

**FINAL
CONTAMINATION SCREENING
EVALUATION REPORT**

FEC AMTRAK PASSENGER RAIL STUDY



From: Jacksonville (Duval County)
To: Miami (Miami-Dade County)

Federal Aid Project Number: FR-HSR-09-003



Florida Department of Transportation
District Four
3400 West Commercial Boulevard
Fort Lauderdale, Florida 33309

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1.0 INTRODUCTION

The Florida Department of Transportation (FDOT), in conjunction with the Federal Railroad Administration (FRA), initiated the Florida East Coast Amtrak® Passenger Rail Study to evaluate alternatives to provide intercity passenger rail service along nearly 350 miles of Florida's east coast between Jacksonville and Miami.

The purpose of this Contamination Screening Evaluation Report (CSER) report is to present the findings of a contamination screening evaluation for the proposed alternatives. This report identifies and evaluates known or potential contamination concerns, presents recommendations regarding these concerns, and discusses possible impacts to the proposed project.

A Level 1 investigation was conducted in compliance with Part 2, Chapter 22 (Contamination Impacts) of the Florida Department of Transportation Project Development and Environment (PD&E) Manual.

1.1 Project Purpose

The purpose of the project is to enhance transit mobility and connectivity to Florida's east coast cities, augment on-going revitalization of the historic town centers in these cities, and stimulate immediate and long-term job growth through construction and transit oriented development. The project is anticipated to:

- Provide reliable, high-quality service that connects the Eastern and Midwest United States to major tourist destinations along Florida's east coast.
- Provide greater choices and access to transportation modes, which will ultimately increase mobility along Florida's east coast by integrating existing transportation services (specifically intercity rail and bus lines, commuter rail lines, urban rail transit lines, highways, seaports and airports).
- Augment the on-going redevelopment of compact development patterns in the historic town centers along Florida's east coast.
- Relieve capacity constraints of the existing transportation system in a manner sensitive to and protective of regional and unique natural resources.

As Florida continues to experience substantial population and employment

growth, the region continues to experience an increase in congestion and decrease in mobility on the existing transportation network. The FEC Amtrak Passenger Rail project is being proposed as an alternative mode of travel to enhance mobility, safety, and improve transportation connectivity to Florida's east coast cities. The proposed passenger rail service has an important role in keeping Florida's economy competitive for the future.

The project proposes to restore passenger rail service, in the form of Amtrak, on the existing Florida East Coast (FEC) Railway freight rail line from Jacksonville to West Palm Beach, with service continuing south to Miami on the existing South Florida Rail Corridor (SFRC) Amtrak route. The proposed FEC Amtrak Passenger Rail project consists of the following infrastructure improvements in order to add two southbound and two northbound trips per day:

- Improvements to select curve locations along the existing FEC rail line between Jacksonville and West Palm Beach
- Eight new stations located in St. Augustine, Daytona Beach, Titusville, Cocoa, Melbourne, Vero Beach, Ft. Pierce, -and Stuart; and
- Rebuilding the connector track (Northwood Crossover) to the existing SFRC.

1.2 Project Need

The need for the proposed project is directly related to the expected growth in population and intercity travel demand to Florida's eastern communities. If Florida utilizes all the density that land-use plans now permit, its population could balloon to five times the current level. The University of Florida estimates that 25 million people will live in the state of Florida by 2035, compared to around 17 million today. The FEC corridor between Miami to Jacksonville has the potential to serve over 8.6 million people by 2035.

Florida's current transportation system has not kept pace with the tremendous increase in population, economic activity, and tourism in the state. The interstate highway system, regional commercial airports, and conventional passenger rail system serving the intercity travel market are operating at or near capacity and will require large public investments for maintenance and expansion to meet existing demand and future growth. Moreover, the ability to expand many major highways and strategic airports is uncertain as needed expansions may be impractical or may be constrained by physical, economic and other factors.

The influx of new residents is so significant, the state, despite careful planning and strategic investments in infrastructure, simply cannot adequately support transportation demand. This is especially true in its urban areas.

City-to-city travel is on the rise. One key city pair for intercity travel is Jacksonville and Miami. The stretch between this city pair is densely populated with several

major population centers, including St. Augustine, Daytona Beach, Titusville, Cocoa, Melbourne, Vero Beach, Fort Pierce, and Stuart. There is no passenger rail service along FEC Railway to serve intercity travel between these communities. Instead they depend mainly upon roadway connections and only freight traffic moves on this rail corridor at this time. The presence of several airports allows for limited connections for passengers via air.

Substantial additional capacity is needed to assist seaports in meeting expected growth in freight and cruise activity. For rail and urban transit systems to serve as viable options for the movement of people and freight within and between urban areas, investments in additional passenger and freight rail capacity would also be needed.

2.0 PROJECT DESCRIPTION

The project study area primarily consists of the existing FEC Railway corridor from Jacksonville to the Northwood Crossover in West Palm Beach (approximately 280 miles). The project corridor traverses nine counties along Florida's east coast: Duval, St. Johns, Flagler, Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach as shown in **Appendix A, Figure 1**. The project study area also includes the Northwood Crossover (generally parallel to 25TH Street) from the FEC to the SFRC and the station alternatives in each of the eight cities proposed to include new stations.

The northern terminus of the project would be the existing Jacksonville Amtrak Station. The southern terminus would be the Northwood Crossover. The environmental effects associated with relocating Amtrak passenger service from the Northwood Crossover to Miami were documented in a Final Environmental Impact Statement, which resulted in a Record of Decision (May 1998) for the SFRC proposed improvements. Any improvements and project effects associated with the proposed JRTC or relocating Amtrak passenger service from the existing Jacksonville Amtrak station would be studied under a separate environmental determination and are not included in this FEC Amtrak Passenger Rail study and proposed action.

3.0 LAND USES

The general land use in which the project corridor is located is largely mixed, rural, residential, commercial and light industrial development (**See Appendix B Figures 2-A through 2-I**).

4.0 HYDROLOGIC FEATURES

Duval County

Duval County contains four major physiographic subdivisions: the Duval Upland in the west; the St. Marys Meander Plain in the north; the Eastern Valley in the

south-central part of the county; and the Center Park Ridge in the southeast. These subdivisions are regional features, extending into adjacent parts of northeastern Florida. Ancient marine terraces form much of the present-day land surface of Duval County. The availability and quality of ground water in Duval County are closely related to the geologic units that underlie the county. The geologic formations significant to the hydrology of the county total about 2,100 ft in combined thickness. Some formations transmit or yield water easily (aquifers); others retard or prevent the movement of water (confining units). The uppermost sediments consist mostly of unconsolidated sand with some clay, shell, and limestone. Thickness of the upper unconsolidated deposits, which compose the surficial aquifer system, ranges from 10 to 100 ft. The surficial aquifer system, commonly referred to as the surficial aquifer, has two water-bearing units, the water-table unit composed predominately of sand (Holocene and Pleistocene deposits) and the underlying limestone unit (Pliocene or upper Miocene deposits). Underlying the surficial aquifer system are about 400 ft of mostly fine, clayey sediments that also include some sand, shell, and limestone. These clayey sediments are known as the Hawthorn Formation. The Hawthorn Formation is most important as the intermediate confining unit that covers and confines the water in the Floridan aquifer system. Underlying the Hawthorn Formation is a thick sequence of consolidated carbonate rocks. In descending order, the consolidated formations include the Ocala Limestone, the Avon Park Formation, and the Oldsmar Formation. Together, these three units are more than 1,600 ft thick and comprise the Floridan aquifer system. Because of variations in the permeability of the carbonate rocks, the system is subdivided into the Upper Floridan aquifer and the Lower Floridan aquifer that are separated by a semi confining unit of denser, dolomitic limestone about 800 ft below sea level. Beneath the Floridan aquifer system is a confining unit called the sub-Floridan confining unit. The sub-Floridan confining unit generally corresponds to the Cedar Keys Formation. The geologic units beneath the Cedar Keys Formation are unimportant from a water-supply standpoint because they do not contain freshwater.

St. Johns County

Three aquifer systems underlie St. Johns County: the surficial, the intermediate and the Floridan. The Surficial aquifer is located within the undifferentiated Pleistocene to late Miocene sediments. These sediments are predominantly composed of fine to medium grained sands with some shell coquina. The surficial aquifer is unconfined and hydraulically connected to the land surface. The intermediate aquifer system or confining unit includes all rocks or unconsolidated deposits that lie between and collectively retard the exchange of water between the overlying surficial aquifer system and the underlying Floridan aquifer system.

