	\$20,143.80	TBD	29.63	100.0
TOTAL				\$21,378.34		38.81	

Sources: MassGIS 2002, 2005; municipal data 2009, aerial mapping, and online research (various).

The layover facility at the Church Street site would require 38.81 acres (two parcels) of privately owned land. Business displacement would result from these acquisitions. Industrial buildings on parcel number 129-41 would be acquired to construct the layover facility. Job losses from the disposal and recycling business would be expected but have not been quantified. No residential or community facility displacements would result from these acquisitions for the Church Street site. The

layover facility would make the portions not used for a layover inaccessible for future development. Complete acquisitions would be required as a result.

The two parcels would be wholly acquired; property tax revenue losses for the City of New Bedford are estimated at \$21,378.34 per year, in 2009 dollars.

The Church Street site is not within or adjacent to any incompatible land use. The site and adjacent lands between Church Street and Route 140 are in industrial use. There are no plans to change land uses or zoning in this area.

2.2.1.2 Environmental Justice

Although there are no environmental justice communities within the layover site, an environmental justice neighborhood is located less than 0.5 mile northeast of the proposed layover facility, to the east of the New Bedford Main Line. Residents living within this neighborhood meet low income and minority criteria for designation. However, no parcels within an environmental justice neighborhood would be acquired for the Church Street site layover facility. There would be no land acquisition impacts to environmental justice populations.

2.2.1.3 Noise Impacts

Noise at all of the proposed South Coast Rail layover facilities would be dominated by train's idling locomotives. As per MBTA policy, trains that will remain at the layover facilities for one hour or longer will be shut down and attached to electrical power, as needed. Other minor noise sources on the site are not expected to contribute to the overall sound levels and impacts. Distances to moderate and severe noise impacts at the layover facilities were calculated based on the Source Reference Level of 109 dBA at 50 feet as cited in the FTA Guidelines¹. The layover facility sound level was projected to the receptor locations based on propagation of noise over distance. The existing sound levels, the project sound levels, and the number of impacts are shown in Table 2-3. There would be no noise impacts associated with this location.

¹ Transit Noise and Vibration Impact Assessment, Federal Transit Administration, May 2006

Table 2-3 Church Street Layover Facility Sound Levels and Impacts

Location	Noise Exposure at 50' (Ldn)	Existing Noise Exposure (Ldn)	Moderate Impact		Severe Impact	
			Ldn	Number of Impacts	Ldn	Number of Impacts
Church Street	79.8	55	55.3	0	61.2	0

Assumptions:

- A Source Reference Level of 109 dBA at 50 from the center of the site for layover tracks was used (FTA Guidelines, Environmental Consequences Technical Report - Noise).
- All facilities are assumed to have one train idling per hour (day and night).

2.2.1.4 Wetlands and Waterways

The site is largely comprised of the junk yard facility, with the remainder of the site characterized as forested areas. There are three wetland resources on the site located on the northeast, northwest and southern portions of the site. These resources are best characterized as forested wetlands. The wetland resources on site are regulated as Bordering Vegetated Wetlands (BVW) under the WPA and under federal jurisdiction. The site is not within any drinking water protection areas or adjacent to any waterbodies.

The proposed layover site would permanently impact approximately 0.07 acres of BVW classified as wooded swamp deciduous (PFO) wetlands and temporarily impact approximately 0.06 acres. These wetland impacts are associated with the wetland system along the eastern and southern sides of the site. Wetlands were avoided to the extent practicable during the conceptual design process to minimize impacts. No impacts to Bank, Riverfront Area, or BLSF are anticipated at this site. The wetland delineations created using the GIS model are expected to overestimate the size of the wetland and therefore the impacts. Wetland impacts would be re-evaluated once the preferred alternative is selected and wetland boundaries have been delineated in the field. Based on preliminary data, approximately 0.25 acres of wetland mitigation would be required.

2.2.1.5 Wild and Scenic Rivers

The Church Street site is not adjacent to any Wild and Scenic River.

2.2.1.6 Threatened and Endangered Species

According to the 2008 edition of the Natural Heritage Atlas and information from NHESP, there are no certified or potential vernal pools located on the property, nor is the property within Estimated or Priority Habitat of Rare Wildlife.

2.2.1.7 Chapter 91 and Coastal Zone

The Church Street layover site is outside of the Coastal Zone and does not require work within filled tidelands.

2.2.1.8 Hazardous Materials

The Church Street site consists of two previously developed parcels within an industrial area, currently occupied by a disposal and recycling operation. The northern portion of the Site is wooded and undeveloped. The remaining portion of the Site is used by the Frade’s Disposal Company which operates the solid waste recycling, scrap metal recycling, and trash pick-up and disposal company. Based upon the Phase 1 Environmental Site Assessment conducted for the Church Street layover site, four recognized environmental concerns (RECs) and three potential environmental concerns were identified and are described below².

The four RECs described in Table 2-4 may have resulted in the release of oil or hazardous materials to soils or groundwater at the site. During the site reconnaissance of April 30, 2009, an area of pooled oil as well as a larger area of stained soil was observed on the ground surface in an unpaved area located in the western portion of the Frade’s facility which is approximately 300 feet to the west of the proposed Site boundaries. The pooled oil was located in an area staging large trucks and other heavy equipment which utilize oil or hazardous materials (OHM). The presence of pooled oil and stained soil could represent a release that would require notification to the DEP. In addition, this condition may have impacted subsurface soil and ground water at the Site and therefore is considered a REC with a medium potential impact³.

² Recognized Environmental Conditions (RECs), as defined by the ASTM E1527-05 standards, “means the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws.”

³ The ASTM Standard requires an opinion regarding the potential for each REC to affect the site. The potential impact for each REC identified, based on available information, is classified as either high, medium, or low. Criteria used to determine the potential impact are discussed below:

A 3,000 gallon diesel above-ground storage tank (AST) with a fuel dispenser pump was observed outside in the center of the Frade’s facility. Even though a concrete pad was located under the AST, a large area of stained soil was observed around the dispenser pump and had migrated off the concrete pad onto the ground surface. The exterior of the AST was also rusted. The potential release of oil which may have occurred in this area over time could have impacted subsurface soil and ground water at the Site and therefore is considered a REC with a medium potential impact.

Table 2-4 Summary of RECs at the Proposed Church Street Layover Site

REC Description	Release Tracking Number (RTN)	Relative Impact
Current Existence of 3,000 Gallon Diesel Aboveground Storage tank with Stained Soil on Site	Not applicable	High
Presence of Pooled Oil and Stained Soil in Unpaved Area Near Site	Not applicable	Medium
Historic and Current Use of Area Near Site for Vehicle Repair and Maintenance	Not applicable	Medium
Existence of Underground Storage Tanks Near Site	Not applicable	Low

- RECs that are deemed to have a high potential impact consist of sites such as those with confirmed soil, ground water, and/or indoor air impacts that either were not reported to DEP or were reported to the DEP and have undergone some type of cleanup or remain an active case. Those properties that have undergone a cleanup and have achieved a Permanent Solution, such as an Response Action Outcome (RAO), are still considered high potential impact due to the fact that changing site use or regulations, construction activities, a DEP audit of the RAO, or identification of new environmental conditions (such as indoor air impacts in nearby structures) could trigger the need to conduct additional assessment and/or remediation activities. Other RECs with high potential impacts are those in which UST installation records exist but for which removal documentation is absent, indicating a likelihood that USTs may be present and those where the historic use of the property indicate that significant quantities of OHM were used and could constitute the a release of OHM.
- Properties with RECs that are deemed to have a medium potential impact consist of properties such as those with potential sources of OHM with limited or inconclusive information. For instance, a single-walled steel UST which has been removed, but limited or no documentation was available to show that proper sampling was conducted at the time of the UST removal to confirm that the UST did not leak, may be deemed a REC of medium potential impact.
- RECs that have low potential to impact a site include off-site properties where releases have occurred but have been mitigated or USTs where proper documentation is available indicating a release has not occurred, as well as for properties that have more recently installed USTs equipped with leak detection, are double walled, and/or contain overfill protection and spill containment.
- The findings also include a section for potential environmental concerns which are also known as de minimis conditions. These potential environmental concerns typically have less of a potential to impact a property than RECs, as they generally do not present a threat to human health or the environment and would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. An example of a potential environmental concern or de minimis condition would be the potential presence of asbestos containing materials and lead based paint based on the age of the building, which would have to be properly managed during building demolition

Mr. Frade stated that approximately 25 vehicles, including garbage and recycling trucks, are repaired and maintained at the Frade’s Disposal repair garage which is located approximately 200 feet west of the proposed Site boundaries. An inspection of the repair garage by the DEP in 1998 indicated that the waste oil collection area was not being properly managed and displayed evidence of excessive spillage. The improper management, storage, use, and/or generation of these products may have or could result in a release of OHM which constitutes a REC with a medium potential impact.

It is possible that one or both of the underground storage tanks recorded on the site may still be present and OHM associated with the USTs on this property may also be present which would constitute a REC with a medium potential impact.

The Church Street layover site has three potential environmental concerns including:

- The property was historically used for the growing of crops. Therefore, pesticides, herbicides, and fertilizers may have been used and because of their persistence, may still be present in Site soils.
- A pad mounted electrical transformer is located in a shed in the western portion of the Frade’s Disposal facility. Mr. Frade stated that the transformer is owned by NSTAR. It is not known if this transformer contains PCB transformer oil. The transformer has the potential to leak transformer oil directly onto the ground surface.
- During the site reconnaissance, the Frade’s Disposal facility was being used for the storage of drums, tires, trucks, scrap metal, machinery, plastic, metal, and other recyclable materials, including bins of computer monitors and other miscellaneous debris and trash. The general storage of materials in this manner indicates historically poor housekeeping practices and a potential for impacts to soil or groundwater.

The presence of these RECs and potential concerns will require additional Phase II site investigations to characterize soil and groundwater contamination, determine the extent of contamination, and evaluate the cost of remediation. Based on the Phase I investigation, the overall impacts of to site construction costs are ranked as “medium”.

2.2.1.9 Cultural Resources

The Church Street Layover Facility is located on the west side of the New Bedford Main Line rail ROW near Church Street. No National Register listed, determined eligible, or recommended eligible historic properties have been identified in the Area of Potential Effect (APE).

Historic Resources

No historic properties have been identified within the site or in the APE for the Church Street site layover facility. Therefore, there will be no impacts to historic resources.

Archaeological Resources

The entire project parcel is assessed as having moderate archaeological sensitivity for pre-contact/contact Native American habitation and resource procurement/processing sites and under-documented post-contact Euro-American agricultural-related cultural deposits. The current conceptual plan depicts construction activities within the sensitive areas. An intensive (locational) archaeological survey with subsurface testing is needed to identify any archaeological sites in the sensitive areas where project construction impacts may occur.

2.2.1.10 Operational Constraints

The New Bedford Main Line through this section of the corridor is single track until the bridge crossing at Tarkiln Hill Road where it becomes double track. Trains exiting the Church Street layover facility would enter the New Bedford Main Line on a single track and would travel approximately 1 mile southbound before entering the double track section. Under normal operating conditions, there is minimal chance of conflict through this area given the headways of 40 minutes, considerably longer than the time required for a train to travel from the layover facility to the station and back. If trains throughout the rest of the rail system are delayed that could cause delays on the New Bedford Main Line. When this occurs there is potential for conflict between passenger trains making their final trip to the Whale’s Tooth Station and trains heading north towards the Church Street Site. The trains heading towards the layover facility could wait on the double track section for the southbound train to pass which would only cause minor delays to the trains heading for the layover facility.

2.2.1.11 Operations and Maintenance Costs

Since the Church Street Site is approximately 3.1 miles from the terminal station on the New Bedford Main Line, that would create 3.1 miles of non-revenue service each train would need to run twice a day, once in the morning and once in the evening. The cost to the MBTA of operating a commuter rail vehicle was \$11.92 per mile in 2010 based on the latest information provided by the National Transit Database. For the 6.2 miles of non-revenue service for each of the four eight-car trains, the yearly operating cost for trains operating from this layover facility alternative would be approximately \$567,600.

Additional costs that would be incurred are related to the degradation of the equipment. By adding an additional 6.2 miles of travel for the trains each day, that will quickly decrease the value of the equipment compared to having a layover facility in close proximity to the terminal station.

2.2.2 Wamsutta Site

The proposed Wamsutta site layover facility (Figure 2-2) would be constructed along the New Bedford Main Line and would serve all rail alternatives. It would be located in New Bedford near the intersection of Wamsutta Street and Herman Melville Boulevard, near the southern terminus of the New Bedford Main Line, immediately north of the Whale’s Tooth Station. This site is located on the east side of the right-of-way, opposite the proposed Whale’s Tooth Station and adjacent to an existing freight rail yard, near milepost 54.7.

- Distance from Terminal – 0.3 miles north of Whale’s Tooth Station
- Lead Track – single lead track
- Length of yard – 1,200 feet
- Width of yard – 200 feet
- Number of storage tracks – six tracks (typical); five tracks for anticipated trains with a spare plus one for future expansion and maintenance equipment
- Highway Access – 400-foot driveway to Wamsutta Street

2.2.2.1 Land Use and Acquisitions

The Wamsutta site is a previously developed site, currently used as a rail yard by MassCoastal Rail, within an industrial area. The site is visible from adjacent roads and buildings. Adjoining properties are transportation corridors and industrial land uses. Industrial sites are located north, east, and south of this location, and Route 18 to the west. No commercial or residential properties, or open spaces, are located in close proximity to this site. The land use and ownership of the parcel that would be acquired to construct a layover facility at the Wamsutta site are listed in Table 2-5.

Table 2-5 Layover Facility at the Wamsutta Site: Acquisition Parcel Land Uses

City/Town	Public Ownership			Private Ownership				
	Number of Parcels	Area (acres)	Number of Parcels	Land Use Area (acres)				TOTAL
				Residential	Commercial	Industrial	Undeveloped	
New Bedford	1	11.02	0	0	0	0	0	0

Sources: MassGIS 2002, 2005; municipal data 2009, aerial mapping, and online research (various).