Flagler County

Flagler County is underlain mostly by marine limestone, dolomite, shale, sand and anhydrite that together range in thickness from approximately 5,500 to 12,000 feet. The sequence of rock units in Flagler County is as follows from oldest to youngest: Lake City Limestone, Avon Park Limestone, Williston Formation, Hawthorn Group siliciclastics and carbonates (Miocene) and a series of undifferentiated sediments of Pliocene-Pleistocene age. Two aquifer exists beneath this region. These are the surficial aquifer and the Floridan aquifer.

Volusia County

Volusia County comprises an area of approximately 1200 square miles in the central part of the east coast of Florida and is located in the topographic division described as the coastal Lowlands, which essentially consists of level marine terraces. Geologically, surficial sands ranging in age from recent to Pleistocene extend from the surface to a depth of approximately 50 feet below land surface. Underlying these sediments is an approximately 50 foot thick sequence of shelly sand and clay beds of the Miocene or Pliocene age, which serve as the confining unit for the Floridan aquifer contained in the underlying Ocala Group. The Ocala Group is a limestone composed of two formations in Volusia County which are, in the descending order, the Williston and Inglis Formations. The combined thickness of the two formations reaches a maximum of about 80 feet along the eastern coasts of Volusia County. Underlying the Ocala Group is the Avon Park Limestone, which is about 290 feet thick, followed by the Lake City Limestone which is at least 380 feet thick. Underlying Volusia County is the Volusia aquifer a sole source aquifer. The northern boundary of the designated area begins at the southeast corner of Flagler Beach State Park and curves south and west through the community of Karona at U.S. Highway Route Number 1. The boundary continues southwest, west and northwest to the intersection of Haw Creek and Crescent Lake. The boundary then follows the west bank of Crescent Lake to Dunn's Creek and follows the west bank of Dunn's Creek to its intersection with the St. John's River. The border of the designated area then follows the east bank of Lake George to its intersection with the boundary of Volusia County. The boundary of the designated area and the boundary of Volusia County are congruent for the remainder of the area's western and southern boundaries to the Atlantic Ocean. The area's eastern boundary is the Atlantic Ocean.

Brevard County

The hydrogeologic system in Brevard County consists of four hydrostratigraphic units: the surficial aquifer system, the intermediate aquifer system or confining unit, the Floridan aquifer system and the Sub-Floridan confining unit. The surficial aquifer system is comprised of medium to fine grained quartz sand, clayey sand, sandy clay, coquina and sandy shell marl. The deposits range from

Holocene to Recent and attain a thickness of up to 120 feet. Water contained in the surficial aquifer is under unconfined conditions. The intermediate aquifer system or confining unit includes all rocks or unconsolidated deposits that lie between and collectively retard the exchange of water between the overlying surficial aquifer system and the underlying Floridan aquifer system. These units comprise the Miocene Hawthorn Formation. Underlying the intermediate aquifer system or confining unit (Hawthorn Formation) is the Floridan aquifer system. The Floridan aquifer system is composed of several thick marine limestone and dolomite formations of Eocene Age.

Indian River County

The underlying surficial aquifer system is comprised of medium to fine grained quartz sand, clayey sand, sandy clay, coquina and sandy shell marl. Water contained in the surficial aquifer is under unconfined conditions. The intermediate aquifer system or confining unit includes all rocks or unconsolidated deposits that lie between and collectively retard the exchange of water between the overlying surficial aquifer system and the underlying Floridan aquifer system. These units comprise the Miocene Hawthorn Formation. Underlying the intermediate aquifer system or confining unit (Hawthorn Formation) is the Floridan aquifer system. The Floridan aquifer system is composed of several thick marine limestone and dolomite formations of Eocene Age.

St. Lucie County

The upper most geologic formation in St. Lucie County consists of highly variable and undifferentiated Holocene series sand and carbonate sediments. These sediments consist of fine to medium grained, quartz sand with occasional interbedding of sandy limestone and /or shell beds. Beneath the Holocene sediments is the Anastasia formation. The Anastasia Formation ranges widely in composition and includes Pleistocene series coquina, sand, calcareous sandstone, sandy limestone and shelly marl. The lower lithologic unit comprising the remainder of the surficial aquifer system is the Pliocene series sediments of the Tamiami Formation. The Tamiami Formation generally consists of interbedded sandy limestone, coquina, and clay. Beneath the Tamiami Formation is the Hawthorn Formation. Low permeable clays in this Miocene series formation serve as the uppermost part of the confining layer above the Floridan aquifer.

Martin County

Martin County is divided into three physiographic regions: Atlantic coastal Ridge, Eastern Flatland and Everglades. The geology of the shallow aquifer is predominated by a surficial layer of Pamlico Sand to a depth of approximately six feet followed by approximately ninety feet of Anastasia Formation which is comprised of sand, sandstone, limestone, clay and coquina.

Palm Beach County

The regional geology for Palm Beach County includes fine to medium grained quartz sand extending to a depth of 40 to 50 feet. This sand formation, known as Pamlico tends to decrease in thickness as it approaches the Intracoastal. The Pamlico sand is underlain by the Anastasia Formation which is composed of sand, sandstone, limestone coquina and shell beds. The area is underlain by the surficial aquifer which is unconfined and constitutes one of the area's major sources of fresh water. Palm beach County is underlain by the Biscayne Aquifer which has a designation as a sole source aquifer. The Biscayne Aquifer lies within an area of south Florida bounded by the Atlantic Ocean and the Gulf of Mexico between Whitewater Bay in Monroe County and Delray Beach in Palm Beach County.

5.0 METHODOLOGY

A preliminary evaluation of the project area was conducted to determine potential contamination concerns within the project vicinity. This evaluation was based on visual reconnaissance of the project area; review of historical Sanborn Fire Insurance Maps, aerial photographs spanning a 30-year period, and review of the available state and federal regulatory database records from the Florida Department of Environmental Protection (FDEP) and United States Environmental Protection Agency (USEPA).

The regulatory agency database report discussed in this section, provided by Environmental Data Resources Inc. (EDR), was reviewed for information regarding reported releases of hazardous substances and petroleum products on or near the study area. In addition to the EDR Report additional regulatory file information was reviewed through the FDEP Department of Waste Management OCULUS website. The CSER has been prepared using the following approximate minimum search distances:

Federal NPL Site List	1.0 miles
Federal CERCLIS Site List	0.5 miles;
Federal CERCLIS NFRAP Site List	Target Property and adjoining properties only
Federal RCRA CORRACTS - TSD Facilities List	1.0 miles;
Federal RCRA non-CORRACTS - TSD Facilities List	0.25 miles

Federal RCRA Generators List	Target Property and adjoining properties
Federal ERNS List	Target Property
State Lists of Hazardous Waste Sites identified for investigation or remediation (NPL & CERCLIS equivalent)	0.25 miles
State Landfill and/or Solid Waste Disposal Sites List	0.25 miles
State Leaking UST/AST Lists	0.25 miles
State registered UST/AST Lists	0.5 miles.
US Brownfields Lists	0.5 miles

Locations of all facilities identified as being within the appropriate search radii on the database were verified by a driving inspection of surrounding sites. Those facilities that may have been incorrectly located on the database report were field located and, if applicable, have been included in this report in the corrected locations.

The contamination rating system is divided into four degrees of risk: No, Low, Medium, and High. This system expresses the degree for potential contamination problems. Known problems may not necessarily present a high cause for concern if the regulatory agencies are aware of the situation and actions, where necessary, are either complete or underway, and these actions will not have an adverse impact on the proposed project.

Risk ratings were assigned in accordance with Part 2, Chapter 22, Section 2.2.3. (1-17-08 revision) of the FDOT PD&E manual. The risk ratings are defined as follows:

No After a review of all available information, there is nothing to indicate contamination would be a problem. It is possible that contaminants could have been handled on the Target Property; however, all information (DEP reports, monitoring wells, water and soil samples, etc) indicate problems should not be expected.

Low The former or current operation has a hazardous waste generator identification (ID) number, or deals with hazardous materials; however, based on all available information there is no reason to believe there would be any involvement with contamination.

Medium After a review of all available information, indications are found

(reports, Notice of Violations, consent orders, etc.) that identify known soil and/or water contamination and that the problem does not need remediation, is being remediated (i.e., air stripping of the ground water, etc.), or that continued monitoring is required.

High After a review of all available information, there is a potential for contamination problems.

6.0 ALTERNATIVE ALIGNMENTS

This document identifies and describes the range of alternatives that were identified to address the purpose and need for the project. The description of alternatives includes the No-Build Alternative and the Build Alternative which involve the FEC Railway mainline (from Jacksonville to West Palm Beach), the Northwood Crossover to the SFRC, and eight proposed stations (St. Augustine, Daytona Beach, Titusville, Cocoa, Melbourne, Vero Beach, Fort Pierce, and Stuart). Station alternatives in each of these eight cities were identified and evaluated to analyze satisfaction of purpose and need, ability to meet engineering design criteria and technical feasibility, and avoidance and minimization of environmental resources.

6.1 No-Build Alternative

The No-Build Alternative, which involves no changes to the transportation facilities within the study area beyond currently planned and programmed (tentatively funded) projects, was evaluated in this study. The No-Build Alternative would involve no infrastructure improvements to the existing FEC Railway mainline (from Jacksonville to the existing Northwood Crossover in West Palm Beach). The existing freight operations (and maintenance infrastructure) on the FEC Railway would be maintained with the No-Build Alternative.

The No-Build Alternative would include future planned and programmed roadway, transit, rail, air and other intermodal improvements within the study area. The No-Build Alternative would not meet the project purpose to provide intercity passenger rail service on Florida's east coast from Jacksonville to Miami or address the need to improve connectivity for intercity and intermodal travel. The No-Build Alternative also would not enhance mobility or stimulate economic development along Florida's east coast. Although the No-Build Alternative does not meet the purpose and need for the project, it was retained for detailed analysis in order to evaluate potential benefits and impacts associated with the proposed action in comparison to taking no action.

6.2 Build Alternative

The Build Alternative consists of three distinct components – the FEC mainline, the Northwood Crossover, and eight proposed stations.

6.2.1 Mainline Alternative

The Build Alternative was identified to provide intercity passenger rail service for Florida's east coast from Jacksonville to West Palm Beach, continuing south on the SFRC to Miami. The Build Alternative would restore passenger service on the existing FEC Railway from Jacksonville to West Palm Beach. In West Palm Beach, the alternative would use the Northwood Crossover to diverge to the SFRC, which is an existing railway approximately 2,100 feet west of the FEC Railway. The Build Alternative would follow the existing Amtrak route on the SFRC from West Palm Beach to Miami. The segment of the FEC Railway from Jacksonville to West Palm Beach is a single track railroad. (**Appendix A, Figure 1**).

6.2.2 Station Alternatives

The location of new stations along the FEC railway was developed by the FDOT in consultation with local government agencies, regional planning councils, metropolitan planning organizations, Amtrak, and the FEC railway. New stations are proposed within eight communities along the existing FEC railway between Jacksonville and West Palm Beach: St. Augustine, Daytona Beach, Titusville, Cocoa, Melbourne, Vero Beach, Fort Pierce, and Stuart.

"Small" stations are proposed at each of the station sites. The small stations would be unstaffed and consist of a platform, canopy, signage, lighting, and a semi-enclosed shelter. Paved parking may be provided at the proposed stations. The number of parking spaces would vary by location. As the stations are in highly-urbanized areas, limited or no parking facilities may be provided at some locations. Patrons accessing these stations would be anticipated to either walk and/or use adjacent parking facilities to access the station.

The stations have been located to facilitate potential future transit-oriented development and intermodal connections. The station location alternatives identified in each of the eight cities is documented in the following text:

St. Augustine

Three station alternatives (**shown in Appendix C, Figure 3**) were evaluated for the proposed station location in St. Augustine. As a major tourist destination, a station in St. Augustine is characterized with high ridership potential. Therefore, a medium station is planned for St. Augustine.

Alternative Site 1 (US 1 at San Marco Avenue) is located north of historic downtown St. Augustine east of the FEC Railway and west of U.S. 1 near the intersection of U.S. 1/San Marco Avenue. This site was the location of a former FEC passenger rail station (circa 1960) and turnaround for the FEC Railway. The target property, along with the maintenance yard and existing on-site buildings

are owned by the FEC Railway. Alternative 1 proposes to restore the existing station building to its former use as a passenger rail station. Alternative 1 is located near the historic city gates approximately 0.5 miles north of historic St. Augustine.

Alternative 2 (U.S. 1 at Carrera Street) is located within historic downtown St. Augustine west of U.S. 1 across from Lemon Street and Carrera Street. This site is an open field along the east bank of the San Sebastian River. Based on discussions with FEC Railway, Alternative 2 would require replacement of the existing San Sebastian River Bridge to accommodate the proposed concept.

Alternative 3 (St. Augustine/St. Johns County Airport) is located north of St. Augustine to the west of U.S. 1 across from the St. Augustine/St. Johns County Airport. This site is a vacant wooded area owned by the airport authority.

Daytona Beach

Five station alternatives (**shown in Appendix C, Figure 4**) were evaluated for a proposed station location in Daytona Beach. A seasonally-staffed medium station is planned for Daytona Beach to accommodate increased ridership during the tourist season.

Alternative 1 (South of International Speedway Boulevard) is located adjacent to the east side of the FEC Railway between International Speedway Boulevard and Magnolia Avenue. This site is developed and situated near several residential, commercial and industrial areas. Alternative 1 provides advantageous access, additional on-street parking and is an existing closed grade-crossing for enhanced pedestrian safety.

Alternative 2 (South of Orange Avenue) is located adjacent to the east side of the FEC Railway between Orange Avenue and Live Oak Avenue. This site is developed and situated near several residential, commercial and industrial areas.

Alternative 3 (North of Orange Avenue) is located adjacent to the east side of the FEC Railway and north of Orange Avenue. This site is developed and situated near several residential, commercial and industrial areas.

Alternative 4 (South of Live Oak Avenue) is located adjacent to the west side of the FEC Railway between Live Oak Avenue and Loomis Avenue. This site is developed and adjacent to Live Oak Park (a public recreational facility). Several residential, commercial and industrial areas are located near the site.

Alternative 5 (North of International Speedway Boulevard) is located adjacent to the east side of the FEC Railway north of International Speedway Boulevard. This site is developed and situated near several residential, commercial and industrial areas. A major transmission facility hub is located

directly adjacent to the site.

Titusville

Four station alternatives (**shown in Appendix C, Figure 5**) were evaluated for the proposed station location in Titusville. Based on ridership projections estimated by Amtrak, a small station is planned for Titusville.

Alternative 1 (South of Julia Street) is located in downtown Titusville to the east of the FEC Railway in the vicinity of Julia Street. This site is owned by FEC Railway and occupied by a FEC Railway storage and maintenance yard.

Alternative 2 (North of Pine Street) is located in downtown Titusville to the east of the FEC Railway in the vicinity of Pine Street. Alternative 2 is just south of Alternative 1 within the FEC Railway storage and maintenance yard. This site was the former location of the passenger rail station in Titusville. Alternative 2 proposes to restore the existing station building (420 Pine Street) to its former use as a passenger rail station. This historic structure (Titusville Train Station) is potentially eligible for NRHP listing. Existing parking would be upgraded in compliance with ADA standards. Alternative 2 is in close proximity to the historic downtown area, has fewer parcel impacts, and anticipated lower capital costs with the use of the historic train station.

Alternative 3 (Space Coast Regional Airport) is located west of the FEC Railway and U.S.1 near the Space Coast Regional Airport in Brevard County. This site is an undeveloped wooded property and the surrounding area is mostly undeveloped.

Alternative 4 (South of S.R. 50) is located west of U.S. 1, east of the FEC Railway, north of the NASA Causeway and approximately 1 mile south of S.R. 50.

Cocoa

Two station alternatives (**shown in Appendix C, Figure 6**) were evaluated for the proposed station location in Cocoa. As a major tourist destination, a station in Cocoa is characterized with high ridership potential. Therefore, a medium station is planned for Cocoa.

Alternative 1 (South of Stone Street) is located in downtown Cocoa east of the FEC Railway, west of U.S. 1 and south of S.R. 520. The station site would be located at the western terminus of Lemon Street adjacent to the FEC Railway. There is no existing railroad grade crossing at Lemon Street and the FEC Railway in this location. Alternative 1 involves parcels south of Stone Street that are vacant and undeveloped. There are several residential and commercial areas near the site. The existing Stone Street/FEC Railway intersection to the north is a former

grade crossing that was closed to vehicle/pedestrian traffic as a result of safety concerns related to crash data and fatalities.

Alternative 2 (South of Rosa L. Jones Boulevard) is located south of downtown Cocoa, west of U.S. 1 and south of Rosa L. Jones Boulevard. This site is owned by FEC Railway and occupied by an FEC Railway storage and maintenance yard. One of the existing on-site buildings is the location of the former Cocoa passenger rail station. Alternative 2 would involve either the renovation of this historic rail station or the construction of a new station building depending on the viability of relocating the transload operations on-site. Alternative 2 involves the parcels east and west of the FEC to accommodate future parking needs and the potential maintenance of both the existing transload operations and the FEC turnout.

Melbourne

Three station alternatives (**shown in Appendix C, Figure 7**) were evaluated for the proposed station location in Melbourne. Based on ridership projections estimated by Amtrak, a small station is planned for Melbourne.