The layover facility at the Wamsutta site would require 11.02 acres (one parcel) of publicly owned land. No residential, business, or community facility displacements would result from this acquisition for the Wamsutta site. Parcel number 72-275 is owned by Housing 70 Corporation (the City of New Bedford); no property tax revenue loss would result from acquiring this parcel.

The Wamsutta site is not within or adjacent to any incompatible land use. The site and adjacent lands between Route 18, Wamsutta Street and Herman Melville Boulevard are in industrial or transportation use. There are no plans to change land uses or zoning in this area. Use of this site as a layover facility was incorporated into the Transit-Oriented Development concept for the Whale’s Tooth Station area.

Table 2-6 Layover Facility at the Wamsutta Site: Land Acquisition

Parcel Number	Ownership	Generalized Zoning	General Land Use	Property Tax Revenue Loss	Job Loss	Area (acres)	Percent Acquisition
72-275	Public	Industrial	Undeveloped	0	No	11.02	100.0

Sources: MassGIS 2002, 2005; municipal data 2009, aerial mapping, and online research (various).

The layover facility would make the portions not used for a layover undevelopable, requiring complete acquisition of the property.

2.2.2.2 Environmental Justice

The Wamsutta site layover facility is located within an environmental justice census block that meets low income and minority criteria for designation. Adjacent to and north of the north of the proposed layover facility is an environmental justice census block that also meets foreign-born criteria for designation.

The Wamsutta site is within and near environmental justice census blocks in New Bedford. The site is within a census block meeting environmental justice low income and minority criteria, and is close to (within 0.5 mile of) other areas meeting foreign-born, minority, and/or income criteria. The direct land acquisition impacts to environmental justice populations that would potentially result from constructing and using a layover facility at the Wamsutta site are described below. One publicly owned parcel would be acquired for the Wamsutta site layover facility, as listed in Table 2-7.

Table 2-7 Wamsutta Site: Environmental Justice Land Acquisition

Municipality	Parcel Number	Ownership	Generalized Zoning	General Land Use	Environmental Justice Categories	Area (acres)
New Bedford	72-275	Public	Industrial	Transportation (Rail)	Income, Minority	11.02

Sources: MassGIS 2002, 2005; municipal data 2009, aerial mapping, and online research (various).

Although the Wamsutta site is located within an environmental justice census block, the site is owned by the City of New Bedford. No privately owned environmental justice neighborhood land would be acquired for constructing a layover facility at the Wamsutta site. There would be no impacts to environmental justice populations because no residences or jobs would be lost.

2.2.2.3 Noise Impacts

Noise at all of the proposed South Coast Rail layover facilities would be dominated by train’s idling locomotives. Trains that will remain at the layover facilities for one hour or longer will be shut down and attached to electrical power, as needed. The other minor noise sources on site are not expected to contribute to the overall sound levels and impacts. Distances to moderate and severe noise impacts at the layover facilities were calculated based on the Source Reference Level of 109 dBA at 50 feet based on FTA Guidelines. The layover facility sound level was projected to the receptor locations based on propagation of noise over distance. The existing sound levels, the project sound levels, and the number of impacts are shown in Table 2-8. There would be no noise impacts associated with this location.

Table 2-8 Wamsutta Layover Facility Sound Levels and Impacts

Location	Noise Exposure at 50' (Ldn)	Existing Noise Exposure (Ldn)	Moderate Impact		Severe Impact	
			Ldn	Number of Impacts	Ldn	Number of Impacts
Wamsutta	79.8	60	57.8	0	63.4	0

Assumptions:

- A Source Reference Level of 109 dBA at 50 from the center of the site for layover tracks was used (FTA Guidelines, Environmental Consequences Technical Report - Noise).
- All facilities are assumed to have one train idling per hour (day and night).

2.2.2.4 Wetlands and Waterways

Although the Wamsutta site is within 100 feet of a jurisdictional wetland, it would not impact this wetland.

2.2.2.5 Wild and Scenic Rivers

The Wamsutta site is not adjacent to any Wild and Scenic River.

2.2.2.6 Threatened and Endangered Species

According to the 2008 edition of the Natural Heritage Atlas and information from NHESP, there are no certified or potential vernal pools located on the property, nor is the property within Estimated or Priority Habitat of Rare Wildlife.

2.2.2.7 Chapter 91 and Coastal Zone

The proposed construction of the Wamsutta layover facility would be located in landlocked tidelands and would be exempt from licensing under 310 CMR 9.04(2). The construction of the Wamsutta layover facility would require a Public Benefit Determination under 301 CMR 13.00.

The layover facility would be located entirely within the coastal zone associated with New Bedford Inner Harbor but is not within the New Bedford/Fairhaven Designated Port Area (DPA). The construction would require a Federal Consistency Certification under the Massachusetts Coastal Zone Management Program (MCZMP). Preliminary consultation with representatives of the MCZMP indicates that the proposed facility would likely be determined to be consistent with the regulatory policies of the MCZMP.

2.2.2.8 Hazardous Materials

The Wamsutta layover site is located on a triangular shaped property in a commercial and light industrial area of New Bedford (Figure 2-2). The Site is located south of Wamsutta Street, east of the railroad tracks, and west of Herman Melville Boulevard and is approximately 12 acres in size. Due to immobile soil contamination, the Site was capped with a geotextile membrane in approximately 2004. Railroad tracks abut the Site to the west and travel off site to the north. Railroad tracks also travel from the northeastern Site boundaries to the harbor which is located approximately 100 feet to the east. The trains haul dredged sludge from the harbor to the east and travel to the Site for off-site disposal.

Based upon the tasks conducted for this Phase I ESA, five RECs and three potential environmental concerns associated with the Site were identified and are described below and in Table 2-9.

Table 2-9 Summary of RECs at the Proposed Wamsutta Layover Site

REC Description	Release Tracking Number (RTN)	Relative Impact
Historic Use of Site as Freight Yard and Placement of Permanent Engineered Barrier Above Impacted Soil at Site	4-118	Medium
Documented Release at Acushnet Estuary (New Bedford Superfund Site)	4-122	Medium
Documented Release at Adjoining Property (618 Acushnet Avenue)	4-14791	Low
Documented Release and Implementation of Activity and Use Limitation at Nearby Property (1 Wamsutta Street)	4-11715	Low
Documented Release at Nearby Property (New Bedford Main Interceptor)	4-127	Low

The former Conrail Yard comprising the Site was managed as a voluntary Brownfield site. The center of the Site contained elevated concentrations of PCBs, arsenic, lead, and polycyclic aromatic hydrocarbons (PAHs) with the perimeter having lower concentrations of these contaminants in soil. An agreement was reached with the DEP and EPA based on the financial infeasibility of remediation at the Site. The contamination was proposed to be left in place with proper engineering controls, such as a soil geotextile composition cap and land use restrictions consisting of an Activity and Use Limitation (AUL) in the areas exhibiting the highest concentrations of contamination above the Upper Concentration Limits. Since contaminated soil was left in place, there are potential impacts related to exposure during future soil disturbance at the Site during construction related to the South Coast Rail Project. The potential impact of this REC is considered medium because exposure is limited due to the engineered barrier and the existence of an AUL.

The Acushnet Estuary, a water body located to the east of the Site, was placed on the National Priorities List and became a Superfund site in 1983. This site contains PCB contamination that affects ambient air, surface water, ground water, soils, sediment, and the food chain. Although adequately regulated under State and Federal regulations, the PCB contamination associated with this site is widespread and has the potential to have impacted the subject Site historically or potentially impact it in the future through continued contaminant migration and is considered a REC with a medium potential impact.

A No. 2 fuel oil UST release from a western adjoining property, the Department of Employment and Training, located at 618 Acushnet Avenue, was identified in June 1999. A total of 20 tons of petroleum contaminated soil was removed from the property. A Class A-2 Release Action Outcome (RAO), indicating that a Permanent

Solution was achieved but that contamination was not reduced to background, was submitted to the DEP. The anticipated direction of ground water flow is to the east toward the property comprising the Site. However, given the quantity and regulatory status, this REC is deemed to have a low potential to affect soil and groundwater at the Site.

A diesel fuel UST release from a property located northeast of the Site was reported in October 1995. Approximately 100 cubic yards of petroleum impacted soil was removed. Exceedences of 2-methyl naphthalene in soil were detected above the applicable regulatory standards and a deed restriction consisting of an AUL was placed on the property along with a Class A-3 RAO in October 1996. Although ground water was not impacted, the ground water flow direction was determined to flow to the south-southwest toward the Site. Based on the proximity of the Site, the direction of ground water flow, and the implementation of an AUL indicating residual petroleum impacts are present, this REC is deemed to have a low potential to affect the Site.

PCBs were detected during the filling of an abandoned interceptor pipe with grout in soil in an area located northeast of the Site. Based on the proximity of this property to the Site and the lack of information available for review, this property is deemed a REC with low potential to impact the Site.

The Wamsutta layover site also has three potential environmental concerns, including:

- An electrical substation containing transformers abuts the Site to the west off Acushnet Avenue. It is not known if the transformers contain PCB transformer oil. The transformers have the potential to release transformer oil directly onto the ground surface.
- A motor repair facility abuts the Site to the east off Herman Melville Boulevard. Numerous 55-gallon drums were observed outside behind the facility facing the Site and most likely contained OHM. The drums were not placed on pallets or any other type of secondary containment structure. Releases or spills from the drums, should they occur, have the potential to impact the Site.
- Numerous piles of unused new creosote coated railroad ties were located in two areas in the northern portion of the Site. Creosote contains heavy organic compounds that have the potential to leach into soil and ground water.

The presence of these RECs and potential concerns will require additional Phase II site investigations to characterize soil and groundwater contamination, determine the extent of contamination, and evaluate the cost of remediation. Based on the Phase I investigation, the overall impacts of to site construction costs are ranked as “low” because this site is a capped landfill.

2.2.2.9 Cultural Resources

The Wamsutta Street Layover Facility is located on the east side of the New Bedford Main Line rail between Wamsutta Street and the proposed Whale’s Tooth Station. The National Register Listed Wamsutta Mill Historic District (Map No. NB.D) and the recommended National Register eligible Revere Copper Products mill (Map No. NB.080) are both located about 400 feet to the north.

Historic Resources

The Wamsutta Street Layover Facility does not have any historic properties on the proposed site; therefore, there will be no direct impacts to historic resources.

The Wamsutta Layover Facility is located on the east side of the New Bedford Main Line rail between Wamsutta Street and the proposed Whale’s Tooth Station. The Wamsutta Mill Historic District (Map No. NB.D) and the Revere Copper Products mill (Map No. NB.080) are both located within the APE . The introduction of a layover facility could have indirect visual and noise effects on the two nearby historic properties. Because the site is adjacent to the existing freight yard and will constitute an expansion of similar rail use, the visual impacts to the historic setting is likely to not be adverse. There will be no noise impacts to the adjacent historic industrial buildings, which are not a category of noise sensitive receptors under the FTA criteria. Vibration, traffic, atmospheric, and cumulative effects are anticipated to be minimal.

Archaeological Resources

The proposed Wamsutta Layover Facility in New Bedford is assessed as having high archaeological sensitivity for pre-contact/contact Native American habitation and resource procurement/processing sites and post-contact Euro-American domestic, commercial/wharves, and railroad-related structures and cultural deposits below the clean fill-geotextile composition cap.

The entire parcel is assessed as having a high archaeological sensitivity for pre-contact Native American habitation, resource procurement/processing sites, and documented post-contact Euro-American domestic, commercial/wharves, and railroad-related structures. This also includes cultural deposits within the Acushnet Avenue Waterfront Industrial historic area. The archaeologically sensitive strata are located below the capped Superfund site soils.

The current conceptual plan indicates that the proposed work will be contained within the existing disturbed railroad right-of-way/rail yard and capped Superfund site soils. Therefore, no project impacts to archaeological resources are anticipated.

2.2.2.10 Operational Constraints

The Wamsutta Site is located 0.3 miles north of the terminal station. As trains exit the layover facility they would be able to pull out onto a siding track separate from the New Bedford Main Line. By providing this additional track trains can pull out of the facility past a turnout south of the station and then turn around and enter the station. Due to the close proximity of the layover yard to the terminal station, there is minimal chance of there being a conflict between trains entering the layover facility and those entering the station.

2.2.2.11 Operations and Maintenance Costs

The Wamsutta layover facility is located 0.3 miles from the terminal station which is beneficial in that there would be minimal amounts of non-revenue miles traveled by each train in a given day. The cost per mile of service for the MBTA in 2010 was \$11.92 based on the latest information provided by the National Transit Database. For each of the four eight-car trains to travel approximately 0.6 miles a day as non-revenue service to the Wamsutta site, the yearly operating cost for trains operating from this layover site alternative would be approximately \$55,000.

Additional depreciation cost that would be incurred by having the layover facility far away from the terminal station is minimized for this alternative because of the close proximity of the layover facility to Whales Tooth Station.

2.3 Fall River Line

Three overnight layover sites were evaluated in the DEIS/DEIR: the ISP Site in Freetown, and two sites at Weavers Cove (Weavers Cove East and Weavers Cove West).

2.3.1 ISP Site

The proposed ISP site layover facility (Figure 2-3) would be constructed along the Fall River Secondary and would serve all rail alternatives. It would be located in Freetown west of Main Street between the existing Fall River Secondary and the Taunton River, approximately 5.3 miles north the southern terminus of the Fall River Secondary. This site is located on the west side of the right-of-way, opposite the existing ISP Facility, near milepost 47.1 in Freetown.

- Distance from Terminal – 5.3 miles north of Battleship Cove Station
- Lead Track – single lead track; potential for a long lead track or siding exists and can be assessed in FEIR

- Length of yard – 1,500 feet
- Width of yard – 180 feet
- Number of storage tracks – six tracks (typical); five tracks for anticipated trains with a spare plus one for future expansion and maintenance equipment
- Highway Access – 2440-foot driveway to south of layover on west side of right-of-way, new bridge or grade crossing across right-of-way at that point for 860-foot driveway to Horizon Way

2.3.1.1 Land Use and Acquisitions

The ISP site consists of five undeveloped parcels surrounded by open space or other undeveloped land; an industrial facility is nearby to the northeast. A residential development is located less than 0.25-mile south this site. The Taunton River is immediately west of the site. Land uses and public or private ownership of the parcels that would be acquired to construct a layover facility at the ISP site are listed in Tables 2-10 and 2-11.