Alternative 1 (Melbourne International Airport) is located north of the City of Melbourne, east of the Melbourne International Airport, and west of the FEC Railway. This site is mostly undeveloped vacant land located between South Apollo Boulevard and the FEC Railway. The site would be situated near several residential neighborhoods.

Alternative 2 (South of U.S. 192) is located east of the FEC Railway, west of U.S. 1, and south of U.S. 192. The station site would be located just south of Jernigan Avenue in downtown Melbourne. This site is developed and situated near several residential, commercial and industrial areas.

Alternative 3 (North of U.S. 192) is located east of the FEC Railway, west of U.S. 1, and north of U.S. 192/Melbourne Causeway. The station site is located just north of Palmetto Avenue in downtown Melbourne. This site is a vacant land owned by FEC Railway and situated near several residential and commercial/retail areas. Implementing Alternative 3 would involve the closure of two existing grade crossings (Lincoln Avenue and Palmetto Avenue) to accommodate the proposed platform.

Vero Beach

Three station alternatives (**shown in Appendix C, Figure 8**) were evaluated for the proposed station location in Vero Beach. Based on ridership projections estimated by Amtrak, a small station is planned for Vero Beach.

Alternative 1 (South of 19th Place) is located in downtown Vero Beach west of

the FEC Railway and south of 19th Place. This site is occupied by a refurbished historical diesel plant building and situated near industrial land uses.

Alternative 2 (North of 21st Street) is located in downtown Vero Beach west of the FEC Railway and north of 21st. This site is occupied by the Vero Beach Community Center which provides public recreational facilities. The surrounding land uses are primarily commercial/retail and residential.

Alternative 3 (North of 23rd Street) is located in downtown Vero Beach west of the FEC Railway and north of 23rd Street approximately 1 block north of Alternative 2. This site is occupied by the Indian River County Historical Society Museum. The historic Vero Beach Railroad Station building is NRHP-listed and was relocated onsite for use as the Historical Society museum/office. Alternative 3 would involve a proposed ancillary structure to accommodate station facilities and operations adjacent to the historic passenger station. The museum is anticipated to be maintained in the historic station building. The project would not involve use of the museum for Amtrak operations. The surrounding land uses are primarily commercial/retail and residential.

Fort Pierce

Two station alternatives (**shown in Appendix C, Figure 9**) were evaluated for the proposed station location in Fort Pierce. Based on ridership projections estimated by Amtrak, a small station is planned for Fort Pierce.

Alternative 1 (Orange Avenue – East of FEC) is located in downtown Fort Pierce south of Orange Avenue, north of Citrus Avenue, and east of both U.S. 1 and the FEC Railway. The proposed station site would be located within a parking area of a retail strip mall. The surrounding land uses are primarily commercial/retail. Proposed parking areas would not be provided for this alternative because a new municipal parking garage is located on the northwest corner of the adjacent intersection of Orange Avenue/FEC Railway.

Alternative 2 (Orange Avenue – West of FEC) is located in downtown Fort Pierce south of Orange Avenue, north of Citrus Avenue, east of U.S. 1, and west of the FEC Railway. The proposed station site would be located on an industrial site. This industrial site is the location of Rinker Industries which is serviced by FEC Railway via an onsite railroad spur to accommodate existing freight operations. The surrounding land uses are primarily commercial/retail and industrial.

Stuart

Three station alternatives (**shown in Appendix C, Figure 10**) were evaluated for the proposed station location in Stuart. Based on ridership projections estimated by Amtrak, a small station is planned for Stuart.

Alternative 1 (Kiwanis Park) is located in downtown Stuart adjacent and west of the FEC Railway just north of the intersection of SE Dixie Highway and SE 5th Street. The Kiwanis Park (a public playground/recreational facility) is located just west of this potential station location. Proposed parking areas would not be provided for this alternative because an adjacent park and ride lot is located north of SE 5th Street.

Alternative 2 (East Coast Lumber) is located in downtown Stuart east of the FEC Railway, south of Ocean Boulevard, and west of SE Flagler Avenue. The existing land use is commercial/industrial and the site is occupied by East Coast Lumber. Proposed parking areas would not be provided for this alternative because a park and ride lot is located to the south, adjacent to the FEC Railway.

Alternative 3 (Stypmann Boulevard) is located in downtown Stuart east of the FEC Railway, south of Ocean Boulevard, and just south of the intersection of Stypmann Boulevard/SE Flagler Avenue. The proposed station operations would be located within a portion of the proposed Martin County Transit Depot. The transit hub is a 4000 sq. ft. building proposed to accommodate office spaces, existing bus transit, a planned Greyhound bus route and the proposed Amtrak passenger service. The site is occupied by a park and ride lot adjacent to the FEC Railway that is owned by Martin County. Therefore, additional parking areas would not be provided for this alternative.

6.2.3 Crossover Alternative - Northwood Crossover

The existing Northwood Crossover (**Shown in Appendix C, Figure 11**) from the FEC to the SFRC was evaluated. The Northwood Crossover is an existing track connecting the two railways in the Northwood section of West Palm Beach. This existing connector track located parallel to 27th Street is not usable for the proposed intercity passenger rail service because of a missing connection in the northeast quadrant leading to and from the FEC Railway and points north. As a result of the potential social effects, cultural impacts, and community disruption associated with impacts in rebuilding the 27th Street alignment, the Build Alternative was identified to realign the Northwood Crossover just south of the existing alignment and generally parallel to (and north of) 25th Street.

7.0 PROJECT IMPACTS

7.1 Historical Aerial Photographs and Sanborn Map Information

A review of an Aerial Photo Decade Package and available Sanborn Fire Insurance Maps (Sanborn Maps) provided in the EDR Database report was performed. A summary of the information is provided in the following text:

7.1.1 Mainline Alternative

No specific past or current uses along the Mainline were identified that might represent an environmental threat.

7.1.2 Station Alternatives

St. Augustine

Alternative Site 1 (US 1 at San Marco Avenue)

No Sanborn coverage exists for the Target Property. Aerial photographs of the Target Property dated 1952, 1960, 1975, 1985, 1998, 2005 and 2006 were reviewed. The 1952 aerial shows that the Target Property is undeveloped. The surrounding properties appear to be developed for commercial use. Between 1960 and 1975 some development of the Target Property is evident. By 1985 the Target Property is as it currently exists. The surrounding properties are commercially developed. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph review.

Alternative Site 2 (US 1 at Carrera Street)

Sanborn Maps dated 1899, 1904, 1910, 1917, 1924, 1930, 1946 and 1965 were reviewed. The review of the Sanborn Maps indicates that the Target Property was previously used as the FEC Railway Company Repair Shop until approximately 1965. The surrounding properties were developed for commercial and residential purposes. Aerial photographs dated 1960, 1975, 1985, 1998, 2005 and 2006 were also reviewed. The 1960 aerial shows the Target Property developed much as it was shown in the Sanborn Maps. Aerials between 1975 and 2006 show the Target Property as an open field along the east bank of the San Sebastian River. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map review.

Alternative Site 3 (St. Augustine/St. Johns County Airport)

No Sanborn coverage exists for the Target Property. Aerial photographs dated 1960, 1975, 1985, 1998, 2005 and 2006 were reviewed. All aerial photos show the Target Property as a vacant wooded area on the west side of US 1. The airport (located to the west of the Target Property) is present in all aerial photos. There is some residential development to the east of the Target Property and commercial development to the northwest and south of the Target Property. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph review.

Daytona Beach

Alternative Site 1 (Magnolia Avenue/South of International Speedway)

Sanborn Maps dated 1895, 1906, 1912, 1916, 1924, 1950, 1955, 1965 and 1969 were reviewed. The Sanborn Maps indicate that the Target Property has been utilized as a FEC Railway Passenger Depot since 1912. The surrounding properties were developed for light industrial use. Aerial photos dated 1943, 1958, 1963, 1975, 1988, and 1992 were reviewed. The aerial photographs confirm that the Target Property was utilized as a FEC passenger Depot until 1963. After 1963 the Target Property appeared to be used for light industrial purposes. The surrounding properties also appeared to be utilized for light industrial purposes. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map review.

Alternative Site 2 (South of Orange Avenue)

Sanborn Maps dated 1898, 1910, 1912, 1916, 1927, 1950, 1955, 1965, and 1969 were reviewed. The Target Property as well as the surrounding properties was utilized for light industrial purposes. Aerial photos dated 1943, 1958, 1963, 1975, 1988, and 1992 were reviewed and confirmed that the land surrounding properties were utilized for light industrial purposes. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map review.

Alternative Site 3 (North of Orange Avenue)

Sanborn Maps dated 1898, 1910, 1912, 1916, 1927, 1950, 1955, 1965, and 1969 were reviewed. The Target Property as well as the surrounding properties was utilized for light industrial purposes. Aerial photos dated 1943, 1958, 1963, 1975, 1988, and 1992 were reviewed and confirmed that the Target Property and surrounding properties were utilized for light industrial purposes. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map review.

Alternative Site 4 (South of Live Oak Avenue)

Sanborn Maps dated 1906, 1916, 1924, 1950, 1955, 1965 and 1969 were reviewed. The Target Property is shown as undeveloped on all Sanborn Maps. The surrounding properties were developed for commercial and light industrial use. Aerial photos dated 1943, 1958, 1963, 1975, 1988, and 1992 were reviewed. The aerials all show the Target Property as undeveloped. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map review.

| *Alternative Site 5 (North of International Speedway Boulevard)*

Sanborn Maps dated 1895, 1906, 1912, 1916, 1924, 1950, 1955, 1965 and 1969 were reviewed. The Sanborn Maps indicate that the Target Property was undeveloped. The surrounding properties are developed for light industrial use. Aerial photos dated 1943, 1958, 1963, 1975, 1988, and 1992 were reviewed. The Aerial photographs confirm that the Target Property was undeveloped and the surrounding properties also appeared to be utilized for light industrial purposes. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map review.

Titusville

Alternative Site 1 (South of Julia Street)

Sanborn Maps dated 1899, 1903, 1908, 1915, 1920, 1926 and 1942, were reviewed. The Sanborn Maps show that the Target Property was owned by the FEC railway. The surrounding properties were used for commercial purposes. Aerial photos dated 1943, 1951, 1972, 1986, 1993, 2005 and 2006 also indicate that the Target Property and surrounding properties were commercially developed. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photographs and Sanborn Maps review.

Alternative Site 2 (North of Pine Street)

Sanborn Maps dated 1899, 1903, 1908, 1915, 1920, 1926 and 1942 were reviewed. The Sanborn Maps show that the Target Property was a FEC Railway passenger station. The surrounding properties were commercially developed. Aerial photos dated 1943, 1951, 1972, 1986, 1993, 2005 and 2006 also indicate that the Target Property and surrounding properties were developed. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map review.

| *Alternative Site 3 (Space Center Executive Airport)*

There is no Sanborn Map coverage for the Target Property and surrounding properties. Aerial photographs dated 1943, 1972, 1986, 1993, 2005 and 2006 were reviewed. The Target Property is undeveloped in all aerials. The 1943 aerial indicates that all surrounding properties were also undeveloped at that time. Some development of the surrounding properties began in 1972 and appeared to continue to the present. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph review.

Alternative Site 4 (South of SR 50)

There is no Sanborn Map coverage for the Target Property and surrounding properties. Aerial photographs dated 1943, 1972, 1986, 1993, 2005 and 2006

were reviewed. The Target Property is undeveloped in all aerials much as it currently exists. The 1943 aerial indicates that all surrounding properties were also undeveloped at that time. Some residential and commercial development of the surrounding properties began in 1972 and appeared to continue to the present. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph review.

Cocoa

Alternative Site 1 (South of Stone Street)

There is no Sanborn Map coverage for the Target Property and surrounding properties. Aerial photographs dated 1943, 1958, 1972, 1986, 1993, 2005 and 2006 were reviewed. The Target Property is undeveloped in the 1943 aerial as well as much of the surrounding properties. The aerials show the Target Property as part of the FEC Railway R-O-W. The 1958 aerial shows that the surrounding properties are beginning to be developed for residential and commercial purposes. Increased development in the area was shown through 2006. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph review.

Alternative Site 2 (South of Rosa L. Jones Boulevard)

There is no Sanborn Map coverage for the Target Property and surrounding properties. Aerial photographs dated 1943, 1958, 1972, 1986, 1993, 2005 and 2006 were reviewed. The 1943 aerial shows that the Target Property was undeveloped. Beginning in 1958 through 2006 the Target Property was occupied by an FEC Railway storage and maintenance yard. One of the existing on-site buildings is the location of the former Cocoa passenger rail station. The surrounding properties are beginning to be developed for residential and commercial purposes with increased development shown through 2006. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph review.

Melbourne

Alternative Site 1 (Melbourne International Airport)

No Sanborn Map coverage exists for the Target Property. Aerial photographs dated 1943, 1951, 1972, 1983, 1993, 2005 and 2006 were reviewed. Aerial photography shows that the Target Property has remained mostly undeveloped over the years. The airport is present in all of the aerials reviewed. The 1951 aerial shows development of properties to the west, northwest and southwest. Increased development of the properties to the west, south, northwest and southwest is shown through 2006. The properties appear to be primarily commercial and residential properties. No specific past uses of the

Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph review.

Alternative Site 2 (Jernigan Avenue)

Sanborn Maps dated 1926, 1944 and 1959 were reviewed. The 1959 Sanborn Map shows that a structure was present on the Target Property and indicates that the Target Property was a used auto facility. The 1944 and 1926 Sanborn Maps show that the structure was present; however, there is no indication that the Target Property was a used auto sales facility. The surrounding properties appeared to be developed for commercial and residential purposes. Aerial photographs dated 1943, 1958, 1986 and 1993. The 1943 aerial shows that the Target Property is undeveloped. The surrounding properties are undeveloped as well. The 1958, 1986 and 1993 aerials show that the Target Property appears to be developed for commercial purposes. The surrounding properties are developed as well and appear to be developed for commercial and residential purposes. The Target Property was identified in the 1959 Sanborn Map as a used auto sales facility; however, there was nothing cited on the Sanborn Map to indicate that auto repair activities took place.

Alternative Site 3 (North of U.S. 192)

Sanborn Maps dated 1920, 1926, 1944 and 1959. The 1920 Sanborn Map shows the property as undeveloped. The 1926 and 1944 Sanborn Maps shows the presence of an FEC Freight Station. However, the Sanborn Map dated 1959 does not show the FEC freight station and shows that the Target Property was undeveloped at that time. The 1959 Sanborn Map shows that surrounding properties are developed for commercial and residential purposes much as they are at the present time. Aerial photographs dated 1943, 1958, 1969, 1972, 1983 and 1993 were reviewed. The 1943 Aerial photograph shows the FEC Freight Station. Aerials from 1958 to 1993 do not show the FEC Freight Station present on the Target Property. The surrounding properties appear to be developed for commercial and residential purposes in the 1958 to 1993 aerials... No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map review.

Vero Beach

Alternative Site 1 (South of 19th Place)

Sanborn Maps dated 1943, 1953 and 1967 were reviewed. The Target Property was developed as well as surrounding properties for light industrial and commercial use as shown in the Sanborn Maps reviewed. There is a structure on the Target Property which is most likely the historical diesel plant that is currently on the Target Property. Aerial photographs dated 1943, 1951, 1968, 1974, 1984, 1994, 2005 and 2006 were reviewed. The Target Property is developed in all aerial photography reviewed. The surrounding properties appear to be developed for industrial and commercial purposes. The historical diesel plant currently exists on the Target Property and based on the Aerial and Sanborn

Map review. Additional environmental information regarding the historical diesel plant is included in section 7.2.2.

Alternative Site 2 (North of 21st Street)

Sanborn Maps dated 1929, 1944 and 1964 were reviewed. The Sanborn Maps show the Target Property to be part of Pocahontas Park in the Maps dated 1929, 1944 and 1964. During the same time frame the surrounding properties are developed for commercial and residential purpose. Aerial photographs dated 1943, 1951, 1968, 1974, 1984, 1994, 2005 and 2006 were reviewed. All aerial photographs reviewed show the Target Property to be part of Pocahontas Park. The Community Center which currently exists on the Target Property is shown beginning in 1968. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map review.

Alternative Site 3 (North of 23rd Street)

Sanborn Maps dated 1929, 1944 and 1964 were reviewed. The Sanborn Maps show the Target Property to be part of Pocahontas Park. The Sanborn Maps all show that there were no structures present on the Target Property and the surrounding properties are developed for commercial and residential purposes. The aerial photographs dated 1943, 1951, 1968, 1974, 1984, 1994, 2005 and 2006 were reviewed. From 1943 to 1984 the Target Property is shown to be vacant. The 1994 aerial shows what appears to be the Vero Beach Historical Railroad Station Building which was relocated to the Target Property for use by the Indian River Historical Society. The surrounding properties were developed for commercial and residential purposes in the 1994 aerial. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map review.