Table 2-10 Layover Facility at the ISP Site: Acquisition Parcel Land Uses

City/Town	Public Ownership		Private Ownership					TOTAL
	Number of Parcels	Area (acres)	Number of Parcels	Land Use Area (acres)				
				Residential	Commercial	Industrial	Undeveloped	
Freetown	0	0	5	0	0	0	43.57	43.57

Sources: MassGIS 2002, 2005; municipal data 2009, aerial mapping, and online research (various).

Table 2-11 Layover Facility at the ISP Site: Land Acquisition

Parcel Number	Ownership	Generalized Zoning	General Land Use	Property Tax Revenue Loss	Job Loss	Area (acres)	Percent Acquisition
234-2 (Freetown)	Private	Residential	Undeveloped	\$362.78	No	11.03	100.0
235-9 (Freetown)	Private	Residential	Undeveloped	TBD	No	15.04	22.0
X-8-12 (Fall River)	Private	Residential	Undeveloped	\$2,714.45	No	0.61	100.0
X-4-1 (Fall River)	Private	Industrial	Undeveloped	\$10,189.67	No	10.53	100.0
X-4-22 (Fall River)	Private	Industrial	Undeveloped	\$16,688.96	No	6.36	100.0
TOTAL				\$29,955.86¹		43.57	

Sources: MassGIS 2002, 2005; municipal data 2009, aerial mapping, and online research (various).

TBD: To be determined.

1: Additional property tax revenue losses may result from small and/or partial acquisitions that cannot be determined at this phase

The layover facility at the ISP site would require 43.57 acres (five parcels) of privately owned land. No residential, business, or community facility displacements would

result from these acquisitions for the ISP site. The layover facility would make the portions not used for a layover inaccessible for future development, and would require complete acquisition of four of the five parcels.

Four of the parcels would be wholly acquired; property tax revenue losses for the Town of Freetown are estimated at \$362.78 per year, and for the City of Fall River are estimated at \$29,593.08 per year, in 2009 dollars. Less than 50 percent of parcel number 235-9 would be acquired and, accordingly, property tax revenue loss cannot be determined at this phase. Additional property tax revenue losses for the Town of Freetown could result from the partial acquisition.

The adjacent property, ISP Chemical is a chemical manufacturing plant which requires a high level of security, and which poses a risk in the event of a chemical accident. The operator of the facility has indicated that this land use is not compatible with an adjacent area where people may gather, or which has unrestricted access.

2.3.1.2 Environmental Justice

The ISP site is an undeveloped parcel surrounded by open space or other undeveloped land; an industrial facility is nearby to the northeast. A residential development is located less than 0.25-mile south of this site. The Taunton River is immediately west of the site. There are no environmental justice communities within 0.5 mile of the layover site. An analysis of direct or indirect impacts to environmental justice populations from constructing and using the ISP site layover facility was therefore not performed.

2.3.1.3 Noise Impacts

Noise at all of the proposed South Coast Rail layover facilities would be dominated by train's idling locomotives. Trains that will remain at the layover facilities for one hour or longer will be shut down and attached to electrical power, as needed. The other minor noise sources on site are not expected to contribute to the overall sound levels and impacts. Distances to moderate and severe noise impacts at the layover facilities were calculated based on the Source Reference Level of 109 dBA at 50 feet as defined in FTA Guidelines. The layover facility sound level was projected to the receptor locations based on propagation of noise over distance. The existing sound levels, the project sound levels, and the number of impacts are shown in Table 2-12. No noise receptors would experience moderate or severe noise impacts at this location.

Table 2-12 **ISP Layover Facility Sound Levels and Impacts**

Location	Noise Exposure at 50' (Ldn)	Existing Noise Exposure (Ldn)	Moderate Impact		Severe Impact	
			Ldn	Number of Impacts	Ldn	Number of Impacts
ISP	79.8	50	53.4	0	59.6	0

Assumptions:

- A Source Reference Level of 109 dBA at 50 from the center of the site for layover tracks was used (FTA Guidelines, Environmental Consequences Technical Report - Noise).
- All facilities are assumed to have one train idling per hour (day and night).

2.3.1.4 Wetlands and Waterways

The ISP layover facility site is located in Freetown and Fall River on the opposite side of the Fall River Secondary from the ISP chemical facility. This site is bounded to the north by forested uplands and forested wetlands, to the south and east by the Fall River Secondary, and to the west by the Taunton River and forested uplands. The site is best characterized as a mix between forested areas and open field. There are no wetland resources located on the site, though there is a vegetated wetland system located adjacent to it. No buffer zones extend onto the proposed layover facility site.

The site is currently undeveloped and largely forested. There is a pond east of the railroad right-of-way that is an impounded section of unnamed perennial stream. This stream crosses beneath the right-of-way in a culvert and flows through the wetland approximately 300 feet north of the facility before discharging to the Taunton River.

The proposed layover site would result in the permanent alteration of approximately 0.95 acres to Land Subject to Coastal Storm Flowage and temporary alteration of 0.16 acres. No impacts to Bank or bordering vegetated wetlands are anticipated. Development of this layover facility would temporarily impact 0.29 acres and would permanently impact approximately 2.28 acres of previously undeveloped Riverfront Area associated with the Taunton River.

2.3.1.5 Wild and Scenic Rivers

The Taunton River received a designation as a National Wild and Scenic River on March 30, 2009. The entire river system was included in this designation; from its headwaters at the confluence of the Town and Matfield Rivers in Bridgewater downstream 40 miles to the confluence with the Quequechan River at the I-195 Bridge in Fall River. The segment of the River where the ISP Layover Facility is

proposed has been designated as a “recreational river area,” recognizing its aesthetic value and developed shoreline under the Wild and Scenic Rivers program.

The layover facility would be visible from the Taunton River. As described above, this segment of the Taunton River has been designated as a “recreational river area,” recognizing its aesthetic value and developed shoreline. No impacts to the Taunton River are anticipated that would jeopardize its National Wild and Scenic River recreational designation. The program does not prohibit development near designated rivers; rather it encourages regional river management practices to protect the use and enjoyment of these rivers. The design of the layover facility would be guided by land use and resource management objectives that are compatible with the river's classification.

2.3.1.6 Threatened and Endangered Species

According to the 2008 edition of the Natural Heritage Atlas and information from NHESP, there are no certified or potential vernal pools located on the property, nor is the property within Estimated or Priority Habitat of Rare Wildlife.

2.3.1.7 Chapter 91 and Coastal Zone

The ISP layover site is outside of the Coastal Zone and does not require work within filled tidelands.

2.3.1.8 Hazardous Materials

The ISP layover site is located between the railroad ROW and Barnaby Cove which is part of the Taunton River in the Town of Freetown. The land is currently undeveloped, except for a dirt pathway that traverses the property in a southwest-northeast orientation and the railroad tracks that abut the Site to the southeast. In a grassy area, several dirt roads are present and appear to be used by recreational vehicles. Based upon the tasks conducted for the Phase I ESA, five RECs associated with the Site were identified and are described in Table 2-13 and below.

Table 2-13 Summary of RECs at the Proposed ISP Layover Site

REC Description	Release Tracking Number (RTN)	Relative Impact
Documented Releases on or Encompassing the Layover Site	4-13482, 4-13856, and 4-15907	High
Existence of Large Quantity of Hazardous Chemicals and Existence of Risk Management Plan at Southwestern Adjoining Property (ISP Chemicals, 238 South Main Street)	Not applicable	High
Historic Use of Adjoining Properties	Not applicable	High
Documented Releases at Nearby Property (Former Synthetic Natural Gas Plant)	4-16971	Medium
Documented Releases at Southwestern Adjoining Property (238 South Main Street)	4-10219, 4-10965, 4-11891, 4-13804, 4-13805, 4-18988, 4-14027, 4-14485, 4-15568, 4-15700, 4-16479, 4-16533, 4-16702, 4-16703, 4-19297, and 4-19557	Medium

A total of 60 buried 55-gallon drums and contaminated soil were encountered during a due diligence test pit investigation in 1997. Impacted soil (80 tons) was removed and 6,300 cubic yards of soil was treated onsite by bioremediation and then returned to the excavation. Soil and ground water sampling revealed volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), EPH, and thallium above background levels. Fine white poly vinyl chloride (PVC) powder was observed in soil at a thickness of up to eight feet. Even though a Class A-2 RAO was achieved in December 1999, residual soil contamination and other buried materials may be present in this location.

Groundwater monitoring wells detected TCE, 1,1-dichloroethene and vinyl chloride above the applicable standards in 1997. The same compounds were detected in surface water collected from Barnaby Cove which is located downgradient of the Site. Response actions are currently ongoing. The documented releases in soil and ground water at the Site above the applicable standards constitute a REC which a high potential impact.

The adjoining ISP Freetown Fine Chemicals facility uses and stores over 58 chemicals. Because of the toxic nature of chemicals present at the ISP facility, EPA requires the preparation of a Risk Management Plan in the event of a release which could volatilize to the environment, impacting nearby receptors. According to the Risk Management Plan, the prevailing winds from the ISP facility were determined to be from the southeast to the northwest, toward the Layover Site. Because of the

large quantity and the toxic nature of the chemicals used at the facility, if there were a release of toxic and volatile chemical(s), it would most likely impact potential receptors at the Layover Site. Therefore, the proximity, volume, and characteristics of these toxic and volatile chemicals have been deemed a REC with a high potential impact.

The following companies operated on the southwestern adjoining property at 238 South Main Street from 1964 to the present:

- Thompson Chemical Corporation,
- Continental Oil Corporation,
- Olin Corporation,
- Polaroid Corporation, and,
- ISP Freetown Fine Chemicals.

Therefore numerous quantities of OHM have been stored, treated, used, and/or disposed on this property since the 1960s, and on the former Algonquin Synthetic Natural Gas property since the 1970s. The historic uses of these properties, including the use of numerous OHM, is considered a REC with a high potential impact due to the potential for releases not previously identified to have occurred over the past 45 years of use; these releases could potentially migrate and affect the quality of soils and groundwater at the Site.

Algonquin Synthetic Natural Gas operated a synthetic natural gas plant approximately 1,000 feet to the north of the Site (currently a Stop and Shop Distribution facility) from 1973 and 1986. Petroleum constituents were detected in surficial soil samples and ground water at this property in 2000. A release of nickel and zinc was also identified in an area of the property adjoining the Site. These metals were generated from the associated catalyst usage in synthetic gas plant activities. In March 2003, one surficial soil sample was collected from an area located between the proposed Site and South Main Street and submitted for laboratory analysis of metals, VOCs, SVOCs, and herbicides. Nickel was detected at 160 mg/kg which exceeds the Method 1 S-1 standard of 20 mg/kg. Therefore, impacted soil may have migrated to the Site and may be encountered during construction of the proposed ISP Layover Site. The potential presence of impacted soil from the nearby former synthetic natural gas plant constitutes a REC with a medium potential impact.

Although numerous releases have occurred at the ISP Chemicals property located immediately southwest of the Layover Site, the majority of these releases were released to the air or achieved a Class A-1 or B-1 RAO, in which contamination approached or achieved background. Two of these releases achieved a Class A-2 RAO, in which contamination was not reduced to background; however, they both achieved No Significant Risk, and most likely did not migrate to or impact the

Layover Site. However, the quantity of the releases at the adjoining property constitutes a REC with a medium potential impact as unidentified or improperly assessed releases could exist.

The presence of these RECs and potential concerns will require additional Phase II site investigations to characterize soil and groundwater contamination, determine the extent of contamination, and evaluate the cost of remediation. Based on the Phase I investigation, the overall impacts of to site construction costs are ranked as “high”.

2.3.1.9 Cultural Resources

Cultural resources present at the ISP site include archaeological resources.

Historic Resources

No historic properties have been identified within the ISP Layover Facility site or in the APE; therefore there will be no impacts to historic resources.

Archaeological Resources

The proposed ISP Layover Facility in Freetown is assessed as having high archaeological sensitivity for pre-contact/contact Native American habitation and resource procurement/processing sites, which if present could be contributing elements to the Mother’s Brook Site (19-BR-106) within the Lower Taunton River Basin Archaeological District. There could also be under-documented post-contact period Euro-American agricultural-related cultural deposits. The site contains a recorded archaeological site (MHC #19-BR-106). There could also be under-documented post-contact period Euro-American agricultural-related cultural deposits.

The site is near the “Peace Haven” site in Freetown, identified as a significant cultural and archaeological resource. Another nearby site, part of the Mother Brook area, was identified at the proposed Meditech facility in Freetown. Development plans for that site were recently abandoned due to the cost and uncertainty of the archaeological investigations required by the Massachusetts Historic Preservation Office.

The current conceptual plan depicts construction activities within the sensitive areas. An intensive (locational) archaeological survey is needed to identify any archaeological sites. Project impacts would be assessed once the intensive survey is complete.

2.3.1.10 Operations

The ISP Layover Facility site is located in a section of the Fall River Secondary that is single tracked. This increases the possibility of operational conflicts between trains exiting the layover facility in the morning and trains leaving Battleship Cove and heading northbound. This would create additional operational conflicts from revenue service trains traveling southbound to Battleship Cove and trains traveling northbound from Battleship Cove to the layover facility. In the evening revenue service trains would need to wait for the non-revenue service trains to enter the layover facility before continuing southbound to Battleship Cove. Similarly in the morning trains exiting the layover facility heading towards Battleship Cove would need to wait in the double track section for the revenue service trains traveling northbound to pass.

2.3.1.11 Operations and Maintenance Costs

The ISP layover alternative is located approximately 5.3 miles north of the terminal station, Battleship Cove. Operating a layover facility 5.3 miles from the terminal station would result in 10.6 miles of deadheading each day for each of the four eight-car trains. Based on the MBTA's operating expense per vehicle mile of \$11.92 determined by the latest information provided by the National Transit Database, it can be assumed that it would cost approximately \$970,400 yearly to operate this layover facility alternative.