Fort Pierce

Alternative Site 1 (Orange Avenue East)

Sanborn Maps dated 1915, 1918, 1924, 1929, 1948, and 1965 were reviewed. The Sanborn Maps all show that the Target Property was once part of South Depot Drive. The adjacent properties were developed for commercial and light industrial purposes in all Sanborn Maps reviewed. The 1929 Sanborn shows that the site located directly adjacent (east) of the Target Property (proposed station building) was a gasoline filling station. The gasoline filling station did not appear in the Sanborn Maps dated later than 1929 and did not appear in the Sanborn maps dated before 1929. Aerial photographs dated 1958, 1969, 1986, 1996, 2005 and 2006 were reviewed. The 1958 and 1969 aerials indicate that the Target Property is part of the South Depot Drive roadway. By 1986 South Depot Drive had been converted to a parking area. All aerials show that the surrounding properties are developed for commercial and light industrial purposes since 1958. No specific past uses of the Target Property were identified

that might represent an environmental threat to the Target Property; however, the 1929 Sanborn Map indicates that the Target Property located directly to the east of the proposed station building was once utilized as a gasoline filling station.

Alternative Site 2 (Orange Avenue West)

Sanborn Maps dated 1915, 1918, 1924, 1929, 1948 and 1965 were reviewed. Review of the referenced Sanborn Maps indicates that the Target Property was possibly utilized primarily as a loading area of freight for the FEC which is consistent with current usage. The surrounding properties appear to be developed for commercial and light industrial purposes in all Sanborn maps reviewed. Aerial photographs dated 1958, 1969, 1986, 1996, 2005 and 2006 were reviewed. The aerial photographs show that the Target Property was and currently is utilized as a freight loading area. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map review.

Stuart

Alternative Site 1 (Kiwanis Park)

Sanborn Maps dated 1950, 1941, 1926, and 1920 were reviewed. The Sanborn Maps show that the Target Property was known as Woodlawn Park since at least 1920. In 1950 the Red Cross occupied a building located on the Target Property. The surrounding properties are developed for commercial and residential purposes in all Sanborn Maps reviewed. Aerial photographs dated 1966, 1974, 1986, 1996, 2005 and 2006 were reviewed. The aerial photographs show that the Target Property was part of a park, most likely Woodlawn Park, since 1966. There is a structure present on the western portion of the proposed station building. The surrounding properties appear to be developed for residential and commercial purposes in all aerials. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map review.

Alternative Site 2 —(East Coast Lumber)

Sanborn Maps dated 1920, 1926, 1941 and 1950 were reviewed. The Sanborn Maps show that the Target Property was known as East Coast Lumber since at least 1920. The surrounding properties are developed for commercial and residential purposes. Aerial photographs dated 1966, 1974, 1986, 1996, 2005 and 2006 were reviewed. The aerial photographs also show that the Target Property was part of the East Coast Lumber site. The surrounding properties appear to be developed for residential and commercial purposes. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map.

Alternative Site 3 (Stypmann Boulevard)

Sanborn Maps dated 1950, 1941, 1926, and 1920 were reviewed. The 1920 Sanborn Map shows that the northwest corner of the property was occupied by Southern Utilities Company. Between 1926 and 1950, this portion of the Target Property was occupied by Florida Power and Light. The Sanborn Maps show that the surrounding properties are developed for commercial and residential purposes. Aerial photographs dated 1966, 1974, 1986, 1996, 2005 and 2006 were reviewed. Between 1966 and 1986 the aerial photographs show that the Target Property is developed with several structures located throughout. The 1996 aerial shows the Target Property as it currently exists which is a parking lot. The surrounding properties are residentially and commercially developed. No specific past uses of the Target Property were identified that might represent an environmental threat to the Target Property as determined through the aerial photograph and Sanborn Map review.

7.1.3 Crossover Alternative - Northwood Crossover

Sanborn Maps dated 1950, 1952, 1965 and 1986 were reviewed. The Sanborn Maps show the proposed corridor as it currently exists. The 1965 Sanborn Map shows that the 1928 Hurricane Mass Burial Site (located south of the proposed crossover alternative) was used as the West Palm Beach Sewage Disposal Plant until at least 1986. The 1950 and 1952 Sanborn Maps show that a City incinerator was present during that two year period. The remaining surrounding properties appear to be developed for industrial purposes. In the 1950 and 1952 Sanborn Maps the surrounding properties to the north appear to have little development. The properties located to the east, west and south beyond the Mass Burial Site are developed much as they are at the present time. Aerial photographs dated 1968, 1975, 1986, and 1991 were reviewed. The 1968 and 1975 aerial show that the proposed corridor was heavily developed and that the West Palm Beach Sewage Disposal Plant is present on the Mass Burial Site. The proposed corridor and surrounding properties are much as the currently exist since 1986. Sanborn Map and aerial coverage indicates that the properties along the proposed Crossover corridor alternative historically have been developed for industrial purposes; therefore there is a possibility that the Crossover alternative could have been impacted by past area industrial activities.

7.2 Environmental Risk Assessment

This evaluation identified six (6) High Risk, ten (10) Medium Risk and fifty-nine (59) Low Risk, and one (1) No Risk sites within 200 feet of the proposed station alternatives (see **Table 1**). There were no sites located along the mainline R-O-W that presented a potential risk to the project. No High Risk sites were also identified during this investigation. The sites assigned High and Medium Risk ratings are discussed in the following text. Additional supporting documentation is available under separate cover.

7.2.1 High Risk Sites

Station Location – Melbourne

- Alternative Site 2 – Jernigan Avenue (East of FEC)

Dave's Fina Station - 2731 S. Harbor City Blvd – FDEP#8518098

Regulatory information indicated that a Contamination Assessment was completed in 1995 for the site. No other information regarding the clean-up status of the site was available. The site was assigned a High Risk due to the history of a petroleum discharge and lack of additional documentation indicating that remediation was complete (**Appendix D, Figure 12**).

Station Location – Vero Beach

- Alternative Site 1 – South of 19th Place (West of FEC)

City of Vero Beach Historical Diesel Plant - 1946 19th Place – FDEP#9102860

The Target Property is the location of the historical diesel plant which is situated on a 1.4 acre parcel on the west side of the FEC railway corridor. The power plant facility was built in the mid-1920's and began operation in 1926. The plant was decommissioned in 1994. Preliminary contamination assessment activities were initiated in 1996 to investigate the potential for site contamination resulting from historical uses. Petroleum contaminated and polychlorinated Biphenyls (PCB) contaminated soils were discovered and subsequently excavated and transported for off-site disposal. Groundwater contamination is also present at the site. There was no additional file information regarding remedial action other than the original soil excavation. Because of the lack of documentation regarding site remediation this site was assigned a High Risk rating (**Appendix D, Figure 13**).

Neely's Repair Shop - 2016 Commerce Ave – FDEP#9063869

In November 1990 an 8,000 gallon heating oil -UST was removed. Also removed in 1990 were a 1,000 gallon UST and an 888 gallon UST both labeled as generic gasoline. Information provided in the EDR Report indicates that site remediation is ongoing; however, there is no information available through the FDEP DWM OCULUS website to verify that the site has been assessed and remediation activities implemented. The site was assigned a High Risk due to the history of a petroleum discharge and lack

of additional documentation indicating that the site was assessed and remediation was completed (**Appendix D, Figure 13**).

- Alternative Site 2 – North of 21st Street (West of FEC) and
Alternative Site 3 – North of 23rd Street (West of FEC)

K&B Foreign Car Service - 2300 Commerce Ave – FDEP#8732915

A 550 gallon waste oil UST was removed in 1990 and three 6,000 unleaded USTs were removed in 1992. Information reviewed indicated that the determination was made by the Florida Department of Environmental protection (FDEP) that the site was determined to be contaminated and eligible for the Abandoned Tank restoration program in 1992. Additional information regarding site contamination assessment of remediation is not available. The site was assigned a High Risk due to the history of a petroleum discharge and lack of additional documentation indicating that the site was assessed and remediation was completed (**Appendix D, Figure 14-A and 14-B**).

Station Location – Ft. Pierce

- Alternative Site 1 – Orange Avenue (East of FEC)

Historical Gasoline Filling Station

The 1929 Sanborn Map indicates that the site located directly adjacent (east) of the proposed station building was once utilized as a gasoline filling station. There was no additional documentation provided regarding the status of possible USTs. The site currently is not listed on the FDEP Petroleum Clean-up Sites List or the Storage Tank Contamination list (**Appendix D, Figure 15**).

- Alternative Site 2 – Orange Avenue (West of FEC)

Eagan Packing - 304 Boston Ave – FDEP#9202212

A 4,000 gallon residual oil AST was removed from the site. The removal date was not provided in the file information. This site is also listed as a State Clean-up site and is ranked as a High risk due to a history of petroleum discharges and lack of additional information regarding ongoing site clean-up or remediation (**Appendix D, Figure 16**).