Additionally there is a depreciation cost associated with operating a layover facility 5.3 miles from the terminal station. The train's value would depreciate faster by adding 10.6 miles a day to each of the train's trips.

2.3.2 Weaver's Cove East

The proposed Weaver's Cove East site layover facility (Figure 2-4) would be constructed along the east side of the Fall River Secondary and would serve all rail alternatives. It would be located in Fall River west of Main Street between the existing Fall River Secondary and Main Street, approximately 2.6 miles north of the southern terminus of the Fall River Secondary. This site is located on the east side of the right-of-way, opposite the proposed Weaver's Cove LNG Site in Fall River, near milepost 49.8.

- Distance from Terminal – 2.6 miles north of Battleship Cove Station
- Lead Track – single lead track; potential for a long lead track or siding exists and can be assessed in FEIR
- Length of yard – 1,050 feet

- Width of yard – 200 feet
- Number of storage tracks – six tracks (typical); five tracks for anticipated trains with a spare plus one for future expansion and maintenance equipment
- Highway Access – 440-foot driveway to North Main Street

2.3.2.1 Land Use and Acquisitions

Currently vacant land, a portion of the Weaver’s Cove East site was previously developed. Approximately one-half of the site is cleared of vegetation or includes remnant building foundations; the remainder of the site is vegetated. Surrounding land to the north, east, and south is residential; industrial land use is present to the southwest. Undeveloped land is immediately west of the site, adjoining the Taunton River. The industrial site to the southwest is a former Shell Oil facility, and consists of completely cleared land with several large aboveground storage tanks and a short shipping dock. Land uses and public or private ownership of the parcels that would be acquired to construct a layover facility at the Weaver’s Cove site are listed in Tables 2-14 and 2-15.

Table 2-14 Layover Facility at the Weaver’s Cove East Site: Acquisition Parcel Land Uses

City/Town	Public Ownership		Private Ownership					TOTAL
	Number of Parcels	Area (acres)	Number of Parcels	Land Use Area (acres)				
				Residential	Commercial	Industrial	Undeveloped	
Fall River	0	0	3	0.05	0	0	17.94	17.99

Sources: MassGIS 2002, 2005; municipal data 2009, aerial mapping, and online research (various).

Table 2-15 Layover Facility at the Weaver’s Cove East Site: Land Acquisition

Parcel Number	Ownership	Generalized Zoning	General Land Use	Property Tax Revenue Loss	Job Loss	Area (acres)	Percent Acquisition
T-1-19	Private	Industrial	Residential	TBD ¹	No	0.05	38.5
T-1-33	Private	Industrial	Undeveloped	\$42,129.43	No	13.80	100.0
T-1-38	Private	Industrial	Undeveloped	\$15,188.32	No	4.14	100.0
TOTAL				\$57,317.75		17.99	

Sources: MassGIS 2002, 2005; municipal data 2009, aerial mapping, and online research (various).

TBD: To be determined.

1: Additional property tax revenue losses may result from small and/or partial acquisitions that cannot be determined at this phase.

The layover facility at the Weaver’s Cove East site would require 17.99 acres (three parcels) of privately owned land. No residential, business, or community facility displacements would result from these acquisitions for the Weaver’s Cove East site.

The layover facility would make the undeveloped industrial portions not used for a layover unattractive for future development and would require complete acquisition of two of the three parcels.

Less than 50 percent of parcel number T-1-19 would be acquired and, accordingly, property tax revenue loss cannot be determined at this phase. Parcel numbers T-1-33 and T-1-38 would be wholly acquired; property tax revenue losses for the City of Fall River are estimated at \$57,317.75 per year, in 2009 dollars. Additional property tax revenue losses could result from the partial acquisition.

The Weaver’s Cove East site is not within or adjacent to any incompatible land use. The adjacent lands between the railroad and North Main Street are in residential or commercial use. There are no plans to change land uses or zoning in this area.

2.3.2.2 Environmental Justice

Although there are no environmental justice communities within the layover site, an EJ neighborhood is located south of the proposed layover facility, to the east of the Fall River Secondary. Residents living within this neighborhood meet low income criteria for designation. No parcels within an environmental justice neighborhood would be acquired for the Weaver’s Cove East site layover facility. There would be no land acquisition impacts to environmental justice populations.

2.3.2.3 Noise Impacts

Noise at all of the proposed South Coast Rail layover facilities would be dominated by train’s idling locomotives. Trains that will remain at the layover facilities for one hour or longer will be shut down and attached to electrical power, as needed. The other minor noise sources on site are not expected to contribute to the overall sound levels and impacts. Distances to moderate and severe noise impacts at the layover facilities were calculated based on the Source Reference Level of 109 dBA at 50 feet as per FTA Guidelines. The layover facility sound level was projected to the receptor locations based on propagation of noise over distance. The existing sound levels, the project sound levels, and the number of impacts are shown in Table 2-16. One residential receptor would experience moderate impacts.

Table 2-16 Weaver’s Cove East Layover Facility Sound Levels and Impacts

Location	Noise Exposure at 50' (Ldn)	Existing Noise Exposure (Ldn)	Moderate Impact		Severe Impact	
			Ldn	Number of Impacts	Ldn	Number of Impacts
Fall River - Weaver’s Cove Sites (East or West)	79.8	55	55.3	1	61.2	0

Assumptions:

- A Source Reference Level of 109 dBA at 50 from the center of the site for layover tracks was used (FTA Guidelines, Environmental Consequences Technical Report - Noise).
- All facilities are assumed to have one train idling per hour (day and night).

2.3.2.4 Wetlands and Waterways

Two wetland resources were originally mapped on the property consisting of scrub shrub wetlands: Wetland FA-5C and Wetland FA-5D. Wetland FA-5D is located in a depression that formerly held an above ground storage tank. During the review of the Abbreviated Notice of Resource Area Delineation by the Fall River Conservation Commission, the Commission determined that Wetland FA-5C was not a jurisdictional wetland. Wetland FA-5D is not subject to jurisdiction under the Massachusetts Wetland Protection Act. The Taunton River is within 100 feet of the proposed site but is separated from the site by the Fall River Secondary. As a result of these regulatory determinations by the Fall River Conservation Commission, in their Order of Resource Area Delineation, it was determined that the proposed layover site would not impact jurisdictional bordering vegetated wetlands. No impacts to Bank, bordering vegetated wetlands, Riverfront Area (25 feet within the City of Fall River), or Land Subject to Coastal Storm Flowage are anticipated at this site.

2.3.2.5 Wild and Scenic Rivers

The Taunton River received a designation as a National Wild and Scenic River on March 30, 2009. The entire river system was included in this designation; from its headwaters at the confluence of the Town and Matfield Rivers in Bridgewater downstream 40 miles to the confluence with the Quequechan River at the Interstate 195 Bridge in Fall River. The segment of the River where the Weaver’s Cove East Layover Facility is proposed has been designated as a “recreational river area,” recognizing its aesthetic value and developed shoreline under the Wild and Scenic Rivers program.

The layover facility would be visible from the Taunton River. As described above, this segment of the Taunton River has been designated as a “recreational river area,”

recognizing its aesthetic value and developed shoreline. No impacts to the Taunton River are anticipated that would jeopardize its National Wild and Scenic River recreational designation. The program does not prohibit development near designated rivers; rather it encourages regional river management practices to protect the use and enjoyment of these rivers. The design of the layover facility would be guided by land use and resource management objectives that are compatible with the river's classification.

2.3.2.6 Threatened and Endangered Species

According to the 2008 edition of the Natural Heritage Atlas and information from NHESP, there are no certified or potential vernal pools located on the property, nor is the property within Estimated or Priority Habitat of Rare Wildlife.

2.3.2.7 Chapter 91 and Coastal Zone

Informal consultation with DEP Waterways staff indicated that the Department presumes that the Weaver's Cove East layover facility is located within filled tidelands. This jurisdiction was not expected because the existing site is approximately 20 feet in elevation above the shoreline of the Taunton River. This presumed jurisdictional boundary is based on the shoreline shown on two historic maps provided by the DEP prepared in 1865 and 1874. Both of these maps postdate the construction of the railroad. It is likely that the railroad impounded water in the vicinity of the proposed layover facility and this impoundment is represented on these historic maps. If the presumption is true, the construction of the proposed layover facility will require a new Chapter 91 license. The Waterways Regulations are designed to protect and promote the public's interest in tidelands through the inclusion of provisions to conserve the capacity for water-dependent uses. The use of the site for layover needs is expected to be classified by DEP as a nonwater-dependent Infrastructure Facility (310 CMR 9.55). This classification may waive some of the above-referenced provisions, as long as feasible mitigation or compensation measures are provided such as the protection of maritime commerce or recreation and associated public access, reduction of flood and erosion-related hazards on lands subject to the 100-year flood or projected sea level rise, and the attainment of water quality goals.

The layover facility would be located entirely within the coastal zone associated with the Taunton River but outside the Mount Hope Bay DPA. Accordingly, the proposed layover facility would require a Federal Consistency Certification under the MCZMP. Preliminary consultation with representatives of the MCZMP indicates that the proposed facility would likely be determined to be consistent with the regulatory policies of the MCZMP.

2.3.2.8 Hazardous Materials

The Weaver’s Cove East Layover site consists of three parcels and is located between the railroad tracks which are located to the west and North Main Street which is located to the east in a mixed use area of Fall River. The former Shell Oil Company petroleum product distribution facility is located southwest of the railroad tracks. The Weaver’s Cove portion of the Taunton River is located immediately west and northwest of the railroad tracks. The parcels comprising the site are currently undeveloped and surrounded by a chain-link fence. Groundwater monitoring wells were observed throughout the site.

The southernmost parcel (Parcel T-1-38) consists of a concrete slab from a former repair garage that was used by the New England Telephone & Telegraph company. The land around the slab consists of grass, shrubs and trees. The center parcel (Parcel T-1-33) consists of a heavily vegetated wetland area that reportedly was formed from a depression caused by the weight of a former gasoline aboveground storage tank. The northernmost parcel (Parcel T-15-1) is vegetated and primarily covered with shrubs and trees.

Based on the tasks conducted for the Weaver’s Cove East Layover site Phase I ESA, five RECs and one potential environmental concern were identified and are described below and in Table 2-17.

Table 2-17 Summary of RECs at the Proposed Weaver’s Cove East Layover Site

REC Description	Release Tracking Number (RTN)	Relative Impact
Previous Use of Site as Oil Storage Facility and Documented Petroleum Release on Site	4-749	High
Previous Use of Adjoining Property as Petroleum Product Distribution Facility and Documented Release (Shell Oil Company, 1 New Street)	4-749	High
Previous Use of Building on Parcel T-1-38 as Commercial Garage	Not applicable	Medium
Existence of Underground Storage Tanks (USTs) on Parcel T-1-38	Not applicable	Medium
Possible Presence of Elevated Concentrations of Metals in Site Soil	Not applicable	Low

According to historic Sanborn maps, from the early to mid 1900s, a large gasoline AST was located on the center portion of the Site and was removed in the mid-1900s. According to documents reviewed, Shell operated a crude oil refinery, product storage and distribution facility at the western abutting property from 1920 to 1929 and a petroleum product distribution facility from 1929 to 1995.

Documents obtained from the Fall River Fire Department depict a large area of petroleum impacts, which includes the Site and the abutting property located west of the

Site, as well as the former and current tank locations. Contours on the map show the thickness of the light non-aqueous phase liquids (LNAPL) in ground water of thickness up to 2.5 feet. In the center of the Site, the LNAPL thickness is shown to be two feet. The previous use of the Site as an oil storage facility and the documented extensive petroleum release constitutes a REC with a high potential impact.

Shell operated a crude oil refinery, product storage and distribution facility at the western abutting property (Weaver’s Cove West) from 1920 to 1929 and a petroleum product distribution facility from 1929 to 1995. According to documents reviewed, extensive petroleum releases occurred on that property during that time. This property is currently being remediated with a LNAPL recovery and ground water treatment system. Even though active remediation activities are currently ongoing and ground water flows to the northwest toward the Taunton River and away from the Site, the presence of extensive LNAPL in the subsurface is deemed a REC with a high potential impact.

Recent aerial photographs of the southern portion Site located on Parcel T-1-38 show the presence of a concrete slab, indicating that a building was once present. A Sanborn map dated 1976 shows the existence of a “private garage” that was operated by New England Telephone and Telegraph Company. Vehicle repairs were likely performed in this building and petroleum and other OHM including motor oil, waste oil, fuel oil, alcohol, anti-freeze, and degreasing chemicals that may contain chlorinated solvents were likely to have been stored, used, and generated. The storage, use, and/or generation of these products may have or could result in a release of OHM constituting a REC with a medium potential impact.

According to records received from the Fall River Fire Prevention Department, three USTs were previously located on Parcel T-1-38, 2680 North Main Street. The records document the removal of the gasoline and waste oil tanks which were removed in 1988 and 1987, respectively. There are no records documenting the removal of the No. 6 fuel oil tank. It was not indicated on the removal records if contamination was encountered during the removal of the gasoline and waste oil tanks and detailed closure reports were not identified. Therefore, OHM may be present in the locations of the former USTs. In addition, it is possible that the No. 6 fuel oil UST, the integrity of which is unknown, may still be present. OHM associated with the USTs formerly/currently on this property would constitute a REC with a medium potential impact.

According to a report reviewed for a western adjoining property (1 New Street), arsenic and beryllium were detected in soil above applicable standards at a depth beginning from the ground surface to a depth of approximately eight feet below grade. The detection of these metals are believed to be attributable to historic filling activities in the 1920s during which fill material was dredged from the Taunton River. The potential presence of OHM at levels which could pose a risk to human or

ecological populations is considered a REC with a low potential impact and would need to be managed appropriately during any proposed construction activities.

Weaver’s Cove East Layover site has one potential environmental concern. During the site reconnaissance, pole-mounted electrical transformers were observed on the Site. It is not known if these transformers contain PCB transformer oil. The transformers have the potential to leak transformer oil directly onto the ground surface.

The presence of these RECs and potential concerns will require additional Phase II site investigations to characterize soil and groundwater contamination, determine the extent of contamination, and evaluate the cost of remediation. Based on the Phase I investigation, the overall impacts of to site construction costs are ranked as “medium” to “high”.

2.3.2.9 Cultural Resources

The historic survey completed for the Weaver’s Cove layover facility parcel on the west side of the railroad right-of-way encompasses the historic resources in the APE of the current site on the east side of the right-of-way.

Historic Resources

Based on the survey completed for the west site, the Weaver’s Cove East site overlaps into a portion of the North Main Street Area (Map No. FR.D) that has been recommended as eligible for the National Register. This part of the Area has no buildings. The construction of the layover facility would be an adverse effect as it would change the visual setting and the character of the area.

Two historic properties are located in the layover facility APE: the National Register-listed Squire William B. Canedy House (Map No. FR.012) and the National Register-eligible William J. Wiley Middle School (Map No. FR.013).

The William B. Canedy House would be separated from the layover facility by a modern building and outbuildings, and then by the tracks. There would be no adverse visual impact because the layover facility would not substantially alter the historic setting of the house, which is already converted to industrial uses (i.e. the tank farm). There would be no noise impacts that would require modifications to the building and no land acquisition from the property.

The William J. Wiley Middle School is located on the opposite (east) side of Main Street from the facility and separated from it by this major roadway and several modern buildings. There would be no property acquisition, no change in the setting of the school, and no noise impacts that would require modifications to the exterior of the building.

There will be no adverse effect to the nearby National Register-listed Squire William B. Canedy House and the National Register-eligible William J. Wiley Middle School.

Archaeological Resources

The project parcel on the west side of the railroad right-of-way within the proposed Weaver’s Cove LNG Site was previously subjected to an archaeological reconnaissance survey in 2003. No areas of archaeological sensitivity were identified in the previously disturbed parcel, and no further work was deemed necessary.

The project parcel on the east side of the railroad right-of-way opposite the Weaver’s Cove LNG Site has not been subjected to archaeological reconnaissance survey. An archaeological reconnaissance survey is needed to assess the archaeological sensitivity of this parcel. An intensive (locational) survey may be needed to identify archaeological sites in sensitive areas. Project impacts to archaeological resources for the Weaver’s Cove East parcel will be assessed prior to completion of environmental review and when more design information is available.

2.3.2.10 Operations

The Weaver’s Cove East site is located in a section of the Fall River Secondary that is single track. Since this site is located on the eastern side of the tracks there may be conflicts in the morning if trains heading northbound from Battleship Cove; however, there is a minimal chance of conflict in the morning because of the 40-minute headway allotted to each train. A similar opportunity for conflicts occurs in the evening with trains heading northbound from Battleship Cove to the layover facility. If these trains experience any significant delays that would require the revenue service trains heading southbound to wait prior to entering the single track section until the train heading to the layover facility clears the area.

2.3.2.11 Operations and Maintenance Costs

The Weavers Cove East site is located 2.6 miles north of Battleship Cove. In order to operate from this facility all four eight-car trains would need to travel these 2.6 miles to and from Battleship Cove as non-revenue service trains. Operating a layover facility 2.6 miles from the terminal station would result in 5.2 miles of deadheading each day for each of the four eight-car trains. Based on the MBTA’s operating expense per vehicle revenue mile of \$11.92 determined by the latest information provided by the National Transit Database, it can be assumed that it would cost approximately \$476,000 yearly to operate trains out of this layover facility.

Additionally these are costs associated with the depreciation of the equipment by requiring an additional 5.2 miles of travel to and from the layover facility each day.

2.3.3 Weaver’s Cove West

The proposed Weaver’s Cove West site layover facility (Figure 2-5) would be constructed along the west side of the Fall River Secondary Line. The facility would be between the existing Fall River Secondary and the Taunton River, approximately 2.6 miles from the southern terminus of the Fall River Secondary. This site is located on the west side of the right-of-way, on the proposed Weaver’s Cove LNG Site in Fall River, near milepost 49.8.

- Distance from Terminal – 2.6 miles north of Battleship Cove Station
- Lead Track – single lead track; potential for a long lead track or siding exists and can be assessed in FEIR
- Length of yard – 1,100 feet
- Width of yard – 200 feet
- Number of storage tracks – six tracks (typical); five tracks for anticipated trains with a spare plus one for future expansion and maintenance equipment
- Highway Access – direct access to site off of New Street

2.3.3.1 Land Use and Acquisition

The site is zoned as General Industrial by the City of Fall River. The site includes both developed and undeveloped land. The developed portion is highly disturbed by industrial uses associated with a petroleum products facility. The industrial site is a former Shell Oil facility, and consists of completely cleared land with several large aboveground storage tanks and a short shipping dock. The undeveloped portion is vegetated. Approximately seven acres of the Shell site, primarily the undeveloped portion, would be utilized for the proposed layover facility. Surrounding land in all directions except west and northwest is similarly undeveloped or industrial property. A narrow strip of lightly developed land (a cell phone tower site) is northwest of the site.

Portions of parcels that would be acquired to construct a maintenance/layover facility at the Weaver’s Cove site are listed in Table 2-18.

Table 2-18 Layover Facility at the Weaver’s Cove West Site: Land Acquisition

Parcel Number	Ownership	Generalized Zoning	General Land Use	Property Tax Revenue Loss	Job Loss	Area (acres)	Percent Acquisition
T-2-1	Private	Industrial	Industrial	TBD	No	48.74	100
T-15-2	Private	Industrial	Undeveloped	TBD	No	9.17	100
TOTAL				TBD		57.91	

Sources: MassGIS 2002, 2005; municipal data 2009, aerial mapping, and online research (various).
 TBD: To be determined.

The layover facility would require the acquisition of approximately 57.91 acres (two parcels) of privately owned land, both zoned for industrial uses; one is undeveloped while the other was used as part of a currently inactive petroleum products facility as discussed in Section 2.3.7. The layover facility would make the portions not used for a layover inaccessible for future development and would require the complete acquisition of these parcels.

Property tax revenue and job losses could result from acquisition of the two privately-owned parcels at the site. However, precise revenue losses cannot be determined, as current property tax revenue information is not available at this time.

The Weaver’s Cove West site is within the area formerly proposed for use as a liquefied natural gas facility, and owned by Hess. There is currently no proposal for an alternative development on this site, however the City of Fall River has convened a task force to identify potential future uses if the City were to acquire the property. Because of the preliminary nature of this planning effort, MassDOT anticipates that layover facility would be compatible with future land uses.

2.3.3.2 Environmental Justice

Although there are no Environmental Justice (EJ) communities within the layover site, an EJ neighborhood is located southeast of the proposed layover facility; to the east of the Fall River Secondary. Residents living within this neighborhood meet low income criteria for this designation. No parcels within an environmental justice neighborhood would be acquired for the Weaver’s Cove West site layover facility. There would be no land acquisition impacts to environmental justice populations. There are no disproportionate impacts to this community for noise, visual or air quality impacts.

2.3.3.3 Noise Impacts

Noise at all of the proposed South Coast Rail layover facilities would be dominated by train’s idling locomotives. Trains that will remain at the layover facilities for one hour or longer will be shut down and attached to electrical power, as needed. The other minor noise sources on site are not expected to contribute to the overall sound levels and impacts. Distances to moderate and severe noise impacts at the layover facilities were calculated based on the Source Reference Level of 109 dBA at 50 feet as per FTA Guidelines. The layover facility sound level was projected to the receptor locations based on propagation of noise over distance. This analysis revealed only one impact, which occurred at both the proposed Weaver’s Cove East and West facilities. The existing sound levels, the project sound levels, and the number of impacts are shown in Table 2-19. One residential receptor would experience a moderate noise impact.

Table 2-19 Weaver’s Cove West Layover Facility Sound Levels and Impacts

Location	Noise Exposure at 50' (Ldn)	Existing Noise Exposure (Ldn)	Moderate Impact		Severe Impact	
			Ldn	Number of Impacts	Ldn	Number of Impacts
Fall River - Weaver’s Cove Sites (East or West)	79.8	55	55.3	1	61.2	0

Assumptions:

- A Source Reference Level of 109 dBA at 50 from the center of the site for layover tracks was used (FTA Guidelines, Environmental Consequences Technical Report - Noise).
- All facilities are assumed to have one train idling per hour (day and night).

2.3.3.4 Wetlands

There are no vegetated wetland resources located on the site, though a portion of Land Subject to Coastal Storm flowage associated with the Taunton River is located in the northeast portion of the proposed layover facility site. The sections of the site that are not currently used by the oil facility, located on the eastern portion of the proposed facility, are characterized as scrub shrub uplands. The site includes Land Subject to Coastal Storm Flowage associated with the Taunton River, which is regulated by the Wetlands Protection Act. These areas are subject to flood inundation caused by coastal storms up to and including that caused by the 100-year storm.

The Taunton River is located less than 50 feet from the main portions of the proposed Weaver’s Cove West Facility site. No other surface water resources exist on, or adjacent to, the site. There are no groundwater drinking water source protection resources on or adjacent to the site.

The proposed Weaver’s Cove West layover would include construction within a small segment of Land Subject to Coastal Storm Flowage associated with the Taunton River. Flood hazard management measures should be included in the layover design (e.g., stormwater management for the 100-year storm, placement of oil and grease collection trays and separators outside of this area).

2.3.3.5 Wild and Scenic Rivers

The Taunton River received a designation as a National Wild and Scenic River on March 30, 2009. The entire river system was included in this designation; from its headwaters at the confluence of the Town and Matfield Rivers in Bridgewater downstream 40 miles to the confluence with the Quequechan River at the Interstate 195 Bridge in Fall River. The segment of the River where the Weaver’s Cove West Layover Facility is proposed has been designated as a “recreational river area,” recognizing its aesthetic value and developed shoreline under the Wild and Scenic Rivers program.

The layover facility would be visible from the Taunton River. As described above, this segment of the Taunton River has been designated as a “recreational river area,” recognizing its aesthetic value and developed shoreline. No impacts to the Taunton River are anticipated that would jeopardize its National Wild and Scenic River recreational designation. The program does not prohibit development near designated rivers; rather it encourages regional river management practices to protect the use and enjoyment of these rivers. The design of the layover facility would be guided by land use and resource management objectives that are compatible with the river’s classification.

2.3.3.6 Threatened and Endangered Species

According to the 2008 edition of the Natural Heritage Atlas and information from Natural Heritage and Endangered Species Program, there are no Certified or Potential Vernal Pools located on the property, nor is the property within Estimated or Priority Habitat of Rare Wildlife.

2.3.3.7 Chapter 91 and Coastal Zone

Approximately 4,300 sq. ft. of land within the northeast section of the Weaver’s Cove West layover facility area is presumed to contain filled tidelands, subject to jurisdiction under Massachusetts General Law, Chapter 91 and accompanying Waterways Regulations at 310 CMR 9.00 (Figure 2-2). The Massachusetts Department of Environmental Protection (DEP) has created a series of presumed jurisdictional boundaries based on the shoreline shown on two historic maps prepared in 1865 and 1874. Jurisdiction is presumed versus confirmed due to the incompleteness of the data and DEP reserves the right to make determinations on a case-by-case basis. The

Waterways Regulations, administered by DEP, are designed to protect and promote the public’s interest in tidelands through the inclusion of provisions to conserve the capacity for water-dependent uses.

The proposed site is located entirely within the jurisdictional Coastal Zone boundaries (Taunton River Estuary Coastal Zone). Accordingly, the proposed layover facility would require a Federal Consistency Certification by the Massachusetts Office of Coastal Zone Management (MCZM).

Human-induced coastal resources include a portion of the Mount Hope Bay (Fairhaven/New Bedford) Designated Port Area (DPA). DPAs are marine industrial land and water areas protected by regulation to preserve and the Commonwealth’s marine economy. In terms of human-induced resources, the proposed facility is consistent with DPA temporary uses and would not affect the operations of the Mount Hope Bay DPA. EOT expects the layover facility project to be found consistent with MCZM program policies based on its minimal impacts and strategies for meeting applicable coastal regulations. The use of the site for a layover facility is expected to be classified by DEP as a Nonwater-dependent Infrastructure Facility (310 CMR 9.55), which may waive some of the Waterways regulatory provisions, as long as feasible mitigation or compensation measures are provided such as the protection of maritime commerce or recreation and associated public access, reduction of flood and erosion-related hazards on lands subject to the 100-year flood or projected sea level rise, and the attainment of water quality goals.

Public access to the water is limited, due to the industrial nature of the site and partial location within the DPA. However, there are some areas of the site where informed public access seems to be achieved, namely the northernmost vegetated portion via a series of pathways off of North Main Street. This public access may be restricted upon construction of the layover facility.

2.3.3.8 Hazardous Materials

Based on the tasks conducted for the proposed Weaver’s Cove West Phase I Environmental Site Assessment (ESA), three Recognized Environmental Conditions (RECs) and two potential environmental concerns were identified and are described below and in Table 2-20.

Table 2-20 Summary of RECs at the Proposed Weaver’s Cove West Layover Site

REC Description	RTN(s)	Relative Impact
Existence of USTs and ASTs at Site	Not applicable	High
Previous Use of Site as Petroleum Products Distribution Facility and Documented Release	4-749	High
Possible Presence of Elevated Concentrations of Metals in Site Soil	Not applicable	Low

According to the DEIS/DEIR, a total of 12 gasoline, fuel oil, and used oil tanks ranging in size from 1,000 gallons to 15,000 gallons were removed from the site from 1989 to 1998. A Certificate of Registration dated April 25, 2002 to Jay Cashman, Inc. at One New Street, the address of the site, grants the “keeping, storage, manufacture or sale of flammables or explosives as follows: 64,000,000 gallons of various petroleum products”. A UST inventory notification dated May 1991 stated that eight USTs were located at the Site. Six of the USTs were listed as being permanently out of use and two of the USTs were listed as being currently in use. The size of the USTs or the type of product was not provided. The tank removal records list only six USTs having been removed since 1991. It was not indicated on the tank removal records if contamination was encountered during the removal and detailed closure reports were not identified. Therefore, oil and/or hazardous material (OHM) may be present in the locations of the former USTs. In addition, it is possible that at least two USTs, the integrity of which is unknown, may still be present. OHM associated with the USTs and ASTs that were formerly and currently may be present on this property would constitute a REC.