7.2.2 Medium Risk Sites

Station Location - Daytona Beach

- Alternative Site 4 – South of Live Oak Avenue (West of FEC)

B & F Supply Target Property - 421 Live Oak Avenue – FDEP# 631543

In 1991 two underground storage tanks (USTs) were removed from the site. Tank #1 was a 3,000 gallon unleaded gasoline UST and Tank #2 was a 10,000 gallon heating oil UST. During the removal of the USTs contaminated soil and groundwater was discovered. File information indicated that a contamination assessment was completed and a monitoring only plan was implemented in 1995. The site was assigned a Medium Risk due to the history of a petroleum discharge and lack of documentation indicating that a Site Completion has been issued by the FDEP (**Appendix D, Figure 17**).

- Alternative Site 5 – North of International Speedway Boulevard (East of FEC)

Wilson Motors - 425 Volusia Ave - Registered UST/LUST – FDEP#8517206

In 1991 a 2000 gallon leaded gasoline UST was removed from the site. During the removal contamination was encountered. A contamination assessment was completed and remedial action was implemented. Regulatory file information indicates that the site has undergone groundwater and soil remediation. The site was assigned a Medium Risk due to the history of a petroleum discharge and lack of documentation indicating that a Site Completion has been issued by the FDEP (**Appendix D, Figure 18**).

Station Location – Cocoa Beach

- Alternative Site 2 – South of Rosa L. Jones Boulevard (east of FEC)

Florida East Coast Railway - 317 Poinsettia – FDEP#8518148

Environmental studies indicate that the Target Property is listed on the State Registered Underground Storage Tank database report. There is a 1000 gallon diesel UST located on the Target Property. There are no violations listed for this site; however, it is ranked as a Medium Risk because of the presence of an underground petroleum storage tank (**Appendix D, Figure 19**).

Station Location – Melbourne

- Alternative Site 2 – Jernigan Avenue (East of FEC)

Gloco Grocery - 2637 S. Harbor City Blvd – FDEP#8501017

A Contamination Assessment and Remedial Action Plan were completed for the site. The Remedial Action Plan was implemented in 1992. The

site was assigned a Medium Risk due to the history of a petroleum discharge and lack of documentation indicating that a Site Completion has been issued by the FDEP (**Appendix D, Figure 12**).

Station Location – Vero Beach

- Site 2 – North of 21st Street (West of FEC)

7-Eleven Food Store - 2296 N. US Hwy 1 – FDEP#8520266

In 2006 a total of three 10,000 unleaded USTs and two 6,000 unleaded USTs were removed. Groundwater and soil contamination was present at the site. Regulatory information indicated that a Contamination Assessment was completed in 2006 and the site is currently in remediation. The site was assigned a Medium Risk due to the history of a petroleum discharge (**Appendix D, Figure 14A**).

Station Location – Ft. Pierce

- Alternative Site 2 – Orange Avenue (West of FEC)

Florida East Coast Railway - 353 Florida Ave – FDEP#8516111

Regulatory information reviewed indicated that a 20,000 gallon diesel aboveground storage tank (AST) was removed from the site. Also removed were a 2,000 gallon diesel UST and a 1,500 gallon leaded gasoline UST. The removal date was not provided in the documentation reviewed. FDEP regulatory information reviewed indicates that the site is listed on the State Clean-up Environmental database report and that the site clean-up is currently ongoing; therefore, this site is ranked as a Medium risk (**Appendix D, Figure 15**).

Station Location – Stuart

- Alternative Site 3 – Stypmann Boulevard (East of FEC)

City of Stuart Sewer Plant - 301 Stypmann Blvd – FDEP#8731791

Information provided in the EDR Report indicated that one 2,000 gallon diesel UST and one 1,500 gallon diesel ASTs were removed in 1998. Currently there is one active 1,500 gallon emergency generator diesel AST present. The EDR information also indicated that a Contamination Assessment was completed and the site is in remediation. This site is ranked as a Medium risk (**Appendix D, Figure 20**).

Northwood Crossover – West Palm Beach

- Northwood Alternative

Safety Disposal Systems - 1100 25th Street, Bay 7B – FDEP#67315

This facility is classified as a biohazardous waste treatment facility. Documentation reviewed did not indicate that the facility has ever been issued a NOV and that the facility is currently in compliance. The site was assigned a Medium Risk due to the nature of the site operations and the proximity to the Crossover Alternative (**Appendix D, Figure 21**).

Economy Tire Sales, Inc. - 820 25th Street – FDEP#67104

This facility is classified as a waste tires collection facility. Documentation reviewed did not indicate that the facility has ever been issued a NOV and that the facility is currently in compliance. The site was assigned a Medium Risk due to the nature of the site operations and the proximity to the proposed Crossover Alternative (**Appendix D, Figure 21**).

1928 Hurricane Mass Burial Site

The 1965 Sanborn Map shows that the 1928 Hurricane Mass Burial Site (located south of the proposed crossover alternative) was used as the West Palm Beach Sewage Disposal Plant until at least 1986. The 1950 and 1952 Sanborn Maps show that a City incinerator was present during that two year period. Review of the EDR report and the FDEP Oculus site did not provide current information regarding the regulatory status of the site. The site was assigned a Medium Risk due to the nature of the previous site operations and the proximity to the proposed Crossover Alternative (**Appendix D, Figure 21**).

8.0 REGULATORY STATUS

The FDEP is the lead agency in charge of administering and enforcing state regulations and county code and/or ordinances applicable to generators of hazardous wastes and operators of underground or above ground storage tanks.

High Risk Sites

The Vero Beach Alternative Site 1 is the location of the historical diesel plant which according to regulatory file information has groundwater and soil contamination that would impact any property improvements such as construction. There are several High risk sites that are lacking documentation regarding site clean-up status and because of this lack of information it is unknown whether these sites would impact the project corridor. There is one historical site that is assigned a High Risk rank due to the past property usage and the lack of environmental regulatory information. Because of the lack environmental regulatory information it is unknown if this site would impact the project corridor.

Medium Risk Sites

The Cocoa Beach Alternative 2 currently has a registered UST on the Target Property. Information reviewed does not indicate that the site is under any enforcement action. Several of the Medium Risk sites discussed in this document are undergoing site remediation under FDEP oversight. Based on available information and/or the proximity of the Medium risk sites to the project corridor, it is not likely that these sites would impact the proposed project.

9.0 RECOMMENDATIONS

In order to assess the potential impacts that releases and migration of contamination from high and medium risk sites would pose to the proposed project, the final R-O-W requirements and final design for the project should be reviewed. This will enable the identification of properties which will be involved in R-O-W acquisitions and areas where soil excavation and dewatering will occur for the installation of structures and utilities. Once all areas of concern are identified, Level 2 investigations and further assessment should be conducted by the contamination contractor specified by the Department's Environmental Management Office. If contamination is identified in these areas prior to construction, remedial actions can be developed and implemented to minimize impacts. Construction impacts can be minimized by the avoidance of areas of known and/or suspected contamination during the design of the drainage lighting and structures. Where drainage, lighting and structure improvements cannot be avoided in the areas of concern, technical special provisions will be included with the plans to require that the construction activities performed in the areas of concern be performed by a contamination contractor specified by the Department's Environmental Management Office.

TABLE 1
RISK RATINGS OF CONTAMINATED SITES

TABLE 1 – RISK RATINGS OF CONTAMINATED SITES

STATION LOCATIONS	ALTERNATIVE DESCRIPTION	SITE OF CONCERN (Site ID Number)	LOCATION	DATABASE	CONTAMINATION CONCERN	DISTANCE (Feet)	RISK
St Augustine	#1 - US 1 @ San Marco Ave. (East of FEC)	None	-	-	-	-	-
		Mano A Mano FDEP#8518452	606 Ponce De Leon Blvd	Registered UST/LUST	Petroleum	200	Low
	#2 - US 1 @ Carrera St. (East of FEC)	USCG Air Station EPA#FLD984170076	5100 US Hwy 1 North	RCRA Non-Generator Stores Haz Waste	Hazardous Waste	100	Low
Daytona Beach	#1 - South of International Speedway Boulevard (East of FEC)	Daytona Beach Water Plant FDEP#8734835	221 Marion Street	Registered UST & AST	Petroleum	50	Low
		Bens Auto Marine Supply EPA#FLR00016105	132 Seagrave Street	RCRA SQG	Hazardous Waste	100	Low
		Wilson's Motors FDEP#8517206	425 Volusia Ave	Registered UST/LUST	Petroleum	200	Low
		Bryson Crane FDEP#9601867	225 Marion Street	Registered AST	Petroleum	50	Low
		Sprint Communications FDEP#8631513	141 S. Charles Street	Registered UST	Petroleum	150	Low
		Daytona CV Axles EPA#FLR000047985	529 Orange Ave	RCRA SQG	Hazardous Waste	100	Low
		Halifax Wrecking Co SWF#98676	327 Marion St	Solid waste facilities	Miscellaneous contaminants	100	Low
Dunn Corporation FDEP#8734985	415 Orange Ave	Registered AST	Petroleum	100	Low		