Shell operated a crude oil refinery, product storage and distribution facility on the site from 1920 to 1929 and a petroleum product distribution facility on the site from 1929 to 1995. According to documents reviewed, extensive petroleum releases occurred on the site during that time. A map of the depicts a large area of petroleum impacts, as well as the former and current tank locations. Contours on the map show the thickness of the light non-aqueous phase liquid (LNAPL) in groundwater at the site with thicknesses up to 2.5 feet. According to a recent Remedy Operation Status (ROS) Status Report dated November 2008, this property is currently being remediated with a LNAPL recovery and groundwater treatment system. The previous use of the site as an oil storage facility and the documented extensive petroleum release constitutes a REC.

According to a report reviewed for the property, arsenic and beryllium were detected in soil above applicable standards at a depth beginning from the ground surface to a depth of approximately eight feet below grade. The potential presence of OHM at levels which could pose a risk to human or ecological populations is considered a REC and would need to be managed appropriately during any proposed construction activities.

Even though not considered RECs, the following is considered to be a potential environmental concern: During the site reconnaissance, pole-mounted electrical transformers were observed on the site. It is not known if these transformers contain polychlorinated biphenyl (PCB) transformer oil. The transformers have the potential to leak transformer oil directly onto the ground surface.

The presence of these RECs and potential concerns will require additional Phase II site investigations to characterize soil and groundwater contamination, determine the extent of contamination, and evaluate the cost of remediation. Based on the Phase I investigation, the overall impacts of to site construction costs are ranked as “high”.

2.3.3.9 Cultural Resources

No previously reported historic sites or structures are located within the boundaries of the Weaver’s Cove West Layover facility.

Historic Resources

One previously reported historic structure referenced by Adams et al. (2009) FR.015 (MHC No. FLR.485) is located within the 400-foot wide study buffer for the proposed facility location. The Border City Mill No. 2 building; 1 Weaver Street is about 400 feet southwest of the southern end of the layover facility. As described by Adams et al. (2009:22) the “mill is a five-story, Italianate style brick mill loft with an exterior stair tower. The structure was designed by Josiah Brown, Fall River’s first professional architect, and constructed in 1873 for the manufacture of worsted woolens, print cloth, sheeting, and shirting.” The mill is an element of the Fall River Multiple Resource Area, which encompasses all of Fall River within the city limits, and is an individually listed property on the National Register of Historic Places.

Two other resources adjacent to the site were identified during the reconnaissance survey. These are referenced by Adams et al. (2009) as FR.A (the Fall River Branch Railroad Corridor) and FR.014 (21 Alton Street). The railroad corridor forms the eastern boundary of the Weaver’s Cove West layover facility. FR.014 is immediately adjacent to the railroad line and on the east side of the railroad corridor. The residence at 21 Alton Street is a vernacular structure constructed about 1870. Neither the railroad corridor nor the residence was recommended as eligible to the National Register of Historic Places by Adams et al. (2009).

Although some historic resources were identified on sites adjacent to the proposed layover facility; no adverse impacts to these sites are anticipated. These historic structures are simply too far from the layover facility to be impacted by construction or operations of the facility. It is highly unlikely that any construction debris and/or particulate matter would reach these locations. Furthermore, no noise or vibration impacts were recorded at the historic sites.

Archaeological Resources

Past archeological studies completed for the Weaver’s Cove Energy LNG Terminal project, located in the same area as the proposed Weaver’s Cove West layover facility, showed that there are no archeological resources within the site.

2.3.3.10 Operations

The Weavers Cove West layover facility would be located on the west side of the single track section on the Fall River Secondary. There is a minimal chance of conflict in the morning because of the 40-minute headway allotted to each train. If a train

leaving Battleship Cove was delayed in the morning then the next train exiting the layover facility would need to wait to enter the single track section until the other train passes. Similarly in the evening if a non-revenue service train were heading northbound to the layover facility and had been delayed, the revenue service train heading southbound would need to wait before the layover facility

2.3.3.11 Operations and Maintenance Costs

The Weavers Cove West site is located 2.6 miles north of Battleship Cove. In order to operate from this facility all four eight-car trains would need to travel these 2.6 miles to and from Battleship Cove as non-revenue service trains. Operating a layover facility 2.6 miles from the terminal station would result in 5.2 miles of deadheading each day for each of the four eight-car trains. Based on the MBTA’s operating expense per vehicle revenue mile of \$11.92 determined by the latest information provided by the National Transit Database, it can be assumed that it would cost approximately \$476,000 yearly to operate trains out of this layover facility.

Additionally these are costs associated with the depreciation of the equipment by requiring an additional 5.2 miles of travel to and from the layover facility each day.

2.4 Summary

This section summarizes environmental impacts and compares the sites on each branch.

2.4.1 Land Use and Acquisitions

Land acquisition could range from 11 acres (Wamsutta) to 39 acres (Church Street) on the New Bedford line, and from 18 acres (Weaver’s Cove East) to 58 acres (Weaver’s Cove West) on the Fall River line, as shown in Table 2-21. Land acquisition totals required for each site range due to the shape of the sites and how a layover facility would dissect them. If the layover dissects a site in a way that would make access and any future development infeasible on the remaining section of the site, it was assumed that the project would need to acquire the entire site rather than just a percentage.

Table 2-21 Summary of Layover Facility Land Acquisition

Site	Public Ownership	Private Ownership Land Use Area in acres				Total
	Area in acres (number of parcels)	Residential	Commercial	Industrial	Undeveloped	
Church Street Site	0	0	0	9.18 (1)	29.63 (1)	38.81 (2)
Wamsutta Site	11.02 (1)	0	0	0	0	0
ISP Site	0	0-	0-	0	43.57 (5)	43.57 (5)
Weaver's Cove East Site	0	0.05 (1)	0	0-	17.94 (2)	17.99 (3)
Weaver's Cove West Site	0	0	0	48.74 (1)	9.17 (1)	57.91 (2)

Tax effects of the layover site alternatives are listed in Table 2-22. Depending on the alternative selected, tax losses in New Bedford would range from zero to \$21,378, while tax losses in Fall River would range from \$29,956 to \$57,318.

Table 2-22 Summary of Layover Facility Potential Effects to the Economic Environment

Candidate Layover Facility Site	Property Tax	Job Loss
	Revenue Loss ¹	
Church Street Site	\$21,378.34	Yes ²
Wamsutta Site	\$0.00	No
ISP Site	\$29,955.86 ³	No
Weaver's Cove East Site	\$57,317.75 ³	No
Weaver's Cove West Site	NA ⁴	No

NA: Not available

1 Does not include partial takings

2 Job losses at the recycling facility are expected but have not been quantified.

3 Full extent of tax revenue loss has not been determined for this site acquisition; additional property tax revenue losses may result from small and/or partial acquisition that cannot be determined at this phase.

4 Tax loss has not been determined as current property tax revenue information was not available when this analysis was conducted.

2.4.2 Environmental Justice

None of the layover facilities on either the New Bedford or Fall River lines would result in impacts to environmental justice populations.

2.4.3 Noise

Noise at the proposed South Coast Rail layover facilities would be dominated by trains idling locomotives. Trains that will remain at the layover facilities for one hour or longer will be shut down and attached to electrical power, as needed. The other minor noise sources on site are not expected to contribute to the overall sound levels and impacts. Distances to moderate and severe impact at the layover facilities were

calculated based on the Source Reference Level of 109 dBA at 50 per FTA Guidelines. The existing sound levels, the project sound levels, and the number of impacts are shown in Table 2-23. Moderate noise impacts would occur at the Weaver’s Cove East and West sites.

Table 2-23 Layover Facilities Sound Levels and Impacts

Location	Noise Exposure at 50' (Ldn)	Existing Noise Exposure (Ldn)	Moderate Impact		Severe Impact	
			Ldn	Number of Impacts	Ldn	Number of Impacts
Church Street Site	79.8	55	55.3	0	61.2	0
Wamsutta Site	79.8	60	57.8	0	63.4	0
ISP Site	79.8	50	53.4	0	59.6	0
Weaver's Cove East	79.8	55	55.3	1	61.2	0
Weaver's Cove West	79.8	55	55.3	1	61.2	0

Assumptions:

- A Source Reference Level of 109 dBA at 50 from the center of the site for layover tracks was used (FTA Guidelines - Table 5-5).
- All facilities are assumed to have one train idling per hour (day and night).

2.4.4 Wetlands

The Church Street, ISP, Weaver’s Cove East, and Weaver’s Cove West sites have mapped wetland resources located on the property and are listed below in Table 2-24. Although the Wamsutta site is within 100 feet of a jurisdictional wetland, it would not impact this wetland. The Church Street site would impact approximately 0.1 acre of wetlands. On the Fall River line, no vegetated wetland impacts would be required at any site.

Table 2-24 Direct Wetland Impacts – Layover Facilities

Layover	Bank (lf)		BVW (ac)		Land Subject to Coastal Storm Flowage (ac)		
	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	
Church Street	0	0	0.07	0.06	0	0	
Wamsutta Site	0	0	0	0	0	0	
ISP Site	0	0	0	0	0.95	0.16	
Weavers Cove East	0	0	0	0	0	0	
Weavers Cove West	0	0	0	0.04	0	0	

2.4.5 Wild and Scenic Rivers

Neither of the proposed layover facilities on the New Bedford line would affect a Wild and Scenic River.

Each of the three proposed layover facilities on the Fall River line would be adjacent to and visible from the Taunton River. The Taunton River received a designation as a National Wild and Scenic River on March 30, 2009. The entire river system was included in this designation; from its headwaters at the confluence of the Town and Matfield Rivers in Bridgewater downstream 40 miles to the confluence with the Quequechan River at the Interstate 195 Bridge in Fall River. The segment of the River where the Weaver’s Cove West Layover Facility is proposed has been designated as a “recreational river area,” recognizing its aesthetic value and developed shoreline under the Wild and Scenic Rivers program.

As described above, this segment of the Taunton River has been designated as a “recreational river area,” recognizing its aesthetic value and developed shoreline. No impacts to the Taunton River are anticipated that would jeopardize its National Wild and Scenic River recreational designation. The program does not prohibit development near designated rivers; rather it encourages regional river management practices to protect the use and enjoyment of these rivers. The design of the layover facility would be guided by land use and resource management objectives that are compatible with the river’s classification.

2.4.6 Threatened and Endangered Species

None of the layover sites evaluated would affect state-listed threatened or endangered species, or species of special concern.

2.4.7 Chapter 91 and Coastal Zone

One of the layover facilities on the New Bedford Line, Wamsutta, would require construction in landlocked tidelands within the coastal zone (Table 2-25). On the Fall River line, the ISP site would not require work in the coastal zone or in any area subject to Chapter 91. Both the Weaver’s Cove East and West sites would likely require Chapter 91 licenses due to construction in filled tidelands.

Neither of the proposed layover sites on the New Bedford Main Line is within a Designated Port Area (DPA). The Weaver’s Cove West site is within a DPA, and may be inconsistent with the designated uses of this marine area.

Table 2-25 Project Elements in Filled Tidelands – Layover Sites

Facility Name	Waterbody	Municipality	Jurisdictional
Church Street	none	New Bedford	none
Wamsutta	New Bedford Harbor	New Bedford	Landlocked Tidelands Coastal Zone
ISP	None	Fall River/ Freetown	none
Weaver’s Cove East	Taunton River	Fall River	Filled Tidelands Coastal Zone
Weaver’s Cove West	Taunton River	Fall River	Filled Tidelands Coastal Zone

2.4.8 Hazardous Materials

On the New Bedford line, there are Recognized Environmental Conditions (RECs) at both the Church Street and Wamsutta layover facility sites (Table 2-26). At the Wamsutta site, the RECs are associated with the capped Superfund site, and construction is not anticipated to encounter any contaminated soil or groundwater. At the Church Street site, the presence of high, medium and low RECs would require additional pre-construction investigations to determine the extent of soil or groundwater contamination and the cost of site remediation or disposal. The overall risk is considered “medium”.

On the Fall River line, high to medium RECs are present at all three sites, as a result of prior industrial activities. Additional pre-construction investigations would be required to determine the extent of soil or groundwater contamination and the cost of site remediation or disposal. The risk to the project of encountering substantial amounts of contamination, and associated cleanup costs, are considered “high” at the ISP and Weaver’s Cove West sites, and “medium to high” at the Weaver’s Cove East site.

Table 2-26 Summary of RECs at the Proposed Overnight Layover Sites

Layover Facility	REC Description	Release Tracking Number (RTN)	Relative Impact
Church Street	Current Existence of 3,000 Gallon Diesel Aboveground Storage tank with Stained Soil on Site	Not applicable	High
	Presence of Pooled Oil and Stained Soil in Unpaved Area Near Site	Not applicable	Medium
	Historic and Current Use of Area Near Site for Vehicle Repair and Maintenance	Not applicable	Medium
	Existence of Underground Storage Tanks Near Site	Not applicable	Low
Wamsutta	Historic Use of Site as Freight Yard and Placement of Permanent Engineered Barrier Above Impacted Soil at Site	4-118	Medium
	Documented Release at Acushnet Estuary (New Bedford Superfund Site)	4-122	Medium
	Documented Release at Adjoining Property (618 Acushnet Avenue)	4-14791	Low
	Documented Release and Implementation of Activity and Use Limitation at Nearby Property (1 Wamsutta Street)	4-11715	Low
	Documented Release at Nearby Property (New Bedford Main Interceptor)	4-127	Low
ISP	Documented Releases on or Encompassing the Layover Site	4-13482, 4-13856, and 4-15907	High
	Existence of Large Quantity of Hazardous Chemicals and Existence of Risk Management Plan at Southwestern Adjoining Property (ISP Chemicals, 238 South Main Street)	Not applicable	High
	Historic Use of Adjoining Properties	Not applicable	High
	Documented Releases at Nearby Property (Former Synthetic Natural Gas Plant)	4-16971	Medium
	Documented Releases at Southwestern Adjoining Property (238 South Main Street)	4-10219, 4-10965, 4-11891, 4-13804, 4-13805, 4-18988, 4-14027, 4-14485, 4-15568, 4-15700, 4-16479, 4-16533, 4-16702, 4-16703, 4-19297, and 4-19557	Medium
Weaver's Cove East	Previous Use of Site as Oil Storage Facility and Documented Petroleum Release on Site	4-749	High
	Previous Use of Adjoining Property as Petroleum Product Distribution Facility and Documented Release (Shell Oil Company, 1 New Street)	4-749	High
	Previous Use of Building on Parcel T-1-38 as Commercial Garage	Not applicable	Medium
	Existence of Underground Storage Tanks (USTs) on Parcel T-1-38	Not applicable	Medium
	Possible Presence of Elevated Concentrations of Metals in Site Soil	Not applicable	Low
Weaver's Cove	Existence of USTs and ASTs at Site	Not applicable	High
West	Previous Use of Site as Petroleum Products Distribution Facility and Documented Release	4-749	High
	Possible Presence of Elevated Concentrations of Metals in Site Soil	Not applicable	Low

2.4.9 Cultural Resources

As shown in Table 2-27, neither layover facility on the New Bedford line would have adverse effects to any historic resources. On the Fall River line, the ISP site and Weaver’s Cove West sites would not have adverse effects to any historic resources. The Weaver’s Cove East site could have adverse effects to the visual setting of the North Main Street district.

Table 2-27 Potential Effects on Historic Resources

Location	Direct Effects	Indirect Effects
Church Street	None	No adjacent resources
Wamsutta	None	No adverse noise or visual impacts to adjacent historic industrial buildings
ISP Site	None	No adjacent resources
Weaver’s Cove East	None	Potential adverse effects to the visual setting of the North Main Street district
Weaver’s Cove West	None	No adjacent resources

As shown in Table 2-28, on the New Bedford line, the Church Street site was determined to have moderate sensitivity for archaeological resources, and would require additional investigation to determine if archaeological resources were present, and the significance of those resources. The Wamsutta Street site would not affect archaeological resources located below the capped landfill.

On the Fall River line, the ISP site is in an area identified as having a high sensitivity for pre-contact Native American sites, and is close to several documented significant archaeological sites (Mother Brook, Peace Haven). The Weaver’s Cove East site has low sensitivity but requires additional investigation. The Weaver’s Cove West site has been investigated and found to have no archaeological resources.

Table 2-28 Potential Effects on Archaeological Resources

Location	Archaeological Sensitivity	Recommendation
Wamsutta	High sensitivity for pre-contact/contact Native American sites and post-contact Euro-American resources	Avoid work below clean fill-geotextile composition cap, or conduct an intensive (locational) survey
Church Street	Moderate sensitivity for pre-contact/contact Native American sites and post-contact Euro-American resources	Avoid, or conduct an intensive (locational) survey
ISP	High sensitivity for pre-contact/contact Native American sites related to the Mother’s Brook Site (19-BR-106)	Avoid, or conduct an intensive (locational) survey
Weaver’s Cove East	Low sensitivity	Archaeological reconnaissance survey
Weaver’s Cove West	No/Low sensitivity (previously surveyed)	No further work

2.4.10 Operations

As shown in Table 2-29, the Church Street site in New Bedford is located 3.1 miles north, 2.8 miles further than the Wamsutta site. On the Fall River Secondary, the ISP Site is located 5.3 miles from the terminal station, 2.7 miles further than the Weaver’s Cove East and Weaver’s Cove West sites. Figures 2-6 and 2-7 show the layover facilities in relation to the terminal station for New Bedford and Fall River respectively. As previously mentioned, ideally the layover facility would be located close to the end of the line. If the layover facility is near the terminal, trains do not have to travel far to get to the start of their morning trips or from the end of their evening trips. If the layover facility is distant from the terminal, trains need to make a long distance non-revenue (deadhead) movement before they start their morning trips or after they end their evening trips. While, all the sites are located relatively close to the end of the lines, the Wamsutta site is closer to the terminal in New Bedford and would provide more efficient operation than the Church Street site. Similarly, the Weaver’s Cove sites are closer to the terminal in Fall River and would provide a more efficient operation than the ISP Site.

Table 2-29 Distance to Terminal Station

Location	Distance from Terminal Station
Church Street	3.1 miles north
Wamsutta	0.3 miles north
ISP Site	5.3 miles north
Weaver’s Cove East	2.6 miles north
Weaver’s Cove West	2.6 miles north

2.4.11 Operations Costs

As shown in Table 2-30, the distance of a layover facility to the terminal station contributes directly to the increase in operating and maintenance cost of the site alternative. On the New Bedford Mainline, Church Street would be more expensive to operate due to an additional 2.8 miles (5.6 miles roundtrip) that the trains would need to run deadhead miles. On the Fall River Secondary, the ISP Site would have additional 2.7 deadhead miles (5.4 miles roundtrip) than the Weaver’s Cove sites.

Table 2-30 Operating and Maintenance Cost

Location	\$ (2009 dollars)
Church Street	\$567,600
Wamsutta	\$55,000
ISP Site	\$970,400
Weaver’s Cove East	\$476,000
Weaver’s Cove West	\$476,000



While each layover site will also have a capital cost investment, there is negligible differentiating factor in capital investment for each site and would not distinguish one site as favorable over another. Capital cost estimates were not used in this layover facility alternatives analysis.

3

Site Selection

3.1 Requirements of the Secretary's Certificate

The Secretary's Certificate on the DEIR stated that:

“The FEIR should expand on the analysis of the proposed layover facilities with detailed plans for the layover facilities and a comparative analysis of environmental impacts with a summary table showing land alteration, impervious area, wetland and water quality impacts, traffic impacts, air quality, noise and vibration, impacts to conservation lands/open space, and impacts to Environmental Justice populations. The alternatives analysis should include consideration of potential sites outside of Riverfront Area..... **The FEIR should include a rationale for selection of the preferred layover facilities and for elimination of others from further consideration.** The evaluation of impacts associated with layovers should include potential conflicts and synergies with existing and future land use on and in the vicinity of the sites.”

This document provides the rationale for selection of the preferred layover facilities on the New Bedford and Fall River branches, as required by the Certificate. Detailed plans of each site, and a detailed analysis of environmental impacts, will be provided in the FEIS/FEIR.

3.2 Layover Facility Site Selection Criteria

The area of the layover facility site must be large enough to accommodate the anticipated number of trains, service vehicles, and other support facilities. The site must be shaped appropriately to allow all tracks to be long enough to accommodate the full length of a train on each track. The shape of a layover site is typically rectangular therefore making rectangular parcels better suited for siting a layover facility

Based on the operating plan that has been developed for South Coast Rail, each branch will require four trains to support the peak period service. In addition, a fifth train on each branch will be required as spare equipment, which can be used in the event of a breakdown. The layover facility must accommodate the five trains anticipated. In addition, the facility should provide one track for future expansion of service and for maintenance equipment. Therefore, each layover site chosen for South Coast Rail must be able to accommodate six tracks.

The site would minimize environmental impacts and provide the most efficient operation by locating it as close as possible to the terminal station to ensure the least deadhead miles for non-revenue movements in and out of the layover facility. While there is no hard rule for the distance of a layover facility from the terminal, increasing distance between a layover facility and the terminal station would result in less reliable operations and greater operating costs.

3.3 New Bedford Line

Two sites were evaluated on the New Bedford line: Church Street and Wamsutta. The tables and text below summarize the comparison of these sites based on environmental (Table 3-1) and practicability (Table 3-2) factors. The Wamsutta site was selected because it is most favorable from an environmental perspective: it requires the lesser land acquisition, the lesser tax revenue loss, the lesser wetland impacts, no potential risk of hazardous materials remediation, and no impacts to historic or archaeological resources.

Table 3-1 Comparison of New Bedford Layover Facility Sites – Environmental Factors

Resource	Church Street	Wamsutta	More Favorable
Land Acquisition	39 acres	11 acres	Wamsutta
Tax Revenue Loss	\$21,378/year	\$0.00/ year	Wamsutta
Environmental Justice	No impacts	No impacts	Equal
Noise Impacts	No impacts	No impacts	Equal
Wetland Impacts	0.07 acres vegetated wetland	None	Wamsutta
Wild and Scenic Rivers	None	None	Equal
Threatened and Endangered Species	None	None	Equal
Coastal Zone	None	Chapter 91 license not required for work in landlocked tidelands. Not within the DPA	Equal
Hazardous Materials	Medium risk	Capped Superfund landfill – no impacts anticipated	Wamsutta
Cultural Resources	Intensive archaeological survey required in areas of moderate sensitivity. No above-ground impacts	No impacts to archaeological resources below capped landfill. No adverse effects to above-ground resources.	Wamsutta

The Wamsutta site was selected also because it is most favorable from an operating and cost perspective: it is closer to the terminal station and would therefore require less operating dollars to pull the trains in and out of the layover facility at the end and beginning of the day.

Table 3-2 Comparison of New Bedford Layover Facility Sites – Cost and Operations

Operational Element	Church Street	Wamsutta	More Favorable
Distance to Terminal Station	3.1 miles	0.3 miles	Wamsutta
Operating Cost	\$567,600	\$55,000	Wamsutta

3.4 Fall River Line

Three potential layover sites were evaluated on the Fall River line. Table 3-3 compares the environmental effects of the ISP, Weaver’s Cove East and Weaver’s Cove West sites, and Table 3.4 compares the practicability of these site alternatives.

The ISP site was rejected because it would require a substantial amount of construction within a previously-undisturbed Riverfront Area, and because it would introduce new industrial visual elements along the Taunton Wild and Scenic River. The adjacent property, ISP Chemical is a chemical manufacturing plant which requires a high level of security, and which poses a risk in the event of a chemical accident. The operator of the facility has indicated that this land use is not compatible with an adjacent area where people may gather, or which has unrestricted access. In addition, this site has the potential to contain significant Native American archaeological resources.

The Weavers Cove West site was rejected because development of this site as a layover facility would require a large amount of land acquisition (58 acres) and loss of property tax revenues to the City of Fall River. The site is within the Designated Port Area, and would be inconsistent with the maritime uses of the site. Although it would be within Riverfront Area and adjacent to the Wild and Scenic Taunton River, it would result in redevelopment of this disturbed area and would not introduce a new visual element. The Weaver’s Cove East site is the most favorable from an environmental perspective.

Table 3-3 Comparison of Fall River Layover Facility Sites – Environmental Factors

Resource	ISP	Weaver's Cove East	Weaver's Cove West	Most Favorable
Land Acquisition	44 acres	18 acres	58 acres	Weaver's Cove East
Tax Revenue Loss	\$29,956/year	\$57,317/year	\$236,120/year	ISP
Environmental Justice	No impacts	No impacts	No impacts	Equal
Noise Impacts	No impact	1 moderate	1 moderate	ISP
Wetland Impacts	2.28 acres of Riverfront Area Work in Land Subject to Coastal Storm Flowage	None	Riverfront Area impacts Work in Land Subject to Coastal Storm Flowage	Weaver's Cove East
Wild and Scenic Rivers	Adjacent to Taunton Wild and Scenic River	Adjacent to Taunton Wild and Scenic River	Adjacent to Taunton Wild and Scenic River	Weaver's Cove East
Threatened and Endangered Species	None	None	None	Equal
Coastal Zone	Not within Coastal Zone	Potentially within Filled tidelands	Potentially within Filled Tidelands.	ISP
Hazardous Materials	High risk	Medium to high risk	High risk	Weaver's Cove East
Cultural Resources	High sensitivity for pre-contact Native American sites related to the Mother's Brook Site	No archaeological sensitivity. Potential adverse effects to visual setting of the North Main Street District.	No archaeological sensitivity. No effects on above-ground resources.	Weaver's Cove West

From an operational perspective, the Weavers Cove sites are more favorable to the ISP Site. They are close to the terminal station and would therefore require less operating dollars to pull the trains in and out of the layover facility at the end and beginning of the day.

Table 3-4 Comparison of Fall River Layover Facility Sites – Cost and Operational Factors

Operational Element	ISP	Weaver's Cove East	Weaver's Cove West	Most Favorable
Distance to Terminal Station	5.3 miles	2.6 miles	2.6 miles	Weaver's Cove East/West
Operating Cost	\$970,400	\$476,000	\$476,000	Weaver's Cove East/West