TABLE 1 – RISK RATINGS OF CONTAMINATED SITES

#3 - North of Orange Avenue (East of FEC)	Southern Paint & Supply FDEP#8732726	239 South Seagrave St	Registered UST	Petroleum	200	Low							
	Daytona CV Axles EPA#FLR000047985	529 Orange Ave	RCRA SQG	Hazardous Waste	200	No							
#4 - South of Live Oak Avenue (West of FEC)	Dunn Corporation FDEP#8734985	414 Orange Ave	Registered AST	Petroleum	100	Low							
	Halifax Wrecking Company, Inc. SWF#98676	327 Marion St	Solid waste facilities	Miscellaneous contaminants	200	Low							
#5 - North of International Speedway Boulevard (East of FEC)	B&F Supply Property FDEP#8631543	421 Live Oak	Registered UST/LUST	Petroleum	100	Medium							
	Level 3 Communications LLC FDEP#9802483	111.N. Seagrave Ave	Registered AST	Petroleum	75	Low							
#1 - South of Julia Street (East of FEC)	Wilson Motors FDEP#8517206	425 Volusia Ave	Registered UST/LUST	Petroleum	50	Medium							
	FPL Daytona FDEP#8622791	132 N. Seagrave Ave	Registered UST	Petroleum	75	Low							
#2 - North of Pine Street (East of FEC)	Epik Communications FDEP#9803684	123 N. Charles St	Registered AST	Petroleum	75	Low							
	Stan's Transmission FDEP#9801263	511 Int'l Speedway	Registered UST	Petroleum	50	Low							
Titusville	Spanos Imports EPA#FLR00033423	520 W. Int'l Speedway	RCRA Non-generator Stores Haz Waste	Hazardous Waste	100	Low							
	Marble Designs of Florida EPA#FLD981924764	550 tropic St	RCRA SQG	Hazardous Waste	100	Low							
#1 - North of Pine Street (East of FEC)	Brevard County Level 3 Communications FDEP#9804083	475 Pine St	Registered UST/LUST	Petroleum	150	Low							
	Marble Designs of Florida EPA#FLD981924764	435 Dummitt Ave	Registered AST	Petroleum	100	Low							
#2 - North of Pine Street (East of FEC)	Brevard County FDEP#8626188	550 tropic St	RCRA SQG	Hazardous Waste	100	Low							
		475 Pine St	Registered UST/LUST	Petroleum	150	Low							

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		Level 3 Communications FDEP#9804083	435 Dummitt Ave	Registered AST	Petroleum	100	Low
Cocoa	#3 - Space Cntr Regional Airport (West of FEC)	Diversified Construction of Brevard	100 Golden Knights Blvd	Registered UST	Petroleum	150	Low
		Amoco FDEP#8627936	5155 S. Washington Ave	Registered UST	Petroleum	200	Low
	#4 - South of S.R. 50 (East of FEC)	CITGO FDEP#8841446	5155 S. Washington Ave	Registered UST	Petroleum	200	Low
		Frank's Quality Auto Repair FDEP#8501184	725 S. Cocoa Blvd	Registered UST	Petroleum	100	Low
	#1 - South of Stone Street (East of FEC)	New Rockledge Drycleaners EPA#FLD099353096	882 US 1	RCRA SQG	Hazardous Waste	200	Low
		CEMEX, Inc FDEP#8519325	324 Poinsettia Dr	Registered UST/AST	Petroleum	100	Low
		Florida East Coast Railway FDEP#8518148	317 Poinsettia	Registered UST	Petroleum	Target Property	Medium
		FPL Service Center FDEP#8520505	335 Poinsettia Dr	Registered UST	Petroleum	150	Low
	#2 - South of Rosa L. Jones Boulevard (East of FEC)	Florida East Coast Railway, LLC EPA#FLR0000137224	315 Rosa L. Jones Dr	RCRA Non-generator Stores Haz waste	Hazardous Waste	100	Low
		Majestic North America FDEP#8628002	330 Neiman Ave	Registered UST	Petroleum	150	Low
Dynomotive Kar Klink FDEP#8733012		427 Neiman Ave	Registered AST	Petroleum	100	Low	
Gloco Grocery FDEP#8501017		2637 S. Harbor City Blvd	LUST	Petroleum	125	Medium	
Dave's Fina Station FDEP#8518098		2731 S. Harbor City Blvd	LUST	Petroleum	125	High	
Glenn's Tire Center EPA#		2726 S. Harbor City Blvd	RCRA SQG	Hazardous Waste	100	Low	
Melbourne	#1 - Melbourne International Airport (West of FEC)						
#2 - Jernigan Avenue (East of FEC)							

TABLE 1 – RISK RATINGS OF CONTAMINATED SITES

	Laibl Brothers FDEP#	2712 S. Harbor City	Registered UST	Petroleum	100	Low	
Vero	#3 - North of U.S. 192 (East of FEC)	Kemper Business Systems EPA#FLD984189498	1100 E. Strawbridge Ave	RCRA SQG	Hazardous Waste	125	Low
		Melbourne City Hall FDEP#8518338	900 E. Strawbridge Ave	Registered UST	Petroleum	125	Low
	#1 - South of 19th Place (West of FEC)	Hanson's Furniture Repair EPA#FLD982140238	2020 Commerce Ave	RCRA SQG	Hazardous Waste	50	Low
		Neely's Repair Shop FDEP#9063869	2016 Commerce Ave	LUST	Petroleum	100	High
		Beach Historical Diesel Power Plant FDEP#9102860	1946 19 th Place	LUST	Petroleum and PCBs	Target Property	High
		7-Eleven Food Store FDEP#8520266	2296 N. US Hwy 1	LUST	Petroleum	75	Low
	#2 - North of 21st Street (West of FEC)	K&B Foreign Car Service FDEP#8732915	2300 Commerce Ave	LUST	Petroleum	75	High
		7-Eleven Food Store FDEP#8520266	2296 N. US Hwy 1	LUST	Petroleum	100	Medium
	#3 - North of 23rd Street (West of FEC)	K&B Foreign Car Service FDEP#8732915	2300 Commerce Ave	LUST	Petroleum	75	High
		Chinese Kitchen Restaurant FDEP#	Orange Drive	LUST	Petroleum	200	Low
Fort Pierce	#1 - Orange Ave. (East of FEC)	Sunrise Theatre FDEP#9101872	117 S. 2 nd St	Registered UST	Petroleum	200	Low
		Harbor Federal Savings & Loan FDEP#9400358	100 S. 2 nd St	Registered UST	Petroleum	200	Low
		Historical Site Gasoline Filling Station	South Depot Drive	1929 Sanborn Map	Petroleum	Adjacent	High

TABLE 1 – RISK RATINGS OF CONTAMINATED SITES

	Trademark Metals & Recycling SWRCY#9709	700 25 th Street	RCRA CESQG	Hazardous Waste	Along 25 th Street Alternative	Low
	Lainhart & Potter EPA#FL982146524	715 25 th Street	RCRA SQG	Hazardous Waste	Along 25 th Street Alternative	Low
	Hurricane of 1928 Mass Burial Site Former Sewage Disposal Plant/City Incinerator	25 th Street	1965-1986 Sanborn Maps	Unknown	South of proposed Crossover Alternative	Medium
Curve Site 2 St Augustine	Edward R. Eisnor FDEP#8515989	210 Ponce de Leon Blvd	Registered UST non-retail	Petroleum	225	Low
	Mano a Mano FDEP#8518452	606 Ponce de Leon	Registered UST/LUST	Petroleum	200	Low
Curve Site 14 Titusville	Watkins Oil Company FDEP#8627791	175 Fisher Ave	Registered UST/LUST	Petroleum	200	Low
	Qwest Communications FDEP#9805064	520 Main Street	Registered AST	Petroleum	150	Low
Florida East Coast Railway Mainline	BP Gas FDEP#8516042	439 North 4 th Street, Ft. Pierce	Registered UST	Petroleum	300	Low
	Seaway Plaza FDEP#9103434	610 N US Hwy 1	Registered AST	Petroleum	150	Low
	Auto Showcase FDEP#8734466	514 US 1	LUST	Petroleum	200	Low

APPENDIX A
PROJECT LOCATION MAP

APPENDIX B

LANDUSE MAPS

APPENDIX C
STATION ALTERNATIVES

APPENDIX D

HIGH AND MEDIUM RISK SITES