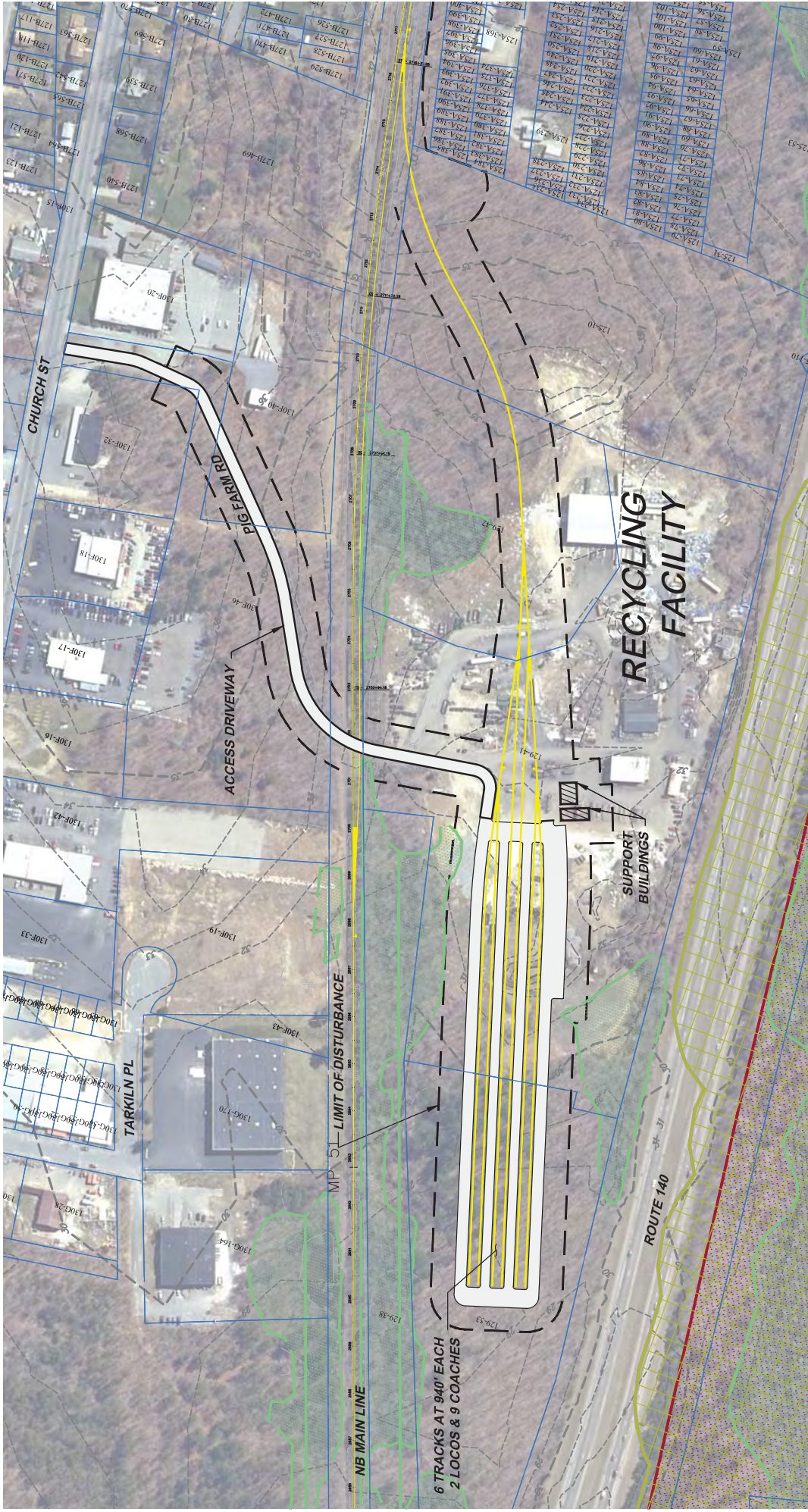
3.5 Recommendations

As previously outlined, the area of the layover facility site must be large enough to accommodate the anticipated number of trains, service vehicles, and other support facilities. Based on the operating plan that has been developed for South Coast Rail, each branch will require four trains to support the peak period service, a fifth train on each branch to provide a spare, and finally a sixth to accommodate future expansion. Therefore, each layover site chosen for South Coast Rail must be able to accommodate six tracks.

The site selection would look to minimize environmental impacts and provide the most efficient operation that minimizes deadhead/non-revenue miles by locating the layover as close as possible to the terminal station. While there is no hard rule for the distance of a layover facility from the terminal, increasing distance between a layover facility and the terminal station would result in less reliable operations and greater operating costs.

On the Fall River Secondary, *Weaver's Cove East is the favorable location to site a Fall River layover facility* as it has the least environmental impacts of the Fall River sites with fewest land acquisition, wetland impacts, impact to wild and scenic rivers, and from the perspective of encountering hazardous materials. Weaver's Cove East would also be operationally more efficient than ISP with its close proximity to the terminal station saving the project roughly \$500,000 annually.

On the New Bedford Mainline, *Wamsutta is the favorable location to site a New Bedford layover facility* as it has less environmental impact than the Church Street site from the perspective of land acquisition, tax revenue loss, wetlands, hazardous materials, and cultural resources. Wamsutta would also be operationally more efficient saving the project roughly \$500,000 annually.

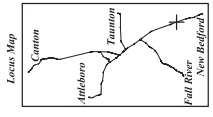


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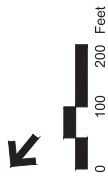
SOUTH COAST RAIL

Figure 2-1
New Bedford Mainline
Church Street Layover

Source: VHB, MassGIS
 Prepared by: VHB



- Legend**
- ACEC
 - Open Space
 - Rare Species Estimated Habitat
 - Rare Species Priority Habitat
 - Wetland
 - Zone A (400' Buffer of Public Water Supplies)
 - Track
 - Public Water
 - Vernal Pool
 - Zone 1 (Water Supply Protection Area)
 - Property Line
 - Pavement



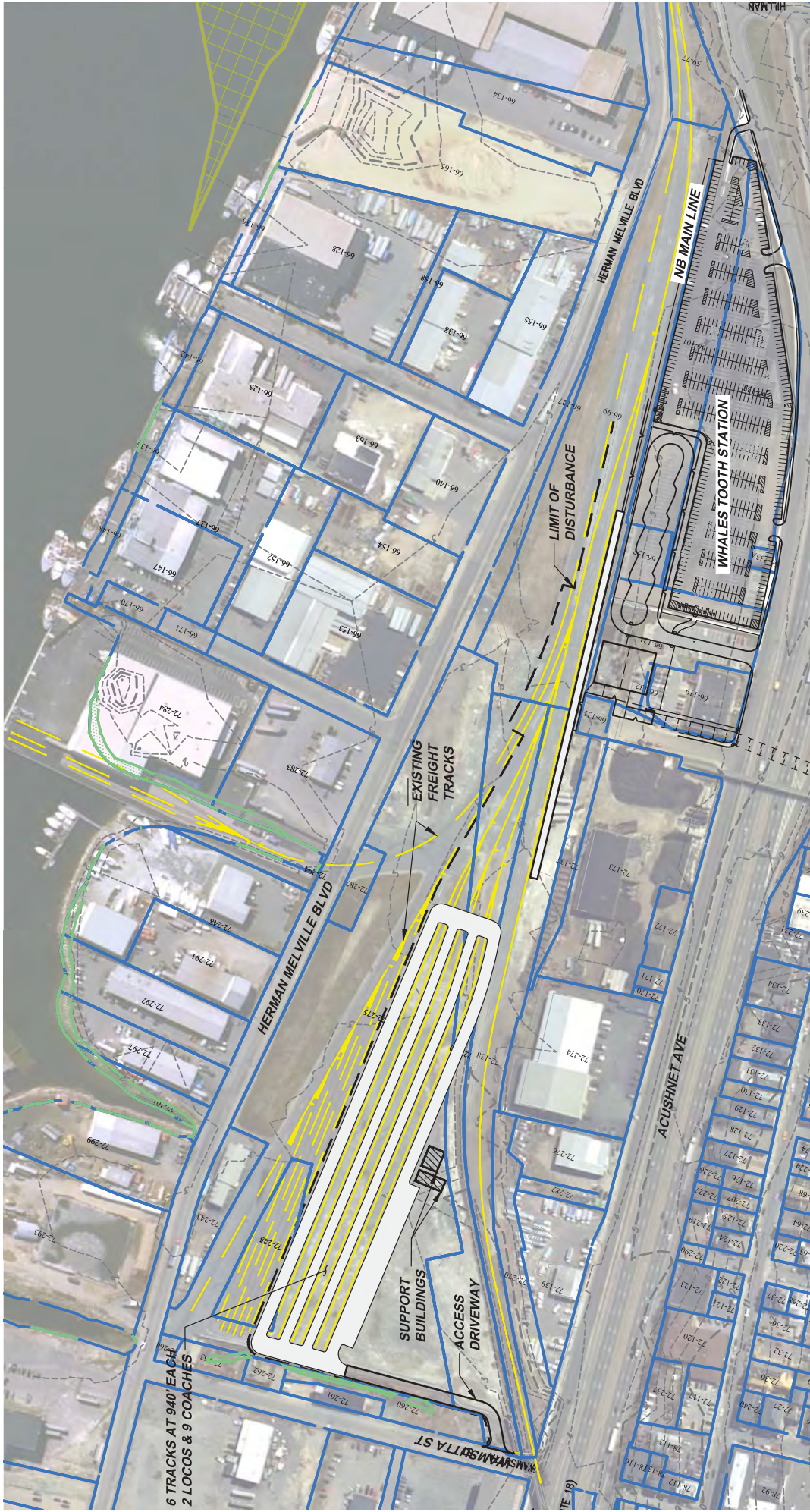
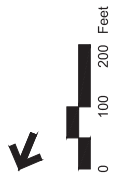


Figure 2-2
New Bedford Mainline
Wamsutta Layover Option

Data Source: VHB, MassGIS
 Prepared by: VHB



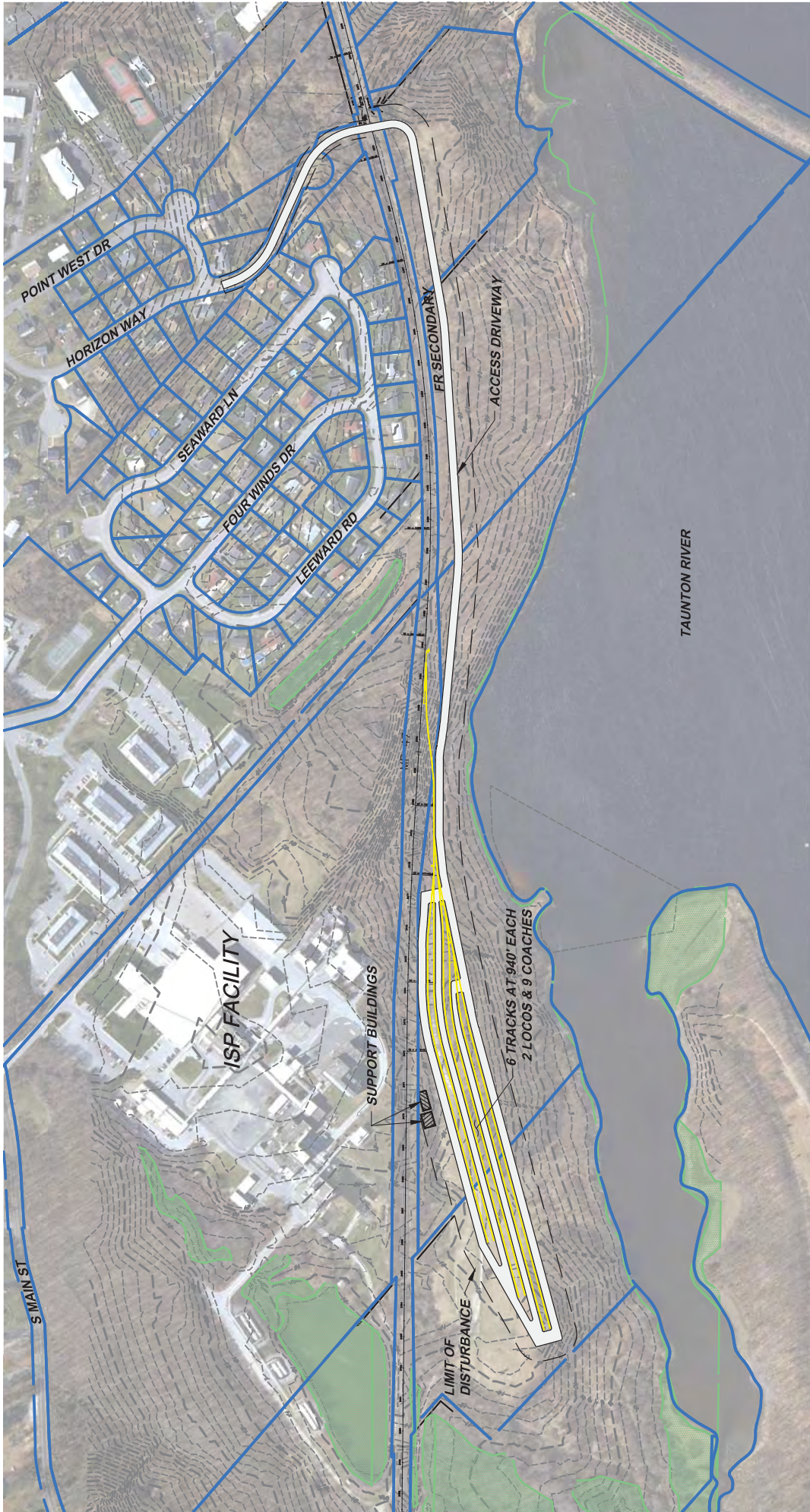


Figure 2-3
Fall River Secondary
ISP Layover

Sources: VHB, MassGIS
Prepared by: VHB



- Legend**
- ACEC
 - Open Space
 - Rare Species Estimated Habitat
 - Rare Species Priority Habitat
 - Wetland
 - Zone A (400' Buffer of Public Water Supplies)
 - Track
 - Public Water
 - Vernal Pool
 - Zone 1 (Water Supply Protection Area)
 - Property Line
 - Pavement



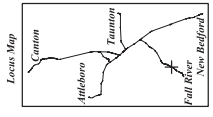


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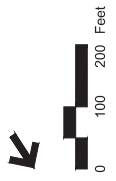
SOUTH COAST RAIL

Figure 2-4
Fall River Secondary
Weaver's Cove East Layover

Sources: VHB, MassGIS
Prepared by: VHB



- Legend**
- ACEC
 - Public Water
 - Open Space
 - Vernal Pool
 - Rare Species Estimated Habitat
 - Zone 1 (Water Supply Protection Area)
 - Rare Species Priority Habitat
 - Property Line
 - Wetland
 - Pavement
 - Zone A (400' Buffer of Public Water Supplies)
 - Track



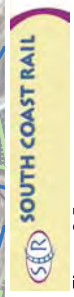
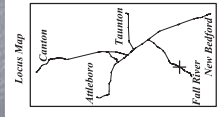
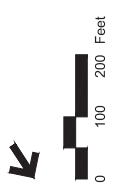


Figure 2-5
Fall River Secondary
Weaver's Cove West Layover

Sources: VHB, MassGIS
Prepared by: VHB



- Legend**
- ACEC
 - Public Water
 - Open Space
 - Vernal Pool
 - Rare Species Estimated Habitat
 - Zone 1 (Water Supply Protection Area)
 - Rare Species Priority Habitat
 - Property Line
 - Wetland
 - Pavement
 - Zone A (400' Buffer of Public Water Supplies)
 - Track

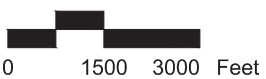


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Figure 2-6
 New Bedford Main Line
 Layover Yard Options

Prepared by: VHB



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Figure 2-7
Fall River Secondary
Layover Yard Options

